

RESULTS

5.1. Floristic account

The floristic study of the Chirang Reserve Forest of Kokrajhar and Chirang district of Assam recorded a total of 728 plant taxa under 492 genera of 138 families (Tables 4). The flora consists of 634 terrestrial, 74 epiphytes, and 12 aquatic, and 8 parasitic taxa (Figure 2). It is included with 305 taxa of herbs, 173 trees, 172 shrubs and 78 climbers (Figure 3). Among these, Angiosperms comprised of 690 taxa, Gymnosperms with 3 species, and Pteridophytes with 36 taxa.

Table 4. Number of families, genera, and species of the CRF

Plant groups	Number of families	Number of genera	Number of taxa
Dicotyledons	104 (75.36%)	358 (72.61%)	528 (72.52%)
Monocotyledons	19 (13.76%)	105 (21.29%)	162 (22.25%)
Gymnosperms	3 (2.17%)	3 (0.60%)	3 (0.41%)
Pteridophytes	12 (8.69%)	27 (5.47%)	36 (4.94%)
Total	138	493	728

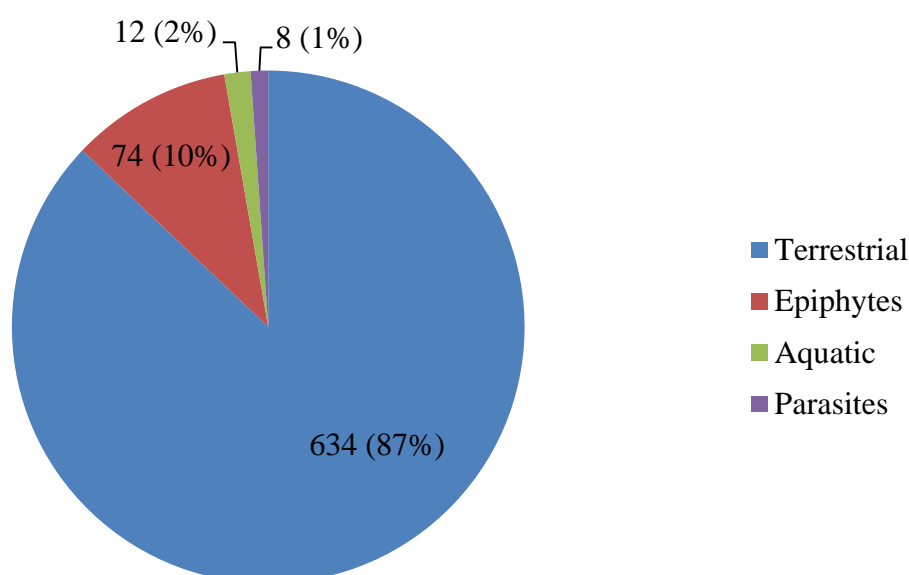


Figure 2. Habitat of the total flora.

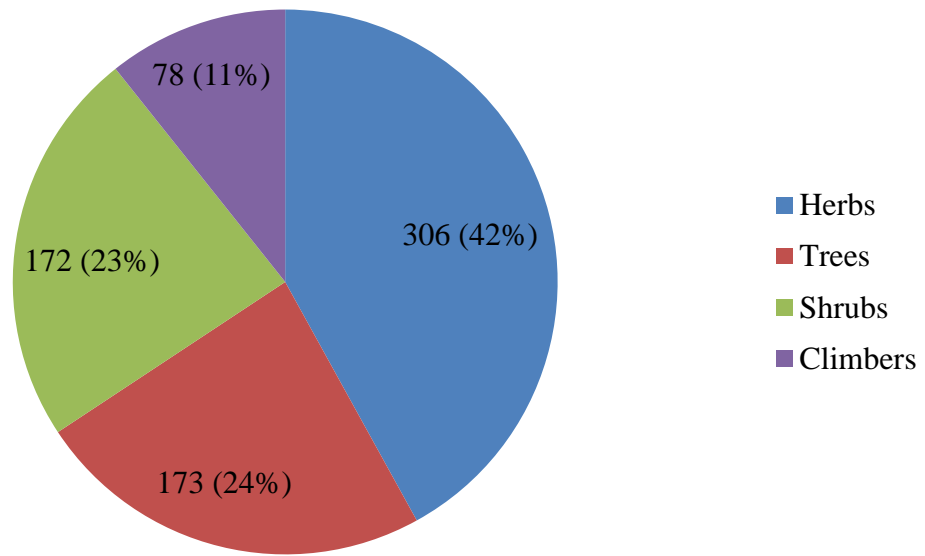


Figure 3. Habit of the total flora.

5.2. Taxonomic keys

Key to the major plant groups

- 1a. Flowerless and seedless plants.....I. Cryptogams
- 1b. Flowering and seed bearing plants.....II. Phanerogams

I. Cryptogams

Pteridophytes

Key to the families

- 1a. Sporangium with sporophylls.....1. Lycopodiaceae
- 1b. Sporangium without sporophylls.....2
- 2a. Plants with tree trunk-like stems.....7. Cyatheaceae
- 2b. Plants without tree trunk-like stems.....3
- 3a. Plants aquatic or marshy (Except *Leptochilus pteropus*).....4
- 3b. Plants terrestrial or epiphytic.....5
- 4a. Plant free floating; leaves simple.....6. Salviniaceae
- 4b. Plants rooted in mud; leaves 4-foliolate.....5. Marsileaceae
- 5a. Plants twining or climbing.....4. Schizaeaceae
- 5b. Plants not as above.....6
- 6a. Stipe straggling; fronds dichotomously forked.....3. Gleicheniaceae
- 6b. Stipe not straggling; fronds not dichotomously forked7
- 7a. Sori marginal, borne one side at the end of veinlets at apical part.....8. Lindsaeaceae
- 7b. Sori not as above.....8
- 8a. Sori sub-marginal, ellipsoid; sporangia 5–7 pairs in two rows.....2. Marrattiaceae
- 8b. Sori and sporangia not as above.....9
- 9a. Indusia present in sori.....10
- 9b. Indusia absent in sori.....12. Polypodiaceae
- 10a. Sori continuous along the edge of pinnae or pinnules, spreading throughout when the leaflets with white-silvery powdery substances beneath.....10. Pteridaceae
- 10b. Sori arranged not as above.....11
- 11a. Sori linear along midveins or veinlets, if round more than 5 sori per pinnule, sometimes spreading throughout the fertile lamina.....11. Aspleniaceae
- 11b. Sori round, borne at the end of veinlets, 1 or 1–3 sori per pinnules.....9. Dennstaedtiaceae

Ii. Phanerogams

Key to the major groups

- 1b. Seeds exposed or naked.....A. Gymnosperms
- 1a. Seeds remain enclosedB. Angiosperms

A. Gymnosperms

Key to the families

- 1a. Woody climbers.....1. Gnetaceae
- 1b. Trees.....2
- 2a. Leaves needle-like.....2. Pinaceae
- 2b. Leaves linear, not needle-like.....3. Podocarpaceae

B. Angiosperms

Key to the major groups

- 1a. Leaves reticulate venation; seeds cotyledons two.....a. Dicotyledons
- 1b. Leaves parallel venation; Seeds cotyledon oneb. Monocotyledons

A. Dicotyledons

Key to the major groups

- 1a. Flowers with distinct calyx and corolla.....2
- 1b. Flowers without distinct calyx or corolla or both.....a3. Monochlamydeae
- 2a. Corolla with distinct petals.....a1. Polypetalae
- 2b. Corolla with fused petals.....a2. Gamopetalae

A1. Polypetalae

Key to the families

- 1a. Plants aquatic.....1. Nymphaeaceae
- 1b. Plants terrestrial or semi aquatic.....2
- 2a. Plants insectivorous.....83. Droseraceae
- 2b. Plants non insectivorous.....3
- 3a. Fruits leguminous.....36. Fabaceae
- 3b. Fruits non leguminous.....4
- 4a. Flowers unisexual (Except *Cissus*).....5
- 4b. Flowers bisexual (Except *Eurya*, *Flacourtia*)15
- 5a. Leaves opposite.....53. Clusiaceae

5b. Leaves alternate or spirally arranged.....	6
6a. Plants lianas or climbers (Except <i>Leea</i>).....	7
6b. Plants erect herb, shrubs or trees (Except <i>Cardiospermum</i>).....	10
7a. Tendrils present (Except <i>Leea</i>).....	8
7b. Tendrils absent.....	9
8a. Ovary inferior.....	45. Cucurbitaceae
8b. Ovary superior.....	35. Vitaceae
9a. Inflorescence spikes, racemes.....	98. Icacinaceae
9b. Inflorescence umbel-cymes, compound umbels, or raceme-like.....	30. Menispermaceae
10a. Leaves compound	11
10b. Leaves simple.....	12
11a. Inflorescence compound umbel-like cymes.....	71. Simaroubaceae
11b. Inflorescence racemes or simple cymes.....	69. Sapindaceae
12a. Herbs, rhizomatous.....	47. Begoniaceae
12b. Shrubs or trees.....	13
13a. Plants deciduous.....	46. Tetramelaceae
13b. Plant semi-evergreen or evergreen.....	14
14a. Stamens numerous.....	56. Achariaceae
14b. Stamens 4.....	117. Aquifoliaceae
15a. Leaves reduced to scales.....	80. Tamaricaceae
15b. Leaves not reduced to scales.....	16
16a. Fruits aggregate or multiple.....	17
16b. Fruits not as above.....	20
17a. Plants lianas.....	2. Schisandraceae
17b. Plants shrubs or trees.....	18
18a. Plant prickly; leaves 3-foliolate if prickles absent.....	38. Rosaceae
18b. Plants without prickles; leaves always simple.....	19
19a. Flowers terminal, axillary on brachyblast.....	7. Magnoliaceae
19b. Flowers axillary or in fascicles.....	8. Annonaceae
20a. Androgynophore or gynophore present.....	21
20b. Androgynophore, gynophore absent (Except <i>Pterospermum</i>).....	24
21a. Plants climbers; tendrils present.....	57. Passifloraceae

21b. Plants herbs, shrubs or trees.....	22
22a. Herbs.....	77. Cleomaceae
22b. Shrubs or trees.....	23
23a. Plants with prickles; leaves palmately compound if prickles absent.....	76. Capparaceae
23b. Plants without prickles; leaves simple.....	75. Resedaceae
24a. Stamens' filaments decurrent with spur.....	66. Melastomataceae
24b. Stamens' filaments simple, absence of spur.....	25
25a. Petals smaller than sepals.....	39. Rhamnaceae
25b. Petals larger than sepals.....	26
26a. Flowers actinomorphic (Except <i>Cuphea</i>).....	27
26b. Flowers zygomorphic.....	37. Polygalaceae
27a. Staminal filaments connate into tube (Except <i>Toona</i>).....	28
27b. Staminal tube absent.....	29
28a. Anthers sessile (Except <i>Toona</i>).....	72. Meliaceae
28b. Anther with filaments.....	73. Malvaceae
29a. Inflorescence axillary fascicled; fruits yellow when ripe, longitudinally splitting (Except <i>Flacourtia</i>).....	58. Salicaceae
29b. Inflorescence terminal or axillary; fruits not yellow if axillary fascicled.....	30
30a. Stamens numerous or more than 10 (Except <i>Rotala</i>).....	31
30b. Stamens 10 or below 10.....	44
31a. Leaves opposite.....	32
31b. Leaves alternate.....	38
32a. Plants climbers.....	31. Ranunculaceae
32b. Plants herb, shrubs or trees.....	33
33a. Petals retuse at apex.....	86. Portulacaceae
33b. Petals acute, acuminate or obtuse at apex.....	34
34a. Flowers with hypanthium.....	65. Myrtaceae
34b. Flowers without hypanthium.....	35
35a. Styles 3.....	55. Hypericaceae
35b. Styles 1 or fused; stigma lobed or unlobed.....	36
36a. Petals apically emarginate and lacerate; stigma 4-lobed.....	52. Rhizophoraceae

36b. Petals and stigma not as above.....	37
37a. Lateral nerves numerous, distinct or inconspicuous.....	54. Calophyllaceae
37b. Lateral nerves below 15 pairs.....	63. Lythraceae
38a. Petals erose or fimbriate at apex.....	51. Elaeocarpaceae
38b. Petals not as above.....	39
39a. Ovary superior	40
39b. Ovary inferior.....	89. Lecythidaceae
40a. Fruits splitting for 1/2 length into 5 valves.....	93. Theaceae
40b. Fruits not splitting into valves.....	41
41a. Corolla rotate.....	74. Dipterocarpaceae
41b. Corolla not rotate.....	42
42a. Fruits white, juicy inside.....	96. Actinidiaceae
42b. Fruits not as above.....	43
43a. Leaves with more than 15 pairs of distinct lateral nerves.....	34. Dilleniaceae
43b. Leaves with inconspicuous lateral nerves (Except <i>Eurya</i>).....	90. Pentaphylacaceae
44a. Flowers zygomorphic.....	88. Balsaminaceae
44b. Flowers actinomorphic.....	45
45a. Plants with resiniferous secretory ducts in bark and foliage, blackening when wounded.....	68. Anacardiaceae
45b. Plants without resiniferous secretory ducts.....	46
46a. Stamens in groups of 2 unequal length.....	70. Rutaceae
46b. Stamens all equal in length.....	47
47a. Leaves palmate or pinnately compound; margins lobed if simple.....	48
47b. Leaves simple (Except <i>Oenanthe</i>).....	51
48a. Petals yellow or pink.....	50. Oxalidaceae
48b. Petals not as above.....	49
49a. Large size tree.....	67. Staphyleaceae
49b. Small size tree, scandent shrubs or herbs.....	50
50a. Petals recurved.....	49. Connaraceae
50b. Petals not recurved.....	122. Araliaceae
51a. Herbs.....	52

51b. Undershrubs, shrubs or trees.....	55
52a. Leaves margin lacerate.....	78. Brassicaceae
52b. Leaves margin not lacerate.....	53
53a. Leaves alternate.....	54
53b. Leaves opposite.....	84. Caryophyllaceae
54a. Inflorescence umbel; petals white.....	123. Apiaceae
54b. Inflorescence with solitary flower; petals yellow.....	64. Onagraceae
55a. Inflorescence spikes.....	62. Combretaceae
55b. Inflorescence not spike.....	56
56a. Petals yellow.....	60. Linaceae
56b. Petals not yellow.....	57
57a. Leaves opposite.....	48. Celastraceae
57b. Leaves alternate.....	58
58a. Petals recurved, rolled.....	87. Cornaceae
58b. Petals neither recurved nor rolled.....	32. Sabiaceae

A2. Gamopetalae

Key to the families

1a. Plants aquatic.....	2
1b. Plants terrestrial or epiphyte.....	3
2a. Insectivorous; leaves linear, divided into segments like branching.....	113. Lentibulariaceae
2b. Non insectivorous; leaves ovate-orbicular.....	119. Menyanthaceae
3a. Inflorescence enclosed by 1-many seriate involucre bracts to form a capitulum.....	120. Asteraceae
3b. Inflorescence absence of involucre bracts, if present inflorescence not enclosed.....	4
4a. Stipules interpetiolar.....	99. Rubiaceae
4b. Stipules not interpetiolar or absent.....	5
5a. Petals with midpetaline bands.....	103. Convolvulaceae
5b. Petals without midpetaline bands.....	6
6a. Plants with milky latex.....	101. Apocynaceae
6b. Plants without milky latex.....	7
7a. Leaves rosette, opposite and alternate at upper part.....	116. Mazaceae
7b. Leaves not as above.....	8

8a. Leaves opposite or whorled.....	9
8b. Leaves alternate or pseudowoled (whorled in <i>Ardisia paniculata</i>).....	19
9a. Leaves pinnately compound.....	112. Bignoniaceae
9b. Leaves simple or palmately compound.....	10
10a. Stamens 5.....	11
10b. Stamens 2 or 4.....	12
11a. Terrestrial shrub; leaves margins serrate.....	121. Viburnaceae
11b. Epiphytic shrubs or trees, sometimes terrestrial; leaves margins entire.....	100. Gentianaceae
12a. Corolla throat densely pubescent.....	108. Plantaginaceae
12b. Corolla throat glabrous, pubescent throughout if throat hairy.....	13
13a. Stamens included within the corolla tube, cannot see until spitted.....	14
13b. Stamens not included within the corolla tube, can see or exerted.....	16
14a. Inflorescence terminal.....	109. Scrophulariaceae
14b. Inflorescence axillary (sometimes terminal on <i>Lantana</i>).....	15
15a. Inflorescence capitate cymes or capitula or spicate.....	114. Verbenaceae
15b. Inflorescence simple or paniced cymes.....	106. Oleaceae
16a. Plants aromatic and stems or branches generally 4-angular.....	115. Lamiaceae
16b. Plants not aromatic; stems and branches rarely 4-angular.....	17
17a. Node swollen; inflorescence spike or dense clustered with bracts.....	111. Acanthaceae
17b. Node not swollen; inflorescence simple or paniced cymes or solitary flowered.....	18
18a. Plants prostrate or decumbent herbs.....	110. Linderniaceae
18b. Plants epiphytes or erect undershrubs.....	107. Gesneriaceae
19a. Plants epiphytes.....	97. Ericaceae
19b. Plants terrestrial.....	20
20a. Corolla twice the numbers of calyx.....	91. Sapotaceae
20b. Corolla numbers not as above.....	21
21a. Stamens numerous.....	94. Symplocaceae
21b. Stamens 5–10.....	22
22a. Stamens twice the numbers of corolla.....	95. Styracaceae
22b. Stamens equals the numbers of corolla.....	23

23a. Calyx with glandular hairs.....	81. Plumbaginaceae
23b. Calyx without glandular hairs.....	24
24a. Leaves generally two per node.....	104. Solanaceae
24b. Leaves one per node.....	25
25a. Corolla blue.....	26
25b. Corolla white.....	27
26a. Flowers actinomorphic.....	105. Hydroleaceae
26b. Flowers zygomorphic.....	118. Campanulaceae
27a. Stamens shorter than corolla.....	92. Primulaceae
27b. Stamens longer than corolla (included in <i>Heliotropium</i>).....	102. Boraginaceae

A3. Monochlamydeae

Key to the families

1a. Plants parasitic.....	79. Loranthaceae
1b. Plants not parasitic.....	2
2a. Inflorescence figs or fruits multiple.....	41. Moraceae
2b. Inflorescence and fruits not as above.....	3
3a. Ochrea present at node.....	82. Polygonaceae
3b. Ochrea absent.....	4
4a. Leaf margins cleft or divided.....	33. Proteaceae
4b. Leaf margins not cleft or divided.....	5
5a. Anthers 2–4-celled at anthesis, dehiscent by flaplike valves.....	9. Lauraceae
5b. Anthers not as above.....	6
6a. Fruits lobed and styles persistent, sometimes stigma feathery.....	7
6b. Fruits not lobed, rarely lobed but styles deciduous.....	8
7a. Two ovules per locule.....	61. Phyllanthaceae
7b. One ovule per locule.....	59. Euphorbiaceae
8a. Involucral bracts 4, white.....	3. Saururaceae
8b. Involucral bracts absent or minute or not white if present.....	9
9a. Cystoliths in stems or in perianths; or presence of stinging hairs.....42. Urticaceae
9b. Cystoliths and stinging hairs absent; leaves compound if cystoliths present.....	10
10a. Trees.....	11

10b. Herbs, shrubs or climbers (Except <i>Trema</i>).....	13
11a. Leaves compound.....	44. Juglandaceae
11b. Leaves simple.....	12
12a. Plants dioecious; bark with blood-red juice.....	6. Myristicaceae
12b. Plants monoecious; bark without juice.....	43. Fagaceae
13a. Leaves compound.....	40. Cannabaceae
13b. Leaves simple.....	14
14a. Rooting at nodes; leaf base asymmetric or symmetric with basal or supra basal nerves.....	4. Piperaceae
14b. Nodes not rooting; leaf base symmetric with basal or pinnate nerved.....	15
15a. Plants climbers or lianas.....	5. Aristolochiaceae
15b. Plants herbs or shrubs.....	16
16a. Stipule absent; leaf margins entire.....	85. Amaranthaceae
16b. Stipule interpetiolar; leaf margins serrate.....	10. Chloranthaceae

B. Monocotyledons

Key to the families

1a. Leaves with reticulate venation.....	2
1b. Leaves with parallel venation.....	3
2a. Auricles and tendrils present.....	15. Smilacaceae
2b. Auricles and tendrils absent.....	14. Dioscoreaceae
3a. Inflorescence a spathe.....	4
3b. Inflorescence not a spathe.....	5
4a. Stems woody.....	20. Arecaceae
4b. Stems herbaceous.....	11. Araceae
5a. Plants aquatic.....	6
5b. Plants terrestrial or epiphytic.....	8
6a. Leaves submerged.....	13. Hydrocharitaceae
6b. Leaves above water.....	7
7a. Flowers bisexual.....	22. Pontederiaceae
7b. Flowers unisexual.....	12. Alismataceae

8a. Pollinia present.....	16. Orchidaceae
8b. Pollinia absent.....	9
9a. Sepals and petals absent.....	10
9b. Sepals and petals present.....	11
10a. Stem terete, with distinct node and internode.....	29. Poaceae
10b. Stem triangular or flattened, without node and internode.....	28. Cyperaceae
11a. Flowers unisexual.....	27. Eriocaulaceae
11b. Flowers bisexual.....	12
12a. Labellum present.....	26. Zingiberaceae
12b. Labellum absent or not distinct.....	13
13a. Distinct calyx and corolla.....	14
13b. No distinct calyx and corolla termed as perianths.....	17
14a. Petals free.....	21. Commelinaceae
14b. Petals connate at base.....	15
15a. Corolla yellow or red or mixed.....	23. Cannaceae
15b. Corolla white.....	16
16a. Sepals free.....	24. Maranthaceae
16b. Sepals fused.....	25. Costaceae
17a. Flowers yellow.....	17. Hypoxidaceae
17b. Flowers white, dark green or blackish.....	18
18a. Flowers more than 4 cm in diam.....	18. Amaryllidaceae
18b. Flowers less than 2 cm in diam.....	19. Asparagaceae

5.3. Taxonomic enumeration

5.3.1. Pteridophyte

1. **LYCOPODIACEAE** Beauv. ex Mirb. in Lam. and Mirbel, Hist. Nat. Vég 4:293. 1802.

About 3 genera and 28 species in India; 2 genera and 3 species recorded from the study area.

Key to the genera

- 1a. Plants terrestrial.....2. *Lycopodiella*
1b. Plants epiphytic.....1. *Huperzia*

1. *Huperzia* Bernh. in Schrader, J. Bot. 1800:126. 1801.

Key to the species

- 1a. Leaves ovate-lanceolate, petiolate; sporophylls ovate, not exceeding sporangium.....1. *H. phlegmaria*
1b. Leaves linear, sessile; sporophylls linear, exceeding sporangium.....2. *H. vernicosa*

1. *Huperzia phlegmaria* (L.) Rothm. in Fedds. Report spec. Nov. Regni Veg. 54:62. 1944. *Lycopodium phlegmaria* L., Sp. Pl. 2:1101. 1753; Sledge in Bot. J. Linn. Soc. 84:8. 1982; Singh and Panigrahi, Fern and Fern-allies Arunachal Pradesh 1:37. 2005. (Plate 70A).

Vern. name: Geseng Maoji Lanjai (Bodo).

Epiphyte, 20–35 cm tall, pendulous; stem slender, glabrous, terete, furrowed, dicotomously branched; leaves spirally arranged, ovate-triangular, 5–12 × 2–5 mm, leathery, apex acuminate, midrib distinct, glabrous; petiole 0.5 mm long; strobili terminal on branches; sporophylls ovate, 2 × 1 mm, glabrous, margin entire, apex acute; sporangium 1 mm across, reniform, vertically bisected; spore unicellular, triangular.

Fertile: February–November.

Occurrence: Found in humid places or in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, NEW GUINEA, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0065* (BUBH), 11.02.2019.

2. *Huperzia vernicosa* (Hook. and Grev.) Trevis. in Atti. Soc. Ital. Sci. Nat. 17:248. 1875. *Lycopodium vernicosum* Hook. and Grev., Hook. Bot. Misc. 2:364. 1831. *Phlegmariurus vernicosus* Å. Löve and D. Löve in Taxon 26:324. 1977. (Plate 70B).

Vern. name: Gubung Maoji Lanjai (Bodo).

Epiphyte; stem pendulous, 40–55 cm long, 2–4 times dichotomously branched; leaves spirally arranged, linear, 13 × 1 mm, lanceolate, sessile, margin entire, apex sharply acute; stobili terminal on branches, 8–13 cm long; sporophylls ovate-lanceolate, base ovate, margin entire, apex acute, base rounded; sporangia reniform, 1 mm, yellowish, vertically bisected, glabrous; spores unicellular, sub-triangular, light yellow.

Fertile: December–February.

Occurrence: Found in dense forests.

Distribution: INDIA (Assam, Kerela, Tamil Nadu).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0064* (BUBH), 21.12.2019.

2. *Lycopodiella* Holub in *Preslia* 36:20. 1964.

1. *Lycopodiella cernua* (L.) Pic. Serm. in *Webbia* 23:166. 1968; Singh and Panigrahi, *Fern and Fern - allies Arunachal Pradesh* 1:49. 2005. *Lycopodium cernum* L., *Sp. Pl.* 2:1103. 1753; Prain, *Bengal Pl.* 2:959. 1903. *Palhinhaea cernua* Dixit, *Indian pterid.* 10. 1948.

Terrestrial, grows to 70 cm tall; stem terrete, 1–3 mm in diam., glabrous, dichotomously branched; leaves spirally arranged, needle-like, 5 × 1 mm, sessile, straight, pale green; strobilus solitary, terminal 3–9 × 2–3 mm, pendulous, sessile, green, elongated, round; sporophyll isomorphic, spiral, compactly arranged, ovate-rhomboid, acute at apex; spores hyalined.

Fertile: February–December.

Occurrence: Found in moist places of open area or in sloppy area.

Distribution: Cosmopolitan.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0722* (BUBH), 12.02.2019.

2. MARATTIACEAE Kaulf., *Enum. Filic.* 31. 1824.

About 3 genera and 5 species in India; 1 genus and 1 species recorded from the study area.

1. *Angiopteris* Hoffm. in *Commentat. Soc. Regiae Sci. Gott.* 12:29. 1796.

1. *Angiopteris evecta* (Forst.) Hoffm. in *Commentat. Soc. Regiae Sci. Gott.* 12. 29. 1794; *Bedd. Ferns South. India* t.78. 1864; *Handb. Ferns Brit. India* 460. t.285.1883; Baishya and Rao, *Ferns and Fern-allies Meghalaya* 34.1982; Jamir and Rao, *Ferns Nagaland* 39. 1988;

Borthakur *et al.*, An Illus. Mann. Fern Assam 46. 2000. *Polypodium evectum* Forst., Fl. Ins. Austr. 81. 1786. (Plate 69A).

Terrestrial; rhizome erect, cylindrical, fleshy, pink inside; stipe 1–1.5 m long; lamina 1–2 m long, bipinnate; pinnae subopposite, with 2–3 cm long swollen stalk, oblong-lanceolate; pinnules oblong-lanceolate, 10–15 × 1–2 cm, sub-opposite, acuminate at apex, base subtruncate, margins serrate; veins almost parallel; sori submarginal, ellipsoid; sporangia in clustered, 3–7 pairs in two rows, boat-shaped; spores tetrahedral.

Fertile: February–November.

Occurrence: Found in shady places of evergreen forests.

Distribution: INDIA (NE India), NEW GUINEA, QUEENSLAND.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0598 (BUBH), 17.03.2020.

3. GLEICHENIACEAE Presl, Reliq. Haenk. 1:70. 1825.

About 2 genera and 7 species in India; and 1 genus and 1 species recorded from the study area.

1. *Dicranopteris* Bernh., Neues J. Bot. 1(2):38. 1805.

1. *Dicranopteris linearis* (Burm. f.) Underw. in Bull. Torrey Bot. Club 34:250. 1907; Baishya and Rao, Ferns and Fern-allies Meghalaya, 40. 1982; Jamir and Rao, Ferns Nagaland 50. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 55. 2000. *Polypodium lineare* Burm.f., Fl. Ind. 235. 1768.

Terrestrial; rhizome creeping, densely hairy; stipes 10–25 cm long, shiny, slender, straggling, rigid; fronds 20–25 cm long, pinnate, dichotomously branched; ultimate branches 10–20 × 4–8 cm, lanceolate, deeply pinnatifid; segments narrowly linear, margin curved, deeply covered with brown hairs; lamina light green; sori globose; sporangia with very short stalk, yellow-brown; spores trilete, deeply grooved.

Fertile: July–October.

Occurrence: Found in open area of moist places.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, CAMBODIA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0603 (BUBH), 08.01.2019.

4. SCHIZAEACEAE Kaulf., Wesen Farrenk. 119. 1827.

About 2 genera and 3 species in India; and 1 genus and 1 species recorded from the study area.

1. *Lygodium* Sw. in Schrader, J. Bot. 1800(2):7, 106. 1801.

Key to the species

- 1a. Fronds unipinnate.....2. *L. microphyllum*
1b. Fronds bipinnate.....1. *L. flexuosum*

1. *Lygodium flexuosum* (L.) Sw. in Schrad., J. Bot. 1800 (2):106. 1801; Handb., Ferns Brit India 457. t.283.1883; Dhir, Ferns N.W. Himalayas 28. 1980; Baishya and Rao, Ferns and Fern-allies Meghalaya 37. 1982; Jamir and Rao, Ferns Nagaland 136. 1988; Maniekam and Irudayaraj, Pterid. Fl. West Ghats-S. India 61. t 38.1992; Borthakur *et al.*, An Illus. Mann. Fern Assam 153. 2001. *Ophioglossum flexuosum* L., Sp. Pl. 2:1063. 1753.

Twiners; rhizome creeping; fronds bipinnate; stipe dense hairy at base; primary pinnae alternate, 1-forked, bear 2–3 pinnules each; pinnules oblong-lanceolate, 6–10 × 2–2.5 cm, basal leaflets often large, acute or acuminate at apex; sterile leaflets finely toothed; veins reaching to the margin; sori arranged on 0.3–1.5 cm spikes, protruding from the margin; sporangia 4–5 pairs, arranged in 2 rows; spores trilete, yellowish-green.

Fertile: February–December.

Occurrence: Found in scrub forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0606* (BUBH), 12.03.2019.

2. *Lygodium microphyllum* (Cav.) Br., Prod. Fl. Nov. Holland. 162. 1810; Bedd., Handb. Ferns Brit. India 455. t.282. 1883; Maniekam and Irudayaraj, Pterid. Fl. West. Ghats-S. India 62. t.39. 1992; Borthakur *et al.*, An Illus. Mann. Fern Assam 157. 2001. *L. scandens* Bedd., Ferns South. India t.61. 1864. *Ugena microphylla* Cav., Icon. 6:76. 1801.

Twiners; rhizome creeping, dense hairy; stipes 2 mm in diam.; fronds unipinnate; pinnae elliptic, 5–8 × 2–3 cm, opposite; pinnules dimorphic; sterile pinnules ovate to lanceolate, 2–3 × 1–2 cm, terminal pinnule larger; fertile pinnules 1–1.5 × 1–1.5 cm, lobed to rounded, lobes

subcordate to truncate at base; sori finger like on the margins, 3–5 mm long; sporangia short stalked, up to 6 pairs in two rows; spores trilete, black.

Fertile: July–September.

Occurrence: Found in scrub forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CAMBODIA, NEW GUINEA, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0607* (BUBH), 22.07.2019.

5. MARSILEACEAE Mirb. in Lam. and Mirb., Hist. Nat. Vég. 5:126. 1802.

About 1 genus and 3 species in India; and 1 genus and 1 species recorded from the study area.

1. *Marsilea* L., Sp. Pl. 2:1099. 1753.

1. *Marsilea minuta* L., Mant. Pl. 2:308. 1771; Dhir, Ferns N.W. Himalayas 29. 1980; Manickam and Irudayaraj, Pterid. Fl. West. Ghats-S. India 342. t.259. 1992; Borthakur *et al.*, An Illus. Mann. Fern Assam 231. 2000.

Aquatic; rhizome creeping, distinct nodes and internodes, hairy throughout; stipes 10–15 cm long, terete; leaves 4-foliolate, sessile, arranged at the tip of the stipe; leaflets obovate, 2–2.5 × 1.5–2 cm, margin entire, rounded at apex; sporocarps borne in clusters at the nodes, oval, 4–5 × 3–4 mm, 1–2 mm long stalked; mega and microsporangia in the same sporocarp; microspores globose, yellowish-brown; megaspores ovate, yellowish-brown.

Fertile: February–November.

Occurrence: Found in open stagnant water body or in clay soil.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, CAMBODIA, GHANA, PHILIPPINES, THAILAND, VIETNAM, ZAMBIA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0608* (BUBH), 12.03.2020.

Uses: Whole plant is used in memory loss, blood pressure, leprosy, brochitis (Das *et al.* 2010).

6. SALVINIACEAE Martinov, Tekhno-Bot. Slovar 559. 1820.

About 1 genus and 4 species in India; and 1 genus and 1 species recorded from the study area.

1. *Salvinia* Ség., Pl. Veron. 3:52. 1754.

1. *Salvinia natans* (L.) All., Fl. Pedem. 2:289. 1785; Dhir, Ferns N.W. Himalayas 51. 1980; Jamir and Rao, Ferns Nagaland 406. 1988. Borthakur *et al.*, An Illus. Mann. Fern Assam 449. 2000. *Marsika natans* L., Sp. Fl. 2:1099. 1753.

Aquatic, free floating; stems terete, horizontal; leaves oval, 8–15 × 1–17 mm, sessile, opposite, crowded, margin entire, rounded at apex, base cordate or cuneate, upper surface closely papillose; submerged leaves root-like, 4–8 in a cluster, arising from the nodes of stem, covered by brown septate hairs; sporocarps ovoid or globose, covered by multicellular hairs.

Fertile: February–December.

Occurrence: Found in stagnant water body.

Distribution: Cosmopolitan.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0600* (BUBH), 12.03.2019.

7. CYATHEACEAE Kaulf., Wesen Farrenk. 119. 1827.

About 1 genus and 11 species in India; and 1 genus and 1 species recorded from the study area.

1. *Gymnosphaera* Blume, Enum. Pl. Javae 2:242. 1828.

1. *Gymnosphaera gigantea* (Wall. ex Hook.) Dong in Phytotaxa 400:87. 2019. *Alsophila gigantea* Hook., Sp. Fil. 1:53 1844. *Cyathea gigantea* Baishya and Rao, Ferns and Fern-allies Meghalaya 50. 1982; Jamir and Rao, Ferns Nagaland 199. 1988; Manickam and Irudayaraj, Pterid. Fl. West. Ghats-S. India 162. t.126. 1992; Borthakur *et al.*, An Illus. Mann. Fern Assam 243. 2000. (Plate 69F).

Terrestrial; trunk massive; scales linear-lanceolate, 15 × 2 mm, dark brown; stipes 80–130 cm long, dark-brown, scaly at base; lamina ovate-lanceolate, 150–200 × 50–80 cm, bipinnate; primary pinnae lanceolate, 40–50 × 15–20 cm, acuminate at apex; secondary pinnae ovate-lanceolate, acuminate or acute at apex, margin of lobes serrate; rachis dark purple; sori globose, arranged in line, forming an inverted V-shape; sporangia dark-brown, short stalked; spores, trilete, light-brown.

Fertile: February–October.

Occurrence: Found in moist humid places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, LAOS, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0720* (BUBH), 22.02.2019.

Uses: Shoots are eaten cooked as curry with alkali and dried fish (Teron 2011).

8. LINDSAEACEAE Pic. Serm. in Webbia 24:707. 1970.

About 3 genera and 19 species in India; and 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Lamina simple pinnate.....2. *Osmolindsaea*
1b. Lamina compound pinnate.....1. *Odontosoria*

1. *Odontosoria* (Presl.) Fée, Mém. Foug., 5. Gen. Filic. 325. 1852.

1. *Odontosoria chinensis* (L.) Sm. in Seemann, Bot. Voy. Herald 430. 1857. *Sphenomeris chinensis* Dhir, Ferns N.W. Himalayas 56. 1980; Baishya and Rao, Ferns and Fern-allies Meghalaya 97. 1982; Jamir and Rao, Ferns Nagaland 226. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 274. 2000. *Trichomanes chinensis* L., Sp. Pl. 2:1099. 1753. (Plate 70D).

Terrestrial; rhizome erect or short creeping, scaly; stipes 25–45 cm long; lamina 10–30 × 5–12 cm, quadripinnatifid or tripinnate, distal part bipinnatifid, base cuneate, pale-brown; primary pinnae up to 10 pairs, alternate or subopposite; largest pinna 8–15 × 3–6 cm; secondary pinnae 6–7 pairs; tertiary pinnae 2–3 pairs; veins 2–3 in each lobes, forked; sori marginal; sporangia short stalked, pale-brown; spores reniform, brown.

Fertile: July–December.

Occurrence: Found in moist places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CHINA, LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0620* (BUBH), 19.01.2019.

2. *Osmolindsaea* (Kramer) Lehtonen and Christenh. in Bot. J. Linn. Soc. 163(3):335. 2010.

1. *Osmolindsaea odorata* (Roxb.) Lehtonen and Christenh. in Bot. J. Linn. Soc. 163:335. 2010. *Lindsaea odorata* Roxb., Calcutta J. Nat. Hist. 4: 511. 1844; Manickam and Irudayaraj,

Pterid. Fl. West. Ghats-S. India 125. t.97. 1992; Borthakur *et al.*, An Illus. Mann. Fern Assam 272. 2000. *L. cultrata* Jamir and Rao, Ferns Nagaland 228.1988.

Terrestrial or semi-epiphyte; rhizome erect or short creeping, dense scaly; scales hair-like; stipes 10–15 cm long; lamina 15–30 cm long, simple pinnate, linear-lanceolate; pinnae up to 35 pairs, alternate; largest pinna 2 × 1 cm, short stalked, narrowly triangular, base truncate, acute at apex; veins free, 1–2 forked; sori along the margin of each lobe; sporangia oval, dark-brown; spores globose, reniform, pale-green.

Fertile: July–November.

Occurrence: Found in moist humid places.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CHINA, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0721* (BUBH), 23.08.2019.

9. DENNSTAEDTIACEAE Pic. Serm. in *Webbia* 24(2):704. 1970.

About 6 genera and 27 species in India; and 1 genus and 1 species recorded from the study area.

1. *Microlepia* Presl., Tent. Pterid. 124. 1836.

1. *Microlepia speluncae* (L.) Moore, Ind. Fil. 93. 1857; Bedd. Handb. Ferns Brit. India 67. 1883; Baishya and Rao, Ferns and Fern-allies Meghalaya 92. 1982; Jamir and Rao, Ferns Nagaland 213. 1988; Manickam and Irudayaraj, Pterid. Fl. West. Ghats-S. India 119. t.93and94. 1992; Borthakur *et al.*, An Illus. Mann. Fern Assam 259. 2000. *Polypodium speluncae* L., Sp. Pl. 2:1093. 1753.

Terrestrial; rhizome creeping, 1–1.5 cm in diam., hairy; stipes 30–70 cm long, grooved above; lamina deltoid-ovate, 50–80 × 30–40 cm, tripinnate or quadripinnate; pinnae ovate-lanceolate, 15–45 × 5–20 cm, acuminate at apex; largest pinnule narrowly deltoid, 4–6 × 2–3 cm, alternate or subopposite; sori borne submarginal, near the base of the sinuses between the lobes; sporangia dark-brown; spores yellowish-brown.

Fertile: February–November.

Occurrence: Found dominantly in shady places of scrub forests.

Distribution: INDIA (Almost throughout the country), AMERICA, AUSTRALIA, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0609* (BUBH), 18.01.2019.

10. PTERIDACEAE Kirchn., Schul-Bot. 109. 1831.

About 20 genera and 159 species in India; and 2 genera and 5 species recorded from the study area.

Key to the genera

- 1a. Pinnae with white-silvery powdery substances beneath.....1. *Pityrogramma*
- 1b. Pinnae without any powdery substances.....2. *Pteris*

1. *Pityrogramma* Link, Handbuch 3:19. 1833.

1. *Pityrogramma calomelanos* (L.) Link. in Mössler, Handb. Erken. Gewächsk. 3:20. 1833; Baishya and Rao, Ferns and Fern-allies Meghalaya 146. 1982; Jamir and Rao, Ferns Nagaland 171. 1988; Manickam and Irudayaraj, Pterid. Fl. West. Ghats-S. India 94. t.69. 1992; Borthakur *et al.*, An Illus. Mann. Fern Assam 219. 2001. *Acrostichum calomelanos* L., Sp. Pl. 2:1072. 1753.

Terrestrial; rhizome tufted; scales linear, entire, dark-brown; stipes 10–30 cm long, black; lamina 20–35 × 6–12 cm, bipinnate, lower surface covered with white-silvery powdery substances; pinnae deeply lobed, acuminate at apex, base cordate; largest pinnules 1–1.5 cm long, oblique, narrowly deltoid; lobes serrate; sori borne on the lower surface throughout; sporangia dark-brown, with long stalked; spores yellowish.

Fertile: October–November.

Occurrence: Found in moist shady places.

Distribution: INDIA (Almost throughout the country), CAMBODIA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0613* (BUBH), 24.11.2019.

2. *Pteris* L., Sp. Pl. 2:1073. 1753.

Key to the species

- 1a. Lamina simple pinnate.....2
- 1b. Lamina bipinnatifid or bipinnate.....3

- 2a. Pinnae upper margin subentire, lower margin pinnately divided.....3. *P. semipinnata*
 2b. Pinnae simple without any division.....4. *P. vittata*
 3a. Basal veins anastomosing.....1. *P. biaurita*
 3b. Basal veins not anastomosing.....2. *P. quadriaurita*

1. *Pteris biaurita* L., Sp. Pl. 2:1076. 1753; Dhir, Ferns N.W. Himalayas 49. 1980; Baishya and Rao, Ferns and Fern-allies Meghalaya 110. 1982; Jamir and Rao, Ferns Nagaland 146. 1988; Manickam and Irudayaraj, Pterid. Fl. West. Ghats-S. India 73. t.49. 1992. *Campteria biaurita* Borthakur *et al.*, An Illus. Mann. Fern Assam 171. 2001. (Plate 70E).

Terrestrial, to 70 cm tall; rhizome erect, scaly at the apex; scales linear-lanceolate, 3 × 0.7 mm, acuminate at apex, margin ciliate; stipes 30–60 cm long, grooved above; lamina bipinnate, 30–70 × 24–26 cm; pinnae 15–20 pairs, margin oblong, lobed; lobes 4 × 0.7 cm, rounded at apex, margin entire; sori along the margins, linear; sporangia dark-brown, stalked; spores tetrahedral, dark-brown.

Fertile: July–October.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), AMERICA, BANGLADESH, BORNEO, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary* 0728 (BUBH), 29.07.2019.

2. *Pteris quadriaurita* Retz., Observ. Bol. 6:38. 1791; Bedd., Ferns South. India t.31. 1864; Dhir, Ferns N.W. Himalayas 48. 1980; Baishya and Rao, Ferns and Fern-allies Meghalaya 111. 1982; Jamir and Rao, Ferns Nagaland 152. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 185. 2000.

Terrestrial, to 70 cm tall; rhizome erect to suberect; scales linear-lanceolate, 3–4 × 1 mm, acuminate at apex, dark-brown, margin hairy; stipes erect, 30–50 cm long; lamina deltoid, 40–45 × 30 cm, bipinnatifid; pinnae 20–25 × 3–5 cm, opposite or subopposite, margin entire, caudate-acuminate at apex, base broad cuneate; veins distinct beneath; sori along the margins; sporangia stalked, dark-brown; spores verrucate, dark-brown.

Fertile: February–December.

Occurrence: Found in roadsides or in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, SRI LANKA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0602* (BUBH), 02.03.2019.

3. *Pteris semipinnata* L., Sp. Pl. 2:1076. 1753; Bedd., Ferns South. India t.34. 1864; Handb., Ferns Brit. India 109. t.58.1883; Baishya and Rao, Ferns and Fern-allies Meghalaya 111. 1982; Jamir and Rao, Ferns Nagaland 155. 1990; Borthakur *et al.*, An Illus. Mann. Fern Assam 188. 2001.

Terrestrial; rhizome creeping; scales linear-lanceolate, 4×1 mm, dark brown; stipes 20–50 cm long, erect, tufted at base; lamina ovate-lanceolate, $25\text{--}45 \times 10\text{--}30$ cm, pinnate; pinnae subsessile, pinnatifid at lower margin; texture subcoriaceous; rachis grooved above; veins slightly raised on both sides; sori along the margin, linear; sporangia with annulus, oval, pale-brown, stalked; spores triangular to oval, pale-brown.

Fertile: February–October.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0617* (BUBH), 12.03.2019.

4. *Pteris vittata* L., Sp. Pl. 2:1074. 1753; Dhir, Ferns N.W. Himalayas 46. 1980; Baishya and Rao, Ferns and Fern-allies Meghalaya 111. 1982; Jamir and Rao, Ferns Nagaland 154.1988; Manickam and Irudayaraj, Pterid. Fl. West. Ghats-S. India 68. t.42. 1992; Borthakur *et al.*, An Illus. Mann. Fern Assam 193. 2001.

Terrestrial, to 80 cm tall; rhizome suberect, 3–4 cm long; scales ovate-lanceolate, pale-brown; stipes 10–30 cm long, grooved above, clothed with silky and pale brown scales; lamina $20\text{--}60 \times 10\text{--}25$ cm, simple pinnate; pinnae opposite or subopposite; pinnae linear-lanceolate, sessile, $10\text{--}20 \times 0.6\text{--}1$ cm, acuminate at apex, margin serrate; sori along the margin; sporangia oval, light brown, stalked; spores trilete, pale-brown.

Fertile: February–July.

Occurrence: Found in roadsides or in deciduous forests.

Distribution: Cosmopolitan.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0618* (BUBH), 12.03.2019.

11. ASPLENIACEAE Newman, Hist. Brit. Ferns 6. 1840.

About 6 genera and 168 species in India; and 5 genera and 8 species recorded from the study area.

Key to the genera

- 1a. Rhizome creeping on tree trunk or any substratum.....4. *Stenochlaena*
- 1b. Rhizome not creeping.....2
- 2a. Plants epiphyte.....1. *Asplenium*
- 2b. Plants terrestrial.....3
- 3a. Sori borne along mid vein nearly to the apex.....2. *Blechnum*
- 3b. Sori borne along or on lateral veins.....4
- 4a. Sori globose.....5. *Thelypteris*
- 4b. Sori elongated, short linear.....3. *Diplazium*

1. *Asplenium* L., Sp. Pl. 2:1078. 1753.

Key to the species

- 1a. Leaves pinnately compound.....1. *A. falcatum*
- 1b. Leaves simple.....2. *A. nidus*

1. *Asplenium falcatum* Lam., Encycl. 2(1):306. 1786; Bedd. Handb. Ferns Brit. India 150. 1883; Borthakur *et al.*, An Illus. Mann. Fern Assam 340. 2000. (Plate 69B).

Epiphyte; rhizome erect, tufted; scales 8–10 × 1 mm, lanceolate, acuminate at apex; stipes 20–30 cm long; lamina lanceolate, 25–40 × 10–16 cm, acuminate at apex, base broadly cuneate; pinnae simple; pinnae lanceolate, 5–8 × 1–1.5 cm, acuminate at apex, base unequal, margin irregularly biserrate; veins subparallel, reaching to margin; sori linear along veins; sporangia dark-brown, long stalked; spores reniform, dark-brown.

Fertile: May–July.

Occurrence: Found in moist humid places on tree trunk.

Distribution: INDIA (Almost throughout the country), CAMBODIA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0596* (BUBH), 19.01.2019.

2. *Asplenium nidus* L., Sp. Pl. 2:1079. 1753; Handb. Ferns Brit. India; 137. 1883; Jamir and Rao, Ferns and Fern-allies Meghalaya, 115. 1982; Borthakur *et al.*, An Illus. Mann. Fern Assam 342. 2000. (Plate 69C).

Epiphyte; rhizomes clothed by scales; scales black, margins with hairs like appendages; stipes 3–5 cm, long, scaly at base; lamina lanceolate, 40–70 × 5–8 cm, coriaceous, narrowed both ends; midrib raised on the upper surface; veins simple or two forked; sori linear, borne along each veinlet; sporangia stalked, yellowish-brown; spores light-brown.

Fertile: February–October.

Occurrence: Found in deciduous or in semi-evergreen forests.

Distribution: INDIA (Introduced), BORNEO, GUINEA, PHILIPPINES, QUEENSLAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0597* (BUBH), 16.01.2019.

2. *Blechnum* L., Sp. Pl. 2:1077. 1753.

1. *Blechnum orientale* L., Sp. Pl. 2. 1077. 1753 ; Bedd. Ferns South. India t. 89. 1864; Handb. Ferns Brit. India 132. t.86. 1883; Baishya and Rao, Ferns and Fern-allies Meghalaya 118. 1982; Jamir and Rao, Ferns Nagaland 403. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 440. 2000.

Terrestrial; rhizome erect, blackish; scales linear-lanceolate, 5–12 × 1–2 mm long, acuminate at apex, margin entire; stipes 50–80 cm long, tufted; lamina linear-lanceolate, 50–150 × 12–25 cm, acute at apex, base subtruncate, simple pinnate; pinnae sessile, alternate; largest pinna linear-lanceolate 10–20 × 1–2 cm, margin entire, acuminate at apex, base broadly cuneate; veins forked 1–2 time; sori borne along costa, dark-brown; sporangia stalked, pale-brown; spores round to oval, yellowish-brown.

Fertile: July–November.

Occurrence: Found in scrub forests or in forest margins.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0599* (BUBH), 16.01.2019.

Uses: Shoots are eaten cooked along with *Antidesma acidum* as curry (Teron 2011).

3. *Diplazium* Sw. in Schrader, J. Bot. 1800(2):4, 61. 1801.

1. *Diplazium esculentum* (Retz.) Sw. in J. Bot. 1801(2):312. 1803; Baishya and Rao, Ferns and Fern-allies Meghalaya 140. 1982; Jamir and Rao, Ferns Nagaland 311. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 364. 2000. *Hemionitis esculenta* Retz., Observ. Bot. 6:38. 1791. (Plate 69D).

Vern. name: Jajagra Dingkia (Bodo).

Terrestrial, grows to 1.5 m tall; rhizome erect; scales lanceolate, $3-5 \times 1-1.3$ mm, acuminate at apex, dark brown; stipe 15–40 cm long; fronds $60-80 \times 30-50$ cm, bipinnate; pinnae elliptic-lanceolate, $20-30 \times 10-15$ cm, acuminate at apex; pinnules lanceolate, $6-8 \times 1-2$ cm, acuminate at apex, margins lobed; sori borne along the veins, dark-brown, linear; sporangia subglobose, stalked; spores reniform, yellowish.

Fertile: February–July.

Occurrence: Found in open area or in roadsides/margins of forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, TAIWAN, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0601* (BUBH), 12.02.2019.

Uses: Tender fronds are used as vegetables.

4. *Stenochlaena* Sm. in Hook., J. Bot. 3:401. 1841.

1. *Stenochlaena palustris* (Burm.f.) Bedd., Ferns Brit. India Suppl. 26. 1876; Handb. Ferns Brit. India 421. t.253. 1883; Jamir and Rao, Ferns Nagaland 404. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 444. 2000. *Polypodium palustre* Burm.f., Fl. Ind. 234. 1768.

Twiner; rhizome slender, creeping, often climbing on trees; scales ovate, 3×1.5 mm, acuminate at apex, margin ciliated; lamina oblong-lanceolate, $30-90 \times 20-40$ cm, simple pinnate; pinnae 8–15 pairs; largest pinna lanceolate, $10-20 \times 2-3$ cm, margin serrate, acuminate at apex, base cuneate; sori throughout the lower surface except midrib and the extreme apex; sporangia stalked; spores pale green.

Fertile: February–October.

Occurrence: Found in mixed deciduous forests or in scrub forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CAMBODIA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0604* (BUBH), 12.02.2019.

5. *Thelypteris* Schott, Gen. Fil. ad t.10. 1834.

Key to the species

- 1a. Lamina pinnately compound.....2
1b. Lamina 3-foliolate.....3. *T. triphylla*
2a. Rhizome short creeping.....1. *T. dentata*
2b. Rhizome erect.....2. *T. tenera*

1. *Thelypteris dentata* (Forssk.) John in Amer. Fern. J. 26:44. 1936. *Christella dentata* Baishya and Rao, Ferns and Fern-allies Meghalaya 81. 1982; Jamir and Rao, Ferns Nagaland 266. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 293. 2000. *Polypodium dentatum* Forssk., Fl. Aegypt.-Arab. 185. 1775.

Terrestrial; rhizome short creeping; scales linear-lanceolate, acuminate at apex, pale-brown; stipe 15–45 cm long, pale brown to dark-brown; lamina oblanceolate, 20–60 × 10–15 cm; pinnae 15–25 pairs, sessile; largest pinna lanceolate, 6–8 × 1.5–2 cm, acuminate at apex, base cuneate, margin lobed; veins 6–9 pairs; sori borne on nerves, arranged in two rows; indusial distinct, hairy, brown; spores reniform.

Fertile: July–December.

Occurrence: Commonly found in shady area.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CAMBODIA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0619* (BUBH), 12.02.2019.

2. *Thelypteris tenera* (Roxb.) Morton ex Fraser-Jenk in Jenkins and Roy, Taxon. Revis. Indian. Subcontinental Pteridophytes 418. 2008. *Polypodium tenerum* Roxb. in Calcutta J. Nat. Hist. 4:490. 1844. *Trigonospora ciliata* Baishya and Rao, Ferns and Fern-allies Meghalaya 87. 1982; Jamir and Rao, Ferns Nagaland 248. 1988. Borthakur *et al.*, An Illus. Mann. Fern Assam 336. 2000.

Terrestrial, grows to 60 cm tall; rhizome erect, 2–3 cm thick; scales ovate, 2 × 1 mm, pubescent, margin entire, acute at apex; stipes 10–15 cm, clothed with soft hairs; lamina ovate-lanceolate, 25–30 × 6–9 cm, caudate at apex; pinnae 17–25 pairs, alternate, sessile; largest pinna oblanceolate, 4–5 × 1–2 cm, acute or acuminate at apex, base unequal, margin lobed; sori round, brown; sporangia dark brown, long stalked; spores tetrahedral.

Fertile: February–November.

Occurrence: Found in moist places along streams, mainly use rock as substratum.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0616* (BUBH), 12.02.2019.

3. *Thelypteris triphylla* (Sw.) Iwats., Mem. Coll. Sci. Kyoto Imp. Univ., ser. B, Biol. 31:190. 1965. *Meniscium triphyllum* Sw. in J. Bot. 4:16. 1801; Bedd., Ferns South. India t.56. 1864. *Pronephrum triphyllum* Baishya and Rao, Ferns and Fernallies Meghalaya 86. 1982; Jamir and Rao, Ferns Nagaland 261. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 327. 2001.

Terrestrial; rhizome creeping; scales linear-lanceolate, 4–5 × 1–2 mm, margin entire, acuminate at apex; stipes slender, 10–15 cm long, hairy throughout; lamina 12–20 × 4–7 cm, 3-foliolate, ovate in outline; lateral pair of pinnae oblanceolate, 5–12 × 2–3 cm, opposite, margin entire, acuminate at apex, attenuate at base; terminal pinnae larger than the lateral, 12–15 × 3–4 cm, margin entire, acuminate at apex, base attenuate; sori elliptic, along the veins; spores reniform.

Fertile: February–April.

Occurrence: Found in shady places near streams.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CHINA, MYANMAR, NEW GUINEA, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0611* (BUBH), 12.02.2019.

12. POLYPODIACEAE Presl and C.Presl, Delic. Prag. 159. 1822.

About 21 genera and 128 species in India; and 8 genera and 9 species recorded from the study area.

Key to the genera

1a. Plants aquatic.....	4. <i>Leptochilus</i>
1b. Plants terrestrial or epiphytic.....	2
2a. Lamina dimorphic.....	3
2b. Lamina not dimorphic.....	5
3a. Leaves simple.....	7. <i>Pyrrosia</i>
3b. Leaves pinnatifid or pinnately compound.....	4
4a. Plants terrestrial.....	5
4b. Plants epiphytic.....	2. <i>Drynaria</i>
5a. Sori fully covered the pinnae beneath.....	1. <i>Bolbitis</i>
5b. Sori scattered on the pinnae beneath.....	8. <i>Tectaria</i>
6a. Plants terrestrial.....	7
6b. Plants epiphytic.....	5. <i>Microsorium</i>
7a. Lamina simple pinnate.....	6. <i>Nephrolepis</i>
7b. Lamina bipinnate.....	3. <i>Dryopteris</i>

1. *Bolbitis* Schott, Gen. Fil. 3:t.14. 1835.

1. *Bolbitis heteroclita* (Presl) Ching in Christensen, Ind. Filic. Suppl. Tert. 3:48. 1934; Baishya and Rao, Ferns and Fern-allies Meghalaya 121. 1982; Jamir and Rao, Ferns Nagaland 376. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 415. 2000. *Acrostichum heteroclitum* Presl, Reliq. Haenk. 1:15. 1825.

Terrestrial; rhizome creeping, apical parts clothed by dark brown scales; stipes 6–25 cm long, sparse scaly; fronds in 2–3 alternate rows; pinnae trifoliate; lateral pinnae ovate-lanceolate, 10–20 × 2–5 cm, margin entire to undulate, acuminate at apex, base cuneate; apical pinnae lanceolate, 12–15 × 2–2.5 cm; veins raised, marginal veins are free; sori throughout whole lower surface, dark brown.

Fertile: May–August.

Occurrence: Found in shady places of evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BORNEO, CHINA, MYANMAR, NEPAL, NEW GUINEA, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0612* (BUBH), 29.06.2019.

2. *Drynaria* (Bory) Sm. in Hook., J. Bot. 4:60. 1841.

1. *Drynaria quercifolia* (L.) Sm. in Hook., J. Bot. 3:398. 1841; Bedd. Ferns South. India t.186. 1864; Bedd. Handb. Ferns Brit. India 341. t.191. 1883; Baishya and Rao, Ferns and Fernallies Meghalaya 61. 1982; Jamir and Rao, Ferns Nagaland 132. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 147. 2000. *Polypodium quercifolium* L., Sp. Pl. 2:1087. 1753. (Plate 69E).

Epiphytes; rhizome, creeping; scales linear-lanceolate, 1–1.5 × 0.3 cm, acuminate at apex, base broad; nest leaves sessile, ovate-cordate, 15–30 × 10–20 cm, brown at maturity, margin pinnatifid lobed; fronds 50–80 × 30–50 cm, simply pinnate; pinnae oblong-lanceolate, 20–30 × 3–5 cm, acuminate at apex, margins usually wavy; sori in a main lateral veins of the lobes, orbicular; sporangia round, stalked; spores oval, light-brown.

Fertile: May–August.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), CAMBODIA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0605* (BUBH), 16.07.2019.

Uses: Tender leaves are eaten cooked as curry with dried fish and alkali solution (Teron 2011).

3. *Dryopteris* Adans., Fam. Pl. 2:20, 551. 1763.

1. *Dryopteris sparsa* (Don) Kuntze, Rev. Gen. Pl. 2:813. 1891; Dhir, Ferns N.W. Himalayas, 70. 1980; Baishya and Rao, Ferns and Fern-allies Meghalaya 128. 1982; Jamir and Rao, Ferns Nagaland 334. 1988; Manickam and Irudayaraj, Pterid. Fl. West. Ghats-S. India; 281. t.216. 1992; Borthakur *et al.*, An. Illus. Mann. Fern Assam 405. 2000. *Nephrodium sparsum* Don, Prodr. Fl. Nepal. 6. 1825.

Terrestrial, to 60 cm tall; rhizome suberect; scales 5 × 1 mm, ovate-lanceolate, acute at apex, pale brown; stipes 15–40 cm long, grooved above; lamina 30–50 × 15–30 cm, ovate-lanceolate, bipinnate; primary pinnae opposite or subopposite; secondary pinnae subopposite, 2–4 pairs; veins distinct beneath, rachis with scattered scales; sori on the veinlets, round, single per lobe, blackish; sporangia dark brown.

Fertile: February–November.

Occurrence: Found in moist and shady places of sloppy area.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CHINA, JAPAN, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0723* (BUBH), 08.03.2019.

4. *Leptochilus* Kaulf., Enum. Filic. 147. 1824.

1. *Leptochilus pteropus* (Blume) Fraser-Jenk., Taxon. Revis. Indian Subcontinental Pteridophytes 62. 2008. *Kaulinia pteropus* Nayar, Taxon 13:67. 1964; Baishya and. Rao, Ferns and Fern-allies Meghalaya 62. 1982; Jamir and Rao, Ferns Nagaland 119. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 95. 2000. *Polypodium pteropus* Blume, Enum. Pl. Javae 2: Add. 1828.

Aquatic; rhizome creeping, fleshy, upper part scaly; scales linear, lanceolate, long acuminate at apex, margins entire, pale-brown; stipes 3–10 cm long, upwards winged, sparse scaly; fronds 3-lobed, lanceolate, 5–15 × 5–7 cm, margin entire, acuminate; veins distinct both sides; sori globose, scattered irregularly within the main areoles; sporangia oval, with stalk; spores yellowish-green.

Fertile: January–November.

Occurrence: Found in moist shady places of rocky beds along streams.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0724* (BUBH), 13.05.2019.

5. *Microsorium* Link, Hort. Berol. 2:110. 1833.

1. *Microsorium punctatum* (L.) Copel. in Univ. Calif. Publ. Bot. 16:111. 1929; Baishya and Rao, Ferns and Fern-allies Meghalaya 68. 1982; Jamir and Rao, Ferns Nagaland 112.1988; Manickam and Irudayaraj, Pterid. Fl. West. Ghats-S. India 328. t.249. 1992; Borthakur *et al.*, An Illus. Mann. Fern Assam 97. 2000. *Acrostichum punctatum* L., Sp. Pl. 2:1524. 1763 (Plate 70C).

Epiphyte; rhizome creeping; scales ovate-lanceolate, 4 × 1 mm, acuminate at apex, margin toothed, peltate, blackish-brown; fronds simple, lanceolate, 40–60 × 4–8 cm, without distinct stipe, margin entire, acute at apex; pinnae glabrous both sides, coriaceous, blackish when dry; sori round, irregularly scattered; sporangia oval, short stalked; spores yellowish, ellipsoid or reniform.

Fertile: May–February.

Occurrence: Found in moist and places in dense forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CAMEROON, MYANMAR, PHILIPPINES, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0610* (BUBH), 12.06.2019.

6. *Nephrolepis* Schott, Gen. Fil. 1:t.3. 1834.

1. *Nephrolepis cordifolia* (L.) Presl, Tent. Pterid. 79. 1836: Dhir, Ferns N.W. Himalayas 59.1980; Baishya and Rao, Ferns and Fern-allies Meghalaya 105.1982; Jamir and Rao, Ferns Nagaland 385. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 425. 2000. *Polypodium cordifolium* L., Sp. Pl. 2:1089. 1753.

Terrestrial; rhizome suberect; scales dark-brown; runners slender, climbing, producing frond-bearing stocks at irregular intervals; stipes 10–15 cm long, sparse scaly; lamina oblong, 60–90 × 6–9 cm, narrowing towards both ends, pinnate; middle pinnae larger, slightly falcate, auricled at acroscopic base; lower pinnae reduced; sori round, submarginal, 20–23 pairs; indusium reniform; sporangia long stalked, dark-brown; spores elliptic to globose, pale-brown.

Fertile: February–October.

Occurrence: Found in moist places of open area.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CAMEROON, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0725* (BUBH), 16.03.2019.

7. *Pyrrrosia* Mirb. in Lam. and Mirb., Hist. Nat. Vég. 3:471. 1802.

Key to the species

- 1a. Lamina sunghobose-oblong; sori borne along margins from base to apex.....2. *P. piloselloides*
1b. Lamina lanceolate; sori borne from middle of lamina to apex.....1. *P. adnascens*

1. *Pyrrrosia adnascens* (Sw.) Ching in Bull. Chin. Bot. Soc. 1:45. 1935; Dhir, Ferns N.W. Himalayas 118. 1980; Baishya and Rao, Ferns and Fern-allies Meghalaya 74. 1982; Jamir and Rao, Ferns Nagaland 93. 1988; Borthakur *et al.*, An Illus. Mann. Fern Assam 123. 2000. *Polypodium adnascens* Sw., Syn. Fil. 25:222. 1806.

Epiphyte; rhizome creeping, profusely branched; scales 3–5 × 1 mm, peltate, acuminate at apex, margin entire to ciliate, light-brown; lamina linear-lanceolate, 7–15 × 0.3–0.5 cm, acute or obtuse at apex, base narrowly decurrent, stellate hairs beneath; midrib prominently raised; sori round; sporangia with slender stalk; spores round, bilobed, light golden-brown.

Fertile: May–July.

Occurrence: Found in deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, NEPAL, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0614* (BUBH), 24.05.2019.

2. *Pyrrrosia piloselloides* (L.) Price in Kalikasan 3:176. 1974. *Pteris piloselloides* L., Sp. Pl. 2:1530. 1763. (Plate 70F).

Epiphyte; rhizome creeping, slender; scales peltate, orbicular to triangular, margin of base irregularly ciliate; fronds dimorphic; lamina 3–6 × 1.5–2 cm, obtuse or rounded at apex, both surfaces sparsely stellate hairy; sterile fronds narrower, 4–15 × 0.5–1.5 cm; veins conspicuous, venation reticulate; sori borne at near margins; spores light brown, warty.

Fertile: March–May.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Andaman Island, NE India), BANGLADESH, BHUTAN, BORNEO, CHINA, LAOS, NEW GUINEA, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0726* (BUBH), 22.05.2019.

8. *Tectaria* Cav. in Anales Hist. Nat. 1:115. 1799.

1. *Tectaria fuscipes* (Wall. ex Bedd.) Chr. in Contr. U.S. Natl. Herb. 26:290. 1931; Jamir and Rao, Ferns Nagaland 357. 1988. *T. paradoxa* Baishya and Rao, Ferns and Fern-allies Meghalaya 135. 1982. *Aspidium fuscipes* Bedd., Suppl. Ferns S. Ind. 15. 1876. *Ctenitopsis fuscipes* Borthakur *et al.*, An Illus. Mann. Fern Assam 377. 2000.

Terrestrial, to 50 cm tall; rhizome erect; stipes 15–30 cm long, tufted; scales linear-lanceolate, acuminate at apex, blackish-brown; lamina deltoid-ovate, 20–25 × 10–15 cm, bipinnate at base, pinnatifid at apex; lateral pinnae 2–3 pairs; lowest basal pair of pinnae much larger, broadly deltoid-ovate, 8–10 × 4–5 cm; sori irregularly scattered throughout the segments, dark-brown; sporangia stalked, dark-brown; spores, globose.

Fertile: February–November.

Occurrence: Found in moist and shady places of semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), CAMBODIA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary* 0727 (BUBH), 08.03.2019.

5.3.2. Gymnosperms

1. GNETACEAE Blume, Nov. Pl. Expos. 23. 1833.

About 1 genus and 6 species in India; 1 genus and 4 taxa in Assam; 1 genus and 1 species recorded from the study area.

1. *Gnetum* L., Syst. Nat., ed. 12. 612, 637. 1767.

1. *Gnetum montanum* Markgr. in Bull. Jard. Bot. Buitenzorg. Ser. 3, 10:466. 1930; Kanjilal *et al.*, Fl. Assam 4:333. 1940. *Thoa montana* Doweld in Turczaninowia 3(4):33. 2000. (Plate 65C).

Lianas; branchlets terete or compressed terete; leaves opposite, elliptic-oblong or oblong-lanceolate 8–15 × 4–7 cm, margin entire, acute or short acuminate at apex, base rounded, glabrous both sides; lateral nerves 8–11 pairs; petioles 1–1.5 cm long; male inflorescence axillary, spikes; peduncle 1–2 cm long; male spikes with involucrellar collars, many flowered.

Flowering and Fruiting: April–July.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0364* (BUBH), 21.04.2021.

2. PINACEAE Spreng. ex Rudolphi in Magnus, Syst. Orb. Veg. 35. 1830.

About 6 genera and 19 species in India; 1 genus and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Pinus* L., Sp. Pl. 2:1000. 1753.

1. *Pinus wallichiana* Jackson in Bull. Misc. Inform. Kew 85. 1938.

Tree, to 40 m tall; trunk more or less terete, erect; bark brownish-grey; leaves needle, 5 in a bundle, 10–15 cm long, slender, slightly triangular, distinct triangular in cross section, pendulous, glabrous; male and female flowers in a separate cone; seeds naked in a cone, hard, ellipsoid-obovoid, brownish.

Flowering and Fruiting: April–May.

Occurrence: Found as planted.

Distribution: INDIA (NE India), AFGHANISTAN, BHUTAN, CHINA, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0595* (BUBH), 29.04.2022.

3. **PODOCARPACEAE** Endl., Syn. Conif. 203. 1847.

About 3 genera and 5 species in India; 2 genus and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Podocarpus* Pers., Syn. Pl. 2:580. 1807.

1. *Podocarpus neriifolius* Don in Lamb., Descr. Pinus 2:21. 1824; Hook.f., Fl. Brit. India 5:649.1888; Brandis, Indian Trees 695. 1906; Parmer in J. Eco. Taxo. Bot. 26(2):280. 2002. (Plate 65E).

Trees, to 25 m tall; bark greyish-brown, branches terete, glabrous, spreading; leaves spirally arranged, linear-lanceolate, 8–12 × 0.8–1.2 cm, margin entire, acuminate at apex, base cuneate; juvenile leaves with mucronate apex; male cones in clusters of 2 or 3, spirally arranged, 2–3 cm long, brown.

Flowering and Fruiting: May–August.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Andaman Island, NE India), BANGLADESH, BORNEO, CAMBODIA, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0405* (BUBH), 12.06.2021.

5.3.3. Angiosperms

1. NYMPHAEACEAE Salisb. in König and Sims, Ann. Bot. 2:70. 1805.

About 2 genera and 7 species in India; 2 genera and 4 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Nymphaea* L., Sp. Pl. 1:510. 1753.

1. *Nymphaea rubra* Roxb. ex Andrews, Bot. Rep.8:t.503. 1808; Mitra in Sharma *et al.*, Fl. India 1:432. 1993. *N. lotus* auct. non Hook.f. and Thomson in Hook.f., Fl. Brit. India 1:114. 1872.

Vern. name: Toblo (Bodo).

Aquatic herbs; leaves floating, peltate, suborbicular, 15–30 × 12–25 cm, margin wavy and semi-dentate, obtuse to retuse at apex, base cordate-sagittate, pubescent along nerves beneath; petioles 50–150 cm long; flowers solitary, dark red; sepals 4, oblong-lanceolate, 3–6 cm long; petals many, oblong-lanceolate, 4–7 cm long, acute at apex; stamens many; filaments of inner stamens with purplish bands.

Flowering and Fruiting: June–August.

Occurrence: Found in stagnant water body.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0416* (BUBH), 13.07.2020.

Uses: Peduncles are used as vegetables.

2. SCHISANDRACEAE Blume, Fl. Javae 32–33:3. 1830.

About 2 genera and 6 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Kadsura* Kaempf. ex Juss. in Ann. Mus. Hist. Nat. 16:340. 1810.

1. *Kadsura heteroclita* Craib, Fl. Siam. 1:28. 1925. *K. roxburghiana* Hook.f. and Thoms. in Hook.f., Fl. Brit. India 1:45. 1872; Kanjilal *et al.*, Fl. Assam 1(1):29. 1939. *K. championii* Clarke in J. Linn. Soc. Bot. 25:4. 1889. (Plate 61A).

Liana; leaves alternate, elliptic, 6–10 × 3–5 cm, margin entire, acute to acuminate at apex, base broadly cuneate or shortly decurrent on petiole, coriaceous; lateral nerves 5–7 pairs; petiole 8–15 mm long; flower axillary; tepals 10–15, creamy white or pale yellow; stamens many; carpels many.

Flowering and Fruiting: September–February.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0684* (BUBH), 30.09.2021.

3. SAURURACEAE Rich. ex Lestib., Botanogr. Éléme 453. 1826.

About 1 genus and 1 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Houttuynia* Thunb. in Kongl. Vetensk. Acad. Nya Handl.4:149. 1783.

1. *Houttuynia cordata* Thunb. in Kongl. Vetensk. Acad. Nya Handl.4:149. 1783; Hook.f., Fl. Brit. India 5:78. 1886; Kanjilal *et al.*, Fl. Assam 4:31. 1940; Deb, Fl. Tripura 2:139. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:328. 2008.

Vern. name: Maisundri (Bodo).

Prostrate herb, aromatic; leaves ovate-cordate, 4–10 × 3–6 cm, margin entire, pinkish, acuminate at apex, base cordate, pubescent beneath, membranous; lateral nerves 3–4 pairs; petioles 3–6 mm long, grooved above; inflorescence axillary spikes; flowers minute; involucre bracts 4–5, oblong, white; stamens 3.

Flowering and Fruiting: April–August.

Occurrence: Found in growing shady places at home sides.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, JAPAN, MYANMAR, NEPAL, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0367* (BUBH), 05.05.2021.

Uses: Leaves are eaten cooked as vegetable. Leaves are baked and taken to cure stomach ailments and body ache (Teron 2011).

4. PIPERACEAE Giseke, Prael. Ord. Nat. Pl. 123. 1792.

About 3 genera and 100 species in India; 1 genus and 19 species in Assam; 2 genera and 7 species recorded from the study area.

Key to the genera

- 1a. Plants delicate herb.....1. *Peperomia*
- 1b. Plants erect subshrub or climbers.....2. *Piper*

1. *Peperomia* Ruiz and Pav., Fl. Peruv. Prodr. 8: 1794.

1. *Peperomia pellucida* (L.) Kunth, Nov. Gen. Sp. 1:64. 1816; Kanjilal *et al.*, Fl. Assam 4:39. 1940; Deb, Fl. Tripura 2:135. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunaehal Pradesh 2:321. 2008. *Piper pellucidum* L., Sp. Pl. 1:30. 1753.

Delicate herb, slender, to 20 cm tall; leaves ovate-orbicular, 2–3 × 1–2 cm, margin entire, acute or acuminate at apex, base rounded or cordate, glabrous both sides, membranous; basal nerves 3–5 pairs; petioles 6–10 mm long; inflorescence axillary, spikes, to 6 cm long; flowers minute; fruits ribbed.

Flowering and Fruiting: October–February.

Occurrence: Found in roadsides or in open forests.

Distribution: INDIA (Introduced), AMERICA, BRAZIL, MEXICO.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0523* (BUBH), 17.11.2019.

2. *Piper* L., Sp. Pl. 1:28. 1753.

Key to the species

- 1a. Plants erect subshrubs.....2
- 1b. Plants climbing or creeping shrub.....3
- 2a. Fruiting spikes globose or subglobose.....6. *P. peepuloides*
- 2b. Fruiting spikes slender.....5. *P. pedicellatum*
- 3a. Stem attached throughout to the substratum.....2. *P. betleoides*
- 3b. Stem not fully attached to the substratum.....4
- 4a. Fruiting spikes pendent.....5
- 4b. Fruiting spikes erect.....3. *P. longum*
- 5a. Leaf symmetric, base cordate.....1. *P. betle*
- 5b. Leaf slightly asymmetric, base rounded or broadly cuneate.....4. *P. nigrum*

1. *Piper betle* L., Sp. Pl. 1:28. 1753; Roxb., Fl. Ind. 1:166. 1820; Hook.f., Fl. Brit. India 5:85. 1886; Kanjilal *et al.*, Fl. Assam 4:35. 1940; Deb, Fl. Tripura 2:136. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunaehal Pradesh 2:321. 2008. *Vern. name*: Phathwi (Bodo).

Tweener; stem subterete, rooting from nodes; leaves alternate, ovate-cordate, 10–15 × 6–12 cm, margin entire, acuminate at apex, base cordate, coriaceous, glabrous both sides; basal nerves 3; lateral nerves 2–3 pairs; petioles 1–4 cm long.

Flowering and Fruiting: December–February.

Occurrence: Cultivated.

Distribution: INDIA (Introduced), CAMBODIA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0525* (BUBH), 10.12.2019.

2. *Piper betleoides* DC., *Candollea* 1:186. 1923; Gajurel *et al.*, *Piper* species (Piperaceae) NE India (Arunachal Pradesh) 77. 2008.

Vern. name: Pathwi aaoni/Pathwi laori (Bodo).

Climber, dioecious; stems rooting at nodes; branches dimorphic, pubescent; leaves alternate, ovate, 5–10 × 3–5 cm, margin entire, acuminate at apex, base subcordate, oblique; lateral nerves 3–4 pairs; petiole 0.5–1.5 cm long; inflorescence a spike, drooping; spike 4–7 cm long; stamens 2; female spike 3–5 cm long; fruiting spike 3–6 cm long; fruits aggregated, reddish when ripe.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen or in secondary forests in shady places.

Distribution: INDIA (Arunachal Pradesh, Assam, West Bengal), BHUTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0712* (BUBH), 15.03.2022.

3. *Piper longum* L., *Sp. Pl.* 1:29. 1753; Roxb., *Fl. Indica* 1:154. 1834; Lindley., *Fl. Medica* 311. 1838; Hook.f., *Fl. Brit. India* 5:83. 1886; Kanjilal *et al.*, *Fl. Assam.* 4:34. 1940; Deb, *Fl. Tripura* 2:138. 1983; Gajurel *et al.*, *Piper* species (Piperaceae) NE India (Arunachal Pradesh) 50. 2008.

Vern.name: Simpri (Bodo).

Dioecious, creeper; stem rooting at nodes, node swollen; leaves alternate or whorled, ovate-cordate, 7–12 × 5–9 cm, margin entire, acute to acuminate at apex; lateral nerves 2–3 pairs; petiole 2–5 cm long; inflorescence a spikes, erect; fruiting spike 2–4 cm long; peduncle 1–1.5 cm long; fruits densely aggregated, subglobose, black when ripe.

Flowering and Fruiting: February–September.

Occurrence: Found in shady places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0709* (BUBH), 12.03.2022.

Uses: fruits are used to cure cold and cough, skin diseases, indigestion.

4. *Piper nigrum* L., Sp. Pl. 1:28. 1753; Hook.f., Fl. Brit. India 5:90. 1886; Kanjilal *et al.*, Fl. Assam 4:37. 1940; Deb, Fl. Tripura 2:138. 1983; Gajurel *et al.*, *Piper* species (Piperaceae) NE India (Arunachal Pradesh) 72. 2008.

Vern. name: Mosla (Bodo).

Dioecious or monoecious, climber; stem woody, rooting at nodes, glabrous; leaves alternate, ovate, 8–12 × 8–14 cm, margin entire, acute at apex, base cordate or rounded, glabrous both sides; petiole 2–4 cm long; lateral nerves 5–7 pairs; inflorescence a spike, drooping; fruiting spike 4–7 cm long; fruits globose, red when ripe.

Flowering and Fruiting: June–November.

Occurrence: Found as cultivated.

Distribution: INDIA (Almost throughout the country).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0710* (BUBH), 12.03.2022.

Uses: Fruits are used to cure cold and cough.

5. *Piper pedicellatum* DC. in J. Bot. 4:164. 1866; Gajurel *et al.*, *Piper* species (Piperaceae) NE India (Arunachal Pradesh) 46. 2008. *P. clarkei* Kanjilal *et al.*, Fl. Assam 4:38. 1940.

Shrub, erect, to 1 m tall, dioecious; stem woody, nodes swollen; leaves alternate, ovate to ovate-elliptic, 7–12 × 4–6 cm, margin entire, acuminate at apex, base slightly oblique, glabrous both sides; nerves 2–3 pairs; petiole 1–2 cm long; inflorescence a spike; male spike 10–16 cm long; female spikes 4–6 cm long; fruiting spikes 5–8 cm long, cylindrical; fruits oblong, blood red when ripe.

Flowering and Fruiting: February–August.

Occurrence: Found in moist places of semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0711* (BUBH), 15.03.2022.

6. *Piper peepuloides* Roxb., Fl. Ind. 5:159. 1820; Hook.f., Fl. Brit. India 5:83. 1886; Kanjilal *et al.*, Fl. Assam 4:34. 1940. *P. brachystachyum* Hook.f. in Fl. Brit. India 5:87. 1886; Kanjilal *et al.*, Fl. Assam 4:36. 1940. *P. mullesua* Don Prodr. Fl. Nepal.: 20. 1825. (Plate 54B).

Scandent shrub or erect, dioecious; node swollen; leaves alternate, narrow elliptic or ovate-lanceolate, 6–10 × 3–5 cm, margin entire, caudate-acuminate at apex, base cuneate; basal

nerves 3, 5 with supra basal nerves; lateral nerves generally single pair; petioles 8–12 mm long; male spikes slender, 4–7 cm long, yellow; female spikes leaf opposed, 3–5 mm across, subglobose; fruiting spikes globose to subglobose, 7–10 mm across.

Flowering and Fruiting: April–October.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0524* (BUBH), 05.08.2020.

Uses: Fruits are used as spice and to cure cold and cough.

5. ARISTOLOCHIACEAE Juss., Gen. Pl. 72. 1789.

About 5 genera and 25 species in India; 1 genus and 5 species in Assam; 1 genus and 2 species recorded from the study area.

1. *Aristolochia* L., Sp. Pl. 2:960. 1753.

Key to the species

- 1a. Leaves densely pubescent beneath; flowers with purple blotches and dark purple limb; pedicels with furry hairs.....2. *A. saccata*
- 1b. Leaves glabrous both sides; flowers without blotches; pedicels glabrous.....1. *A. assamica*

1. *Aristolochia assamica* Borah and Do in Ann. Bot. Fenn. 56:254. 2019. (Plate 16E).

Vern. name: Nilikor (Bodo).

Twining; branches terete, purplish on young; leaves alternate, cordate, 8–15 × 6–12 cm, margin entire, acuminate at apex, base cordate with sinus, glabrous both sides; basal nerves 7; petioles 5–8 cm long; inflorescence axillary, cymes 2–12-flowered; bracts brownish; flower pedicel 1–1.5 cm long, curved; limb oblong-linear, 1-lobed, mouth and inner surface pubescent; ovary elongate, 6-ridged; stamens 6; capsule oblong, 6 longitudinal ridges.

Flowering and Fruiting: October–February.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Arunachal Pradesh, Assam).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0679* (BUBH), 19.11.2021.

Uses: Fresh roots are used to cure stomach disorder.

2. *Aristolochia saccata* Wall., Pl. Asiat. Rar. 2:2. 1830; Hook, f., Fl. Brit. India 5:76. 1886; Kanjilal *et al.*, Fl. Assam 4:29. 1940. *A. cathcartii* Hook, f., Fl. Brit. India 5:77. 1886; Kanjilal *et al.*, Fl. Assam 4:29. 1940; Harid. and R. R. Rao, Forest Fl. Meghalaya 2:705. 1987. (Plate 16F).

Softly woody climbers; bark corky furrowed, grey; leaves alternate, ovate-lanceolate, 15–25 × 8–12 cm, acuminate at apex, base cordate, margin entire, densely pubescent beneath; inflorescence 2–3 cm long, arising from old woody stem, 3–6 flowered; flower yellowish or white, with purple blotches and dark purple limb, densely hairy; pedicel 2–4 cm long, with densely brown hairs; capsule ovoid 4–5 cm long, with longitudinal grooved.

Flowering and Fruiting: February–May.

Occurrence: Found in semi-evergreen forest or in deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0101* (BUBH), 01.03.2019.

Uses: Dried roots are pounded, made into pills. Pills are mixed with water and then given twice daily till recovery of the stomach ailments (Teron 2011).

6. MYRISTICACEAE Br. in DC., Prodr. 399. 1810.

About 5 genera and 25 species in India; 3 genera and 6 species in Assam; 1 genus and 1 subspecies recorded from the study area.

1. *Knema* Lour., Fl. Cochinch. 604. 1790.

1. *Knema tenuinervia* subsp. *tenuinervia* Wilde in Blumea 25(2):406. 1979; Banik and Bora in Taiwania 61(2):151. 2016. (Plate 41C).

Vern. name: Ram Goi (Bodo).

Tree, to 15 m tall, dioecious; bark with blood-red juice; leaves alternate, obovate, oblong-lanceolate, 25–40 × 5–9 cm, margin entire, acute to acuminate at apex, base rounded; lateral nerves 20–25 pairs; female inflorescence fascicled cymes, 2–4-flowered; flowers sessile; tepals tomentose, apex bluntly acute; fruits subsessile, 1–4, ellipsoid, 2.5–3 × 2–2.5 cm, 2-lobed, covered with dense woolly brown hairs; seeds ellipsoid, smooth, pale reddish-pink.

Flowering and Fruiting: April–September.

Occurrence: Found in semi-evergreen forests along streams.

Distribution: INDIA (NE India, West Bengal), BANGLADESH, BHUTAN, CHINA, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0158* (BUBH), 16.08.2020.

Uses: Seeds are edible.

7. MAGNOLIACEAE Juss., Gen. Pl. 280. 1789.

About 3 genera and 24 species in India; 3 genera and 19 species in Assam; 1 genus and 2 species recorded from the study area.

1. *Magnolia* L., Sp. Pl. 1:535. 1753.

Key to the species

- 1a. Flowers terminal on axillary brachyblast.....1. *M. champaca*
- 1b. Flowers terminal and no axillary brachyblast.....2. *M. hodgsonii*

1. *Magnolia champaca* (L.) Baill. ex Pierre, Fl. Forest. Cochinch. 1:t.3. 1880. *Michelia champaca* L., Sp. Pl. 1:536. 1753; Hook.f., Fl. Brit. India 1:42. 1872; Kanjilal *et al.*, Fl. Assam 1:22. 1934; Deb, Fl. Tripura 1:79. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:59. 1985.

Vern. name: Titasap (Bodo).

Tree, to 30 m tall; leaves alternate, ovate-lanceolate, 10–15 × 4–6 cm, margin entire, acuminate at apex, base cuneate, sparsely pubescent beneath; lateral nerves 12–15 pairs; petioles 1.5–2 cm long; inflorescence terminal on axillary brachyblast, 1-flowered; flowers golden-yellow, fragrant; sepals 3; petals oblanceolate, 12–18; fruits aggregate; carpels ovoid to ellipsoid, glandular lepidots outside.

Flowering and Fruiting: March–July.

Occurrence: Found in roadsides.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM,

Specimen examined: Kokrajhar, Bismuri, *S. Basumatary 0390* (BUBH), 20.04.2020.

2. *Magnolia hodgsonii* (Hook.f. and Thomson) Keng in Gard. Bull. Singapore 31(2):129. 1978; Raju in Sharma *et al.*, Fl. India 1:168. 1993. *Talauma hodgsonii* Hook.f. and Thomson in Fl. Brit. India 1:40. 1872; Kanjilal *et al.*, Fl. Assam 1:17. 1934. (Plate 35D).

Vern. name: Lai Gunrang (Bodo).

Tree, to 15 m tall; leaves spirally arranged, oblanceolate, 20–40 × 10–18 cm, margin entire, acuminate or apiculate at apex, base cuneate, coriaceous; lateral nerves 10–15 pairs; petioles 2–5 cm long; inflorescence terminal, cymes; flowers 5–7 cm across, fragrant; perianth in two whorls; first whorl purplish; second whorl white; fruits aggregate, oblong-ovoid, hard, woody-like.

Flowering and Fruiting: April–August.

Occurrence: Found evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0365* (BUBH), 21.04.2021.

8. ANNONACEAE Juss., Gen. Pl. 283. 1789.

About 24 genera and 120 species in India; 15 genera and 45 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Large tree; fruits oblong.....2. *Monoon*
1b. Large shrub or small tree; fruits subglobose.....1. *Miliusa*

1. *Miliusa* Lesch. ex DC. in Mém. Soc. Phys. Genève 5:213. 1832.

1. *Miliusa dioeca* (Roxb.) Chaowasku and Kessler in Willdenowia 43(1):104. 2013. *M. roxburghiana* Hook.f. and Thomson in Hook.f., Fl. Brit. India 1:87. 1872; Kanjilal *et al.*, Fl. Assam 1:42. 1934. *M. globosa* Mitra in Sharma *et al.*, Fl. India 1:215.t.32. 1993; Singh in Singh *et al.*, Fl. Mizoram 1:145. 2002. *Uvaria dioeca* Roxb., Fl. Ind. 2:659. 1832. (Plate 12D).

Medium size tree; leaves alternate, elliptic-lanceolate, 6–10 × 3–5 cm, apex acuminate, base obtuse or rounded, margin entire, glabrous both side, except puberulous mid vein; lateral nerves 8–12 pairs; petiole 1–3 mm long; flowers axillary solitary or 2–3 together, drooping, pale reddish; pedicel 1–1.5 cm; bracts linear with acuminate apex; sepals linear, green; petals ovate, reddish; stamens numerous; Fruits ovoid, subglobose-oblong.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0413* (BUBH), 16.03.2019.

2. *Monoon* Miq., Ann. Mus. Bot. Lugduno-Batavi 2:15. 1865.

1. *Monoon simiarum* (Buch.-Ham. ex Hook.f. and Thomson) Xue and Saunders in Taxon 61(5):1033. 2012. *Polyalthia simiarum* Hook.f. and Thomson in Fl. Brit. India 1:63. 1872; Kanjilal *et al.*, Fl. Assam 1:31. 1934; Deb, Fl. Tripura 1:87. 1981; Haridasan and Rao, For. Fl. Meghalaya 1:62. 1985. (Plate 12E).

Trees; leaves alternate, elliptic-oblong, 15–22 × 5–9 cm, margin entire, acute or shortly acuminate at apex, base obtuse, sometimes oblique, glabrous both side; lateral nerves 13–16 pairs; petioles 5–10 mm long; inflorescence axillary on fallen leaves or on tubercles on old branches; flowers pale yellowish-green; pedicels 2–4 cm long; sepals 3, ovate; petals 6, 3 shorter, 3 longer, pale yellowish-green; stamens numerous; fruits ovoid 2–3 cm long, orange-red to black when ripe.

Flowering and Fruiting: April–August.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0393* (BUBH), 12.05.2021.

9. LAURACEAE Juss., Gen. Pl. 80. 1789.

About 17 genera and 212 species in India; 14 genera and 81 species in Assam; 6 genera and 10 species recorded from the study area.

Key to the genera

- 1a. Leaves whorled.....1. *Actinodaphne*
- 1b. Leaves not in whorl.....2
- 2a. Anthers 1 or 2-celled.....3. *Cryptocarya*
- 2b. Anthers 4-celled.....3
- 3a. Flowers unisexual.....4. *Litsea*
- 3b. Flowers bisexual.....4
- 4a. Leaves opposite.....2. *Cinnamomum*
- 4b. Leaves alternate.....5
- 5a. Perianth tightly clasping at fruit base.....6. *Phoebe*

5b. Perianth not clasping at fruit base.....5. *Machilus*

1. *Actinodaphne* Nees in Wall., Pl. Asiat. Rar. 2:68. 1831.

1. *Actinodaphne obovata* (Nees) Blume, Mus. Bot. 1:342. 1851; Hook.f., Fl. Brit. India 5:153. 1886; Brandis, Ind. Trees 535. 1906; Kanjilal *et al.*, Fl. Assam 4:77. 1940; Deb, Fl. Tripura 1: 89. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:716. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:331. 2008. *Tetradenia obovata* Nees in Wall., Pl. Asiat. Rar. 2:64. 1831. (Plate 31E).

Medium size tree, to 15 m tall; leaves whorled, 3–7 at apex of branchlets; petiole 3–6 cm long, brownish pubescent; lamina obovate or obovate-oblong, 15–30 × 5–12 cm, margin entire, base rounded or cuneate, apex acute or obtuse; lateral nerves 5–7 pairs; inflorescence compound umbel, 5-flowered per umbel, distinct male and female flowers; perianth 6-lobed, ovate, yellow; fruits oblong-ellipsoid, 1.5–3 × 0.5–1 cm, with persistent perianth tube.

Flowering and Fruiting: March–June.

Occurrence: Found in shady places of moist deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, CHINA, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0318 (BUBH), 23.03.2020.

2. *Cinnamomum* Schaeff., Bot. Exped. 74. 1760.

1. *Cinnamomum bejolghota* (Buch.-Ham.) Sweet., Hort. Brit. 344. 1826; Haridasan and Rao, For. Fl. Meghalaya 2:720. 1987. *C. obtusifolium* Nees in Wall., Pl. Asiat. Rar. 2:73. 1831; Hook.f., Fl. Brit. India 5:128. 1886; Kanjilal *et al.*, Fl. Assam 4:56. 1940. *Laurus bejolghota* Buch.-Ham. in Trans. Linn. Soc. London 13(2):559. 1822.

Trees, to 10 m tall; stem bark brownish white; wood reddish grey; leaves opposite, 12–18 × 4–8 cm, margin entire, acute or acuminate at apex, base acute; suprabasal nerves 3; petioles 1–1.5 cm long; inflorescence terminal, paniced; flowers yellow, actinomorphic; perianth persistent; fruits subglobose, glabrous.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0526 (BUBH), 24.04.2020.

3. *Cryptocarya* Br., Prodr. Fl. Nov. Holland. 402. 1810.

1. *Cryptocarya amygdalina* Nees in Wall., Pl. Asiat. Rar. 2:69. 1831; Hook.f., Fl. Brit. India 5:118. 1886; Brandis, Ind. Trees 527. 1906; Kanjilal *et al.*, Fl. Assam 4:49. 1940; Deb, Fl. Tripura 1:92. 1981; Haridasan and Rao, For. Fl. Meghalaya 2:724. 1987.

Tree, to 20 m tall; branchlets rusty pubescent; leaves alternate, elliptic-oblong, 8–14 × 3–6 cm, margin entire, short acuminate at apex, base acute, glaucous beneath; lateral nerves 6–9 pairs; petioles 6–10 mm long; inflorescence terminal, panicles; flowers pale yellow; perianth lobes ovate, pubescent inside; fertile stamens 9; fruits ellipsoid, 1.6–2.3 cm across.

Flowering and Fruiting: June–September.

Occurrence: Found in roadsides and in mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0706* (BUBH), 24.08.2022.

4. *Litsea* Lam., Encycl. 3:574. 1792.

Key to the species

- 1a. Plant deciduous; branchlets pale green.....1. *L. cubeba*
- 1b. Plant evergreen.....2
- 2a. Shrub.....5. *L. salicifolia*
- 2b. Tree.....3
- 3a. Leaves oblong, rounded or truncate at apex.....4. *L. monopetala*
- 3b. Leaves narrow elliptic or oblong-elliptic, acute to acuminate at apex.....4
- 4a. Juvenile parts rusty pubescent; lateral nerves 10–15 pairs.....3. *L. meghalayensis*
- 4b. Juvenile parts not rusty; lateral nerves 7–10 pairs.....2. *L. glutinosa*

1. *Litsea cubeba* (Lour.) Pers, Syn. P1. 2(1):4. 1806; Deb, Fl. Tripura 1:94. 1981. *L. citrata* Blume, Bijdr. 565. 1825; Hook.f., Fl. Brit. India 5:155. 1886; Kanjilal *et al.*, Fl. Assam 4:81. 1940. *Laurus cubeba* Lour., Fl. Cochinch. 1:252. 1790. (Plate 31F).

Tree, small size, to 10 m tall, deciduous; leaves alternate, elliptic-lanceolate, 8–12 × 2–3 cm, margin entire, acute to acuminate at apex, base cuneate, sericeous pubescent beneath; lateral nerves 9–12 pairs; petioles 5–12 mm long; inflorescence axillary, umbels, 3–5-flowered; flowers unisexual; male flowers: perianth 6-segmented, whitish; stamens 9; fruits subglobose, 5–6 mm across, black when ripe.

Flowering and Fruiting: February–June.

Occurrence: Found in roadsides of mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0707* (BUBH), 08.04.2022.

Uses: Fruits are used in fish poisoning.

2. *Litsea glutinosa* (Lour.) Rob. in Philip. J. Sci. C 6:321. 1911; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:337. 2008. *L. sebifera* Hook.f., Fl. Brit. Ind. 5:157. 1886; Kanjilal *et al.*, Fl. Assam 4:82. 1940; Deb, Fl. Tripura 1:94. 1981. *Sebifera glutinosa* Lour., Fl. Cochinch. 2:638. 1790. (Plate 32A).

Vern. name: Bhagnala (Bodo).

Tree, deciduous, to 8 m tall; bark grey-brown; leaves elliptic-oblong 10–15 × 3–6 cm, margin entire, acuminate at apex, base cuneate, pubescent beneath; lateral nerves 7–10 pairs; petioles 1–1.5 cm long; inflorescence axillary, short pedunculate umbels; perianth irregular; flowers pedicels pubescent; stamens many; fruits globose, glabrous.

Flowering and Fruiting: April–September.

Occurrence: Found in roadside or in forests margins.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0399* (BUBH), 14.06.2021.

Uses: Barks are used to cure boil. It is also used in diarrhoea and dysentery.

3. *Litsea meghalayensis* Singh in Kew Bull. 72(20):8. 2017. *L. hookeri* var. *khasyana* Bhuinya and Singh in Bangladesh J. Pl. Taxon. 20:125. 2013. *L. khasyana* Hook.f., Fl. Brit. India 5:164.1886. (Plate 32B).

Trees, evergreen, small size, to 10 m tall; leaves alternate, oblong-elliptic, 10–20 × 5–8 cm, margin entire, shortly acuminate at apex, base cuneate, pubescent along veins; lateral nerves 10–15 pairs; petiole 1.5–2 cm long; inflorescence axillary, umbellules, or in clusters of 3–5; bracts 6, concave, densely pubescent outside; perianth 6-lobed; male flowers: stamens 12, in 4 rows; fruits ellipsoid, 1–1.2 cm across, purple when ripe.

Flowering and Fruiting: April–August.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Assam, Meghalaya, Sikkim, West Bengal).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0389* (BUBH), 05.05.2021.

4. *Litsea monopetala* (Roxb.) Pers., Syn. 2:4. 1806; Hook.f., Fl. Brit. India 5:162. 1886; Kanjilal *et al.*, Fl. Assam 4:83. 1940; Harid. and R. R. Rao, Forest Fl. Meghalaya 2:732. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:338. 2008. *Tetranthera monopetala* Roxb., Pl. Coromandel 2:26 1800.

Tree, to 15 m tall; leaves alternate, obovate-oblong or oblong, 8–12 × 13–19 cm, margin entire, base rounded or acute, rounded-truncate at apex, rusty tomentose beneath; lateral nerves 9–13 pairs; petiole rusty tomentose, 2 cm long; inflorescence axillary, compound, arising 3-6 from a point, 5–7-flowered per single inflorescence; perianth 5; calyx 4–6, villous, stamens 10–13, with yellow glands at base; anther yellow.

Flowering and Fruiting: February–June.

Occurrence: Found in deciduous forest or in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0018* (BUBH), 28.03.2018.

5. *Litsea salicifolia* (Roxb. ex Nees) Hook.f., Fl. Brit. India 5:167. 1886; Brandis, Ind. Trees 538. 1906; Kanjilal *et al.*, Fl. Assam 4:87. 1940; Deb, Fl. Tripura 1:96. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:732. 1987. *Tetranthera salicifolia* Nees in Wall., Pl. Asiat. Rar. 2:66. 1831.

Shrub, to 8 m tall; branchlets puberulous; bark grey; leaves alternate, elliptic-oblong or lanceolate, 8–12 × 3–5 cm, margin entire, acute or acuminate at apex, base cuneate, puberulous beneath; lateral nerves 8–12 pairs; petioles 8–12 mm long; inflorescence axillary, fascicles, umbels; flowers minute; stamens 5–9; fruits oblong-ellipsoid, black when ripe.

Flowering and Fruiting: February–June.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0527* (BUBH), 22.03.2021.

5. *Machilus* Nees in Wall., Pl. Asiat. Rar. 2:70. 1831.

1. *Machilus gamblei* King ex Hook.f., Fl. Brit. India 5:138. 1886. *M. bombycina* King ex Hook.f., Fl. Brit. India 5:861. 1890; Kanjilal *et al.*, Fl. Assam 4:66. 1940. *Persea bombycina* (King ex Hook.f.) Kosterm. in Reinwardtia 6:191. 1962. (Plate 32C).

Vern. name: Mojili (Bodo).

Tree, to 15 m tall; leaves alternate, obovate-elliptic, oblanceolate, 6–10 × 2.5–4 cm, margin entire, acuminate or subapiculate at apex, base cuneate, puberulent beneath; lateral nerves 5–7 pairs; petioles 8–12 mm long; inflorescence terminal, paniced, branched at base; perianth lobes oblong-lanceolate; filaments villous at base; fruits globose, with persistent perianths.

Flowering and Fruiting: February–July.

Occurrence: Found in roadsides or as planted.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0528* (BUBH), 13.03.2020.

Uses: Muga Silk worms are reared on the plants.

6. *Phoebe* Nees, Syst. Laur. 98. 1836.

1. *Phoebe bootanica* (Meisn.) Gangop. in Nelumbo 53:215. 2011. *Machilus bootanicus* Meisn. in DC, Prodr. 15(1):42. 1864. *P. goalparensis* Hutch in Kew Bull. 8:190. 1916; Kanjilal *et al.*, Fl. Assam 4:73. 1940; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:345. 2008.

Vern. name: Nikahi/Bonsom (Bodo).

Tree, to 20 m tall; bark grey, lenticellate; leaves alternate, elliptic-lanceolate, 7–10 × 2.5–4 cm, margin entire, acuminate at apex, base cuneate, glabrous both sides; lateral nerves 8–11 pairs; petioles 1–2 cm long; inflorescence subterminal, paniced; perianth segment persistent, pubescent; fruits ellipsoid, black when ripe.

Flowering and Fruiting: March–July.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0529* (BUBH), 14.05.2021.

10. CHLORANTHACEAE Br. ex Sims in Curtis, Bot. Mag. 48:ad t.2190. 1820.

About 2 genera and 3 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Chloranthus* Sw. in Philos. Trans 77:359. 1787.

1. *Chloranthus elatior* Link, Enum. Hort. Berol. Alt. 1:140. 1821; Harid. and Rao, Forest. Fl. Meghalaya 2:709. 1987; *C. officinalis* Hook, f., Fl. Brit. India 5:100. 1886; Kanjilal *et al.*, Fl. Assam 4:40. 1940; Deb, Fl. Tripura 2:140. 1983. (Plate 20F).

Undershrub, to 1.5 m tall; stem terete, swollen at node; leaves opposite, elliptic, 7–12 × 3–6 cm, margin serrate and glandular tipped, acuminate at apex, base cuneate, glabrous both sides; lateral nerves 6–9 pairs; petioles 3–8 mm long; inflorescence terminal, paniculate cymes, 4–8 cm long; flowers sessile, white; fruits subglobose, milky-white, with blackish-brown mammilla-like.

Flowering and Fruiting: September–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0214* (BUBH), 12.10.2020.

11. ARACEAE Juss., Gen. Pl. 23. 1789.

About 29 genera and 126 species in India; 24 genera and 45 species in Assam; 8 genera and 9 species recorded from the study area.

Key to the genera

- 1a. Plants twining with aerial roots.....2
- 1b. Plants erect without aerial roots.....3
- 2a. Leaves simple; petioles winged.....6. *Pothos*
- 2b. Leaves pinnatifid; petioles without wings.....7. *Rhaphidophora*
- 3a. Plants prickly.....5. *Lasia*
- 3b. Plants without prickles.....4
- 4a. Aquatic.....3. *Cryptocoryne*
- 4b. Terrestrial or semi aquatic.....5
- 5a. Spadix shorter than the spathe.....6
- 5b. Spadix longer than the spathe.....4. *Homalomena*

- 6a. Spathe and spadix blood-red inside.....8. *Typhonium*
 6b. Spathe pale yellow-green to yellow.....7
 7a. Inflorescence semi pendent when old; fruits pale yellow when ripe.....2. *Colocasia*
 7b. Inflorescence always erect; fruits red when ripe.....1. *Alocasia*

1. *Alocasia* (Schott) Don in Sweet, Hort. Brit. ed. 3:631. 1839.

1. *Alocasia macrorrhizos* (L.) Don in Sweet, Hort. Brit. ed. 3:631. 1839; Hook.f., Fl. Brit. India 6:526. 1893; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:228. 2009. *Arum macrorrhizon* L., Sp. Pl. 2:965. 1753.

Perennial herb, erect, to 1 m tall, with rhizomatous rootstock; leaves ovate-sagittate, 30–60 × 30–45 cm, margin wavy-subentire, broadly acute or obtuse at apex, base sagittate, glabrous both sides; lateral nerves 12–15 pairs; petioles 30–60 cm long; spathe yellow, 4–6 cm long; spadix as long as the spathe; ovary 4-celled; fruits depressed subglobose; red when ripe.

Flowering and Fruiting: June–November.

Occurrence: Found in homestead garden.

Distribution: INDIA (Introduced), BORNEO, NEW GUINEA, PHILIPPINES, QUEENSLAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0558* (BUBH), 18.08.2021.

2. *Colocasia* Schott in Schott and Endlicher, Melet. Bot. 18. 1832.

1. *Colocasia esculenta* (L.) Schott, Melet. Bot. 18. 1832; Deb, Fl. Tripura 2:398. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:234. 2009. *Arum esculentum* L., Sp. Pl. 2:965. 1753.

Vern. name: Taso Gwswm/Guphur (Bodo).

Perennial herb, to 70–80 cm tall, tuberous; leaves ovate, sagittate, peltate, 20–40 × 15–30 cm, margin entire, apiculate at apex, base sagittate, glabrous both sides; lateral nerves 6–10 pairs; petioles 30–60 cm long; spathes 15–25 cm long, yellow; peduncle stout, terete; spadix slender; flowers unisexual; stamens 3–8; fruits subglobose.

Flowering and Fruiting: June–September.

Occurrence: Found in roadsides or in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, TAIWAN, THAILAND.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0559* (BUBH), 17.08.2021.

Uses: Whole plant parts are edible.

3. *Cryptocoryne* Fisch. ex Wydler in *Linnaea* 5:428. 1830.

1. *Cryptocoryne retrospiralis* (Roxb.) Kunth, *Enum. Pl.* 3:12. 1841. *Ambrosina retrospiralis* Roxb., *Hort. Bengal.* 65. 1814. *A. unilocularis* Roxb., *Fl. Ind.* 3:493. 1832. (Plate 16A).

Herb, aquatic, rhizomatous; leaves linear, 4–6 cm long, margin entire, acute to acuminate at apex, base cuneate; spathe 6–10 cm long, erect, twisted; spadix 1–1.5 cm long, with separate group of pistillate and staminate flowers.

Flowering and Fruiting: February–May.

Occurrence: Found along streams.

Distribution: INDIA (Almost throughout the country), BANGLADESH, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0621* (BUBH), 20.03.2021.

4. *Homalomena* Schott in Schott and Endlicher, *Melet. Bot.* 18. 1832.

1. *Homalomena aromatica* (Spreng.) Schott, *Melet. Bot.* 1:20. 1832; Hook.f., *Fl. Brit. India* 6:532. 1893; Deb, *Fl. Tripura* 2:399. 1983; Chowdhery *et al.*, *Materials for the Fl. Arunachal Pradesh* 3:235. 2009. *Calla aromatica* Roxb., *Fl. Ind.* 3:513. 1832. *Zantedeschia aromatica* Spreng., *Syst. Veg.* 16(3):765. 1826.

Herbs; to 60 cm tall; rooting at base of the rhizome; rhizome terete, covered with brownish leaf sheaths, to 30 cm long, 2–4 cm in diam.; leaves broadly cordate-sagittate, 15–30 × 12–20 cm, margin entire, acuminate at apex, base lobate-sagittate; lamina with distinct lined nerves; petioles to 25 cm long, sheathing at base; inflorescence a spathes, 6–10 cm long, oblong, pale greenish-white.

Flowering and Fruiting: February–July.

Occurrence: Found in semi-evergreen forest at shady places.

Distribution: INDIA (NE India), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0657* (BUBH), 17.02.2019.

Uses: Young shoots are eaten cooked as chutney.

5. *Lasia* Lour., *Fl. Cochinch.* 81.1790.

1. *Lasia spinosa* (L.) Thwaites, Enum. Fl. Zeyl. 336.1864; Deb, Fl. Tripura 2:400. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:236. 2009. *L. heterophylla* Hook.f., Fl. Brit. India 6:550.1893. *Dracontium spinosum* L., Sp. Pl. 2:967. 1753.

Vern. name: Sibru (Bodo).

Perennial herb, to 1 m tall; stem ascending to erect, stoloniferous, prickly; leaves variable, sagittate-hastate or with lateral linear lobes, 20–35 × 12–25 cm, margin entire, acuminate at apex, base sagittate; petioles 30–80 cm long, prickly; inflorescence a spathe, yellow to dull orange, blackish outside; spadix 3–5 cm long; perianth 4-lobed; stamens 4; fruits densely warty, truncate at apex.

Flowering and Fruiting: June–September.

Occurrence: Found moist places in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0643* (BUBH), 12.07.2019.

Uses: Young shoots are used as vegetable. Rhizome is pounded into flour, dried and eaten after cooking like rice (Teron 2011).

6. *Pothos* L., Sp. Pl. 2:968. 1753.

Key to the species

1a. Peduncle recurved at anthesis; spadix 4–5 mm in diam.....2. *P. scandens*

1b. Peduncle always erect; spadix 8–15 mm in diam.....1. *P. chinensis*

1. *Pothos chinensis* (Raf.) Merr. in J. Arnold Arbor. 29:210. 1948. *P. cathcartii* Schott, Aroid. 22. 1856; Hook.f., Fl. Brit. India 6:552. 1893; Deb, Fl. Tripura 2:402. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:236. 2009. *Tapanava chinensis* Raf., Fl. Tellur. 4:14. 1838. (Plate 16B).

Creeping on tree trunk, sometimes creeping over rocks; stem green, glabrescent; leaves alternate, petiole winged, lamina 7–12 × 3–6 cm, glabrous both side, lateral nerves 2–4, margin entire, apex acute or shortly acuminate; inflorescence solitary, axillary; spathe green, enclosed the young spadix, 8–15 × 12–18 mm, broadly ovate, margin recurved inside; fruit globose or sub-globose, orbicular, greenish-brown.

Flowering and Fruiting: February–August.

Occurrence: Found in wet or dry semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0635* (BUBH), 12.05.2019.

2. *Pothos scandens* L., Sp. Pl. 2:968. 1753; Hook.f., Fl. Brit. India 6:551. 1893; Deb, Fl. Tripura 2:402. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:237. 2009.

Creeping on tree trunk or branches of trees; stem hard, subterete; leaves alternate, petiole broadly winged; wings 4–5 × 1.5–2.5 cm, margin entire; lamina 8–10 × 3–4 cm, margin entire, apex acute; lateral nerves 2–3; inflorescence solitary, axillary, stipe erect; spathe green, enclosed the young spadix, 5 × 4 mm; fruit sub-globose, orbicular, 4–7 mm in diam., greenish-brown.

Flowering and Fruiting: January–August.

Occurrence: Found in dry deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0014* (BUBH), 23.03.2018.

7. *Rhaphidophora* Hassk. in Flora 25(2 Beil. 1):11. 1842.

1. *Rhaphidophora decursiva* (Roxb.) Schott in Bonplandia 5:45. 1857. *R. grandis* Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:239. 2009. *R. eximia* Hook.f., Fl. Brit. India 6:547. 1893; Deb, Fl. Tripura 2:404. 1983. *Pothos decursivus* Roxb., Fl. Ind. 1:456. 1820.

Twiner; stem 2–3 cm in diam.; leaves pinnatifid, with 8–12 pairs of segments, 30–50 × 18–23 cm, oblique acute at apex, nerves many, glabrous both sides, leathery; petioles 12–20 cm long, stout; spathe 10–15 cm long, cuspidate; peduncle 6–10 cm long; spadix pale greenish-white; fruits depressed subglobose.

Flowering and Fruiting: September–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0560* (BUBH), 30.04.2021.

8. *Typhonium* Schott in Wiener Z. Kunst 3:72. 1829.

1. *Typhonium trilobatum* (L.) Schott in Wiener Z. Kunst 3:72. 1829; Hook.f., Fl. Brit. India 6: 509. 1893; Deb, Fl. Tripura 2:406. 1983; Srivast. in Hajra *et al.*, Fl. Sikkim 1:195. 1996. *Arum trilobatum* L., Sp. Pl. 2:965. 1753. (Plate 16C).

Herbs; rhizome tuberous, sub-globose; petiole pale purple, 20–35 cm long; leaf blade hastate, 3-lobed, apex acuminate to mucronate; spathe 5–10 cm long, convolute at base; limb reddish-purple inside, ovate-lanceolate, apex acuminate; spadix 4–6 cm long, shorter than spathe; appendix red, narrowly conic, apex acute to obtuse.

Flowering and Fruiting: May–July.

Occurrence: Found in the floor of dense forest in steep lands.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0561* (BUBH), 22.06.2020.

12. ALISMATACEAE Vent., Tabl. Regn. Vég. 2:157. 1799.

About 6 genera and 14 species in India; 2 genera and 3 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Sagittaria* L. Sp. Pl. 2:993. 1753.

1. *Sagittaria trifolia* L., Sp. Pl. 2:993. 1753; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:242. 2009. *S. sagittifolia* L., Sp. Pl. 2: 993. 1753; Hook.f., Fl. Brit. India 6:561. 1893; Deb, Fl. Tripura 2:347.1983.

Aquatic herb, to 40 cm tall; leaves hastate or sagittate, 12–20 × 4–8 cm, margin entire, acuminate at apex, base sagittate, glabrous both sides; petioles to 20 cm long, trigonous, spongy inside; inflorescence 15–20 cm long, with 3–4 flowered in whorls; flowers unisexual; male flowers at upper part; female flowers in lower part; petals 3, suborbicular, white; stamens many; fruits oblique obovoid, erect apical beak at outer surface.

Flowering and Fruiting: April–September.

Occurrence: Found in manured water body.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BHUTAN, CAMBODIA, CHINA, KOREA, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0562* (BUBH), 17.05.2021.

Uses: Tubers are eaten cooked as curry (Teron 2011).

13. HYDROCHARITACEAE Juss., Gen. Pl. 23. 1789.

About 9 genera and 18 species in India; 6 genera and 9 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Ottelia* Pers., Syn. Pl. 1:400. 1805.

1. *Ottelia alismoides* Pers., Syn. Pl. 1:400. 1805; Hook.f., Fl. Brit. India 5:662. 1888; Deb, Fl. Tripura 2:344. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:1. 2009. *Damasonium indicum* Willd., Sp. Pl. 2:276. 1799.

Vern. name: Mwibrung (Bodo).

Herb, aquatic, submerged; leaves radical, ovate-elliptic to ovate-lanceolate, 10–18 × 4–9 cm, margin entire, acute or acuminate at apex, base truncate or subcordate; petioles 10–15 cm long, trigonous; flowers solitary, unisexual; sepals 3, linear-oblong, pale green; petals 3, obovate, white; stamens yellow; ovary 6-celled; fruits ellipsoid, 3–5 cm long, winged, slippery inside.

Flowering and Fruiting: July–October.

Occurrence: Found in open streams.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, KOREA, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0545* (BUBH), 01.08.2020.

Uses: Fruits are edible.

14. DIOSCOREACEAE Br. in DC., Prodr. 294. 1810.

About 3 genera and 33 species in India; 2 genera and 21 species in Assam; 2 genera and 5 species recorded from the study area.

Key to the genera

- 1a. Climber.....1. *Dioscorea*
1b. Herb.....2. *Tacca*

1. *Dioscorea* L., Sp. Pl. 2:1032. 1753.

Key to the species

- 1a. Leaves 5-foliolate.....4. *D. pentaphylla*
1b. Leaves simple.....2

- 2a. Leaves alternate.....2. *D. bulbifera*
 2b. Leaves opposite.....3
 3a. Leaves basal nerves 5; bulbils absent.....3. *D. oppositifolia*
 3b. Leaves basal more than 5; bulbils present.....1. *D. alata*

1. *Dioscorea alata* L., Sp. Pl. 2:1033. 1753; Hook.f., Fl. Brit. India 6:296. 1892; Deb, Fl. Tripura 2:418. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:187. 2009. *D. glabra* Roxb., Fl. Ind. 3:797. 1832.

Vern. name: Ta Ganda (Bodo).

Twiner, tuberous; stem angled, winged, twisting; bulbils dark brown; leaves opposite, broadly ovate, cordate, 10–15 × 10–12 cm, margin entire, cuspidate at apex, base cordate, glabrous both sides; lateral nerves basal nerves 5–6; petioles 5–8 cm long; inflorescence axillary, spikes, unisexual; male flowers sessile; stamens 6; female flowers 3-merous; sepals and petals oblong, apex rounded; fruits obcordate; 3-winged.

Flowering and Fruiting: May–October.

Occurrence: Cultivated.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0551* (BUBH), 08.06.2021.

Uses: Tubers are eaten cooked as curry. Paste of tuber is used in snake and spider bites (Teron 2011).

2. *Dioscorea bulbifera* L., Sp. Pl. 2:1033. 1753; Hook.f., Fl. Brit. India 6:296. 1892; Deb, Fl. Tripura 2:419. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:188. 2009. *D. crispata* Roxb., Fl. Ind. 3:801. 1832.

Vern. name: Ta Ru (Bodo).

Twiner, tuberous; stem winged; bulbils subglobose, with orbicular spots, axillary, dark brown; leaves alternate, broadly cordate, 10–15 × 10–12 cm, margin entire, acuminate at apex, base cordate, membranous; basal nerves 6–8; inflorescence unisexual, axillary; male inflorescence pendulous; stamens 6; fruits capsules, oblong, 4-winged.

Flowering and Fruiting: May–October.

Occurrence: Found in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0552* (BUBH), 27.10.2021.

Uses: Whole plant or bulbils is pounded and applied on wound in snake bite (Teron 2011).

3. *Dioscorea oppositifolia* L., Sp. Pl. 2:1033. 1753; Hook.f., Fl. Brit. India 6:292. 1894.

Twining vine, glabrous throughout; petiole 2–3 cm long; leaves opposite, ovate-oblong or elliptic, 6–12 × 3–6 cm, margin entire, base cordate or rounded to subacute, apex acuminate; basal nerves 5; inflorescence a spike, 3–7 cm long, 3–6 spikes together along the peduncle, peduncle 8–15 cm long; flower unisexual; stamens 6; capsule 1 × 3 cm across, glabrous.

Flowering and Fruiting: September–December.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, MYANMAR, SRI LANKA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0178* (BUBH), 29.09.2019.

4. *Dioscorea pentaphylla* L., Sp. Pl. 2:1032. 1753; Roxb., Fl. Ind. 3:806. 1832; Hook.f., Fl. Brit. India 6:281. 1892; Deb, Fl. Tripura 2:421. 1983; H.J. Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:191. 2009.

Twinning herbs; stem terete, pubescent, brownish; petiole 5–8 cm long; leaves alternate, palmately compound, dominantly 5-foliolate, 3–7-foliolate; leaflets ovate-lanceolate, 5–15 × 2–5 cm, margin entire, base attenuate, apex acute-acuminate; inflorescence spikes; male spikes 10–30 cm long, branched; stamens 3; female spikes simple or branched; capsule ellipsoid, 1.5–2 cm, sparsely pubescent, wings 4–6 mm in wide, black when matured.

Flowering and Fruiting: August–November.

Occurrence: Found in open deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA MYANMAR, TAIWAN, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0320* (BUBH), 29.09.2019.

2. *Tacca* J.R.Forst. and G.Forst., Char. Gen. Pl. 69. 1776.

1. *Tacca integrifolia* Curtis, Curtis's Bot. Mag. 36:t.1488. 1812; Hook.f., Fl. Brit. India 6:287. 1892; Deb, Fl. Tripura 2:445. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3: 187. 2009. *T. laevis* Hook.f., Fl. Brit. India 6:288. 1892. (Plate 23E).

Herb, with rootstock, to 80 cm tall; leaves radical, oblong, 15–30 × 10–15 cm, margin entire, acuminate at apex, base cuneate; lateral nerves many; petioles 30–60 cm long; involucre bracts 4; flowers bisexual, arising from leafless scape; perianth lobes 6 in two whorls; stamens 5; carpels 6; fruits ellipsoid, 6-ridged with perianth lobes.

Flowering and Fruiting: August–November.

Occurrence: Found in shady places of semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0198* (BUBH), 29.10.2020.

15. SMILACACEAE Vent., Tabl. Regn. Vég. 2:146. 1799.

About 2 genera and 33 species in India; 2 genera and 10 species in Assam; 1 genus and 3 species recorded from the study area.

1. *Smilax* L., Sp. Pl. 2:1028. 1753.

Key to the species

- 1a. Stem prickly.....2
- 1b. Stem not prickly.....1. *S. bockii*
- 2a. Leaves apiculate at apex.....3. *S. perfoliata*
- 2b. Leaves acuminate at apex.....2. *S. orthoptera*

1. *Smilax bockii* Warb. ex Diels in Bot. Jahrb. Syst. 29(2):259. 1900. *Heterosmilax japonica* Kunth, Enum. Pl. 5:270. 1850; Koyama in Brittonia 36: 195. 1984; Yonekura in J. Jpn. Bot. 80:191. 2005. *H. indica* Hook.f., Fl. Brit. India 6:314. 1894. (Plate 61C).

Liana, dioecious; stems not prickly; leaves alternate, ovate-oblong 10–15 × 4–8 cm, margin entire, apex acuminate, base obtuse; main nerves 3–5; petiole bent; tendrils arising from sheathing base of petiole; inflorescence axillary, umbels; peduncle 3–5 cm long; tepals of female flowers subglobose, 2–4 mm long; ovary ovoid, 3-locular; style 3; berry ovoid-subglobose, smooth.

Flowering and Fruiting: July–January.

Occurrence: Found in semi-evergreen forest in shady places.

Distribution: INDIA (NE India), CHINA, MYANMAR, NEPAL, TAIWAN, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0156* (BUBH), 15.01.2019.

2. *Smilax orthoptera* DC., Monogr. Phan. 1:192. 1878. *S. roxburghiana* Wall. ex Hook.f., Fl. Brit. India.6:311. 1892; Baruah *et al.* in Nelumbo 64(1):60. 2022. (Plate 61D).

Climbers, with tendrils; stems and branches prickly; leaves alternate, elliptic-oblong or ovate-oblong, 12–20 × 5–7 cm, margin entire, acuminate at apex, base rounded; auricles distinct; petioles 1–2 cm long; inflorescence umbels; male flower 40–60 per umbel; stamens 4–6 mm long; female flower 20–60 per umbel; stigma 3-lobed; fruits subglobose.

Flowering and Fruiting: March–August.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Almost throughout the country), BHUTAN, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0358* (BUBH), 20.03.2021.

3. *Smilax perfoliata* Lour., Fl. Cochinch. 622. 1790; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:210. 2009. *S. prolifera* Roxb., Fl. Ind. 3:795. 1832; Hook.f., Fl. Brit. India 6:312. 1882. (Plate 61E).

Climbers with tendrils; stem prickly; leaves alternate, ovate-elliptic, 10–15 × 5–10 cm, margin entire, apiculate at apex, base cuneate to cordate; lateral nerves 2 pairs, arising from just below the leaf base; petioles 1–2 cm long, auriculate; inflorescence umbellate in peduncles, 5–8 cm long; tepals 6, rolled backwards; stamens 6; fruits globose, 6–10 mm in diam.

Flowering and Fruiting: February–August.

Occurrence: Found in open forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BANGLADESH, CAMBODIA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0626* (BUBH), 17.02.2019.

16. ORCHIDACEAE Juss., Gen. Pl. 64. 1789.

About 155 genera and 1256 taxa in India; 101 genera and 396 species in Assam; 41 genera, 72 species and 4 varieties recorded from the study area.

Key to the genera

1a. Plants terrestrial.....	2
1b. Plants epiphytic.....	12
2a. Distinct pseudobulb present.....	3
2b. Pseudobulb rhizomatous or absent.....	4
3a. Lip white with sparse purple spots, mid lobe apiculate at apex.....	3. <i>Ania</i>
3b. Lip yellow, mid lobe subrounded at apex.....	36. <i>Tainia</i>
4a. Inflorescence axillary, arising from the stem or rhizomatous pseudobulb.....	5
4b. Inflorescence terminal.....	6
5a. Inflorescence below 10 cm long.....	14. <i>Corymborkis</i>
5b. Inflorescence above 30 cm long.....	7. <i>Calanthe</i>
6a. Inflorescence branched at base.....	4. <i>Apostasia</i>
6b. Inflorescence unbranched.....	7
7a. Flowers spirally arranged.....	33. <i>Spiranthes</i>
7b. Flowers not spirally arranged.....	8
8a. Plants more than 1 m tall; leaves linear-lanceolate.....	5. <i>Arundina</i>
8b. Plants less than 70 cm tall; leaves ovate or ovate-elliptic.....	9
9a. Flowers fully opened.....	10
9b. Flowers not fully opened.....	40. <i>Vrydagzynea</i>
10a. Lip mid lobe bilobed.....	41. <i>Zeuxine</i>
10b. Lip mid lobe simple, not bilobed.....	11
11a. Leaves slightly oblique; basal nerves distinct.....	21. <i>Hetaeria</i>
11b. Leaves symmetrical, not oblique; basal nerves conspicuous.....	20. <i>Goodyera</i>
12a. Pseudobulb present (except <i>Bulbophyllum gracilipes</i>).....	13
12b. Pseudobulb absent.....	22
13a. Floral bracts covering pedicels and basal part of flowers.....	13. <i>Coelogyne</i>
13b. Floral bracts not as above.....	14
14a. Inflorescence arising from the base of pseudobulb or from rhizome.....	15
14b. Inflorescence arising from the apical part of pseudobulb or terminal.....	19

15a. Pseudobulb with single terminal leaf.....	16
15b. Pseudobulb with more than 3 leaves.....	18
16a. Sepals and petals green or pale green.....	17
16b. Sepals and petals not green.....	6. <i>Bulbophyllum</i>
17a. Inflorescence erect.....	10. <i>Chrysoglossum</i>
17b. Inflorescence pendulous.....	37. <i>Thelasis</i>
18a. Leaves obliquely bilobed at apex; inflorescence glabrous.....	16. <i>Cymbidium</i>
18b. Leaves acuminate at apex; inflorescence wooly pubescent.....	18. <i>Dendrolirium</i>
19a. Pollinia 4.....	22. <i>Liparis</i>
19b. Pollinia 8.....	20
20a. Pseudobulb oblong-fusiform, ribbed.....	8. <i>Callostylis</i>
20b. Pseudobulb not fusiform.....	21
21a. Flowers facing downwards or arranged in secund.....	15. <i>Cryptochilus</i>
21b. Flowers neither facing downwards nor in secund.....	30. <i>Pinalia</i>
22a. Leaves reduced or absent.....	9. <i>Chilochista</i>
22b. Leaves well developed.....	23
23a. Leaves terete or subterete.....	24
23b. Leaves not terete (except <i>Gastrochilus inconspicuus</i>).....	27
24a. Leaves grooved above.....	31. <i>Pomatocalpa</i>
24b. Leaves without any grooves.....	25
25a. Sepals and petals wooly white pubescent.....	35. <i>Strongyleria</i>
25b. Sepals and petals not wooly pubescent.....	26
26a. Flowers more than 4 cm across; spur conic, distinct.....	27. <i>Papilionanthe</i>
26b. Flowers below 2.5 cm across; spur reduced or absent.....	23. <i>Luisia</i>
27a. Stem stout, short or reduced.....	28
27b. Stem distinct, long, well developed.....	32
28a. Peduncle and rachis densely pubescent.....	34. <i>Stereochilus</i>
28b. Peduncle and rachis glabrous.....	29
29a. Leaves symmetric both sides.....	26. <i>Oberonia</i>
29b. Leaves asymmetric both side.....	30
30a. Floral bracts distinct, persistent.....	38. <i>Thrixspermum</i>

30b. Floral bracts deciduous.....	31
31a. Hypochile conic, lateral lobes reduced or absent.....	19. <i>Gastrochilus</i>
31b. Hypochile not conic, lateral lobes distinct or minute.....	29. <i>Phalaenopsis</i>
32a. Inflorescence subterminal or terminal.....	25. <i>Mycaranthes</i>
32b. Inflorescence axillary.....	33
33a. Leaves and leaf sheaths reddish-brown tomentose.....	49. <i>Trichotosia</i>
33b. Leaves and leaf sheaths glabrous or puberulent (not reddish-brown).....	34
34a. Flowers arranged in secund, erect.....	11. <i>Cleisocentron</i>
34b. Flowers not in secund.....	35
35a. Leaf apex pointed needlelike	12. <i>Cleisostoma</i>
35b. Leaf apex bilobed, subtruncate-retuse or acuminate.....	36
36a. Leaves elliptic-lanceolate or dagger shaped.....	17. <i>Dendrobium</i>
36b. Leaves lorate or linear.....	37
37a. Inflorescence erect or suberect.....	1. <i>Acampe</i>
37b. Inflorescence pendulous.....	38
38a. Leaf apex equally or unequally bilobed.....	39
38b. Leaf apex subtruncate-retuse, mucronated.....	24. <i>Micropera</i>
39a. Lobes of leaf apex erose.....	32. <i>Rhynchostylis</i>
39b. Lobes of leaf apex obtuse or rounded.....	40
40a. Sepals and petals yellow with reddish-brown longitudinal stripes.....	33. <i>Robiquetia</i>
40b. Sepals and petals pinkish-white or pale rose-white, without stripes.....	2. <i>Aerides</i>

1. *Acampe* Lindl., Fol. Orchid. 4:1. 1853

Key to the species

- 1a. Inflorescence subumbellate, often unbranched or 1–2 short branched.....
.....2. *A. praemorsa*
- 1b. Inflorescence paniculate with many short branched.....1. *A. ochracea*

1. *Acampe ochracea* (Lindl.) Hochr. in Bull. New York Bot. Gard. 6:270. 1910. *Saccolabium ochraceum* Lindl. in Edwards's Bot. Reg. 28(Misc.):2. 1842. (Plate 43B).

Epiphyte, to 80 cm tall; stem terete, covered with leaf sheaths, unbranched, internode 2–3 cm long; leaves lorate, 15–22 × 2.5–3.5 cm, apex unequally bilobed; inflorescence leaf opposed;

raceme; floral bracts triangular, light brown, apex subacute; flowers 1 cm across; sepals and petals yellow with brown transverse stripes; lip white sparse purplish longitudinal stripes; anther cap 2 mm across, yellow; pollinia 4 in 2 pairs.

Flowering and Fruiting: November–March.

Occurrence: Found in moist places in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0066* (BUBH), 30.11.2018.

2. *Acampe praemorsa* (Roxb.) Blatt. and McCann in J. Bombay Nat. Hist. Soc. 35:495. 1932.
Epidendrum praemorsum Roxb., Pl. Coromandel 1:34. 1795.

Key to the varieties

1a. Leaves 8–12 cm long; inflorescence below 5 cm long, unbranched.....2. *A. praemorsa* var. *praemorsa*

1b. Leaves more than 15 cm long; inflorescence more than 6 cm long, branched or unbranched.....1. *A. praemorsa* var. *longepedunculata*

1. *Acampe praemorsa* var. *longepedunculata* (Trimen) Govaerts in Skvortsovia 4(3):75. 2018. *Acampe wightiana* var. *longepedunculata* Trimen, Syst. Cat. Fl. Pl. Ceylon 90. 1885. (Plate 72A, 75:1).

Epiphyte; stem stout, enclosed by leaf sheaths; leaves lorate, 16–30 cm long, unequally bilobed at apex, lobe apex obtuse; inflorescence erect or suberect, 6–15 cm long; floral bract triangular, 3–5 mm long; flowers 2.5–2.5 cm across; sepals and petals yellow with purplish-brown transverse stripes; lip white with tinged purple; pollinia 4 in 2 pairs.

Flowering and Fruiting: August–October.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0439* (BUBH), 02.09.2021.

2. *Acampe praemorsa* var. *praemorsa* (Roxb.) Blatt. and McCann in J. Bombay Nat. Hist. Soc. 35:495. 1932. *Epidendrum praemorsum* Roxb., Pl. Coromandel 1:34. 1795.

Epiphyte; stems branched or unbranched; leaves lorate, 8–12 cm long, leathery, unequally bilobed at apex, base sheathing; inflorescence corymbose, 3–5 cm long, leaf opposed; flowers fragrant; sepals and petals creamy yellow with reddish brown transverse stripes; lip creamy white with narrow red streaks, 3-lobed; pollinia 4, in 2 groups, globose, yellow; capsules cylindrical, ribbed.

Flowering and Fruiting: November–January.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0231* (BUBH), 13.11.2020.

2. *Aerides* Lour., Fl. Cochinch. 2:525. 1790.

Key to the species

1a. Sepals and petals pale rose-white; spur horn shaped, bent forward.....2. *A. odorata*

1b. Sepals and petals pinkish-purple; spur minute, not horn shaped.....1. *A. multiflora*

1. *Aerides multiflora* Roxb., Pl. Coromandel 3:68. 1820. (Plate 72B, 75:2).

Epiphyte; stem 6-12 cm long, enclosed with leaf sheaths; leaves lorate, 25–35 × 1–3 cm, apex unequally bilobed; inflorescence raceme, 2–3, 20–30 cm long, pendulous, densely flowered; floral bracts ovate, 2–3 mm across; flowers 1–2 cm diam.; sepals and petals pinkish-purple with pink or pale purple spots; pale rose when matured; lip oblong, 6–9 × 3–5 mm, purplish-pink; capsule subclavate, 2–2.5 × 0.8–1.2 cm.

Flowering and Fruiting: April–July.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0089* (BUBH), 09.05.2019.

2. *Aerides odorata* Lour., Fl. Cochinch. 525. 1790. (Plate 43C, 75:3).

Epiphyte; stems branched, covered by leaf sheaths; leaf lorate, 12–18 × 2–3 cm, leathery, unequally bilobed at apex, lobe apex obtuse; inflorescence drooping, racemose, 12–20 cm long; flowers fragrant; sepals and petals pale rose-white, spotted purple at apex; spur horn-shaped, curved forward; lip 3-lobed; pollinia 2, grooved, subglobose.

Flowering and Fruiting: April–July.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0332* (BUBH), 21.05.2021.

3. *Ania* Lindl. in Wallich, Numer. List n. 3740–41. 1831.

1. *Ania penangiana* (Hook.f.) Summerh. in Curtis, Bot. Mag. 161:t.9553. 1939. *Tainia penangiana* Hook.f., Fl. Brit. India 5:820. 1890. (Plate 43D).

Terrestrial; pseudobulbs ovoid, purplish or dark brownish-green, covered with sheaths; leaves oblong, acuminate at apex; petioles 10–30 cm long; inflorescences arising from the base of the pseudobulb, raceme, laxly many flowered; flowers fragrant; sepals and petals yellowish with dark brown longitudinal stripes; lip obovate, 3-lobed, white with sparse purple spots; spur exserted; pollinia 8, in 4 pairs.

Flowering and Fruiting: January–March.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0289* (BUBH), 20.02.2021.

4. *Apostasia* Blume, Bijdr. Fl. Ned. Ind. 423. 1825.

1. *Apostasia wallichii* Br. in Wall., Pl. As. Rar. 1:75.1830.

Terrestrial, suberect, to 40 cm tall; stem slender, tubular sheaths at base; leaves linear-lanceolate, 10–20 × 0.8–1.5 cm, clustered towards base of stem, margin entire, acuminate at apex; inflorescence raceme, suberect or pendulous, arising from distal leaf-axils; flowers positioned horizontal; both sepals and petals similar, yellow; lip look like petals; capsule cylindrical, smooth, without grooves.

Flowering and Fruiting: March–August.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0343* (BUBH), 11.04.2021.

5. *Arundina* Blume, Bijdr. Fl. Ned. Ind. 401. 1825.

1. *Arundina graminifolia* (Don) Hochr. in Bull. Ney York Bot. Gard. 6:270. 1910; Chowdhery, Orchid Fl. Arunachal Pradesh 74. 1998. *A. bambusifolia* Hook.f., Fl. Brit. India 5: 857. 1890. *Bletia graminifolia* Don, Prodr. Fl. Nepal. 29. 1825. (Plate 43E).

Terrestrial, to 3 m tall; stems tufted at base, older ones branched, enclosed by leaf sheaths; leaves sessile, narrowly lanceolate, margin entire, acuminate at apex, base sheathed; inflorescence terminal, racemes, simple, rarely branched; flowers 3–4 cm across; sepals and petals pale pinkish white; lip purplish-pink, apex 2-lobed; pollinia 8, in 2 groups, orange-yellow; capsules oblong, 6-ridged, greenish.

Flowering and Fruiting: July–December.

Occurrence: Found in humid habitat in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0133* (BUBH), 05.08.2020.

6. *Bulbophyllum* Thouars, Hist. Orchid. t.3. 1822.

Key to the species

- 1a. Pseudobulb absent.....2. *B. gracilipes*
- 1b. Pseudobulb present.....2
- 2a. Inflorescence single flowered.....7. *B. tenuifolium*
- 2b. Inflorescence many flowered.....3
- 3a. Flowers in raceme.....4
- 3b. Flowers in apical cluster or in umbel-like.....5
- 4a. Inflorescence below 10 cm long, arising from leaf bearing pseudobulb; sepals and petals yellow with dense purple spots.....1. *B. crassipes*

- 4b. Inflorescence above 10 cm long, generally arising from leafless pseudobulb; sepals and petals white or creamy white.....4. *B. parviflorum*
- 5a. Pseudobulb ovoid-globose, below 1.5 cm long.....6. *B. roxburghii*
- 5b. Pseudobulb subcylindric; above 1.5 cm long.....6
- 6a. Inflorescence 3–5-flowered.....5. *B. protractum*
- 6b. Inflorescence more than 10-flowered.....3. *B. odoratissimum*

1. *Bulbophyllum crassipes* Hook.f., Fl. Brit. India 5:760. 1890.

Epiphyte; rooting from the base of pseudobulbs; pseudobulbs ovoid, 2–4 × 1–2.5 cm; leaves oblong, 10–20 × 2–4 cm, apex emarginated; inflorescence raceme, 4–8 cm long, densely flowered; floral bracts brown, ovate-lanceolate, 3–5 × 1–2 cm, apex acute; flowers 5–7 mm across; sepals and petals yellow with dense purple spots; lip ligulate, fleshy.

Flowering and Fruiting: September–February.

Occurrence: Found in deciduous or in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0092* (BUBH), 29.10.2019.

Uses: Juice of pseudobulb is consumed two times daily to cure dysentery (Teron 2011).

2. *Bulbophyllum gracilipes* King and Pantl. in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65: 119. 1896. (Plate 43F).

Epiphyte, lack of pseudobulb; rhizome c. 2 mm in diam., creeping, densely rooting; leaves single, oblanceolate, 5–8 × 1–2 cm, coriaceous, apex obtuse, base narrowed; inflorescence erect, 5–12-flowered, globose, 5–10 mm across; peduncle slender, to 5 cm long; sepals and petals dull purple; lip swollen, obovate; capsule 3–5 mm with longitudinal grooved.

Flowering and Fruiting: September–February.

Occurrence: Found in moist habitat of semi-evergreen forests.

Distribution: INDIA (Assam, Sikkim), VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0186* (BUBH), 16.10.2020.

3. *Bulbophyllum odoratissimum* (Sm.) Lindl. ex Wall., Numer. List n. 1987. 1829. *Stelis odoratissima* Sm. in Rees, Cycl. 34. n. 12. 1816. (Plate 44A).

Epiphyte; rhizome straggling, branched, 2–3 mm in diam.; pseudobulb subcylindric, 2–3 cm long, with single terminal leaf; leaf leathery, oblong, 5–12 × 1–2.5 cm, apex obtuse or emarginate; inflorescence arising from base of pseudobulb, to 15 cm long; flowers 10–15 in umbel-like globose; sepals and petals white, later turning into yellowish-orange in apical half; lip fleshy, slightly recurved.

Flowering and Fruiting: June–August.

Occurrence: Found in moist habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0130* (BUBH), 17.07.2020.

4. *Bulbophyllum parviflorum* Parish and Rchb.f. in Trans. Linn. Soc. London 30:152. 1874. (Plate 44B).

Epiphyte; pseudobulb depressed, with apical point, 1–1.5 cm in diam.; inflorescence raceme, arising from the base of mature pseudobulb, to 20 cm long, many flowered; flower 4 mm across; pedicel 2–4 mm long; floral bracts ovate-lanceolate, 2.5–4 mm long, apex acute-acuminate, glabrous; sepals and petals white, margin pubescent.

Flowering and Fruiting: December–February.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Arunachal Pradesh, Assam, Manipur, Sikkim), BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0262* (BUBH), 11.01.2021.

5. *Bulbophyllum protractum* Hook.f., Fl. Brit. India 5:758. 1890. (Plate 44C).

Epiphyte; rhizome creeping or straggling branched; pseudobulbs 3–4 cm apart from each other; leaf sessile, leathery, oblong, 4–7 × 1–2 cm, apex slightly emarginate; inflorescence arising from rhizome or base of the pseudobulbs, 3–5-flowered; floral bracts 2

mm, ovate-lanceolate, acuminate at apex; flowers 6 mm across; sepals and petals yellow, later turning into orange in apical half; capsule 1 cm long, 6-grooved.

Flowering and Fruiting: July–October.

Occurrence: Found in humid habitat of semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0131* (BUBH), 05.08.2021.

6. *Bulbophyllum roxburghii* (Lindl.) Rchb.f. in Walpers, Ann. Bot. Syst. 6:263. 1861. *Cirrhopetalum roxburghii* Lindl., Gen. Sp. Orchid. Pl. 58. 1830. (Plate 44D, 75:4).

Epiphyte; pseudobulbs, ovoid-globose, with terminal solitary leaf; leaves oblanceolate, 5–9 cm long, shallowly bilobed at apex; inflorescences umbellate, arising from base of pseudobulb, 5–12-flowered; bracts lanceolate, pale yellow; sepals and petals pale brownish-green base with reddish or purplish spots and veins; lip creamy-yellow at base and purple spots and fine margin.

Flowering and Fruiting: March–July.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Arunachal Pradesh, Assam, Meghalaya), BANGLADESH, BHUTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0334* (BUBH), 04.04.2021.

7. *Bulbophyllum tenuifolium* (Blume) Lindl., Gen. Sp. Orchi. Pl. 50. 1830. *Diphyes tenuifolia* Blume, Bijdr. Fl. Ned. Ind. 316. 1825. (Plate 44E).

Epiphyte; rhizome wiry; pseudobulbs ovate, 5–10 mm across, oblique in slightly bending to rhizome, leaves narrowly ovate, 1.5–5 × 0.4–1 cm, apex obtuse; inflorescence arising from the base of pseudobulb, 1.5–3 cm long, single flowered; pedicel 6–10 mm long; flowers 1 cm across; sepals light dull-yellowish with 3 purple brown stripes, petals oblique ovate, 1.5–2 × 1–1.3 mm, bright-yellow, apex acute, margin with irregular dark purple spots; lip yellow.

Flowering and Fruiting: December–February.

Occurrence: Found in humid habitat of semi-evergreen forests.

Distribution: INDIA (Andaman Island, Assam), BORNEO, CAMBODIA, PHILIPPINES, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0268* (BUBH), 18.01.2020.

7. *Calanthe* Br. in Bot. Reg. 7:t.573. 1821.

Key to the species

- 1a. Inflorescence arising from leaf axil, base of pseudobulbs.....2
- 1b. Inflorescence arising from below middle part of stems.....2. *C. longipes*
- 2a. Flowers yellow.....1. *C. densiflora*
- 2b. Flowers not yellow.....3
- 3a. Sepals and petals creamy white outside, brownish inside.....4. *C. tankervilleae*
- 3b. Sepals and petals pinkish-purple both sides.....3. *C. sylvatica*

1. *Calanthe densiflora* Lindl., Gen. Sp. Orchid. Pl. 250. 1833. (Plate 44F).

Terrestrial, to 1 m tall; rhizome hard, terete, rooting from node; leaves elliptic-lanceolate, 30–85 × 6–12 cm, nerves 8–9; inflorescence arising from base of rhizomatous pseudobulb, 30–50 cm long; bracts 4–5 cm long, yellowish-green, with spotted brown; flowers 2 cm across; sepals and petals yellow; lip 4-lobed; pollinia 8 in two groups, 4 each.

Flowering and Fruiting: December–February.

Occurrence: Found in humid habitat of semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0071* (BUBH), 15.01.2019.

2. *Calanthe longipes* Hook.f., Fl. Brit. India 6:195. 1890. *Cephalantheropsis longipes* Ormerod in Orchid Digest 62:156. 1998. (Plate 45A).

Terrestrial, erect, to 80 cm tall; stems terete, swollen at base with membranous sheaths; leaves elliptic-oblong, 15–40 cm long, acuminate-caudate at apex, base sheathing; inflorescences raceme, to 30 cm long, arising from just below middle or middle of stem, 8–15-flowered; bracts black when old; peduncle pubescent; sepals and petals white; lip white with a yellow band at centre; capsule cylindrical, ridged.

Flowering and Fruiting: December–February.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BHUTAN, CHINA, MYANMAR, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0254* (BUBH), 11.01.2021.

3. *Calanthe sylvatica* (Thouars) Lindl., Gen. Sp. Orchid. Pl. 250. 1833. *Centrosis sylvatica* Thouars, Hist. Orchid. t.35. 1822.

Terrestrial, to 80 cm tall; leaves 3–6 per plant; lamina elliptic to obovate, 20–35 × 8–12 cm, acute or acuminate at apex; inflorescence erect, to 70 cm tall; rachis pubescent; flowers 2–3 cm across; sepals and petals pale pinkish-purple both sides, puberulent; lip reddish-purple; spur cylindrical, 2–3 cm long, obtuse at apex; pollinia 8 in 2 groups.

Flowering and Fruiting: July–September.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0134* (BUBH), 05.08.2020.

4. *Calanthe tankervilleae* (Banks) Chase, Christenh. and Schuit. in Phytotaxa 472(2):165. 2020. *Limodorum tankervilleae* Banks, Icon. T. *Limodorum tankervilleae* 1788.

Terrestrial, to 1.5 m tall; leaves 2–5 per individual, elliptic-lanceolate, 50–100 × 10–20 cm; inflorescence erect, arising from the base of pseudobulb or axils of leaves; floral bracts lanceolate, 3–5 cm long, glabrous; flowers 8–12 cm in diam., opening widely; pedicel 3–5 cm long; sepals and petals creamy white outside, brown inside; lip rhombic-ovate, 2.5–5 × 3–5 cm, shallowly 3-lobed, purplish-red from middle to tip inside.

Flowering and Fruiting: February–June.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, JAPAN, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0123* (BUBH), 04.03.2020.

8. *Callostylis* Blume, Bijdr. Fl. Ned. Ind. 340. 1825.

1. *Callostylis rigida* Blume, Bijdr. Fl. Ned. Ind. 340. 1825. (Plate 45B).

Epiphyte; pseudobulbs oblong-fusiform, ribbed, terminating with 4–5 leaves; lamina narrowly elliptic or lanceolate, leathery, bilobed at apex; inflorescences raceme, 2–3 per pseudobulb, arising from the apex of the pseudobulb; peduncle brown pubescent; sepals and petals greyish-brown pubescent outside; lip cordate or broadly ovate, deep brown; pollinia 8; capsule pubescent.

Flowering and Fruiting: December–March.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BORNEO, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0253* (BUBH), 11.01.2021.

9. *Chiloschista* Lindl. in Edwards's Bot. Reg. 18:t.1522. 1832.

1. *Chiloschista parishii* Seidenf. in Opera Bot. 95:176. 1988. (Plate 45C, 75:5).

Epiphyte; stem and leaves absent, 2–3 minute leaves rarely seen; inflorescences racemes, 5–15 cm long, drooping, many flowered; peduncle densely pubescent; flowers 0.7–1 cm across; sepals and petals pubescent outside, yellow with brown to red spots inside; lips clawed, deeply saccate; pollinia 4, in 2 unequal pairs; capsule cylindrical, pubescent.

Flowering and Fruiting: September–February.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Andaman Island, NE India, West Bengal), BANGLADESH, BHUTAN, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0329* (BUBH), 11.04.2021.

10. *Chrysoglossum* Blume, Bijdr. Fl. Ned. Ind. 337. 1825.

1. *Chrysoglossum ornatum* Blume, Bjd. 338. 1825. *Chrysoglossum erraticum* Hook.f. Fl. Brit. India 5:784, 1890; Chowdhery, Orch. Fl. Arunachal Prad. 197. 1998. (Plate 45D).

Epiphyte, with creeping rhizome, close to ground; pseudobulbs conic, ending in solitary leaf; leaves lanceolate or narrowly-elliptic, shortly acuminate at apex, base cuneate; inflorescences

racemes, 30–50 cm long; peduncle purplish, with tubular sheaths at base; sepals and petals green with reddish-brown spots; lip white with tinged purple spots, base with 2 auriculate lobes. pollinia 2.

Flowering and Fruiting: September–February.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BORNEO, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0286* (BUBH), 03.02.2021.

11. *Cleisocentron* Brühl, Guide Orchids Sikkim 136. 1926.

1. *Cleisocentron pallens* (Cathcart ex Lindl.) Pearce and Cribb in Edinburgh J. Bot. 58:118. 2001. *Saccolabium pallens* Lindl. in J. Proc. Linn. Soc., Bot. 3:35. 1858. (Plate 45E).

Epiphyte; stems terete, rigid, branched, covered with leaf sheaths; leaves narrowly-oblong, 10–20 cm long, obliquely bifid at apex, leathery; inflorescences leaf opposed; flowers erect on the horizontal rachis, secund; sepals and petals white to pale violet; lip spurred, slightly curved; pollinia 4 in 2 pairs.

Flowering and Fruiting: July–October.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Arunachal Pradesh, Assam, sikkim), MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0132* (BUBH), 25.08.2020.

12. *Cleisostoma* Blume, Bijdr. Fl. Ned. Ind. 362. 1825.

1. *Cleisostoma subulatum* Blume, Bijdr. Fl. Ned. Ind. 363. 1825. (Plate 45F, 72C).

Epiphyte; stems pendulous, sheathed; leaves linear-lanceolate, margin entire, acuminate and pointed at apex; inflorescences racemes, 5–8 cm long, leaf-opposed, pendulous; sepals and petals yellow with intra marginal reddish-brown bands; lip 3-lobed, lateral lobes violet, spurred; spur oblong-ovoid; pollinia 4, in 2 unequal pairs, sub-globose, pale yellow.

Flowering and Fruiting: April–August.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, LAOS, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0394* (BUBH), 20.05.2021.

13. *Coelogyne* Lindl., Coll. Bot. t.33. 1824.

Key to the species

- 1a. Pseudobulbs with single terminal leaf.....3. *C. imbricata*
- 1b. Pseudobulbs with 2 terminal leaves.....2
- 2a. Pseudobulb stem-like, cylindric, many, connected to each other.....1. *C. articulata*
- 2b. Pseudobulb simple, ovate-oblong, tapering towards apex.....2. *C. flaccida*

1. *Coelogyne articulata* (Lindl.) Rchb.f. in Walpers, Ann. Bot. Syst. 6:238. 1861. *Pholidota articulata* Lindl. in Wall. Numer. List n.1992. 1829. (Plate 46A, 72D, 75:6).

Epiphyte; pseudobulb stem-like, connected to each other, cylindric, terminating in 2 leaves; leaves obovate-elliptic, 7–12 cm long, acuminate or acute at apex; inflorescence terminal, 6–12 cm long; bracts ovate-oblong, brown; flowers arranged zigzag, 1–1.5 cm across; sepals and petals greenish-white or creamy white; lip 3-lobed, lateral lobe apex brown; mid lobe brown at middle, bilobed at apex; anther cap reddish-brown; pillinia 4 in 2 pairs.

Flowering and Fruiting: June–September.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0402* (BUBH), 02.07.2021.

2. *Coelogyne flaccida* Lindl., Gen. Sp. Orchid. Pl. 39. 1830. (Plate 46B).

Epiphyte; pseudobulbs ovate-oblong, 4–7 cm long, cm, tapering toward apex and terminating with 2 leaves; leaf blade oblong-lanceolate, 15–20 × 3–4 cm, leathery, acuminate at apex; petiole 3–5 cm long; inflorescence arising from the base of pseudobulb, 10–15 cm long, drooping; floral bracts pale brownish-grey, slightly covering the basal part of the flower; sepals and petals white; lip with yellow and pale reddish brown spots; pollinia 4 in 2 pairs.

Flowering and Fruiting: February–May.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0297* (BUBH), 07.03.2021.

3. *Coelogyne imbricata* (Hook.) Rchb.f. in Walpers, Ann. Bot. Syst. 6:238. 1861. *Pholidota imbricata* Hook., Exotic Flora 2:t.138. 1825.

Epiphyte; pseudobulb suboblong or ovate, 3–5 cm long, terminating in single leaf; leaves oblanceolate, 12–25 cm long, acute or acuminate at apex; inflorescence 20–35 cm long, densely many flowered, arising from the apex of pseudobulb; floral bracts broadly ovate, concave, creamy with brown spots; flowers 6–8 mm across; sepals and petals creamy white; lip mid lobe emarginated; anther cap brown; pollinia 4 in 2 pairs.

Flowering and Fruiting: July–October.

Occurrence: Found in semi-evergreen or in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0136* (BUBH), 25.08.2020.

14. *Corymborkis* Thouars in Nouv. Bull. Sci. Soc. Philom. Paris 1:318. 1859.

1. *Corymborkis veratrifolia* (Reinw.) Blume, Coll. Orchid. 125. 1859. *Hysteria veratrifolia* Reinw., Syll. Pl. Nov. 2:5. 1825.

Terrestrial, erect, to 1 m tall; stem subterete; leaves elliptic-lanceolate, 20–30 cm long, acuminate at apex; inflorescence axillary, panicles, 5–8 cm long, 3–5 times branched; flowers fragrant; sepals and petals similar, white; lip margin undulate, apex recurved; pollinia 2.

Flowering and Fruiting: June–August.

Occurrence: Found in shady places of evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0293* (BUBH), 20.02.2021.

15. *Cryptochilus* Wall., Tent. Fl. Nepal. 36. 1824.

Key to the species

- 1a. Pseudobulbs cylindric with 2 leaves; flowers in secund.....2. *C. strictus*
1b. Pseudobulbs ovoid-oblong with single leaf; flowers not in
secund.....1. *C. acuminatus*

1. *Cryptochilus acuminatus* (Griff.) Schuit., Ng and Pedersen in Bot. J. Linn. Soc. 186(2):194. 2018. *Xiphosium acuminatum* Griff. in Calcutta J. Nat. Hist. 5:364. 1845. (Plate 46C).

Epiphyte; pseudobulbs ovoid-oblong, terminating in a single leaf; leaf narrow elliptic-oblong, 15–22 cm long, leathery, acute at apex; inflorescence 4–5-flowered, arising from the basal sword shaped sheaths; bracts linear-lanceolate; flowers facing downwards, 1.5–2 cm across, fragrant; sepals and petals pale yellowish-green; lip yellowish-pink, with crimson veins; pollinia 8.

Flowering and Fruiting: November–February.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0292* (BUBH), 30.11.2019.

2. *Cryptochilus strictus* (Lindl.) Schuit., Ng and Pedersen in Bot. J. Linn. Soc. 186(2):195. 2018. *Eria stricta* Lindl., Coll. Bot. t.41 B. 1826. (Plate 46D).

Epiphyte; pseudobulbs in cluster, cylindric, terminating in 2 leaves; leaf lanceolate or oblong-lanceolate, 8–10 cm long, acute at apex; inflorescences subterminal, 8–10 cm long; rachis wooly pubescent; flowers in second; sepal and petals glabrous, whitish; lip shallowly 3-lobed; pollinia 8.

Flowering and Fruiting: November–March.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0281* (BUBH), 30.11.2018.

16. *Cymbidium* Sw. in Nova Acta Regiae Soc. Sci. Upsal. 6:70. 1799.

1. *Cymbidium aloifolium* (L.) Sw. in Nova Acta Regiae Soc. Sci. Upsal. 6:73. 1799.

Epidendrum aloifolium L., Sp. Pl. 2:953. 1753. (Plate 75:7).

Epiphyte; pseudobulbs ovoid, flattened, enclosed by leaf sheaths; leaves lorate, 30–60 cm long, leathery, unequally 2-lobed at apex, lobe apex obtuse; inflorescence arising from the base of pseudobulb, pendulous, 20–50 cm long; flowers 2–3 cm across; sepals and petals oblong-elliptic, creamy-yellow with a central maroon-brown stripe; lip with dense maroon venation; pollinia 2; capsule oblong-ellipsoid, 3–5 cm long.

Flowering and Fruiting: April–July.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0346* (BUBH), 12.05.2021.

17. *Dendrobium* Sw. in Nova Acta Regiae Soc. Sci. Upsal. 6:82. 1799.

Key to the species

- 1a. Pseudobulbs present.....2
- 1b. Pseudobulbs absent.....4
- 2a. Leaves single per pseudobulb.....3
- 2b. Leaves 3–5 per pseudobulb.....4. *D. farmeri*
- 3a. Inflorescence arising from the base of pseudobulbs.....8. *D. jenkinsii*
- 3b. Inflorescence arising from the tip of pseudobulb.....7. *D. fugax*
- 4a. Stem flattened; leaves dagger shaped.....5
- 4b. Stem terete; leaves not dagger shaped.....6
- 5a. Inflorescence subterminal, 1 or 2-flowered.....13. *D. terminale*
- 5b. Inflorescence lateral, 1-flowered.....2. *D. anceps*
- 6a. Lip slippers-like.....9. *D. moschatum*
- 6b. Lip not slipper-like.....7
- 7a. Inflorescence below 5 flowers.....8
- 7b. Inflorescence more than 6 flowers.....5. *D. fimbriatum*
- 8a. Flowers arising from the leafless old stems.....9

8b. Flowers arising from leafy stems.....	12
9a. Lip smaller than the sepals and petals.....	1. <i>D. aduncum</i>
9b. Lip larger or equal to the sepals and petals.....	10
10a. Lip with color patches at middle.....	11
10b. Lip without color patches.....	3. <i>D. aphyllum</i>
11a. Lip with pale purple patch at middle, ray stripes towards base....	14. <i>D. transparens</i>
11b. Lip with purplish-red patch without ray stripes.....	10. <i>D. nobile</i>
12a. Leaf sheaths and lamina beneath with blackish hairs.....	6. <i>D. formosum</i>
12a. Leaf sheaths and lamina not as above.....	13
13a. Sepals and petals creamy white.....	11. <i>D. ruckeri</i>
13b. Sepals and petals pale greenish-yellow.....	12. <i>D. salaccense</i>

1. *Dendrobium aduncum* Lindl. in Edwards's Bot. Reg. 28(Misc.):58. 1842. (Plate 46E, 72E, 75:8).

Epiphyte; stems pendulous, to 80 cm long, unbranched; leaves narrowly elliptic, 6–10 × 1–2 cm; inflorescence 2–5-flowered, arising from matured leafless stem; floral bracts ovate-lanceolate, 3–6 mm long; sepal and petals pale purple, rarely pale pink; anther cap deep purple, subglobose.

Flowering and Fruiting: June–August.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0129* (BUBH), 20.06.2020.

2. *Dendrobium anceps* Sw. in Kongl., Vetensk. Acad. Nya Handl. 21:246. 1800; Hook.f., Fl. Brit. India 5:857. 1890. (Plate 46F).

Epiphyte; stems tufted at base, laterally compressed; leaves sessile, flat, ovate or ovate-lanceolate, dagger shaped, 2–3 cm long, acute-acuminate at apex; inflorescence lateral, solitary flowered; flowers 1 cm across; sepals and petals creamy or greenish-yellow; lip obovate, creamy or greenish yellow, crisped at margins, bilobed at apex; pollinia 4 in 2 pairs.

Flowering and Fruiting: September–February.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0298* (BUBH), 07.03.2021.

3. *Dendrobium aphyllum* (Roxb.) Fisch. in Gamble, Fl. Madras 1416. 1928. *Limodorum aphyllum* Roxb., Pl. Coromandel 1:34. 1795. (Plate 75:9).

Epiphyte; stems terete, pendulous; leaves ovate-lanceolate, 6–10 × 1.5–3 cm, glabrous, deciduous; inflorescence arising stem when leafless; flowers 3–4 cm across, fragrant; sepals and petals pale purplish-white; lip white with dark violet veins at base, densely pubescent along margin; pollinia 4 in 2 pairs.

Flowering and Fruiting: March–May.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Andaman Island, NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0353* (BUBH), 21.03.2021.

4. *Dendrobium farmeri* Paxton in Paxton's Mag. Bot. 15:241. 1848. (Plate 47A, 75:10).

Epiphyte, to 50 cm; stem subclavate, 10–25 cm long, terminating 2–5-leaved; leaves oblong-lanceolate, 8–15 × 1–3 cm; inflorescence arising from apical part of pseudobulb, 12–20 cm long; bracts ovate-lanceolate, 3–6 mm, tinged pink; flowers 5–6 cm across; sepals and petals white or pinkish; lip yellow disc at middle, upper part white, margin minutely fimbriate.

Flowering and Fruiting: February–April.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, LAOS, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0299* (BUBH), 07.03.2021.

5. *Dendrobium fimbriatum* Hook., Exot. Fl. 1:t.71. 1823. (Plate 75:11)

Epiphyte; stem terete, unbranched; leaves oblong-lanceolate, 10–15 × 2–4 cm, minutely bilobed at apex; inflorescence pendulous, arising from matured leafless stem; floral bracts

ovate-triangular, 3–5 mm long; flowers 3–4 cm across; sepals and petals golden yellow; lip suborbicular, 1.5–2 cm across, densely pubescent, purplish red stripes at base, deep purple marking at middle, margin fimbriate.

Flowering and Fruiting: March–June.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0125* (BUBH), 03.04.2020.

6. *Dendrobium formosum* Roxb. ex Lindl. in Wall., Pl. Asiat. Rar. 1:34. 1830. Hook.f., Fl. Brit. India 5:721. 1890. (Plate 47B).

Epiphyte; stems terete, covered leaf sheaths, sheaths pubescent with black hairs; leaves oblong-lanceolate, obliquely bilobed at apex, pubescent beneath; inflorescence subterminal, 3–4 cm long, 1–5-flowered; flowers 4–6 cm across; sepals and petals white; lip broadly ovate, white with a yellow at middle to base; pollinia 4 in 2 pairs.

Flowering and Fruiting: September–February.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0345* (BUBH), 12.05.2021.

7. *Dendrobium fugax* Rchb.f. in Gard. Chron. 1257. 1871. (Plate 75:12)

Epiphyte; rhizome creeping; pseudobulb elongated, 3–4 × 1–1.2 cm, yellowish; leaf solitary, leathery, linear oblong, 5–14 × 1.5–3 cm, glabrous, apex acute; flowers 1–2, arising from the tip of the pseudobulb; pedicel 1–2 cm, creamy yellowish; sepals slightly larger than petals, both white; lip entire or wavy at middle, pale purple line or spots at centre.

Flowering and Fruiting: April–August.

Occurrence: Found in deciduous forests.

Distribution: INDIA (NE India), BHUTAN, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0127* (BUBH), 23.04.2020.

8. *Dendrobium jenkinsii* Wall. ex Lindl. in Edwards's Bot. Reg. 25:t.37. 1839. (Plate 47C, 75:13).

Epiphyte; pseudobulbs appressed to substrate, compressed-ovoid, 1.5–3 cm long, terminating in a single leaf; leaves oblong-ovate, 2–3 × 0.5–1 cm, leathery; inflorescence arising from the base of pseudobulbs, 1–3-flowered; flowers 3–4 cm across; sepals and petals orange-yellow; pedicel 4–5 cm long; lip obcordate, apically bilobed.

Flowering and Fruiting: March–May.

Occurrence: Found in deciduous forests.

Distribution: INDIA (NE India), BHUTAN, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0351* (BUBH), 20.03.2021.

9. *Dendrobium moschatum* (Banks) Sw. in Neues J. Bot. 1:94. 1805. (Plate 75:14).
Epidendrum moschatum Banks in Symes, Account Embassy Kingd. Ava 1:477. 1800.

Epiphyte; stem terete, unbranched; leaves oblong-lanceolate, 10–16 × 2–3 cm, leathery, minutely unequally bilobed at apex; inflorescence pendulous, arising from leafless stems, to 20 cm long; flowers 4–5 cm across; sepals and petals pale pinkish-yellow or white; lip round, slipper-like, 2–2.5 × 2–2.3 cm, purple inside, densely pubescent; anther cap purple, conic.

Flowering and Fruiting: January–May.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0126* (BUBH), 06.02.2020.

10. *Dendrobium nobile* Lindl., Gen. Sp. Orchid. Pl. 79. 1830; Hook. f. Fl. Brit. India 5:740. 1890. (Plate 47, 75:15).

Epiphyte; stems terete, unbranched; leaves oblong, 8–12 cm long, leathery, unequally bilobed at apex, base sheathing; inflorescences axillary, arising from old stems, 1–4-flowered.

flowers 3–4 cm across; sepals and petals white tinged with pale purple at apex; lip broadly ovate, purplish-red blotch at mouth, pubescent; pollinia 4 in 2 pairs.

Flowering and Fruiting: March–May.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0330* (BUBH), 20.03.2021.

11. *Dendrobium ruckeri* Lindl. in Edwards's Bot. Reg. 29(Misc.):25. 1843. (Plate 47E).

Epiphyte; stems slender, pendulous; leaves sessile, oblong to oblong-lanceolate, 6–10 cm long, arising near apex of stem, acute to acuminate at apex, base sheathing; inflorescences leaf-opposed, 1–2-flowered; flowers 2–2.5 cm across; sepals and petals creamy white to pale yellow, fragrant; lip pink or yellow with red veins, clawed; pollinia 4 in 2 pairs.

Flowering and Fruiting: February–May.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0296* (BUBH), 01.03.2021.

12. *Dendrobium salaccense* (Blume) Lindl., Gen. Sp. Orchid. Pl. 86. 1830. *Grastidium salaccense* Blume, Bijdr. Fl. Ned. Ind. 333. 1825. (Plate 47F).

Epiphyte; stems erect, terete, unbranched, covered by leaf-sheaths; leaves sessile, linear-lanceolate, 12–18 cm long, obliquely bilobed at apex, base sheathing; inflorescences leaf-opposed, 2-flowered; flowers 1.5–2 cm across; sepals and petals yellowish-green; lip with purple bands at middle to base; pollinia 4 in 2 pairs, oblong.

Flowering and Fruiting: February–May.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BORNEO, BHUTAN, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0331* (BUBH), 20.03.2021.

13. *Dendrobium terminale* Parish and Rchb.f. in Trans. Linn. Soc. 30:149. 1859; Hook.f. Fl. Brit. India 5: 725. 1890. (Plate 48A).

Epiphyte; stems compressed, enclosed by leaf-sheaths; leaves distichous, laterally compressed ovate, dagger-shaped, leathery, acute at apex; inflorescences subterminal, 1 or 2-flowered; flowers 1 cm across, white; lip subspatulate, bilobed at apex, pale yellowish at middle; pollinia 4 in 2 pairs.

Flowering and Fruiting: October–January.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0221* (BUBH), 03.11.2020.

14. *Dendrobium transparens* Wall. ex Lindl., Gen. Sp. Orchid. Pl. 79. 1830. (Plate 48B, 75:16).

Epiphyte; stems slender, pendulous, internodes covered by leaf-sheaths; leaves sessile, linear-lanceolate to oblong-elliptic, 10–15 cm long, recurved, acute at apex; inflorescences 2–4-flowered, arising from old stems when leafless; flowers 3–4 cm across, fragrant; sepals and petals white with tinge purple tips; lip white with pale purple patch on the middle, ray stripes towards base; pollinia 4 in 2 pairs.

Flowering and Fruiting: September–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0327* (BUBH), 11.04.2021.

18. *Dendrolirium* Blume, Bijdr. Fl. Ned. Ind. 343. 1825.

1. *Dendrolirium lasiopetalum* (Willd.) Chen and Wood in Fl. China 25:351. 2009. *Aerides lasiopetala* Willd., Sp. Pl., ed. 4 (4):130. 1805.

Epiphyte, 20–30 cm; rhizome sheathed, stout, gray; pseudobulbs ellipsoid, furrowed, 4–8 × 2–3 cm, terminating in 3–5 leaves; leaves oblong-lanceolate, 15–25 × 2–3.5 cm, leathery,

apex acuminate; inflorescence raceme, arising from base of pseudobulbs, 10–20 cm long, 5–15-flowered; peduncle densely pubescent; flowers 1.1.5 cm across; sepals densely pubescent outside; petals glabrescent, smaller than sepals; lip crimson-purple or reddish-brown.

Flowering and Fruiting: April–August.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0321* (BUBH), 09.05.2019.

19. *Gastrochilus* Don, Prodr. Fl. Nepal 32. 1825.

Key to the species

- 1a. Leaves terete.....1. *G. inconspicuus*
1b. Leaves not terete.....2. *G. obliquus*

1. *Gastrochilus inconspicuus* (Hook.f.) Kuntze, Revis. Gen. Pl. 2:661. 1891. *Saccolabium inconspicuum* Hook.f., Fl. Brit. India 6:56. 1890.

Epiphyte; roots wiry, greyish; stem terete; leaves terete, 6–10 cm long, glabrous; inflorescence axillary, with reduced peduncle; flowers in cluster in close association; sepals and petals pale greenish-white; lip subtriangular, creamy white or pale green-white; column purplish-pink; pollinia 2, subglobose.

Flowering and Fruiting: June–September.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0694* (BUBH), 20.06.2022.

2. *Gastrochilus obliquus* (Lindl.) Kuntze, Revis. Gen. Pl. 2:661. 1891. *Saccolabium obliquum* Lindl., Gen. Sp. Orchid. Pl. 223. 1833.

Key to the varieties

- 1a. Sepals and petals yellow with brownish-purple spots.....2. *G. obliquus* var. *suavis*
1b. Sepals and petals yellow without any spots.....1. *G. obliquus* var. *obliquus*

1. *Gastrochilus obliquus* var. *obliquus* (Lindl.) Kuntze, Revis. Gen. Pl. 2:661. 1891.

Saccolabium obliquum Lindl., Gen. Sp. Orchid. Pl. 223. 1833.

Epiphyte; stems 1–2 cm long, covered with leaf-sheaths; leaves oblong-lanceolate, 10–20 cm long, obliquely bilobed and acute at apex; inflorescences corymbose, densely flowered; flowers 8–13 mm across; sepals and petals obovate, yellow; lip white with a patch of yellow at middle, margin fimbriate; pollinia 2; capsule cylindrical, ridged.

Flowering and Fruiting: October–January.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Assam), BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0236* (BUBH), 13.11.2020.

2. *Gastrochilus obliquus* var. *suavis* (Seidenf.) Tsi in Guihaia 16(2) 141. 1996. *Gastrochilus suavis* Seidenf. in Opera Bot. 95:298. 1988. (Plate 48C).

Epiphyte; stems 1–2 cm long, covered with leaf-sheaths; leaves oblong-lanceolate, 10–20 cm long, obliquely bilobed and acute at apex; inflorescences corymbose, loosely arranged flowered; flowers 8–13 mm across; sepals and petals obovate-oblong, yellow with brownish-purple spots; lip white with a patch of yellow at middle, margin fimbriate; pollinia 2; capsule cylindrical, ridged.

Flowering and Fruiting: October–January.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), LAOS, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0244* (BUBH), 08.11.2020.

20. *Goodyera* Br. in Aiton, Hortus Kew. 5:197. 1813.

1. *Goodyera procera* (Ker Gawl.) Hook., Exot. Fl. 1:t.39. 1823; Hook.f., Fl. Brit. India 6:111. 1890. *Neottia procera* Ker Gawl. in Bot. Reg. 8:t.639. 1822.

Terrestrial, erect, to 60 cm tall; stems terete; internodes partly covered by leaf sheaths; leaves elliptic-lanceolate or ovate-lanceolate, 5–12 cm long, acute or sub-acuminate at apex;

inflorescence terminal, racemes densely flowered; rachis pubescent; flowers 4–6 mm across; sepals and petals white and tinged pale green; lip apex slightly recurved; pollinia 2.

Flowering and Fruiting: February–May.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0301* (BUBH), 07.03.2021.

21. *Hetaeria* Blume, Bijdr. Fl. Ned. 409. 1825.

1. *Hetaeria affinis* (Griff.) Seidenf. and ormerod in Oasis Suppl. 2:9. 2001. *Goodyera affinis* Griff., Not. Pl. Asiat. 3:391. 1851. (Plate 48D).

Terrestrial, erect, to 40 cm tall; stem terete, pubescent; leaves asymmetric, ovate-elliptic, 6–9 × 3–4 cm, 3–5-nerved, acute at apex, base sheathing; inflorescence terminal, 10–20 cm long; peduncle and rachis pubescent; flowers slightly opening; sepals green with tinged pink; petals white; lip ovate, 2-partite, white; pollinia 4 in 2 pairs.

Flowering and Fruiting: February–May.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0304* (BUBH), 10.03.2021.

22. *Liparis* Rich., De Orchid. Eur. 30. 1817.

1. *Liparis mannii* Rchb.f. in Flora 55:275. 1872. (Plate 48E).

Epiphyte; pseudobulbs ovoid, terminating with single leaf; leaves linear-oblong lanceolate, acuminate at apex; inflorescence 10–15 cm long, densely many flowered; floral bracts lanceolate; sepals and petals pale yellowish-green; sepals ovate-elliptic; lateral petals linear; lip subovate, margin erose; pollinia 4 in 2 pairs.

Flowering and Fruiting: December–February.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BHUTAN, CHINA, LAOS, MYANMAR, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0255* (BUBH), 11.01.2021.

23. *Luisia* Gaudich., Voy. Uranie 426. 1829.

Key to the species

- 1a. Leaves arranged in secund.....2. *L. filiformis*
1b. Leaves not in secund.....2
2a. Lip ovate-cordate, purplish-pink; anther cap yellowish-brown.....3. *L. trichorrhiza*
2b. Lip oblong, pale yellow; anther cap purple.....1. *L. brachystachys*

1. *Luisia brachystachys* (Lindl.) Blume, Rumphia. 4:50. 1849. *Mesoclastes brachystachys* Lindl., Gen. Sp. Orchid. Pl. 44. 1830.

Epiphyte; stem subterete; leaves terete, 6–9 cm long; obtuse at apex; inflorescence with reduced peduncle, 2–5-flowered; bracts triangular; flowers wide opened; sepals and petals pale yellowish-green with sparse purple spots and subline outside; lateral petals erect; lip oblong, pale yellow; anther cap purplish-red; pollinia 2, globose.

Flowering and Fruiting: March–May.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0333* (BUBH), 04.04.2021.

2. *Luisia filiformis* Hook.f., Fl. Brit. India. 6:23. 1890. (Plate 48F, 75:17).

Epiphyte; stem pendulous; leaves secund, terete, 12–20 cm long; inflorescence arising from matured stem, with reduced peduncle, 2–5-flowered; bracts ovate-triangular; flowers well opened; sepals and petals creamy white; lateral petals linear, bent downwards, 8–10 mm long; lip with distinct epichile and hypochile; hypochile dark purple; epichile ovate-triangular, with or without purple spots; anther cap yellow; pollinia 2, globose.

Flowering and Fruiting: February–April.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0282* (BUBH), 07.03.2021.

3. *Luisia trichorhiza* (Hook.) Blume, Rumphia 4:50. 1849. *Vanda trichorhiza* Hook., Exot. Fl. 1:t.72. 1823. (Plate 49A, 75:18).

Epiphyte; roots in clustered, pubescent; stem unbranched, covered by leaf sheaths; leaves terete, 10–15 cm long; inflorescence leaf opposed, with reduced peduncle; floral bracts ovate-triangular, persistent; flowers 1–1.5 cm across; sepals and petals pale green with painted pinkish; lateral petals linear, erect; lip with distinct hypochile and epichile, purplish-pink; anther cap yellow with tinged purple; pollinia 2; globose.

Flowering and Fruiting: March–May.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0692* (BUBH), 27.03.2022.

24. *Micropera* Lindl. in Edwards's Bot. Reg. 18:t.1522. 1832.

1. *Micropera rostrata* (Roxb.) Balakr. in J. Bombay Nat. Hist. Soc. 67:66. 1970. *Aerides rostrata* Roxb., Fl. Ind. 3:474. 1832. (Plate 49B, 72F).

Epiphyte; stem terete, covered by leaf sheaths; leaves linear-oblong, 8–14 cm long, emarginate-mucronate or subtruncate-retuse at apex; inflorescence raceme, 8–12 cm long, pendent, many flowered; flowers 1.5 cm across; sepals and petals pale pink-rose or purplish-pink; lip saccate; pollinia 4 in 2 subequal pairs.

Flowering and Fruiting: April–June.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0344* (BUBH), 05.05.2021.

25. *Mycaranthes* Blume, Bijdr. Fl. Ned. Ind. 352. 1825.

1. *Mycaranthes floribunda* (Don) Chen and Wood in Fl. China. 25:348. 2009. *Dendrobium floribundum* Don, Prodr. Fl. Nepal. 34. 1825. (Plate 49C).

Epiphyte, to 50 cm tall; stem terete, inclosed by leaf sheaths; leaves linear-lanceolate, 10–20 × 0.5–1 cm, acuminate at apex; inflorescence subterminal, branched at base, 8–14 cm long;

rachis greyish cottony hairs; floral bracts lanceolate, 3-5 mm long; sepals and petals yellowish-green, greyish cottony outside; lip 3-lobed; capsule cylindrical.

Flowering and Fruiting: September–February.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0256* (BUBH), 11.01.2021.

26. *Oberonia* Lindl., Gen. Sp. Orchid. Pl. 15. 1830.

1. *Oberonia mucronata* (Don) Ormerod and Seidenf. in Seidenfaden, Contr. Orchid Fl. Thailand. 13:20. 1997. *Stelis mucronata* Don, Prodr. Fl. Nepal. 32. 1825.

Epiphyte; stem reduced; leaves 4–6, compressed, linear, 8–15 cm long, acuminate at apex; inflorescence raceme, 10–15 cm long, pendulous, densely many flowered; flowers 2–4 mm across; sepals and petals green with pale brownish; lateral sepals narrower than dorsal sepal; petals margin erose; lip ovate-suborbicular, bilobed at apex; anther cap yellow; pollinia 4 in 2 pairs.

Flowering and Fruiting: June–August.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0400* (BUBH), 12.06.2021.

27. *Papilionanthe* Schltr. In Orchis 9:78. 1915.

1. *Papilionanthe teres* (Roxb.) Schltr., Orchis 9:78. 1915. *Dendrobium teres* Roxb., Fl. Ind. 3:485. 1832. (Plate 75:19).

Epiphyte; leaves terete, to 16 cm long, glabrous; inflorescence raceme, to 30 cm long, 2–6-flowered; peduncle to 15 cm long, light green, longer than leaves; flowers 5–8 cm across; pedicel 4.5 cm long, white; sepals and petals pale rose or pale pinkish-purple; lip 3-lobed, yellowish-brown, spurred; spur conic; anther cap white, apex needle-like, pollinia 2, yellow.

Flowering and Fruiting: September–February.

Occurrence: Found in open and deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0036* (BUBH), 05.07.2018.

28. *Phalaenopsis* Blume, Bijdr. Fl. Ned. Ind. 294. 1825.

Key to the species

- 1a. Lip mid lobe margin fimbriate-erose.....3. *P. manni*
- 1a. Lip mid lobe margin entire.....2
- 2a. Sepals and petals yellow.....1. *P. deliciosa*
- 2b. Sepals and petals white.....2. *P. lobbii*

1. *Phalaenopsis deliciosa* Rchb.f. in Bonplandia 2:93. 1854. (Plate 49D).

Epiphyte; stem stout, 0.5-1.5 cm long; leaves 3-4, lamina obovate-lanceolate, 5–12 × 2–4.5 cm; inflorescence raceme, 8–15 cm long, generally unbranched; floral bracts ovate, 1mm long, apex acute; flowers 1–1.5 cm across; sepals and petals yellow; lip pale purple stripes or markings.

Flowering and Fruiting: April–August.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0114* (BUBH), 12.07.2019.

2. *Phalaenopsis lobbii* (Rchb.f.) Sweet, Gen. *Phalaenopsis* 53. 1980. *Phalaenopsis parishii* var. *lobbii* Rchb.f. in Saunders, Refug. Bot. 2:t.85. 1869. (Plate 49E, 75:20).

Epiphyte; stem reduced; leaves subbasal, elliptic, 5–8 cm long, obliquely bilobed at apex; inflorescence 4–8 cm long; floral bracts elliptic, minute; flowers 1.8–2.5 cm across; sepals and petals white, glabrous; lip brownish-yellow, mid lobe with 2 longitudinal chestnut-brown stripes; basal callus with 4 filiform appendages; column and anther cap white.

Flowering and Fruiting: February–May.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BHUTAN, CHINA, MYANMAR, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0336* (BUBH), 07.03.2020.

3. *Phalaenopsis mannii* Rchb.f. in Gard. Chron. 1871:902. 1871. (Plate 75:21).

Epiphyte; stem stout, reduced; leaves oblong-ob lanceolate, 15–20 cm long, acute at apex; inflorescence 8–15 cm long, semi-pendulous; floral bracts 7–9 mm long, green; flowers 3–4 cm across; pedicel bent; sepals and petals obovate-oblong, yellow with dark brown spots and stripes; lip white, mid lobe margin fimbriate-erose; column and anther cap yellow.

Flowering and Fruiting: March–May.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BHUTAN, CHINA, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0335* (BUBH), 22.03.2021.

29. *Pinalia* Lindl., Orchid. Scelet. 14, 21, 23. 1826.

Key to the species

- 1a. Inflorescence globose or subglobose.....3. *P. connata*
- 1b. Inflorescence not globose.....2
- 2a. Pseudobulbs compressed, look jointed like septa; flowers white.....1. *P. acervata*
- 2b. Pseudobulb cylindrical; flowers yellow.....2. *P. bractescens*

1. *Pinalia acervata* (Lindl.) Kuntze, Revis. Gen. Pl. 2:679. 1891. *Eria acervata* Lindl. in J. Hort. Soc. London 6:57. 1851. (Plate 49F, 72G, 75:22).

Epiphyte; matured pseudobulb look jointed like septa, compressed, 3–8 cm long, terminating in 2–4 leaves; leaves oblong-lanceolate, 6–10 cm long, acute at apex or obtuse; inflorescence subterminal, 2–3, 4–6 cm long; floral bracts ovate-lanceolate, 5–8 mm long, acuminate at apex; flowers 1.5–2 cm across; sepals and petals white; lip with tinged yellow; pollinia 8.

Flowering and Fruiting: June–August.

Occurrence: Found in deciduous or in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0693* (BUBH), 20.06.2022.

2. *Pinalia bractescens* (Lindl.) Kuntze, Revis. Gen. Pl. 2:679. 1891. *Eria bractescens* Lindl. in Edwards's Bot. Reg. 27(Misc.):18. 1841. (Plate 50A).

Epiphyte; pseudobulb cylindric, covered by semitransparent brownish-white leaf sheaths, terminating in 2–5 leaves; leaves elliptic-oblong, 10–15 × 1.5–2.5 cm, minutely bilobed at apex; inflorescence raceme, arising from the tip of pseudobulb, 6–10-flowered; floral bracts 3–6 mm long, pale yellow; flowers 1.6–2.2 cm across; sepals and petals yellow; lip 3-lobed, papillose pale yellow spots at middle to tip; pollinia 8.

Flowering and Fruiting: February–May.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0124* (BUBH), 07.03.2020.

3. *Pinalia connata* (Joseph, Hedge and Abbar.) Ormerod and Wood in Harvard Pap. Bot. 15.351. 2010. *Eria connata* Joseph, Hegde and Rao in Bull. Bot. Surv. India 24:114. 1983.

Epiphyte; 10–18 cm long; pseudobulbs cylindric, 5–12 cm long; ; leaves 4–5, narrow elliptic-lanceolate, 5–10 cm long, acute at apex; inflorescence subterminal, raceme, subglobose, densely flowered; flowers 4–6 mm across; sepals and petals creamy white; lip pale yellow; anther cap purple; pollinia 8.

Flowering and Fruiting: June–August.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Arunachal Pradesh, Assam), BHUTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0403* (BUBH), 20.07.2021.

30. *Pomatocalpa* Breda, Gen. Sp. Orchid. Asclep. 3:t.15. 1829.

1. *Pomatocalpa armigerum* (King and Pantl.) Tang and Wang in Acta Phytotax. Sin. 1:98. 1951. *Cleisostoma armigera* King and Pantl. in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65:123. 1896. (Plate 50B, 73, 75:23).

Epiphytic; leaves distichous, sub-terete, grooved above, 7–10 cm long; inflorescence 1–2 cm long, leaf opposed, densely 7–18-flowered; peduncle 5–8 mm long; floral bracts narrowly ovate 2–2.5 mm long; flowers 5–6 mm across; sepals and petals yellow with reddish-brown clear or tinged stripes; lip white with tinged purple spots above; spur cylindrical, obtuse at apex, white; pollinia 4, appearing as 2, subglobose, yellow.

Flowering and Fruiting: July–September.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Assam, Sikkim), BHUTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0348* (BUBH), 13.08.2021.

31. *Rhynchosylis* Blume, Bijdr. Fl. Ned. Ind. 285. 1825.

1. *Rhynchosylis retusa* (L.) Blume, Bijdr. Fl. Ned. Ind. 286. 1825. *Epidendrum retusum* L., Sp. Pl. 2:953. 1753. (Plate 50C, 75:24).

Epiphyte; stems 3–8 cm long, enclosed by leaf sheaths; leaves lorate, 20–30 × 2–3 cm, unequally bilobed at apex, lobes separated with erose apex; inflorescences pendulous, 20–35 cm long; flowers fragrant; sepals and petals white and spotted with pinkish-purple; lip pinkish-purple; spur white; pollinia 2, globose; capsule obovoid, grooved.

Flowering and Fruiting: April–June.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0347* (BUBH), 21.04.2021.

Uses: Leaves are pounded and insert inside the ear to cure wound (Teron 2011).

32. *Robiquetia* Gaudich., Voy. Uranie 426. 1829.

1. *Robiquetia spathulata* (Blume) Sm. in Natuurk. Tijdschr. Ned.-Indië. 72:114. 1912. *Cleisostoma spathulatum* Blume, Bijdr. Fl. Ned. Ind. 364. 1825. (Plate 75:25).

Epiphyte; stems pendulous, subterete, look compressed, covered by leaf sheaths; leaves oblong, 10–15 cm long, leathery, unequally bilobed at apex; inflorescence raceme, leaf opposed, drooping, 8–15 cm long; flowers 6–10 mm across; sepals and petals yellow with

reddish-brown stripes inside and spots outside; lip spurred; spur contracted at middle; pollinia 2; fruits cylindrical, grooved.

Flowering and Fruiting: April–June.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0328* (BUBH), 05.05.2021.

33. *Spiranthes* Rich., De Orchid. Eur. 28. 1817.

1. *Spiranthes sinensis* (Pers.) Ames, orchidaceae 2:53. 1908. *Neottia sinensis* Pers., Syn. Pl. 2: 511. 1807. (Plate 50D).

Terrestrial, erect, to 20 cm tall; leaves 3–7; lamina linear-lanceolate, 2.5–3.5 × 0.5–0.8 cm; inflorescence 10–15 cm long; peduncle terete, green, pubescent; rachis with spirally arranged flowers, bracts 0.8–1.5 cm long, acuminate at apex; flowers 4–6 mm across; sepals and petals white, brownish when matured; lip oblong, truncate-obtuse at apex, recurved; pollinia oblong, yellow.

Flowering and Fruiting: March–May.

Occurrence: Found growing in open field on clayey soil along with grasses.

Distribution: INDIA (Assam), AUSTRALIA, BANGLADESH, CHINA, JAPAN, LAOS, MYANMAR, NEW GUINEA, PHILIPPINES, TAIWAN, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0095* (BUBH), 03.05.2020.

34. *Stereochilus* Lindl. in J. Proc. Linn. Soc., Bot. 3:38. 1858.

1. *Stereochilus hirtus* Lindl. in J. Proc. Linn. Soc. Bot. 3:38. 1858. (Plate 50E, 72I, 75:26).

Epiphyte; stem stout, 2–4 cm long, covered by leaf sheaths; leaves linear-oblong, 7–10 cm long, tapering pointed at apex, purple spots beneath, leathery; inflorescence 6–10 cm long, pendulous, laxly 5–10-flowered; peduncle and rachis densely pubescent, purple; flowers 8–12 mm across; sepals and petals pale pink-rose with 2 pale purple longitudinal lines; lip pale purplish-pink; anther purple with 2 round white spots pollinia 4 in 2 pairs.

Flowering and Fruiting: May–July.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BHUTAN, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0401* (BUBH), 12.06.2021.

35. *Strongyleria* (Pfitzer) Schuit., Ng and Pedersen in Bot. J. Linn. Soc. 186:201. 2018.

1. *Strongyleria pannea* (Lindl.) Schuit., Ng and Pedersen in Bot. J. Linn. Soc. 186(2):201. 2018. *Eria pannea* Lindl. in Edwards's Bot. Reg. 28(Misc.):64. 1842. (Plate 50F, 72H, 75:27).

Epiphyte; rhizome creeping; leaves subterete, grooved above; inflorescence 2–4 cm long, 2–3-flowered, peduncle and rachis woolly pubescent; flowers 1–1.5 cm across; sepals and petals ovate or narrowly ovate, yellow, acute at apex, woolly pubescent outside; lip purple or dark brown; anther cap yellow with tinge brown; pollinia 8 in 2 groups of 4.

Flowering and Fruiting: March–May.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BORNEO, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0696* (BUBH), 21.04.2021.

36. *Tainia* Blume, Bijdr. Fl. Ned. Ind. 354. 1825.

1. *Tainia latifolia* (Lindl.) Rchb.f. in Bonplandia 5:54. 1857. *Ania latifolia* Lindl. in Wall., Numer. List n.3741. 1831.

Terrestrial; pseudobulb cylindrical-ovoid, 4–6 cm long, covered by membranous leaf sheaths; leaves elliptic, 12–20 cm long, acute-acuminate at apex; inflorescence arising from the base of pseudobulb, to 80 cm long; flowers 2.5–3.5 cm across; sepals and petals narrowly oblong, dark brownish-purple; lip yellow, 3 longitudinal lamellae lines on upper surface, mid lobe emarginate at apex; column yellow; anther cap yellow with 2 purplish-red spots; pollinia 8 in 4 pairs.

Flowering and Fruiting: February–April.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0689* (BUBH), 20.03.2022.

37. *Thelasis* Blume, Bijdr. Fl. Ned. Ind. 385. 1825.

1. *Thelasis longifolia* Hook.f., Fl. Brit. India 6:87. 1890. (Plate 75:28).

Epiphyte; pseudobulb ovoid-subglobose, 1–1.5 cm across, terminating in single leaf; leaves lanceolate, 8–16 × 1–2 cm, leathery, obtuse at apex; inflorescence arising from base of pseudobulb, to 25 cm long; flowers 3–6 mm across; sepals and petals pale green or whitish; capsule 1.5–2.5 cm with pedicel.

Flowering and Fruiting: June–August.

Occurrence: Found in humid habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BHUTAN, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0128* (BUBH), 17.07.2020.

38. *Thrixspermum* Lour., Fl. Cochinch. 519. 1790.

1. *Thrixspermum centipeda* Lour., Fl. Cochinch. 520. 1790. (Plate 51A).

Epiphyte; stem ascending; leaves oblong, 4–12 cm long, obtuse or unequally bilobed; inflorescence 5–9 cm long; few flowered; peduncle compressed; floral bracts persistent; flowers 3–5 cm across; sepals and petals creamy white, turning yellowish, linear-lanceolate, acuminate at apex; lip saccate; pollinia 4, look as 2 unequal masses.

Flowering and Fruiting: September–February.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0135* (BUBH), 05.08.2020.

39. *Trichotosia* Blume, Bijdr. Fl. Ned. Ind. 342. 1825.

1. *Trichotosia pulvinata* (Lindl.) Kraenzl. in Engler, Pflanzenr. Orch.-dendrob. pars 50:138. 1911. *Eria pulvinata* Lindl. in J. Proc. Linn. Soc., Bot. 3:56. 1858. (Plate 72J, 75:29).

Epiphyte; stem pendulous, terete, covered by leaf sheaths; leaf sheaths reddish-brown tomentose; leaves oblong-lanceolate, 5–8 cm long, oblique, acuminate at apex, reddish-brown tomentose both sides; inflorescence leaf opposed, 3–6-flowered; floral bracts ovate-lanceolate, tomentose; flowers 8–12 mm across; sepals and petals white, reddish-brown tomentose outside; lip purplish-yellow inside; anther cap purple; pollinia 8.

Flowering and Fruiting: June–August.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0404* (BUBH), 20.07.2021.

40. *Vrydagzynea* Blume, Coll. Orchid. 71. 1858.

1. *Vrydagzynea viridiflora* Hook.f., Fl. Brit. India 6:96. 1890. (Plate 51B).

Terrestrial, erect, to 15 cm tall; leaves ovate or ovate-elliptic, 2.5–3.5 cm long, acute at apex, base obtuse; inflorescence terminal, 6–12 cm long; peduncle and rachis terete, woolly pubescent; flowers slightly open; sepals and petals green, white at apex, pubescent; lip obovate; pollinia 2.

Flowering and Fruiting: August–November.

Occurrence: Found in wet habitat near streams and generally in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0350* (BUBH), 19.09.2020.

41. *Zeuxine* Lindl., Coll. Bot., App. 1. 1826.

1. *Zeuxine affinis* (Lindl.) Benth. ex Hook.f., Fl. Brit. India 6:108. 1890. *Monochilus affinis* Lindl., Gen. Sp. Orchid. Pl. 487. 1840.

Terrestrial, erect, to 20 cm tall; leaves 3–6, elliptic-lanceolate or ovate-elliptic, 2.5–4 cm long, acute to acuminate at apex; inflorescence terminal, 8–15 cm long; peduncle and rachis densely pubescent; flowers 4–6 mm across; sepals greyish-green, pubescent; petals white, glabrous; lip Y-shaped, yellow patch on the mouth; pollinia 2.

Flowering and Fruiting: September–February.

Occurrence: Found in wet habitat in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0284* (BUBH), 06.02.2021.

17. HYPOXIDACEAE R.Br., *Voy. Terra Austral.* 2:576. 1814.

About 3 genera and 9 species in India; 2 genera and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Curculigo* Gaertn., *Fruct. Sem. Pl.* 1:63. 1788.

1. *Curculigo capitulata* (Lour.) Kuntze, *Revis. Gen. Pl.* 2:703. 1891. *C. recurvata* Hook.f., *Fl. Brit. India* 6:278. 1892. *Leucojum capitulatum* Lour, *Fl. Cochinch.* 1:199. 1790. *Molineria capitulata* Herb. *Amaryllidaceae* 84. 1837.

Herb, 60–100 cm tall; rhizome stoloniferous; leaves spirally arranged, oblong-lanceolate, 30–60 × 5–12 cm, margin entire, acuminate at apex, base cuneate; petiole 20–50 cm long; flowering stem 6–14 cm long, brown pubescent; inflorescence capitate; perianth 6-segmented, yellow; style longer than the stamens; fruits subglobose, white.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, QUEENSLAND, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0713* (BUBH), 16.03.2022.

18. AMARYLLIDACEAE St.-Hil., *Expos. Fam. Nat.* 1:134. 1805.

About 6 genera and 24 species in India; 6 genera and 10 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Crinum* L., *Sp. Pl.* 1:291. 1753.

1. *Crinum amoenum* Ker Gawl. ex Roxb., *Fl. Ind.* 2:127. 1832; Baker in Hook, f., *Fl. Brit. India* 6:282. 1892; Balakr., *Fl. Jowai* 2:533. 1983. (Plate 12A).

Bulb bearing herbs, to 1 80 cm tall; bulbs 5–8 cm across; leaves linear or broadly lanceolate, 15–40 × 4–7 cm, apex acuminate; inflorescence umbel, 5–12-flowered; flowers 5–8 cm

across, borne at top of leafless 12–20 cm tall peduncle; petals 6, white, lanceolate, 4–8 × 0.5–1 cm, apex acute-acuminate; stamens 6; anther brownish; filament reddish-pink at upper part, white at base; style color is same as that of filaments.

Flowering and Fruiting: May–July.

Occurrence: Found in forest margin, generally in shady places.

Distribution: INDIA (NE India), BANGLADESH, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0107* (BUBH), 15.05.2019.

Uses: Rhizome is used in snake bite.

19. ASPARAGACEAE Juss., Gen. Pl. 23. 1789.

About 45 genera and 214 species in India; 11 genera and 13 species in Assam; 3 genera and 4 species recorded from the study area.

Key to the genera

- 1a. Plants prickly; leaves reduced to scales.....1. *Asparagus*
- 1b. Plants without prickles; leaves well developed.....2
- 2a. Stems absent; rhizomatous.....3. *Peliosanthes*
- 2b. Stems present; rhizome absent.....2. *Dracaena*

1. *Asparagus* L., Sp. Pl. 1:313. 1753.

1. *Asparagus racemosus* Willd, Sp. Pl. ed. 4, 2:152. 1799; Hook.f., Fl. Brit. India 6:317. 1892; Deb, Fl. Tripura 2:386. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:194. 2009.

Vern. name: Sothmul (Bodo).

Undershrubs, to 60 cm tall, prickly, tuberous; leaves reduced to minute scales, linear; cladodes 1–3 cm long, triquetrous, linear, needle-like; inflorescence racemes; lowers fragrant, white; perianth 6-lobed; anthers oblong; fruits berries, globose, glabrous, red when ripe.

Flowering and Fruiting: February–August.

Occurrence: Found in dense forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, GHANA, MYANMAR, TANZANIA, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0232* (BUBH), 13.11.2020.

Uses: Root tubers are used to cure blood dysentery, stomach disorder, and improve eyesight (Das *et al.* 2010).

2. *Dracaena* Vand. ex L., Mant. Pl. 9. 1767.

1. *Dracaena angustifolia* (Medik.) Roxb., Hort. Bengal. 24. 1824 and Fl. Ind. 2:155. 1832; Hook.f., Fl. Brit. India 6:327. 1892. *Pleomele angustifolia* Deb, Fl. Tripura 2:424. 1983. *Terminalis angustifolia* Medik., Theodora 83. 1786. (Plate 17A).

Shrub, erect, to 3 m tall; leaves spirally arranged, sheathed at base, sessile, linear lanceolate, 30–60 × 3–6 cm, margin entire, acuminate at apex, base narrowed; inflorescence terminal, paniced raceme; flowers arise 2 per node; corolla 5-lobed, linear, white; stamens 5, anther right angles to the filaments; fruits slightly 3-lobed, 8–10 mm across, green, glabrous, yellow when ripe; seeds globose, white.

Flowering and Fruiting: November–June.

Occurrence: Found in semi-evergreen forest as undergrowth.

Distribution: INDIA (Andaman Island, NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0553* (BUBH), 06.12.2021.

Uses: Leaves paste is applied on cuts to stop bleeding. (Teron 2011).

3. *Peliosanthes* Andrews, Bot. Repos. 10:t.605. 1808.

Key to the species

- 1a. Rachis 20–40 cm long.....2. *P. macrophylla*
1b. Rachis 6–10 cm long.....1. *P. bipiniana*

1. *Peliosanthes bipiniana* Roy, Odyuo and Tanaka in Taiwania 65(4):496. 2020. (Plate 17B).

Perennial herbs; leaves in tufts of 2–3 per stem; leaf elliptic-lanceolate, 15–25 × 4–7cm, margins entire, acuminate at apex, base attenuate; longitudinal veins 10–20; petiole 10–20 cm long; rachis 6–10 cm long, shorter than petioles; peduncle 2-3 cm long; flowers 10–13 mm across; perianth 6-cleft; segments ovate-orbicular, 4–4.5 across, purplish along margins, internally dark purple; stamens 6; stigma tripartite; fruits oblong, 6-10 mm long.

Flowering and Fruiting: October–March.

Occurrence: Found in sloppy hilly places of semi-evergreen forests.

Distribution: INDIA (Assam, Meghalaya).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0248* (BUBH), 10.11.2021.

2. *Peliosanthes macrophylla* Wall. ex Baker in J. Linn. Soc., Bot. 17:505. 1879; Hook.f., Fl. Brit. India 6:266. 1892; Borah *et al.* in Blumea 65:121. 2020. (Plate 17C).

Perennial herbs, to 80 cm tall, with rootstock; stems rhizome-like; leaves elliptic-lanceolate, 15–25 × 3–6 cm, margins entire, acute to acuminate at apex, base narrowed; longitudinal more than 15; petioles 25–40 cm long; inflorescence 25–40 cm long; peduncle and rachis dark purple; flowers arranged loose to close; perianth 6-cleft, dark purple; segments ovate-oblong; anthers 6; fruits oblong-ellipsoid, bluish when old.

Flowering and Fruiting: March–July.

Occurrence: Found in shady places in evergreen forests.

Distribution: INDIA (NE India), BHUTAN, CHINA, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0357* (BUBH), 20.03.2021.

20. ARECACEAE Bercht. and Presl, Prir. Rostlin 266. 1820.

About 24 genera and 94 species in India; 18 genera and 36 species in Assam; 3 genera and 4 species recorded from the study area.

Key to the genera

- 1a. Plant prickly.....1. *Calamus*
- 1b. Plant without prickles.....2
- 2a. Stem 1–2 cm in diam.....2. *Pinanga*
- 2b. Stem more than 20 cm in diam.....3. *Wallichia*

1. *Calamus* L., Sp. Pl. 1:325. 1753.

Key to the species

- 1a. Inflorescence boat shaped.....1. *C. melanochaetes*
- 1b. Inflorescence not boat shaped.....2. *C. tenuis*

1. *Calamus melanochaetes* Miq. in Verh. Kon. Akad. Wetensch., Afd. Natuurk. 11(5):28. 1868; Mehmud and Roy in Chek List 17(1):80. 2021.

Vern. name: Garla (Bodo) .

Shrub, scandent type, not twining; stems slender, in clusters, with dense sharp unequal blackish spines; leaves pinnately compound, to 1.5 m long; leaflets linear, 15–30 × 1.5–2.5 cm, margin entire, acuminate at apex, base cuneate, glabrous both sides; rachis with sparse spines, petiolules short, terete; spadix 20–40 cm long, slender, boat shaped; fruits globose.

Flowering and Fruiting: March–October.

Occurrence: Found in dense forest in moist places along streams.

Distribution: INDIA (Andaman island, NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0556* (BUBH), 12.05.2021.

2. *Calamus tenuis* Roxb., Fl. Ind. 3:780. 1832; Hook.f., Fl. Brit. India 6: 447. 1892; Deb, Fl. Tripura 2:433. 1983. *C. amarus* Lour., Fl. Cochinch. 210. 1790.

Vern. name: Raidwng (Bodo).

Trailing shrub, to 4 m tall; stem terete, spiny; leaves pinnately compound; petioles 5–8 cm long; rachis with recurved armed; leaflets alternate, linear-lanceolate, 15–20 × 1.5–2 cm, margin entire, acuminate at apex, base narrowed, glabrous both sides; spadix 5–12 cm long; spathes tubular; fruits globose, scally outside.

Flowering and Fruiting: April–October.

Occurrence: Found in scrub forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, MYANMAR.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0557* (BUBH), 12.06.2021.

2. *Pinanga* Blume, Rumphia 2:76. 1839.

1. *Pinanga gracilis* Blume, Rumphia 2:77. 1839; Becc. and Hook.f. in Hook.f., Fl. Brit India 6:407. 1892; Prain, Bengal Pl. 1097. 1903; Deb, Fl. Tripura 2:437. 1983.

Shrub, to 3 m tall; stem slender, terete; leaves alternate, pinnate; petiole 6–10 cm long; pinnae 3–6 per side of rachis, glabrous; inflorescence pendulous, 6–12 cm long; peduncle 2–3 cm long; flowers unisexual; sepals and petals 3, both in male and female flowers; fruits ellipsoid, 1.5 cm across, red when ripe.

Flowering and Fruiting: April–July.

Occurrence: Found in moist places of semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0715* (BUBH), 08.04.2022.

Uses: Fruits are edible as areca nut.

3. *Wallichia* Roxb., Pl. Coromandel 3:91. 1820.

1. *Wallichia oblongifolia* Griff., in Calcutta J. Nat. Hist. 5:486. 1845. *W. densiflora* Mart., Hist. Nat. Palm. 2:190. 1831; Becc. and Hook.f. in Hook.f., Fl. Brit. India 6:419. 1892; Deb, Fl. Tripura 2:439. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:226. 2009.

Shrub, to 3 m tall; leaves spirally arranged, compound; pinnae 12–16 pairs, alternate, oblong, 25–50 × 4–10 cm, margin with several sublobes; male inflorescence pendulous; male flowers yellowish; stamens 6; female inflorescence horizontal; female flowers bracteates; fruits ovoid-ellipsoid, brownish-red.

Flowering and Fruiting: February–July.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0714* (BUBH), 16.03.2022.

21. COMMELINACEAE Mirb., Hist. Nat. Pl. 8:177. 1804.

About 14 genera and 90 species in India; 10 genera and 34 species in Assam; 4 genera and 5 species recorded from the study area.

Key to the genera

- 1a. Inflorescence arise penetrating leaf sheaths, capitate.....1. *Amischotolype*
- 1b. Inflorescence not arising from leaf sheaths.....2
- 2a. Inflorescence terminal, dense, broomlike.....3. *Floscopa*
- 2b. Inflorescence terminal but not broomlike.....3
- 3a. Involucral bracts present, spathe-like.....2. *Commelina*
- 3b. Involucral bracts absent.....4. *Murdania*

1. *Amischotolype* Hassk. in Flora 46:391. 1863.

1. *Amischotolype hookeri* (Hassk.) Hara, Fl. E. Himal. 399. 1966. *Forrestia hookeri* Hassk., Flora 47:629. 1864; Hook.f., Fl. Brit. India 6:384.1892.

Erect herb, to 1 m tall; roots arising from basal nodes; leaves alternate, elliptic-oblong or obovate, 15–25 × 3–8 cm, margin entire, long acuminate at apex, base cuneate, pubescent beneath; inflorescence capitate cymes, arising from the base of leaf sheaths; flowers subsessile; perianth pale violet or pinkish-white, pubescent; fruits ellipsoid, red.

Flowering and Fruiting: August–January.

Occurrence: Found in semi-evergreen dense forest in shady places.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, NEPAL.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0149 (BUBH), 30.08.2020.

2. *Commelina* L., Sp. Pl. 1:40. 1753.

Key to the species

1a. Leaves ovate; lamina and involucral bracts pubescent.....1. *C. benghalensis*

1b. Leaves narrowly ovate-lanceolate; involucral bracts absent.....2. *C. maculata*

1. *Commelina benghalensis* L., Sp. Pl. 1:41. 1753; Hook.f., Fl. Brit. India 6:370. 1892; Deb, Fl. Tripura 2:354. 1983; Mandal in Hajra *et al.*, Fl. Sikkim 1:168. 1996.

Diffuse herb; stem decumbent or creeping, pubescent; leaves alternate, ovate, 2.5–3.5 x 2–2.5 cm, margin entire, acute at apex, base rounded, pubescent both side; basal nerves 7–8; petioles 4–6 mm long, margin minute winged, base sheathing; spathe flattened, pubescent; flowers zygomorphic; petals kidney shaped, stalked, base oblique, blue; stamens 3; staminodes 2; filaments blue, glabrous; anther yellow.

Flowering and Fruiting: October–February.

Occurrence: Found in floors of deciduous forests.

Distribution: INDIA (Almost throughout the country), AFRICA, BANGLADESH, BHUTAN, CHINA, MYANMAR, PAKISTAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0241 (BUBH), 08.11.2020.

Uses: Leaves and shoots are boiled or fried and eaten (Begum and Gogoi 2007, Kar and Borthakur 2008, Teron 2011).

2. *Commelina maculata* Edgew. in Trans. Linn. Soc. London 20(1):89. 1846; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:214. 2009. *C. paludosa*, Fl. Tripura 2:355. 1983. *C. obliqua* Hook.f., Fl. Brit. India 6: 372. 1892.

Herbs, decumbent, to 60 cm long; leaves sheathing, narrow elliptic-lanceolate, 4–6 cm long, margin entire, acute to caudate-acuminate at apex, base cuneate; sheaths 1.5–2 cm long, mouth hairy; inflorescence a spathe terminal, funnel shaped, sessile; flowers bisexual; petals ovate, stalked, bluish-white, apex rounded; anthers X-shaped, yellow.

Flowering and Fruiting: October–February.

Occurrence: Found in open places in dense forests.

Distribution: INDIA (Almost throughout the country), BHUTAN, CHINA, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0233 (BUBH), 13.11.2020.

3. *Floscopa* Lour., Fl. Cochinch. 192.1790.

1. *Floscopa scandens* Lour., Fl. Cochinch. 193. 1790; Hook.f., Fl. Brit. India 6:390. 1892; Deb, Fl. Tripura 2:356. 1983; *Aneilema hispida* Don, Prodr. Fl. Nepal 45. 1825; *Dithyocarpus rothii* Wight, Ic. t. 208. 1839.

Herbs, to 50 cm tall, prostrate to erect, pubescent throughout; leaves alternate, usually sessile or with short winged petiole; leaf lamina elliptic-lanceolate, 3–8 × 1–2 cm, margin entire, apex acuminate; inflorescence terminal and axillary, densely glandular; pedicel very short; sepals concave, 2–3 mm; petals bluish-purple; stamens 6; anther yellow.

Flowering and Fruiting: September–December.

Occurrence: Found in marshy area or in forest floor of deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA MYANMAR, NEPAL, TAIWAN, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0196 (BUBH), 20.10.2019.

4. *Murdannia* Royle, Ill. Bot. Himal. Mts. 403. 1840.

1. *Murdannia nudiflora* (L.) Brenan in Kew Bull. 7(2):189. 1952; Deb, Fl. Tripura 2:357. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:217. 2009. *Commelina nudiflora* L., Sp. Pl. 1:41. 1753; *Aneilema nudiflorum* Hook.f., Fl. Brit. India 6:378. 1892.

Annual herb, to 30 cm tall; leaves alternate, linear-lanceolate, 4–8 × 0.5–1 cm, margin entire, acute-acuminate at apex, base cuneate; inflorescence subterminal, paniced cymes; bracts linear-acuminate, 2–4 mm long; flowers 3-merous; calyx green, glabrous; petals blue, obovate, obtuse or rounded at apex; bluish hairy at mixed with stamens; fertile stamens 3; staminodes 3; styles linear, persistent; fruits oblong.

Flowering and Fruiting: June–September.

Occurrence: Found in open places or in roadside.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0555* (BUBH), 20.08.2020.

22. PONTEDERIACEAE Kunth, Nov. Gen. Sp. 1(3):265. 1816.

About 2 genera and 3 species in India; 2 genera and 3 species in Assam; 1 genus and 2 species recorded from the study area.

1. *Pontederia* L., Sp. Pl. 1:288. 1753

Key to the species

1a. Leaves hastate; inflorescence subumbellate raceme.....2. *P. hastata*

1b. Leaves ovate-rhomboid or cordate; inflorescence erect raceme.....1. *P. crassipes*

1. *Pontederia crassipes* Mart., Nov. Gen. Sp. Pl. 1(1):9.t.4. 1823. *Eichhornia crassipes* Solms in DC. Mon. Phaner. 4:527. 1883; Deb, Fl. Tripura 2:390. 1983.

Vern. name: Khwsli Pana (Bodo).

Herb, aquatic; roots fibrous, black; stem reduced; leaves radical, spirally arranged; lamina ovate-rhomboid or cordate, 8–10 × 6–10 cm, margin entire, truncate at apex, base cuneate or rounded, leathery; petioles 10–40 cm long, spongy inside; inflorescence erect raceme; bracts tubular; flowers bluish; stamens 6, unequal; ovary sessile, 3-celled.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0554* (BUBH), 21.09.2021.

2. *Pontederia hastata* L., Sp; Pl. 1:288. 1753. *Monochoria hastata* (L.) Solms in DC., Mon. Phaner. 4:523. 1883; Deb, Fl. Tripura 2:391. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:211. 2009. *M. hastaeifolia* Hook.f., Fl. Brit. India 6:362. 1882.

Vern. name: Aajnai (Bodo).

Aquatic herb, to 60 cm long, stoloniferous; leaves hastate, triangular-ovate, 5–12 × 3–7 cm, margin entire, acuminate at apex, base sagittate, leathery; petioles 30–50 cm long, in flowering stems 5–10 cm long; inflorescence subumbellate shortly racemes, 10–25-flowered; flower pedicels 5–10 mm long; perianths 6, ovate-oblong, 8–12 mm long, bluish with pale green midvein above; styles pale blue.

Flowering and Fruiting: April–September.

Occurrence: Found in open places in water body, also found in muddy places inside forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0157* (BUBH), 05.08.2020.

Uses: Flowers are eaten cooked.

23. CANNACEAE Juss., Gen. Pl. 62. 1789.

About 1 genus and 3 species in India; 1 genus and 2 species in Assam; 1 genera and 1 species recorded from the study area.

1. *Canna* L., Sp. Pl. 1:1. 1753.

1. *Canna indica* L., Sp. Pl. 1:1. 1753; Deb, Fl. Tripura 2:381. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:186. 2009. *C. indica* var. *orientalis* Baker in Hook.f., Fl. Brit. India 6:260. 1892.

Perennial herb, erect, to 2 m tall, rhizomatous; stem sheathed; leaves elliptic-oblong, 20–40 × 10–14 cm, margin entire, acuminate at apex, base cuneate, glabrous both sides; lateral nerves many; inflorescence terminal, racemes; flowers 3-merous, red or yellow; petals 2.5–3.5 cm long; lip 2.5–3 cm long; fruits 3-lobed, subglobose, 1.5–2 cm across, soft spiny.

Flowering and Fruiting: June–October.

Occurrence: Found in roadsides or in bank of streams.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0550* (BUBH), 14.07.2021.

24. MARANTACEAE Br., Voy. Terra Austral. 2:575. 1814.

About 6 genera and 14 species in India; 4 genera and 6 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Stem simple.....1. *Phrynium*
1b. Stem branched.....2. *Schumannianthus*

1. *Phrynium* Willd., Sp. Pl. ed 4, 1:17. 1797.

1. *Phrynium pubinerve* Blume, Enum. Pl. Javae 1:38. 1827. *P. capitatum* Willd., Sp. Pl. 1:17. 1797; Baker in Hook.f., Fl. Brit. India 6:258. 1892; Deb, Fl. Tripura 2:383. 1983.

Vern. name: Laihulai (Bodo).

Perennial herb, to 1 m tall, with creeping rootstock; leaves oblong, 20–35 × 10–15 cm, margin entire, acuminate at apex, subtruncate or rounded at base, pubescent along nerves beneath; lateral nerves 20–30 pairs; inflorescence a spike; bracts spirally arranged in close aggregation, purplish-red; flowers creamy white.

Flowering and Fruiting: March–August.

Occurrence: Found in moist places along streams in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0375* (BUBH), 04.04.2021.

Uses: Roots are pounded and the juice is applied drop by drop to relieve ear pain (Teron 2011).

2. *Schumannianthus* Gagnep. in Bull. Soc. Bot. France 51:169. 1904.

1. *Schumannianthus benthamianus* (Kuntze) Veldkamp and Turner in Kew Bull. 71(3)-472. 2016. *S. dichotomus* Rao and Verma, Bull. Bot. Surv. India 14(1-4):140. 1972; Deb, Fl. Tripura 2:384. 1983. *Arundastrum benthamianum* Kuntze, Revis. Gen. Pl. 2:684. 1891. *Clinogyne dichotoma* Baker in Hook.f., Fl. Brit. India 6:258. 1892.

Perennial herb, erect, to 3 m tall, rhizomatous; stem terete, dichotomously branched with knotted nodes; leaves ovate-oblong, 8–12 × 4–6 cm, margin entire, acute at apex, base obtuse

to rounded, glabrous both sides; inflorescence axillary, paniced cymes; flowers white, 3-merous; fruits subglobose, green.

Flowering and Fruiting: March–August.

Occurrence: Found in moist shady places.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0549* (BUBH), 22.03.2021.

25. COSTACEAE Nakai in J. Jap. Bot. 17:203. 1941.

About 3 genus and 10 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Hellenia* Retz., Observ. Bot. 6:18. 1791.

1. *Hellenia speciosa* (Koenig) Dutta in Pleione 7(1):228. 2013. *Banksea speciosa* Koenig in Retz., Obs. Bot. 3:75. 1783. *Costus speciosus* Baker in Hook.f., Fl. Brit. India 6:249. 1892; Deb, Fl. Tripura 2:371. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:182. 2009.

Vern. name: Buri Tokon (Bodo).

Perennial herb, erect, to 2 m tall, with tubers; stem terete, twisted, covered by leaf sheaths; leaves alternate, subsessile, oblong, 20–25 × 3–5 cm, margin entire, acute or acuminate at apex, base cuneate, glabrous above, pubescent beneath; inflorescence terminal spikes, to 10 cm long; flowers actinomorphic; bracts red, ovate; calyx teeth 3; corolla white with tinge yellow at mouth; stigma ciliate; fruits, red, trigonous.

Flowering and Fruiting: March–July.

Occurrence: Found in forest margins along streams.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0548* (BUBH), 22.03.2021.

Uses: Tender shoots are eaten cooked as vegetables. Stem juice is consumed in curing jaundice, cough, cold, liver disorder, urinary problems (Das *et al.* 2010, Teron 2011).

26. ZINGIBERACEAE Martinov, Tekhno-Bot. Slovar 682. 1820.

About 24 genera and 191 species in India; 14 genera and 45 species in Assam; 5 genera and 9 species recorded from the study area.

Key to the genera

- 1a. Inflorescence arising from leafy pseudostem.....2
- 1b. Inflorescence on separate shoots arising from rhizomes.....4
- 2a. Bulbils present.....4. *Globba*
- 2b. Bulbils absent.....3
- 3a. Stamens exerted with long distinct filament.....5. *Hedychium*
- 3b. Stamens included with short filament or sessile.....1. *Alpinia*
- 4a. Flowers in cylindric spike, many flowered.....3. *Curcuma*
- 4b. Flowers in simple raceme, 2–5-flowered.....2. *Boesenbergia*

1. *Alpinia* L., Sp. Pl. 1:2. 1753.

Key to the species

- 1a. Peduncle branched; labellum pink.....1. *A. nigra*
- 1b. Peduncle unbranched; labellum red inside.....2. *A. roxburghii*

1. *Alpinia nigra* (Gaertn.) Burt in Notes Roy. Bot. Gard. Edinburgh 35(2):213. 1977; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:169. 2009. *A. allughas* Baker in Hook.f., Fl. Brit. India 6:253. 1892; Deb, Fl. Tripura 2:368. 1983. *Zingiber nigrum* Gaertn., Fruct. Sem. Pl. 1:35. 1788.

Vern. name: Tarai (Bodo).

Perennial herb, to 2 m tall, with tuberous rootstocks; pseudostem 1.5 cm long, covered by leaf sheaths; leaves oblong-lanceolate, 30–40 × 8–12 cm, margin entire, acuminate at apex, base cuneate; petioles 5–12 mm long; ligule pubescent; inflorescence terminal, paniced cymes; sepals ovate, pubescent; petals linear, pink; labellum apex emarginated; anther pinkish; fruits oblong, 1.5–2 cm long, pubescent, black when old.

Flowering and Fruiting: July–October.

Occurrence: Found in forests margins.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0547* (BUBH), 13.07.2021.

Uses: Inner part of the shoots are eaten cooked as vegetable.

2. *Alpinia roxburghii* Sweet, Hort. Brit. 390. 1826. *A. bracteata* Baker in Hook.f., Fl. Brit. India 6:255. 1894. (Plate 64A).

Rhizomatous perennial herb, to 3 m tall; leaves alternate, base sheathing, oblong-lanceolate, 30–60 × 7–12 cm, margin entire, long acuminate at apex, base obtuse or rounded, pubescent beneath; lateral nerves 40–60 pairs; petioles 3–5 cm long; inflorescence terminal, raceme, 20–40 cm long, rachis pubescent; petals white; lip variegated red and yellow inside; capsule oblong-ellipsoid, 2–3 × 1.5–2 cm, pubescent.

Flowering and Fruiting: March–August.

Occurrence: Found in streamside or sloppy area of semi-evergreen forest.

Distribution: INDIA (NE India, West Bengal), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0361* (BUBH), 07.08.2020.

2. *Boesenbergia* Kuntze, Revis. Gen Pl. 2:685. 1891.

1. *Boesenbergia hamiltonii* Mood, Dey and Prince in Gard. Bull. Singapore 65(1):80. 2013. (Plate 64B).

Herbs, to 60 cm tall; leaves ovate-elliptic, 20–35 × 8–12 cm, margin entire, base cordate or semi cordate; apex cuspidate; flowers 1×5, arising from rhizome; bracts 2–3 cm, vilous, ovate, acuminate at apex; calyx 1.5–2.5 cm long, linear, white, apex obtuse; corolla 3–4 cm long, lobes lanceolate; labellum obovate, 2–3 × 1–2 cm, reddish inside middle, with tinged white spots, pale rose towards tip, minutely bilobed at apex.

Flowering and Fruiting: April–July.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Assam, Meghalaya), BANGLADESH.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0546* (BUBH), 09.06.2019.

3. *Curcuma* L., Sp. Pl. 1:2. 1753.

1. *Curcuma aromatica* Salisb., Parad. Lond. 2:t.96. 1808; Baker in Hook.f., Fl. Brit. India 6:210. 1892; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:172. 2009.

Vern. name: Khatri (Bodo).

Perennial herb, aromatic, to 1 m tall, rhizomatous; leaves oblong, 30–70 × 20–18 cm, margin entire, narrowly caudate at apex, base attenuate, pubescent beneath; petioles 10–30 cm long; inflorescence arising from rhizome, during new leaves arises or before; fertile bracts pale green; coma bracts oblong, white with purplish-pink, mucronate at apex; corolla tubular; labellum yellow, emarginated at apex.

Flowering and Fruiting: March–June.

Occurrence: Found in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0382* (BUBH), 16.05.2021.

4. *Globba* L., Mant. Pl. 2:143. 1771.

Key to the species

- 1a. Leaves glabrous both sides.....2. *G. orixensis*
1b. Leaves densely pubescent beneath.....1. *G. multiflora*

1. *Globba multiflora* Wall. ex Baker in Hook.f., Fl. Brit. India 6:202. 1892; Deb, Fl. Tripura 2:375. 1983; Kumar in Hajra *et al.*, Fl. Sikkim 1:127. 1996; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:174. 2009. (Plate 64C).

Erect rhizomatous herbs, up to 1 m tall; leaves alternate, oblong-lanceolate, 8–20 × 4–8 cm, margin entire, caudate-acuminate at apex, base obtuse or narrowed, appressedly pubescent beneath, grey; lateral nerves 8–10 pairs; inflorescence terminal panicles; bulbils present at the base of peduncle; flowers orange-yellow; both calyx and corolla 3-lobed; stamens 1, filament curved; capsule subglobose, glabrous, warty.

Flowering and Fruiting: August–December.

Occurrence: Found along the bank of streams in semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0636* (BUBH), 05.09.2020.

2. *Globba orixensis* Roxb. in *Asiat. Res.* 11:358. 1810; Baker in Hook.f., *Fl. Brit. India* 6:201. 1890; Darlong and Bhattacharyya in *J. Bombay Nat. Hist. Soc.*, 108(2):153. 2011.

Perennial herb, to 50 cm tall, rhizomatous; bulbils oblong, 5–7 mm across; leaves alternate, sub-sessile, broadly ovate-lanceolate, 5–8 × 2–3 cm, margin entire, caudate at apex, base cuneate, glabrous both sides; parallel nerves 7–14; ligule green, margin ciliated; inflorescence terminal, 5–7 cm long; flowers orange-yellow; calyx teeth minute; corolla lobes 3, subequal; labellum bifid; anther 2-celled; capsule subglobose, rough, green.

Flowering and Fruiting: April–August.

Occurrence: Found in sloppy area of semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0637* (BUBH), 12.05.2020.

5. *Hedychium* J.Koenig in Retz., *Observ. Bot.* 3:73. 1783.

Key to the species

- 1a. Flowers red.....1. *H. coccineum*
- 1b. Flowers white.....2
- 2a. Inflorescence 3–10-flowered; filament 2–3 cm long.....2. *H. coronarium*
- 2b. Inflorescence 10–20-flowered; filament 3–5 cm long.....3. *H. thyrsiforme*

1. *Hedychium coccineum* Buch.-Ham. ex Sm. in Rees, *Cycl.* 17:n.5. 1811; Baker in Hook.f., *Fl. Br. Ind.* 6:231. 1890; Rao and Verma, *Bull. Bot. Surv. India* 14:133. 1972; Kumar, Zingber. *Sikkim* 46. 2001. *Gandasulium angustifolium* (Roxb.) Kuntze, *Revis. Gen. Pl.* 2:690. 1891. (Plate 64D).

Rhizomatous herbs, to 1.5 m tall; leaves sessile; leaf oblong-lanceolate, 20–30 × 2–3.5 cm, base attenuate, apex long acuminate; inflorescence a spike, cylindrical with dense flower; bracts leathery, oblong, 2.5–3 cm long, 3-flowered; flowers red; calyx 2–2.5 cm long; corolla lobes reflexed, 2–3 cm across; labellum orbicular with 2-cleft apex, 1.5–2 cm in diam.; filament 3–5 cm long; anther 5–7 mm, red.

Flowering and Fruiting: June–September.

Occurrence: Found in stream side shady places in the wet deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0137* (BUBH), 17.07.2020.

2. *Hedychium coronarium* Koenig, in Retz., *Observ. Bot.* 3:73. 1783; Baker in Hook.f., *Fl. Brit. India* 6:225. 1892; Rao *et al.* Verma, *Bull. Bot. Surv. India* 14(1–4):128. 1972; Deb, *Fl. Tripura* 2:376. 1983; Kumar in Hajra *et al.*, *Fl. Sikkim* 1:128. 1996; Kumar, *Zingiberaceae of Sikkim* 47. 2001. (Plate 64E).

Erect herbs, rhizomatous; leaves alternate, oblong-lanceolate or lanceolate, 25–40 × 4–7 cm, long acuminate at apex, base acute or obtuse, margin entire, sparsely pubescent beneath; inflorescence a spike, ellipsoid, 3–6 cm long, 3–10-flowered; bracts green, ovate; flowers white, fragrant; calyx splitted; corolla lobes lanceolate, mucronate at apex; stamens 2–3 cm long; filament white; anther brown.

Flowering and Fruiting: September–February.

Occurrence: Found along the streams in the forest, often seen to grow as ornamental.

Distribution: INDIA (Throughout the country), CHINA, MYANMAR, NEPAL, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0138* (BUBH), 05.09.2020.

Uses: Inner portion of young stem is eaten cooked as chutney. Rhizome paste is applied in snake bite (Teron 2011).

3. *Hedychium thyrsoforme* Buch.-Ham. ex Sm. in Rees, *Cycl.* 17: n.4. 1811; Wall. in Hooker, *Hooker's J. Bot. Kew Gard. Misc.* 5:373. 1853; Baker in Hook.f., *Fl. Br. Ind.* 6:230. 1890; Rao and Verma, *Bull. Bot. Surv. India* 14:32. 1972; Deb, *Fl. Tripura* 2:377. 1983; Kumar, *Zingiber. Sikkim* 56. 2001. (Plate 64F).

Herbs, rhizomatous, 1–2 m tall; leaves alternate, sessile, oblong-lanceolate, 30–60 × 8–15 cm, sparsely pubescent beneath, base rounded or subacute, apex long acuminate; spikes 6–10 × 5–8 cm, bracts ovate, imbricate, 10–20-flowered; flowers white; calyx lanceolate; corolla white, 2–3 cm long; filament 3–5 cm long, white; anther 4–6 mm, pale brown.

Flowering and Fruiting: July–October.

Occurrence: Found in stream side shady places in wet deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0203* (BUBH), 20.10.2019.

27. ERIOCAULACEAE Martinov, Tekhno-Bot. Slovar 237. 1820.

About 1 genus and 70 species in India; 1 genus and 12 species in Assam; 1 genera and 1 species recorded from the study area.

1. *Eriocaulon* Sp. Pl. 1:87. 1753.

1. *Eriocaulon quinquangulare* L., Sp. Pl., 1:87. 1753; Gamble, Fl. Madras 1620. 1931.

Sphaerochloa quinquangularis Beauv. ex Desv. in Ann. Sci. Nat. 13:47. 1828. (Plate 25B).

Acaulescent herb, to 15 cm tall; leaves linear, 3–6 cm long, falcate, acuminate at apex, glabrous both sides; inflorescence head, ovoid, 5 mm across, white; peduncle 6–12 cm long, glabrous; involucral bracts obovate, toothed at apex; sepals 3, equal; petals linear-oblong, pubescent.

Flowering and Fruiting: May–November.

Occurrence: Found in moist places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, MYANMAR, NEPAL, PAKISTAN, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0395* (BUBH), 20.05.2021.

28. CYPERACEAE Juss., Gen. Pl. 26. 1789.

About 38 genera and 545 species in India; 24 genera and 132 species in Assam; 6 genera and 10 species recorded from the study area.

Key to the genera

- 1a. Leaves absent.....4. *Eleocharis*
- 1b. Leaves present.....2
- 2a. Flowers bisexual.....3
- 2b. Flowers unisexual.....2. *Carex*
- 3a. Bracts alternate, leafy.....6. *Hypolytrum*
- 3b. Bracts in whorled or opposite, leafy or reduced.....4
- 4a. Styles jointed and demarcated with ovary.....5

- 4b. Styles continuous with ovary without demarcation.....3. *Cyperus*
 5a. Leaf sheath apex with long silky hairs.....1. *Bulbostylis*
 5b. Leaf sheath apex without silky hairs.....5. *Fimbristylis*

1. *Bulbostylis* Kunth, Enum. Pl. 2:205. 1837.

1. *Bulbostylis barbata* (Rottb.) Clarke in Hook.f., Fl. Brit. India 6:651. 1893; Rao *et al.*, Cyperaceae of North East India 40. 1982; Deb, Fl. Tripura 2:468. 1983. *Scirpus barbatus* Rottb., Descr. Pl. Rar. 27. 1772.

Annual herb, to 15 cm tall; stem slender, compressed, angular; leaves linear, 6–12 cm long; spikelets at the apex of the stem, dense heads, reddish-brown, oblong; bracts 3, filiform; glumes keeled, lanceolate; rhachilla scaly and winged; stamens single; anther linear; styles 3; nuts, obovoid, trigonous.

Flowering and Fruiting: May–November.

Occurrence: Found in open forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, CAMBODIA, CHINA, NEW GUINEA, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0563* (BUBH), 29.06.2021.

2. *Carex* L., Sp. Pl. 2:972. 1753.

1. *Carex cruciata* Wahlenb. in Kongl. Vet. Acad. Nya Handl. 149. 1803; Clarke in Hook.f., Fl. Brit. India 6:715. 1894; Rao *et al.*, Cyperaceae of North East India 73. 1982; Deb, Fl. Tripura 2:469. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:247.2009.

Perennial herb, erect, to 60 cm tall; stem trigonous, glabrous; leaves linear-lanceolate, 30–50 × 1–1.5 cm, margin entire, acuminate at apex, base narrowed, glabrous both sides, coriaceous; inflorescence panicles, 8–12 cm long; rhachis pubescent; bracts foliaceous; stamens 3; stigma 3; nuts trigonous, sessile, whitish.

Flowering and Fruiting: May–September.

Occurrence: Found in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CHINA, JAPAN, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0564* (BUBH), 29.06.2021.

3. *Cyperus* L., Sp. Pl. 1:44. 1753.

Key to the species

- 1a. Inflorescence capitate.....1. *C. cephalotes*
1b. Inflorescence anthelate.....2
2a. Spikes flattened, ovoid or ovoid-lanceolate.....3
2b. Spikes cyllindric.....3. *C. cyperoides*
3a. Leaf sheath purplish-brown; bracts leafy, 3–5.....2. *C. compressus*
3b. Leaf sheath brown; bracts leafy, 4–6.....4. *C. distans*

1. *Cyperus cephalotes* Vahl, Enum. Pl. 2:311.1805; Clarke in Hook.f., Fl. Brit. India 6:597. 1893; Rao *et al.*, Cyperaceae of North East India 11. 1982. (Plate 66A).

Perennial herb, to 20 cm tall; stolons slender, rooting at nodes; stems trigangular; leaves linear, 6–12 cm long, 3–5 mm wide, margin entire, acuminate at apex, glabrous both sides; inflorescence capitate, ovoid; involucral bracts 3–5, leaflike; spikelets ovate-lanceolate, compressed; rhachilla wingless; glumes ovate; stamens 3; stigmas 3; nuts ovoid, 3-sided, flattened.

Flowering and Fruiting: June–December.

Occurrence: Found in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CHINA, MYANMAR, NEW GUINEA, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0565* (BUBH), 29.06.2021.

2. *Cyperus compressus* L., Sp. Pl. 1:46. 1753; Clarke in Hook.f., Fl. Brit. India 6:605. 1893; Rao *et al.*, Cyperaceae of North East India 10. 1982; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:254. 2009.

Annual herb, to 30 cm tall; stem triangular, glabrous; roots fibrous; leaves linear, 15–20 cm long, 2–4 mm wide; inflorescence spikes of 2–7 rays; spikes broadly ovoid, with 4–8 spikelets; rachilla winged, white; glumes ovate, 3 mm long, 8–10-veined, apex acute; Stamens 3; anthers linear; stigmas 3; nut obovoid, 3-sided, dark brown.

Flowering and Fruiting: June–October.

Occurrence: Found in open places of forests.

Distribution: INDIA (Almost throughout the country), AMERICA, BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0566* (BUBH), 29.06.2021.

3. *Cyperus cyperoides* (L.) Kuntze, Rev. Gen. Pl. 3(3):333. 1898; Rao *et al.*, Cyperaceae of North East India 21. 1982; Deb, Fl. Tripura 2:472. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:254. 2009. *Scirpus cyperoides* L., Mant. Pl. Altera 181. 1771.

Perennial herb, to 60 cm tall; stem triangular, glabrous; leaves linear, 20–30 cm long, 4–8 mm wide, glabrous both sides; involucre bracts 5–8, leaflike; inflorescence subcompound anthela, with 6–10 rays; spikes cylindrical, 1–2 cm long, with many dense spikelets; spikelets linear-ovoid, 2–3-flowered; rachilla lanceolate, winged, white; glumes oblong, yellowish-green, apex obtuse; stamens 3; anthers linear, 0.8 mm; stigmas 3; nut narrowly oblong, 3-sided, dark brown.

Flowering and Fruiting: June–October.

Occurrence: Found in open places of forests.

Distribution: INDIA (Almost throughout the country), AFRICA, BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0567* (BUBH), 29.06.2021.

4. *Cyperus distans* L.f., Suppl. 103. 1782; Clarke in Hook.f., Fl. Brit. India 6:607. 1893; Rao *et al.*, Cyperaceae of North East India 16. 1982; Deb, Fl. Tripura 2:473. 1983. (Plate 66B).

Annual or perennial herb, to 40 cm tall; stem triangular; roots fibrous; leaf sheaths brown to reddish; leaves linear, 10–15 cm long, 2–3 mm wide; involucre bracts 2, leaflike; inflorescence compound, anthela, with 7–10; spikelets digitately arranged, narrowly linear-ovoid, 5–10 mm long; rachilla wingless; glumes oblong-ovate to subelliptic, purplish-brown, 3-veined; stamens 1–3; stigmas 3; nut obovoid, yellowish-whitish, or reddish-brown.

Flowering and Fruiting: June–September.

Occurrence: Found in open places of forests.

Distribution: INDIA (Almost throughout the country), AMERICA, BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0568* (BUBH), 14.07.2021.

4. *Eleocharis* Br., Prodr. Fl. Nov. Holland. 224. 1810.

1. *Eleocharis retroflexa* (Poir) Urb., Symb. Antill. 2:165. 1900; Rao *et al.*, Cyperaceae of North East India 25. 1982; Deb, Fl. Tripura 2:478. 1983. *Eleocharis chaetaria* Clarke in Hook. f., Fl. Brit. India 6:629. 1893. *Scirpus retroflexus* Poir. In Lamarck *et al.*, Encycl. 6:753. 1805.

Annual herb, to 12 cm tall; stem angular, tufted at base; roots fibrous; leaf sheaths tubular, pale red, tubular; leaf blades reduced; inflorescence spikes, compact; spikelet ovoid, 4 mm long, purplish red, slightly compressed; fertile glumes ovate, 2.5–3 mm long, green, apex acute to obtuse; perianth bristles 6; styles persistent; stigmas 3; nut obovoid, 1.5 mm long, yellowish, 3-sided.

Flowering and Fruiting: July–November.

Occurrence: Found in open area in moist places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0569* (BUBH), 14.07.2021.

5. *Fimbristylis* Vahl, Enum. Pl. Obs. 2:285. 1805.

Key to the species

1a. Spikelets subglobose, never exceed 5 mm.....2. *F. littoralis*

1b. Spikelets narrow ovate-oblong, 6–12 mm long.....1. *F. dichotoma*

1. *Fimbristylis dichotoma* (L.) Vahl, Enum. Pl. 2:287. 1805; Clarke in Hook.f., Fl. Brit. India 6:635. 1893; Rao *et al.*, Cyperaceae of North East India 31. 1982; Deb, Fl. Tripura 2:479. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:260. 2009. *Scirpus dichotomus* L., Sp. Pl. 1:50. 1753. (Plate 67B).

Annuals herb, to 30 cm tall; stem tufted at base; roots fibrous; leaves linear, 15–25 cm long, margin pale brown, acute or obtuse at apex; involucre bracts 3–4, leaflike, puberulent; inflorescence compound lax anthela, 4–8 cm long; spikelets ellipsoid-ovoid, 6–10 mm long; glumes ovate-oblong, 3 mm long, brown, 3–5-veined; stamens 1 or 2; styles apically ciliate; stigmas 2; nut obovoid, with 5–8 vertical ribs.

Flowering and Fruiting: June–November.

Occurrence: Found in open places in dry area.

Distribution: INDIA (Almost throughout the country), AMERICA, BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0570* (BUBH), 14.07.2021.

2. *Fimbristylis littoralis* Gaudich. in *Voy. Uranie, Bot.* 413. 1829. *F. miliacea* Vahl, *Enum. Pl.* 2:287. 1806; Clarke in *Hook.f., Fl. Brit. India* 6:644. 1893; Rao *et al.*, *Cyperaceae of North East India* 36. 1982. (Plate 67C).

Annuals herb, to 20 cm tall; stem flat, tetragonal; leaf sheaths bilaterally compressed; leaf blade ensiform, 6–10 cm long; 2–3 mm wide, margin finely serrulate, apically attenuate; involucre bracts 2–4; inflorescence a compound, rarely simple anthela, with 3–6 rays; spikelets globose to subglobose, 3–5 mm long, rounded at apex; glumes ovate, 3-veined; stamens 2; style 3-sided; stigmas 3; nut obovoid, 1 mm across, 3-sided, yellowish.

Flowering and Fruiting: June–September.

Occurrence: Found in open places.

Distribution: INDIA (Almost throughout the country), AMERICA, AUSTRALIA, BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0571* (BUBH), 14.07.2021.

6. *Hypolytrum* Pers., *Syn. Pl.* 1:70. 1805.

1. *Hypolytrum nemorum* (Vahl) Spreng., *Syst. Veg.* 1:233. 1825. *Schoenus nemorum* Vahl, *Symb. Bot.* 3:8. 1794. (Plate 67D).

Herb, to 1 m tall; roots fibrous; rhizomes short, woody; leaves cauline, linear, 40–100 × 0.8–1.5 cm, flat, margin entire, scabrous towards apical part; involucre bracts 3–5, leafy; inflorescences terminal, paniculate, ovoid-globose, 3–6 cm across; rachis angular, scabrous; spikes obovoid, globose when old; anthers oblong; stigmas 2; nutlet subglobose, greyish-brown.

Flowering and Fruiting: May–September.

Occurrence: Found in moist places in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0384* (BUBH), 12.06.2021.

29. POACEAE Barnhart in Bull. Torrey Bot. Club 22(1):7. 1895.

About 263 genera and 1291 species in India; 108 genera and 295 species in Assam; 22 genera and 25 species recorded from the study area.

Key to the genera

- 1a. Spikelets 1 to many flowered.....2
- 1b. Spikelets 2-flowered.....7
- 2a. Erect grass, more than 2 m tall.....1. *Arundo*
- 2b. Procumbent grass, less than 60 cm tall.....3
- 3a. Lemma 1–3 or 5–6 nerved.....4
- 3b. Lemma 7-nerved.....3. *Centotheca*
- 4a. Spikelets in digitate.....5
- 4b. Spikelets in panicles.....6
- 5a. Florets 3–7.....9. *Eleusine*
- 5b. Floret 1.....6. *Cynodon*
- 6a. Florets many.....10. *Eragrostis*
- 6b. Floret 1.....12. *Leersia*
- 7a. Spikelets solitary or 2–5 in cluster.....8
- 7b. Spikelets in pair.....10
- 8a. Spikelets in cylindrical panicle.....9
- 8b. Spikelets in raceme.....22. *Urochloa*
- 9a. Spikelets subtended by bristles.....19. *Setaria*
- 9b. Spikelets not subtended by bristles.....18. *Sacciolepis*
- 10a. Spikelets in digitate or subdigitae.....11
- 10b. Spikelets not in above.....14
- 11a. Raceme 2, rarely 3, divaricate; spikelets ovate-orbicular.....15. *Paspalum*
- 11b. Raceme 2–10, slightly diverging; spikelets oblong-lanceolate.....12
- 12a. Upper lemma cartilaginous.....7. *Digitaria*
- 12b. Upper lemma not cartilaginous.....13

13a. Spikelets usually one sessile and the other pedicellate.....	13. <i>Microstegium</i>
13b. Pair spikelets are alike.....	2. <i>Axonopus</i>
14a. Culms hard, rigid, woody.....	20. <i>Thysanolaena</i>
14b. Culms herbaceous or not so hard, non-woody.....	15
15a. Spikelets of a pair different in shape.....	16
15b. Spikelets of a pairs similar in shape.....	17
16a. Leaves aromatic; inflorescence dense spathate compound panicle...5.	<i>Cymbopogon</i>
16b. Leaves not aromatic; inflorescence a simple panicle.....4.	<i>Chrysopogon</i>
17a. Inflorescence white.....	18
17b. Inflorescence not white.....	20
18a. 1 spikelet of a pair sessile.....	11. <i>Imperata</i>
18b. Both spikelets of a pair pedicellate.....	19
19a. Culm 1–2 cm in diam.; lower glume silky hairy at back.....	21. <i>Tripidium</i>
19b. Culm 4–8 mm in diam.; lower glume glabrous at back.....	17. <i>Saccharum</i>
20a. Inflorescence simple raceme.....	16. <i>Pogonatherum</i>
20b. Inflorescence with many lateral racemes.....	21
21a. Spikelets paired on short pedicels; awn pale green.....	14. <i>Oplismenus</i>
21b. Spikelets paired in 4 rows on secondary racemelets; awn purplish-pink	8. <i>Echinochloa</i>

1. *Arundo* L., Sp. Pl. 1:81. 1753.

1. *Arundo donax* L., Sp. Pl. 1:81. 1753; Hook.f., Fl. Brit. India 7:306. 1896; Bor, Fl. Assam 5:89. 1940; Deb, Fl. Tripura 2:493. 1983; Shukla, Grass. N. E. India 147. 1996; Chowdhery *et al.*, Materials for the FL. Arunachal Pradesh 3:275. 2009.

Vern. name: Nwlw (Bodo).

Perennial grass, to 3 m tall; stems terete, 1–2 cm in diam.; leaves alternate, linear-lanceolate, 30–50 × 2–3 cm, margin entire, scabrous, acuminate at apex, cuneate at base, pubescent; ligule hairy; inflorescence panicle, 30–40 cm long; spikelets with 2–5 florets, awned; glume lanceolate, keeled, 3–5-veined; lemmas linear-lanceolate, 10 mm long; palea half the length of lemma.

Flowering and Fruiting: August–February.

Occurrence: Found in river banks and in damp places.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, CAMBODIA, CHINA, MYANMAR, THAILAND, TURKEY.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0572 (BUBH), 11.08.2021.

2. *Axonopus* P.Beauv., Ess. Agrostogr. 12. 1812.

1. *Axonopus compressus* (Sw.) Beauv., Ess. Agrostogr. 12. 1812; Bor, Fl. Assam 5:269. 1940 Shukla, Grass. N.E. India 310. 1996. *Milium compressum* Sw., Prodr. 24. 1788.

Perennial herb, prostrate-creeping; stem glabrous, rooting at nodes; leaves lanceolate, 6–10 × 0.7–1 cm, margin entire, obtuse at apex, pilose above; inflorescence digitate to subtigitate, to 10 cm long; spikelets oblong-lanceolate, acute at apex; glume 2–4-nerved; lower lemma 3–4-nerved; upper lemma apex with tuft of hairs.

Flowering and Fruiting: August–February.

Occurrence: Found in open field.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0576 (BUBH), 11.08.2021.

3. *Centotheca* Desv. in Nouv. Bull. Sci. Soc. Philom. Paris 2:189. 1810.

1. *Centotheca lappacea* (L.) Desv. in Nouv. Bull. Sci. Soc. Philom. Paris 2:189. 1810; Hook.f., Fl. Brit. India 7:332. 1896; Bor, Fl. Assam 5:59. 1940; Deb, Fl. Tripura 2:498. 1983. *Cenchrus lappaceus* L., Sp. Pl. 2:1488. 1763.

Perennial herb, suberect, to 60 cm tall; stems terete, with 5–7 nodes; leaf sheaths margin ciliate one side; leaves lanceolate, 5–10 × 0.8–1.2 cm, margin entire, long attenuate at apex, glabrescent both sides; inflorescence panicle, to 12 cm long; spikelets with 2–4 florets; glume lanceolate, 2 mm long, 3–5-nerved; lemma 7-nerved, apiculate at apex, glabrous; stamens 2–3; caryopsis ellipsoid, 1 mm long.

Flowering and Fruiting: August–February.

Occurrence: Found in open scrub forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CAMEROON, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0574 (BUBH), 11.08.2021.

4. *Chrysopogon* Trin., Fund. Agrost. 188. 1820.

1. *Chrysopogon aciculatus* (Retz.) Trin., Fund. Agrost. 188. 1820; Bor, Fl. Assam 5:357. 1940; Deb, Fl. Tripura 2:500. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:278. 2009. *Andropogon aciculatus* Retz., Observ. Bot. 5:22. 1788; Hook.f., Fl. Brit. India 7:188. 1896.

Vern. name: Shamtai (Bodo).

Perennial herb, with closed noded creeping rhizomes; stems ascending to 50 cm tall, decumbent at base; leaves linear-lanceolate, 3–6 × 0.3–0.5 cm, acuminate at apex, glabrescent both sides; inflorescence dense panicle, 4–8 cm long; lower glume of sessile spikelets lanceolate, 2-keeled, acute to 2-toothed at apex; upper glume with mucronate at apex; upper lemma with 3–6 mm long straight awned; pedicelled spikelets staminate; stamens 3; styles 2, feathery, white; caryopsis linear-oblong.

Flowering and Fruiting: April–October.

Occurrence: Found in open field.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BORNEO, CAMBODIA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0577* (BUBH), 02.05.2021.

5. *Cymbopogon* Spreng., Pl. Min. Cogn. Pug. 2:14. 1815.

1. *Cymbopogon nardus* (L.) Rendle in Hiern, Cat. Afr. Pl. 2:155. 1899; Bor, Fl. Assam 5:388. 1940; Deb, Fl. Tripura 2:502. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:280. 2009. *Andropogon nardus* L., Sp. Pl. 2:1046. 1753; Hook.f., Fl. Brit. India 7:205. 1896.

Perennial herb, to 1 m tall, with stout rootstock, aromatic; stem tufted, 1–1.5 cm in diam.; leaf sheaths, reddish-purple at base; leaves linear, 30–80 × 1–1.5 cm, margins entire, long acuminate at apex, base narrowed, scabrid beneath; inflorescence spathate panicle, racemes; spatheoles reddish brown; sessile spikelet oblong-lanceolate; glume concave, purplish, 2-toothed; upper lemma 2-lobed, short awned.

Flowering and Fruiting: September–February.

Occurrence: Found as planted.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, LAOS, MYANMAR, TANZANIA, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0578* (BUBH), 11.08.2019.

6. *Cynodon* Rich. in Pers., Syn. Pl. 1:85. 1805.

1. *Cynodon dactylon* (L.) Pers., Syn. Pl. 1:85. 1805; Hook.f., Fl. Brit. India 7:288. 1896; Bor, Fl. Assam 5:125. 1940; Deb, Fl. Tripura 2:502. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:280. 2009. *Panicum dactylon* L., Sp. Pl. 1:58. 1753. (Plate 63F).

Vern. name: Dubri Hagra (Bodo).

Perennial herb, with scaly rhizomes, to 30 cm tall, stoloniferous; stems terete, glabrous; leaves narrow-linear, 4–10 cm long, 1–2 mm wide, acute-acuminate at apex, glabrous both sides; inflorescence panicle; racemes digitate, spreading; spikelets sessile; glumes purplish, 1-nerved, scabrous keel; lemma equals the length of spikelet, silky along keel; caryopsis obovoid, subterete.

Flowering and Fruiting: August–March.

Occurrence: Found in deciduous forests or in open forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, CHINA, PHILIPPINES, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0584* (BUBH), 28.08.2021.

Uses: Juice of plant is taken to cure jaundice.

7. *Digitaria* Haller, Hist. Stirp. Helv. 2:244. 1768.

Key to the species

1a. Spikelets of a pairs heteromorphic.....1. *D. ciliaris*

1b. Spikelets of pairs all alike.....2. *D. longiflora*

1. *Digitaria ciliaris* (Retz.) Koeler, Descr. Gram. 27. 1802. Bor, Fl. Assam 5:204. 1940; Deb, Fl. Tripura 2:507. 1983. *Panicum ciliare* Retz., Observ. Bot. 4:16. 1786.

Annual herb, to 70 cm tall; stem terete, rooting and branching at nodes, decumbent at base; leaves linear-lanceolate, 5–12 × 0.5–1 cm, margin entire, scabrous, acuminate at apex, glabrous; inflorescence digitate to subdigitate; rachis 3-sided, margins scabrous; spikeletes

lanceolate, acute at apex; upper glume 3-nerved; lower lemma 7-nerved; stamens 3; caryopsis ellipsoid-oblong.

Flowering and Fruiting: August–January.

Occurrence: Found in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0575* (BUBH), 11.08.2021.

2. *Digitaria longiflora* (Retz.) Pers., Syn. Pl. 1:85. 1805; Bor, Fl. Assam 5:211. 1940; Shukla, Grass. N.E. India 320. 1996; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:284. 2009. *Paspalidum longiflorum* Retz., Observ. Bot. 4:15. 1786; Hook.f., Fl. Brit. India 7:17. 1896. (Plate 66C).

Annual herb, ascending, to 20 cm tall; stems terete; leaves broad linear, 2–4 × 0.2–0.4 cm, acute at apex, glabrescent; inflorescence digitate to subdigitate; rachis winged; spikelets with verrucose hairs, acuminate at apex; upper glume 5-nerved, appressed pubescent; lower lemma 7-nerved; upper lemma yellowish-brown, acuminate at apex.

Flowering and Fruiting: July–February.

Occurrence: Found in scrub forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, CAMBODIA, MYANMAR, NEPAL, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0579* (BUBH), 19.08.2021.

8. *Echinochloa* P.Beauv., Ess. Agrostogr. 53. 1812.

1. *Echinochloa crus-galli* (L.) Beauv., Ess. Agrostogr. 53. 1812; Bor, Fl. Assam 5:247. 1940; Deb, Fl. Tripura 2:509. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:287. 2009. *Panicum crus-galli* L., Sp. Pl. 1:56. 1753; Hook.f., Fl. Brit. India 7:30. 1896. (Plate 66D).

Annual herb, ascending to erect, to 70 cm tall; stems terete, glabrous; leaves linear, 5–15 × 0.5–1 cm, margin entire, scabrous, acute at apex; inflorescence panicle, ovate-pyramidal, 6–15 cm long; spikelets closely crowded, ovate, 3–4 mm long, purplish-green; lower glume

acute at apex; lower lemma long acuminate or awned at apex; upper lemma elliptic, 2–3 mm long, pale brown; caryopsis oblong-elliptic.

Flowering and Fruiting: August–February.

Occurrence: Found in open moist places.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, CAMBODIA, CHINA, PHILIPPINES, TAIWAN, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0580* (BUBH), 19.08.2021.

9. *Eleusine* Gaertn., Fruct. Sem. Pl. 1:7. 1788.

1. *Eleusine indica* (L.) Gaertn., Fruct. Sem. Pl. 1:8. 1789; Hook.f., Fl. Brit. India 7:293. 1896; Bor, Fl. Assam 5:108. 1940; Deb, Fl. Tripura 2:511. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:288. 2009. *Cynosurus indicus* L., Sp. Pl. 1:72. 1753. (Plate 66E).

Annual herb, geniculate, to 60 cm tall; stem terete, rhizomatous at base; leaves linear, 8–12 × 0.3–0.5 cm, acuminate at base, base narrowed, 10–15 × 0.3–0.5 cm, tuberculate-pilose above; ligule sparsely ciliate; inflorescence digitate, racemes linear, spreading; spikelets 4–6 mm long, with 4–8 florets; lower glume 1-nerved, scabrid along keel; palea 2-keeled, winged; stamens 3.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, ZIMBABWE.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0586* (BUBH), 28.12.2021.

10. *Eragrostis* Wolf, Gen Pl. 23. 1776.

Key to the species

1a. Spikelets oblong, 4–8 mm long, 10–20-flowered, purplish-red.....2. *E. unioloides*

1b. Spikelets ovate, 1–2 mm long; 4–10-flowered, pale greenish-white.....1. *E. tenella*

1. *Eragrostis tenella* (L.) Beauv, in Roemer and Schultes, Sysy. Veg. 2:576. 1817; Hook.f., Fl. Brit. India 7:315. 1896; Bor, Fl. Assam 5:96. 1940; Deb, Fl. Tripura 2:512. 1983;

Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:289. 2009. *Poa tenella* L., Sp. Pl. 1:69. 1753. (Plate 66F).

Annual herb, ascending to erect, to 40 cm tall; stems terete, 3–4-noded; ligule hairy along a line; leaves linear, 3–8 × 0.3–0.5 cm, margin entire, tapering at apex, scabrous above, glabrous beneath; inflorescence panicle; spikelets ovate, 2 mm long, 5–10-flowered; glume 1-nerved; lemma broadly ovate, obtuse at apex; stamens 3; caryopsis ovoid, red.

Flowering and Fruiting: August–February.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, S. Basumatary 0581 (BUBH), 19.08.2021.

2. *Eragrostis unioloides* (Retz.) Nees ex Steud., Syst. Pl. Glum. 1(3):264. 1854; Bor, Fl. Assam 5:99. 1940; Deb, Fl. Tripura 2:513. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:289. 2009. *Eragrostis amabilis* Hook.f., Fl. Brit. India 7:317. 1897. *Poa unioloides* Retz., Observ. Bot. 5:19. 1788. (Plate 67A).

Annual herb, to 50 cm tall; leaf sheaths glabrous, ribbed; ligule hairy; leaf blade sublanceolate, 5–7 cm long, margin entire, apex acuminate, tip brown; panicle open, branched; spikelet purplish-red when matured, 15–22-flowered; flower sessile; lemma larger than palea; glume purplish; ovary ellipsoid; stigma feathery, white; stamens 2; anther X-shaped, purple.

Flowering and Fruiting: April–September.

Occurrence: Found in lowland open areas.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, S. Basumatary 0040 (BUBH), 12.05.2018.

11. *Imperata* Cirillo, Pl. Rar. Neapl. 2:26. 1792.

1. *Imperata cylindrica* (L.) Beauv., Ess. Agrostogr. 165. 1812; Bor, Fl. Assam 5:310. 1940; Deb, Fl. Tripura 2:517. 1983; Chowdhery *et al.*, Materials for the Fl. Amnachal Pradesh 3:292. 2009. *I. arundinacea* Hook.f., Fl. Brit. India 7:106. 1896. *Lagurus cylindricus* L., Syst. Nat. 10:878. 1759. (Plate 67E).

Vern. name: Thuri (Bodo).

Perennial herb, to 1 m tall, scaly rhizomatous; stem tufted, terete, 2–4-noded; leaves linear, 30–100 cm long, 8–15 mm wide, margin scabrid, long acuminate at apex, base narrowed, puberulous above; inflorescence panicle, cylindrical, 5–12 cm long, white; spikelets 3–5 mm long; glumes 5–8-nerved, acuminate at apex; lower lemma ovate-lanceolate, ciliate; upper lemma ovate; stamens 2; stigmas purplish.

Flowering and Fruiting: September–February.

Occurrence: Found in grassland.

Distribution: INDIA (Introduced), AFRICA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0587* (BUBH), 28.10.2021.

12. *Leersia* Sw., Prodr. Veg. Ind. Occ. 21. 1788.

1. *Leersia hexandra* Sw., Prodr. 21. 1788; Hook.f., Fl. Brit. India 7:94. 1896; Bor, Fl. Assam 5:173. 1940; Deb, Bull. Bot. Surv. India 3:134. 1961; Shukla, Grass. N.E. India 299. 1996. (Plate 67F).

Vern. name: Aalari (Bodo).

Perennial herb, aquatic, stoloniferous, slender rhizomatous, decumbent, to 50 cm tall; stems terete, rooting at lower nodes, nodes ringed hairy; leaves linear, 6–13 × 0.3–0.6 cm, margin entire, acute at apex, base contracted, strongly scabrid beneath on midrib; inflorescence panicle; spikelets elliptic-oblong, 3–4 mm long, purple tinged; lemma's lateral nerves spinulose, contracted at apex; stamens 6; anther pendulous, oblong, pale yellow; filaments white; styles feathery, white.

Flowering and Fruiting: December–March.

Occurrence: Found in open places in marshy places.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, BRAZIL, CHINA, MEXICO, PHILIPPINES, SRI LANKA, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0588* (BUBH), 12.02.2021.

13. *Microstegium* Nees in Lindl., Intr. Nat. Syst. Bot. ed. 2:447. 1836.

1. *Microstegium fasciculatum* (L.) Henrard in Blumea 3:453. 1940. *M. ciliatum* Bor, Fl. Assam 5:330. 1940; Deb in Bull. Bot. Surv. India 3:134. 1961; Shukla, Grass. N.E. India 107. 1996. *Andropogon fasciculatus* L., Sp. Pl. 2:1047. 1753. (Plate 68A).

Perennial herb, to 80 cm long; stem terete, decumbent or creeping; leaf sheath's one side margin ciliate; leaves linear-lanceolate, 7–12 × 0.6–1.2 cm, margin entire, acuminate at apex, base narrowed, pilose beneath; inflorescence panicle; spikes semi-digitate, brown; lower glume 2-nerved, apex 2-toothed; upper glume keeled, acuminate at apex with awnlet; upper lemma lanceolate; stamens 3; anther brown.

Flowering and Fruiting: August–February.

Occurrence: Found in sloppy area of semi-evergreen forests or in forests floors.

Distribution: INDIA (Almost throughout the country), BHUTAN, CHINA, JAPAN, LAOS, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0583* (BUBH), 19.08.2021.

14. *Oplismenus* Beauv., Fl. Oware 2:14. 1810.

Key to the species

1a. Racemes 1–2 cm long; spikelets closely arranged.....1. *O. burmanni*

1b. Racemes 2–5 cm long; spikelets loosely arranged.....2. *O. compositus*

1. *Oplismenus burmanni* (Retz.) Beauv., Ess. Agrostogr. 54, 168. 1812; Hook.f., Fl. Brit. India 7:68. 1896; Bor, Fl. Assam 5:263. 1940; Deb, Fl. Tripura 2:524. 1983; Shukla, Grass. N.E. India 332. 1996. *Panicum burmanni* Retz., Observ. Bot. 3:10. 1783.

Annual herb, not erect, decumbent, to 20 cm tall; stems terete pubescent on nodes; leaves lanceolate, 4–6 × 0.6–0.8 cm, margin entire, acuminate at apex, base oblique, glabrous both sides; inflorescence panicle racemes; rachis 3-sided; spikelets lanceolate; glumes awned; awn pale yellow, not sticky; anthers pale yellow; caryopsis compressed.

Flowering and Fruiting: October–March.

Occurrence: Found in roadsides or in scrub forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMEROON, CHINA, GHANA, MYANMAR, PHILIPPINES, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0591* (BUBH), 06.11.2021.

2. *Oplismenus compositus* (L.) Beauv., Ess. Agrost. 54. 1812; Bor, Fl. Assam 5:262. 1940; Hook.f., Fl. Brit. India 7:66. 1896; Deb, Fl. Tripura 2:525. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:296. 2009. *Panicum compositum* L., Sp. Pl. 1:57. 1773. (Plate 68B).

Perennial herb, ascending, to 60 cm tall; stems terete, trailing, stoloniferous; leaves linear-lanceolate, 5–12 × 0.5–1.5 cm, margin entire, acuminate at apex, base oblique, glabrescent both sides; inflorescence panicle racemes; axis 6–12 cm long; rachis 3-sided, terminated in a spikelet; spikelets lanceolate; glumes awned; awn purple, sticky; lower lemma 7–9-nerved; caryopsis compressed.

Flowering and Fruiting: October–February.

Occurrence: Found in forests floors.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, BRAZIL, CAMBODIA, CHINA, MYANMAR, NEPAL, PHILIPPINES, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0590* (BUBH), 06.11.2021.

15. *Paspalum* L., Syst. Nat. ed. 10, 2:855. 1759.

1. *Paspalum conjugatum* Berg. in Act. Helv. Phys. Math. 7:129.t.8. 1772; Hook.f., Fl. Brit. India 7:11. 1896; Fischer, Rec. Bot. Surv. India 12(2):152. 1938; Bor, Fl. Assam 5:255. 1940 Shukla, Grass N.E. India 345. 1996. (Plate 68C).

Annual herb, attaining upto 60 cm tall; leaves linear-lanceolate, 10–15 cm long, 6–9 mm wide, margin finely hairy; ligule hairy; inflorescence panicle, spike paired, rarely 3, 8–12 cm long; spikelets ovate, 1–2 mm long, short stalked; upper lemma 2; lower lemma 2, ovate, as long as spikelet, pale green; stamens 2; anther brown-yellow, bilobed; style 2, white, feathery.

Flowering and Fruiting: April–August.

Occurrence: Found in moist shady places.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0043* (BUBH), 25.05.2018.

16. *Pogonatherum* Beauv., Ess. Agrostogr. 56. 1812.

1. *Pogonatherum crinitum* (Thunb.) Kunth, Enum. Pl. 1:478. 1833; Hook.f., Fl. Brit. India 7:141. 1896; Bor, Fl. Assam 5:348. 1940; Deb, Fl. Tripura 2:537. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:303. 2009. *Andropogon crinitus* Thunb. in Murray, Syst. Veg. 14:903. 1784.

Perennial herb, trailing or suberect, to 30 cm tall; stems terete, branching at base; leaf sheaths mouth ciliated; leaves linear-lanceolate, 3–5 × 0.3–0.5 cm, acute at apex, scaberulous-puberulent both sides; inflorescence panicle, subcylindrical; racemes with distinct awns, silky hairs, brownish-yellow; spikelets both sessile and pedicelled; lower glume scabrid, awnless; upper glume with awn; upper lemma with 1.5–2 cm long awned; stamens 1.

Flowering and Fruiting: October–February.

Occurrence: Found in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0589* (BUBH), 12.02.2021.

17. *Saccharum* L., Sp. Pl. 1:54. 1753.

1. *Saccharum spontaneum* L., Mant. Pl. Altera 2:183. 1771; Hook.f., Fl. Brit. India 7:118. 1896; Bor, Fl. Assam 5:319. 1940; Deb, Fl. Tripura 2:539. 1983; Shukla, Grass. N. E. India 126. 1996; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:305. 2009.

Perennial, rhizomatous, to 2 m tall; stems terete, 4–8 mm in diam., 4–8-noded; leaves linear, leaves linear, 30–70 cm long, 3–7 mm wide, attenuate at apex, base narrowed; ligule brown; inflorescence panicle, 20–45 cm long, white; axis terete, silky pubescent; internodes of rachis with silky hairs; spikelets 2–4 mm long; lower glume apex acuminate, margins ciliate above; lower lemma ovate-lanceolate; upper lemma awnless, linear-oblong; stamens 5.

Flowering and Fruiting: September–February.

Occurrence: Found in grassland.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0592* (BUBH), 12.10.2019.

18. *Sacciolepis* Nash in Britton, Man. Fl. N. States 89. 1901.

1. *Sacciolepis myosuroides* (Br.) Chase ex Camus and Camus in Lecomte, Fl. Indo-Chine 7:460. 1922; Bor, Fl. Assam 5:217. 1940; Deb, Fl. Tripura 2:540. 1983. *Panicum myosuroides* Br., Prodr. 189. 1810; Hook.f., Fl. Brit. India 7:42. 1896. (Plate 68D).

Annual herb, erect, to 70 cm tall, decumbent at base; stems terete, glabrous, tufted; leaves linear, 4–12 × 0.3–0.6 cm, acuminate at apex; inflorescence panicle, slender, with dense spikelike, 5–12 cm long; spikelets ovate-elliptic, purple, acute or subobtusate at apex; lower glume 3–5-nerved; upper glume 7–9-nerved; lemma oblong.

Flowering and Fruiting: July–October.

Occurrence: Found in open moist places.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0582* (BUBH), 19.08.2021.

19. *Setaria* Beauv., Ess. Agrostogr. 51. 1812.

1. *Setaria pumila* (Poir.) Roem. and Schult., Syst. Veg. 2:891. 1817. *S. pallide-fusca* Bor, Fl. Assam 5:291. 1940; Deb, Fl. Tripura 2:543. 1983. *S. glauca* Hook.f., Fl. Brit. India 7:78. 1896; Shukla, Grass. N.E. India 359. 1996. *Panicum glaucum* L., Sp. Pl. 1:56. 1753. *Panicum pumilum* Poir. in Lamarck et al., Encyc. Suppl. 4:273. 1816. (Plate 68E).

Vern. name: Khusengra Meotugra (Bodo).

Annual herb, to 80 cm tall; stem terete, glabrous, scabrous below inflorescence; leaves linear, 8–25 × 0.5–1 cm, margin entire, scabrous above; inflorescence panicle, cylindrical; branches subtended by 6–12 bristles; bristles purplish-gold, longer than spikelet; spikelets ovate, 2–3 mm long; lower glume same length with spikelet; upper glume shorter; lemma ovate, yellow.

Flowering and Fruiting: September–March.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0585* (BUBH), 28.12.2021.

20. *Thysanolaena* Nees in Edinburgh New Philos. J. 18:180. 1835.

1. *Thysanolaena latifolia* (Roxb. ex Hornem.) Honda in J. Fac. Sci. Univ. Tpkyo, Sect. 3, Bot. 3:312. 1930. *T. maxima* Bor, Fl. Assam 5:176. 1940; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:311. 2009. *Agrostis maxima* Roxb., Fl. Ind. 1:319. 1820. *Melica latifolia* Hornem., Hort. Bot. Hafn. Suppl. 117. 1819.

Vern. name: Ouwa Hasib (Bodo).

Perennial, erect, to 2 m tall; stem terete, unbranched, rigid; leaves broad lanceolate, 10–18 × 2.5–4 cm, margin scabrid, entire, acuminate at apex, base rounded; ligule truncate; inflorescence panicle, 40–60 cm long, pale brown; spikelets lanceolate, 1.5–2 mm long; glumes ovate-lanceolate; lower lemma longer than upper lemma; apex of upper lemma slightly recurved; stamens 2–3; anther brown; caryopsis oblong.

Flowering and Fruiting: September–February.

Occurrence: Found in semi-evergreen forests in sloppy area.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0594* (BUBH), 16.11.2021.

21. *Tripidium* Scholz in Willdenowia 36.664. 2006.

1. *Tripidium arundinaceum* (Retz.) Welker, Voronts. and E.A.Kellogg in Taxon 68(2):255. 2019. *Saccharum arundinaceum* Retz., Obs. Bot. 4:14. 1786; Hook.f., Fl. Brit. India 7:119. 1986; Bor, Fl. Assam. 5:320. 1940.

Vern. name: Engkhwr (Bodo).

Perennial, tufted at base, to 3 m tall; stem terete, 1–1.5 cm in diam., pale yellow; leaf sheaths hirsute; leaf long linear, 60–125 × 1–2 cm, margins scabrid, entire, attenuate at apex, base tapering; ligule villous with 1–2 mm long hairs. Inflorescence dense panicle, 25–40 cm long, greyish-white; racemes crowded; internode of rachis silky villous; spikelets 3–5 mm long; glume lanceolate, keeled; upper lemma straight awned.

Flowering and Fruiting: September–February.

Occurrence: Found in riverbanks.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0593* (BUBH), 06.11.2021.

22. *Urochloa* Beauv., Ess. Agrostogr. 52. 1812.

1. *Urochloa distachyos* (L.) Nguyen in Novosto Sist. Vyssh. Rast. 3:13. 1966. Bor, Fl. Assam 5:281. 1940. Deb, Fl. Tripura 2:498. 1983; Chowdhery *et al.*, Materials for the Fl. Arunachal Pradesh 3:276. 2009. *Panicum distachyon* Hook.f., Fl. Brit. India 7:37. 1891. *P. distachyon* L., Mant. Pl. 183. 1767. (Plate 68F).

Perennial herb, to 30 cm tall; stem terete, hairy at nodes; leaf alternate, linear-lanceolate 4–8 × 0.6–1 cm, margin entire, hairy, acute or acuminate at apex, base amplexicaul, pubescent; ligule with a ring of hairs; inflorescence paniced racemes; spikelets alternate; glumes membranous, 5–7-veined; lemma 5-veined; lemma of upper florets 3-veined; stamens 3; caryopsis oblong, covered by lemma.

Flowering and Fruiting: July–December.

Occurrence: Found in scrub forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CHINA, MYANMAR, NEPAL, PHILIPPINES, , THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0573* (BUBH), 11.08.2021.

30. MENISPERMACEAE Juss., Gen. Pl. 284. 1789.

About 22 genera and 43 species in India; 14 genera and 19 species in Assam; 7 genera and 8 species recorded from the study area.

Key to the genera

- 1a. Leaves venation pinnate.....5. *Pycnarrhena*
- 1b. Leaves venation palmate.....2
- 2a. Woody climber.....3. *Diploclisia*
- 2b. Non-woody climber.....3
- 3a. Stem with tubercles.....6. *Tinospora*
- 3b. Stem without tubercles.....4
- 4a. Leaves peltate or semi-peltate.....5
- 4b. Leaves not peltate, sagittate.....4. *Parabaena*
- 5a. Petals free.....5. *Stephania*
- 5b. Petals fused.....6

- 6a. Bract distinct, foliaceous, accrescent, persistent.....1. *Cissampelos*
6b. Bract minute, not accrescent.....2. *Cyclea*

1. *Cissampelos* L., Sp. Pl. 2:1031. 1753.

1. *Cissampelos pareira* L., Sp. Pl. 2:1031. 1753; Hook.f. and Thoms. in Hook.f., Fl. Brit. India 1:103. 1872; Gamble, Fl. Pres. Madras 1:30. 1915; Kanjilal *et al.*, Fl. Assam 1(1):52. 1934; Fisch. in Rec. Bot. Surv. India 12(2):78. 1938; Deb, Fl. Tripura 2:128. 1938.

Climber; stem terete, pubescent; leaves ovate-cordate, 5–7 × 5–7 cm, margin entire, singly apex mucronate, base semipeltate; lateral nerves 4–6, petiole 4–6.5 cm; inflorescence short raceme, umbell, axillary; flower unisexual; female flowers: sepals 4, sparsely pubescent, yellow; corolla unlobed, circular, yellow; style yellow; stigma round, brown.

Flowering and Fruiting: March–December.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0041* (BUBH), 15.05.2018.

2. *Cyclea* Arn. ex Wight, Ill. Ind. Bot. 1:22. 1840.

1. *Cyclea peltata* (Burm.f.) Hook.f. and Thomson, Fl. Ind. 201. 1855; Hook.f., Fl. Brit. India. 1:104. 1872; Kanjilal *et al.*, Fl. Assam. 1(1):53.1934. *Dioscorea peltata* Burm.f., Fl. Ind. 215. 1768.

Tweener, slender; leaves alternate, semipeltate, ovate, 8–14 × 6–10 cm, margin entire, acuminate at apex, base rounded, pubescent beneath; petioles 3–5 cm long, pubescent; inflorescence axillary, panicles; flowers unisexual; male flowers minute with connate sepals and petals; anthers 4–6; female flowers monocarpellary; fruits globose, glabrous.

Flowering and Fruiting: November–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, MYANMAR, SRI LANKA, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0414* (BUBH), 03.12.2020.

3. *Diploclisia* Miers in Ann. Mag. Nat. Hist. ser. 2, 7:37. 1851.

1. *Diploclisia glaucescens* (Blume) Diels in Engler, Pflanzenr. 4. 94(Heft 46):225. 1910. *Cocculus glaucescens* Blume, Bijdr. Fl. Ned. Ind. 25. 1825. *C. macrocarpus* Hook.f., and Thomson in Hook.f., Fl. Brit. India 1:101. 1872; Kanjilal *et al.*, Fl. Assam 1(1):56. 1934. (Plate 38A).

Liana; leaves alternate, ovate or ovate-orbicular, 5–7 × 4–6 cm, margin entire, obtuse at apex, base cordate; lateral nerves 3–4 pairs; petiole longer than lamina, 7–9 cm long; inflorescences axillary, panicles, pendulous, arising from old leafless stems; male flowers: outer whorl elliptic, inner whorl broadly elliptic-obovate; petals obovate, mucronate at apex; fruits obovoid, whitish, 7–11 mm long, curved at base.

Flowering and Fruiting: April–August.

Occurrence: Found in dense forests of semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0673* (BUBH), 05.05.2021.

4. *Parabaena* Miers in Ann. Mag. Nat. Hist. ser. 2, 7:39. 1851.

1. *Parabaena sagittata* Miers ex Hook.f. and Thomson, Fl. Ind. 1:181. 1855; Hook.f. and Thomson in Hook.f., Fl. Brit. India 1:96. 1872; Kanjilal *et al.*, Fl. Assam 1(1):58. 1934; Deb, Fl. Tripura 2:130. 1983; Pramanik in Sharma *et al.*, Fl. India 1:346. 1993. (Plate 38B).

Climber, with milky latex; leaves alternate, ovate-elliptic, 8–12 × 4–8 cm, acuminate at apex, base sagittate-cordate, margin entire, sparsely pubescent beneath; lateral nerves 3–4 pairs; petiole 3–5 cm long; inflorescence axillary cyme; flowers minute; sepals and petals 6; anther 6; fruits subglobose, glabrous, orange-yellow when ripe.

Flowering and Fruiting: July–November.

Occurrence: Found in roadside of forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0211* (BUBH), 12.10.2020.

5. *Pycnarrhena* Miers ex Hook.f. and Thomson, Fl. Ind. 1:206. 1855

1. *Pycnarrhena pleniflora* Miers ex Hook.f. and Thomson, Fl. Ind. 1:206. 1855 (as '*planiflora*'); Hook.f., Fl. Brit. India 1:106. 1872; Kanjilal *et al.*, Fl. Assam 1:58. 1934; Deb, Fl. Tripura 2:131. 1983; Gangopadhyay in Sharma *et al.*, Fl. India 1: 342. 1993; Singh in Singh *et al.*, Fl. Mizoram 1:153. 2002. (Plate 38C).

Liana, dioecious; leaves alternate, oblong-elliptic, 9–20 × 3–8 cm, margin entire, apex abruptly acuminate, base acute or slightly rounded; lateral nerves 5–9 pairs; petioles 1–2 cm long; inflorescence fascicles, 1–2 cm across; male flowers 8 mm across, green, yellowish when matured; sepals 4–5, ovate-orbicular, yellow; stamens 10; fruits 3–7 per fascicle, ovoid-globose, 6–9 mm across.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen forest in shady places.

Distribution: INDIA (Northeast India; West Bengal), BANGLADESH, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0079* (BUBH), 16.03.2019.

6. *Stephania* Lour., Fl. Cochinch. 608. 1790.

Key to the species

1a. Stem and leaves pubescent.....2. *S. japonica*

1b. Stem and leaves glabrous.....1. *S. glandulifera*

1. *Stephania glandulifera* Miers in Ann. Mag. Nat. Hist. ser. 3, 18:15. 1866; Kanjilal *et al.*, Fl. Assam 1:52. 1934; Deb, Fl. Tripura 2:132. 1983; Pramanik in Sharma *et al.*, Fl. India 1:334. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:105. 1996.

Vern. name: Dumalu (Bodo).

Climber; leaves alternate, ovate-orbicular, triangular, peltate, 12–15 × 12–14 cm, margin entire; lateral nerves 10–11 pairs, petiole long, 10–15 cm; inflorescence unisexual, cymose, axillary, umbel; peduncle 3–4 cm long; female flower: calyx 6, light yellow, glabrous; corolla 3, 2 lobed each, yellow, apical part white; stigma brown; fruits ovoid, 6 mm across.

Flowering and Fruiting: March–November.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (NE India), MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0012* (BUBH), 22.03.2018.

Uses: Tuber is used to cure jaundice.

2. *Stephania japonica* (Thunb.) Miers in Ann. Mag. Nat. Hist. ser 3, 18:14. 1866; Deb, Fl. Tripura 2:132. 1983; Gangopadhyay in Sharma *et al.*, Fl. India 1:335. 1993. *S. hernandifolia* Hook.f. and Thomson in Hook.f., Fl. Brit. India 1:103. 1872; Kanjilal *et al.*, Fl. Assam 1(1):51. 1934. *Menispermum japonicum* Thunb. in Murray, Syst. Veg. 14:892. 1784. (Plate 38D).

Vern. name: Ponei Khuga Bendwng (Bodo).

Climbers; leaves alternate, ovate-triangular, 6–7 × 9–11 cm, margin entire, base peltate, apex acute, with short needle-like, pubescent beneath; petiole 5–6.5 cm long; inflorescence umbell cyme, 3 cm across; female flower 2 mm long, green; calyx 6, pale green; corolla 6; stigma brownish; fruits sub-orbicular, ellipsoid, 4 mm across, glabrous.

Flowering and Fruiting: March–September.

Occurrence: Found in semi-evergreen forest or in domesticated area.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0033* (BUBH), 03.05.2018.

Uses: Leaves and stems are used to cure jaundice.

7. *Tinospora* Miers in Ann. Mag. Nat. Hist. ser. 2, 7:38. 1851.

1. *Tinospora cordifolia* (Willd.) Miers ex Hook.f. and Thomson, Fl. Ind. 1:184. 1855; Hook.f., Fl. Brit. India 1:97. 1872; Kanjilal *et al.*, Fl. Assam 1:54. 1934; Deb, Fl. Tripura 2:133. 1983. *Menispermum cordifolium* Willd., Sp. Pl. 4(4):826. 1806.

Vern. name: Twinw Rwngywi bendwng (Bodo).

Tweener; stems tubercled; leaves ovate or orbicular, 8–14 × 8–12 cm, margin entire, acute or acuminate at apex, base cordate; basal nerves 5; petioles 5–8 cm long; inflorescence axillary or terminal, racemes; flowers greenish-yellow; male flowers fascicled; petals 6; stamens 6, free; female flowers solitary; fruits globose, glabrous, red when ripe.

Flowering and Fruiting: March–September.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0415* (BUBH), 12.03.2020.

Uses: Whole plant is used in chronic fever, stomach troubles, chronic dysentery, bleeding piles, diabetes (Das *et al.* 2010).

31. RANUNCULACEAE Juss., Gen. Pl. 231. 1789.

About 28 genera and 193 species in India; 7 genera and 18 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Clematis* L., Sp. Pl. 1:543. 1753.

1. *Clematis zeylanica* (L.) Poir., Encycl. Suppl. 2:296. 1811. *Atragene zeylanica* L., Sp. Pl. 1:542. 1753. *Naravelia zeylanica* DC., Syst. Nat. 1:167. 1817; Hook.f., Fl. Brit. India. 1:7. 1872; Harid. and Rao, Forest Fl. Meghalaya 1:50. 1985; Kanjilal *et al.*, Fl. Assam 1(1):6. 1934; Deb, Fl. Tripura 2:121. 1983. (Plate 56A).

Twiner; leaves opposite, 2-foliolate; petioles 4–6 cm long; leaflets ovate-oblong, 6–12 × 5–7 cm, margin entire, acuminate at apex, base cordate, pubescent beneath; supra basal nerves 2 pairs; petiolules 1–1.5 cm long; inflorescence axillary and terminal panicle cymes; sepals 4, pubescent; petals 11–12, pale green; stamens numerous; carpels many.

Flowering and Fruiting: September–March.

Occurrence: Found in scrub forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0176* (BUBH), 26.10.2020.

32. SABIACEAE Blume, Mus. Bot. 1:368. 1851.

About 2 genera and 15 species in India; 2 genera and 14 species in Assam; 2 genera and 3 species recorded from the study area.

Key to the genera

- 1a. Tree.....1. *Meliosma*
1b. Liana or scandent shrub.....2. *Sabia*

1. *Meliosma* Blume, Catalogus 10. 1823.

1. *Meliosma simplicifolia* (Roxb.) Walp., Repert. Bot. Syst. 1:423. 1842; Hook.f., Fl. Brit. India. 2:5. 1876; Brandis, Ind.Trees 194.1906 ; Kanjilal *et al.*, Fl. Assam 1 (2):327. 1936; Deb, Fl. Tripura 1: 459. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:266. 1985; Majumdar in Singh *et al.*, Fl. India 5:425. 2000. *Millingtonia simplicifolia* Roxb., Pl. Coromandel 3:50. 1820. (Plate 60C).

Tree, to 15 m tall; leaves alternate, obovate, 10–40 × 5–17 cm, margin entire, distantly serrate when matured, apex cuspidate; lateral nerves 15–22 pairs, petioles 2–4 cm long; inflorescence terminal panicles branched, racemes, 15–30 cm long; flowers sessile, white; sepals 5, ovate, brownish-white, pubescent; petals 5, white; stamens 2; staminoids 3; filament white; anther brown.

Flowering and Fruiting: January–May.

Occurrence: Found in secondary forest in margin site.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0077* (BUBH), 07.02.2019.

2. *Sabia* Colebr., Trans. Linn. Soc. London 12:355. 1819.

Key to the species

- 1a. Leaves with distinct lateral and intramarginal nerves; petals recurved.....1. *S. lanceolata*
1b. Leaves with inconspicuous nerves; petals not recurved.....2. *S. limoniacea*

1. *Sabia lanceolata* Colebr. in Trans. Linn. Soc. London 12:355. 1819; Hook.f., Fl. Brit. India. 2:2. 1876; Knajilal *et al.*, Fl. Assam 1(2):325. 1936. (Plate 60D).

Liana or scandent shrub; leaves alternate, elliptic-oblong to lanceolate, 8–16 × 4–7 cm, margin entire, acute to acuminate at apex, base subcordate; lateral veins 6–8 pairs, connected with intramarginal nerves; petiole 5–10 mm long; inflorescence axillary, paniced cymes; sepals 5, ovate, acute at apex; petals 5, ovate, pale green; stamens 5; filaments flattened; fruits obovoid, blue.

Flowering and Fruiting: October–February.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0675* (BUBH), 19.11.2021.

2. *Sabia limoniacea* Wall. ex Hook.f. and Thmson in Fl. Ind. 1:210. 1855; Hook.f., Fl. Brit. India. 2:3. 1876; Knajilal *et al.*, Fl. Assam 1(2):326. 1936.

Liana, evergreen; leaves alternate, oblong-elliptic, 8–13 × 4–5 cm, margin entire, acute to acuminate at apex, base cuneate or rounded, coriaceous; lateral nerves 5–6 pairs; petiole 1–2 cm long; inflorescence axillary, cymes, 6–13 cm long; flowers 5-merous, fragrant; sepals ovate; petals greenish-white to pale green, rounded at apex; stamens 5; fruits suborbicular, pinkish-red.

Flowering and Fruiting: October–March.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0676* (BUBH), 19.11.2021.

33. PROTEACEAE Juss., Gen. Pl. 78. 1789.

About 2 genera and 7 species in India; 2 genera and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Grevillea* Br. ex Knight, Cult. Prot. 120. 1809.

1. *Grevillea robusta* Cunn. ex Br. Prodr. Fl. Nov. Holl.-Suppl. 1. 1830; Kanjilal *et al.*, Fl. Assam 4:107.1940.

Tree, to 30 m tall; leaves compound, alternate, 20–25 cm long, petiole 3–5 cm long; leaflets 7–9 × 1–2 cm, margin cleft or divided, acute at apex, silvery beneath; inflorescence raceme, axillary, to 15 cm long; flowers solitary or clustered; pedicel red; petals 4, bent at middle, lower part red, upper part yellow; stamens 4, sessile, yellow.

Flowering and Fruiting: April–December.

Occurrence: Found as planted.

Distribution: INDIA (Introduced), AUSTRALIA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0039* (BUBH), 11.05.2018.

34. DILLENACEAE Salisb., Parad. Lond. 2:ad t. 73. 1807.

About 3 genera and 12 species in India; 2 genera and 5 species in Assam; 2 genera and 3 species recorded from the study area.

Key to the genera

- 1a. Tree.....1. *Dillenia*
1b. Liana.....2. *Tetracera*

1. *Dillenia* L., Sp. Pl. 1:535. 1753.

Key to the species

- 1a. Evergreen; petals white.....1. *D. indica*
1b. Deciduous; petals yellow.....2. *D. pentagyna*

1. *Dillenia indica* L., Sp. Pl. 1:535. 1753; Hook.f., Fl. Brit. India. 1:36. 1872; Brandis, Ind. Trees 3. 1906 ; Kanjilal *et al.*, Fl. Assam 1(1):10. 1934; Balakr., Fl. Jowai 1:58. 1981; Deb, Fl. Tripura 1:101. 1981; Harid. and R. R. Rao, Forest Fl. Meghalaya 1:52. 1985.

Vern. name: Thaigir (Bodo).

Tree, to 20 m tall; stem buttress at base; leaves elliptic-oblongate, 12–20 × 6–10 cm, margin serrate, acute at apex, base cuneate, glabrous above, pubescent beneath; lateral nerves 15–24 pairs; petioles 2–3 cm long; flowers 5–8 cm in diam.; sepals accrescent, glabrous, green, persistent; petals obovate, white, glabrous; stamens numerous, yellowish-brown; styles many, white; fruits 7–10 cm in diam..

Flowering and Fruiting: March–August.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINAMYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0409* (BUBH), 13.04.2020.

Uses: Calyx of fruits is eaten raw or cooked as vegetables.

2. *Dillenia pentagyna* Roxb., Pl. Corom. 1:21.t.20. 1795; Hook.f. and Thomson in Hook.f., Fl. Brit. India.1:38 .1872; Brandis, Ind. Trees 4. 1906; Kanjilal *et al.*, Fl. Assam 1(1):11. 1934; Deb, Fl. Tripura 1:102. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:53. 1985. (Plate 23C).

Vern. name: Oxi (Bodo).

Tree, deciduous, to 20 m tall; leaves spirally arranged, oblong-oblong, 30–50 × 12–18 cm, margin serrate, acute or acuminate at apex, base tapering, pubescent beneath; lateral nerves 20–30 pairs; petioles 1–1.5 cm long. Inflorescence axillary, fascicles cymes, arising from leafless branches; flowers 1.5–2 cm across; pedicels 3–5 cm long, pink; sepals ovate, acute at apex; petals obovate, yellow; stamens many, yellow; fruits 1.5–2.5 cm in diam., oblong.

Flowering and Fruiting: March–August.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0410* (BUBH), 08.04.2022.

Uses: Fruits are edible.

2. *Tetracera* L., Sp. Pl. 1:533. 1753.

1. *Tetracera sarmentosa* (L) Vahl., Symb. Bot. 3:70. 1794; Harid. and Rao, Forest Fl. Meghalaya 1:54. 1985; Majumdar in Sharma *et al.*, Fl. India 1:159. 1993. *Delima sarmentosa* L., Herb. Amb. 18. 1754; Hook. f. and Thoms. in Hook.f., Fl. Brit. India 1:31. 1872; Kanjilal *et al.*, Fl. Assam 1:10. 1934. (Plate 23D).

Vern. name: Thagir bendwng (Bodo).

Liana; stem very hard; leaves alternate, elliptic-oblong, 5–12 × 4–6 cm, apex acuminate, base cuneate, margin distantly serrate or serrulate, lamina scabrous both side, lateral nerves 14–17 pairs; petiole sparsely pubescent, 1–2 cm long; inflorescence panicle, terminal; flowers white; sepals curved backwards; petals obovate, pubescent; ovary pinkish-red, tapering in apex with persistent style; follicles 1-seeded; seeds arillate.

Flowering and Fruiting: June–February.

Occurrence: Found in semi-evergreen forest, often found in streams bank of scrub forest.

Distribution: INDIA (Andaman Island, Northeast India), BANGLADESH, CAMBODIA, CHINA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0411* (BUBH), 12.07.2019.

35. VITACEAE Juss., Gen. Pl. 267. 1789.

About 11 genera and 109 species in India; 6 genera and 28 species in Assam; 4 genera and 6 species recorded from the study area.

Key to the genera

- 1a. Climbers.....2
- 1b. Shrub or undershrub.....3. *Leea*
- 2a. Leaves palmately compound.....4. *Tetrastigma*
- 2b. Leaves simple.....3
- 3a. Stem, petiole and peduncle with pinkish-red straight hairs.....1. *Ampelocissus*
- 3b. Stem, petiole and peduncle with wooly pubescent.....2. *Cissus*

1. *Ampelocissus* Planch. in Vigne Amér. Vitic. Eur. 8:372. 1884.

1. *Ampelocissus barbata* (Wall.) Planch. in DC., Monogr. Phan. 5:372. 1887; Deb, Fl. Tripura 1:410. 1981; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:309. 1996; Singh in Singh *et al.*, Fl. Mizoram 1:368. 2002. *Vitis barbata* Wall. in Roxb., Fl. Ind. 2:478. 1824; Lawson in Hook.f., Fl. Brit. India 1:651.1875; Kanjilal *et al.*, Fl. Assam 1(2):292. 1936.

Climber; branches of young shoots densely pinkish erect pubescent; leaves ovate-cordate, 20–25 × 15–20 cm, base cordate, acuminate at apex, margin distantly dentate, lamina pubescent beneath; lateral nerves 3–4 pairs; petiole 6–10 cm long; inflorescence paniculate cyme with long reddish-brown tendril; flowers pentamerous, pale yellowish-green; stamens 5, fruits elliptic, 1–2-seeded.

Flowering and Fruiting: June–September.

Occurrence: Found in deciduous forest along the stream side.

Distribution: INDIA (Andaman Island, NE India) BANGLADESH, CAMBODIA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0641* (BUBH), 13.07.2019.

2. *Cissus* L., Sp. Pl. 1:117. 1753.

2. *Cissus repanda* Vahl., Symb. Bot. 3:18. 1794; Deb, Fl. Tripura 1:413. 1981; Bhandari and Bhansali in Singh *et al.*, Fl. India 5:290. 2000. *Vitis repanda* Wight and Am., Prodr. 125.

1834; Lawson in Hook, f., Fl. Brit. India 1:648. 1875; Kanjilal *et al.*, Fl. Assam 1(2): 292. 1936.

Climber, stem surface woolly; leaves opposite, rarely alternate, ovate, 6–8 × 7–9 cm, margin entire or sub-entire, apex acute, base cordate, sparsely woolly on juvenile; lateral nerves 5–7 pairs; inflorescence paniculate cyme, branched, 6–9 cm long; calyx 5, connate at base, falls early; stamens 5; fruits ellipsoid, 3–5 mm across.

Flowering and Fruiting: April–November.

Occurrence: Found in secondary forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0032* (BUBH), 03.05.2018.

3. *Leea* Royen in L., Mant. Pl. 124. 1767.

Key to the species

- 1a. Leaves pinnately compound.....1. *L. alata*
- 1b. Leaves palmately compound, 3-foliolate.....2. *L. compactiflora*

1. *Leea alata* Edgew. in Trans. Linn. Soc. London 20(1):36. 1846; Lawson in Hook.f., Fl. Brit. India 1:665. 1875; Brandis, Ind. Trees 179. 1906; Kanjilal *et al.*, Fl. Assam 1(2):303. 1936; Harid. and Rao, Forest Fl. Meghalaya 1:248. 1985; Naithani in Singh *et al.*, Fl. India 5:328. 2000.

Shrub, to 2 m tall; leaves odd pinnate, petiole 12–17 cm long; leaflets opposite, elliptic or ovate, 5–6 × 15–27 cm, margin serrate, apex acuminate, base round, lamina glabrous both side; lateral nerves 9–11 pairs; petiolule 0.5–2.5 cm long; inflorescence umbel, 10–15 cm long; peduncle branched, red; calyx 5-lobed, red; corolla 5-lobed, apex acute, reddish-yellow; stamens yellow; ovary orbicular, yellow.

Flowering and Fruiting: May–November.

Occurrence: Found as undergrowth in semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BHUTAN, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0044* (BUBH), 24.05.2018.

2. *Leea compactiflora* Kurz in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42(2):65. 1873. *L. trifoliata* Lawson in Hook.f., fl, Fl. Brit. India 1:666. 1875; Kanjilal *et al.*, Fl. Assam 1(2):305. 1936. (Plate 63B).

Undershrub, to 30 cm tall; leaves alternate, 3-foliolate; leaflets elliptic, 5–10 × 3–6 cm, margin serrate, acuminate at apex, base cuneate, glabrous or glabrescent both side; lateral nerves 9–10 pairs; petioles 2–4 cm long, winged above; petiolules 5–15 mm long, grooved; inflorescence axillary cymes, 2–4 cm long; fruits depressed globose, glabrous, green.

Flowering and Fruiting: May–December.

Occurrence: Found in floors of dense semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0208 (BUBH), 12.10.2020.

4. *Tetrastigma* (Miq.) Planch. in DC. and DC., Monogr. Phan. 5:423. 1887.

Key to the species

1a. Leaves 3-foliolate.....1. *T. angustifolium*

1b. Leaves 5–7-foliolate.....2. *T. leucastaphylum*

1. *Tetrastigma angustifolium* Planch. in DC. and DC., Monogr. Phan. 5:439. 1887; Deb, Fl. Tripura 1:416. 1981. *T. thomsonianum* Harid. and Rao, For. Fl. Meghalaya 1:247. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl. Arunachal Pradesh 1:316. 1996. *Vitis angustifolia* Lawson in Hook.f., Fl. Brit. India 1:654. 1872; Kanjilal *et al.*, Fl. Assam 1(2):297. 1936.

Vern. name: Dwosrem (Bodo).

Climber; tendrils arising from node; leaves 3-foliolate, reddish on juvenile; leaflets elliptic, 4–5 × 11–12 cm, margin serrate, apex acute; lateral nerves 5–7 pairs; petiole 4–5 cm long; inflorescence axillary, cyme, umbel, 4 cm across; female flower 4 mm across; pedicel 3 mm long; petals 4 or 5, white, sparsely pubescent; ovary glabrous; stigma green.

Flowering and Fruiting: September–December.

Occurrence: Found in secondary forest, also seen to grow at home.

Distribution: INDIA (NE India), BANGLADESH, MYANMAR, INDONESIA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0058* (BUBH), 18.09.2018.

Uses: Juvenile leaves used as vegetable.

2. *Tetrastigma leucostaphylum* (Dennst.) Alston ex Medd. in *Taxon* 26: 539. 1977; Harid. and Rao, *Forest Fl. Meghalaya* 1:245. 1985; Chowdhery *et al.* in Hajra *et al.*, *Materials for Fl. Arunachal Pradesh* 1:314. 1996. *Cissus leucostaphyla* Dennst., *Schlüssel Hortus Malab.* 17, 33. 1818. *Vitis lanceolaria* Lawson in Hook.f., *Fl. Brit. India* 1:660. 1875; Kanjilal *et al.*, *Fl. Assam* 1: 300. 1936. (Plate 63C).

Vern. name: Sewari Gota (Bodo).

Climber; stems flattened when matured and warty; leaves alternate, 5–7-foliolate; petiole 8–12 cm long; leaflets elliptic or elliptic-lanceolate, 6–12 × 3–5 cm, margin serrate, apex acuminate, base cuneate; petiolule 1–3 cm long; lateral nerves 5–7 pairs; tendrils leaf opposed; inflorescence axillary cyme, branched, to 5 cm across; female flower 2 mm in diam.; sepals 4, margin entire, apex acute, green, sparsely pubescent; stigma beak, green; fruits globose, 1–1.5 cm across, smooth.

Flowering and Fruiting: September–August.

Occurrence: Found in semi-evergreen forest in humid places along streams.

Distribution: INDIA (Assam, Meghalaya, Andhra Pradesh, Karnataka, Tamil Nadu, Kerala), BANGLADESH, CAMBODIA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0640* (BUBH), 30.11.2018.

Uses: Juvenile leaves used as vegetable. Ripened fruits are edible and sour in taste.

36. FABACEAE Lindl., *Intr. Nat. Syst. Bot.*, ed. 2:148. 1836.

About 173 genera and 1192 species in India; 72 genera and 274 species in Assam; 27 genera and 36 species recorded from the study area.

Key to the genera

- 1a. Plants prickly.....2
- 1b. Plants without prickles.....4
- 2a. Inflorescence pedunculate racemes.....15. *Mezoneuron*
- 2b. Inflorescence globose.....3
- 3a. Decumbent spreading undershrub.....17. *Mimosa*
- 3b. Scandent shrub or tree.....22. *Senegalia*

4a. Tendrils present.....	27. <i>Vicia</i>
4b. Tendrils absent.....	5
5a. Leaves simple.....	6
5b. Leaves compound (except <i>Crotalaria spectabilis</i> , <i>Flemingia stobilifera</i>).....	7
6a. Leaf apex bilobed.....	3. <i>Bauhinia</i>
6b. Leaf apex obtuse, not bilobed.....	1. <i>Acacia</i>
7a. Leaves biparipinnate.....	8
7b. Leaves simple pinnate or palmately compound.....	10
8a. Inflorescence corymbose raceme; flowers 5–7 cm across, red.....	10. <i>Delonix</i>
8b. Inflorescence corumbose cyme; flowers minute, less than 6 mm across.....	9
9a. Legume septate between seeds, thick.....	20. <i>Samanea</i>
9b. Legume not septate between seeds, thin.....	2. <i>Albizia</i>
10a. Calyx bristly glandular hairs outside.....	24. <i>Smithia</i>
10b. Calyx without bristly glandular hairs.....	11
11a. Leaves simple pinnate.....	12
11b. Leaves 3-foliolate.....	19
12a. Leaflets alternate.....	9. <i>Dalbergia</i>
12b. Leaflets opposite.....	13
13a. Trees.....	14
13b. Herbs, shrubs or scandent shrubs.....	17
14a. Inflorescence corymbose cyme, head.....	21. <i>Saraca</i>
14b. Inflorescence pedunculate cyme or raceme; not head.....	15
15a. Inflorescence drooping; petals yellow.....	6. <i>Cassia</i>
15b. Inflorescence not drooping; petals white or pale violet.....	16
16a. Leaflets 5 or 7.....	19. <i>Pongamia</i>
16b. Leaflets more than 10.....	4. <i>Brachypterum</i>
17a. Woody herb.....	23. <i>Senna</i>
17b. Shrubs or scandent shrubs.....	18
18a. Scandent shrub.....	16. <i>Millettia</i>
18b. Erect shrub.....	26. <i>Tephrosia</i>
19a. Trees.....	20

19b. Herbs or shrubs.....	21
20a. Stem with prickles.....	11. <i>Erythrina</i>
20b. Stem without prickles.....	5. <i>Butea</i>
21a. Leaflets almost equal in size.....	12. <i>Flemingia</i>
21b. Lateral leaflets slightly smaller or much smaller than terminal.....	22
22a. Lateral leaflets much smaller or reduced than terminal leaflets.....	7. <i>Codariocalyx</i>
22b. Lateral leaflets slightly smaller than terminal leaflets.....	23
23a. Leaflets retuse or rounded at apex.....	24
23b. Leaflets acuminate or acute at apex.....	26
24a. Flowers enclosed by leafy bracts.....	18. <i>Phyllodium</i>
24b. Flowers not enclosed by bracts.....	25
25a. Inflorescence 15–40 cm long.....	8. <i>Crotalaria</i>
25b. Inflorescence below 10 cm long.....	13. <i>Grona</i>
26a. Flowers pink; pods 2–3 jointed.....	14. <i>Hylodesmum</i>
26b. Flowers pale purple or pale yellow; pods 6–8 jointed.....	25. <i>Sohmaea</i>

1. *Acacia* Mill., Gard. Dict. Abr. ed. 4:1:25. 1754.

1. *Acacia auriculiformis* Cun. ex Benth. in London J. Bot. 1:377. 1842; Sen and Naskar in Bull. Bot. Surv. India 7:31. 1868; Sanjappa, Legumes of India 45. 1991; Chakrabarthy and Gangopadhyay in J. Econ. Tax. Bot. 20:603. 1996.

Tree, to 15 m tall; phyllodes oblong-lanceolate, 10–12 × 2–4 cm, margin entire, apex obtuse with minute outgrowth, base narrowed; petiole 5 mm long; inflorescence axillary spike, 4–6 cm long, yellow; flower sessile, yellow; corolla 5-lobed; lobe bent downward outside, yellow; stamens numerous, yellow; gynoeceium yellow.

Flowering and Fruiting: August–February.

Occurrence: Found in roadside as planted.

Distribution: INDIA (Introduced), AUSTRALIA, NEW GUINEA.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0059 (BUBH), 10.12.2018.

2. *Albizia* Durazz. in Mag. Tosc. 3(4):11. 1772.

Key to the species

1a. Leaflets acuminate at apex.....	2. <i>A. lucidior</i>
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- 1b. Leaflets rounded or retuse at apex.....2
 2a. Flowers sessile.....3. *A. procera*
 2b. Flowers pedicellate..... 1. *A. lebbeck*

1. *Albizia lebbeck* (L.) Benth. in London J. Bot. 3:87. 1844; Baker in Hook.f., Fl. Brit. India 2:298. 1878; Kanjilal *et al.*, Fl. Assam 2:165. 1934; Deb, Fl. Tripura 1:130. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:333. 1985. *Mimosa lebbeck* L., Sp. Pl. 516. 1753.

Vern. name: Siris (Bodo).

Tree, to 10 m tall; bark grey; leaves alternate, biparipinnate; petioles 3–5 cm long; rhachis 10–18 cm long; pinnae 4–6 pairs; leaflets 7–9 pairs, opposite, oblong, 3–6 × 2–2.5 cm, margin entire, obtuse or rounded at apex, base cuneate, pubescent beneath; lateral nerves inconspicuous; inflorescence terminal, pedunculate head; corolla funnel-shaped, whitish; stamens many; filaments pale yellowish-green; pods oblong, flat, 10–15 cm long.

Flowering and Fruiting: July–October.

Occurrence: Found in roadsides.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0459* (BUBH), 22.07.2019.

2. *Albizia lucida* (Jacques) Benth. in London J. Bot. 3:86. 1844; Baker in Hook.f., Fl. Brit. India 2:299. 1878; Kanjilal *et al.*, Fl. Assam 2:162. 1939; Deb, Fl. Tripura 1:130. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:334. 1985. *Acacia lucida* Jacques in Ann. Fl. Pomone 6:72. 1837. *Mimosa lucida* Roxb., Fl. Ind. 2:544. 1832.

Tree, to 12 m tall; bark dark grey; leaves alternate, biparipinnate; peduncle 2–4 cm long; rhachis about 4 cm long; petioles 1–3 cm long; pinnae 1–2 pairs; leaflets 2–3 pairs, opposite, elliptic-lanceolate, 4–8 × 2–4 cm, margin entire, acuminate at the apex, base cuneate; lateral nerves 4–6 pairs; inflorescence terminal, corymbose, head; calyx and corolla puberulent; pods oblong, 8–14 cm long, flat, tapering both ends.

Flowering and Fruiting: June–October.

Occurrence: Found in roadsides or in forests margins.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, TAIWAN, THAILAND, VIETNAM.
Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0460* (BUBH), 12.08.2021.

3. *Albizia procera* (Roxb.) Benth., J. Bot. 3:89. 1844; Baker in Hook.f., Fl. Brit. India 2:299. 1878; Kanjilal *et al.*, Fl. Assam 2:163. 1939; Deb, Fl. Tripura 1:131. 1981; Harid. and. Rao, Forest Fl. Meghalaya 1:336. 1985. *Mimosa procera* Roxb., Pl. Corom. 2:12.t.121. 1798.
Vern. name: Laokri (Bodo).

Tree, to 20 m tall; bark yellowish-grey; leaves alternate, biparipinnate; peduncles 5–10 cm long; rhachis 15–25 cm long; pinnae 3–6 pairs; leaflets opposite, 5–9 pairs, ovate-oblong or rhomboid, 2–3 × 1–2 cm, margin entire, broadly acute at apex, base oblique-cuneate, glabrous above, pubescent beneath; lateral nerves 5–7 pairs; petiolules 2–3 mm long; inflorescence terminal or axillary, paniced racemes; flowers in head, yellowish-white; pods oblong, 10–15 cm long; flat, brown.

Flowering and Fruiting: June–September.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0461* (BUBH), 26.07.2019.

3. *Bauhinia* L., Sp. Pl. 1:374. 1753.

1. *Bauhinia purpurea* L., Sp. Pl. 1:375. 1753; Baker in Hook. F., Fl. Brit. India 2:284. 1878; Brandis, Ind. Trees 528. 1906; Kanjiial *et al.*, Fl. Assam 2:141. 1939; Deb, Fl. Tripura 1:113. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:316. 1985.

Tree, to 8 m tall; bark grey; leaves alternate, oblong, 5–10 × 5–8 cm, margin entire, bilobed at apex; base cordate, sparsely pubescent beneath; basal nerves 6–8; petioles 3–5 cm long; inflorescence terminal, corymbose, racemes; flowers buds 5-angled; calyx green; petals oblanceolate, 4–5 cm long, purple; stamens 3; pods, flattened, 10–18 cm long.

Flowering and Fruiting: October–February.

Occurrence: Found in roadsides of forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, INDIA, MYANMAR, NEPAL, PAKISTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0216* (BUBH), 05.11.2020.

4. *Brachypterum* (Wight and Arn.) Benth., Ann. Wiener Mus. Naturgesch. 2:101. 1838.

1. *Brachypterum robustum* Dalzell and Gibson, Bombay Fl. 77. 1861. *Derris robusta* Baker in Hook.f., Fl. Brit. India 2:241. 1878; Kanjilal *et al.*, Fl. Assam 2:111. 1938; Deb, Fl. Tripura 1:159. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:293. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:360. 1996. (Plate 26F).

Trees, to 10 m tall, deciduous; leaves imparipinnate, 11–21-foliolate; rachis 7–10 cm long; leaflet oblong-obovate, 2.5–4 × 1.5–2 cm, margin entire, rounded to mucronate at apex, base oblique cuneate; lateral nerves 4–5 pairs, inconspicuous; inflorescence axillary, racemes, to 12 cm long; pedicel 4–5 mm long, purple; calyx campanulate, 2–4 mm long, teeth minute, purple; petals white; pods flat, oblong, 4–7 cm long.

Flowering and Fruiting: April–July.

Occurrence: Found in roadsides.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, LAOS, MYANMAR, VIETNAM.

Specimen examined: Kokrajhar, Bismuri, *S. Basumatary 0624* (BUBH), 16.04.2019.

5. *Butea* Roxb. ex Willd., Sp. Pl. ed 4, 3:917. 1802.

1. *Butea monosperma* (Lam.) Kuntze, Rev. Gen. Pl. 1:202. 1891; Deb, Fl. Tripura 1:147. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:285. 1985. *B. frondosa* Baker in Hook.f., Fl. Brit. India 2:194. 1876; Brandis, Ind. Trees 230. 1906; Kanjilal *et al.*, Fl. Assam 2:73. 1938. *Erythrina monosperma* Lam. in Lamarck *et al.*, Encycl. 1:391. 1785.

Vern. name: Polas (Bodo).

Tree, to 12 m tall; leaves palmately compound, 3-foliolate; petioles 8–12 cm long; leaflets ovate-rhomboid, 10–15 × 8–12 cm, margin entire, acute at apex, base oblique, rounded, coriaceous, glabrescent above, silky tomentose beneath; lateral nerves 5–6 pairs; petiolules 3–5 mm long; inflorescence axillary paniced cymes; flowers 4–6 cm long; sepals cup-shaped; petals orange-red; pods oblong, flattened, pendulous, tomentose.

Flowering and Fruiting: March–June.

Occurrence: Found in roadsides or in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, SRI LANKA, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0450* (BUBH), 07.03.2021.

6. *Cassia* L., Sp. Pl. 1:376. 1753.

1. *Cassia fistula* L., Sp. Pl. 1:377. 1753; Baker in Hook.f., Fl. Brit. India 2:261. 1878; Brandis, Ind. Trees 253. 1906; Kanjilal *et al.*, Fl. Assam 2:128. 1938; Deb, Fl. Tripura 1:118. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:319. 1985; Sanjappa, Legumes of India 15. 1991.

Vern. name: Sonalu (Bodo).

Tree, deciduous, to 15 m tall; leaves alternate, paripinnate, rarely imparipinnate, 30-40 cm long; petioles 3–6 cm long; leaflets opposite, 4–7 pairs, ovate-elliptic, 6–12 × 3–6 cm, margin entire, acute or acuminate at apex, base cuneate; lateral nerves 9–12 pairs; inflorescence axillary, racemes, drooping; sepals oblong, yellow; petals obovate, yellow; pods 25–40 cm long, cylindrical, black; seeds many, flat, imbedded in dark pulp.

Flowering and Fruiting: March–August.

Occurrence: Found in roadsides as planted.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0457* (BUBH), 17.05.2019.

Uses: Seed pulps of ripe fruits are edible. Roots, barks are used in skin diseases, leprosy, rheumatism, ulcer, high blood pressure (Das *et al.* 2010).

7. *Codariocalyx* Hassk. in Linnaea 15(Litt.):80. 1841.

1. *Codariocalyx motorius* (Houtt.) Ohashi in J. Jap. Bot. 40:367. 1965. *Desmodium motorium* Deb, Fl. Tripura 1:163. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:296. 1985. *D. gyrans* Baker in Hook.f., Fl. Brit. India 2:174. 1876; Kanjilal *et al.*, Fl. Assam 2:58. 1938. *Hedysarum motorium* Houtt., Nat. Hist. 2(10):246. 1779. (Plate 27A).

Undershrubs, to 2 m tall; leaves 3-foliolate, sometimes lateral leaflets reduced to absent; petiole 1–2 cm; terminal leaflet oblong-lanceolate, 5–8 × 1–2 cm, margin entire, obtuse at apex; lateral nerves 9–12 pairs; lateral leaflets very small; inflorescence racemes; calyx 2 mm across, upper lobe 2-toothed at apex; corolla pale white with tinge violet; pods straight or slightly bent, 2–4 cm long, scabrous.

Flowering and Fruiting: March–August.

Occurrence: Found in roadsides as planted.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharrbari, *S. Basumatary 0097* (BUBH), 11.10.2019.

Uses: Whole plant is used in diabetes (Das *et al.* 2010).

8. *Crotalaria* L., Sp. Pl. 2:714. 1753.

Key to the species

- 1a. Leaves simple.....2. *C. spetabilis*
1b. Leaves 3-foliolate.....1. *C. pallida*

1. *Crotalaria pallida* Ait., Hort. Kew 3:20. 1789; Deb, Fl. Tripura 1:153. 1981; Singh in Singh *et al.*, Fl. Mizoram 1:445.t.89. 2002; *C. stricta* DC., Prodr. 2:131. 1825; Baker in Hook.f., Fl. Brit. India 2:84. 1876; Kanjilal *et al.*, Fl. Assam 2:16.1938.

Vern. name: Phisa Gabkho (Bodo).

Perennial herbs, to 2 m tall; branches appressedly pubescent; stipule caduceus; leaves 3-foliolate; leaflet oblong-elliptic, 3–5 × 1–2.5 cm, glabrous above, sparsely pubescent beneath, retuse or rounded at apex; inflorescence raceme, terminal, 15–30 cm long, many flowered; calyx 5-lobed, subcampanulate, pubescent; corolla exserted to calyx, yellow; standard elliptic-orbicular; wings oblong; keel with narrow beak, c. 1 cm; legume oblong, 3–4 × 0.3–0.6 cm, 20–25 seeded.

Flowering and Fruiting: June–September.

Occurrence: Found in roadside or in open forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, MYANMAR, NEPAL, SRI LANKA, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0451* (BUBH), 22.06.2020.

Uses: Paste of root is applied to painful swelling of joints (Teron 2011).

2. *Crotalaria spectabilis* Roth, Nov. Pl. Sp. 341. 1821.

Vern. name: Phisa Gabkho (Bodo).

Erect herbs, to 1.5 m tall; stipules ovate-triangular with pointed apex; leaves alternate, oblanceolate or narrowly elliptic, 6–14 × 2–4 cm, margin entire, apex mucronate, base broadlycuneate; inflorescence terminal raceme, 15–30-flowered; flowers 1–2 cm across; calyx bilipped, 1–1.5 cm, lobes lanceolate, apex acute-acuminate; corolla yellow, standard suborbicular, bilobed, 1.5–2 cm, veined purplish red at middle; keel beak incurved; legume oblong, 2–3 × 0.5–1 cm, 15–25 seeded, glabrous.

Flowering and Fruiting: October–January.

Occurrence: Found as planted.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, EAST HIMALAYA, INDIA, LAOS, MYANMAR, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0355* (BUBH), 24.11.2019.

9. *Dalbergia* L.f., Suppl. Pl. 52. 1782.

Key to the species

- 1a. Scandent shrub.....2. *D. volubilis*
1b. Tree.....1. *D. sissoo*

1. *Dalbergia sissoo* Roxb. ex DC., Prodr. 2:416. 1825; Baker in Hook.f., Fl. Brit. India 2:231. 1876; Brandis, Ind. Trees 233. 1906; Kanjilal *et al.*, Fl. Assam 2:100. 1938; Deb, Fl. Tripura 1:156. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:288. 1985.

Vern. name: Sisu (Bodo).

Tree, deciduous, to 20 m tall; leaves imparipinnate; petioles 2–3 cm long; leaflets generally 5, alternate, sub-orbicular, 3–4 × 2.5–3 cm, margin entire, acuminate at apex, base cuneate; lateral nerves inconspicuous; petiolules 2–4 mm long; inflorescence axillary or terminal short

racemes; flowers sub-sessile; calyx downy; corolla yellowish-white; pods, 4–6 cm long, oblong-elliptic, flat.

Flowering and Fruiting: March–August.

Occurrence: Found in roadsides or in river banks.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BHUTAN, IRAN, MYANMAR, NEPAL, PAKISTAN.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0452* (BUBH), 18.04.2020.

2. *Dalbergia volubilis* Roxb., Pl. Coromandel 2:48. 1805; Baker in Hook.f., Fl. Brit. India 2:235. 1876; Kanjilal *et al.*, Fl. Assam 2:107. 1938; Deb, Fl. Tripura 1:157. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:289. 1985.

Scandent shrub; leaves pinnately compound, 8–10 × 3–5 cm; petiole 1–1.5 cm long; leaflets alternate, 4–6 pairs, oblong-suborbicular, 1.5–2.5 cm long, margin entire, retuse at apex, base rounded; inflorescence terminal, raceme, 10–20 cm long, branched; flowers 6 × 4 mm; calyx 5-lobed, campanulate; corolla purple, keel 2, fused at apex; stamens 10, 9+1; anther yellow; filaments white.

Flowering and Fruiting: February–April.

Occurrence: Found in roadsides of deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0081* (BUBH), 20.02.2019.

10. *Delonix* Raf., Fl. Tellur. 2:92. 1837.

1. *Delonix regia* (Bojer ex Hook.) Raf., Fl. Tellur. 2:92. 1837. *Poinciana regia* Hook. in Bot. Mag. 56:t.2884. 1829; Hook.f., Fl. Brit. India 2:260. 1878; Brandis, Ind. Trees 249. 1906; Deb, Fl. Tripura 1:121. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:321. 1985.

Vern. name: Khrisna Sura (Bodo).

Tree, to 15 m tall; leaves alternate, bipinnate, 20–40 cm long, pinnae 12–18 pairs, 5–8 cm long; petioles 4–7 cm long; leaflets 16–25 pairs, oblong 5 × 2 mm, margin entire, obtuse at apex, base rounded; inflorescence terminal, corymbose racemes; flowers 5-merous; sepals

oblong, pale green; petals obovate, orange-red; pods 30–60 cm long, hard woody, blackish when old; seeds oblong.

Flowering and Fruiting: April–September.

Occurrence: Found as planted.

Distribution: INDIA (Almost throughout the country), MADAGASCAR.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0456 (BUBH), 17.05.2019.

11. *Erythrina* L., Sp. Pl. 2:706. 1753.

1. *Erythrina stricta* Roxb., Fl. Ind. 3:251. 1832; Baker in Hook.f., Fl. Brit. India 2:189. 1876; Kanjilal *et al.*, Fl. Assam 2:70. 1938; Harid. and Rao, Forest Fl. Meghalaya 1:301.1985.

Vern. name: Mandhar (Bodo).

Tree, deciduous, to 15 m tall; branches prickly; leaves alternate, 3-foliolate; petioles 4–8 cm long; leaflets rhomboid-orbicular, 6–10 × 4–7 cm, margin entire, acuminate at apex, base rounded, suboblique in lateral leaflets, puberulous beneath; basal nerves 3, lateral nerves 3–4 pairs; inflorescence axillary, racemes, arising from leafless branches; calyx annular, oblique; petals oblong lanceolate, red; pods spindle-shaped, pendulous.

Flowering and Fruiting: March–June.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0453 (BUBH), 07.03.2021.

12. *Flemingia* Roxb. ex Aiton, Hortus Kew. 4:349. 1812.

Key to the species

1a. Leaves simple; bracts foliaceous.....2. *F. strobilifera*

1b. Leaves 3-foliolate; bracts not foliaceous.....1. *F. stricta*

1. *Flemingia stricta* Roxb., Fl. Ind. 3:340. 1832; Baker in Hook.f., Fl. Brit. India 2:228. 1876; Kanjilal *et al.*, Fl. Assam 2:89. 1938; Deb, Fl. Tripura 1:177. 1981. (Plate 27B).

Vern. name: Dangshu-khop (Bodo).

Shrub, to 3 m tall; leaves alternate, palmately compound, 3-foliolate; petioles 7–10 cm long; leaflets oblong-elliptic, 10–15 × 4–6 cm, margin entire, acuminate at apex, base suboblique or cuneate, sparsely pubescent beneath; lateral nerves 9–13 pairs; petiolules 2–3 mm long, pubescent; inflorescence axillary or terminal, raceme, to 12 cm long; calyx 5-lobed, unequal, brownish, densely pubescent; corolla pale yellow with dark to pale pink stripes; fruits a pod, oblong-oblique, 1.5 cm long, pubescent, 2-seeded.

Flowering and Fruiting: October–February.

Occurrence: Found in mixed deciduous forests undergrowth.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0235* (BUBH), 20.11.2020.

2. *Flemingia strobilifera* (L.) Aiton, Hort. Kew. ed. 2, 4:350. 1812; Baker in Hook.f., Fl. Brit. India. 2:227. 1876; Brandis, Ind. Trees 231. 1906; Kanjilal *et al.*, Fl. Assam 2:88. 1938; Balakr., Fl. Jowai 1:165. 1981; Deb, Fl. Tripura 1:177. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:303. 1985. (Plate 27C).

Shrub, to 3 m tall; leaves alternate, ovate-oblong, 6–12 × 3–5 cm, margin entire, acuminate at apex, base rounded, sparsely pubescent above; petioles 1–1.5 cm long; stipules 8–10 mm long, caduceous; inflorescence axillary and terminal, racemes; bracts large, broad, brown when old; calyx linear, 4–6 mm long; corolla brownish.

Flowering and Fruiting: February–July.

Occurrence: Found in semi-evergreen forests along roadsides.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0303* (BUBH), 10.03.2021.

13. *Grona* Lour., Fl. Cochinch. 459. 1790.

1. *Grona heterocarpos* (L.) Oshahi and Oshahi in J. Jap. Bot. 93(2):112. 2018. *Desmodium heterocarpon* (L.) DC., Prodr. 2:337. 1825; Deb, Fl. Tripura 1:162. 1981 ; Harid. and Rao, Forest Fl. Meghalaya 1:295. 1985. *D. polycarpum* Baker in Hook.f., Fl. Brit. India 2:171. 1878; Kanjilal *et al.*, Fl. Assam 2:54. 1938. *Hedysarum heterocarpon* L., Sp. Pl. 2:747. 1753.

Shrubs or Undershrub, 30–100 cm tall; leaves alternate, 3-foliolate; petioles 3–4 cm long; stipules lanceolate, brown when old; leaflets elliptic or oblong, 3–5 × 1.5–2.5 cm, margin entire, obtuse at apex, base rounded, glabrous above, pubescent beneath; lateral nerves 5–6 pairs; petiolules 2–5 mm long; inflorescence terminal and axillary, 4–8 cm long, racemes; calyx green, glabrous; corolla purple; pods, 5–8 jointed.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides or in open places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0177* (BUBH), 10.10.2020.

14. *Hylodesmum* Oshahi and Mill in *Edinburgh J. Bot.* 57(2):173. 2000.

1. *Hylodesmum laxum* (DC.) Oshahi and Mill in *Edinburgh J. Bot.* 57(2):178. 2000. *Desmodium laxum* DC. in *Ann. Sci. Nat.* 4:102. 1825. *D. podocarpum* var. *laxum* Baker in Hook.f., *Fl. Brit. India* 2:165. 1876. *D. laxum* Kanjilal *et al.*, *Fl. Assam* 2:52. 1938. (Plate 27D).

Underhrub, to 50 cm tall; leaflets elliptic-lanceolate, 6–11 × 3–6 cm, margin entire, acuminate at apex, base cuneate, puberulous both sides; lateral nerves 4–8 pairs; stipules narrowly triangular, 7–10 mm long; petioles 8–9 cm long, with scabrous hairs; petiolules 3–5 mm long; inflorescence pseudo-racemes; calyx with equal lobes, persistent; corolla white or pale rose; standard broadly obovate, emarginated at apex; pods 2–3 jointed, asymmetrical.

Flowering and Fruiting: March–August.

Occurrence: Found semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BHUTAN, BORNEO, CHINA, LAOS, NEPAL, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0191* (BUBH), 10.03.2020.

15. *Mezoneuron* Desf. in *Mém. Mus. Hist. Nat.* 4:245. 1818.

1. *Mezoneuron cucullatum* (Roxb.) Wight and Arn. in *Prodr. Fl. Ind. Orient.* 1:283. 1834. *Caesalpinia cucullata* Roxb., *Fl. Ind.* 2:358. 1832.

Scandent shrubs, 4–6 m tall; prickly; leaves bipinnate; petiole to 7 cm long; rachis to 30 cm long; leaflets 5 pairs, opposite or sub-opposite, elliptic, 4–6 × 2.5–3 cm, margin entire, apex acute, base cuneate; lateral nerves 4–5 pairs; inflorescence pedunculate raceme, branched at base; calyx 5-lobed, pubescent; corolla 5, light yellow; stamens 10; anther brown, bilobed.

Flowering and Fruiting: November–March.

Occurrence: Found in open or in scrub forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0063* (BUBH), 30.02.2018.

16. *Millettia* Wight and Arn., Prodr. Fl. Ind. Orient. 1:263. 1834.

1. *Millettia extensa* (Benth.) Benth. ex Baker in Hook.f., Fl. Brit. India 2:109. 1876. *M. auriculata* Baker in Hook.f., Fl. Brit. India 2:108.1876; Kanjilal *et al.*, Fl. Assam 2:29. 1938. *Otosema extensa* Benth. in Miquel, Pl. Jungh. 2:249. 1852.

Vern. name: Hololoka Bendwng (Bodo).

Lianas, scandent; leaves imparipinnate; leaflets 7 or 9, obovate, 5–8 × 4–6 cm, margin entire, acuminate at apex, attenuate at base, silky both side; lateral nerves 10–13 pairs; petiolules 3–6 mm long; inflorescence axillary raceme, 10–20 cm long; flowers 2–4 mm long; calyx campanulate; corolla white, bilabiate; pods brownish-yellow, 8–10 × 1.5–2 cm, hard, 2–4-seeded.

Flowering and Fruiting: April–August.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0666* (BUBH), 16.04.2019.

17. *Mimosa* L., Sp. Pl. 1:516. 1753.

1. *Mimosa pudica* L., Sp. Pl. 1:518. 1753; Baker in Hook.f., Fl. Brit. India 2:159. 1879; Kanjilal *et al.*, Fl. Assam 2:152. 1938; Deb, Fl. Tripura 1:133. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:340.1985.

Undershrubs, sharp spiny; leaves pinnately compound, in pairs, sensitive; petioles 2–3.5 cm long, bristly, reddish-brown; stipules linear-lanceolate; leaflets 10–14 pairs, linear-oblong, 5–10 mm long, margin entire, acute at apex, base obtuse; petiolules reduced, 1–2 mm long; inflorescence head, axillary; flowers with linear reddish petals; stamens 4 in each flower; filament pale pinkish-white; anthers pale yellow; pods soft spiny, jointed.

Flowering and Fruiting: August–January.

Occurrence: Found in open forests.

Distribution: INDIA (Introduced), BRAZIL, COLOMBIA, JAMAICA, MEXICO.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0407 (BUBH), 18.08.2019.

Uses: Whole plant is used against boils, cuts, bleeding, wounds, jaundice.

18. *Phyllodium* Desv. in J. Bot. Agris. 1:123. 1813.

1. *Phyllodium pulchellum* (L.) Desv. in Mém. Soc. Linn. Paris 4:324. 1826. *Desmodium pulchellum* (L.) Benth., Fl. Hongkong 83. 1861; Baker in Hook.f., Fl. Brit. India 2:162. 1876; Kanjilal *et al.*, Fl. Assam 2:47. 1938; Deb, Fl. Tripura 1:164. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:297. 1985. *Hedysarum pulchellum* L., Sp. Pl. 2:747. 1753. (Plate 27E).

Undershrub, to 1 m tall; leaves alternate, 3-foliolate; stipules triangular-lanceolate, pubescent; petioles 1.5–2 cm long; leaflets oblong-elliptic, 3–8 × 2–5 cm, margin subentire, obtuse at apex; lateral nerves 5–8 pairs; petiolules 2–4 mm long; inflorescence terminal and axillary, racemes; flowers 2–4 in a point of rachis; bracts leafy, oblong-rounded, distinct nerved; calyx hairy, corolla white; pods 2-jointed, margin densely hairy, distinct bent tail at apex.

Flowering and Fruiting: September–February.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0096 (BUBH), 29.09.2019.

19. *Pongamia* Adans., Fam. Pl. 2:322. 1763.

1. *Pongamia pinnata* (L.) Pierre, Fl. Forest Cochinch, sub. t. 385. 1899; Deb, Fl. Tripura 1:180. 1981. *P. glabra* Baker in Hook.f., Fl. Brit. India 2:239. 1878; Kanjilal *et al.*, Fl. Assam 2:109. 1938. *Cytisus pinnatus* L., Sp. Pl. 2:741. 1753.

Vern. name: Khorangso (Bodo).

Tree, evergreen, to 10 m tall; leaves alternate, compound; petioles 3–5 cm long; leaflets ovate-elliptic, 5–8 × 3–6 cm, lateral leaflets opposite, margin entire, acuminate at apex, base obtuse, glabrescent beneath; lateral nerves 5–6 pairs; petiolules 4–6 mm long; inflorescence axillary, racemes; calyx brownish-red, unlobed or sublobed; corolla purplish-white; pods, flattened, 3.5–5 cm long, indehiscent; seeds 1–2.

Flowering and Fruiting: April–August.

Occurrence: Found in roadsides as planted.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CHINA, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0454* (BUBH), 17.05.2019.

20. *Samanea* (Benth.) Merr. in J. Washington Acad. Sci. 6:46. 1916.

1. *Samanea saman* (Jacq.) Merr. in J. Wash. Acad. Sci. 6(2):47. 1916; Deb, Fl. Tripura 1:137. 1981; Haridasan and Rao, Forest Fl. Meghalaya 1:342. 1985. *Enterolobium saman* Kanjilal *et al.*, Fl. Assam 2:175. 1938. *Mimosa saman* Jacq., Fragm. Bot. 15. 1800.

Vern. name: Okha Biphang (Bodo).

Trees, to 20 m tall; leaves alternate, biparipinnate; petioles 4–6 cm long; pinnae 4–6 pairs; leaflets 5–8 pairs, opposite, obovate-oblique, 3–4 × 1.5–2 cm, obtuse or broadly acute at apex, oblique-cuneate at base; inflorescence terminal, short panicles heads; calyx pubescent; corolla pale yellowish-pink; stamens many; pods linear-oblong, 12–16 cm long, dark brownish-black when old.

Flowering and Fruiting: June–September.

Occurrence: Found in roadsides of forests.

Distribution: INDIA (Introduced), COLOMBIA, COSTA RICA, ECUADOR, NICARAGUA, VENEZUELA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0462* (BUBH), 08.08.2019.

21. *Saraca* L., Mant. Pl. 13. 1767.

1. *Saraca asoca* (Roxb.) Wilde in Blumea 15(2):393. 1968; Deb, Fl. Tripura 1:123. 1981 ; Harid. and Rao, Forest Fl. Meghalaya 1:325.1985. *S. indica* auct. non Baker in Hook.f., Fl.

Brit. India 2:271. 1878; Kanjilal *et al.*, Fl. Assam 2:136.1938. *Jonesia asoca* Roxb. in Asiat. Res. 4:355. 1795. (Plate 27F).

Vern. name: Oshok Biphang (Bodo).

Tree, to 8 m tall; leaves paripinnate; leaflets 4–6 pairs, oblong-lanceolate, 5–10 × 2.5–3.5 cm, margin entire, acuminate at apex, base cuneate to rounded, coriaceous; lateral nerves 9–12 pairs; petiolules 3–5 mm long; inflorescence corymbose cymes; flowers bisexual; sepals 4, yellow, scarlet when old; stamens 4–8; pods oblong, 10–15 cm long.

Flowering and Fruiting: March–July.

Occurrence: Found as planted.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, MYANMAR, NEPAL, SRI LANKA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0378* (BUBH), 04.04.2021.

Uses: Barks, seeds and flowers are used against leucorrhoea, piles, heart trouble, blood dysentery, diabetes (Das *et al.* 2010).

22. *Senegalia* Raf., Sylva Tellur. 119. 1839.

Key to the species

- 1a. Scandent shrub.....2. *S. gageana*
1b. Tree.....1. *S. catechu*

1. *Senegalia catechu* (L.f.) Hurter and Mabb., Mabblerley's Pl.-Book 1021. 2008. *Acacia catechu* Willd., Sp. Pl. 4:1079. 1806; Baker in Hook.f., Fl. Brit. India 2:295. 1878; Kanjilal *et al.*, Fl. Assam 2:154. 1938; *Mimosa catechu* L.f., Suppl. Pl. 439. 1781.

Vern. name: Khwiri (Bodo).

Tree, to 15 m tall, prickly; leaves alternate, bipinnate; peduncle 3–5 cm long; prickles recurved; leaflets on the secondary rachis, 12–18 pairs, linear-oblong, 6–10 × 2–3 mm, margin entire, obtuse at apex, cuneate at base; lateral nerves inconspicuous; petiolules 1–2 mm long; inflorescence axillary, haed, yellow; pods oblong, 10–15 cm long, dark brown.

Flowering and Fruiting: September–January.

Occurrence: Found in riverine forests in sandy-pebbles soils.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, PAKISTAN, THAILAND.

Specimen examined: Kokrajhar, Khalasi, *S. Basumatary 0458* (BUBH), 11.10.2019.

2. *Senegalia gageana* (Craib) Maslin, Seigler and Ebinger in *Blumea* 58(1):40. 2013. *Acacia gageana* Craib in Bull. Misc. Inform. Kew 10:409. 1915; Kanjilal *et al.*, Fl. Assam 2:157. 1938. *Acacia gageana* Craib in Bull. Misc. Inform. Kew 10:409. 1915.

Scandent shrub, prickly; prickles straight or hooked; rachis 10–20 cm long, with orbicular glands near the base of petioles; leaves pinnately compound; pinnae 7–14 pairs; leaflets to 40 pairs, 6–12 × 2–4 mm; margin entire, acute at apex, puberulent beneath; stipules linear, caducous; inflorescence terminal, paniced; flowers in heads; bracts and bracteole pubescent; calyx pubescent at tip; corolla glabrous; pod 10–15 cm long, flat, brownish.

Flowering and Fruiting: September–February.

Occurrence: Found in dense forests in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0685* (BUBH), 21.04.2021.

23. *Senna* Mill., Gard. Dict. Abr. ed. 4:1280. 1754.

Key to the species

- 1a. Tree.....4. *S. siamea*
- 1b. Woody herb or undershrub.....2
- 2a. Plants glabrous.....3
- 2b. Plants densely hairy.....2. *S. hirsuta*
- 3a. Leaflets mucronate or rounded at apex.....4
- 3b. Leaflets acuminate at apex.....3. *S. occidentalis*
- 4a. Leaflets 3 pairs.....5. *S. tora*
- 4b. Leaflets 7–13 pairs.....1. *S. alata*

1. *Senna alata* (L.) Roxb., Fl. Ind. 2:349. 1832. *Cassia alata* L., Sp. Pl. 1:378 1753; Baker in Hook.f., Fl. Brit. India 2: 264. 1878; Brandis, Ind. Trees 255. 1906; Kanjilal *et al.*, Fl. Assam

2:133. 1938; Deb, Fl. Tripura 1:117. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:319.1985.

Vern. name: Solota Biphang (Bodo).

Shrub, to 3 m tall; leaves alternate, parripinnate to 50 cm long; stipules triangular, persistent; leaflets opposite, 7–13 pairs, obovate-oblong, 5–10 × 3–6 cm, margin entire, base obliquely truncate, rounded and cuspidate at apex, glabrous both sides; inflorescence axillary, densely flowered; flowers 2–2.5 cm across; sepals oblong, unequal, orange-yellow; petals ovate-orbicular, bright yellow; fertile stamens 7 out of 10; fruits a legume winged, sharply tetragonal, 10–15 cm long.

Flowering and Fruiting: October–March.

Occurrence: Found in roadsides of forest or in waste places of open area.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0615* (BUBH), 18.11.2022.

Uses: Leaves are used to cure ringworm.

2. *Senna hirsuta* (L.) Irwin and Barneby in *Phytologia* 44:499. 1979. *Cassia hirsuta* L., Sp. Pl. 1:378. 1753; Baker in Hook.f., Fl. Brit. India 2:263. 1878; Kanjilal *et al.*, Fl. Assam 2:131. 1938; Harid. and Rao, Forest Fl. Meghalaya 1:320. 1985. (Plate 28A).

Vern. name: Sumi biphang (Bodo).

Shrub, to 2 m tall; stem pubescent; leaves alternate, paripinnate; rachis and petioles hirsute; leaflets 3–6 pairs, ovate oblong, 4–8 × 2–4 cm, margin entire, acuminate at apex, base broadly acute or rounded, hirsute both side; lateral nerves 7–10 pairs; petioles 3–5 mm long; inflorescence axillary, short raceme; flowers yellow; pods slender, to 15 cm long, hirsute.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides of forests.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0664* (BUBH), 14.11.2021.

3. *Senna occidentalis* (L.) Link, Handbuch 2:140. 1831; Roxb., Fl. Ind. 2:343.1832; *Cassia occidentalis* L., Sp. Pl. 1:377. 1753; Baker in Hook.f., Fl. Brit. India 2:262. 1878; Kanjilal *et al.*, Fl. Assam 2:129. 1938; Deb, Fl. Tripura 1:119. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:320. 1985.

Large herbs or undershrubs, to 2 m tall; leaves paripinnate; petiole to 3–5 cm long, base with single blackish gland; rachis 12–16 cm long; leaflets ovate, 5–6 × 2–3 cm, margin entire, short acuminate at apex, base sub-oblique; lateral nerves 6–8 pairs; inflorescence axillary cyme, composed of 3–5 flowers; flowers 3 cm across; sepals 5, green; petals 5, yellow, one of them with bilobed apex; stamens 6; staminodes 4; anther yellow.

Flowering and Fruiting: August–October.

Occurrence: Found in open forest or in domesticated area.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0056* (BUBH), 30.08.2018.

4. *Senna siamea* (Lam.) Irwin and Barneby in Mem. New York Bot. Gard. 35(1):98. 1982. *S. sumatrana* Roxb., Fl. Ind. 2:347. 1832. *Cassia siamea* Lam., Encycl. Meth. Bot. 1:648. 1785; Baker in Hook.f., Fl. Brit. India 2:264. 1878; Deb, Fl. Tripura 1:119. 1981.

Tree, to 15 m tall; leaves alternate, imparipinnate; petioles 1–2 cm long; leaflets opposite, 7–12 pairs, oblong, 3–5 × 1–1.5 cm, margin entire, mucronate at apex, base broadly cuneate or rounded; petiolules 2–4 mm long; inflorescence terminal, paniced racemes; sepals green; petals obovate, yellow; pods 12–16 cm long, flattened.

Flowering and Fruiting: November–March.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Introduced), LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0455* (BUBH), 17.05.2019.

Uses: Bark is used in fish poisoning.

5. *Senna tora* (L.) Roxb., Fl. Ind. 2:340. 1832. *Cassia tora* L., Sp. Pl. 1:376. 1753; Baker in Hook.f., Fl. Brit. India 2:263. 1878; Kanjilal *et al.*, Fl. Assam 2:131. 1938; Deb, Fl. Tripura 1:120. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:320. 1985.

Annual herb, to 60 cm tall; leaves alternate, paripinnate; leaflets opposite, 3 pairs, obovate, 1–2 × 0.6–1 cm, margin entire, mucronate at apex, cuneate to rounded at base, glabrous both sides; inflorescence axillary cyme; flower 5-merous; calyx pale green, corolla 5, yellow; stamen 8, staminodes 2; pod terete, 7–10 cm long.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides or in open places.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0116* (BUBH), 19.10.2019.

24. *Smithia* Aiton, Hortus Kew. 3:496. 1789.

1. *Smithia conferta* Sm. in Rees, Cycl. 33:n.2. 1816. *S. geminiflora* Hook.f., Fl. Brit. India 2:149. 1876. *Damapana conferta* Kuntze, Revis. Gen. Gen. Pl. 1:179. 1891. (Plate 28B).

Annual herb, to 60 cm tall; stipules 7–10 mm long, lanceolate; leaves 6–12-foliolate; rachis hirsute; leaflets subsessile, linear-oblong, 6–10 × 2–4 mm, margin entire, obtuse at apex, hirsute beneath; petiole 2–4 mm long; inflorescences axillary, scorpioid cymes; calyx bristly; corolla oblong-obovate, yellow; stamens diadelphous; legume flattened, 4–6 septa.

Flowering and Fruiting: October–March.

Occurrence: Found in roadside of forest or in forest margins.

Distribution: INDIA (Almost throughout the country), BHUTAN, BORNEO, CHINA, MYANMAR, NEPAL, PHILIPPINES, QUEENSLAND, SRI LANKA, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0682* (BUBH), 14.11.2021.

25. *Sohmaea* Oshahi and Oshahi in J. Jap. Bot. 93(3):159. 2018.

1. *Sohmaea laxiflora* (DC.) Oshashi and Oshashi in J. Jap. Bot. 93(3):162. 2018. *Desmodium laxiflorum* DC., Prodr. 2:335. 1825; Baker in Hook.f., Fl. Brit. India 2:164. 1876; Kanjilal *et al.*, Fl. Assam 2: 48. 1938; Deb, Fl. Tripura 1:163. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:296. 1985.

Undershrub, to 80 cm tall; stem scabrous; leaves 3-foliolate; petioles 2–3 cm long, pubescent; leaflets ovate, 4–8 × 3–4 cm, margin entire, acute at apex, base cuneate or rounded, scabrid above, villous beneath, terminal leaflets larger than lateral leaflets; lateral nerves 7–9 pairs; inflorescence axillary and terminal racemes; calyx villous; corolla pale purple or pale yellow; pods 6–8 jointed, scabris-pubescent.

Flowering and Fruiting: September–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0201* (BUBH), 18.10.2020.

26. *Tephrosia* Pers., Syn. Pl. 2:328. 1807.

1. *Tephrosia candida* DC., Prodr. 2:249. 182 ; Baker in Hook.f., Fl. Brit. India 2:111. 1876; Kanjilal *et al.*, Fl. Assam 2:31. 1938; Balakr., Fl. Jowai 1:171. 1981; Deb, Fl. Tripura 1: 187. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:313.1985.

Vern. name: Nathri/Jharua/Balasar (Bodo).

Shrub, to 3 m tall; leaves alternate, imparipinnate; petioles 2–4 cm long; leaflets opposite, 12–15 pairs, oblong-lanceolate, 3–5 × 1–2 cm, margin entire, acuminate at apex, base broadly acute to obtuse, pubescent beneath; petiolules 2–4 mm long; inflorescence terminal or axillary, racemes; flowers white; calyx tube campanulate, pale green; stamens diadelphous, 9+1; anthers yellow; filaments white; style flattened, feathery hairs on upper part; fruits pods, with silky hairs outside, 8–15 seeded;

Flowering and Fruiting: September–February.

Occurrence: Found in roadside.

Distribution: INDIA (Almost throughout the country), BANGLADESH, NEPAL.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0180* (BUBH), 10.10.2020.

27. *Vicia* L., Sp. Pl. 2:734. 1753.

1. *Vicia sativa* L., Sp. Pl. 2:736. 1753.

Vern. name: Ting-Ting Kalai (Bodo).

Annual climbing herbs, to 50 cm long; tendrils 3–5 cm long, 2–3-branched; leaves paripinnate, 3–8 cm long; petiole 3–7 mm long; leaflets 3–5 pairs, opposite or subopposite, linear-oblong, 1–2 × 0.5–0.8 cm, margin entire, base cuneate, mucronate at apex; flowers axillary, solitary; calyx 5-lobed, pubescent; corolla unequal, blue-purple, glabrous; stamens 10, 9+1; anther yellow; filament white; legume linear-oblong, 2–4 cm long.

Flowering and Fruiting: January–April.

Occurrence: Found in paddy fields.

Distribution: Cosmopolitan.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0080* (BUBH), 18.02.2019.

37. POLYGALACEAE Hoffmanns. and Link in Hoffmanns. Fl. Portug. 1:62. 1809.

About 4 genera and 31 species in India; 4 genera and 15 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Polygala* Tourn. ex L., Sp. Pl. 2:701. 1753.

1. *Polygala arvensis* Willd., Sp. Pl. 3(2):876. 1802; Deb, Fl. Tripura 1:248. 1981; Banerjee in Sharma *et al.*, Fl. India 2:460. 1993; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 55. 2003.

Erect herb, semi woody, to 30 cm tall; leaves linear-lanceolate, 3–5 × 0.5–1 cm, pubescent, apex mucronate; inflorescence axillary, short raceme, 1–2 cm long; bracts persistent; sepals persistent; outer sepals with hyaline margined, apex acute-acuminate; inner sepal oblique with acute-acuminate apex, slightly enlarged and half covering the fruits; lateral petals longer than the keel; capsule oblong, emarginated.

Flowering and Fruiting: August–October.

Occurrence: Found in secondary forest.

Distribution: INDIA (Throughout the country), PAKISTAN, SRI LANKA, VIETNAM, AUSTRALIA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0408* (BUBH), 01.10.2018.

38. ROSACEAE Juss., Gen. Pl. 334. 1789.

About 40 genera and 432 species in India; 7 genera and 30 species in Assam; 2 genera and 4 species recorded from the study area.

Key to the genera

- 1a. Herb, prostrate; leaves 3-foliolate.....1. *Potentilla*
1b. Scandent shrub, prickly; leaves simple or compound.....2. *Rubus*

1. *Potentilla* L., Sp. Pl. 1:495. 1753.

1. *Potentilla indica* (Andrews) Wolf in Ascherson and Graebner, Syn. Mitteleur. Fl. 6(1):660, 661. 1904. *Fragaria indica* Andrews, Bot. Repos. 7:t.479. 1807; Hook.f., Fl. Brit. India 2:343. 1787; Kanjilal *et al.*, Fl. Assam 2: 203. 1938.

Vern. name: Gorai Ki (Bodo).

Prostrate herb; stems terete, densely pubescent; leaves 3-foliolate; petioles 2–4 cm long, pubescent; leaflets obovate, 2–4 × 1–2 cm, margin crenate; rounded with toothed margin at apex, base broadly acute, pubescent both side; flowers axillary, solitary; calyx elliptic-lanceolate, 6–10 × 2–3 mm, pubescent; petals ovate, yellow; glabrous; stamens numerous, yellow; fruits nearly globose, fleshy, red.

Flowering and Fruiting: January–May.

Occurrence: Found in shady places of open areas.

Distribution: INDIA (Almost throughout the country), CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0295* (BUBH), 01.03.2021.

Uses: Ripe fruit are edible.

2. *Rubus* L., Sp. Pl. 1:492. 1753.

Key to the species

- 1a. Leaves 5–7-foliolate.....3. *R. sumatranus*
1b. Leaves simple.....2
2a. Leaves cordate-ovate with sublobed margin; fruits red when ripe.....2. *R. rugosus*
2b. Leaves oblong-elliptic; fruits black when ripe.....1. *R. hexagynus*

1. *Rubus hexagynus* Roxb. ex Wall., Numer. List n. 725. 1829; Roxb., Fl. Ind. 2:516. 1832; Kanjilal *et al.*, Fl. Assam 2:191. 1938. *R. pyrifolius* Hook.f. and Thoms. ex Hook.f., Fl. Brit. India 2:328. 1878. (Plate 56F).

Shrub, straggling; stem and branches prickly; leaves alternate, oblong-elliptic, 8–12 × 3–5 cm, margin serrate, acuminate at apex, base cordate; lateral nerves 9–11 pairs; petioles 5–10 mm long, pubescent; stipules with fimbriate margins; inflorescence terminal and axillary raceme; flowers 5-merous; calyx lobes apex acute to acuminate, densely pubescent; petals linear-oblong; stamens numerous; anther purplish; fruits in aggregation, globose, shiny, black when ripe.

Flowering and Fruiting: September–February.

Occurrence: Found in semi-evergreen forests in humid places.

Distribution: INDIA (Assam, Meghalaya), BANGLADESH, CAMBODIA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0213* (BUBH), 12.10.2020.

2. *Rubus rugosus* Sm. in Rees, Cyclop. 30:n.34. 1815; Haridasan and Rao, Forest Fl. Meghalaya 1:368. 1985; Singh in Singh *et al.*, Fl. Mizoram 1:560. 2002. *R. moluccanus auct. non* L., Hook.f., Fl. Brit. India 2:330. 1878; Kanjilal *et al.*, Fl. Assam 2: 194. 1938. (Plate 57A).

Shrub, stragling; stem and branches prickly, tomentose; leaves alternate, cordate-ovate, with sublobed, 12–18 × 10–15 cm, margin irregularly crenate-serrate, acute at apex, base cordate, rugose above, densely pubescent beneath; lateral nerves 3–4 pairs; petioles 5–10 cm long; stipules with fimbriate margin; inflorescence terminal raceme; flowers 5-merous; calyx lobes densely pubescent; corolla obovate-ovate, stamens numerous; anther brown; fruits in aggregation, globose, shiny, red when ripe.

Flowering and Fruiting: July–December.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Almost throughout the country), BHUTAN, CAMBODIA, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0113* (BUBH), 27.07.2019.

Uses: Ripe fruits are edible.

3. *Rubus sumatranus* Miq., Fl. Ned. Ind., Eerste Bijv. 2:307. 1861. *R. rosaefolius* Hook.f., Fl. Brit. India 2:341. 1878; Kanjilal *et al.*, Fl. Assam 2:191. 1938. (Plate 57B).

Scandent shrubs, with purplish prickles; glandular hairs 3–5 mm; leaves alternate, imparipinnate, 5–7-foliolate; leaflets ovate-lanceolate, 2.5–5 × 1.5–3 cm, margins irregularly serrate, acuminate at apex, base rounded, pubescent along midvein; lateral nerves 7–10 pairs; petioles 2–4 cm long; inflorescences terminal or axillary, 2–5-flowered; bracts linear, 3–5 mm long; sepals lanceolate, hairy, caudate at apex; petals narrowly obovate, white; stamens many; fruit aggregate, oblong, orange-red when ripe.

Flowering and Fruiting: March–July.

Occurrence: Found in moist open forest.

Distribution: INDIA (NE India), CAMBODIA, CHINA, JAPAN, KOREA, LAOS, MYANMAR, NEPAL, SRI LANKA, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0354* (BUBH), 07.03.2021.

Uses: Ripe fruits are edible.

39. RHAMNACEAE Juss., Gen. Pl. 376. 1789.

About 15 genera and 68 species in India; 7 genera and 21 species in Assam; 3 genera and 4 species recorded from the study area.

Key to the genera

- 1a. Climbing shrub.....1. *Gouania*
- 1b. Shrub or tree.....2
- 2a. Leaves penninerved, without basal nerves.....2. *Rhamnus*
- 2b. Leaves with 3 basal nerves.....3. *Ziziphus*

1. *Gouania* Jacq., Select. Strip. Amer. Hist. 263. 1763.

1. *Gouania leptostachya* DC., Prodr. 2:40. 1825; Lawson in Hook.f., Fl. Brit. India 1:643. 1875; Kanjilal *et al.*, Fl. Assam 1(2):286. 1936. *G. tiliaefolia* Deb, Fl. Tripura 1:405. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:234. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:302. 1996.

Venn. name: Sanjari-bandeo (Bodo).

Climbing shrub; branches terete, glabrous; leaves alternate, ovate, 6–10 × 3–6 cm, acuminate at apex, rounded or subcordate at base, margin dentate; lateral nerves 5–6 pairs; petioles 2–3 cm long; inflorescence both axillary and terminal raceme; flowers white; calyx and corolla 5-lobed, white; stamens 5; fruits 3-sided, winged; seeds 3, flattened.

Flowering and Fruiting: September–December.

Occurrence: Found in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, BHUTAN, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0639* (BUBH), 16.09.2020.

2. *Rhamnus* L., Sp. Pl. 1:193. 1753.

1. *Rhamnus napalensis* (Wall.) Lawson in Hook.f., Fl. Brit. India 1:640. 1875. *R. napalensis* Kanjilal *et al.*, Fl. Assam 1(2):285.1936; Deb, Fl. Tripura 1:405. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:237. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:305. 1996; Bhandari and Bhansali in Singh *et al.*, Fl. India 5:187. 2000. *Ceanothus napalensis* Wall. in Carey and Wall, Fl. Ind. 2:375. 1824. (Plate 56C).

Scandent shrub, to 4 m tall; leaves alternate, oblong-elliptic, 7–12 × 4–7 cm, margin serrate, acuminate at apex, base obtuse or rounded, glabrous both side; lateral nerves 5–7 pairs; petioles 1–1.5 cm long; inflorescence generally axillary, sometimes terminal, 5–10 cm long; flowers 2–5 arises from a point of rachis; both calyx and corolla 5-lobed, greenish-yellow, corolla lobes smaller than calyx lobes; stamens 5, anther blackish brown.

Flowering and Fruiting: September–March.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0212* (BUBH), 12.10.2020.

Uses: Ripe fruits are edible.

3. *Ziziphus* Mill., Gard. Dict. Abr. ed. 4:1547. 1754.

Key to the species

1a. Tree; leaves ovate-orbicular, rounded at apex.....2. *Z. mauritiana*

1b. Scandent shrub; leaves ovate-lanceolate, caudate-acuminate at apex.....1. *Z. apetala*

1. *Ziziphus apetala* Hook.f., Fl. Brit, India 1:635. 1875; Kanjilal *et al.*, Fl. Assam 1(2):281. 1936. (Plate 56D).

Shrubs, straggling, to 6 m tall; branchlets rusty-tomentose; leaves alternate, ovate to ovate-lanceolate, 4–8 × 3–5 cm, margin sharply serrulate, caudate-acuminate at apex, base oblique-rounded, pubescent beneath; basal nerves 3; petioles 5–12 mm long; inflorescence cymes, 3–5 cm long; peduncles densely pubescent; flowers actinomorphic; calyx 5-lobed, ovate, pubescent; stamens 5, recurved as stamens; styles erect.

Flowering and Fruiting: March–June.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0306* (BUBH), 10.03.2021.

2. *Ziziphus mauritiana* Lam., Encycl. 3:319. 1789; Deb, Fl. Tripura 1:407. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:240. 1985; Chowdhery *et al.*, in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:308. 1996. *Z. jujuba* Lam., Encycl. 3:318. 1789; Lawson in Hook.f., Fl. Brit. India 1:632. 1875; Kanjilal *et al.*, Fl. Assam 1 (2):280. 1936.

Vern. name: Bwigri (Bodo).

Tree, to 12 m tall; bark greyish-brown; braches spiny, young parts spiny; leaves alternate, ovate-orbicular, 3–5 × 2.5–3.5 cm., margin serrulate, rounded at apex, base cordate, tomentose beneath; petioles 4–8 mm long; inflorescence axillary, cymes; flowers 3–5 mm across, white; calyx tube campanulate; petals smaller than calyx; fruits globose, 1.5–2.5 cm in diam.; seed 1.

Flowering and Fruiting: May–November.

Occurrence: Found in streams banks in open places.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, AFRICA, BANGLADESH, BHUTAN, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0445* (BUBH), 10.06.2020.

Uses: Fruits are edible.

40. CANNABACEAE Martinov, Tekhno-Bot. Slovar 99. 1820.

About 5 genera and 12 species in India; 3 genera and 5 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Herbs; stems woody.....1. *Cannabis*
1b. Tree.....2. *Trema*

1. *Cannabis* L., Sp. Pl. 2:1027. 1753.

1. *Cannabis sativa* L., Sp. Pl. 2:1027. 1753; Hook.f., Fl. Brit. India 5:487. 1888; Kanjilal *et al.*, Fl. Assam 4:278. 1940; Deb, Fl. Tripura 1:207. 1981; Harid and Rao, Forest Fl. Meghalaya 2:810. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:388.2008.

Vern. name: Ganja (Bodo).

Annual herb, to 2 m tall, aromatic; stem pubescent; leaves alternate, palmately compound, 3–7-foliolate; petioles 2–5 cm long; leaflets lanceolate, 4–8 × 0.5–10 cm, margin serrate, acuminate at apex, base cuneate, pubescent both side; inflorescence axillary; flowers unisexual; male flowers in clusters of 4–8, with pendent stamens; anther slightly bent; filaments thread-like; female flowers solitary, close association with many bracts.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside.

Distribution: INDIA (Introduced), AFGHANISTAN, KAZAKHSTAN, PAKISTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0171* (BUBH), 26.10.2020.

2. *Trema* Lour., Fl. Cochinch. 562. 1790.

1. *Trema orientale* (L.) Blume, Mus. Bot. 2:62. 1856. *T. orientalis* Hook.f., Fl. Brit. India 5:484. 1888; Brandis, Ind. Trees 717. 1906; Kanjilal *et al.*, Fl. Assam 4:230. 1940; Deb, Fl. Tripura 1:206. 1981; Harid and Rao, Forest Fl. Meghalaya 2:808. 1987. *Celtis orientalis* L., Sp. Pl. 2:1044. 1753.

Vern. name: Phadam/Persa Jwla (Bodo).

Tree, to 15 m tall; bark greenish-brown; branches pubescent, horizontally spreading; leaves alternate, ovate-oblong, 6–10 × 4–6 cm, margin serrate, acuminate at apex, base cordate, scabrous above, silky tomentose beneath; lateral nerves 4–5 pairs; petioles 8–12 mm long, pubescent; inflorescence axillary, paniced cymes, 2–4 cm long; bracts ovate, brown; flowers 5-merous; stamens 5; anthers white, 2-celled; fruits ellipsoid.

Flowering and Fruiting: March–August.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, NIGERIA, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0539* (BUBH), 15.04.2019.

Uses: Shoots are cooked with alkali and dried fish as curry. Tender leaves are boiled and eaten (Lalramnghinglova 2002, Teron 2011).

41. MORACEAE Gaudich. in Trinius, Gen. Pl. 13. 1835.

About 13 genera and 122 species in India; 6 genera and 60 species in Assam; 5 genera and 30 species recorded from the study area.

Key to the genera

- 1a. Plant with prickles.....4. *Maclura*
- 1b. Plant without prickles.....2
- 2a. Inflorescence a fig with many minute flowers inside.....3. *Ficus*
- 2b. Inflorescence not a fig.....3
- 3a. Scandent shrub.....1. *Allaeanthus*
- 3b. Tree or shrub.....4
- 4a. Fruit aggregated into a syncarp.....2. *Artocarpus*
- 4b. Fruit not aggregated into a syncarp.....5. *Streblus*

1. *Allaeanthus* Thwaites in Hooker's J. Bot. Kew Gard. Misc. 6:302. 1854.

1. *Allaeanthus kurzii* Hook.f., Fl. Brit. India 5:490. 1888; Kanjilal *et al.*, Fl. Assam 4:275. 1940. *Broussonetia kurzii* Corner in Gard. Bull. Singapore 19:234. 1962.

Vern. name: Nalangkar Biphang (Bodo).

Scandent shrub, dioecious; leaves alternate, ovate-elliptic, 6–12 × 4–6 cm, margin serrate, apex acuminate, base subcordate; lateral nerves 3–6 pairs; petiole 6–10 mm long; male inflorescences axillary, cylindric; female inflorescences globose; calyx 4-lobed in both male and female flowers; style linear; fruitlets compressed.

Flowering and Fruiting: March–July.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (NE India), BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, S. Basumatary 0698 (BUBH), 08.04.2019.

Uses: Fruits are eaten cooked.

2. *Artocarpus* J.R.Forst. and G.Forst., Char. Gen. Pl. 101. 1776.

Key to the species

- 1a. Syncarp spiny tubercled.....2
- 1b. Syncarp not spiny tubercled3. *A. lacucha*
- 2a. Leaves strigillose; syncarp globose.....1. *A. chama*

2b. leaves glabrous; syncarp oblong.....2. *A. heterophyllus*

1. *Artocarpus chama* Buch.-Ham. in Mem.Wern. Nat. Hist. Soc. 5:331. 1826. *A. chaplasha* Roxb., Fl. Ind. 3:525. 1832; King in Hook.Fl. Brit. India 5:543. 1888; Brandis, Indian Trees 612. 1906; Kanjilal *et al.*, Fl. Assam 4:267. 1940; Deb, Fl. Tripura 1:208. 1981; Haridasan and Rao, Forest Fl. Meghalaya 2:812.1987.

Vern.name: Sama Khantal (Bodo).

Large to 40 m tall; leaves spirally arranged, elliptic to oblong to sub-ovate, 15–20 × 10–14 cm, margin entire, short acuminate, apiculate or obtuse at apex, base rounded to subcordate; strigillose both sides; lateral nerves 8–10 pairs; petiole 1–2.5 cm long; male inflorescences axillary, solitary, head subglobose, 1–2 cm across; female inflorescences axillary, solitary, head subglobose; infructescences sub-globose 8–11 cm across, short spiny tubercles.

Flowering and Fruiting: March–August.

Occurrence: Found in dense semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0541* (BUBH), 08.05.2019.

Uses: Fruits and seeds are edible and used to treat gastric and stomach disorder.

2. *Artocarpus heterophyllus* Lam., Encycl. 3:209.1789; Deb, Fl. Tripura 1:209. 1981; Harid and Rao, Forest Fl. Meghalaya 2:814. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:389. 2008. *A. integrifolius* King in Hook.f., Fl. Brit. India 5:541. 1888; Brandis, Ind. Trees 611. 1906. *A. integra* Kanjilal *et al.*, Fl. Assam 4:268. 1940.

Vern. name: Khantal (Bodo).

Tree, with latex, to 30 m tall; leaves elliptic-obovate, 6–12 × 5–8 cm, margin entire, obtuse or acute at apex, base cuneate; lateral nerves 5–7 pairs; stipules glabrous; petioles 1–2 cm long; inflorescence unisexual; bracts glabrous; male and female flowers solitary; heads oblong, green; fruits oblong with spinous tubercles; seeds oblong, 2–3.5 cm across.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country, introduced to Assam).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0543* (BUBH), 23.05.2020.

Uses: Fruits are edible. Juvenile fruits and matured seeds are eaten cooked as vegetables.

3. *Artocarpus lacucha* Buch.-Ham., Mem. Wern. Nat. His. Soc. 5:333. 1826. *A. lakoocha* Roxb., Fl. Ind. 3:524. 1832; Hook.f., Fl. Brit. India 5:543. 1888; Brandis, Ind. Trees, 612. 1906; Kanjilal *et al.*, Fl. Assam 4:268. 1940; Deb, Fl. Tripura 1:209. 1981. *Vern. name*: Dawa (Bodo).

Tree, to 30 m tall; leaves distichous, elliptic to oblong or ovate, 10–20 × 8–12 cm, margin entire, short acuminate to acute at apex, base subcordate, pubescent both sides; lateral veins 10–12 pairs, prominent; petiole 1–3 cm long, densely brown puberulous; male inflorescence axillary, solitary, oblong-ellipsoid, yellow; female inflorescence axillary, solitary; head subglobose; fruits irregular subglobose, orange yellow when ripe.

Flowering and Fruiting: September–February.

Occurrence: Found in forests margins.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0542* (BUBH), 12.03.2019.

Uses: Ripe fruits are edible.

3. *Ficus* L., Sp. Pl. 2:1059. 1753.

Key to the species

- 1a. Climbing, erect or scandent shrubs.....2
- 1b. Small to large size trees.....9
- 2a. Plants epiphytic or trailing on others.....3
- 2b. Plants not trailing on others.....6
- 3a. Leaf apex caudate.....12. *F. heteropleura*
- 3b. Leaf apex, rounded, acuminate or mucronate.....4
- 4a. Leaves broadly ovate, apex mucronate.....15. *F. laevis*
- 4a. Leaves ovate-elliptic, apex not mucronate.....5
- 5a. Leaf broadly cuneate to rounded at base, obtuse or subrounded at apex.....10. *F. hederacea*
- 5b. Leaf cordate at base, acuminate at apex.....20. *F. sagittata*

6a. Erect undershrub.....	9. <i>F. gasparriniana</i> var. <i>laceratifolia</i>
6b. Scandent shrub.....	7
7a. Leaf margin entire; figs orange-red.....	22. <i>F. subulata</i>
7b. Leaf margin serrate or denticulate.....	8
8a. Figs glabrescent, creamy white tuberculate.....	11. <i>F. heterophylla</i>
8b. Figs densely pubescent, not tuberculate.....	2. <i>F. assamica</i>
9a. Figs on the distinct 5–100 cm long leafless branches, rarely on the main branch.....	10
9b. Figs on the main trunk or on reduced less than 4 cm long leafless branches.....	13
10a. Leaves asymmetrical, base semicordate.....	21. <i>F. semicordata</i>
10b. Leaves symmetrical, base cordate or broadly cuneate.....	11
11a. Leaves opposite.....	14. <i>F. hispida</i>
11b. Leaves alternate or spirally arranged.....	12
12a. Leaves elliptic-obovate, base broadly cuneate.....	17. <i>F. racemosa</i>
12b. Leaves ovate-cordate, base cordate.....	3. <i>F. auriculata</i>
13a. Figs on the short 1–3 cm long leafless branches.....	14
13b. Figs on the main branches.....	15
14a. Leaves with basal nerves, base cordate.....	23. <i>F. variegata</i>
14b. Leaves without basal nerves, base rounded or obliquely cuneate.....	8. <i>F. fistulosa</i>
15a. Leaves densely or sparsely pubescent.....	16
16a. Leaves glabrous.....	17
16a. Figs rusty densely pubescent with distinct involucre bracts.....	13. <i>F. hirta</i>
16b. Figs not rusty pubescent and no involucre bracts.....	16. <i>F. lamponga</i>
17a. Leaves ovate-cordate.....	18
17b. Leaves elliptic, obovate or oblong.....	19
18a. Leaf lamina caudate at apex.....	18. <i>F. religiosa</i>
18b. Leaf lamina acuminate at apex.....	19. <i>F. rumphii</i>
19a. Leaves elliptic or oblong-elliptic.....	20
19b. Leaves obovate.....	23
20a. Figs globose, creamy white with pink spots.....	24. <i>F. virens</i>
20b. Figs oblong, sometimes subglobose, yellow, reddish or deep purple.....	21
21a. Leaf lamina with basal nerves.....	1. <i>F. altissima</i>

- 21b. Leaf lamina without basal nerves.....22
 22a. Lateral nerves prominent, 14-16 pairs.....6. *F. drupacea*
 22b. Lateral nerves inconspicuous, more than 30 pairs.....7. *F. elastica*
 23a. Leaves 8-11 cm long; figs solitary, rarely paired.....4. *F. benjamina*
 23b. Leaves 15-20 cm long; figs paired.....5. *F. curtipes*

1. *Ficus altissima* Blume, Bijdr. Fl. Ned. Ind. 9:455. 1825; King in Hook.f., Fl. Brit. India 5:504. 1888; Kanjilal *et al.*, Fl. Assam 4:240. 1940; Balakrishnan, Fl. of Jowai 2:437. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:820. 1987.

Vern. name: Dhop (Bodo).

Tree, to 20 m tall, with latex milky; leaves spirally arranged, oblong-elliptic, 10–18 × 6–8 cm, margin entire, short cuspidate at apex, base rounded, leathery; basal nerves 3, lateral nerves 5–7 pairs, connected with intramarginal nerves; petioles 2–3 cm long; figs axillary, generally in pairs, sessile, orange-yellow; receptacle subglobose to subellipsoid, glabrous but yellow glandular dots on outside.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides or open places.

Distribution: INDIA (NE India, West Bengal), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0181* (BUBH), 15.10.2020.

2. *Ficus assamica* Miq. in London J. Bot. 7:226. 1848; Chaudhary *et al.*, Taiwania 57(2):200. 2012. Roxb., Fl. Ind. 3:535. 1832. *F. heterophylla* var. *repens* Brandis, Indian Trees 606. 1906; Kanjilal *et al.*, Fl. Assam 4:251. 1940. *F. heterophylla* forma *repens* King in Hook.f., Fl. Brit. India 5: 519. 1888. (Plate 38E).

Decumbent shrub, to 2 m tall; leaves alternate, ovate-cordate, 6–12 × 5–8 cm, margin denticulate, acute or subacute at apex, base cordate, pubescent both side; lateral nerves 3–4 pairs; petioles 3–6 cm long, puberulous; stipules lanceolate, 3–5 mm long, brown; figs axillary, solitary; peduncle 1.5–2.5 cm long; bracts 3; receptacle ellipsoid, 1.5–2.5 × 1.5–2 cm, pinkish at ostiole tip.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides or in banks of streams in forests.

Distribution: INDIA (NE India), BANGLADESH, CAMBODIA, CHINA, LAOS, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0234* (BUBH), 25.11.2020.

3. *Ficus auriculata* Lour., Fl. Cochinch. 666. 1790; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:391. 2008. *F. roxburghii* King in Hook.f., Fl. Brit. India 5:534. 1890; Kanjilal *et al.*, Fl. Assam 4:262. 1940; *F. macrophylla* Roxb., Fl. Ind. 3:550. 1832. (Plate 38F).

Vern. name: Kursa Biphang (Bodo).

Tree, to 10 m tall; stipules ovate-triangular, 1–1.5 cm, purplish-red; petiole 4–8 cm long; leaves spirally arranged, broadly ovate, 15–40 × 10–25 cm, margin serrate, base cordate, apex mucronate; basal nerves 3, margin serrate, 5; figs on the leafless branchlets, top-shaped, 3–5 cm across; involucre bracts 3, ovate-triangular, reddish brown; apical bracts arranged in 4, margin serrate, 5 rows, broadly ovate.

Flowering and Fruiting: February–September.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0322* (BUBH), 29.09.2019.

Uses: Fruits are edible.

4. *Ficus benjamina* L., Mant.129. 1767; King in Hook.f., Fl. Brit. India 5:508. 1890; Kanjilal *et al.*, Fl. Assam 4:243. 1940; Deb, Fl. Tripura 1:212. 1981; Harid and Rao, Forest Fl. Meghalaya 2:821. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:391. 2008.

Trees, to 20 m tall; leaves spirally arranged, obovate, 9–11 × 4–5 cm, margin entire, apex cuspidate or acute; lateral nerves 5–7 pairs; petiole 1–1.5 cm long; figs sessile, axillary on leafy branchlets, solitary, globose; male flower white; calyx 3, white, 1–2 mm long; female flower brownish, sessile; calyx 3, white, 1–2 mm long, white.

Flowering and Fruiting: September–March.

Occurrence: Found in roadside of forest and deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0013* (BUBH), 23.03.2018.

5. *Ficus curtipes* Comer in Gard. Bull. 17:397. 1960; Deb, Fl. Tripura 1:212. 1981; Harid and Rao, Forest Fl. Meghalaya 2:821. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:392.2008. *F. obtusifolia* Roxb., Fl. Ind. 3:546. 1832; King in Hook.f., Fl. Brit. India 5:507. 1890; Kanjilal *et al.*, Fl. Assam 4:242. 1940. (Plate 39A).

Tree, straggling; leaves spirally arranged, elliptic, 16–20 × 5.5–6.5 cm, margin entire, base cuneate, cuspidate at apex; lateral nerves 16–20 pairs; petiole 1–1.7 cm long; figs subglobose, greenish brown, brown dotted, 1.3 cm across, sessile; male flower pedicellate, brownish, more number as compare to female flower; calyx 3, brownish; female flower sessile.

Flowering and Fruiting: April–October.

Occurrence: Found in deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0024* (BUBH), 09.04.2018.

6. *Ficus drupacea* Thunb., Ficus 11. 1786. *F. drupacea* var. *pubescens* Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:393. 2008; Chaudhary *et al.*, Taiwaniana 57(2): 211. 2012. *F. chrysocoma* Blume, Bijdr. Fl. Ned. Ind. 9: 443. 1825; King in Hook.f., Fl. Brit. India 5: 501. 1888.

Tree, to 30 m tall; leaves alternate and spirally arranged, elliptic or oblong-elliptic, 12–18 × 9–14 cm, margin entire, acuminate-apiculate at apex, base subcordate, glabrous both side; lateral nerves 14–16 pairs, connected with intramarginal nerves; petioles 1.5–2.5 cm long; figs axillary, solitary or in pairs, sessile; receptacles subcylindrical or subglobose, 2.5–3.5 × 2–2.5 cm, orange-red when matured.

Flowering and Fruiting: May–September.

Occurrence: Found in semi-evergreen dense forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0217* (BUBH), 07.08.2020.

7. *Ficus elastica* Roxb. ex Hornem., Hort. Bot. Hafn. Suppl. 7. 1819; Roxb., Fl. Ind. 3:541. 1832; King in Hook.f., Fl. Brit. India 5:508. 1888; Brandis, Indian Trees 603.1906; Kanjilal *et al.*, Fl. Assam 4:242. 1940; Deb, Fl. Tripura 1: 213: 1981; Harid. and Rao, Forest Fl. Meghalaya 2:823.1987; Chaudhary *et al.*, Taiwania 57(2):212. 2012.

Tree, to 30 m tall; leaves spirally arranged, oblong-elliptic, 12–18 × 6–10 cm, margin entire, acuminate at apex, base obtuse or broadly cuneate, leathery; lateral nerves more than 30 pairs, indistinct; petioles 2–5 cm long; stipules linear-lanceolate, 4–8 cm long; figs axillary, solitary or in pairs, arising from upper part of the branchlets; bracts 3; receptacle ellipsoid, 1–1.5 × 0.6–1 cm, yellowish-green when mature.

Flowering and Fruiting: March–May.

Occurrence: Found in dense semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0670* (BUBH), 05.05.2021.

8. *Ficus fistulosa* Reinw. ex Blume, Bijdr. Fl. Ned. Ind. 470. 1825; King in Hook.f., Fl. Brit. India 5:525. 1890; Kanjilal *et al.*, Fl. Assam 4:255. 1940; Deb, Fl. Tripura 1:214. 1981; Harid and Rao, Forest Fl. Meghalaya 2:824. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:394. 2008. (Plate 39B).

Trees, to 8 m tall; petioles 1–4 cm long, hirsute, reddish-purple; leaves alternate and spirally arranged, obovate, 12–20 × 3–5 cm, margin undulate, base obtuse or obliquely cuneate, acuminate or mucronate at apex; sparsely pubescent above; lateral nerves 5–8 pairs, figs arising from short 1–2 cm long leafless branches, orange-red when matured, apically depressed globose, smooth, glabrescent; peduncle 1–2.5 cm long.

Flowering and Fruiting: March–August.

Occurrence: Found in moist dense forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0323* (BUBH), 19.10.2019.

9. *Ficus gasparriniana* var. *laceratifolia* (Levl. and Vant.) Corner in Gard. Bull. Singapore 17: 428. 1960; Chaudhery *et al.*, *Taiwania* 57(2):195. 2012. *F. bhotanica* King, Ann. Roy. Bot. Gard. (Calcutta) 1:75.t.205B. 1888; King in Hook.f., Fl. Brit. India 5:519. 1890; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2: 392.2008. (Plate 39C).

Undershrub, to 1.5 m tall; leaves spirally arranged, elliptic, 3–3.5 × 6–7.5 cm, margin hairy, entire, base cordate or rounded, acuminate at apex, apex part 3–4 pairs of sub-lobed; lateral nerves 5–7 pairs, figs 1.6 cm across, red when matured; stalk 5 mm long; bracts 3; calyx 5, white; ovary globose, brownish; anther yellow, bilobed, filament white.

Flowering and Fruiting: March–August.

Occurrence: Found in secondary forest.

Distribution: INDIA (Arunachal Pradesh, Assam) BHUTAN, CHINA, MYANMAR.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0029* (BUBH), 23.04.2018.

10. *Ficus hederacea* Roxb., Fl. Ind. 3: 538. 1832; Wight, Icon. Pl. Ind. Orient. 2:t.653. 1843; Deb, Fl. Tripura 1: 214. 1981; Chaudhary *et al.*, *Taiwania* 57(2): 200. 2012. *F. scandens* King in Hook.f., Fl. Brit. India 5: 526. 1888; Brandis, Indian Trees 609. 1906; Kanjilal *et al.*, Fl. Assam 4:260. 1940.

Root-climber or scandent; leaves alternate, elliptic to ovate, 7–10 × 3–5 cm, margin entire, obtuse or subrounded at apex, base rounded to sub-cordate; lateral vein 4–5 pairs; petiole 1–1.5 cm long; stipules 3–5 mm long; figs axillary, in pairs or solitary; receptacle sub-globose, 5–10 mm in diam.; peduncle 2–2.5 cm long; staminate flowers sessile; tepals 3 or 4; stamens 2; pistillate flowers pedicellate; tepals 4, lanceolate; stigmas curved.

Flowering and Fruiting: January–June.

Occurrence: Found in roadsides or in mixed deciduous forests.

Distribution: INDIA (Andaman Island, Himachal Pradesh, NE India), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0119* (BUBH), 26.05.2020.

11. *Ficus heterophylla* L.f., Suppl. Pl. 442. 1782; King in Hook.f., Fl. Brit. India 5:518. 1888; Kanjilal *et al.*, Fl. Assam 5:251. 1940; Harid and Rao, Forest Fl. Meghalaya 2:826. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:395.2008. (Plate 39D).

Scandent bushy shrub; branches blackish; leaves alternate, elliptic-lanceolate, sometimes ovate, lobed or unlobed, 6–10 × 2.5–4 cm, margin serrate, acuminate at apex, base rounded; lateral nerves 8–11 pairs; stipules linear; petioles 1–1.5 cm long; fig axillary, oblong, 1–1.5 cm across, pyriform, white glands on surfaces.

Flowering and Fruiting: August–October.

Occurrence: Found in roadside of forest. Occasionally found in human inhabitant sites.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0120* (BUBH), 25.08.2020.

12. *Ficus heteropleura* Blume, Bijdr. Fl. Ned. Ind. 9:466. 1825; Wight, Icon. Pl. Ind. Orient. 2: t.636. 1843; *F. urophylla* Hook.f., Fl. Brit. India 5:498. 1888; Kanjilal *et al.*, Fl. Assam 4:239.1940. (Plate 39E).

Scandent shrub, straggling; leaves alternate, obovate-elliptic, 6–12 × 3–6 cm, margin entire, caudate-acuminate at apex, base tapering acute; lateral nerves 3–4 pairs, connecting to intramarginal nerves; petioles 1–1.5 cm long, pubescent; fig axillary, solitary or in pairs, subglobose, 6–8 cm across, pubescent, orange-red when ripe; peduncle 5–8 mm long.

Flowering and Fruiting: July–December.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0121* (BUBH), 25.08.2020.

13. *Ficus triloba* Buch.-Ham. ex Voigt, Hort. Suburb. Calcutt. 284. 1845. *F. hirta* subsp. *triloba* Chaudhary *et al.*, *Taiwania* 57(2):197. 2012. *F. hirta* var. *roxburghii* Kanjilal *et al.* Fl. Assam 4:256. 1940. (Plate 40E).

Tree, to 6 m tall; branchlets rusty-pubescent; leaves spirally arranged, ovate-oblong, lobed or unlobed, 12–20 × 10–15 cm, margin entire or serrulate and ciliate, acuminate at apex, base cordate, strigillose above, dense bristly hairs beneath; basal nerves 5, lateral nerves 4–5 pairs; petioles 3–6 cm long; figs axillary, solitary or in pairs, sessile; receptacle ovoid-ellipsoid, 2–3 × 2–2.5 cm, densely brown hairs; ostiole surrounded by short bracts; flowers purplish-red.

Flowering and Fruiting: March–August.

Occurrence: Found in forest margins.

Distribution: INDIA (NE India), BANGLADESH, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0668* (BUBH), 02.04.2020.

14. *Ficus hispida* L.f., Suppl. Pl. 442. 1782; King in Hook.f., Fl. Brit. India 5:522. 1890; Kanjilal *et al.*, Fl. Assam 4:252. 1940; Deb, Fl. Tripura 1:215. 1981; Harid and Rao, Forest Fl. Meghalaya 2:827. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:397. 2008.

Tree, to 8 m tall; petiole 2–4 cm long, densely pubescent; leaves opposite, lamina oblong or obovate-oblong, 12–25 × 6–15 cm, scabrous above, densely pubescent; margin serrate or subentire, base rounded or broadly cuneate, apex shortly acuminate or mucronate; figs arising from leafy shoots, leafless branchlets or from main trunk, singly or in pair, top-shaped, 1.5–3 cm across, yellow when matured.

Flowering and Fruiting: March–November.

Occurrence: Found in roadside and open forest.

Distribution: INDIA (Throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CAMBODIA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0324* (BUBH), 29.09.2019.

15. *Ficus laevis* Blume, Bijdr. Fl. Ned. Ind. 9:437. 1825; King in Hook.f., Fl. Brit. India 5: 526. 1888; Brandis, Indian Trees 609. 1906; Kanjilal *et al.*, Fl. Assam 4:260. 1940; Harid.

and Rao, Forest Fl. Meghalaya 2:828. 1987; Chaudhary *et al.*, *Taiwania* 57(2): 198. 2012. (Plate 39F).

Climbing shrub; leaves spirally arranged, ovate-elliptic, 8–12 × 6–10 cm, margin entire, mucronate at apex, base cordate; basal nerves 3, lateral nerves 4–5 pairs; petioles 4–7 cm long; stipule 4–8 mm long, brownish; figs solitary or in pairs, axillary; peduncles 1.5–2.5 cm long; bracts 3, persistent; receptacle subglobose, 2–2.5 cm across.

Flowering and Fruiting: October–February.

Occurrence: Found in moist deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0187* (BUBH), 30.11.2018.

16. *Ficus lamponga* Miq., Fl. Ind. Bat. Supple 3:431. 1861; Harid. and Rao, Forest Fl. Meghalaya 2:828. 1987; Chaudhary *et al.*, *Taiwania* 57(2):197. 2012. *F. lepidosa* King in Hook.f., Fl. Brit. India 5:522. 1888; Brandis, Indian Trees 608. 1906. *F. lepidosa* var. *martabanica* King in Hook.f., Fl. Brit. India 5:522. 1888; Kanjilal *et al.*, Fl. Assam, 4:259. 1940. (Plate 40A).

Vern. name: Dumru Jwla (Bodo).

Tree, to 10 m tall; latex milky; leaves spirally arranged in close aggregation at apical part of the branches, oblong-elliptic, 10–15 × 6–10 cm, margin entire, acuminate at apex, base truncate-rounded or broadly cuneate; lateral nerves 10–12 pairs; petioles 4–8 cm long; figs axillary, arising from apical part of the branches below the leaves in close aggregation; bracts 3, persistent; receptacles subglobose to ellipsoid, 1.5–2 cm across, mammillated at apex;

Flowering and Fruiting: March–August.

Occurrence: Found in roadside of forests or in mixed deciduous forest.

Distribution: INDIA (Andaman Island, NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0667* (BUBH), 21.04.2022.

17. *Ficus racemosa* L., Sp. Pl. 2:1060. 1753; Deb, Fl. Tripura 1:217. 1981; Chaudhary *et al.*, Taiwania 57(2): 203. 2012. *F. glomerata* King in Hook.f., Fl. Brit. India 5:535. 1888; Kanjilal *et al.*, Fl. Assam 4:264. 1940. *F. goolerea* Roxb., Fl. Ind. 3:538. 1832. Vern. name: Dumbro Khaosa (Bodo).

Tree, to 30 m tall; latex milky; leaves spirally arranged, oblong-elliptic or elliptic-lanceolate, 8–13 × 3.5–6 cm, margin entire, subundulate, acuminate at apex, base broadly acute or rounded, pubescent beneath; lateral nerves 5–7 pairs; petioles 2–4 cm long; figs on the leafless axillary branches, arising from the older trunk, pendent; receptacles subglobose and subpyriform, 2–3 cm across, glabrous, pale pink inside receptacles.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside or in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0182 (BUBH), 15.10.2020.

18. *Ficus religiosa* L., Sp. Pl. 2:1059. 1753; King in Hook.f., Fl. Brit. India 5:513. 1888; Brandis, Ind. Trees 601. 1906; Kanjilal *et al.*, Fl. Assam 4:246. 1940; Deb, Fl. Tripura 1:218. 1981; Harid and Rao, Forest Fl. Meghalaya 2:831. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:402. 2008.

Vern. name: Pakri (Bodo).

Tree, to 30 m tall; leaves spirally arranged, triangular-ovate, 7–13 × 7–10 cm, margin entire or undulate, caudate at apex, base subcordate or broadly cuneate; basal lateral nerves 2, lateral nerves 5–7 pairs; petiole 8–12 cm long; figs axillary, pair or solitary, globose to depressed globose; male flowers sessile; calyx 2–3-lobed; stamens 1; female flowers sessile; calyx 4-lobed; stigma 2-lobed.

Flowering and Fruiting: March–August.

Occurrence: Found in deciduous or in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, INDIA, MYANMAR, NEPAL, PAKISTAN.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0717 (BUBH), 19.10.2019.

Uses: Fresh bark is immersed in a glass of water for overnight and the juice is taken in empty stomach to cure jaundice (Teron 2011).

19. *Ficus rumphii* Blume, Bijdr. 437. 1825; King in Hook.f., Fl. Brit. India 5:512. 1888; Brandis, Ind. Trees 601. 1906; Kanjilal *et al.*, Fl. Assam 4:246. 1940; Deb, Fl. Tripura 1:218. 1981. Harid and Rao, Forest Fl. Meghalaya 2:831. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:403. 2008.

Tree, to 20 m; leaves spirally arranged, ovate-cordate, 7–10 × 5–7 cm, margin entire, acuminate at apex, base broadly cuneate, glabrous both sides; basal nerves 3; lateral nerves 4–6 pairs; petioles 4–7 cm long; figs axillary, paired or in cluster, globose, sessile, blackish when ripe.

Flowering and Fruiting: October–May.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0718* (BUBH), 22.10.2022.

20. *Ficus sagittata* Vahl, Symb. Bot. 1:83. 1790; Chaudhary *et al.*, Taiwania 57(2): 199. 2012. *F. ramentacea* Roxb., Fl. Ind. 3:547. 1832; King in Hook.f., Fl. Brit. India 5:528. 1888; Brandis, Indian Trees 609. 1906; Kanjilal *et al.* Fl. Assam 4:261. 1940. (Plate 40B).

Climber, straggling, densely pubescent on juvenile; leaves alternate or spirally arranged, ovate-elliptic, 8–14 × 5–7 cm, margin entire, acuminate at apex, base sagittate on juvenile, cordate when old; lateral nerves 7–8 pairs; petioles 1–2 cm long; stipule ovate-lanceolate, 5–10 mm long; figs solitary or in pairs; receptacle globose, 1–1.5 cm across, tinge pinkish-green, orange-red when matured; peduncle 6–8 mm long; flowers pink.

Flowering and Fruiting: March–November.

Occurrence: Found in moist places of semi-evergreen forests.

Distribution: INDIA (Andaman Island, NE India), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0669* (BUBH), 03.10.2020.

21. *Ficus semicordata* Buch.-Ham. ex Sm., Rees Cyclop. 14: *Ficus* n. 71. 1810; Corner, Gard. Bull. Singapore 17:449. 1960; Deb, Fl. Tripura 1: 219. 1981; Balakr. Fl. Jowai 2:437. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:403. 2008. *F. cunia* King in Hook.f., Fl. Brit. India 5:523. 1890; Kanjilal *et al.*, Fl. Assam 4:253. 1940. (Plate 40C).

Tree, to 15 m tall, leaves alternate, elliptic, 21–28 × 7–9 cm, margin sub-entire or sub-serrate, apex acuminate, base oblique, sub-cordate, asymmetrical; lateral nerves 12–14 pairs; petiole 1.5 cm long; figs orbicular, 8–10 mm diam., sparsely dotted glands; bractioles 3; female flower 1 mm long; style white; ovary pink.

Flowering and Fruiting: April–December.

Occurrence: Found in dry sloppy area.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0027* (BUBH), 18.04.2018.

22. *Ficus subulata* Blume, Bijdr. Fl. Ned. Ind. 9:460. 1825; King in Hook.f., Fl. Brit. India 5: 497. 1888; Kanjilal *et al.*, Fl. Assam 4:239. 1940; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2: 405. 2008. *F. sikkimensis* King in Hook.f., Fl. Brit. India 5:521. 1888. (Plate 40D).

Shrub or hemiepiphyte; leaves alternate, obovate-oblong, 8–12 × 3–5 cm, margin entire, acuminate at apex, base cuneate to obtuse; lateral nerves 5–7 pairs; stipules 4–6 mm long; petioles 5–10 mm long; figs axillary, solitary or in paired; peduncles 5–7 mm long; bracts 3; receptacles globose, 8 mm across, orange-red when old with scattered yellowish spots.

Flowering and Fruiting: June–September.

Occurrence: Found along the bank of streams in shady places of semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CHINA, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0122* (BUBH), 16.08.2020.

23. *Ficus variegata* Blume, Bijdr. Fl. Ned. Ind. 9:459. 1825; King in Hook.f., Fl. Brit. India 5:535. 1888; Brandis, Indian Trees 609. 1906; Chaudhary *et al.*, Taiwania 57(2):204. 2012.

Tree, to 20 m tall; leaves spirally arranged, broadly ovate-elliptic, 10–20 × 8–12 cm, margin entire, acuminate at apex, base cordate to subcordate, puberulous beneath on the nerves; basal nerves 3, lateral nerves 6–7 pairs; petioles 5–12 cm long; figs in fascicles, arising from the tubercles of trunk and branches, pendent; peduncle 2–4 cm long; receptacle subglobose, depressed at apex, longitudinal section shows cordate-shaped.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0183* (BUBH), 15.10.2020.

24. *Ficus virens* Aiton, Hort. Kew. 3:451. 1789; Deb, Fl. Tripura 1:216. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:835. 1987; Chaudhary *et al.*, Taiwania 57(2):209. 2012. *F. infectoria* King in Hook.f., Fl. Brit. India 5:515. 1888; Brandis, Indian Trees 602. 1906; Kanjilal *et al.*, Fl. Assam 4:247.1940. (Plate 40F).

Tree, to 30 m tall; leaves spirally arranged, oblong-elliptic, 10–15 × 5–8 cm, margin entire, short cuspidate at apex, base rounded or broadly cuneate; lateral nerves 8–11 pairs, connected with intramarginal nerves; petioles 4–7 cm long; figs axillary, 1–4, sessile; bracts 3; receptacle subglobose, 1–1.3 cm across, white, with pink spots; flowers pale brown.

Flowering and Fruiting: September–February.

Occurrence: Found in dense semi-evergreen forests. Sometimes also found in open area.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0218* (BUBH), 05.11.2020.

4. *Maclura* Nutt., Gen. N. Amer. Pl. 2:233. 1818.

1. *Maclura cochinchinensis* (Lour.) Corner in Gard. Bull. Singapore 19:239. 1962; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:405. 2008. *Cudrania cochinchinensis* Haridasan and Rao, Forest Fl. Meghalaya 2:815. 1987. *C. javanensis* King in Hook.f., Fl. Brit. India 5:538. 1888; Kanjilal *et al.*, Fl. Assam 4:270. 1940. *Vanieria cochinchinensis* Lour., Fl. Cochinch. 565. 1790. (Plate 41A).

Shrub, to 4 m tall, prickly; leaves alternate, ovate-elliptic, 3–4 × 7–9 cm, margin entire, apex mucronate, base cuneate; lateral nerves 6–8 pairs; female catkin axillary, orbicular, 8 mm diam.; pedicel 6 mm long; female flower sessile; calyx tubular, pubescent, style 4 mm long, green.

Flowering and Fruiting: August–December.

Occurrence: Found in scrub deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, CAMBODIA, CHINA, MYANMAR, NEPAL, PHILIPPINES, TAIWAN, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0026* (BUBH), 14.04.2018.

5. *Streblus* Lour., Fl. Cochinch. 614. 1790.

1. *Streblus asper* Lour., Fl. Cochinch. 615. 1790; Hook.f., Fl. Brit. India 5:489. 1888; Brandis, Indian Trees 615. 1906; Kanjilal *et al.*, Fl. Assam 4:276. 1940; Deb, Fl. Tripura 1:222. 1981. (Plate 41B).

Vern. name: Sheora (Bodo).

Small tree, to 6 m tall; leaves alternate, elliptic-obovate to elliptic, 5–8 × 3–5 cm, margin irregular crenate, acuminate at apex, base obtuse, scabrous both sides; lateral nerves 6–7 pairs, connected with intramarginal nerves; petioles 4–7 mm long; male inflorescences solitary or paired, capitate; male flowers subsessile; stamens 4; female flowers: calyx lobes oblong, concave, persistent; style branched; fruits yellow, subglobose.

Flowering and Fruiting: February–May.

Occurrence: Found in roadsides or in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0540* (BUBH), 25.04.2021.

42. URTICACEAE Juss., Gen. Pl. 400. 1789.

About 29 genera and 153 species in India; 15 genera and 47 species in Assam; 8 genera and 10 species recorded from the study area.

Key to the genera

1a. Herbs or undershrubs.....	2
1b. Shrubs, liana or trees.....	6
2a. Flowers in spike.....	3
2b. Flowers in heads or in clusters.....	4
3a. Plant with stinging hairs; leaves lobed or unlobed.....	4. <i>Girardiana</i>
3b. Plant without stinging hairs; leaves always unlobed.....	1. <i>Boehmeria</i>
4a. Leaf lamina oblique, asymmetrical.....	3. <i>Elatostema</i>
4b. Leaf lamina symmetrical.....	5
5a. Leaves with basal nerves and supra-basal or lateral nerves.....	8. <i>Pouzolzia</i>
5b. Leaves with basal nerves and without lateral nerves.....	5. <i>Gonostegia</i>
6a. Liana or scandent shrub.....	7. <i>Poikilospermum</i>
6b. Shrubs or trees.....	7
7a. Leaves with stinging hairs beneath, acute or acuminate at apex.....	2. <i>Dendrocnide</i>
7b. Leaves without stinging hairs; caudate at apex.....	6. <i>Oreocnide</i>

1. *Boehmeria* Jacq., Syst. Pl. 9. 1760.

1. *Boehmeria virgata* var. *macrostachya* (Wight) Friis and Wilmot-Deer in Blumea 58(2):162. 2013. *B. platyphylla* Hook.f., Fl. Brit. India 5:578. 1888; Brandis, Ind. Trees 617. 1906; Kanjilal *et al.*, Fl. Assam 4:288. 1940; Deb, Fl. Tripura 1:224. 1981; Harid and Rao, Forest Fl. Meghalaya 2:841. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:409. 2008. *Splitgerbera macrostachya* Wight, Icon. Pl. Ind. Orient. 6: t. 1977. 1853.

Shrub, to 2 m tall; leaves opposite, ovate to ovate-elliptic, 5–9 × 3–6 cm, margin dentate, acuminate at base, cuneate to subcordate at base, sparse scabrous above; lateral nerves 5–7 pairs; stipules triangular, 6–10 mm long; petioles 3–5 cm long; inflorescence axillary, spikes, drooping, to 15 cm long; bracts linear-lanceolate; flowers 4-merous; sepals minute, pubescent.

Flowering and Fruiting: April–July.

Occurrence: Found in the banks of streams or in sloppy area of semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, LAOS, MYANMAR, NEPAL, SRI LANKA, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0535* (BUBH), 22.04.2019.

2. *Dendrocnide* Miq., Pl. Jungh. 29. 1851.

Key to the species

1a. Shrub; leaves obovate or oblong-elliptic; petiole 2–4 cm long.....2. *D. sinuata*

1b. Tree; leaves ovate-cordate; petiole 12–20 cm long.....1. *D. meyeniana*

1. *Dendrocnide meyeniana* (Walp.) Chew in Gard. Bull. Singapore 21:204. 1965. *Laportea pterostigma* Kanjilal *et al.*, Fl. Assam 4: 282.1940. *Urtica meyeniana* Walp. in Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19(Suppl. 1):422. 1843.

Vern. name: Khoma Raja (Bodo).

Tree, to 20 m tall; bark whitish, lenticellate; stem buttressed at base; leaves alternate and spirally arranged, cordate or broadly elliptic, 15–25 × 12–18 cm, margin entire or subentire, acute to acuminate at apex, base cordate, subrounded or truncate; stinging hairs beneath; basal nerves 3, lateral nerves 6–8 pairs; petioles 12–20 cm long, pubescent, pinkish.

Flowering and Fruiting: September–February.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), PHILIPPINES, TAIWAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0697* (BUBH), 07.08.2022.

2. *Dendrocnide sinuata* (Blume) Chew in Gard. Bull. 21:206. 1965; Deb, Fl. Tripura 1:226. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:843. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:411. 2008. *Laportea crenulata* Hook.f., Fl. Brit. India 5:550. 1888; Kanjilal *et al.*, Fl. Assam 4: 281.1940. *Urtica sinuata* Blume, Bijdr. Fl. Ned. Ind. 605. 1826.

Vern. name: Khoma (Bodo)

Shrub, to 3 m tall; leaves alternate, ovate-elliptic, 15–25 × 8–14 cm, margin crenate or subentire, acuminate at apex, base subcordate or rounded, clothed with stinging hairs beneath; lateral nerves 9–11 pairs; petioles 2–4 cm long; inflorescence axillary, dichotomously branched cymes; flowers unisexual; male flowers white; tepals 4; stamens 4.

Flowering and Fruiting: September–February.

Occurrence: Found in dense semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0536* (BUBH), 12.12.2019.

Uses: Female flowers are edible.

3. *Elatostema* Forst. and Forst., Char. Gen. Pl. 105. 1776.

Key to the species

- 1a. Leaf margin denticulate to apex.....2. *E. platyphyllum*
1b. Leaf margin 3–5 dentate from middle, not to apex.....1. *E. acuminatum*

1. *Elatostema acuminatum* (Poir.) Brogn., Bot. Voy. Coquille 211. 1834; Hook.f., Fl. Brit. India 5:566. 1888. Kanjilal *et al.*, Fl. Assam 4:285. 1940. *Procris acuminata* Poir. in Lamarck *et al.*, Encycl. 5:629. 1804.

Undershrub, to 1 m tall; stems terete, woody at base, young parts pubescent; leaves alternate, sessile, oblanceolate, 3–7 × 2–3 cm, margin crenate, caudate-acuminate at apex, base cuneate, glabrous both sides; lateral nerves 4–5 pairs; inflorescence axillary, head sessile; involucre bracts minute; flowers creamy white with tinged pink.

Flowering and Fruiting: September–February.

Occurrence: Found in dense semi-evergreen forests as undergrowth.

Distribution: INDIA (Almost throughout the country), BHUTAN, BORNEO, CHINA, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0068* (BUBH), 04.04.2021.

2. *Elatostema platyphyllum* Wedd. in Arch., Mus. Hist. Nat. 9:301. 1856; Hook.f., Fl. Brit. India 5:566. 1888. Kanjilal *et al.*, Fl. Assam 4:285. 1940; Deb, Fl. Tripura 1:227. 1981; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:415.2008.

Undershrub, to 50 cm tall; leaves alternate, obovate-oblong, 6–12 × 4–7 cm, margin crenate, caudate-acuminate at apex, base oblique, cuneate, scaberulous above; lateral nerves 3–4 pairs; petioles 2–5 mm long; inflorescence axillary, head cymes; male flowers sessile or 1–2 mm long pedicel, pale green; female flowers tomentose; fruits in clustered.

Flowering and Fruiting: March–September.

Occurrence: Found in moist places of semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, NEPAL, PHILIPPINES, TAIWAN, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0537* (BUBH), 11.05.2021.

4. *Girardinia* Gaudich., Voy. Uranie 498. 1830.

1. *Girardinia diversifolia* (Link) Friis in Kew Bull. 36(1):145. 1981. *G. heterophylla* Decne. in Jacq., Voy. 4:151. t.153. 1844; Hook.f., Fl. Brit. India 5:551. 1888; Kanjilal *et al.*, Fl. Assam 4:282. 1940. *Urtica diversifolia* Link, Enum. Hort. Berol. Alt. 2:385. 1822. (Plate 62E).

Herb, to 1.2 m tall, sharp stinging hairs and spines throughout; leaves alternate, lobed or unlobed, ovate-elliptic, 8–14 × 4–10 cm, margin irregularly dentate, acuminate at apex, base cordate, densely pubescent beneath; petioles 5–10 cm long, with stinging hairs; inflorescence axillary, unisexual, spike, 6–10 cm long; perianths of male flowers 4 or 5 lobed; stamens 4 or 5; perianths of female flowers 2-lobed, with bristle hairs; fruits biconvex, suborbicular.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest in semi-evergreen type.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMEROON, CHINA, MYANMAR, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0206* (BUBH), 18.10.2020.

Uses: Juvenile leaves are eaten as vegetable.

5. *Gonostegia* Turcz. in Bull. Soc. Imp. Naturalistes Moscou 19(2):509. 1846.

1. *Gonostegia triandra* (Blume) Miq., Ann. Mus. Bot. Lugduno-Batavi 4:303. 1869. *Pouzolzia hirta* Hook.f., Fl. Brit. India 5:586.1888 ; Kanjilal *et al.*, Fl. Assam 4:291. 1940. *Urtica hirta* Blume, Bijdr. 495. 1826.

Herb, to 40 cm tall; stem densely pubescent, reddish; leaves opposite, sessile, oblong-lanceolate or linear-lanceolate, 3–7 × 1–2 cm, margin entire, acuminate at apex, base subcordate or rounded, glabrous both sides; basal nerves 3; inflorescence axillary, head, cymes, sessile; flowers pale reddish, densely pubescent; perianth 5-lobed; stamens 5.

Flowering and Fruiting: April–August.

Occurrence: Found in banks of streams in forests margins.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, JAPAN, LAOS, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0538* (BUBH), 16.06.2019.

6. *Oreocnide* Miq., Pl. Jungh. 39. 1851.

1. *Oreocnide integrifolia* (Gaudich.) Miq., Ann. Mus. Bot. Lugduno-Batavi 4:306. 1869; Kanjilal *et al.*, Fl. Assam 4:293. 1940; Deb, Fl. Tripura 1:229. 1981; Harid and Rao, Forest Fl. Meghalaya 2:847. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:418. 2008. *Villebrunea integrifolia* Gaudich., Voy. Bonite, Bot. 3:t. 91. 1844; Hook.f., Fl. Brit. India 5:589. 1888. (Plate 62F).

Small tree; leaves alternate, elliptic-oblong or elliptic lanceolate, 10–20 × 4–8 cm; margin entire, caudate at apex, base obtuse or rounded, pubescent beneath; lateral nerves 10–12 pairs; petioles 2–3.5 cm long, pubescent; inflorescence axillary, paniculate cymes; flowers in white head, pale yellowish-white; fruits achenes.

Flowering and Fruiting: July–December.

Occurrence: Found in the banks of streams or rivers of the forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, INDONESIA, MYANMAR, NEPAL, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0150* (BUBH), 30.08.2020.

Uses: Inflorescences are cooked with dried fish and eaten as chutney (Teron 2011).

7. *Poikilospermum* Zipp. ex Miq., Ann. Mus. Bot. Lugduno-Batavi 1:203. 1864.

1. *Poikilospermum suaveolens* (Blume) Merr. in Contr. Arnold Arbor. 8:47. 1934; Deb, Fl. Tripura 1:221. 1981; Harid and Rao, Forest Fl. Meghalaya 2:837. 1987. *Conocephalus suaveolens* Hook.f., Fl. Brit. India 5:545. 1888; Brandis, Ind. Trees 610. 1906; Kanjilal *et al.*, Fl. Assam 4:272. 1940. *Conocephalus suaveolens* Blume, Bijdr. Fl. Ned. Ind. 9:483. 1825. (Plate 65F).

Scandent shrub; leaves alternate, ovate-elliptic, 8–18 × 7–12 cm, margin entire, acute or rounded at apex, base rounded or subcordate; lateral nerves 9–12 pairs; petioles 3–6 cm long;

inflorescence axillary, cymes; male inflorescence branched 2–3 times; female inflorescence branched 1–2 times; bracts distinct; flowers purplish; perianth of male flowers 4-lobed; stamens 4.

Flowering and Fruiting: February–July.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0702* (BUBH), 08.04.2022.

8. *Pouzolzia* Gaudich. in Voy. Uranie 503. 1830.

1. *Pouzolzia zeylanica* (L.) Benn., Pl. Jav. Rar. 67. 1838; Deb, Fl. Tripura 1:231. 1981. *P. indica* Hook.f., Fl. Brit. India 5:581. 1888; Kanjilal *et al.*, Fl. Assam 4:291. 1940. *Parietaria zeylanica* L., Sp. Pl. 1:1052. 1753.

Herb, ascending or erect, to 30 cm tall; leaves alternate, ovate, rarely ovate-lanceolate, 2–3.5 × 1–1.5 cm, margin entire, acuminate at apex, base cuneate or narrowed, pubescent beneath; basal nerves 3, lateral basal nerves branched, lateral nerves 1 pair; petioles 4–8 mm long; inflorescence axillary, clusters; male flowers: perianth 4-lobes; stamens 4.

Flowering and Fruiting: August–January.

Occurrence: Found in roadsides or in open forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0069* (BUBH), 29.10.2020.

43. FAGACEAE Dumort., Anal. Fam. Pl. 11(–12). 1829.

About 6 genera and 57 species in India; 3 genera and 21 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Fruits sharp spiny.....1. *Castanopsis*
1b. Fruits not spiny.....2. *Lithocarpus*

1. *Castanopsis* (Don) Spach, Hist. Nat. Vég. 11:185. 1842.

1. *Castanopsis indica* (Roxb. ex Lindl.) DC. in J. Bot. 1:182. 1863; Hook.f., Fl. Brit. India 5:620. 1888; Kanjilal *et al.*, Fl. Assam 4:321. 1940; Deb, Fl. Tripura 1:201. 1981; Balakr., Fl. Jowai 2:458. 1983; Harid and Rao, Forest Fl. Meghalaya 2:856. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:428. 2008. *Castanea indica* Roxb. ex Lindl. in Wall. Pl. As. Rar. 2:5. 1830. (Plate 28C).

Evergreen tree; branchlets brown lenticellate; leaves alternate, elliptic-oblong, 8–12 × 4–6 cm, margin serrate, obtuse or acute at apex, base cuneate, leathery, pubescent beneath, grey; lateral nerves 15–17 pairs; petioles 8–10 mm long, pubescent, base swollen; female inflorescence axillary, spikes, 10–15 cm long; nuts ovoid, with dense sharp spines.

Flowering and Fruiting: August–February.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0544* (BUBH), 01.08.2020.

Uses: Seeds are eaten fried or as raw.

2. *Lithocarpus* Blume, Bijdr. Fl. Ned. Ind. 526. 1826.

1. *Lithocarpus dealbatus* (Hook.f. and Thoms. ex Miq.) Rehder in J. Arnold Arbor. 1:124. 1919. *Pasania dealbata* Kanjilal *et al.*, 4:317. 1940. *Quercus dealbata* Miq. in Ann. Mus. Bot. Lugduno-Batavi 1:107. 1863; Hook.f. and Thoms. *ex* Miq., Ann. Mus. Bot. Lugduno Batavi 1:107. 1864. (Plate 28D).

Medium size tree; leaves alternate, elliptic-lanceolate, 15–25 × 3–5 cm, apex acuminate, base acute, margin entire; lateral nerves 9–12 pairs; petiole 1–2 cm long, glabrous; both male and female flowers in clusters of 3; perianth of male flower 6-lobed; stamens 10; fruits sessile, woody, oblique cone shaped with transverse wavy lines above, pale yellowish-green.

Flowering and Fruiting: March–July.

Occurrence: Found in deciduous forest in the sloppy bank of streams.

Distribution: INDIA (NE India), BANGLADESH, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0642* (BUBH), 12.07.2019.

44. JUGLANDACEAE DC. ex Perleb, Vers. Arzneikr. Pfl. 143. 1818.

About 2 genera and 4 species in India; 1 genus and 3 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Engelhardia* Lesch. ex Blume, Bijdr. Fl. Ned. Ind. 528. 1826.

1. *Engelhardia spicata* Lesch. ex Blume, Bijdr. 528. 1826; Hook.f., Fl. Brit. India 5:595. 1888; Kanjilal *et al.*, Fl. Assam 4:299. 1940; Deb, Fl. Tripura 1:203. 1981; Harid and Rao, Forest Fl. Meghalaya 2:850. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:424. 2008.

Vern. name: Naa-ru (Bodo).

Tree, to 25 m tall; leaves alternate, imparipinnate; leaflets opposite or subopposite, elliptic-oblong or oblong-lanceolate, 6–16 × 2.5–4.5 cm, margin entire, apex acute to acuminate, base rounded; lateral nerves 12–18 pairs; petiolules 3–6 mm long; inflorescence spikes; fruits depressed globose, with 3-lobed wings, yellowish-brown when old.

Flowering and Fruiting: April–August.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0311* (BUBH), 07.08.2020.

Uses: Bark is used in fish poisoning. Ripe fruits are eaten (Teron 2011).

45. CUCURBITACEAE Juss., Gen. Pl. 393. 1789.

About 39 genera and 99 species in India; 20 genera and 37 species in Assam; 7 genera and 8 species recorded from the study area.

Key to the genera

- 1a. Petals apex fimbriate.....2
- 1b. Petals apex not fimbriate.....3
- 2a. Fruits more than 10 cm in diam., depressed globose, brown when ripe.....3. *Hodgsonia*
- 2b. Fruits less than 7 cm in diam., oblong or subglobose, red when ripe.....6. *Trichosanthes*
- 3a. Inflorescence paniced cymes, more than 40-flowered.....4

- 3b. Inflorescence simple cymes, less than 10-flowered.....5
 4a. Leaves compound, 3–5-foliolate; flowers pale green, minute.....2. *Gynostemma*
 4b. Leaves simple; flowers yellow, distinct.....4. *Indofevillea*
 5a. Petals densely pubescent, pale yellow.....1. *Diplocyclos*
 5b. Petals glabrescent, creamy white.....6
 6a. Fruits oblong, red when ripe.....5. *Solena*
 6b. Fruits globose to subglobose, greyish-white.....7. *Zehneria*

1. *Diplocyclos* (Endl.) Post and Kuntze, Lex. Gen. Phan 178. 1903.

1. *Diplocyclos palmatus* (L.) Jeffrey in Kew Bull. 15(3): 352. 1962; Chakravarty in Fasc. Fl. India 11:48. 1982; Deb, Fl. Tripura 1:258. 1981. *Bryonia palmata* L., Sp. Pl. 2:1012. 1753. *B. laciniosa* L., Sp. Pl. 2:1013. 1753; Hook.f., Fl. Brit. India 2:622. 1879. (Plate 22D).

Vern. name: Daokha-Khamplai phisa (Bodo).

Climber; stem quadriangular, with bifid tendrils; leaves palmately 5-lobed, 3–7 × 3–8 cm, acuminate at apex, base truncate-cordate, margin distantly serrate, scabrous above; petiole 3–5 cm long, with grooved above; inflorescence axillary, fascicled, with 4–8 unisexual flowers; flower pedicel 1–1.5 cm long; calyx lobes 5, linear, green; corolla 5-lobed, yellow, densely pubescent; stemens 3, yellow; style 3, ovary and berry globose; berry with white dotted horizontal lines.

Flowering and Fruiting: October–January.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, UGANDA, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0475* (BUBH), 05.11.2021.

2. *Gynostemma* Blume, Bijdr. Fl. Ned. Ind. 23. 1825.

1. *Gynostemma pentaphyllum* (Thunb.) Makino in Bot. Mag. Tokyo 16:179. 1902. *G. pedata* Clarke in Hook.f., Fl. Brit. India 2:633. 1879; Kanjilal *et al.*, Fl. Assam 2:331. 1938. *Vitis pentaphylla* Thunb. in Murray, Syst. Veg. 14:244. 1784.

Climber with simple tendril; leaves alternate, pedately 5 or 3-foliolate; leaflets ovate-lanceolate, lateral leaflets oblique; 5–10 × 3–5 cm, acute-acuminate at apex, base cuneate or oblique, margin crenate; lateral nerves 6–8 pairs; inflorescence axillary panicles; flowers minute, pale green or creamy; calyx 5-partite, green; corolla 5-partite; creamy; stamens 5; fruits globose, green.

Flowering and Fruiting: September–December.

Occurrence: Found in deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, BORNEO, BHUTAN, CHINA, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0283* (BUBH), 19.09.2020.

3. *Hodgsonia* Hook.f. and Thomson in Proc. Linn. Soc. London 2:257. 1853.

1. *Hodgsonia heteroclita* (Roxb.) Hook. f. and Thomson in Proc. Linn. Soc. London 2:257. 1854; Clarke in Hook.f., Fl. Brit. India 2:606. 1879; Kanjilal *et al.*, Fl. Assam 2:326. 1938. *Trichosanthes heteroclita* Roxb., Fl. Ind. 3:705. 1832. (Plate 22E).

Vern. name: Hagrani Jwgnar (Bodo).

Climber; stem woody at base; tendrils bifid; leaves alternate, 3–5-lobed, 10–13 × 8–12 cm; lobes margin serrulate, acuminate at apex, base truncate; petioles 4–6 cm long; bracts oblong-lanceolate; flowers unisexual; male flowers: calyx base tubular, lobes triangular-lanceolate; corolla creamy white, fimbriate at apex; female flowers: calyx brown; ovary reddish-brown; fruits depressed globose, grooved, brown.

Flowering and Fruiting: April–October.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, SOUTH-CENTRAL, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0704* (BUBH), 28.05.2021.

Uses: Seeds are roasted and eaten as chutney. Pieces of dry fruits are immersed in a glass of water and taken in empty stomach to cure dysentery. Also use to control diabetes.

4. *Indofevillea* Chatterjee in nature 158:345. 1946.

1. *Indofevillea khasiana* Chatterjee in Nature 158:345. 1946 and in Kew Bull. 2(2):121. 1947; Chakravarty in Fasc. Fl. India 11:62. 1982. (Plate 23A, 74).

Climber, dioecious; matured stem angular-sulcate, young stem 5-angular; tendrils distally 2-branched; leaves alternate, ovate-oblong, 10–23 × 6–14 cm, margin subentire, serrulate; cuspidate or apiculate at apex, base deeply cordate; basal nerves 3-nerved, lateral nerves 3–4 pairs; petioles 3–5 cm long; male inflorescence paniculate, axillary, 20–35 cm long, 30–100 flowered; sepals 5, ovate-triangular; petals 5, elliptic-oblong, inner surface papillose; stamens 5, four in two pairs and one solitary; filaments 2–3 mm long, yellow.

Flowering: April–May (Male flowers).

Occurrence: Found in evergreen forests.

Distribution: INDIA (Arunachal Pradesh, Assam, Meghalaya), CHINA.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0660 (BUBH), 08.04.2022.

5. *Solena* Lour., Fl. Cochinch. 514.1790.

1. *Solena heterophylla* Lour., Fl. Cochinch. 514.1790. *Melothria heterophylla* Deb, Fl. Tripura 1:262. 1981; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:516. 1996. *Zehneria umbellata* Clarke in Hook, f., Fl. Brit. India 2:625. 1879. Kanjilal *et al.*, Fl. Assam 2:331. 1938.

Climber; stems and branches glabrous; leaves alternate, ovate-oblong, or sagittate, 6–10 × 4–7 cm, margin subentire, acute at apex, base cordate; lateral nerves 3–4 pairs; petioles 1–1.5 cm long; flowers unisexual; male flowers umbellate; sepals 5; corolla 5-lobed, base tubular, creamy white; stamens 3; female flowers solitary; fruits oblong, orange red when ripe.

Flowering and Fruiting: June–October.

Occurrence: Found in scrub forests.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, S. Basumatary 0477 (BUBH), 12.08.2021.

6. *Trichosanthes* L., Sp. Pl. 2:1008. 1753.

Key to the species

1a. Fruits ridged, elliptical, pubescent.....1. *T. costata*

1b. Fruits non-ridged, oblong-subglobose, glabrous.....2. *T. wallichiana*

1. *Trichosanthes costata* Blume, Bijdr. Fl. Ned. Ind. 933. 1826. *Gymnopetalum cochinchinensis* Kurz in J. Asiat. Soc. Bengal 40:57. 1871; Clarke in Hook, f., Fl. Brit. India 2:611. 1879; Deb, Fl. Tripura 1:258.1981. (Plate 23B).

Vern. name: Khaila (Bodo).

Climber; stem angular, pubescent; leaves alternate, ovate, 3–5 lobes, 4–8 × 4–6 cm, lobes margin subentire, short acuminate at apex, base cordate, scabrous both side; basal nerves 3; tendrils coiling; petioles 2–4 cm long, angular, pubescent; inflorescence axillary, cymes; flowers unisexual, pentamerous; male flowers in racemes, white; female flowers solitary; fruits oblong and tapering both ends, 8–10 longitudinal lines, orange-red when matured.

Flowering and Fruiting: January–May.

Occurrence: Found in scrub forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0476* (BUBH), 05.11.2021.

Uses: Fruits are eaten fried or pounded after fried as chutney. Bitter in taste.

2. *Trichosanthes wallichiana* (Ser.) Wight in Ann. and Mag. Nat. Hist. 8:270. 1842; Kanjilal *et al.*, Fl. Assam 2:327. 1938; Deb, Fl. Tripura 1:267. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:423. 1985. *T. multiloba* C. B. Clarke in Hook, f., Fl. Brit. India 2:608. 1879. *Involucraria wallichiana* Ser. in Mém. Soc. Phys. Genève 3(1):25. 1825.

Vern. name: Daoka Kamplai (Bodo).

Climber, stems and branches angular; tendril 2–3 fid; leaves alternate, ovate-orbicular, 3–8 lobed, suborbicular, 8–12 × 8–11 cm, margin crenate-dentate, acuminate at apex, base cordate; petioles 2–4 cm long; male flowers in short racemes; calyx 5-lobed; corolla-5-lobed, white, fimbriate at apex; stamens 3; fruits oblong, 4–6 × 4–5 cm, red when ripe; seeds black when matured.

Flowering and Fruiting: April–September.

Occurrence: Found in mixed deciduous forests or roadsides of forest.

Distribution: INDIA (Almost throughout the country), BHUTAN, CHINA, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0478* (BUBH), 11.05.2021.

7. *Zehneria* Endl., Prodr. Fl. Norfolk. 69. 1833.

1. *Zehneria japonica* (Thunb.) Liu in Bull. Natl. Mus. Nat. Sci., Taichung 1:40. 1989.
Bryonia japonica Thunb. in Murray, Syst. Veg. 14:870.1784. (Plate 22F).

Climber; leaves alternate, polymorphic, triangular-ovate or hastate, 4–6 × 3–5 cm, margin subentire, acuminate at apex, base cordate or hastate; petiole 2–4 cm long; male flowers 1–3 in a raceme; calyx campanulate; corolla segments ovate-oblong, pale yellow; stamens 3; female flowers solitary or in pair; stigmas 3; fruit subglobose to ovoid, whitish or orange to red.

Flowering and Fruiting: September–February.

Occurrence: Found in shady places semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CHINA, JAPAN, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0678* (BUBH), 19.11.2021.

46. TETRAMELACEAE Shaw in Kew Bull. 18(2):267. 1965.

About 2 genera and 2 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Tetrameles* Br., Narr. Travels Africa 230. 1826.

1. *Tetrameles nudiflora* Br. in Benn., Pl. Jav. Rar. 79.t.17. 1838; Clarke in Hook.f., Fl. Brit. India 2:657. 1879; Kanjilal *et al.*, Fl. Assam 2:335. 1938; Harid. and Rao, Forest Fl. Meghalaya 1:425. 1985; Chauhan in Singh *et al.*, Fl. Manipur 1:429. 2000.

Vern. name: Bholam (Bodo).

Tree, to 40 m tall; stems buttress at base; leaves spirally arranged, broadly ovate, 10–15 × 8–12 cm, margin serrulate to serrate; acuminate at apex, base cuneate, pubescent both sides; basal nerves 3–5, lateral nerves 4–5 pairs; petioles 1–2 cm long; inflorescence paniced

racemes, drooping; flowers pale yellow or creamy white; calyx 4-lobed, lobes linear; fruits ovoid.

Flowering and Fruiting: April–August.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0479* (BUBH), 19.10.2019.

47. BEGONIACEAE Agardh, Aphor. Bot. 200. 1824.

About 1 genera and 55 species in India; 1 genus and 17 species in Assam; 1 genus and 2 species recorded from the study area.

1. *Begonia* L., Sp. Pl. 2:1056. 1753.

Key to the species

1a. Petals 2.....1. *B. nepalensis*

1b. Petals 4.....2. *B. roxburghii*

1. *Begonia nepalensis* (DC.) Warb. in Engler and Prantl., Nat. Pflanzenfam. 3:142. 1894. *Meziera nepalensis* DC. in Ann. Sci. Nat., Bot. sér. 4, 11:144. 1859. (Plate 18D).

Caulescent, internode 4–6 cm apart; leaves 15–25 × 4–8 cm, margin serrulate, acuminate at apex, base oblique-subcordate; lateral nerves 4–6; petiole 0.5–1.5 cm long; stipules lanceolate, 1.4 × 0.2 cm; inflorescence axillary, 5–8 cm long; peduncle pinkish, branched one or two times; flowers unisexual; pedicel 0.5–2 cm long; petals 2, ovate-orbicular, cordate, 5–10 × 4–8 mm, apex rounded; stamens in clusters, golden-yellow; fruits triangular winged, with 2 reduced lateral wings, pinkish-red.

Flowering and Fruiting: October–March.

Occurrence: Found in high steep land of shady places.

Distribution: INDIA (Assam, Arunachal Pradesh), BHUTAN, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Saralpara, *S. Basumatary 0239* (BUBH), 25.11.2020.

2. *Begonia roxburghii* (Miq.) DC., Prodr. 15(1):398. 1864; Clarke in Hook.f., Fl. Brit. India 2:635. 1879; Kanjilal *et al.*, Fl. Assam 2:333. 1938; Chowdhery *et al.* in Hajra *et al.*,

Materials for the Fl. Arunachal Pradesh 1:532. 1996. *Diploclinium roxburghii* Miq., Fl. Ned. Ind. 1(1):692. 1856. (Plate 18E).

Vern. name: Mwiki Pagla (Bodo).

Caulescent, to 1 m tall; rhizomatous rootstock; stem with dark pink or reddish spots or stripes, sometimes lacking; leaves opposite, ovate-elliptic, 10–18 × 6–12 cm, acuminate at apex, base semicordate, oblique, margin subentire or distantly serrulate; basal nerves generally 6; petiole 3–6 cm long; inflorescence axillary or terminal cyme; flowers unisexual; tepals of male flowers 2+2, creamy white with pale pink; stamens numerous, yellow; tepals of female flower 2+2, creamy white with pale pink.

Flowering and Fruiting: August–December.

Occurrence: Found in moist places along bank of streams.

Distribution: INDIA (NE India), BANGLADESH, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0159* (BUBH), 09.09.2020.

Uses: Leaves and shoots are cooked as vegetable. Paste of rhizome is applied in burns. Stem extract is given to children to treat tongue abnormalities (Teron 2011).

48. CELASTRACEAE Br., Voy. Terra Austral. 2:554. 1814.

About 16 genera and 102 species in India; 8 genera and 16 species in Assam; 3 genera and 4 species recorded from the study area.

Key to the genera

- 1a. Inflorescence fascicled.....3. *Salacia*
- 1b. Inflorescence panicled cymes.....2
- 2a. Fruits narrow oblong; seeds without aril.....2. *Microtrophis*
- 2b. Fruits obovoid or subglobose, lobed or unlobed; seeds arillate.....1. *Euonymus*

1. *Euonymus* L., Sp. Pl. 1:197. 1753.

Key to the species

- 1a. Scandent shrub or liana.....2. *E. vagans*
- 1b. Tree.....1. *E. attenuatus*

1. *Euonymus attenuatus* Wall. ex Lawson in Hook.f., Fl. Brit. India 1:610. 1872; Wall., Numer. List n. 4298. 1831; Kanjilal *et al.*, Fl. Assam 1(2):262. 1936. (Plate 20B).

Trees, evergreen, to 8 m tall; leaves opposite, oblong-elliptic, 5–10 × 3–5 cm, shortly acuminate at apex, base cuneate, margin entire; lateral nerves 5–7 pairs; petiole 0.5–1 cm long, grooved above; inflorescence cyme, dichotomously branched cymes; flowers 4–5-merous; calyx unequal, lobes apex obtuse, light pink; petals obovate-orbicular, white, margin slightly erose; capsule obovoid, 4–5-lobed, glabrous, green, turning orange-red when ripe.

Flowering and Fruiting: March–August.

Occurrence: Found in roadside of semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0308* (BUBH), 08.04.2021.

2. *Euonymus vagans* Wall. in Roxb., Fl. Ind. 2:412. 1824; Lawson in Hook.f, Fl. Brit. India 1:611. 1872; Kanjilal *et al.*, Fl. Assam 1(2):264. 1936. (Plate 20C).

Liana or climbing shrub; branches 4-angular, lenticellate; leaves opposite, oblong-lanceolate, 4–6 × 2–3.5 cm, margin serrulate, acuminate at apex, base cuneate or rounded; lateral nerves 5–6 pairs; petiole 3–5 mm long; inflorescence axillary, umbellate cymes, many flowered; flowers 4-merous; sepals semirotund, greenish; petals suborbicular, margin irregular, greenish-white, stamens 4; style short.

Flowering and Fruiting: March–July.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0690* (BUBH), 20.03.2022.

2. *Microtropis* Wall. ex Meisn., Pl. Vasc. Gen. 1:68. 1837.

1. *Microtropis discolor* (Wall.) Wall. ex Meisn. in Pl. Vasc. Gen. 2:49. 1837; Lawson in Hook.f., Fl. Brit. India 1:614. 1875; Kanjilal *et al.*, Fl. Assam 1(2):267. 1936. *Cassine discolor* Wall. in Roxb., Fl. Ind. 2:378. 1824. (Plate 20D).

Tree or large shrub; leaves opposite, oblong-elliptic, 7–12 × 3–5 cm, margin entire, acuminate or caudate-acuminate at apex, base cuneate; lateral nerves 5–8 pairs; petioles 6–12 mm long, channelled margined; inflorescence supra-axillary or axillary, trichotomously

branched; peduncle 2–4 cm long; flowers greenish-white; calyx lobes orbicular, 2–3 mm across; petals elliptic, concave; ovary 2–3-celled; fruits ellipsoid, with persistent calyx.

Flowering and Fruiting: August–November.

Occurrence: Found in semi-evergreen forests along streams.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0307* (BUBH), 28.08.2020.

3. *Salacia* L., Mant. Pl. 2:159. 1771.

1. *Salacia salacioides* (Roxb.) Rao and Hemadri in J. Bombay Nat. Hist. Soc. 67:358. 1970. *S. roxburghii* Lawson in Hook.f., Fl. Brit. India 1:627. 1872; Kanjilal *et al.*, Fl. Assam 1(2):275. 1936. *Johnia salacioides* Roxb., Fl. Ind. 1:168. 1832. (Plate 20E).

Liana; branchlets angular; leaves opposite, elliptic-oblong, 4–7 × 3–4 cm, margin entire, caudate-acuminate at apex, base broadly acute, coriaceous; lateral nerves 5–8 pairs; petiole 5–10 mm long; inflorescence axillary, fascicled; flowers unisexual, pale greenish-yellow; sepals orbicular; petals ovate-orbicular, acute at apex; fruits obovoid-globose, 2.5–3.5 cm across, surface wrinkled.

Flowering and Fruiting: September–February.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0695* (BUBH), 07.05.2021.

49. CONNARACEAE R.Br., Narr. Exped. Zaire 431. 1818.

About 4 genera and 16 species in India; 2 genera and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Connarus* L., Sp. Pl. 2:675. 1753.

1. *Connarus paniculatus* Roxb., Fl. Ind. 3:139. 1832; Hook.f., Fl. Brit. India 2:52. 1876; Kanjilal *et al.*, Fl. Assam 2:2. 1938. (Plate 21D).

Vern. name: Rakhaosi Biphang (Bodo).

Scandent shrubs; leaves compound, 5-foliolate; leaflets oblong-lanceolate, 6–12 × 3–5 cm, obtusely acuminate at apex, base obtuse, margin entire; lateral nerves 4–6 pairs; inflorescence

panicles, up to 20 cm long; sepals elliptic, 3–4 mm long, apex obtuse, rusty outside; petals lanceolate, 6–8 mm long, apex obtuse, pubescent both side; stamens connate at base; fruits ovoid, 2–3 cm long, slightly compressed, orange-red when ripe.

Flowering and Fruiting: August–January.

Occurrence: Found in semi-evergreen forest along streams.

Distribution: INDIA (Andaman Island, NE India, Karnataka, Kerala), BANGLADESH, CAMBODIA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0291* (BUBH), 05.09.2020.

50. OXALIDACEAE Br., Narr. Exped. Zaire 433. 1818.

About 6 genera and 50 species in India; 4 genera and 11 species in Assam; 2 genera and 3 species recorded from the study area.

Key to the genera

- 1a. Leaves pinnately compound.....1. *Biophytum*
1b. Leaves palmately compound.....2. *Oxalis*

1. *Biophytum* DC., Prodr. 1:689. 1824.

1. *Biophytum sensitivum* (L.) DC., Prodr. 1:690. 1824; Edgew. and Hook.f. in Hook.f., Fl. Brit. India 1:437. 1872; Deb, Fl. Tripura 2:306. 1983; Manna in Hajra *et al.*, Fl. India 4:238. 1997. *Oxalis sensitiva* L., Sp. Pl. 1:434. 1753.

Erect herb, to 30 cm tall; leaves pinnately compound, crowded at the apex of axis; leaflets 7–14 pairs, smaller at basal part, opposite, oblong, obovate, 8–13 × 3–5 mm, entire, apex round-apiculate; inflorescence terminal, umbel, to 5 cm long, 3–7-flowered; calyx 5-lobed, pubescent; corolla 4 mm long, yellow; stamens 8–10, sessile, pale yellow.

Flowering and Fruiting: May–December.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0052* (BUBH), 13.07.2018.

2. *Oxalis* L., Sp. Pl. 1:433. 1753.

Key to the species

- 1a. Flowers yellow.....1. *O. corniculata*
 1b. Flowers pink.....2. *O. debilis*

1. *Oxalis corniculata* L., Sp. Pl. 1:435. 1753; Edgew. and Hook.f. in Hook.f., Fl. Brit. India 1:436. 1874; Deb, Fl. Tripura 2:306. 1983; Manna in Hajra *et al.*, Fl. India 4:242. 1997.

Vern. name: Singri (Bodo).

Procumbent herb, to 15 cm tall; leaves subopposite, palmately compound, 3-foliolate; leaflets obovate, bilobed each, 1–1.5 × 0.8–1.2 cm, margin entire, emarginated at apex, base cuneate, densely pubescent beneath; petioles 3–6 cm long; inflorescence umbellate cymes; peduncle 3–5 cm long, pubescent; flowers 5-merous; sepals linear-oblong, green, persistent; petals oblong, yellow; stamens 10; fruits linear-oblong, valved, 1–2 cm long, pubescent.

Flowering and Fruiting: November–May.

Occurrence: Found in open forests or in domestic area in shady places.

Distribution: INDIA (Introduced), COLOMBIA, COSTA RICA, CUBA, MEXICO.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0435* (BUBH), 19.10.2019.

Uses: Whole juvenile part taken as vegetables.

2. *Oxalis debilis* Kunth, Nov. Gen. Sp. 5:236. 1822; Manna in Hajra *et al.*, Fl. India 4:246. 1997. *Acetosella debilis* Kuntz., Revis. Gen. Pl. 1:92. 1891. *O. corymbosa* DC., Prodr. 1:696. 1824.

Herb, to 15 cm tall; leaves palmately compound, 3-foliolate; petioles 4–10 cm long; leaflets sessile, obcordate, 1.5–2 × 1.5–2.5 cm, margin entire, bilobed at apex, base cuneate; lateral nerves 2–3 pairs; inflorescence umbellate corymbs; peduncle 6–12 cm long, pubescent; flowers 5-merous; pedicels 2–3 cm long; calyx oblong; corolla obovate, pink with dark pink horizontal nerves, truncate-rounded at apex.

Flowering and Fruiting: March–July.

Occurrence: Found in roadsides or in waste places.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0115* (BUBH), 11.04.2019.

51. ELAEOCARPACEAE Juss. in DC. Essai Propr. Méd. Pl. ed. 2:87. 1816.

About 2 genera and 33 species in India; 2 genera and 21 species in Assam; 2 genera, 6 species and 1 variety recorded from the study area.

Key to the genera

- 1a. Fruits sharp spiny.....2. *Sloanea*
1b. Fruits not spiny.....1. *Elaeocarpus*

1. *Elaeocarpus* L., Sp. Pl. 1:515. 1753.

Key to the species

- 1a. Fruits globose, blue when ripe.....1. *E. angustifolium*
1b. Fruits not globose.....2
2a. Anthers awned.....3
2b. Anthers awnless.....5
3a. Petals broader towards base, narrowed towards apex.....6. *E. varunua*
3b. Petals narrowed towards base, broader towards apex.....4
4a. Awns shorter than anther.....4. *E. rugosus*
4b. Awns as long as anther.....5. *E. stapfianus*
5a. Anthers bearded with tuft of hairs at apex.....2. *E. floribundus*
5b. Anthers not bearded with hairs at apex.....3. *E. lucidus*

1. *Elaeocarpus angustifolium* Blume, Bijdr. Fl. Ned. Ind. 120. 1825. *E. ganitrus* Masters in Hook.f., Fl. Brit. India 1:400. 1874; Kanjilal *et al.*, Fl. Assam 1(1):172. 1934. *E. sphaericus* Murti in Sharma *et al.*, Fl. India 3:555.1993.

Vern. name: Indurmala Biphang (Bodo).

Tree, to 20 m tall; stem surface with irregular outgrowth; leaves alternate, oblong-lanceolate, 10–15 × 2.5–4 cm, margin crenate-serrate, acute-acuminate at apex, base cuneate; lateral nerves 10–14 pairs; petioles 1–1.5 cm long; inflorescence axillary, racemes, 6–8 cm long, drooping; sepals linear-lanceolate, 6–8 mm long; petals laciniate at apex; stamens many; anthers short awned; fruits globose, 1.5–2 cm across, 5-locular, blue when ripe.

Flowering and Fruiting: April–October.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0716* (BUBH), 08.04.2022.

Uses: Fruits are edible and used in brain related diseases (Das *et al.* 2010).

2. *Elaeocarpus floribundus* Blume, Bidjr. Fl. Ned. Ind. 3:120. 1825; Masters in Hook.f., Fl. Brit. India 1:401. 1874; Kanjilal *et al.*, Fl. Assam 1(1):173. 1934; Balakr., Fl. Jowai 1:106. 1981; Deb, Fl. Tripura 1:281. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:167. 1985; Murti in Sharma *et al.*, Fl. India 3:536.1993.

Vern. name: Jolphi/Jolphai (Bodo).

Tree, to 15 m tall; bark dark grey; leaves alternate, ovate-elliptic or ovate-lanceolate, 8–13 × 3–5 cm, margin serrate, acute or acuminate at apex, base cuneate; lateral nerves 4–6 pairs; petioles 2–4 cm long; inflorescence axillary, 5–10 cm long, racemes; sepals lanceolate, pale green, pubescent at margin; petals obovate, white, apex fimbriate; stamens many; fruits oblong, 2–4 cm long, light-green, smooth, glabrous.

Flowering and Fruiting: May–September.

Occurrence: Found in domestic area, rare in forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0433* (BUBH), 12.05.2020.

Uses: Fruits are edible.

3. *Elaeocarpus lucidus* Roxb., Fl. Indica 2:600. 1832; Masters in Hook.f., Fl. Brit. India 1:403.1874; Murti in Sharma *et al.*, Fl. India 3:543.1993.

Tree, to 15 m tall; leaves alternate, elliptic, 8–15 × 4–7 cm, margin serrate, acute to acuminate at apex, base rounded, puberulent along midrib; lateral nerves 5–7 pairs; petioles 1–2 cm long; inflorescence axillary, racemes, to 12 cm long; sepals lanceolate, pubescent; petals glabrous, white, upper part lacinate to the middle; stamens 20–30; anthers not awned; fruits oblong-ovoid, 1.5–2 cm long.

Flowering and Fruiting: April–August.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH.

Specimen examined: Kokrajhar, Selekh Bazar, *S. Basumatary 0366* (BUBH), 05.05.2021.

4. *Elaeocarpus rugosus* Roxb. ex Don, Gen. Hist. 1:559. 1831; Masters in Hook.f., Fl. Brit. India 1:405. 1874; Kanjilal *et al.*, Fl. Assam 1(1):178. 1934; Murti in Sharma *et al.*, Fl. India 3:551.1993. (Plate 24B).

Trees, to 15 m tall; leaves spirally arranged, obovate-lanceolate or obovate-elliptic, 15–24 × 5–8 cm, margin crenate, broadly acute at apex, base cuneate, puberulent along midribs; lateral nerves 14–16 pairs; petiole 1–2 cm long; inflorescence axillary, racemes; peduncle and pedicel rusty tomentose; flowers bisexual; sepals 5 or 6; petals 5 or 6, apex lacinate; stamens 40–50; anthers awned; fruits ellipsoid, tomentose.

Flowering and Fruiting: March–July.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, THAILAND.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0352* (BUBH), 04.04.2021.

5. *Elaeocarpus stapfianus* Gagnep. in Notul. Syst. 1:136. 1910; Kanjilal *et al.*, Fl. Assam 1:180.1934; Murti in Sharma *et al.*, Fl. India 3:557.1993. (Plate 24C).

Tree, to 15 m tall; leaves spirally arranged, oblong-obovate, 6–12 × 3–5 cm, margin serrulate, apiculate at apex, base narrowed; lateral nerves 4–7 pairs; petioles 1–1.5 cm long; inflorescence axillary, racemes, 4–6 cm long; flowers facing downwards; pedicels 1–2 cm long; sepals linear, 1–1.2 cm long, pinkish; petals obovate, apex 2-lobed, lacinate into many segments, white; stamens 20–25; anthers narrow, equal length with awns; fruits oblong, to 2 cm long.

Flowering and Fruiting: April–July.

Occurrence: Found semi-evergreen forests along streams.

Distribution: INDIA (NE India), LAOS, MYANMAR, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0387* (BUBH), 05.05.2021.

6. *Elaeocarpus varunua* Buch.-Ham. ex Masters in Hook.f., Fl. Brit. India 1:407. 1874; Kanjilal *et al.*, Fl. Assam 1:180. 1934; Haridasan and Rao, Forest Fl. Meghalaya 1:171. 1985; Murti in Sharma *et al.*, Fl. India 3:561. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl. Arunachal Pradesh 1:238. 1996. (Plate 24D).

Tree, up to 20 m tall; leaves alternate, elliptic, 12–15 × 3–5 cm, apex acuminate, base obtuse or subacute, margin crenate-serrate, glabrescent both side; petiole 2.5–4 cm long; inflorescence axillary raceme; flowers 1–1.5 cm across, white; sepals 5, linear-lanceolate, 5–7 mm long, creamy white; petals 5, 4–5 mm long, apex laciniate; stamens numerous, easily fall off; ovary ovoid; drupes oblong, 1–2 cm, smooth.

Flowering and Fruiting: March–September.

Occurrence: Found in semi-evergreen forest, or in open or margin of dense forest.

Distribution: INDIA (NE India, West Bengal), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0434* (BUBH), 16.03.2019.

Uses: Fruits are edible.

2. *Sloanea* L., Sp. Pl. 1:512. 1753.

1. *Sloanea sterculiacea* var. *assamica* (Benth.) Coode in Kew Bull. 38(3):387. 1983. *Echinocarpus assamicus* Benth. in J. Proc. Linn. Soc., Bot. 5(Suppl. 2):72. 1861; Masters in Hook.f., Fl. Brit. India 1:399. 1874; Kanjilal *et al.*, Fl. Assam 1(1):182. 1934. (Plate 24E).

Vern. name: Sarang (Bodo).

Tree, deciduous, matured trees buttressed at base; leaves alternate, elliptic or oblanceolate, 8–15 × 4–7 cm, apex acuminate, base tapering in rounded or subcordate, margin serrate, pubescent beneath; lateral nerves 5–8 pairs; petiole 1–2 cm long; flowers creamy white, appears when leafless; sepals 4, pubescent outside; petals 4, cuneately suborbicular, densely pubescent, apex fimbriate; ovary 4-celled; capsule 4-celled, with sharp pointed densely reddish spiny.

Flowering and Fruiting: November–April.

Occurrence: Found in roadside of forest or in banks of streams in the forest.

Distribution: INDIA (NE India), CHINA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0237* (BUBH), 18.11.2020.

52. RHIZOPHORACEAE Pers., Syn. Pl. 2:2. 1806.

About 8 genera and 18 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Carallia* Roxb. in Flinders, Voy. Terra Austral. 2:249. 1814.

1. *Carallia brachiata* (Lour.) Merr. in Phillip. J. Sci. 15:249. 1919; Deb, Fl. Tripura 1:376. 1981; Haridasan and Rao, Forest Fl. Meghalaya 1:376. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl. Arunachal Pradesh 1:463. 1996. *C. lucida* Kanjilal *et al.*, Fl. Assam 2:241. 1938. *C. integerrima*, *C. lanceaefolia* Henslow in Hook.f., Fl. Brit. India 2:439. 1878. *Diatoma brachiata* Lour., Fl. Cochinch. 296. 1790. (Plate 56E).

Evergreen tree, to 20 m tall; petiole 5-10 mm long; leaves opposite, obovate-oblong, 5–10 × 3–8 cm, margin entire, coriaceous, base attenuate, apex acute or obtuse; lateral nerves 5 margin entire, 10 pairs; inflorescence axillary, tricotomously branching cyme; flowers sessile, cream coloured; calyx tube campanulate, lobes 5–8, ovate-acute, petals 5–8, orbicular-cordate, margin deeply lacerate; stamens 10–15, ovary 3–5-celled; stigma 4-lobed; fruit a drupe, 4–6 mm across.

Flowering and Fruiting: November–March.

Occurrence: Found near streams in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, SRI LANKA, THAILAND, VIETNAM,

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0118* (BUBH), 03.03.2020.

Used: Ripe fruits are edible.

53. CLUSIACEAE Lindl., Intr. Nat. Syst. Bot., ed. 2:74. 1836.

About 5 genera and 53 species in India; 4 genera and 21 species in Assam; 1 genus and 3 species recorded from the study area.

1. *Garcinia* L., Sp. Pl. 1:443. 1753.

Key to the species

- 1a. Flowers pentamerous; fruits yellow when ripe.....3. *G. Xanthochymus*
- 1b. Flowers tetramerous.....2
- 2a. Fruits mammillate at apex.....1. *G. assamica*
- 2b. Fruits depressed inside or concave at apex.....2. *G. pedunculata*

1. *Garcinia assamica* Sarma, Shameer and Mohanan in Phytotaxa 252(1):73. 2016. (Plate 21A).

Vern. name: Tekra-khusi (Bodo).

Tree; branches horizontally spreading, tetete; latex yellow; leaves opposite, oblong-elliptic, 6–10 × 3–4 cm, margin entire, acuminate at apex, base slightly obtuse; petioles 1–1.5 cm long; inflorescence axillary fascicled cymes; male flowers 1–3 at each node; sepals and petals 4; stamens numerous; female flowers 2–4 at each node; sepals and petals 4; fruits 6–9 × 4–6 cm, distinct mammilia, orange-red when ripe; seeds 2–5.

Flowering and Fruiting: April–August.

Occurrence: Found in semi-evergreen forest with streams at floor.

Distribution: INDIA (Assam).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0426* (BUBH), 16.08.2020.

Used: Fruits are used in indigestion problem.

2. *Garcinia pedunculata* Roxb. ex Buch.-Ham. in Edinburgh. J. Sci. 7:45. t. 1. 1872; Anderson in Hook.f., Fl. Brit. India 1:264. 1874; Kanjilal *et al.*, Fl. Assam 1:107. 1934; Harid. and Rao, Forest Fl. Meghalaya 1:108. 1985; Singh in Sharma *et al.*, Fl. India 3:121. 1993. (Plate 21B).

Vern. name: Thaika (Bodo).

Tree, to 20 m tall; stems buttress at base; leaves opposite, oblanceolate, 10–12 × 8–12 cm, margin entire, acute or acuminate at apex, base cuneate; lateral nerves 10–14 pairs; petioles 1–2 cm long; male inflorescence terminal panicles; male flowers pale green; both sepals and petals 4; stamens many; female flowers solitary, yellowish-green; fruits 8–12 cm in diam., depressed globose, apple shaped; seeds arillate.

Flowering and Fruiting: March–September.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0372* (BUBH), 04.04.2021.

Uses: Fruits are used to treat urinary trouble (Acharyya and Sharma 2004, Gogoi and Borthakur 2001).

3. *Garcinia xanthochymus* Hook.f. ex Anderson in Hook.f., Fl. Brit. India 1:269. 1874; Kanjilal *et al.*, Fl. Assam 1:104. 1934; Deb, Fl. Tripura 1: 364. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:109. 1985; Singh in Sharma *et al.*, Fl. India 3:129. 1993. (Plate 21C).

Vern. name: Temphwr (Bodo).

Tree, with latex; leaves opposite, oblong-lanceolate, 12–30 × 4–8 cm, margin entire, acute at apex, base cuneate, leathery, glabrous both side; petioles 1–2 cm long, reddish-brown at base; inflorescence fascicles cymes; flowers unisexual, white; sepals and petals 5; fruits globose, with pale yellow latex and pointed persistent styles, yellow when ripe.

Flowering and Fruiting: April–November.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0172* (BUBH), 16.08.2020.

Uses: Fruits are used in indigestion problem.

54. CALOPHYLLACEAE Agardh, Theoria Syst. Pl. 121. 1858.

About 4 genera and 18 species in India; 3 genera and 5 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Fruits berry, pulpy.....1. *Calophyllum*
1b. Fruits capsule, dry.....2. *Mesua*

1. *Calophyllum* L., Sp. Pl. 1:513. 1753.

1. *Calophyllum polyanthum* Wall. ex Choisy in Mém. Soc. Phys. Genève 12(2):423. 1849; Anderson in Hook.f., Fl. Brit. India 1:274. 1872; Kanjilal *et al.*, Fl. Assam 1 (1):114. 1934. (Plate 19B).

Vern. name: Naser (Bodo).

Tree; branchlets 4-angled; leaves opposite, oblong, elliptic-lanceolate, 8–12 × 3–5 cm, margin entire, coriaceous, acuminate at apex, base cuneate, undulate-waved; lateral nerves parallel, numerous; petiole 1–2 cm long; flowers 1–2 cm across; pedicel 1.5–2 cm long, brownish; sepals unequal; petals obovate, reflexed; stamens numerous; anther 2-celled; fruits ovoid or subglobose, with milky latex, pale brown.

Flowering and Fruiting: April–November.

Occurrence: Found in semi-evergreen forest along streams.

Distribution: INDIA (Northeast India; West Bengal), BANGLADESH, CAMBODIA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0166* (BUBH), 05.09.2020.

2. *Mesua* L., Sp. Pl. 1:515. 1753.

1. *Mesua ferrea* L., Sp. Pl. 1:515. 1753; Hook, f., Fl. Brit. India 1:277. 1874; Kanjilal *et al.*, Fl. Assam 1:111. 1934; Deb, Fl. Tripura 1:365. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:110. 1985. (Plate 19C).

Vern. name: Nahor (Bodo).

Tree, to 15 m tall; leaves opposite, oblong-lanceolate, 7–12 × 2–4 cm, margin entire, acuminate at apex, base cuneate, leathery; lateral nerves inconspicuous; petioles 1–1.5 cm long; inflorescence 2-flowered, sometimes solitary; flowers sweet scented, white; sepals 4, glabrous; petals 4, white, obovate; stamens numerous, yellow; ovary 2-celled, with 2 ovule each; fruits ovoid.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0374* (BUBH), 04.04.2021.

Uses: flowers, fruits and seeds are used as antidote of snakebite, dysentery, piles, skin diseases (Das *et al.* 2010).

55. HYPERICACEAE Juss., Gen. Pl. 254. 1789.

About 3 genera and 29 species in India; 1 genus and 9 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Hypericum* L., Sp. Pl. 2:783. 1753.

1. *Hypericum japonicum* Thunb. in Murray, Syst. Veg., ed. 14:702. 1784; Dyer in Hook.f., Fl. Brit. India 1:256. 1874; Kanjilal *et al.*, Fl. Assam 1:102. 1934; Deb, Fl. Tripura 1:361. 1981; Biswas in Sharma *et al.*, Fl. India 3:69. 1993. (Plate 63D).

Vern. name: Sonapuli (Bodo).

Herb, to 20 cm tall; stems quadrangular; leaves opposite, ovate, 5–10 × 4–6 mm, margin entire, acute at apex, base broadly acute; petioles 1–2 mm long; inflorescence terminal or axillary cymes; flowers actinomorphic; sepals 5, lanceolate, glabrous, green; petals 5, yellow; stamens in unequal length, yellow.

Flowering and Fruiting: September–February.

Occurrence: Found in open forests, often in paddy fields.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0425* (BUBH), 22.01.2020.

56. ACHARIACEAE Harms in Engler and Prantl, Nat. Pflanzenfam. Nachtr. 1:256. 1897.

About 2 genera and 3 species in India; 2 genera and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Gynocardia* Br. in Roxb., Pl. Coromandel 3:95. 1820.

1. *Gynocardia odorata* Br. in Roxb., Pl. Coromandel 3:95.t.299. 1820; Hook.f. and Thomson in Fl. Brit. India 1:195. 1872; Kanjilal *et al.*, Fl. Assam 1:87. 1934; Deb, Fl. Tripura 1:234. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:92. 1985. (Plate 11A).

Vern. name: Khungkha/Thailaokhrong/Athaiba (Bodo).

Tree, to 15 m tall; bark greyish-brown; leaves alternate, oblong-lanceolate, 12–18 × 4–6 cm, margin entire, acuminate at apex, base rounded, glabrous both sides; lateral nerves 5–7 pairs; petioles 1–2 cm long; inflorescence unisexual; male inflorescence fascicles, arising from the trunk or the branches; male flowers 2.5–3.5 cm across yellow; calyx 5-lobed; petals 5; stamens many; fruits globose, 6–8 cm across; seeds compressed, many.

Flowering and Fruiting: April–September.

Occurrence: Found in dense forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0420* (BUBH), 21.04.2022.

Uses: Fruits are applied to cure toothache and hookworm (Nath and Bordoloi 1989, Chhetri 2004, Tag and Das 2004).

57. PASSIFLORACEAE Juss. ex Roussel, Fl. Calvados 2:334. 1806.

About 3 genera and 24 species in India; 2 genera and 7 species in Assam; 1 genera and 1 species recorded from the study area.

1. *Passiflora* L., Sp. Pl. 2:955. 1753.

1. *Passiflora foetida* L., Sp. Pl. 2:959. 1753; Hook.f., Fl. Brit. India 2:599. 1879; Kanjilal *et al.*, Fl. Assam 2:322. 1938; Chauhan in Singh *et al.*, Fl. Manipur 1:408. 2000; Deb, Fl. Tripura 1:251. 1981. (Plate 51C).

Climber; leaves alternate, ovate, 3-lobed, 8–12 × 6–9 cm, margin subentire, acuminate at apex, base cordate, sparsely pubescent beneath; lateral nerves 4–5 pairs; petioles 2–3 cm long, sharp hairs above; stipules glandular pilose; flowers 2–3 cm diam., axillary, solitary; bracts 3, pinnatifid, lobes glandular thread-like; sepals awned at apex; corolla oblong, white, purple at base; corona filamentous; androgynophore 6–10 mm tall; stamens 5; styles 3; fruits ovoid-globose, orange to orange-red.

Flowering and Fruiting: November–February.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Introduced), AMERICA, BRAZIL, MEXICO.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0474* (BUBH), 02.12.2019.

Uses: Ripe fruits are eaten to cure tongue sore (Teron 2011).

58. SALICACEAE Mirb., Elém Physiol. Vég. Bot. 2:905. 1815.

About 4 genera and 68 species in India; 3 genera and 5 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Small tree, spiny.....2. *Flacourtia*
1b. Shrub, not spiny.....1. *Casearia*

1. *Casearia* Lacq., Enum. Syst. Pl. 4. 1760.

1. *Casearia vareca* Roxb., Fl. Ind. 2:418. 1832; Clarke in Hook.f., Fl. Brit. India 2:593. 1879; Kanjilal *et al.*, Fl. Assam 1:93. 1934; Harid. and Rao, Forest Fl. Meghalaya 1:90. 1985; Mitra

in Sharma *et al.*, Fl. India 2:398. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:151. 1996.

Vern. name: Seltao Biphang (Bodo).

Shrub, to 7 m tall; leaves alternate, oblong-elliptic, 8–16 × 2–5 cm, margin serrate, apex acute, base cuneate; lateral nerves 9–11 pairs; petiole 5–15 mm long, pubescent; inflorescence axillary fascicles, 10–15-flowered; flowers 2–3 mm across; calyx pale green, lobes ovate; corolla white, membranous; capsule ellipsoid, smooth, yellow when matured, split in 3 valves apically.

Flowering and Fruiting: December–September.

Occurrence: Found in open forest or in grassland protected areas.

Distribution: INDIA (NE India), BANGLADESH, MYANMAR.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0093* (BUBH), 28.12.2019.

2. *Flacourtia* Comm. ex L'Hér., Stirp. Nov. 59. 1786.

1. *Flacourtia jangomas* (Lour.) Raeusch., Nomencl. Bot. 3:290. 1797; Deb, Fl. Tripura 1:233. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:91. 1985. *F. cataphracta* Roxb., Fl. Ind. 3:834. 1832; Hook.f. and Thomson in Hook.f., Fl. Brit. India 1:193. 1872. *Stigmarota jangomas* Lour., Fl. Cochinch. 634. 1790.

Vern. name: Ponel Biphang (Bodo).

Tree, to 8 m tall; trunk and branches sharp spiny; leaves alternate, ovate-lanceolate, 5–10 × 2.5–4 cm, margin crenate to serrate, acuminate at apex, base broadly cuneate; lateral nerves 3–4 pairs; petioles 1–2 cm long; male inflorescence axillary, short racemes, 3–5 cm long; female inflorescence longer; stamens many; anthers yellow; fruits subglobose, 1.5–2 cm across, glabrous, purplish-red when ripe.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides of forest or in mixed deciduous forests.

Distribution: INDIA (NE India), ASSAM, BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0419* (BUBH), 14.05.2020.

Uses: Ripe fruits are edible.

59. EUPHORBIACEAE Juss., Gen. Pl. 384. 1789.

About 54 genera and 196 species in India; 35 genera and 90 species in Assam; 14 genera and 25 species recorded from the study area.

Key to the genera

- 1a. Leaves palmately more than 6-lobed.....2
- 1b. Leaves not lobed or sublobed of 5 or below.....3
- 2a. Petioles hollowed; fruits spiny.....13. *Ricinus*
- 2b. Petioles non-hollowed; fruits not spiny.....12. *Manihot*
- 3a. Milky latex present.....4
- 3b. Milky latex absent (if latex present then not milky).....6
- 4a. Leaves opposite.....8. *Excoecaria*
- 4b. Leaves alternate.....5
- 5a. Tree.....2. *Balakata*
- 5b. Herb or shrub.....7. *Euphorbia*
- 6a. Leaves variegated color.....5. *Codiaeum*
- 6b. Leaves not variegated.....7
- 7a. Styles bifurcate.....6. *Croton*
- 7b. Styles not burfurcate.....8
- 8a. Stigma feathery.....11. *Mallotus*
- 8a. Stigma not feathery.....9
- 9a. Shrub.....10
- 9b. Tree (small size).....12
- 10a. Plant dioecious.....1. *Alchornea*
- 10b. Plant monoecious.....11
- 11a. Leaves pinnately veined.....3. *Baliospermum*
- 11b. Leaves palmately veined.....9. *Jatropha*
- 12a. Fruits 3-lobed.....13
- 12b. Fruits 2-lobed or unlobed.....10. *Macaranga*
- 13a. Plant dioecious; male flowers pale green or white.....4. *Claoxylon*
- 13b. Plant moniecious; male flowers purple.....14. *Trigonostemon*

1. *Alchornea* Sw., Prodr. Veg. Ind. Occ. 98. 1788.

1. *Alchornea tiliifolia* (Benth.) Müll. Arg. in Linnaea. 34:168. 1865. Hook.f., Fl. Brit. India 5:421. 1890; Kanjilal *et al.*, Fl. Assam 4:411. 1940. *Stipellaria tiliifolia* Benth. in Hooker's J. Bot. Kew Gard. Misc. 6:4. 1854. (Plate 25D).

Dioecious shrubs, up to 5 m tall; leaves alternate, broadly ovate-rhombic, 10–15 × 8–15 cm, margin serrate, caudate at apex, base subtruncate, subcordate, with 4 glands beneath, pubescent beneath; basal veins 3; male inflorescence axillary, 4–8 cm long, unbranched; male flowers in fascicled, 6–10-flowered; sepals 3; stamens 8; female inflorescence terminal, 6–10 cm long; sepals of female flowers 5 or 6, unequal; ovary globose; style 3, connate at base; capsule subglobose-ellipsoid, 6–10 mm across, with tubercled outer surface.

Flowering and Fruiting: March–August.

Occurrence: Found in roadside of semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, CAMBODIA, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0263* (BUBH), 05.08.2020.

2. *Balakata* Esser in Blumea 44:154. 1999.

1. *Balakata baccata* (Roxb.) Esser in Blumea 44(1):155. 1999. *Sapium baccatum* Roxb., Fl. Ind. 3:694. 1832; Hook.f., Fl. Brit. India 5:470. 1888; Kanjilal *et al.*, Fl. Assam 4:206. 1940; Deb, Fl. Tripura 1:350. 1981; Harid and Rao, Forest Fl. Meghalaya 2:799. 1987.

Vern. name: Dumra/Sarong Biphang (Bodo).

Tree, evergreen, to 15 m tall, with milky latex; leaves alternate, ovate-lanceolate, 8–12 × 3–5 cm, margin entire, acuminate at apex, base rounded, glabrous both sides, shining beneath; lateral nerves 6–8 pairs; petioles 4–6 cm long; inflorescence terminal, paniced, racemes; flowers unisexual, yellow; fruits bilobed, brownish-red when old.

Flowering and Fruiting: March–July.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0534* (BUBH), 22.04.2019.

3. *Baliospermum* Blume, Bijdr. Fl. Ned. Ind. 603. 1826.

1. *Baliospermum solanifolium* (Burm.) Suresh, Interpr. Van Rheede's Hort. Malab. 106. 1988. *B. montanum* (Willd.) Muell.-August in DC., Prodr. 15(2):1125. 1866; Kanjilal *et al.*, Fl. Assam 4:202. 1940. *B. axillare* Hook.f., Fl. Brit. India 5:461.1887. *Croton solanifolius* Burm., Fl. Malab. 6. 1769.

Undershrub, to 1 m tall; leaves alternate, variable in shape, ovate-oblong, 4–9 × 2–6 cm, margin dentate or 3–5-lobed; acuminate at apex, base cuneate, glabrous above, sparsely pubescent beneath; petioles 3–5 cm long; inflorescence axillary racemes; stamens 14–20; ovary hairy. Capsules obovoid, 3-lobed.

Flowering and Fruiting: Almost throughout the year.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0647* (BUBH), 14.02.2021.

4. *Claoxylon* Juss., Euphorb. Gen. 43.1824.

1. *Claoxylon longifolium* Müll. Arg. in DC, Prodr. 15(2):781. 1866; Hook.f., Fl. Brit. India 5:411. 1890. (Plate 25E).

Dioecious, small size tree, to 8 m tall; petiole 5–10 cm long; leaves alternate, ovate-oblong, oblong-elliptic, 15–25 × 7–10 cm, margin serrulate, base cuneate, short acuminate at apex; sparsely pubescent on nerves beneath; male inflorescence 10–16 cm long, 5–8 flowers per bract; sepals 3; stamens 25–45; female inflorescence 4–6 cm long, pubescent, 1 flower per bract; sepals 3, ovate; style 3; capsule 3-lobed, 1–1.5 cm across, appressedly pubescent; seeds globose.

Flowering and Fruiting: March–August.

Occurrence: Found in dense deciduous forest or in semi-evergreen forest.

Distribution: INDIA (Andaman Island, Assam, Meghalaya), BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0103* (BUBH), 29.05.2019.

5. *Codiaeum* Rumph. ex Juss., Euphorb. Gen. 33.1824.

1. *Codiaeum variegatum* (L.) Rumph. ex Juss., Euphorb. Gen. 80:111. 1824; L., Sp. Pl. 2: 1199. 1753; Blume, Bijdr. 599. 1825; Hook.f., Fl. Brit. Ind. 5:399. 1887. *Croton variegatus* L., Sp. Pl. 2:1199. 1753.

Shrub, to 2 m tall; leaves alternate, lanceolate, 15–24 × 4–9 cm, margin entire, apex acute, base acute, variety patches of colouration; petiole 2–4 cm long; inflorescence axillary, racemes; male inflorescence to 25 cm long; male flower whitish-yellow; calyx 5, 3 mm long, white, membranous; corolla 5, white, membranous; stamens numerous, yellow; female inflorescence to 25 cm long, female flowers 1.2 cm long; style 3, connate at the base.

Flowering and Fruiting: March–June.

Occurrence: Grown as ornamental.

Distribution: INDIA (Introduced), BORNEO, PHILIPPINES, QUEENSLAND.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0270* (BUBH), 03.04.2019.

6. *Croton* L., Sp. Pl. 1:1004. 1753.

Key to the species

- 1a. Leaves ovate-cordate, pubescent; scandent shrub.....2. *C. caudatus*
- 1b. Leaves oblong or elliptic, glabrous.....2
- 2a. Undershrub.....1. *C. bonplandianus*
- 2b. Tree.....3. *C. joufra*

1. *Croton bonplandianus* Baill. in Adansonia 4:339. 1864; Deb, Fl. Tripura 1:328. 1981. *C. sparsiflorus* Kanjilal *et al.*, Fl. Assam 4:196.1940.

Vern.name: Tita Baha Phisa (Bodo).

Undershrub, to 50 cm tall; stem with 10–12 vertical dotted lined glands; leaves alternate or opposite, lanceolate or sub-lanceolate, 4.5 × 1.6 cm, margin serrate, acute at apex or subsagitate, base subcordate; lateral nerves 4–5 pairs; inflorescence 5–10 cm long, terminal; male flower 4 × 4 mm; stamens 14–15, white; glands 5, red, arranged circular; female flowers 4 mm long; style 3, pink, bipartite, connate at the base; fruits gland dotted outside, 3 cocci; seeds 3, with distinct caruncle.

Flowering and Fruiting: December–April.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Introduced), ARGENTINA, BRAZIL, URUGUAY.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0267* (BUBH), 09.02.2019.

2. *Croton caudatus* Geiseler, *Croton. Monogr.* 73. 1807; Hook.f., *Fl. Brit. India* 5:389.1887; Kanjilal *et al.*, *Fl. Assam* 4:194. 1940; Haridasan and Rao, *For. Fl. Meghalaya* 2:782. 1987.

Vern. name: Jwoboka Biphang (Bodo).

Scandent shrub, deciduous; leaves alternate, ovate, 12–17 × 7–12.5 cm, margin serrate, acute-acuminate at apex, base cordate, pubescent both side; basal nerves 3, lateral nerves 4–5 pairs; petiole 4–10 cm long; stipules margin fimbriate; male flowers: calyx 5; corolla 5, white; stamens 26–30; female flowers: calyx 5, unequal, margin glanded; ovary 2–3 mm across, brown, globose, densely pubescent; style 3, bifurcate, connate at the base; capsule globose, 1.8 cm across, 3-cocci, brown, pubescent.

Flowering and Fruiting: December–April.

Occurrence: Found in roadside of forest or edges of the forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0266* (BUBH), 09.02.2019.

3. *Croton joufra* Roxb., *Fl. Ind.* 3:685. 1832; Hook.f., *Fl. Brit. India* 5:387. 1887; Kanjilal *et al.*, *Fl. Assam* 4:193. 1940; Deb, *Fl. Tripura* 1:328. 1981; Harid. and Rao, *Forest. Fl. Meghalaya* 2:783. 1987; Chowdhery *et al.* in Giri *et al.*, *Materials for the Fl. Arunachal Pradesh* 2:369. 2008. (Plate 25F).

Tree, to 8 m tall; leaves spirally arranged, elliptic-oblong, 12–18 × 4–7 cm, margin serrate, acuminate at apex, base acute; lateral nerves 8–11 pairs; petioles 1–2 cm long, with appressed grey hairs; inflorescence terminal or axillary, short racemes; flowers unisexual; calyx ovate, grey; petals ovate-oblong, pale yellow; stamens 12; style 3, bifurcate, persistent; fruits ovoid-oblong, 3-lobed.

Flowering and Fruiting: February–July.

Occurrence: Found in dense forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0533* (BUBH), 04.04.2021.

7. *Euphorbia* L., Sp. Pl. 1:450. 1753.

Key to the species

- 1a. Herb.....2
- 1b. Shrub.....4
- 2a. Prostrate herb.....5. *E. thymifolia*
- 2b. Decumbent herb.....3
- 3a. Leaves more than 2 cm long, often with purple patch at middle of lamina..1. *E. hirta*
- 3b. Leaves less than 2 cm long, without any patch at lamina.....2. *E. indica*
- 4a. Plant succulent, spiny; stem 5-winged.....3. *E. neriifolia*
- 4b. Plant not succulent, not spiny; stem wingless.....4. *E. pulcherrima*

1. *Euphorbia hirta* L., Sp. Pl. 1:454. 1753; Roxb., Fl. Ind.2: 472. 1832; Kanjilal *et al.*, Fl. Assam 4: 141. 1940; Deb, Fl. Tripura 1:332. 1981. *E. pilulifera* Hooker f., Fl. Brit. Ind. 5:250. 1890.

Vern. name: Nasrai Khoro (Bodo).

Decumbent herb, to 50 cm tall; stem pubescent, reddish; leaves opposite, lanceolate, 2.8–3.4 × 0.6–1 cm, margin serrate, obliquely cordate at base, obtuse at apex; petioles 3 mm long; stipules membranous, triangular, hairy; cyathia in dense, terminal, head-like, pedunculate cymes, 1.5 cm across; glands 4, pinkish; capsule 1 mm across, green, obtusely keeled pubescent; style 6, pink, persistent, connate at base; seeds 3 in each capsule.

Flowering and Fruiting: November–April.

Occurrence: Common in in domesticated land area.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0649* (BUBH), 25.01.2017.

Uses: whole plant is used in dysentery, cold, cough, ringworm, improves mother's milk (Das *et al.* 2010).

2. *Euphorbia indica* Lam., Encycl. 2(2):423. 1788. *E. hypericifolia* sensu Hook.f., Fl. Brit. India 5:249. 1887; Kanjilal *et al.*, Fl. Assam 4:141. 1940. (Plate 26A).

Decumbent annual herb; latex milky; stem pubescent, pale pinkish; leaves opposite, oblong, 1.2–1.6 × 0.5–0.7 cm, margin serrulate, obtuse at round, base oblique; lateral nerves 3–4 pairs; petioles 3–6 mm long; cyathia axillary, in clusters; involucre lobes distinct, pale rose; ovary trilobed; style 3, connate at base, bifurcated each; capsule trilobed.

Flowering and Fruiting: November–February.

Occurrence: Found in floors of forest in gravelly spots.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BHUTAN, CHINA, IRAN, MYANMAR, NEPAL, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0228* (BUBH), 05.12.2020.

3. *Euphorbia nerifolia* L., Sp. Pl. 1:451. 1753; Hook.f., Fl. Brit. India 5:255. 1887; Kanjilal *et al.*, Fl. Assam 4:140. 1940; Deb, Fl. Tripura 1:333. 1981. *E. ligularia* Roxb., Fl. Ind. 2:465. 1832.

Vern. name: Sijou (Bodo).

Shrubs, succulent, to 5 m tall, with milky latex; stem and branches 5-angled; spines arise from thick tubercles; leaves alternate, oblong-obovate, 6–14 × 3–6 cm, margin entire, rounded at apex, base narrowed or cuneate, glabrous both sides, leathery; lateral nerves inconspicuous; petioles short; involucre bracts yellow.

Flowering and Fruiting: November–February.

Occurrence: Found in home sides.

Distribution: INDIA (Almost throughout the country), BANGLADESH, IRAN, MYANMAR, PAKISTAN, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0650* (BUBH), 18.12.2021.

4. *Euphorbia pulcherrima* Willd. ex Klotzsch in Otto and Dietrich, Allg. Gartenzeitung 2:27. 1834; Deb, Fl. Tripura 1:332. 1981; *Poinsettia pulcherrima* Hooker, Fl. Brit. India 5:239. 1887.

Shrub, to 5 m tall, with milky latex; stem terete; bark greyish; leaves alternate, elliptic-ovate, 10–15 × 4–6 cm, margin entire, acuminate at apex, base cuneate, pubescent beneath; lateral nerves 9–12 pairs; petioles 3–5 cm long; inflorescence corymbose cymes; bracts foliaceous, reddish-pink; fruits compressed, 3-lobed.

Flowering and Fruiting: November–February.

Occurrence: Grown as ornamental.

Distribution: INDIA (Introduced), MEXICO.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0651* (BUBH), 28.12.2021.

5. *Euphorbia thymifolia* L., Sp. Pl. 1:454. 1753; Roxb., Fl. Ind. 2:473. 1832; Lindl., Fl. Medica 194. 1838; Hook.f., Fl. Brit. Ind. 5:252. 1890; Deb, Fl. Tripura 1:334. 1981. (Plate 26B).

Vern. name: Nasrai Khoro Phisa (Bodo).

Annual prostrate herb; stem pubescent, reddish-brown; leaves opposite, obovate, sub-orbicular, 6–8 × 3–6 mm, assymetrical at the base, pubescent beneath; stipules membranous, triangular, serrate; inflorescence axillary in the crowded terminal branchlet; glands 4, red-pink; capsule 1 mm across.

Flowering and Fruiting: November–April.

Occurrence: Grow in gravelly sunny spots of roads, gravel walks or in other gravelly spot.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0106* (BUBH), 30.01.2017.

8. *Excoecaria* L., Syst. Nat. ed. 10, 2:1288. 1759.

1. *Excoecaria oppositifolia* Griff. in Calcutta J. Nat. Hist. 4:386. 1844; Hook.f., Fl. Brit. India 5:474. 1890; Kanjilal *et al.*, Fl. Assam 4:208. 1940. (Plate 26C).

Tree, to 8 m tall, with latex, dioecious; leaves opposite, oblong-elliptic, 15–25 × 4–8 cm, margin entire, acuminate at apex, base broadly cuneate; lateral nerves 15–20 pairs; male inflorescence long terminal spike, up to 30 cm long; male flowers sessile; female flowers solitary, terminal, pedicellate, with two deep brown basal glands; fruits 3-lobed, 3-loculed, 3.5–3.8 cm across; seeds globose, 10 mm across.

Flowering and Fruiting: April–August.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Assam, Meghalaya, West Bengal), BANGLADESH, BHUTAN, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0143* (BUBH), 19.10.2019.

9. *Jatropha* L., Sp. Pl. 2:1006. 1753.

Key to the species

1a. Flowers purple; petioles glandular.....2. *J. gossypifolia*

1b. Flowers pale yellow or yellow; petiole not glandular.....1 *J. curcas*

1. *Jatropha curcas* L., Sp. Pl. 2:1006. 1753; Hook.f., Fl. Brit. India 5:383. 1887; Kanjilal *et al.*, Fl. Assam 4:190. 1940; Deb, Fl. Tripura 1:339. 1983; H.J. Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:375. 2008.

Vern. name: Enda (Bodo).

Shrub, to 3 m tall; leaves alternate, ovate-cordate, 12–15 × 10–13 cm, margin entire, acute at apex, base cordate; nerves 5; petiole 15–20 cm long; male inflorescence 5–8 cm long; male flowers 1–1.5 cm long with pedicel; calyx 5; corolla 5, green; glands 5, arranged circular, yellow; stamens 9; female flower 1.4 cm long with pedicel; calyx 5; corolla 5; glands 5, yellow; style 3, bi-partite, connate at the base.

Flowering and Fruiting: April–June.

Occurrence: Found in roadsides, planted as boundary wall.

Distribution: INDIA (Introduced), AMERICA, ARGENTINA, BRAZIL, MEXICO.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0271* (BUBH), 23.04.2019.

Uses: Leaves are boiled in pure water and the juice is taken to cure jaundice.

2. *Jatropha gossypifolia* L., Sp. Pl. 2:1106. 1753; Hook.f., Fl. Brit. India 5:383. 1887; Kanjilal *et al.*, Fl. Assam 4:190. 1940; Deb, Fl. Tripura 1:340. 1883.

Vern. name: Enda gwja (Bodo).

Shrub, to 2 m tall; stem reddish with fascicle stipitate glands at juvenile; leaves alternate, palmately 3-lobed, 8–12 × 10–14 cm, margin finely serrate; basal nerves 3, lateral nerves 7–11 pairs, reddish glanded; petiole 6–10 cm long, stipitate glanded; inflorescence terminal cymes, 5–8 cm long; male flowers 7 mm across, red; calyx 5, free; corolla 5; stamens 8; female flowers red; calyx 5, corolla 5; style 3, connate at the base, bifid.

Flowering and Fruiting: April–June.

Occurrence: Grown as ornamental.

Distribution: INDIA (Introduced), AMERICA, ARGENTINA, BRAZIL, MEXICO.

Specimen examined: Kokrajhar, Jharbarid, *S. Basumatary 0272* (BUBH), 23.04.2019.

Uses: Latex is apply on toothache to get relief. Latex is insert inside the nose to control bleeding nose.

10. *Macaranga* Thouars, Gen. Nov. Madagasc. 26. 1806.

Key to the species

1a. Petiole pink; ovary 1-locular.....2. *M. indica*

1b. Petiole green; ovary 2-locular.....1. *M. denticulata*

1. *Macaranga denticulata* (Blume) Müll. Arg. in DC., Prodr. 15(2):1000. 1866; Hook.f., Fl. Brit. India 5:446. 1887; Kanjilal *et al.*, Fl. Assam 4:218. 1940; Deb, Fl. Tripura 1:340. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:793. 1987. *Mappa denticulata* Blume, Bijdr. Fl. Ned. Ind. 625. 1826.

Tree, to 10 m tall; leaves alternate, ovate-triangular, 20–26 × 14–20 cm, margin entire, acute at apex, rounded base and peltate essentric; basal nerves 3, lateral nerves 9–12 pairs; petioles 14–25 cm long; male flower in cluster, sessile; sepals 2–3, reddish; stamens 10–12, yellow; female flowers 4 mm long; calyx 2–3; ovary 2 lobed; style 2, curved, brown; capsule 2-lobed.

Flowering and Fruiting: February-July.

Occurrence: Found in deciduous forests or in forest edges.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0273* (BUBH), 03.05.2019.

2. *Macaranga indica* Wight, Ic. t. 1883. 1852; Hook.f., Fl. Brit. India 5:446. 1887; Kanjilal *et al.*, Fl. Assam 4:218. 1940; Balakr. and Chakrab., Fam. Euphorbiaceae India 141. 2007. (Plate 26D).

Tree, to 6 m tall; leaves alternate, ovate-orbicular, 15–25 × 1–20 cm, margin subentire or toothed, acuminate at apex, base peltate, pubescent beneath; lateral nerves 6–8 pairs; stipules pubescent, deciduous; petiole 15–30 cm long, pinkish; inflorescence axillary, with zig-zag branches; female flowers: tepals 4, lanceolate; style linear, peltate, fruits globose, 5–8 mm across, outer surface glandular.

Flowering and Fruiting: August–December.

Occurrence: Found in roadside of semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTN, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0209* (BUBH), 10.11.2020.

11. *Mallotus* Lour., Fl. Cochinch. 635. 1790.

Key to the species

- 1a. Leaves opposite.....1. *M. nudiflorus*
- 1b. Leaves alternate.....2
- 2a. Leaves peltate; fruits soft spiny.....3. *M. roxburghianus*
- 2b. Leaves not peltate; fruits not spiny.....3
- 3a. Fruits 3-lobed, red.....2. *M. philippensis*
- 3b. Fruits 4-lobed, grey.....4. *M. tetracoccus*

1. *Mallotus nudiflorus* (L.) Kulju and Welzen in Blumea 52(1):124. 2007. *Trewia nudiflora* L., Sp. Pl. 2:1193. 1753; *T. nudiflora* Hook.f., Fl. Brit. Ind. 5:423. 1890; Roxb., Fl. Ind. 3:837. 1832; Kanjilal *et al.*, Fl. Assam 4:212. 1940. *Trewia nudiflora* L., Sp. Pl. 2:1193. 1753.

Vern. name: Thailadur/Phailadob (Bodo).

Trees, to 30 m tall; leaves opposite, ovate-cordate, 14–21 × 12–18 cm, margin entire, acuminate at apex, base cordate; petiole 6–8 cm long; male inflorescence 8–24 cm long; male flower yellowish; stamens numerous; calyx 4, pale green; female flower axillary, with white powdery hairs; pedicel 2–5 cm long; calyx 1–3, green; style 4, sometimes 3, connate at the base, yellow in young, feathery; capsule orbicular, smooth, unlobed, 3–5 cm across.

Flowering and Fruiting: December–August.

Occurrence: Found in roadside of forest or in scrub deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0260* (BUBH), 06.03.2020.

2. *Mallotus philippensis* (Lam.) Müll. Arg. in *Linnaea* 34(2):196. 1865; Hook.f., *Fl. Brit. India* 5:442. 1887; Kanjilal *et al.*, *Fl. Assam* 4:216. 1940; Deb, *Fl. Tripura* 1:342. 1981; Harid and Rao, *Forest Fl. Meghalaya* 2:796. 1987. *Croton philippensis* Lam. in Lamarck *et al.*, *Encycl.* 2:206. 1786.

Vern. name: Sindhur Bhipang (Bodo).

Tree, to 15 m high; leaves alternate, elliptic-lanceolate, 7–15 × 3–7 cm, margin entire, acute at apex, base obtuse; basal veins 3; petiole 2–6 cm long; inflorescence terminal, 6–11 cm long; female flowers sessile; calyx 4-lobed, brown, pubescent, 4 × 4 mm; style 3, greenish-yellow, connate at the base; fruits 3-lobed, covered with red and spotted white glands.

Flowering and Fruiting: October–March.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0261* (BUBH), 21.03.2020.

3. *Mallotus roxburghianus* Müll-Arg. in *Linnaea* 34(2):188. 1865; Hook.f., *Fl. Brit. India* 5:428. 1887; Kanjilal *et al.*, *Fl. Assam* 4:214. 1940; Deb, *Fl. Tripura* 1:343. 1981; Balakr., *Fl. Jowai* 2:432. 1983; Harid and Rao, *Forest Fl. Meghalaya* 2:796. 1987. (Plate 25C).

Vern. name: Gurji biphang (Bodo).

Shrub, to 5 m tall; leaves alternate, semi peltate, ovate-orbicular, 12–18 × 8–15 cm, margin serrulate, acuminate at apex, base round, pubescent both side; lateral nerves 4–7 pairs; petioles 8–15 cm long; female inflorescence axillary, raceme, 8–12 cm long; bracts 5 mm long; female flowers 6 mm long; calyx 5, brown; style 3, connate at base, yellow; ovary sub-orbicular; capsules 3-lobed, with pubescent soft curved spines.

Flowering and Fruiting: April–October.

Occurrence: Found in streamside of dense forest or in forest margins.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0144* (BUBH), 16.08.2020.

4. *Mallotus tetracoccus* (Roxb.) Kurz in *J. Asiat. Soc. Bengal. Pt. 2. Nat. Hist.* 42(4):245. 1874; Deb, *Fl. Tripura* 1:341. 1981; Harid and Rao, *Forest Fl. Meghalaya* 2:797. 1987. *M.*

albus Hook.f., Fl. Brit. India 5:429. 1887; Brandis, Ind. Trees 588. 1906; Kanjilal *et al.*, Fl. Assam 4:213. 1940. *Rottlera tetracocca* Roxb., Fl. Ind. 3:826. 1832.

Vern. name: Laidolor (Bodo).

Tree, to 10 m tall; leaves alternate, triangular ovate, 3-lobed, 18–34 × 14–30 cm, margin semi-dentate, acute at apex, base obtuse, peltate essentric, gland dotted beneath; basal nerves 3, lateral veins 4–6 pairs; petiole 21–37 cm long; inflorescence 8–15 cm long; male flowers 5–6 mm across, yellow; stamens 34–65; calyx 4–5-lobed, pubescent; female flower subsessile; ovary gland dotted; style 4, connate at base, feathery; fruits depressed globose, 1–1.3 cm across, grey, soft spinnous, 4 cocci; seeds 4, black on matured.

Flowering and Fruiting: February–August.

Occurrence: Found in forests margins or in scrub forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0252* (BUBH), 21.03.2020.

12. *Manihot* Mill., Gard. Dict. Abr. ed. 4:851. 1754.

1. *Manihot esculenta* Crantz, Inst. Rei Herb. 1:167. 1766; Deb, Fl. Tripura 1:344. 1981; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:379. 2008. *M. utilissima* Hook.f., Fl. Brit. India 5:239. 1887; Kanjilal *et al.*, Fl. Assam 4:199. 1940. *Vern. name:* Ta Sumli (Bodo).

Shrub, to 3 m tall; leaves alternate, 3–5 deeply lobed, 12–16 × 14–19 cm, margin entire, acute at apex acute; petiole 14–24 cm long; inflorescence terminal, 10–20 cm long; male flowers: calyx 5-lobed, purplish; stamens 10; anthers yellow; female flowers: calyx 5-lobed, apical part pink; style 3, white; capsule 1.6 × 1.4 cm across, 6 pink vertical lines.

Flowering and Fruiting: November–January.

Occurrence: Cultivated.

Distribution: INDIA (Introduced), BRAZIL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0652* (BUBH), 12.12.2021.

Uses: Tubers are edible.

13. *Ricinus* L., Sp. Pl. 2:1007. 1753.

1. *Ricinus communis* L., Sp. Pl. 2:1007. 1753; Hook.f., Fl. Brit. India 5:457. 1887; Kanjilal *et al.*, Fl. Assam 4:221. 1940; Deb, Fl. Tripura 1:349. 1981; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:381. 2008.

Vern. name: Indi (Bodo).

Shrub to 5 m tall; leaves alternate, semi-peltate, palmately 7–11-lobed, 15–25 × 14–20 cm, margin serrate, acuminate at apex; petioles 12–25 cm long, 2 glands at tip; inflorescence terminal, 14–35 cm long; male flowers: calyx 5, green, fused in immature, separated when mature; stamens many, yellow; female flower: perianth 1, brown; sepals 3; style 3, persistent, red, bifid; fruits globose, 3-lobed, 1–2 cm across, soft spiny.

Flowering and Fruiting: February–November.

Occurrence: Found in domesticated land area or in waste places.

Distribution: INDIA (Introduced), ERITREA, ETHIOPIA, SOMALIA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0656* (BUBH), 17.02.2020.

Uses: Leaves are used to rear the Endi silk worm. Stamens are boiled with mustard oil and applied in nose to cure sinusitis. Also used in night blindness, cough, dysentery, skin diseases, blister (Das *et al.* 2010).

14. *Trigonostemon* Blume, Bijdr. Fl. Ned. Ind. 600. 1826

1. *Trigonostemon semperflorens* (Roxb.) Müll.Arg. in DC., Prodr. 15(2):1110. 1866. Hook.f., Fl. Brit. Ind. 5:397. 1887; Kanjilal *et al.*, Fl. Assam 4: 196.1940. *Cluytia semperflorens* Roxb. Fl. Ind. 3:730. 1832. (Plate 26E).

Vern. name: Bijou Jabtu (Bodo).

Shrubs or small size tree, to 5 m tall; leaves subopposite or pseudowhorled at apex, obovate-lanceolate, 15–28 × 4–7 cm, margin remotely serrate, acuminate at apex, base rounded or sub-cordate, glabrous both side except nerves; lateral nerves 10–13 pairs; male inflorescence fascicles, 2–5-flowered; male flowers: calyx 5-lobed, pale purple; petals 5, dark purple; disk glands 5; female inflorescence 1–3-flowered; female flowers: sepals 5, green; petals 5, purple, 3 nerves at base; capsule 1–1.3 cm across, 3-lobed, densely pubescent.

Flowering and Fruiting: December–March

Occurrence: Found in dense forests.

Distribution: INDIA (Assam, Meghalaya), BANGLADESH.

Specimen examined: Kokrajhar, Dandupur, *S. Basumatary 0105* (BUBH), 20.01.2019.

60. LINACEAE DC. ex Perleb, Vers. Arzneikr. Pfl. 107. 1818.

About 5 genera and 12 species in India; 2 genera and 3 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Reinwardtia* Dumort., Commentat. Bot. 19. 1822.

1. *Reinwardtia indica* Dumort., Commentat. Bot. 19. 1822. *R. trigyna* Hook.f., Fl. Brit. India 1:412. 1872; Kanjilal *et al.*, Fl. Assam 1(2):185. 1936. (Plate 32F).

Undershrub, to 80 cm tall, glabrous throughout; leaves alternate or spirally arranged, oblanceolate, oblong-elliptic, 4–6 × 2.5–3.5 cm, margin serrulate, mucronate at apex, base decurrent, cuneate; lateral nerves 5–7 pairs; petioles 2–4 mm long; flowers solitary, axillary or terminal, 3–4 cm across; sepals 5, lanceolate, persistent, acute at apex; petals obovate, golden-yellow; stamens 5, subequal; anther yellow; carpels 3; styles longer than stamens.

Flowering and Fruiting: November–February.

Occurrence: Found in roadside of semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, PAKISTAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0249* (BUBH), 21.12.2020.

61. PHYLLANTHACEAE Martinov, Tekhno-Bot. Slovar 369. 1820.

About 16 genera and 214 species in India; 13 genera and 58 species in Assam; 9 genera, 28 species and 2 varieties species recorded from the study area.

Key to the genera

- 1a. Leaves 3-foliolate.....4. *Bischofia*
- 1b. Leaves simple.....2
- 2a. Plant dioecious.....3
- 2b. Plant monoecious.....6
- 3a. Leaves whorled or spirally arranged.....3. *Baccaurea*
- 3b. Leaves alternate.....4
- 4a. Fruits globose, white.....7. *Flueggea*

4b. Fruits subglobose or depressed subglobose.....	5
5a. Fruits 1-celled.....	1. <i>Antidesma</i>
5b. Fruits 2-celled.....	2. <i>Aporosa</i>
6a. Flowers with petals.....	6. <i>Bridelia</i>
6b. Flowers without petals.....	7
7a. Disc glands present.....	9. <i>Phyllanthus</i>
7b. Disc glands absent.....	8
8a. Sepals free in male flowers; styles connate in to a terete or conical.....	8. <i>Glochidion</i>
8b. Sepals fused, disc shaped or cup shaped; styles 3, connate at base, bipartite.....	5. <i>Breynia</i>

1. *Antidesma* L., Sp. Pl. 2:1027. 1753.

Key to the species

1a. Stamens 2.....	1. <i>A. acidum</i>
1b. Stamens 3–6.....	2
2a. Leaves oblong-lanceolate; flowers reddish-pink.....	4. <i>A. roxburghii</i>
2b. Leaves elliptic or oblong-elliptic; flowers not reddish-pink.....	3
3a. Male flowers sessile.....	2. <i>A. bunius</i>
3b. Male flowers pedicellate.....	3. <i>A. montanum</i>

1. *Antidesma acidum* Retz., Observ. Bot. 5:30. 1788; Deb, Fl. Tripura 1:317. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:769. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:361. 2008. *A. diandrum* Hook.f., Fl. Brit. India. 5:361. 1887; Kanjilal *et al.*, Fl. Assam 4:167.1940.

Vern.name: Lapa saiko (Bodo).

Shrub or small tree, to 6 m tall; leaves alternate, elliptic, 5–8 × 3–4 cm, margin entire, acute at apex, base cuneate; lateral nerves 5–7 pairs; petiole 4 mm long; male inflorescence terminal, paniced, to 8 cm long; stamens 2, yellow; anther brownish, bilobed; calyx circular, reduced 4–5-lobed, covered the circular stout disc; female flowers: calyx copular, 3–4-lobed; stigma 3–4; fruits ellipsoid, slightly compressed, glabrous.

Flowering and Fruiting: March–July.

Occurrence: Found in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINALAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0258* (BUBH), 12.03.2019.

Uses: Juvenile leaves are used as vegetable.

2. *Antidesma bunius* (L.) Spreng., Syst. Veg. 1:826. 1825; Hook.f., Fl. Brit. India 5:358. 1887; Kanjilal *et al.*, Fl. Assam 4:166. 1940; Deb, Fl. Tripura 1:317. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:770. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:361. 2008. *Stilago bunius* L., Mant. Pl. 122. 1767.

Vern. name: Lapa Saiko geder (Bodo).

Tree, dioecious; leaves alternate, elliptic-obovate, 10–13 × 4–6 cm, margin entire, acute at apex, base acute; lateral nerves 5–7 pairs; petiole 7–10 mm long; male inflorescence 8–12 cm long; bracts margin brown hairy; male flowers sessile, reddish when matured; calyx reduced 4-lobed; stamens 3–4; anther 2-lobed, yellow; female inflorescence 4–5.5 cm long; female flowers: calyx, reduced 4-lobed, circular.

Flowering and Fruiting: February–May.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0269* (BUBH), 02.04.2020.

3. *Antidesma montanum* Blume, Bijdr. Fl. Ned. Ind. 1124. 1827. *A. acuminatum* Hook.f., Fl. Brit. India 5:363. 1887; Kanjilal *et al.*, Fl. Assam 4:168. 1940. (Plate 52A).

Tree; leaves alternate, elliptic-oblong or elliptic-lanceolate, 10–15 × 4–6 cm, margin entire, caudate-acuminate at apex, base obtuse or rounded; lateral nerves 8–10 pairs; male inflorescences axillary or terminal, more branched than female; male flowers sessile to short pedicellate; sepals 3–4, free to fused, shallowly cup-shaped; stamens 3–5; female inflorescence 10–15 cm long paniced racemes, branched at base or unbranched; female flowers short pedicellate; sepals 3–5, triangular–ovate; ovary globose, glabrous; stigmas 2–6; fruits sub-globose, pinkish red when ripe.

Flowering and Fruiting: June–October.

Occurrence: Found in dense forest of semi-evergreen type.

Distribution: INDIA (West Bengal, NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0141* (BUBH), 24.07.2020.

4. *Antidesma roxburghii* Wall., Numer. List n. 7283. 1832; Hook.f., Fl. Brit. India 5:357.1887; Kanjilal *et al.*, Fl. Assam 4:166. 1940. (Plate 52B).

Shrub, to 3 m tall; branches densely tomentose, rusty; leaves alternate, obovate-elliptic, elliptic-lanceolate, 8–12 × 3–5 cm, acuminate at apex, base broadly acute or rounded; lateral nerves 7–10 pairs; petioles 3–7 mm long, pubescent; inflorescence axillary or terminal spikes, reddish-brown, 5–10 cm long; calyx 3–4-segmented, apex rounded; stamens 3–4; fruits obovoid-ellipsoid.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0381* (BUBH), 16.08.2020.

2. *Aporosa* Blume, Bijdr. Fl. Ned. Ind. 514. 1826.

1. *Aporosa octandra* (Buch.-Ham. ex Don) Vickery in Hara, Stearn and Williams, Enum Fl. Pl. Nepal 3:193. 1982. *A. dioica* Deb, Fl. Tripura 1:318. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:773. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:363. 2008. *A. roxburghii* Hook.f., Fl. Brit. India 5:348. 1887; Kanjilal *et al.*, Fl. Assam 4:162. 1940. *Myrica octandra* Don, Prodr. Fl. Nepal. 56. 1825.

Vern. name: Samphere/Khodwi (Bodo).

Tree, dioecious, to 10 m tall; leaves alternate, elliptic, 12–16 × 3.5–5 cm, margin entire, acute-acuminate at apex, base acute; lateral nerves 7–8 pairs; stipule 9–12 mm long, green, membranous; petiole 8–10 mm long; glands 2 at the apex of petiole, brown-green; male inflorescence axillary spikes, 2–3 cm long, terete, yellow; male flowers minute; female flowers: sepals 4–6, triangular ovate, margins ciliate, acute at apex; ovary ovoid, bilocular; ovules 2 per locule. fruits clustered of 2–7, slightly 2-lobed longitudinally; seeds 2, arillate.

Flowering and Fruiting: January–June.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0646* (BUBH), 31.03.2020.

Uses: Ripe fruits are edible.

3. *Baccaurea* Lour., Fl. Cochinch. 652. 1790.

1. *Baccaurea ramiflora* Lour., Fl. Cochinch. 661. 1790; Deb, Fl. Tripura 1:320. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:774. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:364. 2008. *B. sapida* Hook.f., Fl. Brit. India 5:371. 1887; Kanjilal *et al.*, Fl. Assam 4:161. 1940.

Vern. name: Lerkho/Khusumai (Bodo).

Tree, dioecious, to 8 m tall; leaves whorled or spirally arranged. elliptic-obovate or lanceolate, 8–14 × 3–6 cm, margin entire, acuminate at apex, base narrowed; lateral nerves 7–10 pairs; petioles 1–2 cm long; inflorescence axillary, racemes; male flowers sessile; calyx 4-lobed; stamens 4–8; female flowers: sepals 4–6, oblong-lanceolate, 3–5 mm long; ovary ovoid-globose, 3-locular; styles reduced; stigma bifid at apex; fruiting peduncles drooping; fruits globose, 3-locular, pale yellow; seeds with red testa.

Flowering and Fruiting: February–July.

Occurrence: Found in dense semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0531* (BUBH), 18.03.2021.

Uses: Ripe fruits are edible.

4. *Bischofia* Blume, Bijdr. Fl. Ned. Ind. 1168. 1827.

1. *Bischofia javanica* Blume, Bijdr. Fl. Ned. Ind. 1168. 1827; 1827; Hook.f., Fl. Brit. India 5:345. 1887; Kanjilal *et al.*, Fl. Assam 4:141. 1940; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 298. 2003.

Vern. name: Thaiso (Bodo).

Tree, to 20 m tall; leaves 3-foliolate; leaflets ovate-elliptic, 10–15 × 5–8 cm, acuminate at apex, base obtuse or broadly acute, margin serrate; petioles 12–16 cm long; inflorescence axillary, panicle, to 20 cm long; sepals 5, recurved; stamens 5, free; ovary 3-celled, globose, glabrous, styles pubescent, capsule subglobose.

Flowering and Fruiting: March–November.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0265* (BUBH), 23.05.2020.

Uses: Fruits are edible.

5. *Breynia* Forst. and Forst., Char. Gen. Pl. 145. 1776.

Key to the species

- 1a. Leaf veins palmate.....4. *B. trinervia*
- 1b. Leaf veins pinnate.....2
- 2a. Undershrub; fruits erect.....3. *B. retusa*
- 2b. Shrub; fruits drooping.....3
- 3a. Male flowers disc shaped, without distinct lobes; fruits creamy white.....1. *B. androgyna*
- 3b. Male flowers with distinct lobes; fruits red.....2. *B. macrantha*

1. *Breynia androgyna* (L.) Chakrab. and Balakr. in Bangladesh J. Pl. Taxon. 19(2):120. 2012. *Clutia androgyna* L., Mant. Pl. 128. 1767. *Sauropus androgynus* Kanjilal *et al.*, Fl. Assam 4:172. 1940; Deb, Fl. Tripura 1:351. 1981.

Shrubs, to 3 m tall; leaves alternate, oblong lanceolate, 3–7 × 1.5–3 cm, margin entire, base slightly rounded or cuneate, apex acute; inflorescence axillary, 1–2-flowered; male flowers: calyx 6-fid, disc shaped, 3–8 mm in diam.; stamens 3; female flowers axillary, solitary; calyx 6-lobed; sepals obovate; styles 3, bifid; fruits globose, creamy white, pendulous.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0104* (BUBH), 19.10.2019.

Uses: Leaves are cooked with dried fish as curry (Teron 2011).

2. *Breynia macrantha* (Hassk.) Chakrab. and Balakr. in Bangladesh J. Pl. Taxon. 19(2):121. 2012. *Sauropus macrophyllus* Hook.f., Fl. Brit. India 5:333. 1890; Kanjilal *et al.*, Fl. Assam 4:173. 1940. *S. macranthus* Hassk., Retzia 1:166. 1855. (Plate 52C).

Shrubs, 2–4 m tall; leaves alternate, ovate-elliptic, 14–18 × 4.5–6 cm, margin entire, apex shortly acuminate, base obtuse; male and female flowers in clustered, axillary, 5–10-flowered; male flowers: pedicel 1–1.4 cm long, pinkish; calyx 6-lobed, yellowish-green, pink inside at middle; stamens 3, sessile; female flowers: calyx 6-lobed, yellowish-green; style 3, bifid; fruits depressed globose or subglobose, reddish-pink.

Flowering and Fruiting: February–June.

Occurrence: Found in floor of semi-evergreen dense woody forest.

Distribution: INDIA (NE India), CHINA, MYANMAR, NEPAL, QUEENSLAND, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0082* (BUBH), 16.03.2019.

3. *Breynia retusa* (Dennst.) Alston in Ann. Roy. Bot. Gard. 11:204. 1929. *B. patens* Hook.f., Fl. Brit. India 5:329. 1887; Kanjilal *et al.*, Fl. Assam 4:174. 1940; Harid. and Rao, Forest Fl. Meghalaya 2:776. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:365. 2008. *Phyllanthus retusus* Dennst., Schlüssel Hortus Malab. 31. 1818.

Shrub, dioecious, to 1 m tall; leaves alternate, simple, ovate-elliptic, 1.5–2 × 2–3 cm, margin entire, apex rounded, base cuneate or rounded; lateral nerves 4–6 pairs; female flower solitary, axillary, facing upwards, 7 mm diam.; calyx 6-lobed, green, persistent; style 3, bifid, brown; capsule depressed globose, trilobed, bilobed each, yellow-red when matured; seeds 6, trigonous, red when old.

Flowering and Fruiting: March–August.

Occurrence: Found in floor of dense deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0038* (BUBH), 10.05.2018.

4. *Breynia trinervia* (Hook.f. and Thomson ex Müll.Arg) Chakrab. and Balakr. in Bangladesh J. Pl. Taxon. 19(2):121. 2012. *Sauropus trinervius* Müll.Arg., Linnaea 32(1):72. 1863. Hook.f., Fl. Brit. India 5:334. 1890; Kanjilal *et al.*, Fl. Assam 4:173. 1940. (Plate 52D).

Shrub, to 2 m tall; leaves alternate, ovate-lanceolate, 5–8 × 2.5–4 cm, margin entire, acuminate at apex, base obtuse or broadly cuneate; basal nerves 3, lateral nerves 3–4 pairs; male flowers in axillary imbricating bracts, circular flat; female flowers 1–3 per axil; sepals and petals 3, alternating each other; fruits subglobose, slightly 3-lobed, with persistent calyx and stigma at apex.

Flowering and Fruiting: September–December.

Occurrence: Found in dense forest of semi-evergreen type.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0146* (BUBH), 09.09.2020.

6. *Bridelia* Willd., Sp. Pl. ed 4, 4:978. 1806.

Key to the species

- 1a. Scandent shrub.....2. *B. stipularis*
- 1b. Shrub or tree.....2
- 2a. lateral nerves 6–9 pairs; fruits globose.....3. *B. tomentosa*
- 2b. Lateral nerves 9–12 pairs; fruits ovoid.....1. *B. assamica*

1. *Bridelia assamica* Hook.f., Fl. Brit. India 5:269. 1887; Kanjilal *et al.*, Fl. Assam 4:145. 1940; Deb, Fl. Tripura 1:323. 1981; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:366. 2008.

Tree, to 10 m tall; leaves alternate, elliptic-lanceolate or oblong, 8–12 × 3–6 cm long, margin entire, acuminate at apex, base cuneate, pubescent beneath; lateral nerves 9–12 pairs; petioles 1–1.5 cm long; stipules subulate; inflorescence axillary clusters; flowers sessile; bracts minute; calyx ovate ; petals rounded; fruits ovoid, glabrous.

Flowering and Fruiting: March–November.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0532* (BUBH), 17.11.2019.

2. *Bridelia stipularis* (L.) Blume, Bijdr. Fl. Ned. Ind. 597. 1826; Hook.f., Fl. Brit. India 5:270. 1887; Kanjilal *et al.*, Fl. Assam 4:147. 1940; Deb, Fl. Tripura 1:325. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:779. 1987. *Clusia stipularis* L., Mant. Pl. 127. 1767. (Plate 52E).

Scandent shrub, to 8 m tall; leaves alternate, elliptic-oblong or obovate oblong, 4–7 × 2–4 cm, margin entire, ciliate, obtuse or acute at apex, base rounded or subcordate, densely pubescent beneath; lateral nerves 8–13 pairs; petioles 5–10 mm long; inflorescence axillary, clustered; male flower: calyx 5-lobed, ovate, acute at apex; corolla smaller than calyx lobes, apically 3-lobed; stamens 5; anther dark brown; female flowers: sepals ovate-triangular, 4 × 2–3 mm; petals rhombic-spatulate, shallowly bifid at apex; ovary ovoid, 2–3 mm across; styles 2, bifid at apex; fruits oblong-round, brownish-red.

Flowering and Fruiting: October–March.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0170* (BUBH), 26.10.2020.

3. *Bridelia tomentosa* Blume, Bijdr. Fl. Ned. Ind. 597. 1826; Hook.f., Fl. Brit. India 5:271. 1887; Kanjilal *et al.*, Fl. Assam 4:146. 1940; Deb, Fl. Tripura 1:323. 1981. *B. lanceifolia* Roxb., Fl. Ind. 3:737. 1832.

Tree, to 5 m tall; leaves alternate, elliptic-lanceolate, 3–7 × 2–3 cm, margin entire, acute or subacuminate at apex, base cuneate, membranous; lateral nerves 6–9 pairs; petioles 5–8 mm long; inflorescence axillary in clusters, white; bracts small; flowers unisexual; capsule drupes, globose.

Flowering and Fruiting: November–February.

Occurrence: Found in roadsides of forests or in forests margins.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0648* (BUBH), 13.12.2021.

7. *Flueggea* Willd., Sp. Pl. ed 4, 4:637. 1806.

1. *Flueggea virosa* (Roxb. ex Willd.) Royle, Ill. Bot. Himal. Mts. 9:328 (1836); Kanjilal *et al.*, Fl. Assam 4:160. 1940. *F. microcarpa* Hook.f., Fl. Brit. India 5:328.1887. *Phyllanthus virosus* Roxb. ex Willd., Sp. Pl. 4(4):578. 1805. (Plate 65B).

Vern. name: Shukhen Biphang (Bodo).

Shrubs, to 4 m tall, stem deep brown; leaves alternate, elliptic-ovate, 4–5.5 × 2–3.5 cm, margin entire, base acute, acute at apex; lateral veins 7–9 pairs; base acute, apex acute; inflorescence axillary, clustered; male flower yellow; calyx 5, yellow; gland 5; stamens 5; female flowers: calyx 5; style 3; capsule orbicular, 7–8 cm diam., fleshy, white.

Flowering and fruiting: April–July.

Occurrence: Edge of forest area or in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0003* (BUBH), 05.06.2017.

Uses: Ripe fruits are eaten by local Bodo people. Leaves paste are used to cure childrens' small pox.

8. *Glochidion* Forst. and Forst., Char. Gen. Pl. 113. 1776.

Key to the species

- 1a. Branchlets and leaves pubescent.....2
- 1b. Branchlets and leaves glabrous.....3
- 2a. Fruits with distinct lobes.....2. *G. heyneanum*
- 2b. Fruits without distinct lobes.....6. *G. zeylanicum*
- 3a. Fruits 4-lobed.....1. *G. ellipticum*
- 3b. Fruits more than 4-lobes.....4
- 4a. Shrub; leaves glaucous beneath.....4. *G. multiloculare*
- 4b. Tree; leaves not glaucous beneath.....5
- 5a. Fruits 7–10 mm across, dark green.....5. *G. sphaerogynum*

5b. Fruits 15–20 mm across, pale yellowish-green, pinkish when ripe.....3. *G. lanceolarium*

1. *Glochidion ellipticum* Wight, Icon. Pl. Ind. Orient. 4(4):t.1606. 1850. *G. assamicum* Hook.f., Fl. Brit. India 5:319. 1887; Kanjilal *et al.*, Fl. Assam 4:187.1940; Deb, Fl. Tripura 1:335. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:790. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:372. 2008.

Tree, to 10 m tall; stipule needle-like; leaves alternate, elliptic, 11–14.5 × 4–6.5 cm, margin entire or sub-entire, acute-acuminate at apex, base acute; lateral nerves 5–7 pairs; male flowers axillary, clustered; calyx 6, yellow, connate at base; anther 3, fused, brown; female flowers axillary, clustered; calyx 6, green; capsule depressed globose, pubescent, 4-lobed.

Flowering and fruiting: March–July.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary* 0276 (BUBH), 04.04.2017

2. *Glochidion heyneanum* (Wight and Arn.) Wight in Linnaea 32:67. 1863. *G. velutinum* Hook.f., Fl. Brit. India 5:322. 1887; Brandis, Ind. Trees 574. 1906; Kanjilal *et al.*, Fl. Assam 4:185. 1940; Harid. and Rao, Forest Fl. Meghalaya 2:792. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:374. 2008. *Gynoon heyneanum* Arn. in Edinburgh New Philos. J. 14:300. 1833.

Tree, small size; young parts of stem is pubescent; leaves alternate, ovate-ovlong, 5–8 × 3–4 cm, margin entire, densely pubescent both sides; male flowers: calyx 6, yellow; stamens 3, fused, yellow; female flower: calyx 6, green; style 4, connate, pubescent, tip hollowed; capsule depressed globose, 8–10 mm diam., lobes 8, rarely 10, pubescent.

Flowering and fruiting: March–June.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary* 0278 (BUBH), 13.04.2017.

3. *Glochidion lanceolarium* Voigt, Hort. Suburb. Calcutt. 153. 1845; Hook.f., Fl. Brit. India 5:308. 1887; Kanjilal *et al.*, Fl. Assam 4:182. 1940; Deb, Fl. Tripura 1:337. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:791. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:373.2008. (Plate 52F).

Tree, to 8 m tall; leaves alternate, elliptic, 7–11 × 3–5 cm, margin entire, apex acute, base cuneate; lateral nerves 5–7 pairs; petiole 6 mm long; male inflorescence axillary, in cluster, yellow; male flower: calyx 6, unequal; stamens 5–6, connate, yellow; capsule depressed globose, 1.5–2 cm diam., lobes 7, greenish-yellow.

Flowering and fruiting: March–July.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0277* (BUBH), 13.04.2017.

4. *Glochidion multiloculare* (Roxb. ex Willd.) Voigt, Hort. Suburb. Calcutt. 152. 1845; Hook.f., Fl. Brit. India 5:307. 1887; Kanjilal *et al.*, Fl. Assam 4:181. 1940; Deb, Fl. Tripura 1:337. 1981; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:373. 2008. *Agyneia multilocularis* Willd., Ges. Naturf. Freunde Berlin 4:206. 1803. (Plate 53A).

Vern. name: Thaka Biphang (Bodo).

Shrubs; leaves alternate, elliptic, 10–14 × 3–4.5 cm, margin entire, apex retuse, base cuneate; petiole 4–6 mm long; inflorescence axillary, clustered; male flowers: calyx 6, greenish-yellow; stamens 4–5, yellow; female flower 2–4 in a cluster; calyx 6–8, green; style circular, hollowed tip; fruits deeply depressed globose, circular, 1–1.3 cm diam., 8–12-lobed; seeds red when matured.

Flowering and Fruiting: April–September.

Occurrence: Found degraded forest or in domesticated area.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0275* (BUBH), 20.05.2017.

Uses: Root bark is used in snake bite.

5. *Glochidion sphaerogynum* Kurz, For. Fl. Brit. Burma 2:346.1877; Hook.f., Fl. Brit. India 5:317. 1887; Brandis, Ind. Trees 575. 1906; Kanjilal *et al.*, Fl. Assam 4:188. 1940; Deb, Fl. Trpura 1:337. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:791. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:374. 2008. (Plate 53B).

Small tree, to 6 m tall; leaves alternate, lanceolate 8–12 × 4–6 cm, margin entire, acuminate at apex, base broadly acute or slightly oblique; lateral nerves 7–10 pairs; petioles 4–6 mm long; inflorescence axillary, fascicles, many flowered; male flowers yellow; female flowers green; fruits slightly depressed globose, 3–5 mm across, 8–10-lobed.

Flowering and Fruiting: February–August.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0279* (BUBH), 18.04.2019.

6. *Glochidion zeylanicum* (Gaertn.) A.Juss., Euphorb. Gen. 107. 1824.

Key to the varieties

1a. Inflorescence supra-axillary.....2. *G. zeylanicum* var. *tomentosum*

1b. Inflorescence axillary.....1. *G. zeylanicum* var. *arborescens*

1. *Glochidion zeylanicum* var. *arborescens* (Blume) Chakrab. and Gangop. in J. Econ. Tanon. Bot. 19:228. 1995. *G. arborescens* Blume, Bijdr. Fl. Ned. Ind. 584. 1826; Kanjilal *et al.*, Fl. Assam 4:188. 1940. (Plate 53C).

Small tree, to 5 m tall; leaves alternate, ovate-lanceolate, 8–15 × 4–8 cm, margin entire, acuminate at apex, base rounded at base, densely pubescent beneath; lateral nerves 8–11 pairs; petioles 4–6 mm long; inflorescence axillary, fascicle cymes; calyx 5 in male and female flowers; fruits globose to slightly depressed globose, no any longitudinal lines, pubescent, reddish-pink when old.

Flowering and Fruiting: February–October.

Occurrence: Found in moist deciduous forest along streams.

Distribution: INDIA (Andaman Island, Arunachal Pradesh, Assam, Mizoram, Orissa, West Bengal), BANGLADESH, BHUTAN, BORNEO, CHINA, MYANMAR, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0300* (BUBH), 07.03.2021.

2. *Glochidion zeylanicum* var. *tomentosum* (Dalzell) Trimen, Syst. Cat. Fl. Pl. Ceylon 79. 1885. *G. tomentosum* Dalzell in Hooker's J. Bot. Kew Gard. Misc. 3:38. 1851. Hook.f., Fl. Brit. India 5:305. 1887. *G. hirsutum* Kanjilal *et al.* Fl. Assam 4:184. 1940. (Plate 53D).

Small tree, to 8 m tall; leaves alternate, ovate-lanceolate, 8–14 × 4–7 cm, margin entire, acuminate at apex, base subcordate or rounded at base, densely pubescent beneath; lateral nerves 8–12 pairs; petioles 5–8 mm long; inflorescence extra-axillary, short pedunculate cymes; calyx 5 in both male and female flowers; fruits depressed globose, with distinct longitudinal lines of cocci, densely pubescent, depressed at apex.

Flowering and Fruiting: January–October.

Occurrence: Found in moist deciduous forest along streams.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, LANKA, TAIWAN, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0274* (BUBH), 30.07.2021.

9. *Phyllanthus* L., Sp. Pl. 2:981. 1753.

Key to the species

- 1a. Herbs or shrubs.....2
- 1b. Trees.....7
- 2a. Fruits black when ripe.....5. *P. reticulatus*
- 2b. Fruits not black when ripe.....3
- 3a. Leaves 7–10 mm long.....4
- 3b. Leaves 10–30 mm long.....5
- 4a. Leaves apiculate at apex; calyx 6.....8. *P. urinaria*
- 4b. Leaves rounded to subrounded; calyx 5.....2. *P. amarus*
- 5a. Sepals of male flowers 3+3.....6
- 5b. Sepals of male flowers 2+2.....7. *P. sikkimensis*
- 6a. Pedicel pinkish-purple; pedicel of female flowers 5-8 mm long.....4. *P. leschenaultii*
- 6b. Pedicel green; pedicel of female flowers 2–4 mm long.....6. *P. rheedei*
- 7a. Fruits lobed.....1. *P. acidus*
- 7b. Fruits unlobed.....3. *P. emblica*

1. *Phyllanthus acidus* (L.) Skeels in Bull. Bur. Pl. Industr. U.S.D.A. 148:17. 1909; Deb, Fl. Tripura 1:345. 1981. *P. acidissimus* Müll.Arg. in Linnaea 32:50. 1863. *P. distichus* Hook.f., Fl. Brit. Ind. 5:304. 1887. *Averrhoa acida* L., Sp. Pl. 1:428. 1753.

Vern. name: Suple (Bodo).

Tree, deciduous, to 6 m tall; leaves alternate, ovate to ovate-oblong, 3–6 × 2–3 cm, margin entire, acute at apex, base rounded; inflorescences axillary, fascicled, arising from leafless short shoots; male flowers: sepals 4, reddish purple; stamens 4; female flowers: sepals 4, green to reddish purple; fruits greenish yellow to white, depressed globose, with 5–8-grooved.

Flowering and Fruiting: March–November.

Occurrence: Grown at home.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0653* (BUBH), 25.02.2020.

Uses: Fruits are edible. Leaves are cooked with alkali solution and dried fish and eaten in curry (Teron 2011).

2. *Phyllanthus amarus* Schumach. and Thonn. in Beskr. Guin. Pl. 421. 1827. *P. nanus* Hook.f., Fl. Brit. India 5:298. 1890; Kanjilal *et al.*, Fl. Assam 4:155. 1940.

Herbs, to 60 cm tall; leaves alternate, elliptic, 9 × 4 mm, margin entire, apex acute, base symmetrical; flowers axillary, solitary; male flowers: calyx 5; stamens 3, connate; female flowers: calyx 5, pale yellow; style 3, bifid; capsule orbicular, 6-lobed; seeds 6, brown, trigonous.

Flowering and Fruiting: July–September.

Occurrence: Common in grassland, along the roadside and in domesticated land area.

Distribution: INDIA (Introduced), AMERICA, MEXICO.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0001* (BUBH), 10.07.2017.

3. *Phyllanthus emblica* L., Sp. Pl. 2:982. 1753; Roxb., Fl. Ind. 3:671. 1832; Hook.f., Fl. Brit. India 5:289. 1887; Deb, Fl. Tripura 1:346. 1981; Chowdhery *et al.* in Giri *et al.*, Materials for

the Fl. Arunachal Pradesh 2:380. 2008. *Emblica officinalis* Kanjilal *et al.*, Fl. Assam 4:159. 1940.

Vern. name: Aamlai (Bodo).

Trees, deciduous, to 10 m tall; leaves alternate, oblong, 5–12 × 2–4 mm, margin entire, obtuse with subacute at apex, base slightly oblique; inflorescence axillary, short racemes; male flowers 2–3 mm in diam.; sepals 6, subequal, pale yellow; stamens 3; female flower: sepals 6, 1–2 mm long, greenish; style 3, connate at the base, bifid; fruits globose, glabrous.

Flowering and Fruiting: February–August.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0654* (BUBH), 02.03.2020.

Uses: The fruit is edible and fermented liquor prepared from the fruit is used to cure jaundice, cough, etc.

4. *Phyllanthus leschenaultii* Müll. Arg. in *Linnaea* 32:37. 1863; Hook.f., *Fl. Brit. India* 5:296. 1887; Chakrabarty *et al.* in Balakrishnan *et al.*, *Fl. India* 23:486. 2012. (Plate 53E).

Undershrub, to 1.5 m tall; leaves alternate, obovate-oblong, 1–2 × 0.6–1.2 cm, margin entire, broadly acute to rounded at base, broadly acute to obtuse at apex; lateral nerves 4–7 pairs; petioles 1–2 mm long; inflorescence axillary, 1–3-flowered; male flowers: sepals 3+3, ovate-oblong, whitish margined; stamens 3; female flowers: sepals 3+3, obovate-oblong, whitish margined; styles 3; fruits slightly depressed subglobose, 3–6-angled.

Flowering and Fruiting: September–February.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Almost throughout the country), BHUTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0700* (BUBH), 03.10.2020.

5. *Phyllanthus reticulatus* Poir. in *Lam., Encycl.* 5:298. 1804; Hook.f., *Fl. Brit. India* 5:288. 1887; Deb, *Fl. Tripura* 1:348. 1981; *Kirganelia reticulata* Kanjilal *et al.*, *Fl. Assam* 4: 159. 1940.

Shrubs, scandent; leaves alternate, ovate-elliptic, 2–2.5 × 1–1.5 cm, margin entire, apex and base obtuse, lateral nerves 5–7 pairs; petiole 2–4 mm long; inflorescence axillary cyme; male flowers clustered; female flower solitary, sometimes both mixed; male flowers: calyx 5, pink and white colouration; stamens 5; anther brown; female flowers: calyx 5; capsule orbicular, black when ripe.

Flowering and Fruiting: July–September

Occurrence: Found in roadside, domesticated land area or in the edge of forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0004* (BUBH), 22.07.2017.

Uses: The twigs are used as chew-sticks and toothbrushes. Leaves are boiled with palm fruits and filtrate is consumed by woman after child-birth.

6. *Phyllanthus rheedei* Wight, Icon. Pl. Ind. Orient. 5:t.1895. 1852; Hook.f. Fl. Brit. India 5:293. 1887; Sivar. and Joseph in J. Bombay Nat. Hist. Soc. 77:369. 1980. (Plate 53F).

Annual herb, to 60 cm tall; leaves alternate, obovate-oblong or oblong-elliptic, 1.5–2.5 × 0.8–1.5 cm, margin entire, subacute or apiculate at apex, base broadly cuneate to rounded; lateral nerves 4–6 pairs; petioles 1–2 mm long; inflorescence axillary, cymes; male flowers with 3+3 sepals; stamens 3; female flowers with 3+3 sepals; styles 3, bifid; fruits subglobose, shallowly lobed.

Flowering and Fruiting: May–September.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BHUTAN, SRI LANKA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0655* (BUBH), 10.07.2020.

7. *Phyllanthus sikkimensis* Müll. Arg. in Linnaea 32:48. 1863; *P. hamiltonianus* in Linnaea 34:75. 1865; Hook.f., Fl. Brit. India 5:304. 1887. (Plate 54A).

Undershrub, to 60 cm tall; leaves alternate, ovate-oblong to ovate-elliptic, 2–4 × 1.5–2.5 cm, margin entire, acute at apex, base oblique-rounded; lateral nerves 4–5 pairs, inconspicuous; inflorescence axillary, fascicled; male flowers with shorter pedicel than female flowers;

sepals 4-lobed, pinkish; staminal column yellow; female flowers at the upper part of the branchlets; sepals 5–6-lobed; fruits rugose, subglobose.

Flowering and Fruiting: March–June.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (NE India, West Bengal), BANGLADESH, BHUTAN, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0627* (BUBH), 22.03.2021.

8. *Phyllanthus urinaria* L., Sp. Pl. 2: 982. 1753; Roxb., Fl. Indica 3:660. 1832; Lindley, Fl. Medica 177. 1838; Hook.f., Fl. Brit. Ind. 5:293. 1890; Kanjilal *et al.*, Fl. Assam 4: 155. 1940. *Vern. name:* Gwthwi Amlai (Bodo).

Herbs, to 30 cm tall; leaves alternate, obovate, 8–11 × 4–6 mm, margin entire, base slightly oblique, apex mucronate; lateral nerves 3 pairs; male flowers: calyx 6, free, white, membranous; stamens 3, closely associated, yellow; female flowers sub-sessile; sepals 6, green, persistent, free; style 3, green; fruits sub-sessile, 1.5 × 3 mm, green, rough, tuberculated; seeds 6.

Flowering and Fruiting: November–July.

Occurrence: Found in sunny spots or in secondary forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Bismuri, *S. Basumatary 0264* (BUBH), 12.05.2020.

62. COMBRETACEAE Br., Prodr. Fl. Nov. Holland. 351. 1810.

About 8 genera and 48 species in India; 4 genera and 22 species in Assam; 2 genera and 5 species recorded from the study area.

Key to the genera

- 1a. Liana or scandent shrub.....1. *Combretum*
1b. Tree.....2. *Terminalia*

1. *Combretum* Loefl., Iter Hispan. 308. 1758.

1. *Combretum acuminatum* Roxb., Hort. Bengl. 28. 1814 and Fl. Ind. 2:28. 1832; Clarke in Hook.f., Fl. Brit. India 2:455. 1878; Kanjilal *et al.*, Fl. Assam 2: 255. 1938; Harid. and Rao, Forest Fl. Meghalaya 1:379. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:464. 1996.

Liana; leaves opposite or whorled, ovate-elliptic, 10–15 × 4.5–6.7 cm, margin entire, acuminate at apex, base subcordate or rounded; lateral nerves 6–8 pairs; petiole 3–5 mm long; inflorescence terminal or axillary, 3–5 cm long; flowers 5 mm across; calyx 4-lobed, pale green, apex acute; petals 4, white, yellow when matured; stamens 8; filament white, yellow when matured; fruits 4-winged, 3 × 2 cm, pinkish-yellow.

Flowering and Fruiting: March–August.

Occurrence: Found in dense forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, LAOS, MYANMAR, NEW GUINEA, PHILIPPINES, SRI LANKA, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0085* (BUBH), 21.03.2019.

2. *Terminalia* L., Mant. Pl. 21. 1767.

Key to the species

- 1a. Fruits winged.....2
- 1b. Fruits wingless.....3
- 2a. Fruits 5-winged.....1. *T. arjuna*
- 2b. Fruits 2-winged, opposite.....4. *T. myriocarpa*
- 3a. Leaves spirally arranged or pseudowhorled at apex.....2. *T. bellerica*
- 3b. Leaves alternate or subopposite.....3. *T. chebula*

1. *Terminalia arjuna* (Roxb. ex DC.) Wight and Arn., Prodr. Fl. Ind. Orient. 1:314. 1834; Clarke in Hook.f., Fl. Brit. India 2:447. 1878; Deb, Fl. Tripura 1:384. 1981. *Pentaptera arjuna* DC., Prodr. 3:15. 1828.

Vern. name: Arjun (Bodo).

Tree, to 20 m tall; leaves opposite, oblong-obovate, 6–12 × 3–6 cm, margin entire, obtuse or rounded at apex, base narrowed; lateral nerves 7–10 pairs; petioles 3–6 mm long;

inflorescence terminal or axillary, spikes; calyx sublobed, glabrous; filaments white, linear; anther pale yellow; fruits oblong, 3–4 cm long, 5-winged, like star fruits, fibrous.

Flowering and Fruiting: March–August.

Occurrence: Found as planted.

Distribution: INDIA (Almost throughout the country), PAKISTAN, SRI LANKA.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0463* (BUBH), 17.05.2019.

Uses: Barks are used to cure gastric problems. Juice of bark is taken to cure urinal infection. Juice of bark is mixed with goat milk and taken to cure blood dysentery. Also used in heart diseases, blood dysentery, cold and cough, high blood pressure, ulcer (Das *et al.* 2010).

2. *Terminalia bellirica* Roxb., Pl. Coromandel 2(4): 54.t.198. 1798; Clarke in Hook.f., Fl. Brit. India 2:445. 1878; Brandis, Ind. Trees 307. 1906; Kanjilal *et al.*, Fl. Assam 2:243. 1938. Deb, Fl. Tripura 1:384. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:383. 1985.

Vern. name: Baora (Bodo).

Large tree, to 30 m tall, deciduous; leaves spirally arranged or pseudowhorls, obovate-elliptic, 12–18 × 6–10 cm, margin entire, acuminate or broadly acute at apex, base narrowed; lateral nerves 5–7 pairs; petioles 3–5 cm long; inflorescence axillary, spikes, to 15 cm long; flowers pale yellow; calyx greenish, pubescent; corolla pubescent, white; stamens 10; anther yellow; ovary tomentose; fruits globose, 2–2.5 cm across, tomentose, brown.

Flowering and Fruiting: April–November.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0240* (BUBH), 01.05.2022.

Uses: Fruits and barks are used in leprosy, asthma, dysentery, burning sensation of eyes (Das *et al.* 2010).

3. *Terminalia chebula* Retz., Obs. Bot. 5:31. 1788; Clarke in Hook.f., Fl. Brit. India 2:446. 1878; Kanjilal *et al.*, Fl. Assam 2:244. 1938; Deb, Fl. Tripura 1:385. 1981.

Vern. name: Selekha (Bodo).

Tree, to 15 m tall; leaves alternate or subopposite, elliptic or ovate-oblong, 8–12 × 4–6 cm, margin entire, acuminate at apex, cordate or rounded at base, glabrous both sides, coriaceous; lateral nerves 6–8 pairs; petioles 2–3 cm long, glands at apex; inflorescence terminal, spikes; peduncle pubescent; flowers minute; calyx limbs cup-shaped, glabrous, pale yellow; filaments white; anthers yellow; fruits ellipsoid, pale green.

Flowering and Fruiting: March–August.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0464* (BUBH), 12.05.2019.

Uses: Fruits and barks are used indigestion, gall-bladder stone, eye inflammation, dysentery (Das *et al.* 2010).

4. *Terminalia myriocarpa* Van Heurek and Müll.Arg. in Heurck., *Observ. Bot.* 215. 1871; Clarke in Hook.f., *Fl. Brit. India* 2:448. 1878; Kanjilal *et al.*, *Fl. Assam* 2:247. 1938; Deb, *Fl. Tripura* 1:386. 1981; Haridasan and Rao, *For. Fl. Meghalaya* 1:385. 1985.

Vern. name: Sal Khorai (Bodo).

Trees, to 30 m tall; leaves opposite, oblong-elliptic, 12–20 × 4–6 cm, margin entire, acute at apex, base subcordate or rounded, coriaceous; lateral nerves 20–26 pairs, subparallel; petioles 3–5 mm long; with 1–2 prominent glands at top; inflorescence terminal, paniced spkes, drooping; flowers pink; calyx teeth erect; fruits 3-winged, yellow, wings unequal.

Flowering and Fruiting: March–September.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0465* (BUBH), 10.04.2019.

63. LYTHRACEAE St.-Hil., *Expos. Fam. Nat.* 2:175. 1805.

About 11 genera and 53 species in India; 6 genera and 18 species in Assam; 5 genera and 6 species recorded from the study area.

Key to the genera

1a. Herbs.....	2
1b. Shrubs or trees.....	3
2a. Stem with glandular hairs.....	1. <i>Cuphea</i>
2b. Stem without hairs.....	4. <i>Rotala</i>
3a. Shrub.....	5. <i>Woodfordia</i>
3b. Tree.....	4
4a. Inflorescence corymbs.....	2. <i>Duabanga</i>
4b. Inflorescence panicles.....	3. <i>Lagerstroemia</i>

1. *Cuphea* Browne, Civ. Nat. Hist. Jamaica 216. 1756.

1. *Cuphea carthagenensis* (Jacq.) Macbr. in Publ. Field Mus. Nat. Hist., Bot. Ser. 8:124. 1930; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 157. 2003. *C. balsamona* Cham. and Schltld. in Linnaea 2:363. 1827. *Lythrum carthagenense* Jacq., Enum. Syst. Pl. 22. 1760. (Plate 34F).

Vern. name: San Laoti (Bodo).

Herbs, erect, to 60 cm tall; stem terete, glandular hairs, pinkish; leaves opposite, elliptic, ovate, 2–3 × 1–2 cm, margin sub-entire, acute at apex, base cuneate; glandular hairs along nerves beneath; lateral nerves 5–6 pairs; flowers axillary, solitary; calyx 6-lobed, tubular; petals 6, pink; stamens many; anther brownish.

Flowering and Fruiting: August–December.

Occurrence: Found in roadside, open forest.

Distribution: INDIA (Introduced), AMERICA, MEXICO.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0054* (BUBH), 27.08.2018.

2. *Duabanga* Buch.-Hum. in Trans. Linn. Soc. London 17:178. 1835.

1. *Duabanga grandiflora* (Roxb. ex DC.) Walp., Repert. Bot. Syst. 2:114. 1843; Deb, Fl. Tripura 1:377. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:416. 1985. *D. sonneratioides* Clarke in Hook.f., Fl. Brit. India 2:579. 1879; Kanjilal *et al.*, Fl. Assam 2:312. 1938. *Lagerstroemia grandiflora* DC. in Mém. Soc. Phys. Genève 3:84. 1826; Roxb., Fl. Ind. 2:503. 1832.

Tree, to 30 m tall; branches drooping apex; leaves ovate-oblong, 10–15 × 5–8 cm, margin entire, acuminate at apex, base cordate or rounded, puberulent beneath; lateral nerves 10–12 pairs; petioles 3–5 mm long; inflorescence terminal, corymb; calyx 5–8-lobed; petals white; stamens many; fruits ovate-oblong, 4–8-valved, with persistent styles.

Flowering and Fruiting: December–May.

Occurrence: Found in mixed deciduous forests in forest margins.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0471* (BUBH), 07.04.2021.

3. *Lagerstroemia* L., Syst. Nat. ed. 10, 2:1068. 1759.

Key to the species

- 1a. Petals white.....1. *L. parviflora*
1b. Petals pale violet.....2. *L. speciosa*

1. *Lagerstroemia parviflora* Roxb., Pl. Coromandel 1:48. t. 66. 1796; Clarke in Hook.f., Fl. Brit. India 2:575. 1879; Brandis, Ind. Trees 338. 1906; Kanjilal *et al.*, Fl. Assam 2:310. 1938; Deb, Fl. Tripura 2:173. 1983.

Vern. name: Sida (Bodo).

Tree, to 20 m tall; leaves opposite, ovate-lanceolate or elliptic, 5–8 × 3–4 cm, margin entire, broadly acute at apex, base rounded or cuneate at base, pubescent beneath; lateral nerves 5–6 pairs; petioles 2–4 mm long; inflorescence axillary or terminal, paniced cymes; calyx 6-lobed; petals 6, white; stamens 6; fruits ovoid-oblong, 2–2.5 cm long, glabrous, 3–4-valved.

Flowering and Fruiting: April–August.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0469* (BUBH), 22.04.2019.

2. *Lagerstroemia speciosa* (L.) Pers., Syn. Pl. 2(1):72. 1806; Deb, Fl. Tripura 2:173. 1983; Harid. and. Rao, Forest Fl. Meghalaya 1:415. 1985. *L. flos-reginae* Clarke in Hook.f., Fl. Brit. India 2:577. 1879; Gamble, Man. Ind. Timb. 373. 1902; Brandis, Ind. Trees 339. 1906;

Kanjilal *et al.*, Fl. Assam 2:311. 1938. (Plate 35A). *Munchausia speciosa* L. in Münchhausen, Hausvater 5:357. 1770.

Vern. name: Aojhar (Bodo).

Tree, to 15 m tall; leaves opposite, elliptic-oblong, 10–15 × 4–7 cm, margin entire, acuminate at apex, base rounded; lateral nerves 9–12 pairs; petioles 8–12 mm long; inflorescence terminal, paniced cymes; calyx 6, tomentose, acute at apex; petals obovate, basal stalked, margin subentire, pale violet; stamens many; styles linear; fruits subglobose, with persistent styles.

Flowering and Fruiting: April–August.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0470* (BUBH), 28.05.2021.

4. *Rotala* L. Mant. Pl. 2:143. 1771.

1. *Rotala rotundifolia* (Buch.-Ham. ex Roxb.) Koehne in Engler. Bot. Jahrb. 1:175. 1880; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 158. 2003. *Ammania rotundifolia* Roxb., Fl. Ind. 1:446. 1820; Clarke in Hook.f., Fl. Brit. India 2:566. 1879; Kanjilal *et al.*, Fl. Assam 2:316. 1938. (Plate 35B).

Annual herb, 10–25 cm tall; stem quadrangular; leaves opposite-decussate, ovate or orbicular, 0.7–1.3 × 0.6–1.1 cm, margin entire, obtuse at apex, base subcordate; lateral nerves 3–4 pairs; inflorescence terminal, spikes, 2–4 cm long; calyx 4-lobed, whitish-brown; petals 4, pink or bright rose; stamens 4; anther brown; filament light pink; ovary orbicular, yellow.

Flowering and Fruiting: November–March.

Occurrence: Found in open forest, grasslands.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0078* (BUBH), 11.02.2019.

5. *Woodfordia* Salisb., Parad. Lond. 1:t.42. 1806.

1. *Woodfordia fruticosa* (L.) Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 40: 56. 1871; Kanjilal *et al.*, Fl. Assam 2:313. 1938 ; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:498. 1996. *W. floribunda* Clarke in Hook.f., Fl. Brit. India 2:572.1879. *Lythrum fruticosum* L., Syst. Nat. 10(2):1045. 1759. (Plate 35C).

Shrubs, to 3 m tall; branches horizontally spreading or pendulous; leaves opposite, ovate-lanceolate, 6–12 × 1–3 cm, margin entire, acuminate at apex, base subcordate or rounded, pubescent beneath; inflorescence axillary, 3–12-flowered; flowers orange-red, tube 8–12 mm long; epicalyx segments 1–2 mm long; sepals deltate, 2–3 mm long; petals 6, lanceolate, 2–5 mm long; stamens 12; ovary bilobed.

Flowering and Fruiting: January–May.

Occurrence: Found in grasslands, deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0317* (BUBH), 23.13.2019.

64. ONAGRACEAE Juss., Gen. Pl. 317. 1789.

About 6 genera and 49 species in India; 3 genera and 6 species in Assam; 1 genus and 2 species recorded from the study area.

1. *Ludwigia* L., Sp. Pl. 1:118. 1753.

Key to the species

- 1a. Petals apex broadly acute or rounded.....1. *L. hyssopifolia*
1b. Petals apex retuse.....2. *L. octovalvis*

1. *Ludwigia hyssopifolia* (Don) Exell in Gracia de Orta 5:471. 1957; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:504. 1996. *Jussiaea hyssopifolia* Don, Gen. Syst. 2:693. 1832. (Plate 42F).

Vern. name: Hagrani Banlu (Bodo).

Annual herb, to 80 cm tall; stem and branches winged; leaves alternate, lanceolate or ovate-lanceolate, 3–6 × 1–3 cm, margin entire, acute at apex, base cuneate, glabrous both sides; petioles 5–10 mm long; inflorescence axillary cymes; flowers solitary; sepals 4, green; petals 4, oblong-elliptic, yellow; fruits linear, angular, reddish.

Flowering and Fruiting: March–November.

Occurrence: Found in open lowland area, often in paddy fields.

Distribution: INDIA (Introduced), AMERICA, BRAZIL, MEXICO.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0472* (BUBH), 18.08.2019.

2. *Ludwigia octovalvis* (Jacq.) Raven in Kew Bull. 15(3):476. 1962; Deb, Fl. Tripura 2: 178. 1983. *Jussiaea suffruticosa* L., Sp. Pl. 1:388. 1753; Clarke in Hook.f., Fl. Brit. India 8:587. 1879. *Oenothera octovalvis* Jacq., Enum. Syst. Pl. 19. 1760. (Plate 43A).

Herb, to 1 m tall; leaves alternate, linear-lanceolate, ovate, 4–6 × 1–2 cm, margin entire, acute at apex, base attenuate, puberulent both sides; lateral nerves 8–10 pairs; petioles 2–5 mm long; flowers axillary; sepals 4, ovate, pale green, acute-acuminate at apex; petals 4, obovate, nerves distinct, notched or truncate at apex, yellow; stamens 8; fruits linear-oblong, to 2 cm long, with persistent sepals at apex.

Flowering and Fruiting: September–April.

Occurrence: Found in wet deciduous forests along streams.

Distribution: INDIA (NE India), AMERICA, AUSTRALIA, BANGLADESH, BRAZIL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0473* (BUBH), 19.10.2019.

65. MYRTACEAE Juss., Gen. Pl. 322. 1789.

About 14 genera and 146 species in India; 5 genera and 34 species in Assam; 1 genus and 7 species recorded from the study area.

1. *Syzygium* Gaertn., Fruct. Sem. Pl. 1:166. 1788.

Key to the species

- 1a. Shrub.....1. *S. balsameum*
- 1b. Tree.....2
- 2a. Inflorescence terminal.....4. *S. jambos*
- 2b. Inflorescence axillary.....3
- 3a. Apical branches and petiole brown-reddish.....6. *S. oblatum*
- 3b. Apical branches and petiole not as above.....4
- 4a. Leaves cordate at base.....3. *S. formosum*
- 4b. Leaves cuneate at base.....5

- 5a. Flowers sessile.....6
 5b. Flowers pedicellate.....5. *S. kurzii*
 6a. Calyx lobes inconspicuous.....2. *S. cumini*
 6b. Calyx lobes distinct.....7. *S. praecox*

1. *Syzygium balsameum* (Wight) Wall. ex Walp., *Repert. Bot. Syst.* 2:179. 1843; Wall., Numer. List n. 3592. 1831. *Eugenia balsamea* Wight, Ill. Ind. Bot. 2:16. 1841; Duthie in Hook.f., Fl. Brit. India 2: 499. 1879; Kanjilal *et al.*, Fl. Assam 2:277. 1938. (Plate 41D).

Shrub; leaves opposite, elliptic or elliptic lanceolate, 7–12 × 3–5 cm, margin entire, shortly acuminate or apiculate at apex, base cuneate; lateral nerves 12–14 pairs, connected to intramarginal nerves; petiole 1.5–2.5 cm long; inflorescence axillary, paniced cyme, sometimes fascicled, 3–5 cm long; flowers sessile; calyx limb turbinate-truncate; petals 4; berry globose, glabrous, turning red when ripe.

Flowering and Fruiting: September–December.

Occurrence: Found in deciduous forest along streams.

Distribution: INDIA (NE India), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0193* (BUBH), 19.09.2020.

2. *Syzygium cumini* (L.) Skeels in Bull. Bur. Pl. Industr. U.S.D.A. 25:248. 1912; Balakr. Fl. Jowai 1:199. 1981; Deb, Fl. Tripura 1:371. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:394. 1985. *Eugenia jambolana* Roxb. Fl. Ind. 2:484. 1832; Duthie in Hook.f., Fl. Brit. India 2:499. 1879; Kanjilal *et al.*, Fl. Assam 2:278. 1938. *Myrtus cumini* L., Sp. Pl. 1:471. 1753. (Plate 41E).

Vern. name: Gwswm Jam (Bodo).

Evergreen tree; leaves opposite, oblong-elliptic, 8–15 × 4–7 cm, margin entire, acuminate at apex, base acute or rounded; lateral nerves 15–20 pairs, connected to intra-marginal nerves; petioles 1.5–2.5 cm long; inflorescence axillary, paniculate cymes, arising from fallen leaves traces; flowers white; calyx turbinate; petals calyptrate; stamens numerous; fruits oblong, black when ripe, juicy.

Flowering and Fruiting: April–August.

Occurrence: Found in human inhabited area.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0466* (BUBH), 15.04.2019.

Uses: Ripe fruits are edible.

3. *Syzygium formosum* (Wall.) Mason, Fl. Burma 554. 1851; Balakr., Fl. Jowai 1:199. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:396. 1985. *Eugenia formosa* Wall., Pl. Asiat. Rar. 2:108. 1830; Duthie in Hook.f., Fl. Brit. India 2:471. 1878 ; Kanjilal *et al.*, Fl. Assam 2:262. 1938. (Plate 41F).

Vern. name: Bon Khangkrai (Bodo).

Tree, to 15 m tall; leaves opposite or whorled, oblong-elliptic, 17–26 × 8–12 cm, margin entire, apex acuminate, base cordate; lateral nerves 9–12 pairs; petioles 3–5 mm long; inflorescence axillary cymes, 1–5-flowered, arising from stem and branches; flowers 3–5 cm across; pedicel 4–4.5 cm long; sepals 4, greenish-white; petals 4, orbicular, 1.2 cm across, pinkish-white; stamens many; filament 3–4 cm long, white; anther brown or yellowish.

Flowering and Fruiting: February–June.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CAMBODIA, MALAYA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0088* (BUBH), 16.04.2019.

4. *Syzygium jambos* (L.) Alston in Trimen, Handb. Fl. Ceylon 6:115. 1931; Deb, Fl. Tripura 1:372. 1981; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:475. 1996. *Eugenia jambos* L., Sp. Pl. 470. 1753; Duthie in Hook.f., Fl. Brit. India 2:474. 1878; Kanjilal *et al.*, Fl. Assam 2:266. 1938.

Vern. name: Guphur Jam (Bodo).

Tree, to 8 m tall; leaves opposite, oblong-lanceolate or linear-lanceolate, 10–6 × 3–5 cm, margin entire, acuminate at apex, base cuneate; lateral nerves 10–15 pairs; petioles 8–15 mm long; inflorescence terminal, cymes; flowers 4–5 cm across, white; calyx lobes rounded;

petals rounded; fruits ovoid-oblong, 3–5 cm across, ovoid, yellow; seeds 2–3, subglobose, brown.

Flowering and Fruiting: March–June.

Occurrence: Found in roadsides or in forests margins.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0467* (BUBH), 02.04.2020

Uses: Ripe fruits are edible.

5. *Syzygium kurzii* (Duthie) Balakr. in Bull. Bot. Surv. India 22:174. 1982. *Eugenia kurzii* Duthie in Hook.f., Fl. Brit. India 2:499. 1879; Kanjilal *et al.*, Fl. Assam 2:278. 1938. (Plate 42A).

Tree, to 8 m tall; leaves opposite or sub-opposite, elliptic-lanceolate, 10–15 × 3–6 cm, margin entire, bluntly acuminate at apex, base acute or attenuate; lateral nerves 8–12 pairs, forming wavy intramarginal nerves; petioles 1.5–2 cm long; inflorescence cymes; flowers solitary or fascicles in axils of fallen leaves, white; calyx lobes reflexed; petals free, white.

Flowering and Fruiting: April–August.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Andaman Is., NE India), BANGLADESH, BHUTAN, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0383* (BUBH), 02.05.2019.

6. *Syzygium oblatum* (Roxb.) Wall. ex Cowan in Trees N. Bengal 68.1929. *Eugenia oblata* Roxb., Fl. Ind. 2:493. 1832; Duthie in Hook.f., Fl. Brit. India 2:492. 1879; Kanjilal *et al.*, Fl. Assam 2:280. 1938. (Plate 42B).

Vern. name: Jiri Biphang (Bodo).

Medium size tree; leaves opposite, elliptic-lanceolate, 8–14 × 4–6 cm, margin entire, acuminate at apex, base cuneate or acute; lateral nerves 22–28 pairs, connected to intramarginal nerves; petioles 1–2 cm long; inflorescence terminal and axillary, paniculate cymes, 3–5 cm long; flowers 3–4 cm across when fully bloomed; calyx 4 or 5-lobed, unequal; petals calyprate, white; stamens numerous, 2–3 cm long, white; fruits globose.

Flowering and Fruiting: April–August.

Occurrence: Found along streamside in the mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0630* (BUBH), 15.04.2019.

7. *Syzygium praecox* (Roxb.) Rathakr. and Nair in J. Econ. Taxon. Bot 4(1):288. 1983. *Eugenia wallichii* Duthie in Hook.f., Fl. Brit. India 2:475. 1879. *E. praecox* Roxb., Fl. Ind. 2:488. 1832; Kanjilal *et al.*, Fl. Assam 2:267. 1938. (Plate 42C).

Tree, to 30 m tall; leaves opposite, oblong-elliptic, 8–14 × 4–7 cm, margin entire, acuminate at apex, base broadly acute or obtuse; lateral nerves 10–14 pairs, connected with intramarginal nerves; petioles 2–3 cm long; inflorescence axillary or terminal cymes; flowers sessile or short petioled; calyx tube turbinate, lobes unequal and ovate-orbicular; petals 4, free, suborbicular, white; stamens numerous, 2–3 cm long, filaments white.

Flowering and Fruiting: November–February.

Occurrence: Found in semi-evergreen dense forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0373* (BUBH), 22.12.2020.

66. MELASTOMATACEAE Juss., Gen. Pl. 328. 1789.

About 21 genera and 150 species in India; 8 genera and 28 species in Assam; 5 genera, 6 species and 1 variety recorded from the study area.

Key to the genera

- 1a. Herb.....5. *Sarcopyramis*
- 1b. Shrub or tree.....2
- 2a. Stamens almost equal.....3
- 2b. Stamens unequal.....2. *Melastoma*
- 3a. Plants glabrous throughout.....1. *Medinilla*
- 3b. Plants scabrous pubescent.....4
- 4a. Tree; stamens blue.....3. *Memecylon*

4b. Shrub; stamens yellow.....4. *Osbeckia*

1. *Medinilla* Gaudich., Voy. Uranie 484. 1830.

1. *Medinilla rubicunda* (Jack) Blume in Flora 14:512. 1831; Clarke in Hook.f., Fl. Brit. India 2:547. 1879; Kanjilal *et al.*, Fl. Assam 2:302. 1938. *Melastoma rubicundum* Jack, Trans. Linn. Soc. London 14:18. 1823. (Plate 36D).

Epiphyte; stems grey, pink on juvenile; leaves opposite, elliptic, 6–12 × 3.5–6 cm, margin entire, acuminate or abruptly acuminate at apex, base rounded; supra basal nerves 1 pair, rarely 2; petioles 4–8 mm long; inflorescence axillary cymes, 1–6-flowered; hypanthium funnel-shaped; calyx lobes in undulate ring, pink; petals pink-rose, rhomboid-obovate, truncate at apex; stamens 8; anthers lanceolate, slightly bent, yellow spurred; style slightly bent towards apex, pink-rose; ovary ovoid, truncate at apex; fruits a berry, ovoid with persistent calyx margin.

Flowering and Fruiting: April–September.

Occurrence: Found in moist places of semi-evergreen forests.

Distribution: INDIA (NE India), BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0162* (BUBH), 16.08.2020.

Uses: Juvenile leaves eaten cooked as vegetable.

2. *Melastoma* L., Sp. Pl. 1:389. 1753.

1. *Melastoma malabathricum* L., Sp. Pl. 1:390. 1753; Clarke in Hook.f., Fl. Brit. India 2:523. 1879; Brandis, Ind. Trees 333. 1906; Kanjilal *et al.*, Fl. Assam 2: 297. 1938; Balakr., Fl. Jowai 1:202. 1981; Deb, Fl. Tripura 1:388. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:407. 1985.

Vern. name: Thinku (Bodo).

Shrub, to 2 m tall; leaves opposite, oblong-lanceolate, 6–14 × 4–6 cm, margin entire, acuminate at apex, base cuneate or rounded, scabrous above, hirsute beneath; basal nerves 3; petioles 5–12 mm long; inflorescence terminal, cymes; flowers 3–6 cm across, 5-merous; calyx lobes lanceolate, hirsute outside; corolla obovate, pink; fruits 4–6 mm across with hypanthium, dehiscing irregularly; seed black when ripe.

Flowering and Fruiting: September–February.

Occurrence: Found in scrub forests or in forest margins.

Distribution: INDIA (NE India), AUSTRALIA, BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0285* (BUBH), 06.02.2021.

Uses: Ripe fruits are edible.

3. *Memecylon* L., Sp. Pl. 1:349. 1753.

1. *Memecylon cerasiforme* Kurz, Forest Fl. Burma 1:516. 1877; Clarke in Hook.f., Fl. Brit. India 2:557. 1879; Karthigeyan *et al.* in Gardens' Bulletin Singapore 68(2):320. 2016. (Plate 36E).

Vern. name: Hengua (Bodo).

Tree, evergreen, to 15 m tall; leaves opposite, elliptic to obovate-elliptic, 5–10 × 3–5 cm, margin entire, caudate-acuminate at apex, base attenuate, coriaceous; lateral nerves inconspicuous; petioles 6–10 mm long; inflorescences axillary, compound cymes; calyx shallowly 4-lobed; petals sub-orbicular, 3–4 × 3–3.5 mm, acute at apex, pale purplish-white; stamens 8, equal; filaments and anthers blue; anthers 8, C-shaped; fruits subglobose, 1–1.3 cm across, blackish purple when ripe.

Flowering and Fruiting: April–August.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Assam, West Bengal), BANGLADESH, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0386* (BUBH), 21.04.2021.

Uses: Ripe fruits are edible.

4. *Osbeckia* L., Sp. Pl. 1:345. 1753.

Key to the species

- 1a. Petals 4.....3. *O. stellata* var. *crinita*
- 1b. Petals 5.....2
- 2a. Calyx with long white hairs; petals white.....1. *O. nepalensis*
- 2b. Calyx sparsely scabrous; petals pale rose.....2. *O. nutans*

1. *Osbeckia nepalensis* Hook.f., Exot. Fl. 1(2): t. 31. 1822; Clarke in Hook.f., Fl. Brit. India 2:521. 1879; Kanjilal *et al.*, Fl. Assam 2:295. 1938; Balakr., Fl. Jowai 1:205. 1981; Deb, Fl. Tripura 1:390. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:409. 1985.

Shrub, erect, to 2 m tall; leaves opposite, subsessile, oblong-lanceolate, 8–12 × 2.5–4 cm, margin entire, acute at apex, base rounded, pubescent both side; basal nerves 5; inflorescence terminal or axillary, corymbose cymes; flowers 2.5–4 cm across, pentamerous; calyx lobes lanceolate, with bristles; petals obovate, pubescent on apical parts, white; stamens 10; capsule oblong, with bristles.

Flowering and Fruiting: April–October.

Occurrence: Found in open forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0223* (BUBH), 16.08.2020.

2. *Osbeckia nutans* Wall ex Clarke in Hook.f., Fl. Brit. India 2:521. 1879; Kanjilal *et al.*, Fl. Assam 2:296. 1938; Chowdhery *et al.* in Hajra *et al.*, Materials for the Forest Fl. Arunachal Pradesh 1:488. 1996. (Plate 36F).

Shrub, erect or pendulous; branches hirsute, reddish-brown; leaves opposite, linear-lanceolate, 5–10 × 1–2 cm, margin entire, acuminate at apex, base rounded; basal nerves 3; petioles 2–5 mm long, reddish; inflorescence terminal, cymes; flowers 5-merous; calyx ovate-lanceolate, acuminate at apex; corolla obovate, 1–1.5 × 1–1.2 cm, pink or pale pink, apiculate at apex and hairy; stamens 10, equal; anther yellow; styles linear; capsule scabrous.

Flowering and Fruiting: September–February.

Occurrence: Found in sloppy shady places of Semi evergreen forests.

Distribution: INDIA (Arunachal Pradesh, Assam), BHUTAN, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Saralpara, *S. Basumatary 0257* (BUBH), 12.12.2020.

3. *Osbeckia stellata* var. *crinita* (Benth. ex Naudin) Hansen in Ginkgoana 4:31. 1977; Prashob and Thomas in Rheedeia 29(4):288. 2019. *O. crinita* Naudin in Sc. Nat. Ser.

3(14):72. 1850; Clarke in Hook.f., Fl. Brit. India 2:517. 1879; Kanjilal *et al.*, Fl. Assam 2:292. 1938. (Plate 37A).

Shrub, to 1.5 m tall; stem and branches with white dense bristle hairs; leaves opposite, ovate-lanceolate, 8–14 × 3–5.5 cm, margin entire, acuminate at apex, base subcordate, hairy both side, more in beneath; basal nerves 5–7; inflorescence terminal, corymbose cymes; flowers 4-merous; calyx with stiff stellate hairs; petals obovate, purplish-pink; stamens 8, yellow; fruits urceolate, with dense stellate hairs.

Flowering and Fruiting: August–February.

Occurrence: Found in patches of open area in dense forests of semi-evergreen type.

Distribution: INDIA (NE India), BHUTAN, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0290 (BUBH), 07.08.2020.

5. *Sarcopyramis* Wall., Tent. Fl. Nepal. 1:32. 1824.

1. *Sarcopyramis subramanii* Nayar in Proc. Indian Acad. Sci., B 66:279. 1967; Basumatary and Baruah in Check List 17(1):234. 2021. (Plate 37B).

Erect herbs, up to 15 cm tall; leaves opposite, ovate-sublanceolate, 4–8.5 × 1.5–3.5 cm, margin serrulate, apex tapering acuminate, base obtusely oblique or semicordate, purplish beneath; nerves 3 distinct at base; inflorescence terminal or axillary cyme, 2–4-flowered; bracts ovate-round, 5–7 × 3–5 mm, foliaceous; hypanthium 4-sided; calyx 4, disc margin with 2–3 needle-like glandular hairs; corolla 4, obovate, 4–3.5 mm, pale rose, apex acuminate; stamens 8, equal, yellow spurred; stigma papillose.

Flowering and Fruiting: August–September.

Occurrence: Found growing in a moist shady place on the streamside.

Distribution: INDIA (Assam, Mizoram).

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0215 (BUBH), 19.09.2020.

67. STAPHYLEACEAE Martinov, Tekhno-Bot. Slovar 598. 1820.

About 2 genera and 6 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Dalrympelea* Roxb., Pl. Coromandel 3:76. 1820.

1. *Dalrympelea pomifera* Roxb., Hort. Bengal. 17. 1814. *Turpinia pomifera* Hiem in Hook.f., Fl. Brit. India 1:698. 1875; Kanjilal *et al.*, Fl. Assam 1(2):309. 1936; Deb, Fl. Tripura 1:468. 1981; Hand. and Rao, Forest Fl. Meghalaya 1:264. 1985; Pant in Singh *et al.*, Fl. India 5:418. 2000. (Plate 62A).

Vern. name: Kala-Dingart (Bodo).

Tree, to 10 m tall; leaves imparipinnate, opposite; petioles 4–8 cm long; leaflets opposite, oblong-elliptic, 5–10 × 2.5–4 cm, margin crenate, acuminate at apex, base cuneate; lateral nerves 6–7 pairs; petiolules 5–10 mm long; inflorescence axillary or terminal, paniced cymes; fruits sub-globose, 3–4.5 cm across, surfaces with sparse brown colours or dark brown or blackish spots.

Flowering and Fruiting: March–August.

Occurrence: Found in roadside of forest or in mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0155* (BUBH), 02.08.2020.

68. ANACARDIACEAE Br. in Tuckey, Narr. Exped. Zaire 431. 1818.

About 21 genera and 70 species in India; 11 genera and 19 species in Assam; 5 genera and 6 species recorded from the study area.

Key to the genera

- 1a. Leaves pinnately compound.....2
- 1b. Leaves simple.....4
- 2a. Woody climbers, evergreen.....3. *Pegia*
- 2b. Trees, deciduous.....3
- 3a. Flowers appearing with leaves.....5. *Spondias*
- 3b. Flowers appearing when leafless.....1. *Lannea*
- 4a. Leaves obovate or obovate-oblong; stamens 5.....4. *Semecarpus*
- 4b. Leaves elliptic-lanceolate; stamens 1.....2. *Mangifera*

1. *Lannea* Rich. in Guill. and Perrott., Fl. Seneg. Tent. 1:153. 1831.

1. *Lannea coromandelica* (Houtt.) Merr. in J. Arnold Arbor. 19:353. 1938; Chandra and Mukherjee in Singh *et al.*, Fl. India 5:463. 2000. *Dialium coromandelinum* Houtt., Handl. Pl.-Kruidk. 2:39. 1774. *L. grandis* Kanjilal *et al.*, Fl. Assam 1(2):338. 1936; Deb, Fl. Tripura 1:463. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:272. 1985. *Odina wodier* Roxb., Fl. Ind. 2:293. 1832; Hook.f., Fl. Brit. India 2:29. 1876.

Vern. name: Jia (Bodo).

Tree, deciduous, to 10 tall; bark grey; leaves alternate, imparipinnate; petioles 5–10 cm long; leaflets opposite, elliptic-ovate or lanceolate, 5–8 × 3–4 cm, margin entire, acuminate at apex, base oblique, glabrous both sides; lateral nerves 6–8 pairs; petiolules 4–8 mm long; inflorescence axillary, racemes, 12–18 cm long; male inflorescence longer than female; peduncles pubescent; male flowers 4–5 merous; stamens 8–10; female flowers 4-merous; fruits oblong, 6–10 mm across, glabrous.

Flowering and Fruiting: March–June.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0447* (BUBH), 24.03.2019.

2. *Mangifera* L., Sp. Pl. 1:200. 1753.

Key to the species

1a. Inflorescence minutely pubescent; flowers sessile.....1. *M. indica*

1b. Inflorescence glabrous; flowers pedicellate.....2. *M. sylvatica*

1. *Mangifera indica* L., Sp. Pl. 1:200. 1753; Hook.f., Fl. Brit. India 2:13. 1876; Brandis, Ind. Trees 206. 1906; Kanjilal *et al.*, Fl. Assam 1(2): 335. 1936; Deb, Fl. Tripura 1:464. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:273. 1985; Chandra and Mukherjee in Singh *et al.*, Fl. India 5:466. 2000.

Vern. name: Thaijwo (Bodo).

Tree, to 20 m tall; bark greyish-brown; leaves spirally arranged, oblong-lanceolate, 12–20 × 3–6 cm, margin entire, acuminate at apex, base cuneate, coriaceous, glabrous both sides; lateral nerves 15–18 pairs; petioles 1.5–2.5 cm long; inflorescence terminal, panicles, cymes;

peduncle and pedicels pubescent; flowers 5-merous, sessile; sepals ovate-lanceolate, acuminate at apex, pale yellow; petals obovate, brown stripes at middle; fruits ovoid-oblong, 6–10 cm long, glabrous.

Flowering and Fruiting: March–June.

Occurrence: Found in domestic land.

Distribution: INDIA (NE India), BHUTAN, CHINA, MYANMAR, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0448* (BUBH), 02.04.2019.

Uses: Fruits are edible.

2. *Mangifera sylvatica* Roxb., Fl. Ind. 1:644. 1820; Hook.f., Fl. Brit. India 2:15. 1876; Brandis, Ind. Trees 206. 1906; Kanjilal *et al.*, Fl. Assam 1(2): 336. 1936; Deb, Fl. Tripura 1:464. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:273. 1985.

Large tree, to 40 m tall; leaves loosely spirally arranged, oblong-lanceolate, 6–14 × 3–6 cm, margin entire, acuminate at apex, base cuneate, glabrous both side; lateral nerves 10–12 pairs; petioles 4–6 cm long; inflorescence terminal, panicle racemes; flowers pale yellow; calyx 5 lobed; petals 5, oblong, recurved outside; fruits oblong.

Flowering and Fruiting: February–August.

Occurrence: Found in moist deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0356* (BUBH), 20.03.2021.

Uses: Fruits are edible.

3. *Pegia* Colebr. in Trans. Linn. Soc. London 15:364. 1827.

1. *Pegia nitida* Colebr. in Trans. Linn. Soc. London 15:364. 1827. *Robergia hirsuta* Roxb., Fl. Ind. 2:455. 1832. *Tapiria hirsuta* Hook.f., Fl. Brit. India 2:28. 1876; Kanjilal *et al.*, Fl. Assam 1(2):339. 1936. (Plate 12B).

Liana; branchlets densely yellow tomentose; leaves alternate, compound, imparipinnate, with 8–15 leaflets; leaflets ovate or ovate-elliptic, 3–8 × 2–3.5 cm, margin subentire or disyantly serrate, acute to acuminate at apex, base subcordate, pubescent both sides; lateral veins 6–8 pairs; inflorescence axillary, paniculate cymes, 10–20 cm long, dense yellowish tomentose;

flower 5-merous; calyx lobes narrowly triangular, glabrous; petals narrowly ovate; fruits ellipsoid, black when ripe.

Flowering and Fruiting: February–May.

Occurrence: Found mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0309* (BUBH), 10.03.2021.

Uses: Ripe fruits are edible.

4. *Semecarpus* L.f., Suppl. Pl. 25. 1782.

1. *Semecarpus anacardium* L.f., Suppl. Pl. 182. 1782; Hook.f., Fl. Brit. India 2:30. 1876; Gamble, Fl. Pres. Madras 1:266. 1918; Kanjilal *et al.*, Fl. Assam 1(2):333. 1936; Dalichandra and Mukherjee in Singh *et al.*, Fl. India 5:500. 2000. (Plate 12C).

Trees, to 30 m tall; stem rough, blackish-brown; leaves alternate, oblong-elliptic, 35–43 × 20–28 cm, margin entire, apex obtuse, base acute; lateral nerves 16–22 pairs; petiole 3 cm long; inflorescence terminal, branched, to 60 cm long; peduncle with latex which gives black colour; male flowers 6 mm across; calyx 5, yellow; stamens 5; filament white; anther brown; female flower 4 mm across; calyx 5, brown; corolla 5, needle-like, brown; style 3.

Flowering and Fruiting: June–September.

Occurrence: Found in deciduous forest in forest margin or in roadside.

Distribution: INDIA (NE India), AFRICA, AUSTRALIA, BANGLADESH, CHINA, MYANMAR.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0002* (BUBH), 10.07.2017.

Uses: Ripe fruits are edible.

5. *Spondias* L., Sp. Pl. 1:371. 1753.

1. *Spondias pinnata* (L.f.) Kurz, Prelim. Rep. Forest Pegu Appendix A: 334. 1875; Deb, Fl. Tripura 1:466. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:278. 1985; Chandra and Mukherjee in Singh *et al.*, Fl. India 5:507. 2000. *S. mangifera* Willd., Sp. Pl. 2:751. 1799; Hook.f., Fl. Brit. India 2:42. 1876; Kanjilal *et al.*, Fl. Assam 1(2):340. 1936. *Mangifera pinnata* L.f., Suppl. Pl. 156. 1782.

Vern. name: Thaisuri (Bodo).

Tree, deciduous, to 15 m tall; bark grey; leaves alternate, compound, imparipinnate; petioles 3-6 cm long; leaflets 3-4 pairs, opposite to subopposite, elliptic-oblong, 8-12 × 3-4 cm, margin entire, acuminate at apex, base cuneate, glabrous both sides; lateral nerves inconspicuous; petiolules 2-4 mm long; inflorescence terminal, paniced cymes; flowers 4-5 merous; stamens 8-10; fruits ovoid-oblong, 3.5-5 cm long, pendulous.

Flowering and Fruiting: March-August.

Occurrence: Found in roadsides of forest or in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0449* (BUBH), 06.04.2020.

Uses: Fruits are edible and used in indigestion problems. fruits are edible. Leaves and flower buds are used in preparation of chutney (Chakraborty 2002, Kar and Borthakur 2008, Teron 2011).

69. SAPINDACEAE Juss., Gen. Pl. 246. 1789.

About 21 genera and 55 species in India; 11 genera and 17 species in Assam; 4 genera and 4 species recorded from the study area.

Key to the genera

- 1a. Climbing herb.....3. *Cardiospermum*
- 1b. Shrubs or trees.....2
- 2a. Leaves pinnately compound.....4. *Lepisanthes*
- 2b. Leaves palmately compound.....3
- 3a. Leaves 3-foliolate; inflorescence axillary.....2. *Allophylus*
- 3b. Leaves 5-7-foliolate; inflorescence terminal.....1. *Aesculus*

1. *Aesculus* L., Sp. Pl. 1:344. 1753.

1. *Aesculus assamica* Griff., Not. Pl. Asiat. 4:540. 1854; Deb, Fl. Tripura 1:467. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:252. 1985; Pant in Singh *et al.*, Fl. India 5:389. 2000. *A. punduana* Wall. ex Hiem in Hook.f., Fl. Brit. India 1:675. 1875; Kanjilal *et al.*, Fl. Assam 1(2):313. 1936. (Plate 65A).

Vern. name: Dingari/Khankhir Khola (Bodo).

Tree, to 6 m tall; leaves alternate, palmately compound; petioles 20–25 cm long; leaflets 5–7, oblanceolate, 12–18 × 4–6 cm, margin serrulate, acuminate at apex, base cuneate; lateral nerves 16–20 pairs; petiolules 4–6 mm long; inflorescence terminal, panicle cymes, to 40 cm long; calyx 5-lobed; petals 4, white; fruits oblong, rough, brown.

Flowering and Fruiting: April–August.

Occurrence: Found in streams banks in dense forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0446* (BUBH), 23.04.2019.

Uses: Bark is used in fish poisoning. Leaf juice is used to cure ear complaints (Jain and Borthakur 1980).

2. *Allophylus* L., Sp. Pl. 1:348. 1753.

1. *Allophylus serratus* (Roxb.) Kurz in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 44 (3):185. 1876; Deb, Fl. Tripura 1:456. 1981; Pant in Singh *et al.*, Fl. India 5:349. 2000. *A. cobbe* forma *serratus* Hiern in Hook.f., Fl. Brit. India 1:675. 1875. *A. cobbe* Kanjilal *et al.*, Fl. Assam 1(2):315. 1936. *Ornitrophe serrata* Roxb., Pl. Corom. 1:44.t 61. 1796. (Plate 60E).

Shrubs, up to 3 m tall; leaves alternate, 3-foliolate; petioles 5–10 cm long; leaflets elliptic-obovate, 8–15 × 3–5 cm, acuminate at apex, base cuneate, margin serrate-denticulate; lateral nerves 8–11 pairs; petiolules 3–5 mm long; inflorescence axillary raceme, 10–20 cm long; flowers white; sepals in opposite pairs; petals white; fruits a drupe, globose.

Flowering and Fruiting: September–April.

Occurrence: Found in deciduous forest or along streamside.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, MYANMAR, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0148* (BUBH), 19.09.2020.

3. *Cardiospermum* L., Sp. Pl. 1:366. 1753.

1. *Cardiospermum halicacabum* L., Sp. Pl. 1:366. 1753; Hiem in Hook.f., Fl. Brit. India 1:670. 1875; Kanjilal *et al.*, Fl. Assam 1(2):313. 1936; Deb, Fl. Tripura 1:457. 1981; Chowdhery in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:322.1996.

Climbing herbs; leaves alternate, bipinnate; leaflets subsessile, ovate or obovate, 1.5–3 × 1–2 cm, margin lobate, acute to acuminate at apex, base cuneate; petioles 1.5–3 cm long; rachis 1–2 cm long; inflorescence cymes, 3–6-flowered; flowers white; sepals 4, pinkish; petals 4, obovate, obtuse or rounded at apex; stamens 8; fruits trigonous, with air chamber, winged, with round seeds inside.

Flowering and Fruiting: March–July.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), ARGENTINA, BRAZIL, CAMBODIA, CHINA, SRI LANKA, TANZANIA, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0628* (BUBH), 30.03.2019.

4. *Lepisanthes* Blume, Bijdr. Fl. Ned. Ind. 237. 1825.

1. *Lepisanthes senegalensis* (Poir.) Leenh. in Blumea 17(1):85. 1969; Pant in Singh *et al.*, Fl. India 5:371. 2000. *Aphania danura* Kanjilal *et al.*, Fl. Assam 1(2):322. 1936. *A. rubra* Kanjilal *et al.*, Fl. Assam 1(2):321. 1936. *Sapindus senegalensis* Poir. in Lamarck *et al.*, Encycl. 6:666. 1805. *S. attenuatus* Hiem. in Hook.f., Fl. Brit. India 1:684. 1875. (Plate 60F).

Vern. name: Thaikhrok (Bodo).

Shrubs, to 5 m tall; leaves alternate, compound; leaflets subopposite, 3–6 pairs; leaflets lanceolate, 15–20 × 2–4 cm, margin entire, base nearly cuneate, apex acuminate; inflorescence axillary, to 20 cm; sepals 1–2 mm, reddish; petals broadly ovate, apex rounded, purplish-red; stamens 8; anther oblong, creamy white; ovary bilobed, glabrous; fruits green, purplish-red when ripe.

Flowering and Fruiting: March–June.

Occurrence: Found in deciduous forest and as undergrowth in semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, , BORNEO, CAMBODIA, CAMEROON, LAOS, MYANMAR, SENEGAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0316* (BUBH), 20.03.2019.

70. RUTACEAE Juss., Gen. Pl. 296. 1789.

About 29 genera and 114 species in India; 14 genera and 37 species in Assam; 7 genera and 9 species recorded from the study area.

Key to the genera

- 1a. Plants spiny.....2
- 1b. Plants not spiny.....4
- 2a. Leaves simple.....3. *Citrus*
- 2b. Leaves palmately or pinnately compound.....3
- 3a. Dioecious.....7. *Zanthoxylum*
- 3b. Monoecious.....2. *Aegle*
- 4a. Tree; leaves simple.....1. *Acronychia*
- 4b. Shrubs; leaves compound.....5
- 5a. Petals recurved.....6
- 5b. Petals not recurved.....4. *Glycosmis*
- 6a. Leaves 7–15-foliolate; lateral nerves 10–13 pairs.....5. *Micromelum*
- 6b. Leaves 3–6-foliolate; lateral nerves 5–8 pairs.....6. *Murraya*

1. *Acronychia*. Forst. and Forst., Char. Gen. Pl. 53. 1776.

1. *Acronychia pedunculata* (L.) Miq., Fl. Ned. Ind., Eerste Bijv. 3:532. 1861; Haridasan and Rao, Forest Fl. Meghalaya 1:179. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl. Arunachal Pradesh 1:258. 1996. *A. laurifolia* Hook.f., Fl. Brit. India 1:498. 1875; Kanjilal *et al.*, Fl. Assam 1(2):203. 1936. *Jambolifera pedunculata* L., Sp. Pl. 1:349. 1753. (Plate 59F).

Tree, to 15 m tall; leaves alternate or subopposite, elliptic, 8–12 × 3–5 cm, margin entire, short acuminate with slightly bilobed at apex, base acute or cuneate; lateral nerves 7–10 pairs; petioles 1.5–2.5 cm long; inflorescence paniced racemes, 10–15 cm long; flowers white; sepals and petals 4; petals linear; stamens 8, 4 long, 4 short.

Flowering and Fruiting: June–November.

Occurrence: Found in roadside of semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0142* (BUBH), 24.07.2020.

2. *Aegle* Corrêa in Trans. Linn. Soc. London 5:222. 1800

1. *Aegle marmelos* (L) Corrêa in Trans. Linn. Soc. London 5:222. 1800; Hook.f., Fl. Brit. India 1:516. 1875; Kanjilal *et al.*, Fl. Assam 1(2):215. 1936; Deb, Fl. Tripura 1:434. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:180. 1985; Narayanan Nair and Nayar in Hajra *et al.*, Fl. India 4:263. 1997. *Crateva marmelos* L., Sp. Pl. 1:444. 1753.

Vern. name: Bhel (Bodo)

Tree, Prickly to 15 m tall; leaves alternate, 3-foliolate; petioles 3–5 cm long; leaflets elliptic or ovate-lanceolate, 4–8 × 3–4 cm, terminal leaflets larger than lateral leaflets, margin subentire, acuminate at apex, base narrowed; lateral nerves 4–6 pairs; petiolules 5–10 mm long; inflorescence axillary, paniced cymes; petals 4–5, oblong, apex obtuse, pale green; stamens many; fruits subglobose, 7–10 cm across.

Flowering and Fruiting: March–August.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, NEPAL, PAKISTAN.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0436* (BUBH), 16.05.2020.

Uses: Ripe fruits are edible. Roots, barks are useds in bowel pain, urinary diseases, snake bites, heart diseases (Das *et al.* 2010).

3. *Citrus* L., Sp. Pl. 2:782. 1753.

Key to the species

1a. Petioles winged.....1. *C. maxima*

1b. Petioles not winged.....2. *C. medica*

1. *Citrus maxima* (Burm.) Merr., Interpr. Herb. Amboin. 296. 1917; Deb, Fl. Tripura 1:435. 1981; Nair and Nayar in Hajra *et al.*, Fl. India 4:283. 1997. *Aurantium maximum* Burm.,

Auctuar. Sign. Z 1, verso, 1755. *C. decumana* Hook.f., Fl. Brit. India 1:516. 1875; Kanjilal *et al.*, Fl. Assam 1(2):215. 1936.

Vern. name: Nareng Jumbra (Bodo).

Tree, to 6 m tall; leaves alternate, ovate-oblong, 8–12 × 4–6 cm, margin crenate, retuse at apex, base cuneate, puberulent beneath; lateral nerves 7–10 pairs, connected with intramarginal nerves; petioles winged, 1.2–2 cm long; inflorescence axillary, cymes; calyx annular, green; petals linear-oblong, white; stamens many; anthers yellow; stigma subglobose; fruits subglobose, 12–18 cm in diam., yellow when ripe.

Flowering and Fruiting: April-September.

Occurrence: Found in domestic land.

Distribution: INDIA (NE India), BORNEO, BHUTAN, CAMBODIA, LAOS, MYANMAR, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0438* (BUBH), 13.05. 2020.

Uses: Fruits are edible.

2. *Citrus medica* L., Sp. Pl. 2:782. 1753; Hook.f., Fl. Brit. India 1:514. 1875; Kanjilal *et al.*, Fl. Assam 1(2):213. 1936; Deb, Fl. Tripura 1:435. 1981; Nair and Nayar in Hajra *et al.*, Fl. India 4:284. 1997.

Vern. name: Hagrani Lebu/Nareng Aasi (Bodo).

Shrub, to 3 m tall, spiny; leaves alternate, oblong-elliptic or ovate-lanceolate, 5–10 × 3–5 cm, margin crenate, acute, acuminate or slightly obtuse at apex, base narrowed; lateral nerves 6–8 pairs; petioles 8–15 mm long; inflorescence axillary, panicles or solitary flowered; flowers scented; petals linear-oblong, white; stamens many; anther yellow; fruits oblong, rough outside, yellow when ripe, apex mammillated.

Flowering and Fruiting: March–September.

Occurrence: Found in open deciduous forests.

Distribution: INDIA (Himachal Pradesh, NE India), BANGLADESH, BHUTAN, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0437* (BUBH), 11.03.2020.

Uses: Fruits are edible.

4. *Glycosmis* Corrêa in Ann. Mus. Hist. Nat. 6:384. 1805.

1. *Glycosmis pentaphylla* (Retz.) DC., Prodr. 1:538. 1824; Hook.f., Fl. Brit. India 1:500. 1875; Kanjilal *et al.*, Fl. Assam 1(2):205. 1936. *G. arborea* Deb, Fl. Tripura 1:438. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:184. 1985; Nair and Nayar in Hajra *et al.*, Fl. India 4:343. 1997. *Limonia pentaphylla* Retz., Observ. Bot. 5:24. 1788.

Shrub, to 3 m tall; leaves alternate, imparipinnate; petioles 3–5 cm long; leaflets 3–5, oblong-lanceolate, 10–14 × 3–4.5 cm, margin entire, acute to acuminate at apex, base cuneate; lateral nerves 6–9 pairs; petiolules 2–3 mm long; inflorescence axillary or terminale, panicle raceme, to 8 cm long; flowers actinomorphic; pedicels 3–4 mm long; calyx 5-sublobed, pale green; petals 5, white; stamens 10; fruits subglobose, berry, glabrous.

Flowering and Fruiting: November–February.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0245* (BUBH), 08.11.2020.

5. *Micromelum* Blume, Bijdr. Fl. Ned. Ind. 137. 1825.

1. *Micromelum integerrimum* (Roxb. ex DC.) Wight and Arn. ex M.Roem., Fam. Nat. Syn. Monogr. 1:47. 1846; Deb, Fl. Tripura 1:439. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:185. 1985; Nair and Nayar in Hajra *et al.*, Fl. India 4:349. 1997. *M. pubescens* Hook.f., Fl. Brit. India 1:501. 1875; Kanjilal *et al.*, Fl. Assam 1(2):208. 1936. *Bergera integerrima* DC., Prodr. 1:537. 1824. (Plate 60A).

Shrub, to 4 m tall; leaves imparipinnate; petiole 5–7 cm long; rachis 30–50 cm long; leaflets alternate, ovate-elliptic, 15–30 × 7–12 cm, margin sub-entire or erose, apex acuminate, base cuneate in young, oblique when matured; lateral nerves 10–13 pairs; petiolule 1–1.5 cm long; inflorescence, terminal or axillary, paniced cyme; calyx 5-lobed, tomentose; petals 5, pale greenish-white; stamens 10; fruits oblong-ellipsoid, orange-red when ripe.

Flowering and Fruiting: November–April.

Occurrence: Found in moderately dense forest or in roadside

Distribution: INDIA (NE India), CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0075* (BUBH), 04.01.2019.

6. *Murraya* Koenig ex L., Mant. Pl. 2:554. 1771.

1. *Murraya paniculata* (L.) Jack., Malayan Misc. 1(5):31. 1820; Hook.f., Fl. Brit. India 1:502. 1875. *Murraya exotica* Kanjilal *et al.*, Fl. Assam 1(2):207. 1936. *Chalcas paniculata* L., Mant. Pl. 68. 1767.

Vern. name: Kamini Kanson (Bodo).

Shrub, 2–4 m tall; leaves 3–6 foliolate; petioles 2–3 cm long, tomentose; leaflets ovate-elliptic, 5–8 × 2–4 cm, margin entire, apex acuminate, base acute or cuneate; lateral nerves 5–8 pairs; inflorescence terminal, 5–10 cm long, 5–16-flowered; flowers 1–2 cm diam.; calyx 5–6-lobed, green; petals 5, white; stamens 10; filament white; anther yellowish-brown, lobed.

Flowering and Fruiting: March–September.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CAMBODIA, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0084* (BUBH), 20.03.2019.

Uses: Roots and barks are used in indigestion, snakebite, cut and wounds, toothache (Das *et al.* 2010).

7. *Zanthoxylum* L., Sp. Pl. 1:270. 1753.

Key to the species

1a. Liana or scandent shrub; leaves 3-foliolate.....1. *Z. asiaticum*

1b. Tree, erect; leaves pinnately compound.....2. *Z. rhetsa*

1. *Zanthoxylum asiaticum* (L.) Appelhans, Groppo and J. Wen in Molec. Phylogen. Evol. 126:42. 2018. *Paullinia asiatica* L., Sp. Pl. 1:365. 1753. *Toddalia asiatica* Lam., Tabl. Encycl. 2:116. 1797; Hook.f., Fl. Brit. India 1:497. 1875; Kanjilal *et al.*, Fl. Assam 1(2):203. 1936; Nair and Nayar in Hajra *et al.*, Fl. India 4: 403.1997. (Plate 60B).

Woody climbers with arm; leaves 3-foliolate, petiole 2–4 cm long; leaflets sessile, elliptic-obovate to oblanceolate, 3–8 × 2–4 cm, base attenuate, apex acuminate; inflorescence

axillary, 6–12 cm long; calyx minute, 2–5 mm across; corolla ovate-elliptic, 1–3 mm across, creamy white; stamens 2–3 mm long; female flowers ligulate; ovary ovoid to ellipsoid, 1–2 mm across; capsule globose, 5–8 mm in diam.

Flowering and Fruiting: February–August.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0441* (BUBH), 04.05.2019.

2. *Zanthoxylum rhetsa* (Roxb.) DC., Prodr. 1:728. 1824; Hook.f., Fl. Brit. India 1:495. 1875; Kanjilal *et al.*, Fl. Assam 1(2):197. 1936; Harid. and Rao, Forest Fl. Meghalaya 1:193. 1985; Nair and Nayar in Hajra *et al.*, Fl. India 4:387. 1997; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:272.1996. *Fagara rhetsa* Roxb., Fl. Ind. 1:438. 1820.

Tree, to 10 m tall; stem spiny; leaves alternate, pinnately compound; petioles 6–12 cm long; leaflets opposite, oblique-elliptic, 6–10 × 3–5 cm, margin entire, acuminate at apex, base oblique; lateral nerves 9–12 pairs; petiolules 3–8 mm long; inflorescence axillary, racemes; flowers yellowish-white; fruits globose, glabrous; seeds black when ripe.

Flowering and Fruiting: March–August.

Occurrence: Found in hilly semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, BORNEO, CAMBODIA, LAOS, MYANMAR, SRI LANKA, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0440* (BUBH), 06.12.2021.

71. SIMAROUBACEAE DC. in Nouv. Bull. Sci. Soc. Philom. Paris 2:209. 1811.

About 9 genera and 16 species in India; 3 genera and 6 species in Assam; 1 genera and 1 species recorded from the study area.

1. *Picrasma* Blume, Bijdr. Fl. Ned. Ind. 247. 1825.

1. *Picrasma javanica* Blume, Bijdr. Fl. Ned. Ind. 248. 1825; Bennet in Hook.f., Fl. Brit. India 1:520. 1872; Kanjilal *et al.*, Fl. Assam 1(2):217. 1936. (Plate 61B).

Tree, to 15 m tall; leaves imparipinnate; leaflets 3–7, oblong to obovate-oblong, 5–8 × 3–4 cm, margin entire, abruptly tailed at apex, base oblique, cuneate; lateral nerves 4–7 pairs; petiolules 5–10 mm long; inflorescence axillary, corymbose cymes; flowers unisexual, 4-merous; calyx pubescent; corolla ovate, white to pale yellow; stamens 4; filament hairy; carpels 4; drupelets 1–4, subglobose, with persistent calyx, black when ripe.

Flowering and Fruiting: March–July.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, LAOS, MYANMAR, NEW GUINEA, PHILIPPINES, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0376 (BUBH), 04.04.2021.

Uses: Fruits are taken to cure digestive disorders (Jain and Dam 1979).

72. MELIACEAE Juss., Gen. Pl. 263. 1789.

About 23 genera and 97 species in India; 11 genera and 29 species in Assam; 6 genera, 6 species and 1 subspecies recorded from the study area.

Key to the genera

- 1a. Fruits berry, indehiscent; seeds wingless.....2
- 1b. Fruits capsule, dehiscent; seeds winged.....6. *Toona*
- 2a. Staminal tube cylindrical.....3
- 2b. Staminal tube subglobose or globose.....5
- 3a. Leaflets opposite or subopposite.....4
- 3b. Leaflets alternate.....5. *Dysoxylum*
- 4a. Leaf rachis and petiole densely pubescent.....3. *Chisocheton*
- 4b. Leaf rachis and petiole almost glabrous.....4. *Didymocheton*
- 5a. Flowers sessile or subsessile.....2. *Aphanamixis*
- 5b. Flowers pedicellate.....1. *Aglaia*

1. *Aglaia* Lour., Fl. Cochinch. 173. 1790.

Key to the species

- 1a. Small tree; leaflets alternate.....1. *A. chittagonga*
- 1b. Large tree; leaflets opposite.....2. *A. spectabilis*

1. *Aglaia chittagonga* Miq. in Ann. Mus. Bot. Lugduno-Batavi 4:44. 1868; Jain and Bennet in Hajra *et al.*, Fl. India 4:459. 1997. *Amoora chittagonga* Hiem. in Hook.f., Fl. Brit. India 1:559. 1875; Kanjilal *et al.*, Fl. Assam 1(2):237. 1936. *Aphanamixis chittagonga* (Miq.) Haridasan and Rao, Forest Fl. Meghalaya 1:204. 1985. (Plate 37C).

Trees, to 8 m tall; leaves compound; leaflets alternate, oblong-elliptic to oblong-lanceolate, 8–12 × 3–5 cm, margin entire, acuminate at apex, base oblique-acute, lepidots along nerves; lateral nerves 8–12 pairs; inflorescence axillary, racemes; male inflorescence longer than the female inflorescence, calyx 3-lobed; anthers 6; fruits 2-seeded, obovoid, 2–2.5 cm long.

Flowering and Fruiting: October–December.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, MYANMAR, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0665* (BUBH), 11.09.2021.

2. *Aglaia spectabilis* (Miq.) Jain and Bennet in Indian J. Forest. 9(3):271. 1987; Jain and Bennet in Hajra *et al.*, Fl. India 4:474. 1997. *Amoora spectabilis* Miq., Ann. Mus. Bot. Lugduno-Batavi 4:37. 1868; Hiem in Hook.f., Fl. Brit. India 1:561. 1875; Deb, Fl. Tripura 1 : 447. 1981. *A. wallichii* Kanjilal *et al.*, Fl. Assam 1(2):237. 1936.

Vern. name: Lali Gwja (Bodo).

Tree, to 40 m tall; leaves imparipinnate; petioles 4–8 cm long; leaflets 11, opposite, linear-oblong, 12–16 × 4–6 cm, margin entire, acuminate at apex, base oblique, pubescent beneath; lateral nerves 8–10 pairs; petiolules 5–10 mm long; inflorescence axillary, paniced racemes; calyx 3-lobed; petals 3; fruits pyriform, 3–4 cm long, brownish, appressed pubescent.

Flowering and Fruiting: March–October.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0442* (BUBH), 06.04.2020.

2. *Aphanamixis* Blume, Bijdr. Fl. Ned. Ind. 165. 1825.

1. *Aphanamixis polystachya* (Wall.) Parker in Ind. For. 57:486. 1931; Deb, Fl. Tripura 1:447. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:205. 1985. *Aglaia polystachya* Wall. in Roxb., Fl. Ind. 2:429. 1824. *Amoora rohituka* Hiem in Hook.f., Fl. Brit. India 1:559. 1875; Kanjilal *et al.*, Fl. Assam 1 (2):236. 1936. (Plate 37D).

Tree, to 15 m tall; leaves pinnately compound; leaflets 8–9 pairs, opposite, elliptic, 24–30 × 8–10 cm, margin entire, base oblique, apex acuminate; lateral nerves 13–16 pairs, petiole 6–10 cm long; inflorescence axillary raceme, 30–55 cm long; flowers subsessile; sepals 5, green; petals 3, yellow; staminal tube globose, apex 3-lobed, yellow; stamens 6, sessile; fruits sub-globose, 3–5.5 cm across, reddish-yellow, finely trilobed.

Flowering and Fruiting: August–April.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0050* (BUBH), 26.06.2018.

3. *Chisocheton* Blume, Bijdr. Fl. Ned. Ind. 168. 1825.

1. *Chisocheton cumingianus* subsp. *balansae* (DC.) Mabb. in Taxon 26(5–6):528. 1977; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl. Arunachal Pradesh 1:281. 1996. *C. balansae* DC. in Bull. Herb. Boissier 2:578. 1894. *C. paniculatus* (Roxb.) Hiem. in Hook.f., Fl. Brit. India 1:552. 1875. Kanjilal *et al.*, Fl. Assam 1:234. 1936. *Guarea paniculata* Deb, Fl. Tripura 1:449. 1981. (Plate 37E).

Trees, to 10 m tall; leaves paripinnate; leaflets 8–12 pairs; leaflet oblong to oblong-lanceolate, 10–20 × 4–6 cm, margin entire, acuminate at apex, base oblique, cuneate, appressed pubescent both sides; lateral nerves 10–12 pairs; inflorescence axillary, paniculate, equal or longer than the leaves; flowers 4-merous; calyx tubular; petals linear to spatulate; staminal tube cylindrical; ovary 3–4-locular; fruits pyriform-globose, 3–4 inconspicuous lobed.

Flowering and Fruiting: September–February.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0312* (BUBH), 12.10.2020.

4. *Didymocheton* Blume, Bijdr. Fl. Ned. Ind. 177. 1825.

1. *Didymocheton mollissimus* (Spreng.) Mabb. in Taxon 70(6):1258. 2021. *Dysoxylum alliarium* Haridasan and Rao, Forest Fl. Meghalaya 1:208. 1985; Jain and Bennet in Hajra *et al.*, Fl. India 4: 484. 1997. *D. hamiltonii* Heim, in Hook.f., Fl. Brit. India 1:548. 1875; Kanjilal *et al.*, Fl. Assam 1:231. 1936. *Trichilia mollissima* Spreng., Syst. Veg. 16(4):252. 1827. (Plate 37F).

Trees, to 20 m tall; leaves paripinnate; leaflets opposite or subopposite, 6–10 × 3–5 cm, margin subentire, undulate, acuminate at apex, base oblique; lateral nerves 10–12 pairs; petioles 10–20 cm long; petiolules 1–1.5 cm long; inflorescence axillary, paniced; flowers 4-merous; calyx pubescent; petals glabrous; stamina tube distinct; fruits 2–2.5 cm across, subglobose, 4-locular.

Flowering and Fruiting: April–October.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CHINA, MYANMAR, PHILIPPINES, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0313* (BUBH), 12.10.2020.

5. *Dysoxylum* Blume, Bijdr. Fl. Ned. Ind. 172. 1825.

1. *Dysoxylum gotadhora* (Buch.-Hum.) Mabb. in Wu and Hamilton, Fl. China 11:127. 2008. *D. binectariferum* Hiem in Hook.f., Fl. Brit. India 1:546. 1875; Kanjilal *et al.*, Fl. Assam 1(2):232. 1936; Deb, Fl. Tripura 1:449. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:208. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:282. 1996. *Guarea gotadhora* Buch.-Ham. in Mem. Wern. Nat. Hist. Soc. 6:307. 1832.

Vern. name: Mwkhra Bidwi (Bodo).

Tree, to 15 m tall; leaves imparipinnate; petioles 4–6 cm long; leaflets alternate, oblong-elliptic, 10–15 × 4–6 cm, margin entire, acuminate at apex, base oblique or cuneate; lateral nerves 10–12 pairs; petiolules 4–7 mm long; inflorescence paniced cymes; flowers 4-merous; calyx cup-shaped, annular; petals linear-oblong, recurved; fruits subglobose, 3.5–5 cm in diam., 4-lobed; seeds 4.

Flowering and Fruiting: September–February.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0443* (BUBH), 12.06.2019.

Uses: Juice of seeds in hot water is given in leprosy (Jain and Borthakur 1980, Teron 2011).

6. *Toona* Roem., Fam. Nat. Syn. Monogr. 1:139. 1846.

1. *Toona ciliata* Roem., Fam. Nat. Syn. Monogr. 1:139. 1846; Deb, Fl. Tripura 1:452. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:212. 1985; Jain and Bennet in Hajra *et al.*, Fl. India 4:504. 1997. *Cedrela toona* Hiem. in Hook.f., Fl. Brit. India 1:568. 1875; Kanjilal *et al.*, Fl. Assam 1(2):242. 1936.

Vern. name: Jia Poma (Bodo).

Tree, to 15 m tall; leaves, paripinnate; petioles 4–6 cm long; leaflets opposite or subopposite, 7–12 pairs, ovate-lanceolate or oblong-elliptic, 7–10 × 3–5 cm, margin entire, acuminate at apex, base cuneate, pubescent beneath; lateral nerves 10–12 pairs; petiolules 5–8 mm long; inflorescence axillary, panicles; flowers 5-merous; sepals connate at base; petals white; stamens 5; fruits oblong, 1.5–2 cm long.

Flowering and Fruiting: March–July.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0444* (BUBH), 28.03.2019.

73. MALVACEAE Juss., Gen. Pl. 271. 1789.

About 44 genera and 166 species in India; 31 genera and 82 species in Assam; 16 genera and 19 species recorded from the study area.

Key to the genera

- 1a. Filament of stamens free.....2
- 1b. Basal filaments of stamens fused into tube.....5
- 2a. Fruits soft spiny.....15. *Triumfetta*
- 2b. Fruits not spiny.....3

3a. Liana.....	3. <i>Ayenia</i>
3b. Tree.....	4
4a. Inflorescence terminal, panicles.....	11. <i>Microcos</i>
4b. Inflorescence axillary, cymose.....	6. <i>Grewia</i>
5a. Herbs or shrubs.....	6
5b. Trees.....	11
6a. Fruits soft spiny.....	16. <i>Urena</i>
6b. Fruits not spiny.....	7
7a. Stamens 5.....	10. <i>Melochia</i>
7b. Stamens more than 5 to many.....	8
8a. Plants spiny; epicalyx foliaceous.....	7. <i>Hibiscus</i>
8b. Plants not spiny; epicalyx not foliaceous.....	9
9a. Petals magenta purple.....	2. <i>Abroma</i>
9b. Petals yellow.....	10
10a. Leaves lobed; anthers sessile.....	1. <i>Abelmoschus</i>
10b. Leaves simple, not lobed; anthers with filaments.....	13. <i>Sida</i>
11a. Flowers bisexual.....	12
11b. Flowers unisexual.....	14
12a. Plants deciduous.....	4. <i>Bombax</i>
12b. Plants evergreen.....	13
13a. Leaves glaucous beneath and powdery glands.....	12. <i>Pterospermum</i>
13b. Leaves not glaucous and no powdery glands.....	9. <i>Pterygota</i>
14a. Plants evergreen.....	8. <i>Kydia</i>
14b. Plants deciduous.....	15
15a. Calyx of male flowers shallowly lobed; fruit follicles foliaceous.....	5. <i>Firmiania</i>
15b. Calyx of male flowers deeply lobed; fruits follicles not foliaceous.....	14. <i>Sterculia</i>

1. *Abelmoschus* Medik., Malvenfam 45. 1787.

1. *Abelmoschus moschatus* Medik., Malvenfam. 46. 1787; Deb, Fl. Tripura 1:297. 1981; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 61. 2003. *Hibiscus abelmoschus* L., Sp. Pl. 2:696.1753; Masters in Hook.f., Fl. Brit. India 1: 342.1874; Kanjilal *et al.*, Fl. Assam 1:143. 1934.

Shrub, to 2 m tall; leaves alternate, 6–10 × 4–7 cm, 3–7-lobed, midlobe linear-lanceolate, margin irregular, acuminate at apex, base sagittate, lamina scabrous; petioles 5–12 cm long, hirsute; flowers axillary, solitary; epicalyx 8–10, linear-lanceolate, green, hirsute; calyx 5, pubescent; corolla 5, rotate, yellow; fruits ovate-oblong, 4–6 cm long, pentagonous, hirsute.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0168* (BUBH), 26.10.2020.

Uses: Seeds are used to heart diseases, toothache, eye diseases, and ringworm. (Das *et al.* 2010).

2. *Abroma* Jacq., Hort. Bot. Vindob. 3:3, t.1. 1776.

1. *Abroma augustum* (L.) L.f., Suppl. Pl. 341. 1782; Masters in Hook.f., Fl. Brit. India 1:375. 1874; Brandis, Ind. Trees. 89. 1906; Kanjilal *et al.*, Fl. Assam 1(1):156. 1934; Balakr., Fl. Jowai 1:102. 1981; Deb, Fl. Tripura 1:284. 198; Harid. and Rao, Forest Fl. Meghalaya 1:140. 1985. *Theobroma augustum* L., Syst. Nat., 12(3):233. 1768.

Shrub, to 5 m tall; leaves ovate-cordate, sometimes 3–5-lobed, lamina ovate-cordate, 10–25 × 10–20 cm, basal nerves 4–6, base cordate, apex acute-acuminate; inflorescence cyme, 2–5-flowered; flowers 5 cm across, pendulous; sepals 1.5–2 cm long, lanceolate, brownish-green; petals 2–3 cm long, reddish-purple, apex acute or obtuse; ovary 5-grooved; capsule obconic, 5-winged, erect, forming cuplike after dehiscence.

Flowering and Fruiting: June–February.

Occurrence: Found in roadside, secondary forest.

Distribution: INDIA (NE India), BANGLADESH, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0429* (BUBH), 22.06.2020.

Uses: The root bark is powdered and taken 2–3 grams and mixed with 400–500 mg black pepper in one cup of water in menstrual disorder. Young leaves are used in menstrual disorder. Roots are used in snake bite (Das *et al.* 2010).

3. *Ayenia* L. in Kongl. Svenska Vetensk. Acad. Handl. 17:24. 1756.

1. *Ayenia grandifolia* (DC.) Christenh. and Byng in Global Fl. 4:136. 2018. *Byttneria grandifolia* DC., Prodr. 1:486. 1824; Harid. and Rao, Forest Fl. Meghalaya 1:141. 1985; Malick in Sharma *et al.*, Fl. India 3:410. 1993. *B. aspera* Masters in Hook.f., Fl. Brit. India 1:377. 1874; Kanjilal *et al.*, Fl. Assam 1(1):160. 1934; Balakr., Fl. Jowai 1:102, 1981; Deb, Fl. Tripura 1:285. 1981. (Plate 35E).

Liana; leaves alternate, orbicular, 15–25 × 12–18 cm, margin entire, acuminate-caudate at apex, base cordate; lateral nerves 5–7 pairs; stipules linear lanceolate; petioles 8–15 cm long; inflorescence axillary paniced cymes; flowers small, 3–6 mm across; sepals and petals 5; stamens 5; staminodes 5; filament free; ovary 3–5-celled; fruits globose, 3–4 cm across, strong spiny.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0385* (BUBH), 05.05.2021.

4. *Bombax* L., Sp. Pl. 1:511. 1753.

1. *Bombax ceiba* L., Sp. Pl. 1:511. 1753; Deb, Fl. Tripura 1:293. 1981; Nayar and Biswas in Sharma *et al.*, Fl. India 3:398. 1993. *B. malabaricum* DC., Prodr. 1:479. 1824; Masters in Hook.f., Fl. Brit. India 1:349. 1874; Kanjilal *et al.*, Fl. Assam 1(1):147. 1934.

Vern. name: Sumli (Bodo).

Tree, to 40 m tall; leaves palmately compound, 4–7-foliolate; petioles 15–25 cm long; leaflets oblong-lanceolate, 12–16 × 3–6 cm, margin entire, acuminate at apex, base cuneate; nerves 16–25 pairs; petiolules 5–15 mm long; flowers axillary, 5–6 cm across; calyx apex rounded; petals oblong, recurved, reddish-pink; stamens many; fruits oblong, 5-valved, woolly inside when fully matured.

Flowering and Fruiting: February–June.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0428* (BUBH), 17.03. 2019.

Uses: Powders of matures spines mixed with cow milk and apply to the cuts dark spots to remove it. Root extract is consumed to cure cough and urinary complaints (Teron 2011).

5. *Firmiana* Marsili in Saggi Sci. Lett. Acad. Padova 1:106. 1786.

1. *Firmiana colorata* (Roxb.) Br., Pterocymbium 235. 1844; Deb, Fl. Tripura 1:286. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:142. 1985; Malick in Sharma *et al.*, Fl. India 3:420. 1993. *Sterculia colorata* Roxb., Pl. Coromandel 1:26. 1795; Masters in Hook.f., Fl. Brit. India 1:359. 1878; Kanjilal *et al.*, Fl. Assam 1(1):151. 1934.

Vern. name: Vohog Odlá (Bodo).

Tree, to 20 m tall; leaves alternate, ovate-cordate, 3–5-lobed, 8–16 × 8–12 cm, lobes margin entire, acute or acuminate at apex, base cordate; basal nerves 3–5, lateral nerves 3–4 pairs; petioles 6–10 cm long; inflorescence unisexual, axillary, short racemes, arising from leafless branches; flowers red; calyx funnel-shaped, apressed glandular; fruits 2.5–4 cm long, pink.

Flowering and Fruiting: March–June.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0431* (BUBH), 29.03.2019.

6. *Grewia* L., Sp. Pl. 2:964. 1753.

1. *Grewia serrulata* DC., Prodr. 1:510. 1824; Deb, Fl. Tripura 1:277. 1981; Daniel and Chandrabose in Sharma *et al.*, Fl. India 3:509. 1993. *G. laevigata* Masters in Hook.f., Fl. Brit. India 1:389. 1874. *G. disperma* Kanjilal *et al.*, Fl. Assam 1:164. 1934.

Vern. name: Swima Lendu (Bodo).

Shrub, to 4 m tall; leaves alternate, elliptic, 11–14 × 4–5 cm, margin serrate, apex acuminate, base sub-cordate; lateral nerves 5-6 pairs; petiole 1 cm long; inflorescence axillary cyme, 2–3- flowered; sepals 5, pale yellow; petals 5, yellow; stamens many, mucilage; anther yellow, ribbed; filament white; ovary bilobed.

Flowering and Fruiting: April–December.

Occurrence: Found in scrub forest.

Distribution: INDIA (Throughout the country), BANGLADESH, MYANMAR, NEPAL, PAKISTAN, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0051* (BUBH), 09.07.2018.

7. *Hibiscus* L., Sp. Pl. 2:693. 1753.

1. *Hibiscus surattensis* L., Sp. Pl. 2:696. 1753; Masters in Hook.f., Fl. Brit. India. 1:334. 1875; Kanjilal *et al.*, Fl. Assam 1(1):144. 1934; Balakr., Fl. Jowai 1:98. 1981; Deb, Fl. Tripura 1:303. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:134. 1985; Paul in Sharma *et al.*, Fl. India 3:327. 1993. (Plate 35F).

Annual herb or subshrub, prickly; leaves alternate, palmately 3–5-lobed, 5–7 × 4–6 cm, margin serrate, strigose both sides; basal nerves 5; stipules auriculate, foliaceous, hirsute; petiole 2–5 cm long; flowers axillary, solitary; epicalyx lobes 8–10, linear-lanceolate; calyx 5-lobed, ovate-lanceolate, long acuminate at apex; corolla pale yellow with dark red at centre; capsule ovate-globose, with purplish calyx, scabrous.

Flowering and Fruiting: October–January.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, BURUNDI, CAMBODIA, CHINA, LAOS, MYANMAR, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0681* (BUBH), 05.11.2021.

8. *Kydia* Roxb., Pl. Coromandel 3:11. 1819.

1. *Kydia calycina* Roxb., Hort. Bengal 50. 1814; Pl. and Fl. Ind. 3:188. 1832; Masters in Hook.f., Fl. Brit. India 1:348. 1874; Kanjilal *et al.*, Fl. Assam 1:146. 1934; Deb, Fl. Tripura 1:304. 1981; Haridasan and Rao, Forest Fl. Meghalaya 1:135. 1985; Paul in Sharma and Sanjappa Fl. India 3:344.1993; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl. Arunachal Pradesh 1:213. 1996.

Tree; branchlets with stellate hairs; leaves alternate, ovate-orbicular, 3–5-sublobed, 6–10 × 6–8 cm, margin subentire, acute or rounded at apex, base cordate, stellate hairs both sides; basal nerves 5–7; petioles 3–4 cm long; inflorescence terminal, paniced cymes; epicalyx 4–6,

oblong; calyx 5-lobed, equals the length with epicalyx; petals obovate, reddish nerves at base; fruits globose, 5–6 mm across.

Flowering and Fruiting: September–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Saralpara, *S. Basumatary 0705* (BUBH), 19.11.2022.

9. *Pterygota* Schott & Endl., Melet. Bot. 32. 1832.

1. *Pterygota alata* (Roxb.) Br., Pterocymbium 234. 1844. *Sterculia alata* Kanjilal *et al.*, Fl. Assam 1:153. 1934. *Sterculia alata* Roxb., Pl. Coromandel 3:84. 1820. (Plate 36A).

Vern. name: Sikhri Badam (Bodo).

Tree, to 30 m tall; stem buttress at base; leaves alternate, cordate, 15–20 × 12–15 cm, margin entire, acute at apex, base sagittate-cordate, glabrous both sides; basal nerves generally 7, lateral nerves 3–5 pairs; petioles 4–8 cm long; inflorescence axillary, paniced cymes; fruits obliquely oval, with mammilla at apex, 8–12 cm across, brown, densely tomentose; seeds winged, oblong-lanceolate, 5–8 cm long.

Flowering and Fruiting: April–November.

Occurrence: Found in dense forests in semi-evergreen type.

Distribution: INDIA (Almost throughout the country), CHINA, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0210* (BUBH), 10.11.2020.

Uses: Endosperms of matured seeds are edible.

10. *Melochia* L., Sp. Pl. 2:674. 1753.

1. *Melochia corchorifolia* L., Sp. Pl. 2:675. 1753; Masters in Hook.f., Fl. Brit. India 1:374. 1874; Deb, Fl. Tripura 1:287. 1981; Malick in Sharma *et al.*, Fl. India 3:441. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:221. 1996.

Undershrub, to 1 m tall; leaves alternate, ovate-oblong, 2.5–5 × 1.5–2.5 cm, margin serrate, acute at apex, base rounded or semi-cordate, glabrous both side; lateral nerves 6–8 pairs; petioles 1.5–3 cm long; inflorescence axillary, head; sepals 5, green, pubescent; petals 5, glabrous, yellowish at base; stamens 5, connate; fruits 5-cocci, with bristly hairs.

Flowering and Fruiting: June–October.

Occurrence: Found in roadside of forest or in streamside.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0339* (BUBH), 07.08.2020.

11. *Microcos* L., Sp. Pl. 1:514. 1753.

1. *Microcos paniculata* L., Sp. Pl. 1:514. 1753. *Grewia microcos* Masters in Hook.f., Fl. Brit. India 1:392. 1874; Brandis, Ind. Trees 99. 1906; Kanjilal *et al.*, Fl. Assam 1(1):162. 1934; Harid. and Rao, Forest Fl. Meghalaya 1:156. 1985. (Plate 36B).

Tree, to 15 m tall; leaves alternate, elliptic, ovate or obovate, 15–18 × 5–7 cm, margin serrate, apex acuminate, base rounded or sub-oblique; lateral nerves 5–7 pairs; petiole 8–10 mm long; inflorescence terminal, panicle cyme, to 10 cm long; flower 1.3 cm across; floral bracts 8-lobed; sepals 5, yellow; petals 5, apex needle-like, yellow; stamens many, yellow.

Flowering and Fruiting: May–December.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, PAKISTAN, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0048* (BUBH), 02.06.2018.

12. *Pterospermum* Schreb., Gen. Pl. ed. 8a, 2:461. 1791.

Key to the species

1a. Leaves ovate-orbicular, margin sublobed.....1. *P. acerifolium*

1b. Leaves obovate-lanceolate, margin entire.....2. *P. lanceifolium*

1. *Pterospermum acerifolium* (L.) Willd., Sp. Pl. 3(1):729. 1800; Masters in Hook.f., Fl. Brit. India 1:368. 1874; Brandis, Ind. Trees 91. 1906. Kanjilal *et al.*, Fl. Assam 1(1):157. 1934; Deb, Fl. Tripura 1:290. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:145. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:222. 1996. *Pentapetes acerifolia* L., Sp. Pl. 2:698. 1753.

Vern. name: Bhot Odlā/Laider (Bodo).

Tree, to 15 m tall; leaves alternate, obovate-oblong, suborbicular, 12–18 × 10–16 cm, margin irregular-sublobed, acute-acuminate at apex, base cordate or semipeltate, tomentose beneath, glaucous; basal nerves 3–5, lateral nerves 4–5 pairs; petioles 5–8 cm long; flowers solitary or in short paniced cymes; calyx segments 4–5, linear, fleshy; petals white inside, pale brownish appressed glandular outside; stamens many; fruits 5-valved; seeds winged.

Flowering and Fruiting: February–May.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0430* (BUBH), 05.03.2021.

2. *Pterospermum lanceifolium* Roxb. ex DC. in *Mém. Mus. Hist. Nat.* 10:112. 1823; Masters in *Hook.f., Fl. Brit. India* 1:368. 1874; Kanjilal *et al.*, *Fl. Assam* 1(1):158. 1934.

Tree, to 15 m tall; leaves alternate, obovate-oblong-lanceolate, 6–10 × 2.5–5 cm, margin entire, acuminate at apex, base slightly oblique, subcordate, glaucous-brownish beneath; lateral nerves 5–7 pairs; petioles 5–8 mm long; inflorescence terminal or axillary; flowers fragrant; calyx 5-segmented, linear, stellate hairy; petals white, glabrous; stamens many; gynandrophore distinct; fruits terete, lanceolate, 5-celled, hard.

Flowering and Fruiting: March–August.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0701* (BUBH), 08.04.2022.

13. *Sida* L., *Sp. Pl.* 2:683. 1753.

Key to the species

- 1a. Leaves lanceolate or ovate-lanceolate, sparsely pubescent.....1. *S. acuta*
- 1b. Leaves ovate-cordate, densely pubescent.....2. *S. cordifolia*

1. *Sida acuta* Burm.f., *Fl. Ind.* 147. 1768; Deb, *Fl. Tripura* 1:306. 1981; Harid. and. Rao, *Forest Fl. Meghalaya* 1:132. 1985; Paul in Sharma *et al.*, *Fl. India* 3:281. 1993; Chowdhery *et*

al. in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:214. 1996. *S. carpinifolia* Masters in Hook.f., Fl. Brit. India 1:323. 1874; Kanjilal *et al.*, Fl. Assam 1(1):140. 1934.

Undershrub, to 80 cm tall; leaves alternate, linear-lanceolate, 2.5–5 × 1–1.5 cm, margin distantly dentate-serrate, acute at apex, base subcordate or rounded, puberulent beneath; petioles 4–6 mm long, pubescent; inflorescence axillary, cymes; flowers in clusters of 2–3; calyx 5-lobed, pubescent; corolla 5, twisted, yellow, pubescent outside; stamens numerous.

Flowering and Fruiting: September–June.

Occurrence: Found in roadside of forest or in floors of deciduous forests.

Distribution: INDIA (Almost throughout the country), AFRICA, AMERICA, BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0185* (BUBH), 15.10.2020.

Uses: Roots and leaves are used in bowel pain, urinary diseases, blister, poiles (Das *et al.* 2010).

2. *Sida cordifolia* L., Sp. Pl. 2:684. 1753; Roxb., Fl. Ind. 3:177. 1832; Masters in Hook.f., Fl. Brit. India 1:324. 1874; Kanjilal *et al.*, Fl. Assam 1(1):148. 1934; Deb, Fl. Tripura 1:307. 1981; Paul in B.D. Sharma *et al.*, Fl. India 3:285. 1993.

Undershrub, to 50 cm tall; leaves alternate, cordate, 2–2.8 × 2.5–3 cm, margin dentate, pubescent both sides; lateral nerves 3–4 pairs; flower axillary, solitary, 8 mm across; calyx 5-lobed, persistent, apex acute; corolla 5-lobed, yellow; stamens many, yellow; stigma yellow; seeds 5, pubescent, green on young, brown when matured, trigonous.

Flowering and Fruiting: March–September.

Occurrence: Found in roadside, open forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0006* (BUBH), 14.03.2018.

Uses: Shoots are cooked with alkali and dried fish as curry. Roots, leaves are used in urinary diseases, breathing problem, dysentery, diseases on tounge and throat (Das *et al.* 2010, Teron 2011).

14. *Sterculia* L., Sp. Pl. 2:1007. 1753.

Key to the species

- 1a. Tree; leaves suborbicular, lobed.....2. *S. villosa*
1b. Shrub; leaves elliptic-lanceolate, unlobed.....1. *S. lanceolata* var. *coccinea*

1. *Sterculia lanceolata* var. *coccinea* (Jack) Phengklai in Thai Forest Bull., Bot. 23:99. 1995. *S. hamiltonii* Harid. and Rao, Forest Fl. Meghalaya 1:149. 1985; Malick in Sharma *et al.*, Fl. India 3:464. 1993. *S. coccinea* Jack in Malayan Misc. 1(1):20. 1820; Roxb., Fl. Ind. 3:151. 1832; Masters in Hook.f., Fl. Brit. India 1:357. 1874; Kanjilal *et al.*, Fl. Assam 1(1):153. 1934. (Plate 36C).

Vern. name: Jabkhru Biphang (Bodo).

Shrub, to 6 m tall; leaves alternate, elliptic or elliptic-oblong, 15–20 × 6–122 cm, acuminate at apex, base cuneate or narrowing obtuse, margin entire; lateral nerves 8–10 pairs; petiole 2–4 cm long; inflorescence axillary paniced, drooping; corolla of male flowers 5-partite, pubescent, lobes lanceolate, united at apex, forming globe shaped; fruit a follicles, 3–5 partite, 5–8 cm across, drooping, red when old; seeds black.

Flowering and Fruiting: August–December.

Occurrence: Found in roadside of forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0342* (BUBH), 09.09.2020.

2. *Sterculia villosa* Roxb. ex Sm. in Rees, Cycl.34:n.16. 1816; Masters in Hook.f., Fl. Brit. India 1:355. 1874; Kanjilal *et al.*, Fl. Assam 1(1):151. 1934; Deb, Fl. Tripura 1:292. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:151. 1985; Malick in Sharma *et al.*, Fl. India 3:472. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:27. 1996.

Vern. name: Odlā/Odal (Bodo).

Tree, to 15 m tall; leaves alternate, 5–8-lobed, elliptic-oblong, cordate, 12–18 × 12–16 cm, lobes margin subentire, acuminate at apex, base cordate, glabrous above, appressed glandular beneath; basal nerves 5–8, lateral nerves 7–9 pairs; inflorescence axillary, arising from leafless branches, drooping; flowers yellow; calyx campanulate; fruits follicles, drooping, 4–5-partite, star shaped, brown, pubescent.

Flowering and Fruiting: March–June.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0432* (BUBH), 10.04.2019.

15. *Triumfetta* L., Sp. Pl. 1:444. 1753.

1. *Triumfetta rhomboidea* Jacq. in Enum. Sysy. Pl. 22. 1760; Masters in Hook.f., Fl. Brit. India 1:395. 1874; Kanjilal *et al.*, Fl. Assam 1(1):168.1934; Balakr., Fl. Jowai 1:103. 1981; Deb, Fl. Tripura 1:279. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:159.1985; Daniel and Chandrabose in Sharma *et al.*, Fl. India 3:520.1993.

Herbs or semi undershrub, to 1.5 m tall; leaves alternate, apically 3-lobed or simple, ovate-cordate, 5–10 × 4–8 cm, margin irregularly dentate, acuminate at apex, base subcordate or rounded; basal nerves 3–5; petioles 3–6 cm long, pubescent; inflorescence axillary, cymes; bracts linear, pubescent; sepals 4, oblong, slightly concave at apical part, pale yellow; petals 4, obovate, yellow, glabrous; fruits lobed, soft spiny.

Flowering and Fruiting: September–March.

Occurrence: Found in roadside or in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, GHANA, LAOS, MYANMAR, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0204* (BUBH), 18.10.2020.

16. *Urena* L., Sp. Pl. 2:692. 1753.

1. *Urena lobata* L., Sp. Pl. 2:692. 1753; Masters in Hook.f., Fl. Brit. India 1:348. 1874; Kanjilal *et al.*, Fl. Assam 1(1):141. 1934; Balakr., Fl. Jowai 1:96. 1981; Deb, Fl. Tripura 1:309. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:137. 1985.

Undeshrub, to 1 m tall; leaves alternate, ovate or ovate-orbicular, 5–8 × 3–6 cm, margin serrulate or serrate, base rounded or cordate, pubescent both side; basal nerves 5, lateral nerves 2–3 pairs; petioles 2–4 cm long; inflorescence axillary cymes of 1–3-flowered; calyx tubular; petals 5, obovate, rounded at apex, pink-rose; fruits 5-lobed, soft spiny.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), AMERICA, AFRICA, BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0226* (BUBH), 03.11.2020.

74. DIPTEROCARPACEAE Blume, Bijdr. Fl. Ned. Ind. 4:222. 1825.

About 5 genera and 30 species in India; 3 genera and 7 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Large tree; fruits winged.....1. *Shorea*
- 1b. Small tree; fruits without wings.....2. *Vatica*

1. *Shorea* Roxb. ex C.F.Gaertn., Suppl. Carp. 47. 1805.

1. *Shorea robusta* Gaertn., Suppl. Carp. 48. t. 186. 1805; Dyer in Hook.f., Fl. Brit. India. 1:306. 1874; Kanjilal *et al.*, Fl. Assam 1:135. 1934; Deb, Fl. Tripura 1:360. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:127. 1985; Janardhanan in Sharma *et al.*, Fl. India 3:237. 1993.
Vern. name: Sal (Bodo).

Tree, deciduous, to 40 m tall; bark rough, brownish-grey; leaves alternate, ovate-oblong, oblong, 12–20 × 8–13 cm, margin entire, acuminate at apex, base cordate or rounded; lateral nerves 12–14 pairs; petioles 1.5–2 cm long; stipules oblong, 8–12 mm across; inflorescence terminal or axillary, panicle, racemes; peduncles with silky hairs; calyx reduced lobed; petals ovate-lanceolate, rotate, pale yellow; stamens many, yellow; fruits ovoid, with wings.

Flowering and Fruiting: March–October.

Occurrence: Found in roadside deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, NEPAL.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0427* (BUBH), 28.03.2019.

Uses: Dry leaves are smoked raw as cigarette to control cough.

2. *Vatica* L., Mant. Pl. 2:152. 1771.

1. *Vatica lanceifolia* (Roxb.) Blume, Mus. Bot. 2(1–8):31. 1856. *V. lanceaefolia* Dyer in Hook.f., Fl. Brit. India 1:302. 1874; Kanjilal *et al.*, Fl. Assam 1(1):137. 1934; Janardhanan in

Sharma and Sanjappa, Fl. India 3: 250. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl. Arunachal Pradesh 1:205. 1996. *Vateria lanceaefolia* Roxb., Fl. Ind. 2:601. 1820. (Plate 23F).

Vern. name: Khirka Champa (Bodo).

Medium size evergreen tree; leaves alternate, elliptic-lanceolate, 12–18 × 4–6 cm, margin entire, acuminate at apex, base acute to obtuse, coriaceous; lateral nerves 9–12 pairs; petioles 1–1.5 cm long; inflorescence axillary, simple panicle; flowers pale yellowish-white; pedicels 3–5 mm long; calyx 5-lobed, apex acute, persistent; petals 5, rotate, oblanceolate; fruits 1.5–2.5 × 1.5–2.5 cm, ovoid-globose.

Flowering and Fruiting: April–September.

Occurrence: Found along streams in mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, TIBET.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0406* (BUBH), 16.04.2019.

Uses: Bark extract is taken to cure dysentery (Jain and Borthakur 1980).

75. RESEDACEAE Martinov, Tekhno-Bot. Slovar 541. 1820.

About 3 genera and 5 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Stixis* Lour., Fl. Cochinch. 295. 1790.

1. *Stixis suaveolens* (Roxb.) Pierre in Bull. Soc. Linn. Paris 1:654. 1887; Deb, Fl., Tripura 1:245. 1981; Haridasan and Rao, Forest Fl., Meghalaya 1:87. 1985; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl., Arunachal Pradesh 1:144. 1996. *Roydsia suaveolens* Roxb., Pl. Corom. 3:86. 1820; Hook.f. and Thomson in Hook.f., Fl., Brit. India 1:180. 1872; Kanjilal *et al.*, Fl., Assam 1:79. 1934. (Plate 56B).

Scandent shrubs; leaves alternate, oblong, 12–25 × 4–8 cm, margin entire, acuminate at apex, base subacute, glabrous both sides, coriaceous; lateral nerves 6–10 pairs; petioles 1.5–2.5 cm long; inflorescence axillary, 6–15 cm long; bracts linear, 2–4 mm long; flowers fragrant, pale yellow; sepals elliptic-oblong, olive green, pubescent; stamens many; filaments linear, creamy white; anthers greyish-brown.

Flowering and Fruiting: February–June.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0305* (BUBH), 10.03.2021.

Uses: Ripe fruits are edible.

76. CAPPARACEAE Juss., Gen. Pl. 242. 1789.

About 6 genera and 50 species in India; 2 genera and 10 species in Assam; 2 genera and 3 species recorded from the study area.

Key to the genera

- 1a. Shrub; leaves simple.....1. *Capparis*
1b. Tree; leaves palmately compound.....2. *Crateva*

Capparis L., Sp. Pl. 1:503. 1753.

Key to the species

- 1a. Inflorescence terminal.....1. *C. assamica*
1b. Inflorescence axillary.....2. *C. olacifolia*

1. *Capparis assamica* Hook.f. and Thomson, Fl. Brit. India 1:177. 1872; Kanjilal *et al.*, Fl. Assam 1:76. 1934. (Plate 19E).

Scandent or suberect shrub, with minute prickles; leaves alternate, elliptic or oblong-elliptic, 10–24 × 4–7 cm, margin entire, acuminate at apex, base cuneate; lateral nerves 6–8 pairs; petioles 8–15 mm long; inflorescence terminal or subterminal, 12–20 cm long, pendent; flowers arise 2 from a point of rachis; pedicels 2–3 cm long, reddish-brown; petals white; stamens 18–23, unequal; filaments white.

Flowering and Fruiting: April–August.

Occurrence: Found in semi-evergreen forests as undergrowth.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0152* (BUBH), 20.08.2020.

2. *Capparis olacifolia* Hook.f. and Thoms., Hook.f., Fl. Brit. Ind. 1:178. 1872; Kanjilal *et al.*, Fl. Assam 1:77. 1934. (Plate 19F).

Vern. name: Ganga Taishib (Bodo).

Shrub, 2–4 m tall, prickly; leaves alternate, ovate-lanceolate, 8–11 × 3–5 cm, margin entire, acuminate at apex, base rounded; lateral nerves 5–7 pairs; petiole 5–8 mm long; inflorescence axillary, 1–3; sepals 4; petals 4, 2 white and 2 yellowish; stamens 26–32, filament white; anther brown; gynoecium 3–3.5 cm long, yellowish; style swollen below apex, pubescent.

Flowering and Fruiting: February–April.

Occurrence: Found in semi-evergreen forest, sometimes in open deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, MYANMAR, NEPAL, TIBET.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0083* (BUBH), 20.03.2019.

2. *Crateva* L., Sp. Pl. 1:444. 1753.

1. *Crateva magna* (Lour.) DC., Prod. 1:243. 1824; Hook.f. and Thoms. in Hook.f., Fl. Brit. India 1:172. 1872; Kanjilal *et al.*, Fl. Assam 1(1):74. 1934; Raghavan in Sharma *et al.*, Fl. India 2:324. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:141. 1996. *Capparis magna* Lour., Fl. Cochinch. 330. 1790. (Plate 20A).

Tree, to 20 m tall; branchlets greenish-yellow; leaves 3-foliolate; petiole 7–12 cm long; leaflets 6–12 × 3–4 cm, glabrous; lateral nerves 6–9 pairs; lateral leaves oblique, apex acuminate; inflorescence corymbs, 10–20-flowered; flower pedicel 3–5 cm long; sepals 2–4 mm, acuminate at apex; petals 2–2.5 cm, white to yellow; stamens 15–23; filament 5–7 cm, purplish-pink; anther 2–3 mm, oblong.

Flowering and Fruiting: March–May.

Occurrence: Found in open deciduous forest or in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0151* (BUBH), 30.03.2020.

Uses: Bark juice is consumed to cure urinary complaints, fever, skin diseases, gastric. (Teron 2011).

77. CLEOMACEAE Airy Shaw in Kew Bull. 18(2):256. 1965.

About 5 genera and 15 species in India; 1 genus and 5 species in Assam; 1 genus and 3 species recorded from the study area.

1. *Cleome* L., Sp. Pl. 2:671. 1753.

Key to the species

- 1a. Plants below 60 cm tall.....2
1b. Plants 70–150 cm tall.....1. *C. hautteana*
2a. Flowers yellow.....3. *C. viscosa*
2b. Flowers pale purple.....2. *C. rutidosperma*

1. *Cleome hautteana* Schltld. in *Linnaea* 24:669. 1852. *C. hassleriana* Chodat in *Bull. Herb. Boissier* 6(App. 1):12. 1898.

Annual herbs, to 120 cm tall; stem glandular hairy; leaves alternate, 5–7-foliolate; petioles 5–8 cm long; leaflets sessile, oblanceolate, 4–9 × 1–4 cm, margin serrulate, acute at apex, base cuneate; lateral leaflets ovate-rhomboid, 2–4 × 0.8–1.4 cm; inflorescence terminal corymbs; flowers white or pinkish; sepals 4, equal, ovate-obovate; petals 4, subequal, obovate-oblanceolate; stamens 6; fruit 4–8 cm long, tapering both ends.

Flowering and Fruiting: November–February.

Occurrence: Found in roadsides or in damp places of area.

Distribution: INDIA (Introduced), AMERICA, BRAZIL.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0396* (BUBH), 17.12.2020.

2. *Cleome rutidosperma* DC., *Prodr.* 1:241. 1824; Babu and Majumdar in *J. Bombay Nat. Hist. Soc.* 76:631. 1976; Raghavan in *Sharma et al.*, *Fl. India* 2:313. 1993.

Herb, to 40 cm tall; stem with hairs; leaves opposite, palmately compound, 3-foliolate; petioles 2–4 cm long; leaflets ovate-rhomboid, sessile, 2–4 × 1–2 cm, margin entire, pubescent, acute at apex, base acute-obtuse, sparsely pubescent both side; inflorescence axillary and terminal cymes, 2–6-flowered; sepals pale yellow; petals obovate, pale purple, apex apiculate.

Flowering and Fruiting: Almost throughout the year.

Occurrence: Found in open forest.

Distribution: INDIA (Almost throughout the country), AFRICA, GHANA, MYANMAR, NIGERIA, SENEGAL, SRI LANKA, ZAMBIA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0417* (BUBH), 05.08.2020.

3. *Cleome viscosa* L., Sp. Pl. 2:672. 1753; Hook.f. and Thoms. in Hook.f., Fl. Brit. India 1:170. 1872; Kanjilal *et al.*, Fl. Assam 1:72. 1934; Deb, Fl. Tripura 1:244. 1981; Raghavan in Sharma *et al.*, Fl. India 2:317. 1993.

Herb, to 50 cm tall; stem terete, pubescent, ribbed; leaves alternate, palmately compound, 3–5-flowered; leaflet elliptic-obovate, 0.8–1.3 × 1.5–3 cm, pubescent, margin entire, acute at apex; petiole to 3.5 cm long, pubescent; flowers solitary; calyx 4, pubescent, apex acute, green, base reddish; corolla 4, glabrous, yellow; stamens 12–17; anther blackish-blue, black when dry; filament yellow.

Flowering and Fruiting: March–May.

Occurrence: Found in open forest or in wasteland.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0025* (BUBH), 12.04.2018.

78. BRASSICACEAE Burnett, Outlines Bot. 854, 1093. 1835.

About 64 genera and 207 species in India; 10 genera and 27 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Rorippa* Scop., Fl. Carniol. 520. 1760.

1. *Rorippa indica* (L.) Hiern, Cat. Afr. Pl. Welw. 1:26. 1896; Hook.f. and Thoms. in Hook.f., Fl. Brit. India 1:134. 1872; Kanjillal *et al.* Fl. Assam 1(1):70. 1934; Hajra and Chowdhery in Sharma *et al.*, Fl. India 2:129. 1993. *Sisymbrium indicum* L., Mant. Pl. 93. 1767.

Vern. name: Besor Daba (Bodo).

Herb, to 50 cm tall; leaves alternate, lobed-luncinate, sessile, base clasping, young leaf serrated margin, to 12 cm long; lateral nerves 6–8 pairs; inflorescence raceme; flowers bisexual; calyx 4, light yellow, glabrous; corolla 4, yellow, base tapering; stamens 5, yellow; style very short, stigma distinct; fruits cylindrical, to 2.5 cm long.

Flowering and Fruiting: March–June.

Occurrence: Found in waste land of open forest.

Distribution: INDIA (Throughout the country), AFRICA, BANGLADESH, BHUTAN, CHINA, JAPAN PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0023 (BUBH), 09.04.2018.

Uses: Young shoots are used as vegetable.

79. LORANTHACEAE Juss. in Ann. Mus. Natl. Hist. Nat. 12:292. 1808.

About 14 genera and 70 species in India; 7 genera and 13 species in Assam; 5 genera and 7 species recorded from the study area.

Key to the genera

- 1a. Bracts foliaceous.....5. *Tolypanthus*
- 1b. Bracts not foliaceous.....2
- 2a. Each flower subtended by 3 bracts.....3. *Macrosolen*
- 2b. Each flowers subtended by 1 bract.....3
- 3a. Corolla lobes free.....2. *Helixanthera*
- 3b. Corolla lobes fused into tube.....4
- 4a. Flowers 4-merous.....4. *Scurrula*
- 4b. Flowers 5-merous.....1. *Dendrophthoe*

1. *Dendrophthoe* Mart. in Flora 13(1):109. 1830.

1. *Dendrophthoe falcata* (L.f.) Ettingsh. in Denkschr. Kaisel. Akad. Wiss. Math. Naturwiss. Kl. 32. 1871; Kanjilal *et al.*, Fl. Assam 4:123. 1940. *Loranthus falcatus* L.f., Suppl. Pl. 211. 1781. *L. longiflorus* Hook.f., Fl. Brit. India 5:214. 1886. (Plate 33E).

Parasitic, shrubs, epiphyte, to 2 m tall; leaves opposite or alternate, lanceolate to elliptic, 11–13 × 3–6 cm, margin yellow lined, entire, base cuneate, apex rounded; lateral nerves 2–4 pairs, not so distinct; inflorescence short racemes, to 10 cm long, solitary or 2 together; calyx unlobed, circular; corolla tubular, lower part pink, upper part yellowish-green, 5-lobed; stamens 5; anther yellow.

Flowering and Fruiting: September–December.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, NEPAL, SRI LANKA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0061* (BUBH), 21.11.2018.

2. *Helixanthera* Lour., Fl. Cochinch. 142. 1790.

Key to the species

1a. Flowers 5-merous, yellow.....2. *H. parasitica*

1b. Flowers 4-merous, red.....1. *H. ligustrina*

1. *Helixanthera ligustrina* (Wall.) Danser in Bull. Jard. Bot. Buitenzorg ser. 3, 10:317. 1929; Kanjilal *et al.*, Fl. Assam 4:121. 1940. *Loranthus ligustrinus* Wall. in Roxb. Fl. Ind. 2:219. 1824; Hook.f., Fl. Brit. India 5:207. 1890. (Plate 33F).

Shrub, parasitic, epiphyte; leaves opposite, elliptic, sub-lanceolate, 2.5–4 × 6–8 cm, margin entire, acuminate at apex; lateral nerves 4–6 pairs, petiole 0.5–1 cm long; inflorescence axillary, 3–6-flowered; calyx tubular, brown dotted; corolla 4; style yellow; stigma red.

Flowering and Fruiting: February–June.

Occurrence: Found in open forest or in deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0015* (BUBH), 24.03.2018.

2. *Helixanthera parasitica* Lour., Fl. Cochinch. 1:142. 1790; Kanjilal *et al.*, Fl. Assam 4:120. 1940; Deb, Fl. Tripura 1:400. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:757. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:354. 2008. *Loranthus pentapetalus* Hook.f., Fl. Brit. India 5:206. 1886. (Plate 34A).

Shrub, parasitic, epiphyte; leaves opposite, ovate-lanceolate, 6–10 × 3–5 cm, margin entire, acuminate at apex, base broadly acute or subrounded; lateral nerves obscure, 6–8 pairs; petioles 1–2 cm long; inflorescence axillary, cymes, 7–12 cm long; flowers yellow; corolla 5-lobed, lobes obovate-lanceolate; fruits ellipsoid, glabrous.

Flowering and Fruiting: April–July.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (NE India), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0380* (BUBH), 11.04.2021.

3. *Macrosolen* (Blume) Rchb., Deut. Bot. herb.-Buch 73. 1841.

1. *Macrosolen cochinchinensis* (Lour.) Tiegh. in Bull. Soc. Bot. Fr. 41:122. 1895; Kanjilal *et al.*, Fl. Assam 4:127. 1940; Deb, Fl. Tripura 1:401. 1981. *Loranthus ampullaceus* Hook.f., Fl. Brit. India 5:220. 1890. *Loranthus cochinchinensis* Lour., Fl. Cochinch. 195. 1790. (Plate 34B).

Shrub, parasitic, epiphyte; leaves alternate, ovate-elliptic, 4–5 × 10–12 cm, margin entire, apex acuminate; lateral nerves 5–7 pairs; petiole 1 cm long; inflorescence axillary, short raceme, to 4 cm long; calyx tubular, green; corolla 6-lobed, lobes bent downwards from the middle, reddish-brown colouration at middle part; stamens 6; anther yellow.

Flowering and Fruiting: February–May.

Occurrence: Found in roadside or in deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0017* (BUBH), 27.03.2018.

4. *Scurrula* L., Sp. Pl. 1:110. 1753.

Key to the species

1a. Inflorescence fascicled; leaves subsessile.....1. *S. parasitica*

1b. Inflorescence pedunculate; leaves petiolate.....2. *S. pulverulenta*

1. *Scurrula parasitica* L., Sp. Pl. 1:110. 1753; Kanjilal *et al.*, Fl. Assam 4:124. 1940. *Loranthus scurrula* Hook.f., Fl. Brit. India 5:208. 1886. (Plate 34C, 71).

Parasite, epiphyte; leaves opposit, ovate, oblong-elliptic, 7–10 × 3–5.5 cm, margin entire, base cordate or shallowly cordate, apex tapering subacuminate; lateral nerves 4–7 pairs; inflorescence fascicle, 4–10-flowered; bracts ovate, rusty; calyx limb annular, rusty brown; corolla 4-lobed, rusty brown outside, dark purple inside; stamens 4; anther yellow; filament dark pink; berry pyriform, covered with rusty brown hairs.

Flowering and Fruiting: June–December.

Occurrence: Found growing in semi-evergreen or in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0530* (BUBH), 12.12.2018.

2. *Scurrula pulverulenta* (Wall.) Don, Gen. Hist. 3:421. 1834; Kanjilal *et al.*, Fl. Assam 4:125. 1940. *Loranthus pulverulentus* Wall. in Roxb, Fl. Ind. 2:22. 1824; Hook.f., Fl. Brit. India 5:211. 1886. (Plate 34D).

Parasite, epiphyte; leaves opposite, ovate-lanceolate, 8–12 × 4–5 cm, margin entire, tapering and rounded at acute, base rounded; lateral nerves 4–5 pairs; petioles 1.5–2.5 cm long; inflorescence axillary, short cymes, 3–5 cm long; calyx limb annular, woolly brown; corolla 4-lobed, lobes oblong, base tubular, split to below middle, woolly pubescent beneath; stamens 4; filaments blood-red; anther pale brown, reddish-pink outside.

Flowering and Fruiting: June–December.

Occurrence: Found in the semi-evergreen or in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0247* (BUBH), 08.11.2020.

5. *Tolypanthus* (Blume) Rchb., Deut. Bot. Herb.-Buch 73. 1841.

1. *Tolypanthus involucratus* (Roxb.) Tiegh. in Bill. Soc. Bot. France 42:248. 1895; Kanjilal *et al.*, Fl. Assam 4:126. 1940; Deb, Fl. Tripura 1:402. 1981; Haridasan and Rao, For. Fl. Meghalaya 2:761. 1987. *Loranthus involucratus* Roxb., Fl. Ind. 1:552. 1832; Hook.f., Fl. Brit. India 5:218. 1890. (Plate 34E).

Shrub, parasitic, epiphyte; leaves opposite, ovate, 5–5.5 × 9–11 cm, margin entire, apex obtuse; lateral nerve 5–7 pairs; petiole 1.5 cm long; inflorescence with 4–5 bracts and flowers; bracts to 2.3 cm long, pubescent, ovate, apex acute, margin entire; calyx tubular, densely pubescent, slightly 5-lobed; corolla tubular, 5-lobed, reddish lined; stamens 5; anther reddish with yellowish pollen grains.

Flowering and Fruiting: January–May.

Occurrence: Found in roadsides or in deciduous forest.

DISTRIBUTION: INDIA (NE INDIA), BANGLADESH, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0010* (BUBH), 22.03.2018.

80. TAMARICACEAE Link, Enum. Hort. Berol. Alt. 1:291. 1821.

About 3 genera and 16 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Tamarix* L., Sp. Pl. 1:270. 1753.

1. *Tamarix dioica* Roxb. ex Roth., Nov. Pl. Sp. 185. 1821; Roxb., Fl. Ind. 2:101. 1832; Dyer in Hook.f., Fl. Brit. India 1:249. 1874; Kanjilal *et al.*, Fl. Assam 1:99. 1934; Shetty and Pandey in Sharma *et al.*, Fl. India 3:24. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:178. 1996.

Shrub, to 3 m tall; branchlets drooping; leaves small, scally, 3–6 × 2–3 mm, cm, acuminate at apex, base sheathing, glabrous both sides; inflorescence terminal, spikes, 6–10 cm long; dense flowered; bracts minute; flowers pinkish, petals 5, free; stamens 5.

Flowering and Fruiting: June–September.

Occurrence: Found in banks of the streams in open sandy dry rocky places.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BHUTAN, IRAN, MYANMAR, NEPAL, PAKISTAN.

Specimen examined: Kokrajhar, Saralpara, *S. Basumatary 0424* (BUBH), 19.10.2019.

81. PLUMBAGINACEAE Juss., Gen. Pl. 92. 1789.

About 6 genera and 10 species in India; 1 genus and 3 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Plumbago* L., Sp. Pl. 1:151. 1753.

1. *Plumbago zeylanica* L., Sp. Pl. 1:151.1753; Clarke in Hook.f., Fl. Brit. India 3:480. 1882; Kanjilal *et al.*, Fl. Assam 3:158. 1939; Deb, Fl. Tripura 2: 185. 1983; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 205. 2003; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:99. 2008. (Plate 54D).

Vern. name: Agwrsita Gupur (Bodo).

Undershrub, to 1 m tall; leaves alternate, ovate, 3–8 × 2–4 cm, apex acute, base cuneate, margin entire or sub entire; lateral nerves 5–7 pairs; inflorescence terminal raceme, peduncle with sessile glands; flowers 2–3 cm across; calyx tubular, 5-ribbed, with glandular surface;

corolla 5-lobed, white, glabrous; lobes elliptic-obovate, spreading, apex acuminate; stamens 5; capsule with persistent calyx, oblong.

Flowering and Fruiting: March–September.

Occurrence: Found in roadside.

Distribution: INDIA (Throughout the country), ARGENTINA, AUSTRALIA, BANGLADESH, BRAZIL, CHINA, JAMAICA, LAOS, MEXICO, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0634* (BUBH), 16.03.2019.

Uses: Paste of roots is applied externally to cure skin diseases like ringworm and leprosy. Also used to cure gastric ulcer, dysentery, brochitis, piles, leprosy (Das *et al.* 2010, Teron 2011).

82. POLYGONACEAE Juss., Gen. Pl. 82. 1789.

About 18 genera and 164 species in India; 6 genera and 37 species in Assam; 3 genera and 6 species recorded from the study area.

Key to the genera

- 1a. Tepals 6.....3. *Rumex*
- 1b. Tepals 5.....2
- 2a. Flowers in axillary fascicles.....2. *Polygonum*
- 2b. Flowers in spicate, capitate or paniculate.....1. *Persicaria*

1. *Persicaria* Mill., Gard. Dict. Abr. ed. 4:1054. 1754.

Key to the species

- 1a. Inflorescence spicate or paniculate.....2
- 1b. Inflorescence capitate.....1. *P. chinensis*
- 2a. Stem armed; leaf base sagittate.....4. *P. strigosa*
- 2b. Stem unarmed; leaf base not sagittate.....3
- 3a. Stem pubescent; ocrea leaflike wing at apex.....3. *P. orientalis*
- 3b. Stem glabrous; ocrea without wing at apex.....2. *P. hydropiper*

1. *Persicaria chinensis* (L.) Gross in Bot. Jahrb. Syst. 49(2):269. 1913. *Polygonum chinense* L., Sp. Pl. 1:363. 1753; Hook.f., Fl., Brit. India 5:44. 1886; Kanjilal *et al.*, Fl. Assam 4:16. 1940; Deb, Fl. Tripura 2:154. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:702. 1987.

Vern. name: Mwisungka/Wngkham Gwjang (Bodo).

Perennial herb, to 60 cm tall; stem terete, nodes swollen, glabrous; leaves, alternate, ovate, 4–8 × 3–5 cm, margin entire apex acuminate, base truncate, sparsely pubescent both sides; ochrea tubular; inflorescence corymbose; flower pentamerous, white; tepals 5, lanceolate, acute at apex; stamens 8; anther brownish; styles 3, connate at base, glabrous; fruits 3–5-gonous, bluish when ripe.

Flowering and Fruiting: March–December.

Occurrence: Found in roadsides or in scrub forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0518* (BUBH), 12.04.2020.

Uses: Ripe fruits are edible. Leaves and shoots are eaten cooked as vegetable.

2. *Persicaria hydropiper* (L.) Delarbre, Fl. Auvergne ed. 2:518. 1800. *Polygonum hydropiper* L., Sp. Pl. 1:361. 1753; Hook.f., Fl. Brit. India 5:39. 1886; Kanjilal *et al.*, Fl. Assam 4:21. 1940; Deb, Fl. Tripura 2:154. 1983. (Plate 54E).

Vern. name: Besongali (Bodo).

Annual herb, erect, to 80 cm tall; stem glabrous, swollen below node; leaves sessile, alternate, oblong-lanceolate, 4–8 × 1–2 cm, margin entire, sparsely ciliate, acuminate at apex, base obtuse, sparsely pubescent both side; ochrea membranous 10 mm long, nerved, tubular, truncate-ciliated at apex; inflorescence terminal or axillary raceme; flowers bisexual; tepals 5, pale greenish white or pink; stamens 8, unequal.

Flowering and Fruiting: October–April.

Occurrence: Found in lowland area of open places.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, RUSSIA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0117* (BUBH), 12.10.2020.

Uses: Whole plant is pounded and used in fish poisoning.

3. *Persicaria orientalis* (L.) Spach, Hist. Nat. Vég. 10:537. 1841. *Polygonum orientale* L., Sp. Pl. 1:362. 1753; Hook.f., Fl. Brit. India 5:30. 1886; Kanjilal *et al.*, Fl. Assam 21. 1940; Deb, Fl. Tripura 2:155. 1983.

Annual herbs, to 2 m tall; stems erect, hollowed, densely pubescent; leaves alternate, ovate-elliptic or ovate-lanceolate, 5–10 × 3–6 cm, margin entire, ciliate, acuminate at apex, base obtuse, densely pubescent both sides; petioles 2–4 cm long; ochrea 1–1.5 cm long, cylindrical, pubescent; inflorescence terminal or axillary racemes; tepals 5, white, stamens 7; styles 2; fruits pinkish.

Flowering and Fruiting: January–May.

Occurrence: Found in lowland area in wet places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, JAPAN, MYANMAR, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0519* (BUBH), 12.04.2020.

4. *Persicaria strigosa* (Br.) Gross in Bot. Jahrb. Syst. 49(2):308. 1913. *Polygonum strigosum* Br., Prodr. 420. 1810; Hook.f., Fl. Brit. India 5:47. 1886; Deb, Fl. Tripura 2:157. 1983.

Vern. name: Alari Gwja (Bodo).

Decumbent herb, rooting at node; stem ribbed, strigose; leaves alternate, lanceolate, 6–10 × 1.5–2 cm, margin entire, ciliate; acuminate at apex, base sub-sagittate or hastate, strigose along veins beneath; ochrea 1.5–2 cm, tubular, strigose at base, apex with long hairs; inflorescence terminal, head, short racemes; tepals 5, reddish; stamens 5–7, inserted; styles 3.

Flowering and Fruiting: March–September.

Occurrence: Found in lowland area.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, KENYA, MYANMAR, NEPAL, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0521* (BUBH), 12.04.2020.

2. *Polygonum* L., Sp. Pl. 1:359. 1753.

1. *Polygonum plebeium* Br., Prodr. Fl. Nov. Holland. 420. 1810; Hook.f., Fl. Brit. India 5:27. 1886; Kanjilal *et al.*, Fl. Assam 4:15. 1940; Deb, Fl. Tripura 2:156. 1983.

Annual herb, prostrate, well branched; leaves alternate, sessile, linear-oblong, 5–10 × 2–4 mm, margin entire, acute or obtuse at apex, base broadly acute or obtuse; ocrea membranous, with lacerate apex; inflorescence axillary, fascicles, 3–5-flowered; flowers 5-merous; tepals oblong, pink; stamens 5; styles 3; stigma capitate.

Flowering and Fruiting: January–June.

Occurrence: Found in open area in dried water places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0520* (BUBH), 18.02.2020.

3. *Rumex* L., Sp. Pl. 1:333. 1753.

1. *Rumex maritimus* L., Sp. Pl. 1:335. 1753; Hook.f., Fl. Brit. India 5:59. 1986; Deb, Fl. Tripura 2:158. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:317. 2008.

Annual herbs, erect, to 1 m tall; stems angular; leaves linear-lanceolate or oblong-lanceolate, 4–12 × 3–6 cm; margin entire or undulate, acuminate at apex, base cuneate; lower leaves petiolate, 1–2 cm long, apex acute, base narrowly cuneate, glabrescent both sides; ocrea deciduous; inflorescence terminal, paniced, densely flowered; flowers pentamerous, bisexual; tepals 5, green; stamens 6; styles 3.

Flowering and Fruiting: December–April.

Occurrence: Found in lowland area.

Distribution: INDIA (Almost throughout the country), AUSTRIA, BANGLADESH, BELGIUM, JAPAN, KOREA, MYANMAR, NETHERLAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0522* (BUBH), 27.02.2021.

83. DROSERACEAE Salisb., Parad. Lond. 2:ad t.95. 1808.

About 2 genera and 4 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Drosera* L., Sp. Pl. 1:281. 1753.

1. *Drosera burmanni* Vahl., Symb. Bot. 3:50. 1794; C.B. Clarke in Hook.f., Fl. Brit. India 2:424. 1878; Kanjilal *et al.*, Fl. Assam 2:234.1938. (Plate 24A).

Vern. name: Nihir Biphang (Bodo).

Annual herbs; stem 3–5 mm long; leaves whorled, flat rosette; leaflets obovate, 1–1.5 × 0.5–0.8 cm, margin entire, fimbriate at apex, base attenuate; tentacles reddish-green, apex with gummy glands; stipules 2, 3 fid, white; inflorescence helicoid cyme, 1–4 per plant, 8–15 cm long, 5–20 flowered; peduncle glabrous, reddish green; sepals 5, red; petals 5, white to light pink; stamens 5; anther yellow; ovary sub-globose, 5-lobed; style 5, pale pink, incurved.

Flowering and Fruiting: December–February.

Occurrence: Found in open field.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA MYANMAR, NEPAL, TAIWAN, THAILAND.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0073* (BUBH), 28.01.2019.

84. CARYOPHYLLACEAE Juss., Gen. Pl. 299. 1789.

About 25 genera and 122 species in India; 8 genera and 11 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Leaves ovate-orbicular.....1. *Drymaria*
1b. Leaves ovate.....2. *Stellaria*

1. *Drymaria* Willd. ex Schult. in Roemer and Schultes, Syst. Veg. ed. 15, 5:31. 1819.

1. *Drymaria diandra* Blume, Bijdr. 2:62. 1825; Mujumdar in Sharma *et al.*, Fl. India 2:533. 1993; Pullaiah and Rao, Fl. East. Ghats 1:99. 2002. *D.cordata* sensu Edgew. and Hook.f., Fl. Brit. India 1:244. 1874; Deb, Fl. Tripura 2:148. 1983.

Vern. name: Jabshri (Bodo).

Decumbent or diffuse herb, to 20 cm tall; stem and branches glabrous, often rooting at basal nodes; leaves opposite, suborbicular, 1–1.5 × 1–1.5 cm, margin entire, apiculate at apex, base cordate or truncate, glabrous both sides; basal nerves 3; petioles reduced; inflorescence axillary or terminal, cymes; flowers bisexual; pedicels pubescent; sepals 5; petals 5, 2-partite, white; fruits slightly 3-lobed.

Flowering and Fruiting: December–May.

Occurrence: Found in shady places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, NEPAL, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0422* (BUBH), 12.03.2019.

Uses: Leaves are wrapped with Banana leaf and steamed. Then inhale it to cure sinusitis. Juice of the plant is taken to cure dysentery and stomachache. Also used in cold, cough, sinusitis, throat pain (Das *et al.* 2010, Teron 2011).

2. *Stellaria* L., Sp. Pl. 1:421. 1753.

1. *Stellaria media* (L.) Vill., Hist. Pl. Dauphiné 3:615. 1789; Edgew. and Hook.f., Fl. Brit. India 1:230. 1874. *S. wallichiana* Benth. ex Haines in Bull. Inf. Kew 1920:66. 1920; Majumdar in Sharma *et al.*, Fl. India 2:591. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:176. 1996. *Alsine media* L., Sp. Pl. 1:272. 1753.

Vern. name: Thunthuni (Bodo).

Delicate herb, to 20 cm tall; leaves opposite, ovate, 8–12 × 6–10 cm, margin entire, acuminate at apex, base rounded or subcordate, glabrous both sides; lateral nerves inconspicuous; petioles 3–6 mm long; flowers axillary; sepals 5, green, ovate, glandular hairs outside; petals 5, 2-partite each, oblong, white; stamens 5; anther purplish-pink; styles 3, white; fruits ovoid.

Flowering and Fruiting: December–May.

Occurrence: Found in shady places.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, AUSTRIA, BHUTAN, CHINA, GERMANY, IRAN, IRAQ, RUSSIA, SRI LANKA, TURKEY.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0421* (BUBH), 12.01.2019.

Uses: Leaves are used as vegetables.

85. AMARANTHACEAE Juss., Gen. Pl. 87. 1789.

About 20 genera and 60 species in India; 14 genera and 31 species in Assam; 5 genera and 6 species recorded from the study area.

Key to the genera

- 1a. Climbing undershrub.....5. *Deeringia*
- 1b. Herbs.....2
- 2a. Leaves alternate.....3. *Amaranthus*

- 2b. Leaves opposite.....3
- 3a. Inflorescence axillary, head, subglobose.....2. *Alternanthera*
- 3b. Inflorescence terminal, long spikes.....4
- 4a. Flowers bisexual.....1. *Achyranthes*
- 4b. Flowers polygamous.....4. *Cyathula*

1. *Achyranthes* L., Sp. Pl. 1:204. 1753.

Key to the species

- 1a. Inflorescence 15–40 cm long.....1. *A. aspera*
- 1b. Inflorescence 4–10 cm long.....2. *A. bidentata*

1. *Achyranthes aspera* L., Sp. Pl. 1:204. 1753; Hook.f., Fl. Brit. India 4:730. 1885; Kanjilal *et al.*, Fl. Assam 4:6. 1940; Rao and Rabha in Bull. Bot. Surv. India 8:301. 1966; Deb, Fl. Tripura 2:162. 1983.

Vern. name: Ulta sur (Bodo).

Herb, to 70 cm tall, sub erect or staggling, branched, node swollen; leaves opposite, ovate-elliptic, 4–6 × 2–3 cm, margin entire, acute at apex, base narrowed; lateral nerves 4–5 pairs; inflorescence spike, to 40 cm long, terminal; bracts 3, white, glabrous, apex needle-like; perianths 5, lanceolate, 4 mm long, green; stamens 5; anther brown, bilobed; style pink; ovary light yellow, globose.

Flowering and Fruiting: July–November.

Occurrence: Found in open forest or in forest floor.

Distribution: INDIA (Throughout the country); AFRICA, AUSTRALIA, BANGLADESH, BHUTAN, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0062* (BUBH), 26.11.2018.

Uses: Used to cured the bites of poisonous insects, bees, dogs (Das *et al.* 2010).

2. *Achyranthes bidentata* Blume, Bijdr. Fl. Ned. Ind. 545. 1826; Hook.f., Fl. Brit. India 4:730. 1885; Kanjilal *et al.*, Fl. Assam 4:7. 1940. (Plate 11D).

Herb, to 50 cm tall; stem angular, appressedly pubescent; petiole 3–6 mm long, pubescent; leaves opposite, ovate-elliptic, 5–10 × 3–5 cm, acute or subacuminate at apex, base cuneate;

inflorescence a spike, terminal or axillary, to 10 cm long; flowers in close aggregation; bracts 2–3 mm, ovate with acuminate apex; bracteoles spiny, 2–3 mm; tepals lanceolate, 3–5 mm, acute at apex; stamens 5, 2–3 mm long; filament white; anther yellowish.

Flowering and Fruiting: October–December.

Occurrence: Found in shady places of woody forest floor.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0207* (BUBH), 02.11.2019.

2. *Alternanthera* Forssk., Fl. Aegyot.-Arab. 28. 1775.

1. *Alternanthera sessilis* (L.) Br. ex. DC. in Cat. Pl. Hort. Monsp. 4:77. 1813; Hook.f., Fl. Brit. India 4:731. 1885; Jain and Hajra, Bull. Bot. Surv. India 17:84. 1975; Deb, Fl. Tripura 2:164. 1983. *Gomphrena sessilis* L., Sp. Pl. 1:225. 1753. (Plate 11E).

Herbs, prostrate or sub-erect, to 30 cm tall, rooting at nodes; stem terete, hairs in two opposite line; leaves opposite, elliptic-ovate, 2–2.5 × 0.5–1 cm, margin sub-entire or serrate, obtuse at apex, base cuneate, glabrous, both side; inflorescence head, solitary, axillary, sub-globose, 5 mm across, white; flowers sessile; perianths 5, white, apex acute; fruits compressed, apical part bilobed, white.

Flowering and Fruiting: July–March.

Occurrence: Found in open places or in domesticated area.

Distribution: INDIA (Throughout the country), AUSTRALIA, BANGLADESH, CAMBODIA, CHINA, MYANMAR, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0053* (BUBH), 25.08.2018.

3. *Amaranthus* L., Sp. Pl. 2:989. 1753.

1. *Amaranthus spinosus* L., Sp. Pl. 2:991. 1753; Hook.f., Fl. Brit. India 4:718. 1885; Kanjilal *et al.*, Fl. Assam 4:8. 1940; Jain and Hajra in Bull. Bot. Surv. India 17:84. 1975; Deb, Fl. Tripura 2:165. 1983.

Vern.name: Khuduna Su-gwnang (Bodo).

Herb, prickly, erect, to 70 cm tall; stem terete, glabrous; leaves alternate, ovate, 3.5–5 × 2–3 cm, margin entire, mucronate at apex, base sub-oblique; petiole 2–3 cm long; lateral nerves

5–7 pairs; prickles 2 at each node, side by side of petiole; inflorescence raceme, terminal as well as axillary, to 11 cm long; flowers in clustered, sessile; perianths 5, 2 mm, light green, glabrous; stamens 2; anther bilobed, X-shaped, yellow.

Flowering and Fruiting: Throughout the year.

Occurrence: Found in open forest or domesticated area.

Distribution: INDIA (Introduced), AMERICA, MEXICO.

Specimen examined: Kokrajhar, Khalasi, *S. Basumatary 0055* (BUBH), 27.08.2018.

Uses: Young stems are used as vegetable.

4. *Cyathula* Blume, Bijdr. Fl. Ned. Ind. 548. 1826.

1. *Cyathula prostrata* (L.) Blume, Bijdr. Fl. Ned. Ind. 11:549. 1826; Hook.f., Fl. Brit. India 4:722. 1885; Kanjial *et al.*, Fl. Assam 4:5. 1940; Deb, Fl. Tripura 2:167. 1983. *Achyranthes prostrata* L., Sp. Pl. 2:296. 1753. (Plate 11F).

Decumbent herb, to 40 cm tall; stem terete, pubescent, node swollen and pale reddish; leaves opposite, obovate, 4–6 × 2–3 cm, margin entire, apex acute, base tapering; lateral nerves 4–5 pairs; petioles 2–3 mm long; inflorescence terminal, spikes, to 20 cm long; peduncle and rachis densely woolly pubescent; flowers polygamous, solitary or in groups of 3–5, drooping; bracts and bracteoles lanceolate, 3–5 mm long; perianths 5, elliptic, acute at apex, woolly pubescent; stamens 5; fruits obvoid, flattened.

Flowering and Fruiting: October–February.

Occurrence: Found in floors of the forests.

Distribution: INDIA (Almost throughout the country), AMERICA, AFRICA, BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0242* (BUBH), 08.11.2020.

5. *Deeringia* Br., Prodr. Fl. Nov. Holland. 413. 1810.

1. *Deeringia amaranthoides* (Lam.) Merr., Interpr. Herb. Amboin. 211. 1917; Kanjilal *et al.*, Fl. Assam 4:3. 1940; Deb, Fl. Tripura 2:168. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:304. 2008. *Achyranthes amaranthoides* Lam. in Lamarck *et al.*, Encycl. 1:548. 1785.

Climbing undershrub; leaves alternate, ovate-lanceolate, 4–8 × 3–5 cm, margin entire, acuminate at apex, base cuneate, glabrous both sides; lateral nerves 5–6 pairs; petioles 2–3 cm long; inflorescence axillary and terminal, racemes; flowers bisexual; tepals 5, pale yellow; stamens 5, epipetalous; stigma 3; fruits berries, subglobose, red when ripe.

Flowering and Fruiting: March–October.

Occurrence: Found in roadsides of forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0220* (BUBH), 03.11.2020.

86. PORTULACACEAE Juss., Gen. Pl. 312. 1789.

About 2 genera and 8 species in India; 2 genera and 7 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Portulaca* L., Sp. Pl. 1:445. 1753.

1. *Portulaca oleracea* L., Sp. Pl. 1:445. 1753; Dyer in Hook.f., Fl. Brit. India 1:246. 1874; Deb, Fl. Tripura 2:150. 1983; Rao in Sharma *et al.*, Fl. India 3:4. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:176. 1996. *Vern. name*: Hangsw Garama (Bodo).

Prostrate herb; reddish; leaves opposite in close association, obovate, 1–2 × 0.5–0.8 cm, margin entire, obtuse or rounded at apex, base narrowed; lateral nerves inconspicuous; inflorescence terminal or axillary head; flowers sessile; sepals green, glabrous, acute at apex; petals 5, yellow, retuse at apex; stamens yellow; capsules obovoid.

Flowering and Fruiting: March–August.

Occurrence: Found in open places, often seen to grow as ornamental.

Distribution: INDIA (Introduced), AFGHANISTAN, EGYPT, IRAN.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0423* (BUBH), 18.03.2020.

87. CORNACEAE Bercht. and J.Presl, Prir. Rostlin 2:91, 92. 1825.

About 7 genera and 15 species in India; 2 genera and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Alangium* Lam., 1:174. 1783.

1. *Alangium chinense* (Lour.) Harms in Ber. Deutsch. Bot. Ges. 15:24. 1897; Deb, Fl. Tripura 1:195. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:446. 1985. *A. begoniaefolia* Kanjilal *et al.*, Fl. Assam 2:368. 1939. *Marlea begoniaefolia* Clarke in Hook.f., Fl. Brit. India 2:743. 1879; Brandis, Ind. Trees 355. 1906. *Stylidium chinense* Lour., Fl. Cochinch. 221. 1790. (Plate 22C).

Vern. name: Bon Daoli (Bodo).

Tree, to 8 m tall; leaves alternate, lobed, or unlobed, ovate-orbicular, 8–15 × 8–12 cm, margin entire, acuminate at apex, base subtruncate or cordate, pubescent beneath; lateral nerves 4–6 pairs; petioles 3–6 cm long; inflorescence axillary, cymes; flowers white; calyx toothed, pubescent; corolla 5–8, linear, rolled back; stamens equal to numbers of petals, yellow; fruits subglobose, ovoid, purple when ripe.

Flowering and Fruiting: March–August.

Occurrence: Found in roadside of forests or in scrub forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, NEPAL, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0360* (BUBH), 21.04.2021.

88. BALSAMINACEAE Rich. in Bory, Dict. Class. Hist. Nat. 2:173. 1822.

About 2 genera and 200 species in India; 2 genera and 13 species in Assam; 1 genus and 2 species recorded from the study area.

1. *Impatiens* L., Sp. Pl. 2:937. 1753.

Key to the species

1a. Leaves always opposite; petioles 8–15 mm long.....1. *I. trilobata*

1b. Leaves whorled or alternate; petioles more than 2 cm long.....2. *I. tripetala*

1. *Impatiens trilobata* Colebr. in Hook. Exot. Fl. 2:t.141. 1825; Hook.f., Fl. Brit. India 1:451. 1875. (Plate 18C).

Annual herbs, to 60 cm tall; leaves opposite, ovate-lanceolate or elliptic, 4–9 × 2–4 cm, margin serrate, acuminate at apex, base attenuate, pubescent; lateral nerves 4–7 pairs; petioles 8–15 mm long; inflorescence axillary; flowers zygomorphic; lateral sepals ovate-lanceolate

4–5 × 2–3 mm; lip saccate; spur abruptly constricted; standard petals obcordate, emarginated at apex, violet; stamens 5; capsule narrow fusiform, swollen at middle, glabrous.

Flowering and Fruiting: September–February.

Occurrence: Found along streams in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0190* (BUBH), 29.10.2020.

2. *Impatiens tripetala* Roxb. and DC., Prodr. 1:687. 1824; Hook.f., Fl. Brit. India 1:470.1875; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:256. 1996; Vivek. *et al.* in Hajra *et al.*, Fl. India 4:219. 1997. (Plate 18B).

Herb, erect, branched, to 80 cm tall; stem succulent glabrous; leaves whorled or alternate, elliptic-lanceolate, 6–10 × 3–5 cm, margin crenate, acuminate at apex, base cuneate, pubescent both side; lateral nerves 9–11 pairs; petioles 2–4 cm long, sometimes with distinct green hairs-like outgrowth; inflorescence axillary, cymes, or fascicled; flowers purplish-pink; spur with incurved tail; fruits linear-oblong, green, glabrous

Flowering and Fruiting: Almost throughout the year.

Occurrence: Found in roadside of forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0167* (BUBH), 10.03.2021.

89. LECYTHIDACEAE Rich. in Bory, Dict. Class. Hist. Nat. 9:269. 1825.

About 2 genera and 2 species in India; 2 genera and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Careya* Roxb., Fl. Ind. 2:636. 1832.

1. *Careya arborea* Roxb., Pl. Coromandel 3:14. t. 218. 1811; Clarke in Hook.f., Fl. Brit. India 2:511. 1879; Brandis, Ind. Trees 332. 1906; Kanjilal *et al.*, Fl. Assam 2:288. 1938; Deb, Fl. Tripura 1:375. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:403. 1985.

Vern. name: Khum (Bodo).

Tree, to 15 m tall; leaves alternate or spirally arranged, obovate, 14–20 × 8–12 cm, margin subentire or crenulate, obtuse at apex, base cuneate or narrowed, glaucous beneath; lateral nerves 10–13 pairs; petioles 8–15 mm long; inflorescence terminal, cymes; bracts 3; flowers

4-merous; stamens many; filaments pinkish-white; ovary inferior; fruits ovoid-oblong, 6–8 cm across, glabrous, seeds many.

Flowering and Fruiting: April–September.

Occurrence: Found semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, CAMBODIA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0468* (BUBH), 22.04.2019.

Uses: Root bark is used in fish poisoning. Root extract is consumed to cure dysentery. Paste of bark is applied in cuts and sores (Chaudhuri *et al.* 1975, Teron 2011).

90. PENTAPHYLACACEAE Engl. in Engler and Prantl, Nat. Pflanzenfam. Nachtr. 214. 1897.

About 5 genera and 13 species in India; 4 genera and 12 species in Assam; 3 genera and 3 species recorded from the study area.

Key to the genera

- 1a. Plant dioecious.....2. *Eurya*
- 1b. Plant androdioecious or monoecious.....2
- 2a. Androdioecious; style apically 2-lobed.....3. *Ternstroemia*
- 2b. Monoecious; style 3–5-partite.....1. *Adinandra*

1. *Adinandra* Jack, Malayan Misc. 2(7):9. 1822.

1. *Adinandra griffithii* Dyer in Hook.f., Fl. Brit. India 1:282. 1874; Kanjilal *et al.*, Fl. Assam 1(1):118. 1934. (Plate 51D).

Tree, to 8 m tall; leaves alternate, elliptic or elliptic-lanceolate, 10–15 × 4–6 cm, margin entire, acute to shortly acuminate, base ciliate, leathery; lateral nerves inconspicuous; petioles 1–1.5 cm long; inflorescence axillary, 1-flowered; flowers fragrant; sepals 5, ovate-orbicular, unequal, imbricate, persistent; petals 5, imbricate, white; stamens many; styles 5-fid; fruit ovate-ellipsoid, glabrous.

Flowering and Fruiting: March–July.

Occurrence: Found in moist places of semi-evergreen forests.

Distribution: INDIA (Assam, Meghalaya).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0412* (BUBH), 12.05.2020.

2. *Eurya* Thunb., Nov. Gen. Pl. 67.1783.

1. *Eurya acuminata* DC., Prodr. 1:525. 1824; Dyer in Hook.f., Fl. Brit. India 1:285. 1874; Kanjilal *et al.*, Fl. Assam 1(1):125. 1934; Balakr., Fl. Jowai 1:93. 1981; Deb, Fl. Tripura 1:356. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:117. 1985; Chauhan and Paul in Sharma *et al.*, Fl. India 3:178. 1993. (Plate 51E).

Small tree or large shrub; leaves alternate, obovate-elliptic-lanceolate, 6–13 × 2–4 cm, margin densely serrate, acuminate at apex, base cuneate, puberulent beneath; lateral nerves 12–16 pairs; petioles 4–8 mm long; inflorescence axillary, fascicles; male flowers: sepals and petals 5; stamens numerous; female flowers: sepals and petals 5; ovary globose, 3-loculed; styles 3–5-parted; fruits 3–4 mm across, subglobose or slightly ellipsoid.

Flowering and Fruiting: August–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0188* (BUBH), 25.08.2020.

3. *Ternstroemia* Mutis ex L.f., Suppl. Pl. 39. 1782.

1. *Ternstroemia gymnanthera* (Wight and Arn.) Bedd., Fl. Sylv. S. India t.91. 1871. *T. japonica* Dyer in Hook.f., Fl. Brit. India 1:280. 1874; Kanjilal *et al.*, Fl. Assam 1(1):116. 1934. *Cleyera gymnanthera* Wight and Arn., Prodr. Fl. Ind. Orient. 1:87. 1834. (Plate 51F).

Tree, to 10 m tall; leaves alternate, oblong-obovate or elliptic, 5–10 × 2.5–4.5 cm, margin entire or serrulate, acute-acuminate at apex, base cuneate; lateral nerves 5–7 pairs, inconspicuous; petiole 7–10 mm long; flowers axillary, solitary; pedicel 1–1.5 cm long, bent; male flowers similar to bisexual flowers; sepals ovate, margin glandular, glabrous; petals pale yellow, obovate; stamens many, 4–5 mm long; styles apically 2-lobed; fruit oboid-oblong to subglobose, 1.2–1.5 cm across, purplish red when old.

Flowering and Fruiting: April–July.

Occurrence: Found in semi-evergreen forests along streams.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0418* (BUBH), 05.05.2021.

91. SAPOTACEAE Juss., Gen. Pl. 151. 1789.

About 14 genera and 49 species in India; 8 genera and 10 species in Assam; 1 genera and 1 species recorded from the study area.

1. *Mimusops* L., Sp. Pl. 1:349. 1753.

1. *Mimusops elengi* L., Sp. Pl. 1:349. 1753; Clarke in Hook.f., Fl. Brit. India 3:548. 1882; Brandis, Ind. Trees 425. 1906; Kanjilal *et al.*, Fl. Assam 3:197. 1939; Deb, Fl. Tripura 1:430. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:565. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:130. 2008.

Tree, to 20 m tall; leaves alternate or spirally arranged, elliptic, 7–12 × 3–4.5 cm, margin entire, acuminate at apex, base cuneate; lateral nerves 10–14 pairs; petioles 1.5–2.3 cm long; inflorescence fascicled, 2–3-flowered or solitary; flowers fragrant; calyx and corolla with many segments, brownish; stamens 8; fruits ovoid, deep yellow when ripe.

Flowering and Fruiting: May–November.

Occurrence: Found as planted in roadsides.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, BORNEO, NEW GUINEA, PHILIPPINES, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0719* (BUBH), 21.08.2022.

Uses: Ripe fruits are edible.

92. PRIMULACEAE Batsch ex Borkh., Syn. Anal. Gen. Pl. 2:395. 1794.

About 22 genera and 392 species in India; 10 genera and 41 species in Assam; 3 genera and 7 species recorded from the study area.

Key to the genera

- 1a. Bracteoles absent.....2
- 1b. Bracteoles present.....2. *Maesa*
- 2a. Inflorescence corymbose pedunculate cymes.....1. *Ardisia*
- 2b. Inflorescence fascicles or umbellate cymes.....3. *Myrsine*

1. *Ardisia* Sw., Prodr. Veg. Ind. Occ. 48. 1788.

Key to the species

- 1a. Leaves whorled.....2. *A. paniculata*
1b. Leaves not in whorl.....2
2a. Peduncle with minute rusty lepidotes.....1. *A. neriifolia*
2b. Peduncle lack of rusty lepidotes.....3
3a. Leaves nerves distinct, margin entire.....3. *A. solanacea*
3b. Leaves nerves inconspicuous; margin undulate.....4. *A. thyriflora*

1. *Ardisia neriifolia* Wall. and DC. in Trans. Linn. Soc. London 17(1):118. 1834; Clarke in Hook.f., Fl. Brit. India 3:522. 1882. *A. floribunda* Kanjilal *et al.*, Fl. Assam 3:179. 1939. (Plate 54F).

Shrub, or treelets, to 5 m tall; leaves alternate or semi whorled, obovate lanceolate, 10–18 × 2–5 cm, margin entire, acuminate at apex, base cuneate; lateral nerves 18–22 pairs; petioles 8–12 mm long; inflorescence terminal, paniced, corymbose cymes, 10–18 cm long; peduncles with rusty lepidots; bracts linear-obovate, 5–10 mm long; calyx and corolla with rusty dots; calyx lobes ovate; corolla lobes ovate-oblong; fruits depressed globose, 5-angular.

Flowering and Fruiting: March–August.

Occurrence: Found along stream sides in dense forest.

Distribution: INDIA (Himachal Pradesh, NE India), BANGLADESH, BHUTAN, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0662* (BUBH), 02.04.2020.

2. *Ardisia paniculata* Roxb., Fl. Ind. 1:580. 1832; Clarke in Hook.f., Fl. Brit. India 3:519. 1882; Kanjilal *et al.*, Fl. Assam 3:181. 1939; Balakr., Fl. Jowai 1:292. 1981; Deb, Fl. Tripura 1:422. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:553. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:117.2008. (Plate 55A).

Shrub, to 3 m tall; leaves whorled, elliptic-obovate, 13–15 × 35–45 cm, margin sub-entire, apex acute-retuse, base cuneate, margin sub-entire, glabrous both sides; lateral nerves 11–13 pairs; petiole 8–10 cm long; inflorescence terminal, 30–45 cm long; calyx 5, pale pink;

corolla 5, margin entire, apex acute, pink; stamens 5; anther yellow; filament white; style pale pink; ovary orbicular, brown.

Flowering and Fruiting: August–December.

Occurrence: Found in moderately dense forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0030* (BUBH), 28.04.2018.

3. *Ardisia solanacea* Roxb., Hort. Beng. 16. 1814 and Fl. Ind. 1:580. 1824; Deb, Fl. Tripura 1:423. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:554. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:117. 2008. *A. humilis* auct. non.Vahl, Clarke in Hook.f., Fl. Brit. India 3:529. 1882; Kanjilal *et al.*, Fl. Assam 3:175. 1939. (Plate 55B).

Shrub, to 3 m tall; leaves alternate, crowded at apical part, obovate-elliptic, 7–12 × 4–6 cm, margin entire, subapiculate at apex, base acute-obtuse; lateral nerves 8–10 pairs; petioles 5–10 mm long; inflorescence axillary, corymbose raceme, 4–6 cm long; calyx lobes rounded, pale green; corolla lobes ovate-oblong, acuminate at apex, pink; fruits globose, green, red when matured and black when fully ripe.

Flowering and Fruiting: March–August.

Occurrence: Found in forest margins in shady places.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0625* (BUBH), 13.04.2021.

4. *Ardisia thyrsoflora* Don, Prodr. Fl. Nepal. 148. 1825. *A. depressa* Clarke in Hook.f., Fl. Brit. India 3:522. 1882; Kanjilal *et al.*, Fl. Assam 3:179. 1939. (Plate 55C).

Shrub, to 4 m tall, horizontal branched; leaves alternate, elliptic-lanceolate, 8–12 × 2–4 cm, margin entire, acuminate at apex, base cuneate; lateral nerves inconspicuous; petioles 1–1.5 cm long; inflorescence axillary, paniced, corymbose cymes, 4–8 cm long; calyx lobes ovate, acute at apex; corolla lobes ovate, shortly acuminate at apex; stamens 5, anther yellowish brown; style linear, white, stigma minutely bilobed; fruits depressed globose, unlobed.

Flowering and Fruiting: March–August.

Occurrence: Found in shady places in dense forest as undergrowth.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0663* (BUBH), 20.03.2021.

2. *Maesa* Forssk., Fl. Aegypt.-Arab 66. 1775.

Key to the species

1a. Inflorescence longer than leaves.....2. *M. paniculata*

1b. Inflorescence shorter than leaves.....1. *M. indica*

1. *Maesa indica* (Roxb.) Sweet, Hort. Brit. 2:268. 1826; Clarke in Hook.f, Fl. Brit. India 3:509. 1882; Kanjilal *et al.*, Fl. Assam 3:163. 1939; Balakr., Fl. Jowai 1:287. 1981; Deb, Fl. Tripura 1:424. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:560. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:123.2008. *Baeobotrys indicus* Roxb., Fl. Ind. 2:557. 1824. (Plate 55D).

Shrub, to 5 m tall; leaves alternate, ovate elliptic, 6–9 × 12–16 cm, margin serrate, acuminate or caudate at apex, base cuneate; lateral nerves 6–8 pairs; petiole 1–1.8 cm long; inflorescence raceme, 5–9 cm long, axillary; calyx 5-lobed, greenish-brown; corolla 5-lobed, white; stamens 5; stigma 3; capsule ellipsoid-orbicular, with persistent style and calyx.

Flowering and Fruiting: September–February.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0019* (BUBH), 28.03.2018.

2. *Maesa paniculata* DC. in Trans. Linn. Soc. London 17(1):133. 1834; Clarke in Hook.f, Fl. Brit. India 3:509. 1882; Kanjilal *et al.*, Fl. Assam 3:164. 1939. (Plate 55E).

Shrub, to 3 m tall; leaves alternate, variable, elliptic-lanceolate or oblong, 8–15 × 4–6 cm, margin serrate, acute to acuminate at apex, base obtuse; lateral nerves 7–10 pairs; petiole 1–1.5 cm long; inflorescence axillary, lax panicle, longer than leaves; bract leafy, linear; calyx segment elliptic; corolla white, margin crenulated; stamens included; stigma swollen; fruits globose.

Flowering and Fruiting: September–February.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Assam, Meghalaya), BANGLADESH, LAOS, MYANMAR, THAILAND.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0688* (BUBH), 21.04.2022.

3. *Myrsine* L., Sp. Pl. 1:196. 1753.

1. *Myrsine capitellata* Wall. in Roxb. 2:295. 1824; Clarke in Hook.f., Fl. Brit. India 3:512. 1882; Kanjilal *et al.*, Fl. Assam 3:167. 1939. (Plate 55F).

Tree, to 4 m tall; leaves alternate, elliptic-lanceolate, 10–15 × 4–6 cm, margin entire, recurved, subacute at apex, base cuneate, appressed brownish glandular during juvenile; lateral nerves 9–13 pairs; petioles 1–1.5 cm long; inflorescence axillary, fascicled; flowers unisexual or bisexual; male flowers globose in buds; corolla ciliated; corolla lobes recurved; anthers sessile or subsessile, red, purple when old; stigma laciniate; fruits purple when ripe.

Flowering and Fruiting: November–February.

Occurrence: Found in moist places in semi-evergreen forests.

Distribution: INDIA (NE India), BHUTAN, CAMBODIA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0674* (BUBH), 24.11.2021.

93. THEACEAE Mirb. in Bot. Reg. 2:ad t.112. 1816.

About 4 genera and 12 species in India; 3 genera and 10 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Schima* Reinw. ex Blume, Catalogus 80. 1823.

1. *Schima wallichii* (DC) Korth., Verh. Nat. Gesch. Ned. Bezitt., Bot. 5:143. 1842; Dyer in Hook.f., Fl. Brit. India 1:289. 1874; Kanjilal *et al.*, Fl. Assam 1(1):119. 1934; Deb, Fl. Tripura 1:357. 1981; Chauhan and Paul in Sharma *et al.*, Fl. India 3:168. 1993; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:194. 1996. *Gordonia wallichii* DC., Prodr. 1:528. 1824. (Plate 62D).

Vern. name: Gugra/Kamsuriphang (Bodo).

Tree, to 20 m tall; leaves alternate, elliptic, 4–5.5 × 14–16 cm, margin entire, apex short acuminate, base cuneate; lateral nerves 7–9 pairs, petiole 7–10 cm long; inflorescence short raceme; flower axillary, solitary, 3.5–4 cm diam.; calyx 5, margin sparsely pubescent; corolla 5, white, apex obtuse or rounded; stamens numerous, 1 cm long; anther dark brown; filament yellow.

Flowering and Fruiting: January–May.

Occurrence: Found in deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0031* (BUBH), 28.04.2018.

94. SYMPLOCACEAE Desf. in Mém. Mus. Hist. Nat. 6:9. 1820.

About 1 genus and 15 species in India; 1 genus and 11 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Symplocos* Jack., Enum. Syst. Pl. 5. 1760.

1. *Symplocos acuminata* Miq., Fl. Ned. Ind. 1(2): 467. 1859. *S. spicata* Roxb., Hort. Beng. 40. 1814; Clarke in Hook.f., Fl. Brit. India 3:573. 1882; Kanjilal *et al.*, Fl. Assam 3:217. 1939. (Plate 62C).

Vern. name: Sukheng Biphang/Sonkhimala/Boira (Bodo).

Tree, 6 m tall; leaves alternate, elliptic-lanceolate, 10–15 × 3–6 cm, acuminate at apex, base cuneate or acute, margin crenate-serrulate; lateral nerves 6–8 pairs; petioles 0.8–1.2 cm; inflorescence axillary, paniced spike; flowers creamy white, fragrant; calyx 5-lobed; corolla 5, apex obtuse; stamens numerous; anther yellow; fruits globose, apical part ribbed.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, SRI LANKA, TAIWAN, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0645* (BUBH), 29.09.2020.

95. STYRACACEAE DC. and Spreng., Elem. Philos. Pl. 140. 1821.

About 5 genera and 49 species in India; 2 genera and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Styrax* L., Sp. Pl. 1:444. 1753.

1. *Styrax serrulatus* Roxb., Fl. Ind. 2:415. 1832; Clarke in Hook.f., Fl. Brit. India 3:588. 1882; Kanjilal *et al.*, Fl. Assam 3:219. 1939; Rao and Rabha, Bull. Bot. Surv. India 8:300. 1966. (Plate 62B).

Vern. name: Dungra Biphang (Bodo).

Tree, to 8 m tall; leaves alternate, elliptic, 4.5–5.5 × 8–10 cm, margin serrate, apex caudate; lateral nerves 4–6 pairs; inflorescence axillary or terminal, to 8 cm long; flower actinomorphic; calyx tubular, 5-lobed, pale green; corolla 5, white; stamens 10; anther yellow, filament white, pubescent; style 1–1.3 cm long, base sparsely pubescent.

Flowering and Fruiting: March–September.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0011* (BUBH), 22.03.2018.

96. **ACTINIDIACEAE** Engl. Gilg in Engler, Syllabus ed. 9 and 10:279. 1924.

About 2 genera and 10 species in India; 1 genus and 2 species in Assam; 1 genus and 2 species recorded from the study area.

1. *Saurauia* Willd. in Neue Schriften Ges. Naturf. Freunde Berlin 3:407. 1801.

Key to the species

1a. Leaves obovate, apiculate at apex; calyx brownish scaly outside.....1. *S. armata*

1b. Leaves elliptic-oblong, acuminate at apex; calyx glabrous, green.....2. *S. roxburghii*

1. *Saurauia armata* Kurz in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42:59. 1873; Paul in Sharma *et al.*, Fl. India 3:198. 1993. *Saurauia cerea* Griff. ex Dyer in Hook.f., Fl. Brit. India 1:288. 1874; Kanjilal *et al.*, Fl. Assam 1(1):130. 1934. (Plate 11B).

Small tree, to 5 m tall; young branchlets brown sharp scaly; leaves spirally arranged, obovate, 15–25 × 8–15 cm, margin serrulate, apiculate or short acuminate at apex, base cuneate, glabrescent both sides, appressed scaly along midrib; lateral nerves 16–22 pairs; petioles 1.5–

2.5 cm long; flowers axillary, solitary, actinomorphic; sepals orbicular, pale yellowish-brown, scaly outsides; petals oblong-orbicular, white and blood-red at base; styles 5.

Flowering and Fruiting: April–August.

Occurrence: Found in evergreen forests in the bank of streams.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0369* (BUBH), 21.04.2021.

2. *Saurauia roxburghii* Wall., Pl. As. Rar. 2:40. 1829; Dyer in Hook.f., Fl. Brit. India 1:287. 1874; Kanjilal *et al.*, Fl. Assam 1:128. 1934; Balakr., Fl. Jowai 1:95. 1981; Deb, Fl. Tripura 1:357. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:126. 1985; Paul in Sharma *et al.*, Fl. India 3:203. 1993. (Plate 11C).

Vern. name: Lai Hagar (Bodo).

Small tree, to 8 m tall; bark grey, rough; leaves alternate, elliptic-oblong, 10–30 × 3–5 cm, apex acuminate, base cuneate, margin serrate, glabrous above, pubescent beneath; lateral nerves 10–14 pairs; petiole 3–5 cm long, rusty tomentose; inflorescence axillary, paniced cymes; sepals 5; petals 5, pinkish-white; stamens numerous; stigma 5-furcate; ovary 5-celled; berries 5 mm across, white, pulpy.

Flowering and Fruiting: July–September.

Occurrence: Found along the streams in the forest.

Distribution: INDIA (NE India), BANGLADESH, CAMBODIA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0623* (BUBH), 11.07.2019.

97. ERICACEAE Durande, Notions Élé. Bot. 270. 1782.

About 15 genera and 199 species in India; 3 genera and 6 species in Assam; 1 genus, 1 species and 1 variety recorded from the study area.

Agapetes D.Don ex G.Don, Gen. Hist. 3:862. 1834.

Key to the species

- 1a. Calyx and corolla glabrous.....2. *A. macrantha* var. *grandiflora*
1b. Calyx and corolla glandular pubescent.....1. *A. bhutanica*

1. *Agapetes bhutanica* Balakr. and Chowdhury in Reinwardtia 7(3):287. 1966; Sengupta in Rec. Bot. Surv. India 20: 136. 1973; Banik and Sanjappa in Sanjappa and Sastry, Fasc. Fl. India Ericaceae 25:262. 2014. (Plate 24F).

Epiphytic shrub; lignotubers basal, amorphous, lenticellate at maturity; leaves alternate or pseudo-whorled, linear-lanceolate to oblanceolate, 8–17 × 1.5–3 cm, margin subentire, acuminate at apex, base cuneate; lateral nerves 15–23 pairs; petioles 1–3 mm; inflorescence corymbose, 4–12-flowered; calyx 5-lobed, pinkish to pale green, densely glandular hairs outside; corolla 2.5–3.0 cm long, pinkish-red wavy transverse lines, glandular hairs on nerves outside, revolute at apex; stamens 10; filaments incurved, white; spurred at bellow middle of tubule.

Flowering and Fruiting: March–August.

Occurrence: Found in moist deciduous forest. Mostly found growing on the trunk of *Syzygium formosum*.

Distribution: INDIA (Assam, West Bengal), BHUTAN.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0371 (BUBH), 28.03.2019.

Uses: Pounded lignotuber is applied externally to remove cut marks.

2. *Agapetes macrantha* var. *grandiflora* Banik and Sanjappa in Nord. Journal Bot. 26:6. 2008.A. *grandiflora* Hook.f. in Benth. and Hook.f., Gen. Pl. 2:572. 1876; Clarke in Hook.f., Fl. Brit. Ind. 3:446. 1881; Das in Kanjilal *et al.*, Fl. Assam 3:137.1939. *Ceratostema variegata* Roxb., Fl. Indica 2:413. 1832. (Plate 25A).

Vern. name: Samoka Biyad (Bodo).

Epiphytic shrubs; lignotuber basal, brown; leaves alternate or pseudowhorls, 2–3 cm apart, 3–4 leaved; lamina 19–25 × 3–4 cm, margin serrulate or subentire, acuminate at apex, base cuneate; petiole 3–5 mm long; inflorescence axillary, 2–10-flowered; flowers drooping, to 10 cm long, pinkish-white, with pink transverse stripes; calyx 5-lobed, pinkish-green; lobes ovate, apex acute; corolla 5-lobed, revolute at apex, base tubular, pinkish; stamen 10; filament white, incurved; glabrous inside, tubules brown-yellow, spurred.

Flowering and Fruiting: October–April.

Occurrence: Found as epiphyte in wet deciduous forest along streams of forest floor.

Distribution: INDIA (Arunachal Pradesh, Assam, Nagaland), BHUTAN, BANGLADESH, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0067* (BUBH), 30.11.2018.

Uses: flowers is edible. Sour in taste. Pounded lignotuber is applied externally to remove cut marks.

98. ICACINACEAE Miers in Ann. Mag. Nat. Hist. ser. 2, 8:174. 1851.

About 12 genera and 22 species in India; 5 genera and 6 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Natsiatum* Buch.-Ham. ex Arn. in Edinb. Philos. J. 16:314. 1834.

1. *Natsiatum herpeticum* Buch.-Ham. ex Arn. in Edinb. Philos. J. 16:314. 1834; Hook.f., Fl. Brit. India 1:595. 1875; Kanjilal *et al.*, Fl. Assam 1(2):253. 1936; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:291. 1996. (Plate 29C).

Climber; leaves alternate, cordate-ovate, 7–9 × 6–7.5 cm, margin serrate, cuspidate at apex, base cordate, densely pubescent beneath; petioles 4–6 cm long; inflorescence axillary, raceme, 10–15 cm long, pendent, branched at base; calyx 5-lobed, apex acute, pubescent; corolla 5-lobed, yellowish-green, densely pubescent; stamens yellow.

Flowering and Fruiting: February–May.

Occurrence: Found in deciduous forest or in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0076* (BUBH), 07.02.2019.

Uses: Young shoots are used as vegetable.

99. RUBIACEAE Juss., Gen. Pl. 196. 1789.

About 113 genera and 616 species in India; 57 genera and 141 species in Assam; 19 genera and 23 species recorded from the study area.

Key to the genera

- 1a. Herbs, climbers or liana.....2
- 1b. Shrubs or trees.....7
- 2a. Plants with a pair of hooked spines at node.....19. *Uncaria*

2b. Plants without spines.....	3
3a. Inflorescence paniculate cyme, branched.....	14. <i>Paederia</i>
3b. Inflorescence simple cyme, not branched.....	4
4a. Prostrate herb.....	5. <i>Geophila</i>
4b. Erect or decumbent herb.....	5
5a. Inflorescence terminal, pedunculate cyme.....	16. <i>Polyura</i>
5b. Inflorescence axillary, capitate cyme, sessile or subsessile.....	6
6a. Stem 4-angular; leaves with 2–3 inconspicuous lateral nerves.....	18. <i>Spermacoce</i>
6b. Stem terete; leaves 4–6 distinct lateral nerves.....	4. <i>Exallage</i>
7a. Plants prickly.....	8
7b. Plants not prickly.....	9
8a. Corolla white, yellow when old.....	1. <i>Catunaregum</i>
8b. Corolla green.....	9. <i>Meyna</i>
9a. Large tree.....	13. <i>Neolamarkia</i>
9b. Shrubs.....	10
10a. Flowers fused by their ovaries; fruits multiple.....	10. <i>Morinda</i>
10a. Flowers free; fruits free.....	11
11a. Bracts leaf-like, white.....	11. <i>Mussaenda</i>
11b. Bracts not leaf-like.....	12
12a. Corolla tube curved.....	2. <i>Chassalia</i>
12b. Corolla tube straight.....	13
13a. Inflorescence terminal or pseudoaxillary.....	14
13b. Inflorescence axillary.....	17
14a. Stigma unlobed.....	7. <i>Ixora</i>
14b. Stigma 2 or 3 lobed.....	15
15a. Inflorescence capitate; corolla yellow.....	12. <i>Mycetia</i>
15b. Inflorescence corymbiform; corolla white or pale green.....	16
16a. Corolla base tubular, distinct, slender.....	15. <i>Pavetta</i>
16b. Corolla base funnelform, short, not slender.....	17. <i>Psychotria</i>
17a. Branchlets densely brown pubescent; leaves tomentose beneath.....	8. <i>Lasianthus</i>
17b. Branchlets and leaves glabrous.....	18

- 18a. Corolla tube slender, lobes well spread.....3. *Coffea*
 18b. Corolla tube very short or reduced, lobes short and not well spread.....6. *Hyptianthera*

1. *Catunaregam* Wolf in L., Gen. Pl. 75. 1776.

1. *Catunaregam spinosa* (Thunb.) Tirveng. in Bull. Mus. Hist. Nat. Ser. 3, Bot. 35:13. 1978. *Gardenia spinosa* Thunb., Diss. Gard. 16. 1780. *Randia dumetorum* Kanjilal *et al.*, Fl. Assam 3:59. 1939. *R. spinosa* Hook.f., Fl. Brit. India 3:110.1880; Jain and Hajra, Bull. Bot. Surv. India 17:82. 1975. (Plate 57C).

Vern. name: Biskhanthokra (Bodo).

Shrub, prickly, to 4 m tall; leaves opposite, obovate-elliptic, 4.5–6 × 10–13 cm, margin entire, apex obtuse, base cuneate; lateral nerves 5–7 pairs, petiole 1.5–2 cm long; inflorescence a cyme; flower 3 cm diam.; pedicel 1 cm long; calyx 5–6-lobed; corolla 5–6-lobed, white on young, yellow when old; stamens 5–6, sessile; style white; ovary brown.

Flowering and Fruiting: March–August.

Occurrence: Found in deciduous forest and roadside of forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, LAOS, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0034* (BUBH), 04.05.2018.

Uses: Fruits are used in fish poisoning.

2. *Chassalia* Comm. ex Poir. in Lamarck, Encycl., Suppl. 2:450. 1812.

1. *Chassalia curviflora* (Wall.) Thw. Enum. Pl. Zeyl. 150. 1859; Hook.f., Fl. Brit. Ind. 3:176. 1880; Kanjilal *et al.*, Fl. Assam 3:86. 1939. *Psychotria curviflora* Wall. in Roxb., Fl. Ind. 2:167. 1824.

Shrub, 1–2 m tall; leaves opposite, elliptic-oblongate, 20–25 × 7–8 cm, margin entire, apex acuminate, base cuneate; lateral nerves 7–9 pairs; petiole 2–3 cm long; stipule bifid; inflorescence axillary or terminal cyme; peduncle 3 cm long; flowers sessile; calyx with reduced lobed; corolla 5-lobed, tubular, white; stamens 5, white; stigma bifid; capsule sub-orbicular, tip blackish, slightly bilobed.

Flowering and Fruiting: December–March.

Occurrence: Found in sloppy areas of semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0046* (BUBH), 14.05.2018.

3. *Coffea* L., Sp. Pl. 1:172. 1753.

1. *Coffea benghalensis* Heyne ex Roem. and Schult., Syst. Veg. 5:200. 1819; Deb, Fl. Tripura 2:46. 1983; Haridasan and Rao, Forest Fl. Meghalaya 2:470. 1987; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl. Arunachal Pradesh 1:570. 1996; *C. bengalensis* Roxb., Hort. Beng. 15. 1814; Hook.f., Fl. Brit. India 3:153. 1880; Kanjilal *et al.*, Fl. Assam 3: 75.1939.

Vern. name: Khum Daodwi (Bodo).

Undershrub, to 1 m tall; leaves opposite, elliptic or ovate-elliptic, 4–10 × 2–4 cm, apex acuminate, base acute or obtuse, margin entire; lateral nerves 4–7 pairs; stipule interpetiolar, 5 mm long, subulate; petiole 3–5 mm long; inflorescence axillary cyme; flowers showy, fragrant; corolla rotate, tubular, 5-lobed, white; drupes c. 5 mm across, smooth, black when ripe.

Flowering and Fruiting: February–September.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0644* (BUBH), 16.03.2019.

4. *Exallage* Bremek. in Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., Sect. 2, 48(2):140. 1952.

1. *Exallage auricularia* (L.) Bremek. in verh. Kon. Ned. Akad. Wetensch. Aft. Natuurk. Sect. 2, 48(2):142, 1952. *Hedyotis auricularia* L., 1:101. 1753; Hook.f., Fl. Brit. India 3:58. 1880; Deb, Fl. Tripura 2:51. 1983. (Plate 57D).

Vern. name: Nasrai Khoro (Bodo).

Herbs, procumbent; stems strigillose; nodes swollen; leaves opposite, elliptic-lanceolate, 4–7 × 1–2 cm, margin entire, acute to acuminate at apex, base obtuse, strigillose along nerves and margins; lateral nerves 4–6 pairs; petioles 3–5 mm long; stipules interpetiolar; inflorescences

axillary, cyme, sessile; flowers sessile to subsessile; calyx puberulent, green; corolla white, tubular at base; stigma included.

Flowering and Fruiting: September–February.

Occurrence: Found in scrub forests or in forests margins and streamsides.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0677* (BUBH), 19.11.2021.

Uses: Whole plant is used to cure jaundice.

5. *Geophila* D.Don, prodr. Fl. Nepal. 136. 1825.

1. *Geophila repens* (L.) Johnst., Sargentia 8:281. 1949. *G. reniformis* Hook.f., Fl. Brit. Ind. 3:177. 1882; Kanjilal *et al.*, Fl. Assam, 3:532. 1939; Roy *et al.* in Pleione 5(1):185. 2011. *Rondeletia repens* L., Syst. Nat., ed. 10. 2:928. 1759. (Plate 57E).

Prostrate, creeper; leaves opposite, broadly ovate, 1.5–2.5 × 2–3 cm, margin entire, rounded at apex, base deeply cordate; lateral nerves 3–4 pairs; stipules interpetiolar, broadly ovate; petioles 2–5 cm long; inflorescence a short cyme, 1–3-flowered; calyx 5-lobed, linear-lanceolate; corolla 5-lobed, lobes narrowly ovate, white; fruits globose, orange-red, fleshy.

Flowering and Fruiting: July–November.

Occurrence: Found in semi-evergreen forest floors.

Distribution: INDIA (Andaman Island, Assam, Kerala Meghalaya), AMERICA, BANGLADESH, BHUTAN, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0153* (BUBH), 25.08.2020.

6. *Hyptianthera* Wight and Arn., Prodr. Fl. Ind. Orient. 1:399. 1834.

1. *Hyptianthera stricta* Wight and Arn., Prodr. Fl. Ind. Orient. 1:399. 1834; Hook.f., Fl. Brit. India 3:121. 1880; Kanjilal *et al.*, Fl. Assam 3:61. 1939. (Plate 57F).

Vern. name: Thantaru Biphang (Bodo).

Shrub, to 3 m tall; leaves opposite, oblong-lanceolate, 6–12 × 2–3.5 cm, margin entire, acuminate at apex, base cuneate; lateral nerves 5–8 pairs; petioles 4–8 mm long; stipules interpetiolar, ovate; inflorescences axillary, fascicled; calyx 5-lobed, ciliate; corolla 5-lobed, white, base tubular; fruits subglobose, yellowish-green, 6–8 mm across.

Flowering and Fruiting: April–July.

Occurrence: Found in moist places of semi-evergreen forests.

Distribution: INDIA (NE India, West Bengal), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0391* (BUBH), 12.05.2021.

7. *Ixora* L., Sp. Pl. 1:110. 1753.

1. *Ixora goalparensis* Bremek. in J. Bot. 76:336. 1938. (Plate 58A).

Shrubs, 1–2 m tall; leaves opposite, obovate-elliptic or ovate-elliptic, 10–18 × 3.5–7 cm, margin entire or subentire, apex shortly acuminate, base cuneate; lateral nerves 8–10 pairs; petiole 3–5 mm long; stipule interpetiolar, apex needle-like; inflorescence axillary or terminal cyme, 3–4 cm; bracts 3-lobed; flowers subsessile; calyx 4-lobed, lanceolate, red; corolla 4-lobed, white; stamens 4; capsule subglobose, red.

Flowering and Fruiting: February–August.

Occurrence: Found in moist shady places of semi-evergreen forest.

Distribution: INDIA (Assam).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0090* (BUBH), 12.06.2019.

8. *Lasianthus* Jack in Trans. Linn. Soc. London 14:125. 1823.

1. *Lasianthus sikkimensis* Hook.f., Fl. Brit. India. 3: 180. 1880; Kanjilal *et al.*, Fl. Assam 3:90. 1939. (Plate 58B).

Vern. name: Kiphi Biphang (Bodo).

Shrub, to 3 m tall; branchlets densely brown tomentose; leaves opposite, elliptic-lanceolate 10–16 × 3–5 cm, margin entire, cuspidate-acuminate at apex, base obtuse, densely tomentose beneath; lateral nerves 8–10 pairs; petiole 6–10 mm long, tomentose; stipules interpetiolar, triangular, 2–3 mm long; inflorescences axillary, 1–3-flowered; flowers sessile to subsessile; calyx 5-lobed; corolla white, base tubular; fruits ellipsoid, 5–8 mm across, blue when old.

Flowering and Fruiting: December–October.

Occurrence: Found as undergrowth in shady and wet places in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, CHINA, BHUTAN, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0671* (BUBH), 06.12.2021.

9. *Meyna* Roxb. ex Link in Jahrb. Gewächsk. 1(3):32. 1820.

1. *Meyna spinosa* Roxb. ex Link in Jahrb. Gewächsk. 1(3):32. 1820; Deb, Fl. Tripura 2:64. 1983. *Vangueria spinosa* Roxb., Fl. Ind. 1:536. 1820; Hook.f., Fl. Brit. India 3:136. 1880; Kanjilal *et al.*, Fl. Assam 3:66. 1939; Harid. and Rao, Forest Fl. Meghalaya 2:486. 1987.

Vern. name: Mwina (Bodo).

Tree, to 10 m tall, spiny; leaves opposite, elliptic-ovate, 7–10 × 4–5 cm, margin entire, apex acute or acuminate, base cuneate; lateral nerves 4–6 pairs; petiole 8–12 mm long; interpetiolar stipule needle-like at apex; bracts needle-like; inflorescence axillary cluster, cyme; calyx 4–5-toothed; corolla 4–7-lobed, white hairy inside; stamens 5, brown, subsessile; style white.

Flowering and Fruiting: April–November.

Occurrence: Found in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0028* (BUBH), 19.04.2019.

10. *Morinda* L., Sp. Pl. 1:176. 1753.

1. *Morinda angustifolia* Roxb., Pl. Coromandel 3:32. 1815; Hook.f., Fl. Brit. India 3:156. 1880; Brandis, Ind. Trees 392. 1906; Kanjilal *et al.*, Fl. Assam 3:79. 1939; Deb, Fl. Tripura 2:66. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:488. 1987.

Vern. name: Asho (Bodo).

Shrub, to 5 m tall; branchlets 4-angular; leaves opposite, elliptic-oblong to oblanceolate, 10–20 × 4–7 cm, margin entire, acute to acuminate at apex, base attenuate; lateral nerves 8–12 pairs; petioles 1–1.5 cm long; stipule interpetiolar, triangular; inflorescence axillary, pedunculate heads, leaf opposed; flowers 5-merous; calyx lobes truncate, green; corolla white, base tubular; fruits obovoid, bluish when ripe.

Flowering and Fruiting: April–August.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0638* (BUBH), 21.04.2022.

Uses: Root and stem extracts is taken to cure urinary problems, jaundice, dysentery and fever (Jain and Borthakur 1980, Kumar *et al.* 1980, Islam 2000).

11. *Mussaenda* L., Sp. Pl. 1:177. 1753.

Key to the species

1a. Erect shrub.....2. *M. roxburghii*

1b. Scandent shrub.....1. *M. glabra*

1. *Mussaenda glabra* Vahl, Symb. Bot. 3:38. 1794; Hook.f., Fl. Brit. India 3:90. 1880; Kanjilal *et al.*, Fl. Assam 3:44. 1939. (Plate 58C).

Scandent climbing shrub; stem brownish lenticellate; leaves opposite, elliptic, 7–12 × 3–5 cm, margin entire, acuminate at apex, base acute, puberulous on nerves; lateral nerves 5–6 pairs; petioles 5–10 mm long; inflorescence terminal, cymes; bracts leaf-like, white, ovate-elliptic, 1.5–2.5 cm long stalked; calyx 5-lobed, subulate, green, apex acute; corolla 5-lobed, deep yellow, pubescent, base tubular; fruits globose, glabrous.

Flowering and Fruiting: March–September.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0154* (BUBH), 16.08.2020.

2. *Mussaenda roxburghii* Hook.f., Fl. Brit. India 3:87. 1880; Brandis, Ind. Trees 376.1906; Kanjilal *et al.*, Fl. Assam 3:46. 1939; N.P. Balakr., Fl. Jowai 1:236. 1981; Deb, Fl. Tripura 2: 69. 1983; Harid. and Rao, Forest Fl. Meghalaya :491.1987. (Plate 58D).

Shrubs, to 3 m tall; leaves opposite, oblong-elliptic, 5–12 × 3–5 cm, margin entire, acuminate at apex, base cuneate; lateral nerves 8–11 pairs; stipule interpetiolar, triangular; petiole 0.5–1 cm long, pubescent; inflorescence capitate cyme; peduncle pubescent; flowers 5 mm across; bracts 6 mm long; calyx lobes filiform, 7–10 × 2 mm, green; corolla orange yellow, lobes ovate, 2–3 mm, apex acuminate; berries sobglobose.

Flowering and Fruiting: March–September.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0315* (BUBH), 09.06.2019.

12. *Mycetia* Reinw. in Friedrich, Syll. Pl. Nov. 2:9. 1825.

1. *Mycetia nutans* (Br. ex Kurz) Razafim. and Bremer, Taxon 64(2):293. 2015. *Myrioneuron nutans* R.Br. ex Kurz, Forest Fl. Burma 2:55. 1877; Hook.f., Fl. Brit. India 3:96. 1880; Kanjilal *et al.*, Fl. Assam 3:50. 1939; Deb, Fl. Tripura 2:71. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:492. 1987. *Myrioneuron nutans* Kurz, Forest Fl. Burma 2:55. 1877. (Plate 58E).

Undershrub, erect, to 1 m tall; leaves opposite, obovate-elliptic, 10–15 × 6–10 cm, margin entire, acuminate at apex, base attenuate; lateral nerves 12–16 pairs; petioles 5–10 mm long; inflorescence corymbose cymes; bracts linear; flowers sessile; calyx 5-lobed; corolla 5-lobed, yellow, pubescent at throat; stamens 5; fruits globose, white.

Flowering and Fruiting: September–February.

Occurrence: Found in floor of semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0632* (BUBH), 16.08.2020.

13. *Neolamarckia* Bosser in Bull. Mus. Natl. Hist. Nat., B, Adansonia 6:247. 1984.

1. *Neolamarckia cadamba* (Roxb.) Bosser in Bull. Mus. Natl. Hist. Nat., B, Adansonia 6:247. 1984. *Anthocephalus chinensis* Deb, Fl. Tripura 2:40. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:466. 1987. *A. cadamba* Hook.f., Fl. Brit. India 3:23. 1880; Brandis, Ind. Trees 397. 1906; Kanjilal *et al.*, Fl. Assam 3:18. 1939. *Nauclea cadamba* Roxb., Fl. Ind. 2:121. 1824. (Plate 65D).

Vern. name: Kwdwm (Bodo).

Tree, to 30 m tall; leaves opposite, oblong-elliptic, 10–20 × 8–15 cm, margin entire, acute to acuminate at apex, base broadly acute or rounded, coriaceous; lateral nerves 7–10 pairs; petioles 1.5–2.5 cm long; inflorescence head; flowers pentamerous, orange-yellow; calyx imbricate; corolla oblong, yellow; styles white.

Flowering and Fruiting: April–September.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0397* (BUBH), 03.06.2021.

14. *Paederia* L. Mant. Pl. 1: 52. 1767.

1. *Paederia foetida* L., Mant. 1:52. 1767; Roxb., Fl. Ind. 1:683. 1832; Hook.f., Fl. Brit. India 3:195. 1881; Kanjilal *et al.*, Fl. Assam 3:77. 1939; Deb, Fl. Tripura 2:77. 1983. *P. tomentosa* Blume, Bijdr. 968. 1826; Harid. and R. R. Rao, Forest Fl. Meghalaya 2:494. 1987.

Climber, foetid smell; leaves opposite, ovate-elliptic, 5–10 × 3.5–6 cm, margin entire, acuminate at apex, base subcordate or rounded, whitish-pale green beneath; lateral nerves 5–6 pairs; petioles 2–4 cm long; stipules interpetiolar, broadly ovate-triangular; inflorescence axillary or terminal, paniced racemes; calyx 5-lobed, reddish; corolla tubular, lobes apex irregular, white, mouth pubescent and reddish; fruits ellipsoid, glabrous.

Flowering and Fruiting: September–February.

Occurrence: Found in scrub forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0184* (BUBH), 15.10.2020.

Uses: Roots and leaves are used in blood dysentery, indigestion, breathing problem, piles, paralysis, blood purifier (Das *et al.* 2010).

15. *Pavetta* L., Sp. Pl. 1:110. 1753.

Key to the species

1a. Branchlets glabrous; inflorescence corymbose cyme.....1. *P. indica*

1b. Branchlets pubescent; inflorescence capitate cyme.....2. *P. subcapitata*

1. *Pavetta indica* L., Sp. Pl. 1:110. 1753; Hook.f., Fl. Brit. India 3:150. 1880; Kanjilal *et al.*, Fl. Assam 3:72. 1939; Balakr., Fl. Jowai 1:77. 1981; Deb, Fl. Tripura 2:77. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:495.1987. (Plate 58F).

Shrubs; leaves opposite, with interpetiolar stipule, obovate-elliptic, 8–15 × 5–8 cm, margin entire, acuminate at apex, base attenuate; lateral nerves 9–12 pairs; petioles 1.5–2 cm long; inflorescence paniced cymes, corymbose; flowers pedicel 2–4 mm long; calyx green, 1–2 mm; corolla 4-lobed, tubular at base, white; fruits globose, 6–10 mm in diam.

Flowering and Fruiting: April–August.

Occurrence: Found in forest margin in mixed deciduous forests.

Distribution: INDIA (Andaman Is., NE India, West Bengal), BANGLADESH, BHUTAN, INDIA, MYANMAR, SRI LANKA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0622* (BUBH), 16.04.2019.

2. *Pavetta subcapitata* Hook.f., Fl. Brit. India 3 : 150. 1880; Brandis, Ind. Trees 387. 1906; Kanjilal *et al.*, Fl. Assam 3:72. 1939; Harid. and Rao, Forest Fl. Meghalaya 2:496. 1987. (Plate 59A).

Shrub, to 3 m tall; leaves opposite, elliptic-lanceolate, 8–15 × 3–5 cm, margin entire, acuminate at apex, base cuneate, pubescent beneath; lateral nerves 8–11 pairs; petioles 8–12 mm long; stipule interpetiolar; inflorescence terminal, capitate cymes; flowers 4-merous; calyx pale green, pubescent; corolla white, base tubular; stamens 4; fruits globose.

Flowering and Fruiting: February–June.

Occurrence: Found in marshy or shady places of semi-evergreen forests.

Distribution: INDIA (Himachal Pradesh, NE India), BANGLADESH, BHUTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0708* (BUBH), 20.03.2022.

16. *Polyura* Hook.f., Hooker's icon. Pl. 11:t.1049. 1868.

1. *Polyura geminata* Hook.f., Hooker's Icon. Pl. 11:t.1049. 1868; Clarke in Hook.f., Fl. Brit. India 3:77. 1880; Kanjilal *et al.*, Fl. Assam 3:41. 1939. (Plate 59B).

Herbs, to 20 cm tall; leaves opposite, elliptic-lanceolate, 8–12 × 3–4 cm, margin entire, acute or obtusely acute at apex, base cuneate; lateral nerves 10–15 pairs; petioles 4–8 mm long; stipules interpetiolar, filiform; inflorescence terminal, paniced racemes; flowers crowded in recurved branches; bracts many, distinct; calyx 5-lobed; corolla white, 5-lobed, base tubular, throat villous; stamens 5, at the middle of corolla tube; stigma 2; capsule bilobed.

Flowering and Fruiting: March–September.

Occurrence: Found in evergreen forests in moist places.

Distribution: INDIA (NE India).

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0388* (BUBH), 21.04.2021.

17. *Psychotria* L., Syst. Nat. ed. 10, 2:929. 1759.

Key to the species

- 1a. Leaves margin undulate; intramarginal nerves distinct.....1. *P. calocarpa*
- 1b. Leaves margin entire; intramarginal nerves inconspicuous.....2
- 2a. Leaves obovate-oblong; inflorescence pedunculate capitate cyme.....
.....3. *P. monticola*
- 2b. Leaves oblong-elliptic; inflorescence corymbose cyme.....2. *P. denticulata*

1. *Psychotria calocarpa* Kurz in J. Asiat. Soc. Bengal, Pt. 2, Nat. hist. 41(4):315. 1872; Hook.f., Fl. Brit. India 3:173. 1880; Kanjilal *et al.*, Fl. Assam 3:83. 1939.

Undershrub, to 1.5 m tall; leaves opposite, obovate-oblong or obovate-elliptic, 7–10 × 4–6 cm, margin entire, acuminate at apex, base cuneate, coriaceous, sparsely pubescent beneath; lateral nerves connected with intramarginal nerves, 10–12 pairs, prominent; petiole 0.6–1 cm long; stipules apex 2-cleft; inflorescence terminal umbellate cyme; calyx 4-partite; corolla throat pubescent, white; fruit ellipsoid, green, yellow when ripe, apex with 4-ribbed pyrenes.

Flowering and Fruiting: July–November.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0341* (BUBH), 19.09.2020.

2. *Psychotria denticulata* Wall. in Roxb., Fl. Ind. 2:166. 1824; Hook.f., Fl. Brit. India 3:173. 1880; Kanjilal *et al.*, Fl. Assam 3:83. 1939; Deb, Fl. Tripura 2:80. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:498. 1987; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:607. 1996. (Plate 59C).

Shrub, to 2 m tall; leaves opposite, oblong-elliptic, 8–14 × 6–9 cm, margin entire, acuminate at apex, base broadly acute or rounded; lateral nerves 12–15 pairs; petioles 1–2 cm long;

stipules interpetiolar, oblong, 1–1.5 cm long, pale green; inflorescence terminal or axillary, cymes; flowers 4–5-merous; corolla lobes oblong, acute at apex, recurved, pale green; stamens as numbers of corolla, white.

Flowering and Fruiting: March–July.

Occurrence: Found growing as undergrowth in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0377* (BUBH), 04.04.2021.

3. *Psychotria monticola* Kurz in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 41(4):315. 1872. *P. fulva* Hook.f., Fl. Brit. India 3:173. 1880; Kanjilal *et al.*, Fl. Assam 3:85. 1939. (Plate 59D).

Shrub, to 2 m tall; leaves opposite, obovate-elliptic, 8–12 × 3–6 cm, margin entire, acute to acuminate at apex, base cuneate; lateral nerves 7–9 pairs; petioles 1–1.5 cm long; stipules interpetiolar, 10–12 mm long, margin hairy; inflorescence terminal or axillary, pedunculate capitate cymes; calyx persistent; corolla short tubular, pale green, throat villous; stamens as numbers as corolla, white; fruits ellipsoid.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen forests as undergrowth.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0368* (BUBH), 21.04.2021.

18. *Spermacoce* L., Sp. Pl. 1:102. 1753.

1. *Spermacoce exilis* (Williams) Adams ex Burger and Taylor in Fieldiana, Bot. n.s. 33:316. 1993. *Borreria exilis* Williams, Phytologia 28(3):227. 1974. *S. mauritiana* Verdcourt in Kew Bull. 37(4):547. 1983; Sivarajan *et al.* in Proc. Indian Acad. Sci. (Plant Sci.) 97(4):356. 1987.

Diffuse herb; stem with distinct 4-winged, pubescent on the margins; leaves opposite, ovate-elliptic, 1.5–2.5 × 1–1.5 cm, margin entire, finely ciliate, acute at apex, base cuneate or narrowed, glabrescent both sides; petioles 2–3 mm long; inflorescence axillary, capitate cymes; flowers minute in clusters; calyx pale green, shorter than corolla; corolla white.

Flowering and Fruiting: June–November.

Occurrence: Found in roadside or in shady places.

Distribution: INDIA (Introduced), AMERICA, MEXICO.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0338* (BUBH), 07.08.2020.

19. *Uncaria* Schreb., Gen. Pl. ed. 8a, 1:125. 1789.

1. *Uncaria sessilifructus* Roxb., Fl. Ind. 2:130. 1832; Hook.f., Fl. Brit. India 3:30. 1880; Kanjilal *et al.*, Fl. Assam 3:24. 1939. (Plate 59E).

Liana; stems quadrangular; spines axillary, hooked; leaves opposite, elliptic-oblong, 6–10 × 5–7 cm, margin entire, acute to acuminate at apex, base broadly cuneate; lateral nerves 4–7 pairs; stipules interpetiolar, deciduous; petiole 5–10 mm long; inflorescences axillary or terminal, heads; peduncles 3–5 cm long; flowers sessile; calyx strigose; lobes oblong to triangular; corolla yellowish-white, base tubular; fruit fusiform, sessile.

Flowering and Fruiting: October–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0680* (BUBH), 05.11.2021.

100. GENTIANACEAE Juss., Gen. Pl. 141. 1789.

About 24 genera and 190 species in India; 6 genera and 13 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Fagraea* Thunb. in Kongl. Vetensk. Acad. Nya Handl. 3:125. 1782.

1. *Fagraea ceilanica* Thunb., in Kongl. Vetensk. Acad. Nya Handl. 3:132. 1782. *F. obovata* Clarke in Hook.f., Fl. Brit. India 4:83. 1883; Kanjilal *et al.*, Fl. Assam 3:318. 1939. (Plate 28E).

Epiphytic, scandent shrubs, sometimes terrestrial, to 10 m tall; petiole 3–5 cm long; leaves opposite, lamina ovate-elliptic or obovate, 6–20 × 3–6 cm, leathery, margin entire, base narrowed, apex shortly acuminate; flowers in dichasial cymes, 3–6 cm across; calyx lobes rounded, 5–10 mm; corolla funnel shaped, white, tube obovate, 3–4 cm; stamens inserted;

anther oblong, 4–6 mm long; ovary ellipsoid; berries ovoid-ellipsoid, 2–3 × 1.5–2.5 cm, with beak at apex, gummy inside exocarp.

Flowering and Fruiting: April–October.

Occurrence: Found in moist deciduous forest with streams at floor.

Distribution: INDIA (NE India), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0189* (BUBH), 19.10.2019.

101. APOCYNACEAE Juss., Gen. Pl. 143. 1789.

About 104 genera and 379 species in India; 43 genera and 76 species in Assam; 19 genera and 24 species recorded from the study area.

Key to the genera

- 1a. Trees.....2
- 1b. Climbers, shrubs or undershrubs.....4
- 2a. Leaves pubescent; flowers creamy white or red.....19. *Wrightia*
- 2b. Leaves glabrous; flowers greenish or white.....3
- 3a. Inflorescence umbellate cymes, globose; flowers greenish.....1. *Alstonia*
- 3b. Inflorescence corymbose cymes; flowers white.....8. *Holarrhena*
- 4a. Shrubs or undershrubs.....5
- 4b. Climbers.....7
- 5a. Leaves whorled.....13. *Rauwolfia*
- 5b. Leaves opposite.....6
- 6a. Leaves pubescent, subsessile.....3. *Calotropis*
- 6b. Leaves glabrous, petiolate.....14. *Taberbaemontana*
- 7a. Follicles free, solitary or in pair (rarely divaricate).....8
- 7b. Follicles fused at base, divaricate or bifurcate.....12
- 8a. Fruits globose11. *Melodinus*
- 8b. Fruits not globose.....9
- 9a. Leaves leathery, thick; lateral nerves inconspicuous.....9. *Hoya*
- 9b. Leaves papery, thin; lateral nerves distinct.....10
- 10a. Stems herbaceous.....12. *Oxylstelma*

10b. Stems woody.....	11
11a. Flowers more than 5 cm in diam.....	2. <i>Beaumontia</i>
11b. Flowers less than 3 cm in diam.....	17. <i>Vallaris</i>
12a. Stamens included inside corolla tube.....	13
12b. Stamens not included.....	15
13a. Follicles bifurcate, slender.....	4. <i>Chonemorpha</i>
13b. Follicles divaricate.....	14
14a. Corolla pubescent throughout.....	10. <i>Ichnocarpus</i>
14b. Corolla pubescent only at mouth part.....	15. <i>Trachelospermum</i>
15a. Corolla lobes lanceolate.....	16
15b. Corolla lobes ovate.....	17
16a. Leaves with 3–5 basal nerves, winged beneath.....	7. <i>Heterostemma</i>
16b. Leaves without basal nerves.....	5. <i>Cryptolepis</i>
17a. Flowers yellow.....	18
17b. Flowers green.....	18. <i>Wattakaka</i>
18a. Branches and branchlets woody; corolla recurved.....	16. <i>Urceola</i>
18b. Branches herbaceous; corolla suberect to slightly recurved.....	6. <i>Gongronema</i>

1. *Alstonia* R.Br., Asclepiadeae 64. 1810.

1. *Alstonia scholaris* (L.) Br., Asclepiadeae 65. 1810; Hook.f., Fl. Brit. Ind. 3:642. 1882; Kanjilal *et al.*, Fl. Assam 3:253. 1939; Deb, Fl. Tripura 2:12. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:599. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:151. 2008. *Echites scholaris* L., Mant. Pl. 53. 1767.

Vern. name: Stauna (Bodo).

Tree, evergreen, with milky latex, to 10 m tall; leaves whorled, elliptic-oblong, 12–15 × 3–5 cm, margin entire, acute to apiculate or acuminate at apex, base rounded, glabrous both sides; lateral nerves 28–33 pairs; petioles 1.5–2 cm long; inflorescence paniced cymes; calyx 5-fid; corolla 5-lobed, rotate, creamy white; stamens gamopetalous; ovary 2-carpellary; fruits follicles, divaricate, slender, to 20 cm long, pendulous.

Flowering and Fruiting: February–June.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0492* (BUBH), 13.03.2019.

Uses: Bark is used to cure dysentery of cattle. (Das *et al.* 2010).

2. *Beaumontia* Wall., Tent. Fl. Nepal 14, t.7. 1824.

1. *Beaumontia grandiflora* Wall., Tent. Fl. Nepal. 15, t. 7. 1824; Hook.f., Fl. Brit. India 3:660. 1882; Kanjilal *et al.*, Fl. Assam 3:269. 1939. (Plate 12F).

Lianas with corky bark; petiole 2–3 cm long; leaves opposite, lamina obovate or broadly ovate-elliptic, 7–15 × 3–10 cm; lateral nerves 8–15 pairs; inflorescence cyme, 3–10-flowered; flowers 5–10 cm across; sepals 3–5 mm, pale green; corolla creamy white, pale yellow inside; tube 5–9 cm, funnel shaped; lobes ovate. 1–3 cm long; stamens 5, white, 5–7 cm long.

Flowering and Fruiting: January–April.

Occurrence: Found climbing in moderately dense forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0319* (BUBH), 23.03.2020.

3. *Calotropis* R.Br., Asclepiadeae 28. 1810.

1. *Calotropis gigantea* (L.) Aiton, Hort. Kew. ed. 2, 2:78. 1811; Hook.f., Fl. Brit. India 4:17. 1883; Kanjilal *et al.*, Fl. Assam 3:282. 1939; Deb, Fl. Tripura 2:30. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:614. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:163. 2008. *Asclepias gigantea* L., Sp. Pl. 1:214. 1753.

Vern. name: Gogondo (Bodo).

Shrub, with milky latex, to 3 m tall; leaves opposite, sessile, ovate-elliptic, 8–12 × 5–8 cm, margin entire, acute at apex, base cordate, tomentose beneath; lateral nerves 4–7 pairs; inflorescence terminal or axillary in apical part, umbellate cymes; flowers with coronal processes; calyx segments ovate; corolla lobes ovate; fruits follicles comma shaped; coma silky white.

Flowering and Fruiting: February–June.

Occurrence: Found as planted at home.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0494* (BUBH), 13.03.2019.

Uses: Leaves and roots are used to cure leprotic, ulcer, toothache, dysentery, poisonous insect bite (Das *et al.* 2010).

4. *Chonemorpha* Don, Gen. Hist. 4:76. 1837.

1. *Chonemorpha fragrans* (Moon) Alston in Ann. Roy. Bot. Gard. 11:203. 1929; Harid. and Rao, Forest Fl. Meghalaya 2:601. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:152. 2008. *C. macrophylla* Hook.f., Fl. Brit. India 3:661. 1882; Kanjilal *et al.*, Fl. Assam 3:265. 1939. *Echites fragrans* Moon, Cat. Pl. Ceylon. 20. 1824.

Liana, milky latex throughout; branches brown lenticellate; leaves opposite, obovate or elliptic-orbicular, 12–20 × 10–15 cm, apiculate at apex, base rounded or subtruncate, margin entire, glabrous above, pubescent beneath; lateral nerves 7–9 pairs; petiole 1.5–3 cm long; inflorescence terminal cyme; flowers white, fragrant; corolla 5, twisted, yellowish at base; fruits bifurcate, linear, 15–25 cm long.

Flowering and Fruiting: May–October.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0163* (BUBH), 09.09.2020.

5. *Cryptolepis* R.Br., Asclepiadeae 58. 1810.

Key to the species

1a. Leaves oblong, truncate at base.....2. *C. sinensis*

1b. Leaves elliptic, broadly acute at apex.....1. *C. buchanani*

1. *Cryptolepis buchananii* Roem. and Schult., Syst. Veg. 4:409. 1819; Hook.f., Fl. Brit. India 4:5. 1883; Gamble, Fl. Pres. Madras 2:826. 1923; Kanjilal *et al.*, Fl. Assam 3:277. 1939;

Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:164. 2008. (Plate 13A).

Vern. name: Parwo Kiya Gidir (Bodo).

Lianas, with milky latex; stem terete; leaves opposite, elliptic-ovate, 3.5–5 × 9–12 cm, margin entire, acuminate at apex, base cuneate; lateral nerves 15–22 pairs; petiole to 1 cm long; inflorescence axillary cyme, 3–4 cm long; bracts light green; calyx 5-lobed, green; corolla 5-lobed, base tubular, yellow; stamens 5, yellow, arising from tubular base of corolla.

Flowering and Fruiting: April–August.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0049* (BUBH), 02.06.2018.

2. *Cryptolepis sinensis* (Lour.) Merr. in Phillip. J. Sci. 15:254. 1919; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:165. 2008. *C. elegans* Hook.f., Fl. Brit. India 4:6. 1883; Kanjilal *et al.*, Fl. Assam 3:278. 1939. *Pergularia sinensis* Lour., Fl. Cochinch. 169. 1790. (Plate 13B).

Vern. name: Parwo Kiya (Bodo).

Liana, with milky latex; leaves opposite, elliptic, 2–3 × 5–6 cm, margin entire, apex mucronate, base truncate, glabrous; petiole 1 cm long; inflorescence axillary or terminal, raceme, to 10 cm long; flowers 3.5 cm across; calyx 5-lobed, glabrous, light yellow, apex acute; corolla 5-lobed, yellow, base tubular; stamens 10, epipetalous, upper 5 yellow, lower 5 enclose the stigma, brownish; stigma swollen, 1 mm, yellowish; ovary bilobed.

Flowering and Fruiting: August–February

Occurrence: Found in roadside or in domesticated area.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, HAINAN, MYANMAR, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0042* (BUBH), 21.05.2018.

6. *Gongronema* (Endl.) Dence. in DC., Prodr. 8:624. 1844.

1. *Gongronema napalense* (Wall.) Decne. in A. de Candolle, Prodr. 8:624. 1844; Kanjilal *et al.*, Fl. Assam 3:292. 1939; *Gymnema nepalense* Wall. Fl. Nepal 49. 1826; Hook.f. Fl. Brit. India 3:668. 1880. (Plate 13C).

Twining herbs; stem terete; petiole 1–2.5 cm long; leaves opposite, lamina elliptic or oblong-lanceolate, 5–10 × 3–6 cm, margin entire, acuminate at apex, base subcordate; lateral nerves 4–6 pairs; inflorescence to 15 cm, ending in umbel-like; flowers 3–5 mm across; sepals 5, ovate, apex obtuse, pubescent; corolla lobes ovate-triangular, margin sparsely pubescent; anthers 5, anther appendages equal to stigma head; follicles divaricate, 3–6 cm long.

Flowering and Fruiting: August–October.

Occurrence: Found in scrub forest or in deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, HAINAN, LAOS, MYANMAR, NEPAL, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0102* (BUBH), 29.09.2019.

7. *Heterostemma* Wight and Arn. in Wight, Contr. Bot. India 42. 1834.

1. *Heterostemma alatum* Wight, Contr. Bot. India 42. 1834; Hook.f., Fl. Brit. India 4:47. 1883; Kanjilal *et al.*, Fl. Assam 3:300. 1939. (Plate 13D).

Slender twining vines; stem and branches terete; leaves variable, opposite, broadly ovate-elliptic or oblong, 8–15 × 6–8 cm, margin entire, apex acute to apiculate or shortly acuminate; main basal nerves 3, 5 with lateral veins, winged beneath; lateral nerves 3–4; inflorescence axillary, umbel cyme, 5–12 flowered; flowers 1–2 cm across; calyx 5, ovate, green; corolla triangular-ovate, tongue-shaped; coronal processes ovate-suborbicular; corona lobes apex acuminate ending in a tuft of hairs.

Flowering and Fruiting: July–December.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (Assam, Meghalaya, Sikkim), BHUTAN, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0197* (BUBH), 19.09.2020.

8. *Holarrhena* Br., Asclepiadeae 51. 1810.

1. *Holarrhena pubescens* Wall. ex Don, *Gen. Hist.* 4:78 1837; *H. antidysenterica* Hook.f., *Fl. Brit. India* 3:644. 1882; Kanjilal *et al.*, *Fl. Assam* 3:254. 1939; Deb, *Fl. Tripura* 2:16. 1983; Harid. and Rao, *Forest Fl. Meghalaya* 2:565. 1987. (Plate 13E).

Vern. name: Dwokri (Bodo).

Tree, to 6 m tall; bark grey; leaves opposite, elliptic-oblong, 10–15 × 4–7 cm, margin entire, acuminate at apex, base cuneate, glabrous above, pubescent beneath; lateral nerves 8–12 pairs; petioles 3–6 mm long; inflorescence terminal or axillary, corymbose cymes; flowers white; calyx 5-lobed, green; corolla rotate, 5-lobed, lobes oblong, base tubular; stamens 5, subsessile; carpels 2; fruits follicles 2, bifurcate, 12–20 cm long.

Flowering and Fruiting: March–September.

Occurrence: Found in roadside of forest or in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM, ZAMBIA, ZIMBABWE.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0493* (BUBH), 30.03.2019.

Uses: Bark is used to cure vomiting of blood, diarrhea, blood dysentery, piles, diabetes (Das *et al.* 2010).

9. *Hoya* Br., Prodr. Fl. Nov. Holland. 459. 1810.

Key to the species

- 1a. Stems and leaves pubescent, mucronate at apex.....1. *H. globulosa*
- 1b. Stems and leaves glabrous, acuminate at apex.....2
- 2a. Corolla glabrous.....3. *H. verticillata*
- 2b. Corolla furry hairs outside.....2. *H. oreogena*

1. *Hoya globulosa* Hook.f. in *Gard. Chron.* n.s., 17: 732. 1882; Clarke in Hook.f., *Fl. Brit. India* 4:60. 1883; Kanjilal *et al.*, *Fl. Assam* 3:307. 1939. (Plate 13F).

Epiphyte, twener; stem terete, grey; leaves opposite, oblong-quadrate, 10–13 × 5–8 cm, margin entire, mucronate at apex, base truncate, villous; lateral nerves 5–8 pairs; petiole 2–2.3 cm long, green, villous; inflorescence axillary umbels, 20–35 –flowered; peduncle 5–7 cm long; flowers 1.5 cm across; calyx 5-lobed, yellowish-white, pubescent outside; corolla 5-lobed, white, apex mucronate; corona 5, glabrous, white; pollinia 5, 2 each, yellow.

Flowering and Fruiting: March–June.

Occurrence: Found in dense forest of semi-evergreen type.

Distribution: INDIA (NE India, Nicobar Is.), BANGLADESH, CHINA, LAOS, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0087* (BUBH), 16.03.2019.

Uses: Leaves paste is applied to heal wounds. Leaves are cut into pieces, cooked with alkali solution as curry (Teron 2011).

2. *Hoya oreogena* Kerr in Bull. Misc. Inform. Kew 8:461. 1939; Rodda *et al.* in J. Jpn. Bot. 96(1):25. 2021. (Plate 14A).

Epiphyte, climbers, with milky latex; branches terete, 3–5 mm in diam.; leaves opposite, oblong-elliptic, 6–15 x 3–6 cm, leathery, acute or tapering at apex, base rounded, glabrous both side; petiole 1.5–2.5 cm long, green to blackish, slightly bent; inflorescence umbel; calyx 5-lobed, ovate triangular, margin pubescent; corolla 5-lobed, white, furry hairs inside; corona 5-lobed, star shaped, creamy white; ovary bifid, apex pointed.

Flowering and Fruiting: September–December.

Occurrence: Found in moist deciduous forest where streams at floor.

Distribution: INDIA (Arunachal Pradesh, Assam), CHINA, MYANMAR, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0659* (BUBH), 05.09.2020.

3. *Hoya verticillata* (Vahl) Don in Gen. Hist. 4:128. 1838; *H. parasitica* Hook.f., Fl. Brit. India 4:57. 1883; Kanjilal *et al.*, Fl. Assam 3:305. 1939; Deb, Fl. Tripura 2:33. 1983; *Asclepias parasitica* Roxb., Fl. Ind. 2:42. 1832. *Sperlingia verticillata* Vahl, Skrivt. Nat. Selsk. Kiobenh. 6:113. 1810. (Plate 14B).

Epiphyte, climber; stem terete, grey; leaves opposite, ovate-elliptic, 5–6 × 12–14 cm, margin entire, acuminate at apex, cuneate at base, leathery, glabrous both sides; petiole 1–2.5 cm long; inflorescence umbel, 6–7 cm diam.; calyx 5-lobed, light green; corolla 5-lobed, white; corona 5, white, pink at base; stamens sub-sessile, pollinia 5, 2 each, yellow, stalk brown.

Flowering and Fruiting: April–July.

Occurrence: Found in dense deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA JAWA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0045* (BUBH), 24.05.2019.

10. *Ichnocarpus* Br., Asclepiadeae 50. 1810.

1. *Ichnocarpus frutescens* (L.) W.T.Aiton, Hot. Kew. 2:69. 1811; Hook.f., Fl. Brit. India 3:669. 1882; Kanjilal *et al.*, Fl. Assam 3:273. 1939; Deb, Fl. Tripura 2:16. 1883; Harid. and Rao, Forest Fl. Meghalaya 2:603. 1987. *Apocynum frutescens* L., Sp. Pl. 1:213. 1753. (Plate 14C).

Twiner, branched; bark brown with sparse lepidote; leaves opposite, elliptic-lanceolate, 5–8 × 2.5–3.5 cm, margin entire, acuminate at apex, base acute, glabrous both side; lateral nerves 4–5 pairs; petioles 5–8 mm long; inflorescence axillary and terminal cymes; flowers 5-merous; bracts minute; calyx pubescent; corolla twisted, white, margin ciliated on one side, pale-yellow at base; stamens 5, inserted; carpel 2.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0173* (BUBH), 26.10.2020.

11. *Melodinus* Forst. and Forst., Char. Gen. Pl. 37. 1776.

1. *Melodinus cochinchinensis* (Lour.) Merr., Trnas. Amer. Philos. Soc. Ser 2, 24:310. 1935. *M. monogynus* Hook.f., Fl. Brit. Ind. 3:629. 1882; Kanjilal *et al.*, Fl. Assam 3: 248. 1939. *Oncinus cochinchinensis* Lour., Fl. Cochinch. 123. 1790. (Plate 14D).

Liana, with milky latex; branchlets terete, glabrous, brownish; leaves opposite, elliptic-lanceolate, 8–14 × 3–5 cm, margin sub-entire, acuminate apex, base cuneate, coriaceous; lateral nerves 14–20 pairs; petioles 8–12 mm long; inflorescence terminal, paniculate cymes, trichotomously branched; flowers fragrant; calyx lobes ovate-oblong, ciliate; corolla tubular, yellowish, rotate; fruits globose, 4–6 cm across, pale green, glabrous.

Flowering and Fruiting: March–August.

Occurrence: Found in mixed deciduous forests or in semi-evergreen forests.

Distribution: INDIA (NE India, West Bengal), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0310* (BUBH), 20.03.2021.

12. *Oxystelma* Br., Prodr. Fl. Nov. Holland. 462. 1810.

1. *Oxystelma esculentum* (L.f.) Sm. in Rees, Cycl. 25:n.1. 1813; Kanjilal *et al.*, Fl. Assam 3:281. 1939. *O. zippelianum* Blume, Bijdr. Fl. Ned. Ind. 1053. 1826. *Periploca esculenta* L.f., Suppl. Pl. 168. 1782. (Plate 14E).

Twining herb, with milky latex; stems terete; leaves opposite, linear-lanceolate, 5–9 × 0.8–1.5 cm, margin entire, acute at apex, base rounded, glabrous both sides; lateral nerves 7–10 pairs; petiole 1–1.5 cm long; inflorescence axillary, longer than leaves, 1–3-flowered; sepals ovate-lanceolate, 2–3 mm long; corolla 5-lobed, white with purple nerves; lobes triangular, ciliate; corona 5; fruits lanceolate –5 cm long, acute at apex.

Flowering and Fruiting: August–January.

Occurrence: Found in stagnant water body in scrub forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0683* (BUBH), 02.10.2021.

13. *Rauvolfia* Plum. ex L., Sp. Pl. 1:208. 1753.

Key to the species

1a. Undershrub; inflorescence terminal.....1. *R. serpentina*

1b. Shrub; inflorescence axillary.....2. *R. verticillata*

1. *Rauvolfia serpentina* (L.) Benth. ex Kurz, Forest Fl. Burma 2:171. 1877; Hook.f., Fl. Brit. India 3:632. 1882; Kanjilal *et al.*, Fl. Assam 3:251. 1939; Deb, Fl. Tripura 2:22. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:606. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:158. 2008. *Ophioxylon serpentinum* L., Sp. Pl. 2:1043. 1753. (Plate 14F).

Undershrub, erect, to 40 cm tall; leaves whorled, or opposite, elliptic-oblongate, 10–15 × 3–5 cm, margin entire, acuminate at apex, base narrowed, glabrous both side; lateral nerves 6–8 pairs; petioles 5–10 mm long; inflorescence terminal, cymes, 4–7 cm long; flowers pentamerous; calyx lobes persistent, pinkish, red when old; corolla lobes white, apex obtuse, base tubular, pale purple; fruits bilobed, glabrous, black when ripe.

Flowering and Fruiting: April–October.

Occurrence: Found in dense forest at floors.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0179* (BUBH), 15.04.2020.

Uses: The root and leaves are used to cure high blood pressure, rheumatism, and snake bite (Das *et al.* 2010).

2. *Rauvolfia verticillata* (Lour.) Baill., Hist. Pl. 10: 170 (1889. *R. densiflora* Hook.f., Fl. Brit. India 3:633. 1882; Kanjilal *et al.*, Fl. Assam 3:251. 1939. *Rauvolfia chinensis* Kanjilal *et al.*, Fl. Assam 3:252. 1939. *Dissolena verticillata* Lour., Fl. Cochinch. 138. 1790. (Plate 15A).

Vern. name: Hagrani Mwita Bangal (Bodo).

Shrubs, with milky latex, to 3 m tall; stem and branchlets glabrous, terete; branchlets lenticellate; leaves in whorls of 3 or 4; lamina oblong, 8–18 × 4–7 cm, margin entire, acuminate at apex, base cuneate; lateral nerves 6–9 pairs; inflorescence axillary, lax cymes; flowers 5-merous; corolla white, base tube tubular, villous from middle to throat; stamens included at middle of corolla tube; fruits ellipsoid, glabrous, orange-red when ripe.

Flowering and Fruiting: March–July.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Almost throughout the country), BORNEO, BHUTAN, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0349* (BUBH), 04.04.2021.

14. *Tabernaemontana* L., Sp. Pl. 1:210. 1753.

1. *Tabernaemontana divaricata* (L.) Br. ex Roem. and Schult., Syst. Veg. ed. 15, 4:427. 1819; Harid. and Rao, Forest Fl. Meghalaya 2:607. 1987; *T. coronaria* Hook.f., Fl. Brit. India 3: 646. 1882; Kanjilal *et al.*, Fl. Assam 3:255. 1939. *Nerium divaricatum* L., Sp. Pl. 1:209. 1753.

Vern. name: Daodwi Phul (Bodo).

Shrub, to 3 m tall; latex milky; bark grey; leaves opposite, elliptic-lanceolate, 10–14 × 2.5–4 cm, margin entire, undulate, acuminate at apex, base cuneate, glabrous both side; lateral

nerves 5–7 pairs; petioles 8–15 mm long; inflorescence axillary, cymes; calyx 5-lobed, green; corolla 5-lobed, lobes obovate, rorate, white, base tubular, yellow at mouth; fruits divaricate, 3-5 cm long; seeds red when old.

Flowering and Fruiting: Almost throughout the year.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0238* (BUBH), 12.11.2020.

15. *Trachelospermum* Lem. in Jard. Fleur. 1:t.61. 1851.

1. *Trachelospermum lucidum* (Don) Schum. in Engler and Prantl, Nat. pflanzenfam. 4(2):173. 1895. *T. fragrans* Hook.f., Fl. Brit. India 3:667. 1883; Kanjilal *et al.*, Fl. Assam 3:271. 1939. *Alstonia lucida* Don, Prodr. Fl. Nepal. 131. 1825. (Plate 15B).

Liana, with milky latex; bark warty; branchlets pendulous, lenticellate; leaves opposite, elliptic-oblong, 6–10 × 3–5 cm, margin entire, acuminate at apex, base broadly cuneate, glabrous both sides; lateral nerves 8–12 pairs; petioles 4–8 mm long, puberulous; inflorescence axillary, trichotomously branched; flowers fragrant; calyx 5-lobed, green; corolla rotate, white, base tubular, pubescent at mouth, stamens included; anthers triangular.

Flowering and Fruiting: March–July.

Occurrence: Found in roadsides.

Distribution: INDIA (NE India), BHUTAN, CHINA, LAOS, NEPAL, PAKISTAN, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Bismuri, *S. Basumatary 0699* (BUBH), 08.04.2022.

16. *Urceola* Roxb. in Asiat. Res. 5:169. 1798.

1. *Urceola micrantha* (Wall. ex Don) Middleton in Novon 4:151. 1994. *Ecdysanthera micrantha* DC., Prodr. 8:442. 1844; Hook, f., Fl. Brit. Ind. 3:662. 1882; Kanjilal *et al.*, Fl. Assam 3:266. 1939. *Echites micranthus* Don, Gen. Hist. 4:75. 1837. (Plate 15C).

Liana, with milky latex, well branched; stems and branches terete; branchlets lenticellate; leaves opposite, elliptic, 8–12 × 3–5 cm, margin entire, acuminate at apex, base obtuse, glabrous both sides; lateral nerves 4–7 pairs; petioles 1–2 cm long; inflorescence terminal,

paniculate cymes; flowers bisexual; sepals ovate; corolla pinkish-white, 5-lobed; fruits narrow ovoid, 7–12 cm long.

Flowering and Fruiting: March–August.

Occurrence: Found in evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0672* (BUBH), 10.03.2021.

17. *Vallaris* Burm.f., Fl. Indica 51.1768.

1. *Vallaris solanacea* Kuntze in Rev.Gen. Pl. 2:417. 1891; Hook.f., Fl. Brit. India 3:650. 1882; Brandis, Ind. Trees 462. 1906 ; Kanjilal *et al.*, Fl. Assam 3:256.1939; Deb, Fl. Tripura 2:24. 1983 ; Harid. and R. R. Rao, Forest Fl. Meghalaya 2:610. 1987. (Plate 15D).

Climbing shrub; bark whitish-grey; leaves opposite, elliptic, 4–8 × 2–4 cm, margin entire, apex shortly acuminate, base cuneate; lateral nerves 6–8 pairs; petiole 0.5–1 cm long, pubescent; inflorescence axillary, 3–5 cm long; flowers 2–2.5 cm across; calyx 5-lobed, green, apex acute; corolla creamy-white, 5-lobed, apex minutely bilobed; stamens 5, yellow or white, apex pointed.

Flowering and Fruiting: February–June.

Occurrence: Found in scrub forest, forest margin or in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, HAINAN, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0086* (BUBH), 20.03.2019.

Uses: The plant is used to cure diarrhea, rheumatoid pain, and constipation (Das *et al.* 2010).

18. *Wattakaka* Hassk. in Flora 40:99. 1857.

1. *Wattakaka volubilis* (L.f.) Stapf in Curtis, Bot. Mag. 148:t.8976. 1923; Kanjilal *et al.*, Fl. Assam 3:293. 1939. *Dregea volubilis* Benth ex. Hook.f., Fl. Brit. India 4:46. 1883. *Asclepias volubilis* L.f., Suppl. Pl. 170. 1782.

Lianas; branches lenticellate; leaves opposite, broadly ovate-cordate, 7–12 × 5–10 cm, margin entire, acuminate at apex, base cordate; lateral nerves 4; petiole 3–5 cm long; inflorescences axillary, umbellate cymes; peduncle 2–4 cm long; flowers green; sepals ovate-

oblong, pubescent; corolla 5-lobed, obtuse at apex; corona yellowish-green; fruits narrowly ovoid, 6–10 cm long, longitudinally ribbed.

Flowering and Fruiting: April–August.

Occurrence: Found in roadside of forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA LAOS, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0686* (BUBH), 21.04.2021.

19. *Wrightia* Br., Prodr. Fl. Nov. Holland. 467. 1810.

Key to the species

- 1a. Flowers creamy white.....1. *W. arborea*
1b. Flowers red.....2. *W. coccinea*

1. *Wrightia arborea* (Dennst.) Mabb. in Taxon. 26: 533. 1977; Hook.f., Fl. Brit. India 3:653. 1882; Kanjilal *et al.*, Fl. Assam 3:258. 1939; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:162. 2008. *Periploca arborea* Dennst., Schluess. Hort Malab. 35. 1818.

Vern. name: Dwokri (Bodo).

Trees, to 15 m tall; branchlets brownish-grey; leaves elliptic or obovate, 8–15 × 5–8 cm; lateral nerves 8–13 pairs, sparsely pubescent above, tomentose beneath; petiole 1–2 cm long; inflorescence cyme; peduncle 1.5–2 cm long; flowers 2–3 cm across; sepals ovate, 2–3 mm long, greenish; corolla rotate, lobed narrowly elliptic, creamy-white or yellowish; coronal scales 10, creamy-yellow, apex sublobed.

Flowering and Fruiting: April–September.

Occurrence: Found in deciduous forest, sometimes in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0314* (BUBH), 09.06.2019.

2. *Wrightia coccinea* (Roxb. ex Hornem.) Sims in Bot. Mag. 53:t.2696. 1826; Hook.f., Fl. Brit. India 3:654. 1882; Kanjilal *et al.*, Fl. Assam 3:259. 1939. *Nerium coccineum* Hornem., Hort. Bot. Hafn. Suppl. 126. 1819. (Plate 15E).

Trees, with milky latex, to 15 m tall; bark gray; leaves opposite, elliptic or ovate-elliptic, 6–14 × 3–5 cm, margin entire, caudate-acuminate at apex, base obtuse, glabrous both sides, puberulent along veins beneath; lateral nerves 8–12 pairs; petiole 3–5 mm long; inflorescence terminal, cymes; flowers 2–3.5 cm across; sepals ovate, 5–8 mm long; corolla red, lobes obovate; corona crimson, cup-shaped; fruits linear, tapering both ends, 12–16 cm long.

Flowering and Fruiting: March–August.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0370* (BUBH), 21.04.2021.

102. BORAGINACEAE Juss., Gen. Pl. 128. 1789.

About 43 genera and 209 species in India; 11 genera and 20 species in Assam; 3 genera and 4 species recorded from the study area.

Key to the genera

- 1a. Shrubs or trees.....2
 1b. Herbs.....3. *Heliotropium*
 2a. Stigma 4.....1. *Cordia*
 2b. Stigma 2.....2. *Ehretia*

1. *Cordia* L., Sp. Pl. 1:190. 1753.

1. *Cordia dichotoma* Forst., Fl. Ins. Austr. 18:n.110. 1786; Kanjilal *et al.*, Fl. Assam 3:330. 1939; Deb, Fl. Tripura 2:99. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:630. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:186. 2008.

Vern. name: Doba Kari (Bodo).

Tree, deciduous, to 10 m tall; branches semi drooping; leaves alternate, ovate or elliptic-oblong, 7–9 × 4–6 cm, margin subentire, acuminate at apex, base cuneate, puberulous beneath; lateral nerves 5–6 pairs; petioles 1.5–2.5 cm long; inflorescence corymbose cymes;

flowers fragrant; calyx 5-lobed; corolla 5, oblong-linear, margin irregular at apical part, recurved, white; stamens 5; filaments white, anther brown; fruits ovoid, pulpy, pale pink to yellow.

Flowering and Fruiting: March–August.

Occurrence: Found in roadside or in forest margins.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0496* (BUBH), 13.03.2020.

2. *Ehretia* Browne, Civ. Nat. Hist. Jamaica 168. 1756.

Key to the species

- 1a. Tree.....1. *E. acuminata*
1b. Shrub.....2. *E. aspera*

1. *Ehretia acuminata* Br., Prodr. Fl. Nov. Holland. 497. 1810; C.B. Clarke in Hook.f., Fl. Brit. India 4:141. 1883; Brandis, Ind. Trees 481. 1906; Kanjilal *et al.*, Fl. Assam 3:333. 1939; Balakr., Fl. Jowai 2:325. 1983; Harid. and Rao., Forest Fl. Meghalaya 2:632. 1987.

Vern. name: Bojo (Bodo).

Tree, to 15 m tall; stems rough; bark dark grey; leaves alternate, elliptic-ovate or oblong, 8–12 × 3–5 cm, margin serrate, acuminate at apex, base cuneate, glabrous both side; lateral nerves 6-8 pairs; petioles 1–2 cm long, glabrous; inflorescence terminal or axillary, paniced cymes; flowers in close association; calyx ciliate; corolla white; stamens as numbers as corolla lobes; anthers pale brown; filaments white; fruits ovoid, beaked, yellow when ripe.

Flowering and Fruiting: March–September.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, JAPAN, MYANMAR, NEPAL, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0497* (BUBH), 19.04.2019.

2. *Ehretia aspera* Willd., Phytographia 4. 1794. *E. laevis* Clarke in Hook.f., Fl. Brit. India 4:141. 1883; Kanjilal *et al.*, Fl. Assam 3:333.1939. (Plate 18F).

Shrub, to 4 m tall; leaves alternate, oblong-elliptic, 6–10 × 3–5 cm, margin entire, acuminate at apex, base broadly acute or rounded, glabrous both side; lateral nerves 7–9 pairs; petioles 1–1.5 cm long; inflorescence axillary or terminal, branched cymes; flowers white; calyx 5-lobed, persistent, lobes oblong, acute at apex, green, pubescent; corolla rotate; stamens 5; filaments glabrous; anthers brown; styles linear, white; stigma bifurcate.

Flowering and Fruiting: February–June.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BHUTAN, CAMBODIA, LAOS, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0302* (BUBH), 10.03.2021.

3. *Heliotropium* L., Sp. Pl. 1:130. 1753.

1. *Heliotropium indicum* L., Sp. Pl. 1:130. 1753; Clarke in Hook.f., Fl. Brit. India 4:152. 1883; Deb, Fl. Tripura 2:313. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:188. 2008. *H. indicum* DC., Prodr. 9:556. 1845. (Plate 19A).

Annual herbs, to 60 cm tall; stem branched, strigose; petiole 3-6 cm long; leaves alternate, ovate, 5–10 × 3–5 cm, strigose, base truncate or rounded, margin undulate, acute at apex; lateral nerves 4–6 pairs; inflorescence scorpioid cyme; 6–12 cm long; flowers closely associated, sessile; calyx strigose; lobes lanceolate; corolla pale blue or bluish white, brownish when dry; anthers inserted; stigma pubescent; ovary glabrous.

Flowering and Fruiting: April–July.

Occurrence: Found in open forest or in roadside.

Distribution: INDIA (Introduced), BRAZIL, ARGENTINA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0139* (BUBH), 01.05.2020.

Uses: Roots, leaves and flowers are used in ringworm, typhoid, insects bites, snake bite (Das *et al.* 2010).

103. CONVOLVULACEAE Juss., Gen. Pl. 132. 1789.

About 29 genera and 199 species in India; 11 genera and 46 species in Assam; 7 genera, 9 species and 1 subsepecies recorded from the study area.

Key to the genera

- 1a. Prostrate herb.....4. *Evolvulus*
- 1b. Climbers.....2
- 2a. Plants parasitic, leafless.....3. *Cuscuta*
- 2b. Plants not parasitic, leafy.....3
- 3a. Fruits dehiscent.....4
- 3b. Fruits indehiscent.....6
- 4a. Flowers below 1.5 cm in diam.....6. *Merremia*
- 4b. Flowers more than 2.5 cm in diam.....5
- 5a. Stems hollowed (except *I. alba*).....5. *Ipomoea*
- 5b. Stems non-hollowed.....2. *Camonea*
- 6a. Flowers in panicle, below 1 cm in diam.....7. *Porana*
- 6b. Flowers in cymes, more than 2.5 cm in diam.....1. *Argyreia*

1. *Argyreia* Lour., Fl. Cochinch. 134.1790.

1. *Argyreia argentea* (Roxb.) Sweet, Hot. Brit. 2:273. 1830; Clarke in Hook.f., Fl. Brit. India 4:185. 1883; Kanjilal *et al.*, Fl. Assam 3:343. 1939; Balakr., Fl. Jowai 2:328. 1983; Deb, Fl. Tripura 2:252. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:191. 2008. *Lettsomia argentea* Roxb., Fl. Ind. 2:79. 1824.

Climbers; leaves alternate, ovate-cordate, 10–16 × 10–15 cm, margin entire acuminate at apex, base cordate, tomentose silky beneath; lateral nerves 6–9 pairs; petioles 6–12 cm long; inflorescence corymbose cyme; flowers funnel-shaped; calyx green; corolla pale purple, sometimes white; fruits 1.5–2 cm across, orange-yellow when ripe, depressed globose.

Flowering and Fruiting: July–November.

Occurrence: Found in roadside.

Distribution: INDIA (NE India), BANGLADESH, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0498 (BUBH), 16.09.2020.

2. *Camonea* Raf., Fl. Tellur. 4:81. 1838.

Key to the species

- 1a. Flowers yellow; stems and calyx densely pubescent.....2. *C. vitifolia*
- 1b. Flowers white; stems and calyx glabrous.....1. *C. umbellata*

1. *Camonea umbellata* (L.) Simões and Staples in Bot. J. Linn. Soc. 183(4):583. 2017. *Convolvulus umbellatus* L., Sp. Pl. 1:155. 1753. *Merremia umbellata* Clarke in Hook.f., Fl. Brit. India 4:211. 1883; Kanjilal *et al.*, Fl. Assam 3:356. 1939; Deb, Fl. Tripura 2:263. 1983.

Climbing herbs; leaves alternate, ovate-lanceolate, 7–10 × 3–4 cm, margin entire, acuminate at apex, base cordate; lateral nerves 5–8 pairs; petiole 1.5–2 cm long; inflorescence axillary, 3–10-flowered; flowers 4 cm across; calyx 5, pale reddish-brown or white; long, corolla 5-lobed, white, apex bilobed; stamens 5, yellow; filament white; stigma bilobed, white.

Flowering and Fruiting: February–May.

Occurrence: Found in open forest or in roadside.

Distribution: INDIA (Introduced), AFRICA, AMERICA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0020* (BUBH), 38.03.2018.

2. *Camonea vitifolia* (Burm. f.) Simões and Staples in Bot. J. Linn. Soc. 183(4):583. 2017. *Merremia vitifolia* Kanjilal *et al.*, Fl. Assam 3:357. 1939; Deb, Fl. Tripura 2:264. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:196. 2008. *Convolvulus vitifolius* Burm.f., Fl. Ind. 45. 1768. (Plate 21E).

Twining; stem densely pubescent, purple; leaves alternate, ovate-orbicular, 4–8 × 4–7 cm, margin often with 5-lobed, acute to acuminate at apex, base cordate, pubescent both side; petioles 1–3 cm long; inflorescence axillary, 1–5-flowered; pedicels 1–3 cm long; sepals elliptic, pubescent, violet; corolla funnel shaped, 5-sublobed, yellow; stamens 5, unequal; capsule subglobose.

Flowering and Fruiting: February–August.

Occurrence: Found in roadside of forest or in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0501* (BUBH), 19.02.2019.

3. *Cuscuta* L., Sp. Pl. 1:124. 1753.

1. *Cuscuta reflexa* Roxb., Pl. Corom. 2(1):3,t.104. 1798; Clarke in Hook.f., Fl. Brit. India 4:225. 1883; Kanjilal *et al.*, Fl. Assam 3 : 362. 1939 ; Deb, Fl. Tripura 2:311. 1983 ; Harid.

and Rao, Forest Fl. Meghalaya 2:646. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2: 197. 2008.

Vern. name: Gwmw Bendwng (Bodo).

Tweening, leafless parasite; stem linear, slender, forming dense net-like structure over the host, terete, yellow, glabrous; inflorescence umbellate cymes or fascicles; flowers 5-merous; calyx glabrous, pale green; corolla lobes campanulate, ovate, slightly reflexed, creamy white; stamens 5; anthers yellow; fruits fleshy, globose.

Flowering and Fruiting: September–February.

Occurrence: Found in scrub forests.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0502* (BUBH), 19.10.2019.

4. *Evolvulus* L., Sp. Pl. 2:391. 1753.

1. *Evolvulus nummularius* (L.) L., Sp. Pl. ed.2:391. 1762; Balakr. in Bull. Bot. Surv. India 6:86. 1964; Sivar. *et al.*, in Bull. Bot. Surv. India 12: 279. 1970; Deb, Fl. Tripura 2:254. 1983. *Convolvulus nummularius* L., Sp. Pl. 1:175. 1753.

Herb, prostrate; stem pubescent, terete; leaves alternate, sub-orbicular, 0.5–1.2 × 1–1.5 cm, margin entire, rounded at apex, base cordate; lateral nerves 3–4 pairs; petioles 2 mm long; flower solitary, axillary; calyx 5, margin hairy, persistent; corolla 5, white; stamens 5, included at middle of corolla tube.

Flowering and Fruiting: February–May.

Occurrence: Found in open forest or in roadside.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0016* (BUBH), 26.03.2018.

5. *Ipomoea* L., Sp. Pl. 1:159. 1753.

Key to the species

- 1a. Plant aquatic; flowers pale rose with violet at middle.....2
- 1b. Plant terrestrial; flowers white.....1. *I. alba*
- 2a. Twiner; stem herbaceous.....2. *I. aquatica*

2b. Shrub, erect; stem woody.....3. *I. carnea* subsp. *fistulosa*

1. *Ipomoea alba* L., Sp. Pl. 1:161. 1753. *I. grandiflora* Clarke in Hook.f., Fl. Brit. India 4:198. 1883. (Plate 21F).

Annual twining herb; stems terete, with milky latex; leaves alternate, ovate-cordate, 10–18 × 8–14 cm, margin entire, acuminate at apex, base cordate; petioles 5–12 cm long; inflorescence axillary, cymes; peduncle stout; flowers bloom early morning; sepals 5, outer 3, inner 2, elliptic, glabrous; corolla white, base tubular; tube 6-10 cm long; stamens exerted; anthers sagittate; stigma 2-lobed; fruits ovoid.

Flowering and Fruiting: May–November.

Occurrence: Found in roadside of evergreen forests.

Distribution: INDIA (Introduced), AMERICA, MEXICO.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0392 (BUBH), 12.05.2021.

2. *Ipomoea aquatica* Forssk., Fl. Aegypt. Arab. 44. 1775; Deb, Fl. Tripura 2:258. 1983; Clarke in Hook.f., Fl. Brit. India 4:210. 1883; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:193. 2008. *I. reptans* Kanjilal *et al.*, Fl. Assam 3:348. 1939.

Herb, floating or prostrate; stem hollowed inside, rooting at the nodes; leaves alternate, ovate-lanceolate or linear-lanceolate, 6–10 × 3–5 cm, margin entire, acute at apex, base sagittate; petioles 4–8 cm long; inflorescence axillary cymes; sepals glabrous; corolla funnel-shaped, white or pale rose with violet at middle; stamens inserted, unequal; fruits globose.

Flowering and Fruiting: Almost throughout the years.

Occurrence: Found in lowland area.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, S. Basumatary 0500 (BUBH), 14.11.2021.

Uses: Tender shoots are eaten cooked as vegetables. Fresh stems are pounded and paste round the boill to make pore.

3. *Ipomoea carnea* subsp. *fistulosa* (Mart. ex Choisy) Austin in Taxon 26 (2–3):237. 1977. *I. fistulosa* Deb, Fl. Tripura 2. 259. 1983; Haridasan and Rao, Forest Fl. Meghalaya 2:646.

1987. *I. carnea* Bora and Kumar, Fl. Div. Assam Pabitora WLS. 229. 2003. *Ipomoea fistulosa* Choisy in DC, Prodr. 9:349. 1845.

Vern. name: Mande Raja (Bodo).

Shrubs with milky latex, erect or ascending, to 3 m tall; stem terete, hollowed; leaves alternate, ovate-lanceolate, 6–12 × 4–7 cm, margin entire, acuminate at apex, base cordate to truncate; lateral nerves 8–10 pairs; petioles 2–4 cm long; inflorescence axillary or terminal cymes; calyx sub-equal, puberulous; corolla funnel shaped, pale pinkish-purple; stamens and styles included; fruits ovoid, pale brown.

Flowering and Fruiting: September–March.

Occurrence: Found in lowland watery area.

Distribution: INDIA (Introduced), AMERICA, MEXICO.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0499* (BUBH), 19.10.2019.

6. *Merremia* Dennst. ex Endl., Gen. Pl., Suppl. 1:1403. 1841.

1. *Merremia hederacea* (Burm.f.) Hallier f. in Bot. Jahrb. Syst. 18(1–2):118. 1893; Deb, Fl. Tripura 2:262. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:195. 2008. *M. chryseides* Kanjilal *et al.*, Fl. Assam 3:358. 1939. *Evolvulus hederaceus* Burm.f., Fl. Ind. 77. 1768. (Plate 22A).

Twining herb, with milky latex; leaves alternate, ovate-cordate, 4–6 × 2–4 cm, margin subentire or subcrenate, caudate-acuminate at apex, base cordate; lateral nerves 4–5 pairs; petioles 3–4 pairs; inflorescence axillary cymes; flowers actinomorphic; calyx green, apex acuminate; corolla campanulate, yellow, stamens 5; filaments white; anther pale brown; fruits 5 mm across, ovoid.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside or in scrub forests.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, CAMBODIA, CAMEROON, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0175* (BUBH), 26.10.2020.

7. *Poranopsis* Roberty in Candollea 14:27. 1952.

1. *Poranopsis paniculata* (Roxb.) Roberty in Candollea. 14: 26. 1952; *Porana paniculata* Roxb., Pl. Corom. 3:31. t. 235. 1819; C.B. Clarke in Hook.f., Fl. Brit. India 4:222. 1883; Gamble, Fl. Pres. Madras 2:929. 1923; Kanjilal *et al.*, Fl. Assam 3:353. 1939. *Porana paniculata* Roxb., Pl. Coromandel 3:31. 1815. (Plate 22B).

Climbers; stem dull grey when young; petiole 3–8 cm long; leaf lamina cordate or cordate-suborbicular, 6–12 × 5–10 cm, margin entire, base cordate, apex acuminate; inflorescence crowded panicle raceme; flowers 3–5 mm across; sepals linear, lanceolate, 2 mm, greyish, pale brown when old, pubescent; corolla creamy white, funnel-shaped, 5-lobed.

Flowering and Fruiting: November–January.

Occurrence: Found in open deciduous forest.

Distribution: INDIA (Throughout the country), BANGLADESH, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0230* (BUBH), 10.12.2019.

104. SOLANACEAE Juss., Gen. Pl. 124. 1789.

About 17 genera and 75 species in India; 14 genera and 38 species in Assam; 3 genera and 4 species recorded from the study area.

Key to the genera

- 1a. Inflorescence extra-axillary cymes.....3. *Solanum*
- 1b. Inflorescence axillary fascicles.....2
- 2a. Fruiting calyx enlarged, enveloping entire fruit.....2. *Physalis*
- 2b. Fruiting calyx inconspicuous, 5–10 unequal teeth.....1. *Lycianthes*

1. *Lycianthes* (Dunal) Hassl. in Annuaire Conserv. Jard. Bot. Genève 20:180. 1917.

1. *Lycianthes neesiana* (Wall. ex Nees) D'Arcy and Zhang in Novon 2(2):126. 1992. *Solanum neesianum* Nees in Trans. Linn. Soc. London 17(1):42. 1837. *S. subtruncatum* Dunal in Prodr. 13(1):180. 1852; Clarke in Hook.f., Fl. Brit. India. 4:231. 1883. (Plate 61F).

Undershrubs, to 1 m tall; leaves alternate, paired per node, unequal, elliptic-lanceolate, 3–10 × 2–4 cm, margin entire, acute-acuminate at apex, base attenuate; lateral nerves 5–7 pairs; petiole 3–15 mm long; inflorescence axillary, fascicled cyme, 1–5-flowered; calyx 5–10 short unequal pointed growth; corolla 5-lobed, white, lobes ovate-lanceolate; stamens 5, surround the style at base; anther yellow; berries globose, 4–5 mm across.

Flowering and Fruiting: September–November.

Occurrence: Found in the floor of semi-evergreen forest.

Distribution: INDIA (NE India, Odisha), CHINA, LAOS, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0165* (BUBH), 05.09.2020.

2. *Physalis* L., Sp. Pl. 1:182. 1753.

1. *Physalis angulata* L., Sp. Pl. 1:183. 1753. *P. minima* L., Sp. Pl. 1:183. 1753; Clarke in Hook.f., Fl. Brit. India 4:238. 1883; Deb, Fl. Tripura 2:242. 1983; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 236. 2003.

Herb, suberect, to 80 cm tall; leaves alternate or subopposite, ovate, 4–8 × 3–5 cm, margin distantly serrate, acuminate at apex, base oblique, broadly cuneate; lateral nerves 4–6 pairs; petioles 1–1.5 cm long; inflorescence single flowered, axillary; flowers pentamerous; calyx enveloping the fruits, green with blackish nerves; corolla pale yellowish; stamens 5; fruits globose, glabrous.

Flowering and Fruiting: March–September.

Occurrence: Found in roadsides or in open forests.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0503* (BUBH), 28.04.2020.

3. *Solanum* L., Sp. Pl. 1:184. 1753.

Key to the species

- 1a. Herb; peduncle glabrous.....1. *S. nigrum*
1b. Shrub; peduncle wooly pubescent.....2. *S. torvum*

1. *Solanum nigrum* L., Sp. Pl. 1:186. 1753; Clarke in Hook.f., Fl. Brit. India 4:229. 1883; Kanjilal *et al.*, Fl. Assam 3:366. 1939; Deb, Fl. Tripura 2:247. 1983; Harid. and Rao, Forest Fl. Meghalaya 2: 648. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:207. 2008.

Vern. name: Mwisung (Bodo).

Annual herb, to 80 cm tall; leaves compound or simple, alternate, paired per node, ovate-oblong, 4–8 × 3–5 cm, margin subentire or semi-wavy, acute or acuminate at apex, base attenuate; lateral nerves 5–7 pairs; petioles 6–10 mm long; inflorescence extra-axillary,

pedunculate cymes; flowers 5-merous; calyx 5, toothed, recurved; corolla 5-lobed, pubescent, white; fruits fleshy, globose, black when ripe.

Flowering and Fruiting: September–March.

Occurrence: Found in open places in scrub forests, often domesticated land.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BHUTAN, CHINA, MYANMAR, NETHERLANDS, TAIWAN, THAILAND.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0504* (BUBH), 23.12.2020.

Uses: Leaves are used as vegetable. Also used in asthma, hydrophobia, heart diseases, kidney problem (Das *et al.* 2010).

2. *Solanum torvum* Sw., Prodr. 47. 1788; Clarke in Hook.f., Fl. Brit. India 4:234. 1883; Kanjilal *et al.*, Fl. Assam 3:369.1939; Deb, Fl. Tripura 2:249. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:648. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2: 208. 2008.

Vern. name: Kuntainara (Bodo).

Shrub, to 2 m tall, prickly; leaf alternate, ovate-oblong, asymmetrical, 12–15 × 17–20 cm, margin sublobed, apex cuspidate, pubescent both sides; lateral nerves 3–5 pairs; petiole 3–5 cm; inflorescence cymose, axillary, branched; flowers 3 cm diam.; calyx 5, green, apex caudate; corolla 5, white; stamens 5; anther yellow; style white; stigma green.

Flowering and Fruiting: May–December.

Occurrence: Found in deciduous forest or in roadside.

Distribution: INDIA (Introduced), AMERICA, BRAZIL MEXICO.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0007* (BUBH), 16.03.2018.

Uses: Fruits are eaten fried or after fried with dried fish, it is grinded as chutney.

105. HYDROLEACEAE Br., Observ. Congo 32. 1818.

About 1 genus and 1 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Hydrolea* L., Sp. Pl. ed. 2, 1:328. 1762.

1. *Hydrolea zeylanica* (L.) Vahl, Symb. Bot. 2:46. 1791. *Nema zeylanica* L., Sp. Pl. 226. 1753; Clarke in Hook.f., Fl. Brit. India 4:133. 1883; Kanjilal *et al.*, Fl. Assam 3:329. 1939;

Deb, Fl. Tripura 2:310. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:185. 2008.

Herb, decumbent or prostrate; leaves alternate, ovate-elliptic, 3–5 × 0.5–1 mm, margin entire, apex acute, base cuneate; flowers in axillary, solitary; sepals 5, united at base, densely pubescent, apex acute, persistent; petals 5, blue; stamens 5; anther yellow, U-shaped; filament white; capsule ellipsoid, 6 × 3 mm across.

Flowering and Fruiting: January–December.

Occurrence: Found in marshy area.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0229* (BUBH), 11.02.2019.

106. OLEACEAE Hoffmanns. and Link in Hoffmanns., Fl. Portug. 1:62. 1809.

About 10 genera and 99 species in India; 5 genera and 26 species in Assam; 2 genera and 03 species recorded from the study area.

Key to the genera

- 1a. Leaves with 3 basal nerved.....2. *Myxopyrum*
1b. Leaves pinnately nerved.....1. *Jasminum*

***Jasminum* L., Sp. Pl. 1:7. 1753.**

Key to the species

- 1a. Leaves 3-foliolate.....1. *J. flexile*
1b. Leaves simple.....2. *J. subglandulosum*

1. *Jasminum flexile* Vahl, Symb. Bot. 3:1. 1794; Clarke in Hook.f., Fl. Brit. India 3:601. 1882; Kanjilal *et al.*, Fl. Assam 3:231. 1939. (Plate 42D).

Vines, trailing; leaves opposite, 3-foliolate; petiole 1.5–2.5 cm long; leaflet ovate-lanceolate, margin entire, caudate-acuminate at base, base rounded-cuneate; lateral nerves 6–8 pairs; terminal leaflet 6–8 × 2–3 cm; lateral leaflets 4–6 × 1–2 cm; inflorescence axillary, cymes, 3–5-flowered; flowers actinomorphic; calyx 5-lobed, truncate at apex; corolla 5–7-lobed, white.

Flowering and Fruiting: September–November.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (NE India), CHINA, MYANMAR, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0160* (BUBH), 12.10.2020.

2. *Jasminum subglandulosum* Kurz in J. Bot. 13:329. 1875; Clarke in Hook.f., Fl. Brit. India 3:600. 1882; Kanjilal *et al.*, Fl. Assam 3:230. 1939. (Plate 42E).

Vines; bark corky, grey; leaves opposite, obovate-elliptic, 8–15 × 5–8 cm, margin entire, acuminate at apex, base cuneate-rounded; lateral nerves 5–7 pairs; petiole 1–2 cm long; inflorescence cymes, 3–5-flowered; flowers white; calyx green, minutely lobed; corolla white, tubular, 6–8-lobed; lobes lanceolate; stamens 5; anther yellow.

Flowering and Fruiting: September–November.

Occurrence: Found in the bank of streams in semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0164* (BUBH), 05.09.2020.

2. *Myxopyrum* Blume, Bijdr. Fl. Ned. Ind. 683. 1826.

1. *Myxopyrum smilacifolium* (Wall.) Blume, Mus. Bot. 1:320. 1851; Clarke in Hook.f., Fl. Brit. India 3:618. 1882; Brandis, Ind. Trees 452. 1906; Kanjilal *et al.*, Fl. Assam 3:243. 1939; Haridasan and Rao, Forest Fl. Meghalaya 2:594.1987. *Chionanthus smilacifolius* Wall. in Roxb. Fl. Ind. 1:108. 1820.

Scandent shrub; leaves opposite, elliptic, 10–15 × 4–7 cm, margin subentire or finely serrate, acute to acuminate at apex, base broadly cuneate or obtuse, coriaceous; basal nerves 3; petioles 6–10 mm long, blackish; inflorescence axillary, paniced cymes; flowers sessile; calyx reduced; corolla campanulate; fruits subglobose, glabrous.

Flowering and Fruiting: August–November.

Occurrence: Found in moist places of semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0703* (BUBH), 17.09.2021.

107. GESNERIACEAE Rich. and Juss. in DC., *Essai Propr. Med. Pl.* ed 2:192. 1816.

About 24 genera and 114 species in India; 10 genera and 23 species in Assam; 2 genera and 4 species recorded from the study area.

Key to the genera

- 1a. Creeping or epiphytic herb or shrub; stamens didynamous.....1. *Aeschynanthus*
1b. Erect undershrub; all stamens equal in length.....2. *Rhynchotechum*

1. *Aeschynanthus* Jack, *Trans. Linn. Soc. London* 14:42. 1823.

Key to the species

- 1a. Leaves and stems densely pubescent.....2. *A. gracilis*
1b. Leaves and stems glabrous.....2
2a. Corolla pale greenish-yellow.....3. *A. micranthus*
2b. Corolla brick red.....1. *A. acuminatus*

1. *Aeschynanthus acuminatus* Wall. ex DC., *Prodr.* 9:263. 1845; Clarke in *Hook.f., Fl. Brit. India* 4:341. 1881; Kanjilal *et al.*, *Fl. Assam* 3:391. 1939. *Trichosporum acuminatum* Kuntze, *Revis. Gen. Pl.* 2:477. 1891. (Plate 28F).

Epiphyte; branches terete; leaves opposite, elliptic, 8–11 × 3–5 cm margin entire, apex acuminate, base cuneate, coriaceous; petioles 0.5–1 cm long; inflorescence terminal cyme, 1–4-flowered, 4–6 cm long; sepals 5, apex round, reddish-green; corolla 5-lobed, greenish-yellow, reddish-black stripes inside at base; stamens 4, 2+2, anther black; fruits linear-terete, 16–20 cm long.

Flowering and Fruiting: January–June.

Occurrence: Found in moist deciduous forest.

Distribution: INDIA (NE India), BANGLADESH, CHINA, MYANMAR, NEPAL, TAIWAN, THAILAND, TIBET, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0072 (BUBH), 14.01.2019.

2. *Aeschynanthus gracilis* Parish ex Clarke, *Commelyn. Cyrtandr. Bengal.* t. 48. 1874; Clarke in *Hook.f., Fl. Brit. India* 4:340. 1881; Kanjilal *et al.*, *Fl. Assam* 3:390. 1939. (Plate 29A).

Epiphyte; stem pendulous, pubescent throughout; leaves opposite, ovate-elliptic, 1.5–2.5 × 0.5–1.2 cm, margin entire, acute at apex, base rounded; lateral nerves not visible; petiole 2–3 mm long; inflorescent 1-flowered; calyx 5 segments, 3–4 mm long; corolla 2-lipped, slightly curved, red; stamens 4, exserted; anther coherent in pairs.

Flowering and Fruiting: February–May.

Occurrence: Found in moist deciduous forest along streams.

Distribution: INDIA (NE India), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0099* (BUBH), 01.03.2019.

3. *Aeschynanthus micranthus* Clarke in DC. and DC., Monogr. Phan. 5(1):27. 1883; Clarke in Hook.f., Fl. Brit. India 4:340. 1881; Kanjilal *et al.*, Fl. Assam 3:390. 1939.

Epiphyte; leaves opposite, elliptic, 4–6 × 2.5–4 cm, margin entire, acuminate at apex, base acute or subrounded, leathery; lateral nerves inconspicuous; petioles 5–10 mm long; inflorescence terminal or axillary; pedicels 8–12 mm long; calyx segments 5, linear-lanceolate; corolla brick red; stamens 4, didynamous; capsule linear, 12–18 cm long, terete.

Flowering and Fruiting: March–August.

Occurrence: Found in moist deciduous forest along streams.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, LAOS, MYANMAR, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0098* (BUBH), 20.05.2019.

2. *Rhyncholechum* Blume, Bijdr. Fl. Ned. Ind. 775. 1826.

1. *Rhyncholechum ellipticum* (Wall. ex Dietr.) DC., Prodr. 9:285. 1845; Clarke in Hook.f., Fl. Brit. India 4:373. 1884; Kanjilal *et al.*, Fl. Assam 3:399. 1939; Deb, Fl. Tripura 2:302. 1983. *Corysanthera elliptica* Dietr., Syn. Pl. 3:582. 1842. (Plate 29B).

Undershrub; leaves opposite, elliptic-oblong or elliptic-lanceolate, 20–35 × 8–12 cm, acuminate at apex, base cuneate, margin serrulate, pubescent beneath; lateral nerves 15–22 pairs; petiole 1–2 cm long; inflorescence axillary paniced cyme, arising from old stem; calyx and corolla 6, both pubescent; calyx grey, lobes lanceolate; corolla pink, lobes apex obtuse; stamens 4; style bent; fruits a berry, white, globose.

Flowering and Fruiting: August–November.

Occurrence: Found in semi-evergreen forest along the bank of streams.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0161* (BUBH), 09.09.2020.

Uses: Juvenile leaves are eaten cooked as vegetables (Jain and Borthakur 1980, Patgiri and Borah 2007).

108. PLANTAGINACEAE Juss., Gen. Pl. 89. 1789.

About 33 genera and 80 species in India; 10 genera and 27 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Semi aquatic; stem herbaceous; leaves opposite.....1. *Limnophila*
- 1b. Terrestrial; stem woody at base; leaves whorled.....2. *Scoparia*

1. *Limnophila* Br., Prodr. Fl. Nov. Holland. 442. 1810.

1. *Limnophila rugosa* (Roth) Merr., Interpr. Rumph. Herb. Amb. 466. 1917; Backer, Fl. Java 2: 505. 1965; *L. roxburghii* Hook.f., Fl. Brit. Ind. 4: 265. 1884; Forbes and Hemsl. in Journ. Linn. Soc., Bot. 26: 186 1890; Gamble, Fl. Madras 2: 951. 1923. *Herpestis rugosa* Roth, Nov. Pl. Sp. 290. 1821. (Plate 54C).

Semiaquatic herbs, to 30 cm tall; petiole 1–1.5 cm long, narrowly winged; leaves opposite, lamina ovate-elliptic, 3–6 × 1.5–3 cm, lateral nerves 5–8 pairs, margin crenate, base cuneate, apex acute; inflorescence cymes; flowers sessile; calyx 5–7 mm, margin ciliate; corolla 4-lobed, pink, yellow hairs at middle, with longitudinal purplish-red stripes.

Flowering and Fruiting: September–February.

Occurrence: Found along streams of deciduous forest in shade muddy soil.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0326* (BUBH), 19.10.2019.

2. *Scoparia* L., Sp. Pl. 1:116. 1753.

1. *Scoparia dulcis* L., Sp. Pl. 1:116. 1753; Hook.f., Fl. Brit. India 4:289. 1884; Kanjilal *et al.*, Fl. Assam 3:380. 1939; Deb, Fl. Tripura 2:277. 1983; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 244. 2003.

Vern. name: Bomphang Rakeb (Bodo).

Herbs, erect, to 50 cm tall; leaves whorled or opposite, oblanceolate 1.5–3 × 0.5–0.8 cm, margin serrulate, acute at apex, base tapering, puberulous beneath; petioles 3–5 mm long; inflorescence axillary, racemes; flowers mouth pilose; calyx green; corolla white; stamens 4; anthers yellow; fruits subglobose, covered by persistent calyx lobes.

Flowering and Fruiting: September–February.

Occurrence: Found in domesticated land area.

Distribution: INDIA (Introduced), AMERICA, ARGENTINA, MEXICO.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0505* (BUBH), 23.12.2020.

Uses: Roots, seeds, leaves are used in cough, fever, throat infection, kidney stone, toothache (Das *et al.* 2010).

109. SCROPHULARIACEAE Juss., Gen. Pl. 117. 1789.

About 7 genera and 20 species in India; 3 genera and 5 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Buddleja* L., Sp. Pl. 1:112. 1753.

1. *Buddleja asiatica* Lour., Fl. Cochinch. 72. 1790; Jain and Hajra, Bull. Bot. Surv. India 17:84. 1975; Deb, Fl. Tripura 2:1. 1983. *B. discolor* Hook.f., Fl. Brit. India 4:82. 1883. *Buddleia asiatica* Kanjilal *et al.*, Fl. Assam 3:312. 1939.

Vern. name: Khundamara (Bodo).

Shrubs, to 3 m tall; branchlets with white or grey woolly hairy; leaves opposite, narrowly elliptic, 5–10 × 0.5–2 cm, margin remotely serrate or subentire, base cuneate, apex acuminate; lateral nerves 8–11 pairs; petiole 2–7 cm long; inflorescence terminal, 4–10 cm long; calyx 4-lobed, campanulate, densely pubescent; corolla 4-lobed, white, brownish when dry; stamens 4; anther yellowish-brown; stigma capitate, black.

Flowering and Fruiting: October–March.

Occurrence: Found along the stream bank.

Distribution: INDIA (Throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0100* (BUBH), 13.02.2019.

110. LINDERNIACEAE Borsch, Kai Müll. and Eb.Fisch. in Stuttgart, Pl. Biol. 7(1):76. 2005.

About 6 genera and 30 species in India; 4 genera and 12 species in Assam; 4 genera and 7 species recorded from the study area.

Key to the genera

- 1a. Calyx winged, 2-labiate or shallowly lobed.....3. *Torenia*
- 1a. Calyx not winged, deeply lobed almost to base.....2
- 2a. Stamens exserted.....4. *Yamazakia*
- 2b. Stamens included.....3
- 3a. Leaves with basal nerves; calyx glandular hairs outside.....2. *Lindernia*
- 3b. Leaves without basal nerves; calyx glabrous.....1. *Bonnaya*

1. *Bonnaya* Link and Otto, Icon. Pl. Select. 25. 1820.

Key to the species

- 1a. Leaves oblong-orbicular, margin densely serrate.....3. *B. ruelloides*
- 1b. Leaves elliptic-lanceolate, margin sparsely serrate.....2
- 2a. Flowers in terminal raceme.....2. *B. oppositifolia*
- 2b. Flowers axillary, solitary.....1. *B. antipoda*

1. *Bonnaya antipoda* (L.) Druce in Bot. Exch. Club Brit. Isles Rep. 3(5):415. 1914. *B. veronicaefolia* Hook.f., Fl. Brit. India 4: 285. 1884. *Ruellia antipoda* L., Sp. Pl. 2:635. 1753. *Gratiola veronicifolia* Retz., Obs. Bot. 4:8. 1786. *G. grandiflora* Roxb., Pl. Corom. t. 179. 1805. (Plate 33A).

Annual decumbent herbs, to 15 cm tall; leaves opposite, ovate-elliptic, or linear-lanceolate, 1–2 × 0.4–1 cm, margin obscurely serrate, base cuneate, apex acute; flowers solitary in leaf axils or in a raceme; calyx lobes linear, lanceolate, 3–6 mm long; corolla 7–10 mm long, white or whitish-pale purple; fertile stamens 2; anthers yellow; capsule cylindrical, 8–10 mm long, glabrous.

Flowering and Fruiting: May–September.

Occurrence: Found in domesticated area of shady places.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0108* (BUBH), 12.08.2019.

2. *Bonnaya oppositifolia* (Retz.) Spreng., Syst. Veg. ed.16 1:41. 1824; Hook.f., Fl. Brit. India 4: 286. 1884. *Lindernia oppositifolia* Mukerjee in J. Ind. Bot. Soc. 24:134. 1945. *Gratiola oppositifolia* Retz., Observ. Bot. 4:8. 1786.

Annual herbs; stem terete, glabrous, reddish; leaves sessile, opposite, linear oblong, 0.8–2 × 0.3–0.6 cm, margin serrate, apex acute; inflorescence terminal raceme, to 10 cm long; flowers in opposite pair; pedicel 0.5–1.5 cm long, slender; sepals linear-lanceolate; corolla 2-lipped, white or tinged purple; anthers yellow; capsule terete, 1.2–1.8 mm long.

Flowering and Fruiting: August–February.

Occurrence: Found in marshy area of open field.

Distribution: INDIA (NE India, South India), BANGLADESH, SRI LANKA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0110* (BUBH), 25.08.2019.

3. *Bonnaya ruelloides* (Colsm.) Spreng., Syst. Veg. ed. 16, 1:41. 1824. *B. reptans* Hook.f., Fl. Brit. India 4:284. 1884; Kanjilal *et al.*, Fl. Assam 3:380. 1939; Deb, Fl. Tripura 2:276. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:214. 2008. *Gratiola ruelloides* Colsm., Prodr. Descr. Gratiol. 12. 1793.

Herb, prostrate; leaves opposite, oblong-orbicular, 2–3 × 1–2 cm, margin serrate, acute at apex, base cuneate or narrowed; petioles 3–5 mm long; inflorescence axillary and terminal, racemes; flowers 2-lipped; calyx linear, 5–10 mm long; corolla 4-lobed, pale violet and white; stamens 2; capsules slender, tapering both ends.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides of forest or in open forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0192* (BUBH), 10.03.2020.

2. *Lindernia* All. in Mélanges Philos. Math. Soc. Roy. Turin 3:178. 1766.

1. *Lindernia rotundifolia* (L.) Alston, Handb. Fl. Ceylon 6:214. 1931. *Gratiola rotundifolia* L., Mant. Pl. Altera 174. 1771. *Ilysanthes rotundifolia* Hook.f., Fl. Brit. India 4: 285. 1884. *Torenia rotundifolia* Cordem., Fl. Réunion 486. 1895. (Plate 33B).

Annual herbs, to 20 cm tall; leaves opposite, ovate to suborbicular, 0.8–1.5 × 0.5–1 cm, sessile, margin subentire, base rounded, apex rounded, basal nerves 3; flowers solitary, axillary; calyx segments 5, lanceolate, green, pubescent; corolla 0.7–1 cm, white, 1 each blue blotch at base of 3 lower lobes, 2 pale blue blotch each of opposite side at margin of middle part of lower lobes; stamens 2; anther yellow.

Flowering and Fruiting: August–November.

Occurrence: Found growing on old cow dung in lowland open field.

Distribution: INDIA (NE India, West India), BANGLADESH, AMERICA.

Specimen examined: Kokrajhar, Haltugaon, S. Basumatary 0111 (BUBH), 12.08.2019.

3. *Torenia* L., Sp. Pl. 2:619. 1753.

Key to the species

1a. Calyx 2-labiate.....1. *T. asiatica*

1b. Calyx not 2-labiate, shallowly lobed.....2. *T. crustacea*

1. *Torenia asiatica* L., Sp. Pl. 2:619. 1753; Hook.f., Fl. Brit. India 4:277. 1884. (Plate 33C).

Creeping or suberect herb; leaves triangular-ovate, 1–2.5 × 1–2 cm, margin serrate, base truncate or semi-truncate, acute at apex; petiole 3 margin serrate 5 mm long; flowers axillary, solitary; pedicel to 1.5 cm long; calyx 2-lipped, green, lip apex acuminate; corolla 2-lipped, pale-purple white or pale-bluish white, upper lip 2-lobed, lower lip 3-lobed; anther fused.

Flowering and Fruiting: September–January.

Occurrence: Found in open forest at floor.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0506 (BUBH), 19.09.2020.

2. *Torenia crustacea* (L.) Cham. and Schltld. in *Linnaea* 2:570. 1827. *Capraria crustacea* L., *Mant. Pl.* 87. 1767. *Lindernia crustacea* Chowdhery *et al.* in Giri *et al.*, *Materials for the Fl. Arunachal Pradesh* 2:214. 2008. *Vandellia crustacea* Hook.f., *Fl. Brit. India* 4:279. 1884.

Vern. name: Na Biki (Bodo).

Annual herbs, to 10 cm tall; stem quadriangular, sulcate; petiole 1–3 mm; leaves opposite, lamina ovate, 1–1.5 × 0.5–1 cm, margin shallowly crenate, base rounded, apex acute; flowers axillary solitary; calyx 2–5 mm, lobes ovate-triangular, green; corolla 5–7 mm, tube longer than calyx, purple; lower lip 3-lobed; stamens didynamous; capsule ellipsoid, base with persistent calyx.

Flowering and Fruiting: August–December.

Occurrence: Found in shady places of domesticated area.

Distribution: INDIA (Throughout the country), AMERICA, BANGLADESH, CHINA, MALAYSIA, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0109* (BUBH), 18.08.2019.

4. *Yamazakia* Barker, Liang and Wannan in *Austral. Syst. Bot.* 31(3):250. 2018.

1. *Yamazakia pusilla* (Willd.) Barker, Liang and Wannan in *Austral. Syst. Bot.* 31(3):250. 2018. *Gratiola pusilla* Willd., *Sp. Pl.*, 4 (1):105. 1797. *Vandellia scabra* Hook.f., *Fl. Brit. India* 4:281. 1884. (Plate 33D).

Diffuse herb, to 12 cm tall; stem angular, with white straight hairs; leaves opposite, subsessile, ovate-cordate, 8–12 × 6–10 cm, margin distantly serrulate or subentire, acute-obtuse at apex; inflorescence axillary or terminal; flowers 2-lipped; calyx 5-lobed, acuminate at apex, glandular hairs outside; corolla upper lip pale brownish-white, 2-lobed; lower lip 3-lobed, white or pale bluish-white; fertile stamens 2, divergent distinctly in opposite direction; filament white.

Flowering and Fruiting: August–February.

Occurrence: Found in open places, often in paddy fields.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEW GUINEA, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0112 (BUBH), 25.08.2019.

111. ACANTHACEAE Juss., Gen. Pl. 102. 1789.

About 92 genera and 500 species in India; 27 genera and 92 species in Assam; 15 genera and 19 species recorded from the study area.

Key to the genera

- 1a. Climbers.....15. *Thunbergia*
- 1b. Herbs or shrubs.....2
- 2a. Herbs.....3
- 2b. Shrubs.....11
- 3a. Inflorescence terminal or subterminal.....4
- 3b. Inflorescence axillary.....8
- 4a. Leaves margin irregular-spinules.....1. *Acanthus*
- 4b. Leaves margin entire.....5
- 5a. Inflorescence rachis reduced, condensed flowered.....6
- 5b. Inflorescence rachis distinct, elongated.....7
- 6a. Plants prostrate, densely pubescent throughout.....9. *Nelsonia*
- 6b. Plants suberect, sparsely puberulent.....10. *Phaulopsis*
- 7a. Flowers bell shaped, corolla lobes recurved.....3. *Codonacanthus*
- 7b. Flowers strongly bilabiate, corolla lobes not recurved.....12. *Pseuderanthemum*
- 8a. Leaves opposite.....9
- 8b. Leaves whorled.....13. *Rungia*
- 9a. Leaves linear-lanceolate.....6. *Hygrophila*
- 9b. Leaves ovate-elliptic or narrow elliptic.....10
- 10a. Stamens 4.....8. *Lepidagathis*
- 10b. Stamens 2.....4. *Dicliptera*
- 11a. Stamens 2 and equal length.....12
- 11b. Stamens 4 and didynamous.....14. *Strobilanthes*

12 a. Anthers fused, bluish.....	2. <i>Barleria</i>
12b. Anthers free.....	13
13a. Bracts leaf-like, foliaceous, white with green reticulated nerves.....	5. <i>Eranthemum</i>
13b. Bracts leaf-like or not, green.....	14
14a. Flowers red.....	11. <i>Phlogacanthus</i>
14b. Flowers white with purplish spots.....	7. <i>Justicia</i>

1. *Acanthus* L., Sp. Pl. 2:639. 1753

1. *Acanthus leucostachyus* Wall. ex Nees in Wall., *Pl. Asiat. Rar.* 3:98 1832; Clarke in Hook.f., *Fl. Brit. India* 4: 480. 1884; Kanjilal *et al.*, *Fl. Assam* 3:440. 1939. (Plate 9A).

Erect herb, to 30 cm tall; stem quadrangular; leaves opposite, subsessile, linear-lanceolate, 10–15 × 2–3.5 cm, margin spinous serrate, acute at apex, base broadly acute or cuneate; lateral nerves 15–20 pairs; inflorescence terminal, raceme; flowers subsessile; calyx linear with glandular hairs; corolla creamy white, pubescent, sparsely brownish longitudinal spots or lines inside, lower lip 3; stamens 2; capsule with glandular hairs, glabrous when old.

Flowering and Fruiting: February–August.

Occurrence: Found in the floors of semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0340* (BUBH), 20.03.2021.

2. *Barleria* L., Sp. Pl. 2:636. 1753

1. *Barleria strigosa* Willd., Sp. Pl. ed. 4, 3:379. 1800; Clarke in Hook.f., *Fl. Brit. India* 4:489. 1884; Kanjilal *et al.*, *Fl. Assam* 3:446. 1939. (Plate 9B).

Undershrub, to 1 m tall; branches strigose, swollen at node; leaves opposite, elliptic, 6–10 × 4–6 cm, margin entire, acuminate at apex, base cuneate, strigose along nerves; lateral nerves 4–6 pairs; petioles 1–1.5 cm long; inflorescence axillary or terminal spike; bracts ovate-elliptic, 1–1.5 × 1 cm, pubescent, margin ciliate; flowers zygomorphic; corolla bilabiate, 5-lobed, blue, single in lower lip; stamens 2, filaments 2–2.5 cm long; anther bluish.

Flowering and Fruiting: September–February.

Occurrence: Found in floors of mixed deciduous forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0227 (BUBH), 25.10.2020.

Uses: The plant paste is used to skin diseases, pain due to injury (Das *et al.* 2010).

3. *Codonacanthus* Nees in DC., Prodr. 11:103. 1847

3. *Codonacanthus pauciflorus* (Nees) Nees, Prodr. 11:103. 1847; Clarke in Hook.f., Fl. Brit. India 4:501. 1884; Kanjilal *et al.*, Fl. Assam 3:450. 1939; Deb, Fl. Tripura 2:287. 1983. *C. acuminatus* Nees in DC., Prodr. 11:103. 1847. (Plate 9C).

Herbs, to 70 cm tall; stems 4-angled; leaves opposite; petiole 3–10 mm, puberulent or glabrous; lamina elliptic, ovate- lanceolate, 4–10 × 1.5–5 cm, glabrous; lateral nerves 5–6 pairs, base rounded, cuneate, acute or acuminate at apex; inflorescence terminal racemes, to 12 cm long; bracts and bracteoles linear-lanceolate 1–2.5 mm long; flowers 6–10 mm across; sepals 2–4 mm long; petals white, with purple spots inside, glabrous; staminal filaments glabrous; ovary glabrous; style 3–6 mm; capsule 1–2 cm, glabrous.

Flowering and Fruiting: April–September.

Occurrence: Found in forest floor of the moist semi-evergreen forest.

Distribution: INDIA (Assam, Arunachal Pradesh, Manipur, Meghalaya, Tripura, West Bengal), BANGLADESH, CAMBODIA, CHINA, JAPAN, MYANMAR, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0250 (BUBH), 03.03.2020.

4. *Dicliptera* Juss. in Ann. Mus. Hist. Nat. 9:267. 1807.

1. *Dicliptera chinensis* (L.) Juss. in Ann. Mus. Natl. Hist. Nat. 9:268. 1807. *D. roxburghiana* Clarke in Hook.f., Fl. Brit. India 4:555. 1884; Kanjilal *et al.*, Fl. Assam 3:451. 1939; Deb, Fl. Tripura 2:288. 1983. *Justicia chinensis* L., Sp. Pl. 1:16. 1753. (Plate 9D).

Herb, to 80 cm tall; stem hexagonal, grooved, pubescent; leaves opposite, elliptic, 5–8 × 2–3.5 cm, margin entire, acuminate at apex, base cuneate, pubescent beneath; lateral nerves 5–6 pairs; inflorescence axillary, subsessile cymes; corolla purplish-pink, bilabiate, upper lip 3-lobed at apex, purplish-pink spots in white blotch at base; stamens 2; anther pale purple; style longer than stamens, pale pink.

Flowering and Fruiting: October–April.

Occurrence: Found in floors of deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, PAKISTAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0243* (BUBH), 08.11.2020.

5. *Eranthemum* L., Sp. Pl. 1:9. 1753.

1. *Eranthemum griffithii* (Anderson) Bremek. and Nann.-Bremek., Verh. Kon. Ned. Akad. Wetensch. Afd. Natuurk. Sect. 2, 45(1):35. 1948. *Daedalacanthus griffithii* Anderson in J. Linn. Soc., Bot. 9:486. 1867; Clarke in Hook.f., Fl. Brit. India 4:418. 1884. (Plate 9E).

Shrub, erect, to 2 m tall; branches quadriangular at apical part, swollen at node; leaves opposite, oblong-elliptic, 6–12 × 3–6 cm, margin entire, acuminate at apex, base narrowed or cuneate; lateral nerves 8–10 pairs; petioles 5–10 mm long; inflorescence terminal or axillary spike, 5–10 cm long; bracts leafy, ovate, 1.5–2.5 × 1.5–2 cm, whitish with green reticulated nerves; calyx lobes linear-lanceolate, whitish; corolla 5-lobed, base tubular, pubescent outside; stamens 2; style linear, longer than stamens.

Flowering and Fruiting: November–February.

Occurrence: Found in semi-evergreen forest along roadsides.

Distribution: INDIA (Arunachal Pradesh, Assam), MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0631* (BUBH), 18.01.2021.

6. *Hygrophila* Br., Prodr. Fl. Nov. Holland. 479. 1810.

1. *Hygrophila phlomoides* Nees in Wall., Pl. Asiat. Rar. 3:80. 1832; Clarke in Hook.f., Fl. Brit. India 4:408. 1884; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:242. 2008. (Plate 9F).

Herb, to 50 cm tall; stem erect, grooved, densely pubescent; leaves sessile, opposite, elliptic-oblong to linear-lanceolate, 3–7 × 0.8–1.5 cm, tapering both ends; margin entire, acute at apex, base narrowed; inflorescence axillary, crowded cymes; bracts linear lanceolate, densely pubescent; flowers in whorls; corolla bilabiate, bluish-purple; capsules, linear-oblong.

Flowering and Fruiting: October–February.

Occurrence: Found in open forests near streams.

Distribution: INDIA (NE India), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, S. Basumatary 0222 (BUBH), 03.11.2020.

Uses: The plant juice is used to cure jaundice, and kidney stone (Das *et al.* 2010).

7. *Justicia* L., Sp. Pl. 1:15. 1753.

Key to the species

1a. Leaves ovate-elliptic, pubescent both sides.....1. *J. adhatoda*

1b. Leaves lanceolate, glabrous both sides.....2. *J. gendarussa*

1. *Justicia adhatoda* L., Sp. Pl. 1:15. 1753; Clarke in Hook.f., Fl. Brit. India 4:540. 1885. *Adhatoda zeylanica* Deb, Fl. Tripura 2:284. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:661. 1987. *A. vasica* Clarke in Hook, f., Fl. Brit. India 4:540. 1885; Brandis, Ind. Trees 498. 1906; Kanjilal *et al.*, Fl. Assam 3:455. 1939.

Vern. name: Barsika Guphur (Bodo).

Shrub, to 3 m tall; leaves opposite, ovate-elliptic, 8–12 × 3–5 cm, margin entire, acute or acuminate at the apex, base cuneate, pubescent both sides; lateral nerves 8–10 pairs; petioles 1–1.5 cm long; inflorescence terminal or axillary, dense bracteates spikes; bracts ovate, acute at apex; flowers zygomorphic; calyx 5-fid, linear-lanceolate; corolla 2-labiate, lower lip 3-lobed, pink stripes at mouth, upper lip 2-lobed; stamens 2; anther pale green.

Flowering and Fruiting: December–June.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, BHUTAN, LAOS, MYANMAR, SRI LANKA, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0511 (BUBH), 27.12.2020.

Uses: Flowers are eaten cooked as vegetables. It is also used to cure cold and cough, dysentery, piles, pox, and indigestion (Das *et al.* 2010).

2. *Justicia gendarussa* Burm.f., Fl. Ind. 10. 1768; Clarke in Hook.f., Fl. Brit. India 4:532. 1885; Kanjilal *et al.*, Fl. Assam 3:454. 1939; Deb, Fl. Tripura 2:292. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunaehal Pradesh 2:244. 2008. *Vern. name:* Jatrashi (Bodo).

Undershrub, to 1 m tall; stems terete, glabrous, node swollen; leaves opposite, lanceolate, 5–10 × 2–3 cm, margin entire, acute or acuminate at apex, base cuneate, glabrous both sides; lateral nerves 6–8 pairs; petioles 8–12 mm long; inflorescence terminal, spikes; flowers zygomorphic; calyx linear; corolla 2 lipped, dark pink spots at lower lip; stamens 2; anthers 2-celled, yellow.

Flowering and Fruiting: September–February.

Occurrence: Found in moist deciduous forests along streams.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, LAOS, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0510* (BUBH), 27.12.2020.

8. *Lepidagathis* Willd., Sp. Pl. ed. 4, 3:400. 1800.

1. *Lepidagathis incurva* Ham. ex Don, Prodr. 119. 1825; Kanjilal *et al.*, Fl. Assam 3: 451. 1939; Deb, Fl. Tripura 2: 293. 1983; *L. hyaline* Nees in Wall., PL Asiat. Rar.3: 95.1832; Clarke in Hook.f., Fl. Brit. India 4: 521. 1885. (Plate 10A).

Herbs, to 30 cm tall; stem quadriangular, node swollen; leaves opposite, elliptic or linear-lanceolate, 4–7 × 1–2 cm, margin sub-entire or erose, acute at apex, base decurrent; petioles 3–5 mm long; inflorescence terminal, dense spike, 2–3 cm long; bracts ovate-elliptic, 1 cm long, margin hairy; sepals 5, unequal, linear, margin hairy; corolla bilabiate, upper lip 3-lobed, white, lower lip 2-lobed, with brown stripes; stamens 4; style pubescent, white.

Flowering and Fruiting: August–February

Occurrence: Found in open forest or in grassland protected areas.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0074* (BUBH), 30.01.2019.

9. *Nelsonia* Br., Prodr. Fl. Nov. Holland. 480. 1810.

1. *Nelsonia canescens* (Lam.) Spreng., Syst. 1:42.1825; Clarke in Hook.f., Fl. Brit. India 4: 394. 1884; Prain, Bengal Pl. 797. 1903; Kanjilal *et al.*, Fl. Assam 3:411. 1939; Bremek. in Reinwardtia 3:248. 1955; Deb, Fl. Tripura 2:277. 1983. *Justicia canescens* Lam., Tabl. Encycl. 1:41. 1791.

Herb, scandent, like creeper; stem cylindrical, densely hairy, apical part with crowded leaves; leaves opposite, ovate, 0.5–0.8 × 1–1.5 cm, margin entire, acute at apex; lateral nerves 3 pairs; flower solitary, zygomorphic, axillary; calyx 4, pubescent, light green; corolla 5, purple above, white beneath, 2 corolla having purple lined inside; style white, 2 mm long.

Flowering and Fruiting: September–March.

Occurrence: Found in shady places of open forest.

Distribution: INDIA (Throughout the country); AUSTRALIA, BANGLADESH, CAMBODIA, CHINA, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0009* (BUBH), 21.03.2018.

10. *Phaulopsis* Willd., Sp. Pl. ed. 4, 3:342. 1800.

1. *Phaulopsis dorsiflora* (Retz.) Santapau in Kew Bull. 3(2)276. 1948. *P. parviflora* Willd., Sp. Pl. 3:342. 1800; Clarke in Hook.f., Fl. Brit. India 4:417. 1885. *Micranthus oppositifolius* Kanjilal *et al.*, Fl. Assam 3:414. 1939. *Ruellia dorsiflora* Retz., Observ. Bot. 6:31. 1791.

Decumbent herbs, to 30 cm tall; branches pubescent, quadrangular; leaves opposite in unequal pairs, elliptic, 4–7 × 2–3.5 cm, margin entire, acuminate at apex, base oblique; lateral nerves 4–6 pairs; petioles 2–3 cm long; inflorescence axillary on apical twig; bracts leafy, ovate-orbicular, 5–7 mm long, acute at apex, margin entire, hairy; calyx 5-lobed, pubescent; corolla 5-lobed, white, bilabiate; stamens 4.

Flowering and Fruiting: September–February.

Occurrence: Found in the floors of deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0224* (BUBH), 03.11.2020.

11. *Phlogacanthus* Nees in Wall., Pl. Asiat. Rar. 3:76. 1832.

1. *Phlogacanthus thyriformis* (Roxb. ex Hardw.) Mabb. in Manilal, Bot. Hist. Hort. Malabaricus 83. 1980. *P. thyriflorus* Clarke in Hook.f., Fl. Brit. India 4:512. 1885; Brandis, Ind. Trees 501. 1906; Kanjilal *et al.*, Fl. Assam 3:443. 1939; Deb, Fl. Tripura 2:296. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:665. 1987. *Justicia thyriformis* Hardw. in Asiat. Res. 6:349. 1799.

Vern. name: Barsika (Bodo).

Shrub, erect, to 3 m tall; branches quadrangular; leaves opposite, elliptic-oblong, oblanceolate, 10–20 × 4–8 cm, margin entire, acuminate at apex, base cuneate, glabrous both side; lateral nerves 9–12 pairs; petioles 1–2 cm long; inflorescence terminal, raceme, 6–12 cm long; bracts linear, pubescent; calyx pubescent; corolla 1.5–2 cm long, orange red; fruits linear-oblong, glabrous, tapering both ends.

Flowering and Fruiting: February–July.

Occurrence: Found as undergrowth in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0280* (BUBH), 20.02.2021.

Uses: Flowers are taken as wild vegetables by Bodo tribe. Flowers eaten cooked as chutney. Leaves are cooked with dried fish or meat. It is also used to cure ophthalmia, indigestion, cough and cold, heart diseases, dysentery, and piles (Singh *et al.* 1999, Begum and Gogoi 2007, Kar and Borthakur 2007, Jaiswal 2010, Das *et al.* 2010).

12. *Pseuderanthemum* Radlk. in Sitzungsber. Math-Phys. Cl. Königl. Bayer. Akad. Wiss. München 13:282. 1883.

1. *Pseuderanthemum latifolium* (Vahl) Hansen in Nordic J. Bot. 9(2):213. 1989. *P. palatiferum* Kanjilal *et al.*, Fl. Assam 3:449. 1939. *Eranthemum palatiferum* Clarke in Hook.f., Fl. Brit. India 4:498. 1885. (Plate 10B). *Justicia latifolia* Vahl, Symb. Bot. 2:4. 1791.

Herbs or undershrubs, to 80 cm tall; stems quadrangular, pubescent; leaves elliptic, 8–12 × 3–5 cm, margins subentire, acuminate at apex, base cuneate, glabrous both sides except midvein; lateral nerves 5–6 pairs; inflorescence racemes, 6–12 cm long; rachis pubescent; bracts and bracteoles triangular, pubescent; calyx lobes linear, pubescent outside; corolla tubular, light purple with purple dots on lip; capsule 2–2.5 cm long, pubescent.

Flowering and Fruiting: March–July.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0359* (BUBH), 28.03.2021.

13. *Rungia* Ness in Wall., Pl. Asiat. Rar. 3:77. 1832.

1. *Rungia pectinata* (L.) Nees in DC., Prodr. 11:470. 1847; Deb, Fl. Tripura 2:297. 1983. *R. parviflora* Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:251. 2008. *R. parviflora* var. *pectinata* Clarke in Hook.f., Fl. Brit. India 4:550. 1885. *Justicia pectinata* L., Cent. Pl. 2:3. 1756.

Herb, suberect, to 30 cm tall; leaves whorled, linear-lanceolate or elliptic, 2–3 × 0.6–1.5 cm, margin entire, acute at apex, base cuneate or narrowed, glabrous both sides; petioles 5–8 mm long; inflorescence terminal, dense bracteates spikes; bracts lanceolate, pubescent; flowers zygomorphic; calyx segments 5, silky; corolla bilabiate, bluish; stamens 2; anther 2-celled.

Flowering and Fruiting: December–May.

Occurrence: Found in floors of deciduous forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, BHUTAN, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0512* (BUBH), 06.01.2021.

14. *Strobilanthes* Blume, Bijdr. Fl. Ned. Ind. 781. 1826.

Key to the species

- 1a. Flowers white.....2
1b. Flowers pale purple.....3
2a. Leaves glabrous; inflorescence rachis glandular.....2. *S. hamiltoniana*
2b. Leaves densely pubescent; inflorescence rachis non-glandular pubescent.....4. *S. simonsii*
3a. Calyx segments reddish-pink, glandular.....1. *S. anisophylla*
3b. Calyx segment green, non-glandular pubescent.....3. *S. sabiniana*

1. *Strobilanthes anisophylla* (Wall. ex Hook.) Anderson in Cat. Pl. Calcutta 43. 1865; Clarke in Hook.f., Fl. Brit. India 4:462. 1884; Kanjilal *et al.*, Fl. Assam 3:427. 1939. *Ruellia anisophylla* Hook., Ex ot. Fl. 3:t.191. 1826. (Plate 10C).

Undershrubs, to 80 cm tall; stem linear or zigzag; leaves opposite, opposite leaf of each pair equal or much smaller or absent; leaves lanceolate, 1.5–16 × 0.5–2 cm, margin serrulate-undulate, caudate-acuminate at apex, base attenuate; lateral nerves 3–4 pairs; flowers in cymose heads, axillary; calyx segments 0.3–0.8 cm long, linear-oblong, glandular, reddish-pink; corolla 2–3 cm long, pale purple; lobes 5, broadly ovate-rounded, pubescent outside; stamens 4, didynamous; filaments white; style linear, glabrous, white, apex bent.

Flowering and Fruiting: December–February.

Occurrence: Found in semi-evergreen forests in moist places.

Distribution: INDIA (Assam, Meghalaya, West Bengal), BHUTAN, BANGLADESH.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0259* (BUBH), 30.12.2020.

2. *Strobilanthes hamiltoniana* (Steud.) Bosser and Heine in Bull. Mus. Nat. Hist. Nat., B, Adansonia Sér. 4, 10(2):148. 1988. *S. coloratus* Clarke in Hook.f., Fl. Brit. India 4:473. 1884; Kanjilal *et al.*, Fl. Assam 3:434. 1939. *Ruellia hamiltoniana* Steud., Nomencl. Bot., 2:481. 1841. (Plate 10D).

Shrub, to 1.5 m tall; stems quadrangular, glabrous; leaves sessile to petiolate, anisophyllous; leaves ovate, 5–12 × 2–7 cm, margin serrate, acuminate at apex, base oblique and attenuate, glabrous both sides; lateral nerves 5–7 pairs; inflorescences terminal or axillary; rachis pubescent, gland-tipped; bracteoles oblanceolate to narrowly elliptic, caducous; flowers bisexual; calyx accrescent, 8–10 mm long, glabrous, purplish; corolla white; stamens 4, included, didynamous; style sparsely pubescent, 2.5–3 cm long.

Flowering and Fruiting: November–February.

Occurrence: Found in semi-evergreen forests along stream sides.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0251* (BUBH), 21.12.2020.

3. *Strobilanthes sabiniana* (Wall. ex Lindl.) Nees in Wall., Pl. Asiat. Rar. 3:86. 1832. *S. sabinianus* Clarke in Hook.f., Fl. Brit. India 4:454. 1884; Kanjilal *et al.*, Fl. Assam 3:422. 1939. *Ruellia sabiniana* Lindl. in Edward's Bot. Reg. 15: t.1238. 1829. (Plate 10E).

Undershrubs, to 1 m tall; stem angular; leaves opposite of unequal pair, ovate-elliptic or elliptic-lanceolate, 5–12 × 3–5 cm, margin subentire, acuminate at apex, base narrowed or rounded; lateral nerves 4–6 pairs; petiole 5–10 mm long; flowers in spikes; spike 5–10 cm long; calyx deeply cleft, 4–7 mm long; corolla 1.5–2.3 cm across, lobes 5, pale purple; stamens didynamous; filament white, glabrous; anthers violet; style linear, 2–2.5 cm long, apex bent, glabrous.

Flowering and Fruiting: December–February.

Occurrence: Found growing in floors of semi-evergreen forest in steep scrubby banks.

Distribution: INDIA (Assam, Meghalaya), BHUTAN, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0294* (BUBH), 06.02.2021.

4. *Strobilanthes simonsii* Anderson in J. Linn. Soc., Bot. 9:474. 1867; Clarke in Hook.f., Fl. Brit. India 4: 447. 1885; Kanjilal *et al.*, Fl. Assam 3:420. 1939; Wood and Scotland in Kew Bulletin 64:23. 2009. (Plate 10F).

Shrub or herbaceous shrub, to 1.5 m tall; branches pubescent; leaves opposite, elliptic or elliptic-lanceolate, 8–12 × 3–5 cm, margin serrate, caudate-acuminate at apex, base cuneate, pubescent both side; lateral nerves 6–8 pairs; petioles 5–12 mm long; inflorescence head-like; bracts leaf like or true bracts, 10–15 mm long, densely pubescent; flowers 1–3 per head; calyx minutely lobed; corolla 4–5-lobed, glabrous, white, base tubular.

Flowering and Fruiting: March–December.

Occurrence: Found in moist places of deciduous of semi-evergreen forests.

Distribution: INDIA (Arunachal Pradesh, Assam, Mizoram), BHUTAN, CHINA, MYANMAR.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0379* (BUBH), 16.08.2020.

15. *Thunbergia* Retz. in Physiogr. Sölsk. Handl. 1:163. 1776.

1. *Thunbergia grandiflora* Roxb. in Bot. Reg. 6:495 1820; Roxb., Fl. Ind. 3:34. 1832; Clarke in Hook.f., Fl. Brit. India 4:392. 1884; Kanjilal *et al.*, Fl. Assam 3:410. 1939; Fl. Tripura 2:299. 1983; Haridasan and Rao, For. Fl. Meghalaya 2:670. 1987.

Twiner with quadriangular stem; leaves opposite, ovate, 10–15 × 5–12 cm, pubescent both side, margin entire or subwavy, acute to acuminate at apex, base cordate; petiole 3–6 cm

long, scabrous; inflorescence axillary or terminal drooping, raceme; flowers violet, yellow at centre, 5–7 cm across; calyx purplish, truncate; corolla tube 3–5 cm long, lobes apex obtuse; stamens included; anthers oblong; filaments flattened; capsule contracted into a stout flat beak, 1.5–2 cm long.

Flowering and Fruiting: September–December.

Occurrence: Found in forest margin or in roadside.

Distribution: INDIA (NE India), BANGLADESH, CAMBODIA, CHINA, LAOS, MALAYA, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0337* (BUBH), 29.05.2019.

Uses: Flowers are eaten fried. (Kar and Borthakur 2007).

112. BIGNONIACEAE Juss., Gen. Pl. 137. 1789.

About 20 genera and 34 species in India; 15 genera and 18 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Plants deciduous.....1. *Oroxylum*
1b. Plants evergreen.....2. *Stereospermum*

1. *Oroxylum* Vent., Dec. Gen. Nov. 8. 1808.

1. *Oroxylum indicum* (L.) Kurz, Forest Fl. Burma 2:237. 1877; Clarke in Hook.f., Fl. Brit. India 4:378. 1884; Brandis, Ind. Trees 496. 1906; Kanjilal *et al.*, Fl. Assam 3:401. 1939; Balakr. Fl. Jowai 2:348. 1983; Deb, Fl. Tripura 2:95. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:656. 1987. *Bignonia indica* L., Sp. Pl. 2:625. 1753.

Vern. name: Kharong Khandai (Bodo).

Tree, to 10 m tall; stem rough; leaves opposite, compound, bipinnate; leaflets ovate-oblong, 6–10 × 4–7 cm, margin entire, rounded or acute to acuminate at apex, base oblique; lateral nerves 4–6 pairs; petiolules 1–1.5 cm long; inflorescence terminal racemes; flowers actinomorphic; calyx campanulate, persistent, glandular dotted; corolla funnel shaped, pale yellow inside, purplish outside; stamens 5; fruits sword-like, 40–60 cm long; seeds creamy white, winged.

Flowering and Fruiting: April–August.

Occurrence: Found in roadsides of forest in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0508* (BUBH), 21.04.2020.

Uses: Flowers, juvenile leaves and fruits are eaten cooked as vegetable. Juice of fresh stem bark is taken to cure jaundice, diarrhea, bronchitis, vomiting, piles, heart disease (Das *et al.* 2010).

2. *Stereospermum* Cham. in Linnaea 7:720. 1833.

1. *Stereospermum chelonoides* (L.f.) DC. in Biblioth. Universelle Genève 17:124. 1838; Clarke in Hook, f., Fl. Brit. India 4:382. 1884; Brandis, Ind. Trees 495. 1906; Kanjilal *et al.*, Fl. Assam 3:404. 1939; Balakr., Fl. Jowai 2:348. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:658. 1987. *Bignonia chelonoides* L.f., Suppl. Pl. 282. 1782.

Vern. name: Serphang (Bodo).

Tree, erect, to 30 m tall; bark rough, dark brown; leaves opposite, compound, imparipinnate; petioles 4–6 cm long; leaflets ovate, elliptic-oblong, 6–12 × 4–6 cm, margin entire, caudate or acuminate at apex, base cuneate or obtuse; lateral nerves 6–8 pairs; petiolules 5–10 mm long; inflorescence terminal, paniced; flowers zygomorphic; calyx purple with minute lobes; corolla yellowish-white, pinkish-brown stripes, pubescent; stamens 4, didynamous; fruits linear, 20–30 cm long, spirally curved, drooping.

Flowering and Fruiting: April–September.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, LAOS, MYANMAR, NEPAL, SRI LANKA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0509* (BUBH), 12.06.2021.

113. LENTIBULARIACEAE Rich. in Poiteau and Turpin) 1:23. 1808.

About 2 genera and 36 species in India; 1 genus and 6 species in Assam; 1 genus and 2 species recorded from the study area.

1. *Utricularia* L., Sp. Pl. 1:18. 1753.

Key to the species

- 1a. Flowers yellow.....1. *U. aurea*
 1b. Flowers pale violet-rose.....2. *U. caerulea*

1. *Utricularia aurea* Lour., Fl. Cochinch. 26. 1790; Deb, Fl. Tripura 2:304. 1983; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 245. 2003. *U. flexuosa* Clarke in Hook.f., Fl. Brit. India 4:329. 1884. (Plate 32D).

Aquatic herb, floating, to 20 cm tall; stems and leaves submerged; leaves linear, divided into segments like branching; inflorescence axillary, erect, 3–6-flowered cymes; pedicels 1–1.5 cm long; calyx 2-lobed, lobes ovate, unequal, pale green; corolla yellow, lower lip larger; fruits globose, with persistent elongated styles.

Flowering and Fruiting: June–October.

Occurrence: Found in stagnant water body, often in paddy fields.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0507* (BUBH), 02.10.2020.

2. *Utricularia caerulea* L., Sp. Pl. 1:18. 1753; Clarke in Hook.f., Fl. Brit. India 4:331. 1884. (Plate 32E).

Herb, semi aquatic, to 15 cm tall, carnivorous; traps ovoid, dimorphic; inflorescence raceme, to 5–15 cm long, 6–16-flowered; bracts lanceolate, 3–5 mm long; flowers 5–8 mm long; sepals unequal, pale yellow; petals bilabiate, pale violet-rose, lower lip marked with violet; spur conical, narrow.

Flowering and Fruiting: September–February.

Occurrence: Found in marshy area.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0205* (BUBH), 18.10.2020.

114. VERBENACEAE St.-Hil., Expos. Fam. Nat. 1:245. 1805.

About 23 genera and 140 species in India; 18 genera and 64 species in Assam; 3 genera and 3 species recorded from the study area.

Key to the genera

- 1a. Herb, creeping and prostrate.....3. *Phyla*
1b. Shrubs.....2
2a. Branches prickly.....1. *Lantana*
2b. Branches not prickly.....2. *Lippia*

1. *Lantana* L., Sp. Pl. 2:626. 1753.

1. *Lantana camara* L., Sp. Pl. 2:627. 1753; Clarke in Hook.f., Fl. Brit. India 4:562.1885; Harid. and Rao, Forest Fl. Meghalaya 2:681. 1987. *L. aculeata* Brandis, Ind. Trees 502. 1906; Kanjilal *et al.*, Fl. Assam 3:460. 1939.

Shrub, prickly; leaves opposite, ovate, 4–7 × 2–4 cm, margin serrate, acute or acuminate at apex, base cordate or rounded, scabrous both sides; lateral nerves 4–6 pairs; petioles 6–10 mm long; inflorescence axillary or terminal, capitate cymes or capitula; flowers orange, purple or other colours; calyx toothed; corolla lobes spreading, base tubular; ovary 2-celled; stamens 4, inserted; fruits subglobose, bluish when ripe.

Flowering and Fruiting: September–July.

Occurrence: Found in roadsides of forest.

Distribution: INDIA (Introduced), AMERICA, MEXICO.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0514* (BUBH), 21.12.2020.

2. *Lippia* L., Sp. Pl. 2:633. 1753.

1. *Lippia alba* (Mill.) Br. ex Britton and Wilson, Sci. surv. Porto Rico and Virgin Islands 6:141. 1925; Deb, Fl. Tripura 2:112. 1983. *L. geminata* Clarke in Hook.f., Fl. Brit. India 4: 563. 1885; Kanjilal *et al.*, Fl. Assam 3:461. 1939. *Lantana alba* Mill., Gard. Dict. 8:n.8. 1768.

Scandent shrub, aromatic; branches densely pubescent; leaves opposite, ovate-lanceolate, 4–8 × 2–4 cm, margin serrate, acute to acuminate at apex, base cuneate, pubescent beneath; lateral nerves 4–6 pairs; petioles 5–10 mm long; inflorescence axillary, capitate cyme or capitula; flowers pale-violet or pale pinkish-white, yellow ring at mouth; stamens 4; ovary 2-celled.

Flowering and Fruiting: January–June.

Occurrence: Found in banks of rivers or streams.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0515* (BUBH), 19.02.2019.

Uses: Leaves are used as supplement in curries or chutney.

3. *Phyla* Lour., Fl. Cochinch. 66. 1790.

1. *Phyla nodiflora* (L.) Greene in Pittonia 4(20):46. 1899; Santapau in Rec. Bot. Surv. Ind. 16(1):237. 1953. *Verbena nodiflora* L., Sp. Pl. 20. 1753. *L. nodiflora* Clarke in Hook.f., Fl. Brit. India 4:563. 1885.

Herbs, creeping; leaves opposite, subsessile-sessile, margin 3 pairs of sharply serrate at upper part, base cuneate, spatulate, 2–3 × 0.5–1 cm, pubescent, lateral nerves inconspicuous; inflorescence cylindrical-ovate spicate or capitate, 0.8–2 cm long; peduncle 4–6 cm long; flowers sessile; corolla 4-lobed, unequal, white, pinkish-purple inside corolla tube, glabrous.

Flowering and Fruiting: April–September.

Occurrence: Found in open places or in grasslands.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM, AMERICA, AUSTRALIA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0091* (BUBH), 21.04.2019.

115. LAMIACEAE Martinov, Tekhno-Bot. Slovar 355. 1820.

About 72 genera and 435 species in India; 33 genera and 87 species in Assam; 13 genera and 22 species recorded from the study area.

Key to the genera

- 1a. Inflorescence terminal.....2
- 1b. Inflorescence axillary.....6
- 2a. Herb or shrub.....3
- 2b. Tree.....5
- 3a. Inflorescence spike.....1. *Achyropermum*
- 3b. Inflorescence corymb or pedunculate cyme.....4
- 4a. Calyx unlobed; corolla bluish.....11. *Rotheca*
- 4b. Calyx deeply lobed; corolla pale rose, white not blue.....4. *Clerodendrum*
- 5a. Leaves simple, large.....12. *Tectona*

5b. Leaves palmately compound, generally 5-foliolate.....	13. <i>Vitex</i>
6a. Leaves whorled.....	8. <i>Isodon</i>
6b. Leaves opposite.....	7
7a. Flowers yellow.....	8
7b. Flowers not yellow.....	9
8a. Tree.....	5. <i>Gmelina</i>
8b. Shrub or undershrub.....	6. <i>Gomphostemma</i>
9a. Calyx saucer shaped, red.....	7. <i>Holmskioldia</i>
9b. Calyx not saucer shaped.....	10
10a. Annual herb.....	11
10b. Shrub or tree.....	3. <i>Callicarpa</i>
11a. Inflorescence verticillaster.....	12
11b. Inflorescence not verticillaster.....	10. <i>Mesosphaerum</i>
12a. Corolla white.....	9. <i>Leucas</i>
12b. Corolla pinkish-purple.....	2. <i>Anisomeles</i>

1. *Achyrospermum* Blume, Bijdr. Fl. Ned. Ind. 840. 1826.

1. *Achyrospermum densiflorum* Blume, Bijdr. Fl. Ned. Ind. 14:841. 1826. *A. wallichianum* Hook.f., Fl. Brit. India 4:673. 1885. (Plate 29D).

Herbs, to 60 cm tall; stems woody at base; leaves opposite, broadly ovate, 6–10 × 4–7 cm, margin crenate-dentate, acuminate at apex, base broadly cuneate, puberulent both sides; petioles 3–5 cm long; inflorescence terminal, spikes, 5–10 cm long; bracts ciliolate; flowers bilabiate; calyx sparsely puberulent, lobes subequal; corolla white to tinged reddish; tube slender, throat dilated.

Flowering and Fruiting: October–February.

Occurrence: Found shady places in the semi-evergreen forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, NEPAL, PHILIPPINES, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0194* (BUBH), 29.10.2020.

2. *Anisomeles* Br., Prodr. Fl. Nov. Holland. 503. 1810.

1. *Anisomeles indica* (L.) Kuntze, Revis. Gen. Pl. 5:512. 1891. *A. ovata* Hook.f., Fl. Brit. India 4:672. 1885; Kanjilal *et al.*, Fl. Assam 3:521. 1939. *A. heyneana* Benth. in Wall., Pl. Asiat. Rar. 1:59. 1830. *Nepeta indica* L., Sp. Pl. 2:571. 1753.

Herbs, up to 60 cm tall; leaves opposite, ovate, 6–10 × 3–6 cm, margin crenate, acute to acuminate at apex, base truncate to broadly cuneate, pubescent both side; lateral nerves 3–4 pairs; petioles 2–3 cm long; inflorescence axillary, whorled; flowers bilabiate; calyx densely pubescent, lobes equal; corolla pinkish-purple at upper part, creamy white at towards bottom; stamens 4; filaments with purplish hairs; anther purplish-violet.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0169* (BUBH), 26.10.2020.

Uses: Whole planr is used in digestive disorder and in problems of uterus (Das *et al.* 2010).

3. *Callicarpa* L., Sp. Pl. 1:111. 1753.

Key to the species

- 1a. Small tree; leaves ovate or ovate oblong.....1. *C. arborea*
- 1b. Shrub or scandent shrub; leaves elliptic-lanceolate.....2. *C. longifolia*

1. *Callicarpa arborea* Roxb., Hort. Bemgal. 10. 1814 and Fl. Ind. 1:390. 1832; Clarke in Hook.f., Fl. Brit. India 4:567. 1885; Kanjilal *et al.*, Fl. Assam 3:463.1939; Deb, Fl. Tripura 2:103. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:672. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:259. 2008. (Plate 29E).

Vern. name: Kojo Gidir (Bodo).

Tree, small size, to 10 m tall; branchlets tomentose; leaves opposite, ovate, 12–16 × 19–22 cm, margin finely serrate, apex acuminate, base oblique, asymmetrical; lateral nerves 7–9 pairs; petiole 4–6 cm long; inflorescence axillary cyme, umbel, dicotomously branched; calyx 4-lobed, pale yellow; corolla 4-lobed, base tubular, whitish-pink; stamens 4, yellow; filament pink; stigma yellow.

Flowering and Fruiting: April–September.

Occurrence: Found in deciduous forest or in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0037* (BUBH), 09.05.2018.

2. *Callicarpa longifolia* Lam., Encycl. 1:563. 1785. *C. longifolia* var. *lanceolaria* Clarke in Hook.f., Fl. Brit. India 4:570. 1885; Kanjilal *et al.*, Fl. Assam 3:465. 1939. (Plate 29F).

Shrub, scandent; leaves opposite, elliptic-lanceolate, 8–16 × 2–5 cm, margin crenate-serrate or serrulate, acuminate at apex, base narrowed-cuneate, sparsely pubescent beneath along nerves; lateral nerves 8–11 pairs; petioles 5–15 mm long; inflorescence axillary, lax-cymes; flowers rose; pedicels brown stellate hairs; calyx truncate; corolla lobes subequal; fruits white.

Flowering and Fruiting: September–February.

Occurrence: Found in mixed deciduous forest as undergrowth.

Distribution: INDIA (Andaman Island, NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, NEW GUINEA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0658* (BUBH), 05.08.2020.

4. *Clerodendrum* L., Sp. Pl. 2:637. 1753.

Key to the species

- 1a. Leaves lobed, hastate.....4. *C. hastatum*
- 1b. Leaves not lobed.....2
- 2a. Leaves whorled.....5. *C. indicum*
- 2b. Leaves opposite.....3
- 3a. Inflorescence drooping.....8. *C. laevifolium*
- 3b. Inflorescence not drooping.....4
- 4a. Flowers white.....5
- 4b. Flowers red.....7. *C. japonicum*
- 5a. Inflorescence capitate or corymbose cyme.....6
- 5b. Inflorescence thysre.....6. *C. infortunatum*
- 6a. Corolla 5-lobed.....7
- 6b. Corolla many, more than 15.....2. *C. chinense*

7a. Bracts ovate, foliaceous, persistent.....1. *C. bracteatum*

7b. Bracts lanceolate, not foliaceous, deciduous.....3. *C. colebrookianum*

1. *Clerodendrum bracteatum* Wall. ex Walp., Repert. Bot. Syst. 4:106. 1845; Clarke in Hook.f., Fl. Brit. India 4:593. 1885; Brandis, Ind. Trees 508. 1906; Kanjilal *et al*, Fl. Assam 3:489. 1939; Deb, Fl. Tripura 2:106. 1983; Haridasan and Rao, For. Fl. Meghalaya 2:676. 1987. (Plate 30A).

Shrub, to 3 m tall; branchlets densely tomentose; leaves opposite, ovate, 10–15 × 6–10 cm, margin entire, acuminate at apex, base broadly cuneate or subtruncate, pubescent both sides; lateral nerves 5–6 pairs; petiole 3–5 cm long; inflorescences terminal and axillary, cymes; bracts elliptic-ovate, 1–3 cm long; calyx 5-lobed, acuminate at apex; corolla 5-lobed, tubular at base, tube slender, white; stamens 5; fruits enclosed by calyx.

Flowering and Fruiting: May–August.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0398* (BUBH), 12.06.2021.

2. *Clerodendrum chinense* (Osbeck) Mabb., Pl.-Book Repr. 707. 1989. *C. philippinum* Deb, Fl. Tripura 2:108. 1983. *C. fragrans* Kanjilal *et al.*, Fl. Assam 3:487. 1939. *Cryptanthus chinensis* Osbeck, Dagb. Ostind. Resa 215. 1757. (Plate 30B).

Shrub, erect, to 2 m tall; leaves opposite, broadly ovate, 12–18 × 10–15 cm, margin subentire, acuminate at apex, base subtruncate, pubescent both sides; basal nerves 3, lateral nerves 3–4 pairs; petioles 5–8 cm long, pubescent; inflorescence terminal, condensed cymes; flowers fragrant; calyx tubular, 5-lobed, purple; corolla many, white.

Flowering and Fruiting: February–October.

Occurrence: Found in domesticated land area.

Distribution: INDIA (NE India), BHUTAN, BORNEO, CAMBODIA, CHINA, NEPAL, PHILIPPINES, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0219* (BUBH), 03.11.2020.

3. *Clerodendrum colebrookianum* Walp., Repert. Bot. Syst. 4:114. 1845; Clarke in Hook.f., Fl. Brit. India 4:594. 1885; Kanjilal *et al.*, Fl. Assam 3:488. 1939; Haridasan *and* Rao, For. Fl. Meghalaya 2:676. 1987; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 258. 2003. (Plate 30C).

Shrub, up to 3 m tall; leaves opposite, broadly ovate, 15–20 × 8–15 cm, margin entire, acuminate at apex, base truncate or subcordate, sparsely gland dotted above; lateral nerves 7–8 pairs; inflorescence corymb; flowers white; calyx 5-lobed, ovate-lanceolate; corolla white, basal slender tubular, apex 5-lobed, spreading; fruits subglobose, with persistent calyx.

Flowering and Fruiting: June–September.

Occurrence: Found in roadside of forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0145* (BUBH), 24.07.2020.

Uses: Tender leaves and shoots are eaten cooked.

4. *Clerodendrum hastatum* Lindl., Edwards's Bot. Reg. 16:t.1307. 1830; Clarke in Hook.f., Fl. Brit. India 4:595. 1885; Brandis, Ind. Trees 508. 1906; Balakr., Fl. Jowai 2:376. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:677. 1987. *Siphonanthus hastatus* Roxb., Fl. Ind. 3:67. 1832. (Plate 30D).

Shrubs, erect, to 3 m tall; stem and branches sparse lenticellate; leaves opposite, ovate, 3–5-lobed, 10–18 × 8–13 cm, margin entire, lateral lobes acute to acuminate at apex, midlobe acuminate at apex, base cordate-sagittate, pubescent both sides; basal nerves 3, lateral nerves 5–7 pairs; petioles 6–10 cm long; inflorescence terminal, corymbose; peduncle 3–5 cm long; bracts foliaceous; calyx campanulate, 5-lobed; corolla white, base long tubular; tube curved; stamens 4; fruits ovoid, 2–4 sublobed, purplish black when ripe.

Flowering and Fruiting: April–August.

Occurrence: Found in evergreen forests.

Distribution: INDIA (Assam, Meghalaya, west Bengal), BANGLADESH, BHUTAN.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0363* (BUBH), 21.04.2021.

5. *Clerodendrum indicum* (L.) Kuntze, Revis. Gen. Pl. 2:586. 1891; Deb, Fl. Tripura 2:107. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:263. 2008. *C. siphonanthus* Clarke in Hook.f., Fl. Brit. India 4:595. 1885; Kanjilal *et al.*, Fl. Assam 3:492. 1939. *Siphonanthus indicus* L., Sp. Pl. 1:109. 1753.

Vern. name: Ikhlabir (Bodo).

Shrubs, 6 m tall; stem hollowed; leaves whorled; lamina linear-lanceolate, 20–25 × 1.5–2.5 cm, margin entire, apex acute, base cuneate; inflorescence axillary or terminal paniculate cyme, with 3–5 flowers, to 20 cm long; peduncle to 7 cm long; calyx 5-lobed, apex reddish, acute; corolla 5-lobed, tubular; tube 8–11 cm long; stamens 4; anther black; filament reddish, base white; ovary 4-lobed.

Flowering and Fruiting: October–January.

Occurrence: Found in deciduous forest or in scrub forest.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0060* (BUBH), 12.11.2018.

Uses: Flowers are edible. Roots are used as antidote of snake bite (Das *et al.* 2010)

6. *Clerodendrum infortunatum* L., Sp. Pl. 2:637. 1753; Clarke in Hook.f., Fl. Brit. India 4:594. 1885; Brandis, Ind. Trees 507. 1906; Kanjilal *et al.*, Fl. Assam 3:487. 1939. *C. viscosum* Deb, Fl. Tripura 2:108. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:678. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:265. 2008.

Vern. name: Lwkhna (Bodo).

Shrub, to 2 m tall; leaves opposite, ovate-cordate, 10–16 × 8–12 cm, margin serrate, acuminate at apex, base cordate, pubescent both sides; lateral nerves 4–6 pairs; petioles 3–5 cm long; inflorescence terminal, paniced cymes; calyx 4-lobed, acute at apex, green, red when old; corolla tubular, white or white with tinged pink, pubescent; fruits black when ripe.

Flowering and Fruiting: January–June.

Occurrence: Found in roadside of forests or in deciduous forest as undergrowth.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0517* (BUBH), 12.04.2020.

Uses: Paste of tender leaves and salt and rubbed on skin in curing ringworm. Also used in malaria, tumor, leprosy, scorpion bite (Das *et al.* 2010, Teron 2011).

7. *Clerodendrum japonicum* (Thunb.) Sweet, Hort. Brit. 322. 1826; Deb, Fl. Tripura 2:107. 1983. *C. squamatum* Clarke in Hook.f., Fl. Brit. India 4:593.1885; Kanjilal *et al.*, 3:491. 1939. *Volkameria japonica* Thunb., Fl. Jap. 255. 1784.

Erect shrub, up to 2 m tall; stems glands dotted; leaves opposite, broadly ovate, 15–20 × 10–15 cm, acuminate at apex, base cordate, margin serrulate, lamina membranous; lateral nerves 6–8 pairs; inflorescence panicles, terminal, 15–25 cm long; bracts obovate-lanceolate, red; flowers scarlet red; calyx 5-lobed, red, ovate lanceolate, apex acuminate, persistent on fruits; corolla with slender tube, apex 5-lobed, lobes curved back, red.

Flowering and Fruiting: June–October.

Occurrence: Found in roadside of semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, BORNEO, CHINA, NEPAL, PHILIPPINES, SUMATERA, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0147* (BUBH), 24.07.2020.

8. *Clerodendrum laevifolium* Blume, Bijdr. Fl. Ned. Ind. 808. 1826. *C. nutans* Clarke in Hook.f., Fl. Brit. India 4:595. 1885; Kanjilal *et al.*, Fl. Assam 3:491. 1939. (Plate 30E).

Shrub, to 3 m tall; leaves opposite, lanceolate or oblanceolate, 12–16 × 3–4 cm, margin entire or subentire, long acuminate at apex, base cuneate; lateral nerves 5–7 pairs; inflorescence paniced cymes, pendulous; flowers 5-merous; calyx deep lobed; lobes triangular, brick red when old; corolla white, lobes spoon-shaped; filaments slender; anthers brown.

Flowering and Fruiting: October–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CHINA; MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0195* (BUBH), 29.10.2020.

5. *Gmelina* L., Sp. Pl. 2:626. 1753.

1. *Gmelina arborea* Roxb. ex Sm. in Ress, Cycl. 16: Gmelina n.4. 1810; Roxb. Fl. Ind. 3:84. 1832; Clarke in Hook.f., Fl. Brit. India 4:581.1885; Brandis, Ind. Trees 509. 1906; Kanjilal *et al.*, Fl. Assam 3:466.1939; Deb, Fl. Tripura 2:110. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:679. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:266. 2008.

Vern. name: Gambari (Bodo).

Tree, to 20 m tall; leaves opposite, ovate, 10–18 × 8–15 cm, margin entire, acuminate at the apex, base cuneate or sub-cordate, puberulous beneath; lateral nerves 5–7 pairs; petioles 5–8 cm long; inflorescence axillary, paniced cymes; bracts ovate-lanceolate; calyx lobes minute, green; corolla 5-lobed, yellowish-red, pubescent; stamens 4; filaments white; fruits ovoid, pale-yellow when ripe.

Flowering and Fruiting: January–June.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0513* (BUBH), 14.02.2021.

Uses: Flowers are edible.

6. *Gomphostemma* Wall. ex Benth. in Edwards's Bot. Reg. 15:t.1292. 1830.

Key to the species

1a. Roots tuber-like; leaves ovate or ovate-elliptic.....1. *G. ovatum*

1b. Roots simple; leaves elliptic or elliptic-lanceolate.....2. *G. parviflorum*

1. *Gomphostemma ovatum* Wall. ex Benth. in Wall. Pl. Asiat. Rar. 2(5):12. 1830; Hook.f., fl. Brit. India 4:699. 1885; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:283.2008; Bongcheewin *et al.* in Kew Bull. 77:67. 2022. (Plate 30F).

Vern. name: Oma-ki (Bodo).

Perennial herbs, to 40 cm tall; roots tuber-like; leaves opposite, ovate-elliptic, 5–12 × 3–8 cm, margin shallowly serrate, broadly acute at apex, base attenuate, both side pubescent; lateral nerves 4–6 pairs; petioles 1.5–6 cm long; inflorescence axillary, pseudo-verticillaster; bracts foliaceous, persistent, ovate-elliptic, oblanceolate; linear lanceolate; calyx densely

pubescent, acute at apex; corolla bilabiate, yellow, throat inflated, outside pubescent, base tubular, slightly curved, stamens 4.

Flowering and Fruiting: September–February.

Occurrence: Found in semi-evergreen forests.

Distribution: INDIA (Arunachal Pradesh, Assam, Meghalaya, Sikkim, West Bengal), NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0661* (BUBH), 16.08.2020.

Uses: Root tuber is used to cure jaundice.

2. *Gomphostemma parviflorum* Wall. ex Benth. in Wall., Pl. Asiat. Rar. 2(5):12. 1830; Hook.f., Fl. Brit. India 4:697. 1885; Kanjilal *et al.*, Fl. Assam 3:528. 1939; Harid. and Rao, Forest Fl. Meghalaya 2:698. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:283. 2008; Bongcheewin *et al.* in Kew Bull. 77:47. 2022. (Plate 31A).

Undershrub, to 2 m tall; leaves opposite, elliptic-lanceolate, 6–14 × 3–8 cm, margin shallowly serrate, acuminate at apex, base cuneate, tomentose beneath, whitish; lateral nerves 6–9 pairs; petioles 1–2.5 cm long; inflorescence axillary cymes; bracts foliaceous; flowers 2–3 cm long; calyx 5-lobed, green; corolla bilabiate, yellow; stamens 4.

Flowering and Fruiting: July–December.

Occurrence: Found in semi-evergreen forest.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, MYANMAR, NEPAL, , THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0633* (BUBH), 05.08.2020.

7. *Holmskioldia* Retz., Observ. Bot. 6:31. 1791.

1. *Holmskioldia sanguinea* Retz., Observ. Bot. 6:31. 1791; Clarke in Hook.f., Fl. Brit. India 4:596. 1885; Gamble, Man. Ind. Timb. 544. 1902; Kanjilal *et al.*, Fl. Assam 3:493. 1939; Deb, Fl. Tripura 2:111. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:680. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:266.2008.

Scandent shrubs, to 5 m tall; petiole 2–3 cm long; leaves opposite, ovate, 5–12 × 3–10 cm, glabrescent, margin entire, base broadly acute or rounded, apex acuminate; bracts 3–5 mm, lanceolate; inflorescence axillary pedunculated cymes; flowers 1–2 cm across, orange-red;

calyx saucer shaped, red, semicircular; corolla 5-sublobed, tube curved; drupe obovoid, 4–8 mm, 4-lobed.

Flowering and Fruiting: October–February.

Occurrence: Found in deciduous forest.

Distribution: INDIA (Throughout the country), BHUTAN, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0325* (BUBH), 12.12.2019.

8. *Isodon* (Schrad. ex Benth.) Spach, Hist. Nat. Vég. 9:162. 1838.

1. *Isodon ternifolius* (Don) Kudô in Mem. Fac. Sci. Taihoku Imp. Univ. 2(2):140. 1929. *Plectranthus ternifolius* Don, Prodr. Fl. Nepal. 117. 1825; Clarke in Hook.f., Fl. Brit. India 4:621. 1885; Kanjilal *et al.*, Fl. Assam 3:508. 1939. (Plate 31B).

Perennial herbs or shrubs, erect, to 3 m tall; stems densely tomentose-villous; leaves whorled; petiole 3–6 mm long; lamina narrowly lanceolate to oblong, 5–12 × 2–4 cm, margin serrate, acute to acuminate at apex, base broadly cuneate, densely whitish tomentose beneath; inflorescence terminal and axillary, spikes; floral leaves similar to stem leaves, reduced; calyx campanulate, densely grey villous; corolla white to purplish; upper lip purple spotted; stamens included.

Flowering and Fruiting: October–December.

Occurrence: Found in roadsides.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CHINA, LAOS, MYANMAR, NEPAL, SAUDI ARABIA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0174* (BUBH), 26.10.2020.

9. *Leucas* Br., Prodr. Fl. Nov. Holland. 504. 1810.

1. *Leucas lavandulifolia* Sm. in Rees, Cyclop. 20:n. 2. 1812; Mukerjee in Rec. Bot. Surv. India 15:167. 1940; Deb, Fl. Tripura 2:326. 1983. *L. linifolia* Hook.f., Fl. Brit. India 4:690. 1885; Kanjilal *et al.*, Fl. Assam 3:524. 1939.

Vern. name: Khangsingsa/Burlubuthur (Bodo).

Herbs, to 50 cm tall; stem quadriangular; leaves opposite lanceolate, 1–1.3 × 4–6 cm, margin serrulate; lateral nerves 3–4 pairs; inflorescence verticillaster, 1–1.5 cm across; bracts needle

like, 5–10 mm long; flower zygomorphic; calyx 8-sublobed, upper part green, base white; corolla white, 2-lipped; stamens 4; filament white; anther brown, bilobed.

Flowering and Fruiting: March–June.

Occurrence: Found in open area.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, MYANMAR, NEPAL, THAILAND.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0005* (BUBH), 14.03.2018.

Uses: Tender leaves are eaten cooked. Also used in cold and cough, fever, bleeding.

10. *Mesosphaerum* Browne, Civ. Nat. Hist. Jamaica 257. 1756.

1. *Mesosphaerum suaveolens* (L.) Kuntze, Revis. Gen. Pl. 2:525. 1891. *Hyptis suaveolens* Hook.f., Fl. Brit. India 4:630. 1885; Mukerjee in Rec. Bot. Surv. India 14(1):63. 1940; Deb, Fl. Tripura 2:323. 1983. *Ballota suaveolens* L., Syst. Nat. ed.10:1100. 1759.

Undershrub, to 2 m tall; stem, quadriangular; leaves opposite, broadly ovate, 3.5–4.5 × 4–5 cm, margin serrate, base cordate, apex apiculate; petiole 1.5 cm long; inflorescence axillary cyme, 1.5 cm long, with 2–4-flowered; flower zygomorphic, sessile; calyx 5, apex needle-like; corolla 5-lobed, violet, 2-lipped; stamens 4; anther brown; stigma pinkish; ovary yellow.

Flowering and Fruiting: March–July.

Occurrence: Found in roadside.

Distribution: INDIA (Introduced), AMERICA, MEXICO.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0021* (BUBH), 02.05.2019.

11. *Rotheca* Raf., Fl. Tellur. 4:69. 1838.

1. *Rotheca serrata* (L.) Steane and Mabb., Novon 8(2):206. 1998. *Clerodendrum serratum* Clarke in Hook.f., Fl. Brit. India 4:592. 1885; Kanjilal *et al.*, Fl. Assam 3:490. 1939; Deb, Fl. Tripura 2:106. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:677. 1987. *Volkameria serrata* L., Mant. Pl. 90. 1767. (Plate 31C).

Vern. name: Khungka Gwkha (Bodo).

Shrub, erect, to 3 m tall; leaves opposite, obovate-elliptic, 10–15 × 4–6 cm, margin distantly serrate, acute-acuminate at apex, base cuneate; lateral nerves 6–8 pairs; petioles 6–12 mm long; inflorescence terminal, panicle raceme, to 20 cm long; calyx truncate, unlobed; corolla

5-lobed, terminal lobe larger than lateral lobes, obovate, bluish; stemens 4; anther blue; fruits 2–4-lobed, subglobose.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest or in scrub open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0225* (BUBH), 03.11.2020.

Uses: Leaves and inflorescence are boiled and the filtrate is consumed twice daily to cure fever, stomach ailments. asthma, cold and cough (Das *et al.* 2010, Teron 2011).

12. *Tectona* L.f. Suppl. Pl. 151. 1782.

1. *Tectona grandis* L.f., Suppl. 151. 1782; Clarke in Hook.f., Fl. Brit. India 4:570. 1885; Brandis, Ind.Trees 505. 1906; Kanjilal *et al.*, Fl. Assam 3:466. 1939; Deb, Fl. Tripura 2:115. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:689. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:272. 2008.

Vern. name: Segun (Bodo).

Tree, to 25 m high; leaves opposite, elliptic or broadly ovate, 20–40 × 12–20 cm, margin entire, obtuse or acuminate at the apex, base cuneate, scabrous above, tomentose beneath; lateral nerves 6–8 pairs; inflorescence terminal, paniced cymes; calyx campanulate, pale green, pubescent; corolla 5–6-lobed, oblong, white; stamens 5–6; anther yellow; styles linear, pubescent; ovary 2-celled; fruits spongy.

Flowering and Fruiting: June–December.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0516* (BUBH), 19.06.2019.

13. *Vitex* L., Sp. Pl. 2:638. 1753.

1. *Vitex quinata* (Laur.) Williams in Bull. Herb. Boissier Ser. 2. 5. 431; Kanjilal *et al.*, Fl. Assam 3:482. 1939. *Cornutia quinata* Lour., Fl. Cochinch. 387. 1790. Clarke in Hook.f., Fl. Brit. India 4:585. 1885. (Plate 31D).

Vern. name: Ashoi Biphang (Bodo).

Tree, to 15 m tall; branchlets lenticillate; leaves palmately compound, 5-foliolate, rarely to 7-foliolate, obovate-elliptic, 8–12 × 3–5 cm, margin entire, acuminate at apex, base of terminal leaf cuneate, oblique for lateral leaves; lateral nerves 7–10 pairs; petiole 1–3 cm long; inflorescence terminal, paniced cymes; flowers bilabiate, lower lip 3-lobed, upper lobe 2-lobed; petals creamy white, veins and dots of violet on lip and throat; stamens 4.

Flowering and Fruiting: September–February.

Occurrence: Found in roadside of forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0140* (BUBH), 30.07.2020.

116. MAZACEAE Reveal in Kew Bull. 66(1):47. 2011.

About 1 genus and 1 species in India; 1 genus and 1 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Mazus* Lour., Fl. Cochinch. 385. 1790.

1. *Mazus pumilus* (Burm.f.) Steenis in Nova Guinea n. s. 9:31. 1958. *M. rugosus* Lour., Fl. Cochinch. 385. 1790; Hook.f., Fl. Brit. India 4:259. 1884; Kanjilal *et al.*, Fl. Assam 3:377. 1939. *Lobelia pumila* Burm.f., Fl. Ind. 186. 1768.

Annual herb, to 10 cm tall; stem ascending, pubescent; leaves opposite or alternate, obovate-oblongate, 1.5–3 × 0.5–1.2 cm, margin subentire or irregular toothed, blunt acute at apex, base cuneate, puberulent both sides; petiole 2–4 mm long; inflorescence terminal, raceme, 4–8 cm long; calyx campanulate, pubescent, acute at apex; corolla purplish-white with yellow blotch at middle.

Flowering and Fruiting: September–February.

Occurrence: Found in open places, often in home sides.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0629* (BUBH), 23.10.2019.

117. AQUIFOLIACEAE Bercht. and Presl, Prir. Rostlin Aneb. Rostl. 2: 440. 1825.

About 1 genera and 25 species in India; 1 genus and 4 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Ilex* Tourn. ex L., Sp. Pl. 1:125. 1753.

1. *Ilex odorata* Buch.-Hum. ex Don, Prodr. Fl. Nepal. 189. 1825; Hook.f., Fl. Brit. India 1:599. 1872. *I. theaefolia* Kanjilal *et al.*, Fl. Assam 1(2):258. 1936. (Plate 15F).

Medium size tree; bark grey; leaves alternate, elliptic-oblong, 8–13 × 4–6 cm, margin serrulate, caudate-acuminate at apex, base cuneate; lateral nerves 7–9 pairs, connecting with intramarginal nerves; petioles 1–1.5 cm long; inflorescence axillary, cymes; flowers 4-merous; male flowers in dense corymbose cymes; female flowers in fascicled cymes; calyx ciliolate; corolla oblong, recurved when old, yellow; stamens 4, longer than petals; filaments white or pale yellow; anthers yellow-brown; fruits globose with mammilla apex, red when ripe.

Flowering and Fruiting: March–September.

Occurrence: Found in moist places of semi-evergreen forests.

Distribution: INDIA (NE India, Himachal Pradesh), BANGLADESH, BHUTAN, MYANMAR, NEPAL, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0288* (BUBH), 16.08.2020.

118. CAMPANULACEAE Juss., Gen. Pl. 163. 1789.

About 12 genera and 46 species in India; 2 genera and 4 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Lobelia* Plum. ex L., Sp. Pl. 2:929. 1753.

1. *Lobelia zeylanica* L., Sp. Pl. 2:932. 1753. *L. affinis* Clarke in Hook.f., Fl. Brit. India 3:424. 1881. (Plate 19D).

Delicate herb, prostrate or suberect; stem, subterete or subquadrangular, pubescent; leaves alternate, ovate, 1.5–2.5 × 1.2–1.7 cm, margin crenate, obtuse at apex, base truncate or subcordate; lateral nerves 3–4 pairs; petioles 3–5 mm long, pubescent; flowers solitary; pubescent; calyx linear, acute at apex, green, persistent; corolla bilabiate, blue, upper lip 2-lobed, lower lip 3-lobed with 2 white longitudinal blotch lines.

Flowering and Fruiting: September–February.

Occurrence: Found in floors of mixed deciduous forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BORNEO, CHINA, MYANMAR, PHILIPPINES, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0246 (BUBH), 08.11.2020.

119. MENYANTHACEAE Dumort., Anal. Fam. Pl. 20, 25. 1829.

About 1 genus and 4 species in India; 1 genus and 2 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Nymphoides* Ség., 3:121. 1754.

1. *Nymphoides cristata* (Lour.) Kuntze, Revis. Gen. Pl. 2:429. 1891; Deb, Fl. Tripura 2:182. 1983. *Limnanthemum cristatum* Clarke in Hook.f., Fl. Brit. India 4:131. 1883; Kanjilal *et al.*, Fl. Assam 3:326. 1940. *Menyanthes hydrophylla* Lour., Fl. Cochinch. 1:105. 1790.

Herb, aquatic; stems terete, unbranched; leaf blade floating, ovate-orbicular, 5–10 × 4–8 cm, margin entire, rounded at apex, base cordate, densely pubescent beneath, purplish; flowers many in clusters, 5-merous; calyx lobes ovate-elliptic, obtuse at apex; corolla lobes linear-oblong, white with pale yellow at centre; anthers yellow; stigma triangular; fruits subglobose, 4–6 mm in across.

Flowering and Fruiting: July–September.

Occurrence: Found in stagnant water body.

Distribution: INDIA (Almost throughout the country), CHINA, PAKISTAN, TAIWAN.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0495 (BUBH), 19.08.2019.

120. ASTERACEAE Bercht. and J.Presl, Prir. Rostlin 254. 1820.

About 166 genera and 800 species in India; 74 genera and 129 species in Assam; 19 genera, 18 species and 2 varieties recorded from the study area.

Key to the genera

- 1a. Heads yellow.....2
- 1a. Heads pink, reddish, white or pale violet.....5
- 2a. Decumbent herbs.....1. *Acmella*
- 2b. Erect herbs.....3
- 3a. Leaves linear-lanceolate.....16. *Pseudognaphalium*

3b. Leaves luncinate or subluncinate.....	4
4a. Involucral bracts glabrous.....	19. <i>Youngia</i>
4b. Involucral bracts pubescent.....	5. <i>Blumea</i>
5a. Climbers.....	14. <i>Mikania</i>
5b. Herbs or shrubs.....	6
6a. Pappus awned.....	4. <i>Bidens</i>
6b. Pappus awnless.....	7
7a. Heads solitary.....	8
7b. Heads in panicles.....	10
8a. Involucral bracts 4.....	12. <i>Enydra</i>
8b. Involucral bracts many.....	9
9a. Ray florests 5–6, 3-lobed at apex.....	17. <i>Tridax</i>
9b. Ray florets many, unlobed at apex.....	9. <i>Eclipta</i>
10a. Leaves alternate or spirally arranged.....	11
10b. Leaves opposite.....	17
11a. Stems wooly white pubescent.....	13. <i>Gnaphalium</i>
11b. Stems pubescent but not wooly white.....	12
12a. Heads unisexual.....	18. <i>Xanthium</i>
12b. Heads bisexual.....	13
13a. Florets white or pale violet.....	14
13b. Florets pink or reddish.....	15
14a. Leaves pinnatifid.....	15. <i>Parthenium</i>
14b. Leaves simple.....	10. <i>Elephantopus</i>
15a. Heads facing downwards.....	7. <i>Crassocephalum</i>
15b. Heads erect.....	16
16a. Basal leaves luncinate, apical leaves auriculate.....	11. <i>Emilia</i>
16b. Leaves simple, never luncinate.....	8. <i>Cyathillium</i>
17a. Shrubs.....	6. <i>Chromolaena</i>
17b. Herbs.....	18
18a. Leaves densely pubescent.....	3. <i>Ageritum</i>
18b. Leaves glabrescent.....	2. <i>Adenostemma</i>

1. *Acmella* Rich. Ex Pers., Syn. Pl. 2:472. 1807.

1. *Acmella paniculata* (Wall. ex DC.) Jansen in Syst. Bot. Monogr. 8:67. 1985. *Spilanthes paniculata* DC., Prodr. 5:525. 1836; Deb, Fl. Tripura 2:226. 1983; Chowdhery in Hajra *et al.*, Fl. India 12:410. 1995; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:43. 2008.

Vern. name: Usumwi (Bodo).

Herb, to 50 cm tall; stems terete; leaves opposite, ovate, 2.5–5 × 2–3.5 cm, margin entire, acute at apex, base truncate or narrowed, glabrous both sides; basal nerves 3, lateral nerves 2–3 pairs; petioles 1–3 cm long; inflorescence terminal or axillary, heads; peduncles 2–4 cm long; flowers yellow.

Flowering and Fruiting: Almost throughout the years.

Occurrence: Found in open places, often in domesticated area.

Distribution: INDIA (NE India), BANGLADESH, BORNEO, CAMBODIA, CHINA, LAOS, MYANMAR, NEPAL, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0488 (BUBH), 19.12.2020.

Uses: Leaves are cooked with chickens applying hot chillies to cure fever and cough. Flower buds are chew and hold for few minutes on mouth without swallowing it to cure tongue ulcer. Also used in rheumatism, toothache and dysentery (Das *et al.* 2010).

2. *Adenostemma* Forst. and Forst., Char. Gen. Pl. ed. 2:89. 1776.

1. *Adenostemma lavenia* (L.) Kuntze, Revis. Gen. Pl. 1:304. 1891. *Verbesina lavenia* L., Sp. Pl. 2:902. 1753.

Key to the varieties

1a. Leaves linear-lanceolate, 7–12 × 1–3 cm, margin of the upper half crenate.....1. *A. lavenia* var. *angustifolium*

1b. leaves ovate, 6–10 × 4–8 cm, margin serrate-dentate....2. *A. lavenia* var. *reticulatum*

1. *Adenostemma lavenia* var. *angustifolium* (Arn.) Kost. in Blumea 1:475. 1935; Panigrah in Kew Bulletin 30(4):652. 1975. *A. viscosum* var. *typica* Hook.f., Fl. Brit. Ind. 3:242. 1882. *Adenostemma angustifolium* Arn., Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. 18(1):347. 1836. (Plate 17D).

Annual herbs, to 60 cm tall; stems erect, branched in upper part, pubescent; leaves linear-lanceolate, 7–12 × 1–3 cm, margin of the upper half crenate, lower half entire, acuminate at apex, both ends attenuate; petiole narrowly winged; inflorescence head, in a lax or dense corymb; involucre bracts hemispheric, glabrous; phyllaries 2-seriate, green, subequal, narrowly elliptic; corolla white; achenes obtuse at apex.

Flowering and Fruiting: October–February.

Occurrence: Found in semi-evergreen forests along streams.

Distribution: INDIA (Almost throughout the country), BHUTAN, LAOS, MYANMAR, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0199* (BUBH), 18.10.2020.

2. *Adenostemma lavenia* var. *reticulatum* (DC.) Panigrahi in Kew Bull. 30(4):654. 1975. *A. reticulatum* Wight, Icon., t. 1088 (1834). *A. viscosum* var. *reticulatum* Hook.f., Fl. Brit. Ind. 3:243. 1882. *Adenostemma reticulatum* DC. in Wight, Contr. Bot. India 8. 1834. (Plate 17E).

Annual herbs, to 60 cm tall; stems erect, branched in upper part, pubescent; leaves ovate, 6–10 × 4–8 cm, margin serrate-dentate, acute at apex, base attenuate; lateral nerves 3–4 pairs; petiole narrowly winged; inflorescence head, in a lax or dense corymb; involucre bracts hemispheric, pubescent; phyllaries 2-seriate, green, subequal, narrowly elliptic; corolla white, viscid-glandular, pubescent.

Flowering and Fruiting: October–February.

Occurrence: Found in shady places semi-evergreen forests.

Distribution: INDIA (Almost throughout the country), MYANMAR, PAKISTAN, SRI LANKA.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0200* (BUBH), 18.10.2020.

3. *Ageratum* L., Sp. Pl. 2:839. 1753.

1. *Ageratum conyzoides* L., Sp. Pl. 2:839. 1753; Hook, f., Fl. Brit. India 3:243. 1881; Deb, Fl. Tripura 2:203. 1983; Harid. and Rao, Forest Fl. Meghalaya 2:516. 1987; Uniyal in Hajra *et al.*, Fl. India 12:348. 1995.

Vern. name: Bwrma Dari (Bodo).

Annual herb, to 60 cm tall; stems terete, pubescent; leaves opposite, ovate, 3–5 × 2–3 cm, margin crenate, acute-acuminate at apex, base truncate or subtruncate, pubescent both sides; lateral nerves 2–3 pairs; petioles 1–2 cm long; inflorescence terminal, heads; flowers pale purple or white; fruits achenes, black when old.

Flowering and Fruiting: September–February.

Occurrence: Found in open places or in roadsides.

Distribution: INDIA (Introduced), MEXICO.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0484* (BUBH), 29.10.2019.

Uses: Fresh pounded leaves are used to control bleeding in cuts.

4. *Bidens* L., Sp. Pl. 2:831. 1753.

1. *Bidens pilosa* L., Sp. Pl. 2:832. 1753; Deb, Fl. Tripura 2:204. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:9. 2008. *Bidens pilosa* var. *minor* Balakr., Fl. Jowai 1:257. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:519. 1987.

Annual herb, to 40 m tall; leaves opposite, 3–5-foliolate or simple, petioles 1–2 cm long; leaflets ovate-lanceolate, 3–6 × 2–3 cm, margin serrate, acuminate at apex, base cuneate, glabrous both side; lateral nerves 4–6 pairs; petiolules 5–10 mm long; inflorescence head, terminal; ligule of ray florets oblong, white; disc florets numerous, yellow; cypselas slender, blackish when old.

Flowering and Fruiting: December–July.

Occurrence: Found in open forests.

Distribution: INDIA (Introduced), ARGENTINA, BRAZIL, MEXICO.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0362* (BUBH), 21.04.2021.

5. *Blumea* DC in Guillemain, Arch. Bot. (Paris) 2:514. 1833.

1. *Blumea lacera* (Burm.f.) DC., in Wight, Contrib. 14. 1834; Hook.f., Fl. Brit. India 3:263. 1881; Gamble, Fl. Pres. Madras 2:687. 1921; Kanjilal *et al.*, Fl. Assam 3:111. 1939; Kumar in Hajra *et al.*, Fl. India 13:128. 1995. *Conyza lacera* Burm.f., Fl. Ind. 180. 1768.

Vern. name : Swima Joseb (Bodo).

Annual herb, to 80 cm tall, strongly aromatic; stem pubescent; leaves alternate, sublanceolate, obovate, 2–5 × 5–8 cm, pubescent, margin sub-lobed or serrate, apex apiculate; lateral nerves

4–6 pairs; inflorescence head, solitary or compound; pedicel 1–2 cm long; involucre bracts green, pubescent; disc florets yellow, with white pappus; style longer than corolla; ray florets pale yellow, with white pappus; pappus white, furry.

Flowering and Fruiting: March–August.

Occurrence: Found in roadside or in domesticated area.

Distribution: INDIA (Throughout the country), BANGLADESH, CHINA, JAWA, MYANMAR, NEPAL, PAKISTAN, PHILIPPINES, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0022* (BUBH), 04.04.2018.

6. *Chromolaena* DC., Prodr. 5:133. 1836.

1. *Chromolaena odorata* (L.) King and Rob. in *Phytologia* 20(3):204. 1970; *Eupatorium odoratum* L., *Syst. Nat.* 10:1205. 1759; Hook.f., *Fl. Brit. India* 3:244. 1881; Kanjilal *et al.*, *Fl. Assam* 3:108. 1939; Deb, *Fl. Tripura* 2:218. 1983; Chauhan in Singh *et al.*, *Fl. Manipur* 1:526. 2000.

Vern. name: Jarman Hagra (Bodo).

Perennial herbs, to 3 m tall; stem terete, pubescent; leaves opposite, ovate-triangular, 9–11 × 5–7 cm, margin crenate, apex acute, base truncate or shallowly cordate; basal nerves 3–nerves; petiole to 2 cm long; inflorescence capitula, compound corymbs; involucre bracts 3–5 seriate, ovate-lanceolate, whitish-green, 3-nerved; corolla tubular, 5-lobed, white, glabrous; stamens 5, brownish-yellow; style bifurcate; pappus yellowish-brown.

Flowering and Fruiting: August–February

Occurrence: Found in degraded forest or along roadside.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0070* (BUBH), 12.01.2019.

7. *Crassocephalum* Moench, *Methodus* 516. 1794.

1. *Crassocephalum crepidioides* (Benth.) Moore in *J. Bot.* 50:211. 1912; Deb, *Fl. Tripura* 2:213. 1983; Mathur in Hajra *et al.*, *Fl. India* 13:201. 1995; Chowdhery *et al.* in Giri *et al.*, *Materials for the Fl. Arunachal Pradesh* 2:20. 2008. *Gynura crepidioides* Benth. in Hook., *Niger Fl.* 438. 1849.

Herbs, erect, to 100 cm tall; stem striate; leaves alternate, elliptic, 8–11 × 3–5 cm, margin irregularly serrate, sometimes pinnately lobed at base, acuminate at apex; petiole 1.5–2.5 cm long; capitula numerous in terminal cymes, 3–4 mm across; peduncle short, glabrous, green; involucre 1–1.3 cm long, cylindrical with unequal bracteoles, green; flowers bisexual, tubular; corolla red-brownish, 6–9 mm long.

Flowering and Fruiting: March–July.

Occurrence: Found in open area.

Distribution: INDIA (Introduced), AFRICA, MADAGASCAR.

Specimen examined: Kokrajhar, Jharbari, S. Basumatary 0094 (BUBH), 21.04.2019.

Uses: Shoots are eaten cooked as chutney with dried fish and alkali (Teron 2011).

8. *Cyanthillium* Blume, Bijdr. Fl. Ned. Ind. 15:889. 1826.

1. *Cyathilium cinereum* (L.) Rob. in Proc. Biol. Soc. Washington 103(1):252. 1990. *Vernonia cinerea* Hook.f., Fl. Brit. India 3:233. 1881; Kanjilal *et al.*, Fl. Assam 3:104. 1939; Deb, Fl. Tripura 2:229. 1983; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:50. 2008. *Conyza cinerea* L., Sp. Pl. 862. 1753.

Annual or perennial herb, to 70 cm tall; leaves alternate, ovate or ovate-lanceolate, 3–5 × 1–2 cm, margin serrulate or subentire, acute at apex, base narrowed, pubescent both sides; petioles 1–1.5 cm long; inflorescence terminal, heads, corymbs; flowers purple; involucre bracts linear-oblong, pubescent; styles bifurcate at apex; fruits achenes.

Flowering and Fruiting: October–March.

Occurrence: Found in deciduous forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CHINA, LAOS, MYANMAR, QUEENSLAND, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0487 (BUBH), 19.12.2020.

9. *Eclipta* L., Mant. Pl. Altera 2:157. 1771.

1. *Eclipta prostrata* (L.) L., Mant. Pl. 2:286. 1771; Hook.f., Fl. Brit. India 3:304. 1881; Kanjilal *et al.*, Fl. Assam 3:117. 1939; Deb, Fl. Tripura 2:214. 1983; Chowdhery in Hajra *et al.*, Fl. India 12:381. 1995; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:21. 2008. *Verbesina prostrata* L., Sp. Pl. 2:902. 1753.

Vern. name: Daojeng Jwla (Bodo).

Herbs, erect, to 60 cm tall; stem terete; leaves opposite, lanceolate, 4–5 × 1–2 cm, sub-sessile, margin sub-entire or serrate, acute at apex, pubescent both side, lateral nerves 4–5 pairs; inflorescence head, axillary, to 3 cm long with pedicel, 1 cm diam.; bracts 8–10, apex acute; stigma bifid; disc florets 2 mm long; corolla 4-lobed, white; anther 4, blackish, surrounds the style; style bifid, yellow.

Flowering and Fruiting: August–February

Occurrence: Found in open forest or in grassland protected areas.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Haltugaon, S. Basumatary 0057 (BUBH), 30.08.2018.

Uses: Leaves are pounded and apply on the fungal infected feet and its juice is given dropwise to cure ophthalmia. Also used skin diseases, removes facial black spots (Das *et al.* 2010).

10. *Elephantopus* L., Sp. Pl. 2:814. 1753.

1. *Elephantopus scaber* L., Sp. Pl. 2:814. 1753; Hook.f., Fl. Brit. India 3:242. 1881; Kanjilal *et al.*, Fl. Assam 3:107. 1939; B.P. Uniyal in Hajra *et al.*, Fl. India 13:333.1995; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:22. 2008. (Plate 17F).

Herb, erect, to 40 cm tall; leaves alternate, looks crowded at base, obovate-oblongate, 10–15 × 2–4 cm, margin entire, broadly acute at apex, base cuneate, pubescent both side; lateral nerves 12–16 pairs; petioles 3–6 mm long; inflorescence head; bracts 3, leafy, cordate, densely hirsute; corolla 5-lobes, linear, pale purple, glabrous; fruits hairy.

Flowering and Fruiting: September–February.

Occurrence: Found in open floors of semi-evergreen forest.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, MYANMAR, THAILAND, VIETNAM, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, S. Basumatary 0202 (BUBH), 18.10.2020.

Uses: Paste of whole plant is applied on bone fracture. (Teron 2011).

11. *Emilia* Cass in Bull. Sci. Soc. Philom. Paris 68. 1817.

1. *Emilia sonchifolia* (L.) DC. in Wight, Contr. Bot. Ind. 24. 1834; Hook.f., Fl. Brit. India 3:336. 1881; Kanjilal *et al.*, Fl. Assam 3:120. 1939; Mathur in Hajra *et al.*, Fl. India 13:212.

1995; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:22. 2008. *Cacalia sonchifolia* L., Sp. Pl. 2:835. 1753. (Plate 63E).

Annual herb, to 30 cm tall; leaves alternate, ovate, luncinate, 2–4 × 1.5–2.5 cm, margin dentate or subentire, acute to acuminate at apex, base cuneate, glabrous both sides; petioles 6–10 mm long; inflorescence head; involucral bracts green, puberulent; flowers pale purple; fruits achenes, 5-ribbed, brown.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides or in domesticated land area.

Distribution: INDIA (Almost throughout the country), BANGLADESH, CAMBODIA, CAMEROON, CHINA, MYANMAR, SRI LANKA, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0485* (BUBH), 29.10.2019.

Uses: Juice of plant is taken to cure dysentery and tounge tasteless.

12. *Enydra* Lour., Fl. Cochinch, 2:510. 1790.

1. *Enydra fluctuans* Lour., Fl. Cochinch. 2:511. 1790. *Enhydra fluctuans* Hook.f., Fl. Brit. India 3:304. 1881; Kanjilal *et al.*, Fl. Assam 3:126. 1939; Deb, Fl. Tripura 2:215. 1983; Chowdhery *et al.* in Hajra *et al.*, Fl. India 12:384. 1995.

Vern. name: Elangshi (Bodo).

Herb, aquatic, to 40 cm tall, rooting at nodes; stem terete, pubescent; leaves opposite, sessile, obovate-linear-lanceolate, 2.5–5 × 1–1.5 cm, margin serrate, acute at apex, base narrowed, glabrous or puberulent both sides; lateral nerves inconspicuous; inflorescence terminal or axillary heads; involucral bracts 4, pale green, ovate, rounded at apex, foliaceous; corolla 3 lobed; fruits achenes oblong.

Flowering and Fruiting: September–April.

Occurrence: Found in stagnant water body.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, CAMBODIA, CHINA, LAOS, MYANMAR, THAILAND, VIETNAM, ZAMBIA, ZIMBABWE.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0483* (BUBH), 05.12.2020.

Uses: Shoots are used as vegetable.

13. *Gnaphalium* L., Sp. Pl. 2:850. 1753.

1. *Gnaphalium polycaulon* Pers., Syn. Pl. 2(2):421. 1807. Pant in Hajra *et al.*, Fl. India 13:91. 1995. *G. indicum* Hook.f., Fl. Brit. India 3:289. 1881; Deb, Fl. Tripura 2:221. 1983. *G. strictum* Roxb., Fl. Ind. 3:424. 1832. *G. multicaule* Roxb., Fl. Ind. 3:425. 1832.

Annual herb, to 10 cm tall; stems densely white wooly pubescent; leaves alternate, oblanceolate-oblong, 2–4 × 0.8–1.5 cm, margin entire, obtuse and apiculate at apex, base narrowd, apressedly tomentose both sides; lateral nerves inconspicuous; petioles 3–6 mm long; inflorescence axillary or terminal, heads; flowers pale brown; corolla yellowish-green; stamens yellow; fruits achene, pale brown.

Flowering and Fruiting: November–March.

Occurrence: Found in domesticated area in wet places.

Distribution: INDIA (Almost throughout the country), AUSTRALIA, BANGLADESH, BHUTAN, MYANMAR, NEPAL, QUEENSLAND, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0287* (BUBH), 03.02.2021.

14. *Mikania* Willd., Sp. Pl. ed. 4, 3:1481,1742. 1803.

1. *Mikania micrantha* Kunth, Nov. Gen. Sp. 4:105. 1818; Balakr., Fl. Jowai 1:257. 1981; Harid. and Rao, Forest Fl. Meghalaya 2:524. 1987; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:33. 2008.

Climbing herb, densely spreading over the host; stem terete, pubescent; leaves opposite, ovate-cordate, 4–8 × 3–5 cm, margin entire, acuminate at apex, base cordate; basal nerves 3, sometimes 5; petioles 3–5 cm long, pubescent; inflorescence axillary, paniced raceme, like umbel cymes; peduncles angular, pubescent; flowers head; bracts 4; corolla 5-fid, white; style bifurcate, white.

Flowering and Fruiting: September–February.

Occurrence: Found in roadsides or in open forests.

Distribution: INDIA (Introduced), AMERICA.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0491* (BUBH), 06.12.2021.

15. *Parthenium* L., Sp. Pl. 2:988. 1753.

1. *Parthenium hysterophorus* L., Sp. Pl. ed. 2:988. 1753; Chowdhery *et al.* in Hajra *et al.*, Fl. India 12:403. 1995.

Annual herb, to 1 m tall; stems and branches white pubescent; leaves alternate, pinnatifid, 6–10 x 1–2 cm, margin lacerate, acute to acuminate at apex, base narrowed, puberulent both sides; inflorescence terminal, paniced, heads; heads 4–6 mm in diam.; peduncles pubescent; flowers white; fruits achenes, minutes.

Flowering and Fruiting: November–April.

Occurrence: Found in waste places of roadsides.

Distribution: INDIA (Introduced), AMERICA, BRAZIL, MEXICO.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0490* (BUBH), 07.02.2020.

16. *Pseudognaphalium* Kirp., Trudy Bot. Inst. Akad. Nauk. S.S.S.R., ser. 1, Fl. Syst. Vyssh. Rast. 9:33. 1950.

1. *Pseudognaphalium affine* (Don) Anderb. in Opera Bot. 104:146 1991. *Gnaphalium affine* Don, Prodr. Fl. Nepal 173. 1825 ; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:26. 2008. *G. luteo-album* Hook.f., Fl. Brit. India 3:288. 1881; Kanjilal *et al.*, Fl. Assam 3:115. 1939; Deb, Fl. Tripura 2:220. 1983.

Annual herb, erect, to 40 cm tall; leaves spirally arranged, linear-oblong, sessile, 2–4 × 0.6–1 cm, margin entire, obtuse or broadly acute at apex, base cuneate; appressedly pubescent; lateral nerves inconspicuous; inflorescence terminal, clusters heads; flowers yellow; bracts lanceolate; fruits achenes, linear-oblong.

Flowering and Fruiting: November–April.

Occurrence: Found in open area in wet places.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BHUTAN, CAMBODIA, CHINA, MYANMAR, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0486* (BUBH), 19.12.2020.

17. *Tridax* L., Sp. Pl. 2:900. 1753.

1. *Tridax procumbens* L., Sp. Pl. 2:900. 1753; Hook.f., Fl. Brit. India 3:311. 1881; Chowdhary in Hajra *et al.*, Fl. India 12:418. 1995; Bora and Kumar, Fl. Div. Assam Pabitora WLS. 201.2003. (Plate 18A).

Herb, caulescent, to 30 cm tall with inflorescence; stems branched at base, hirsute; leaves ovate to ovate-lanceolate, 3–5 × 1.5–2 cm, margin irregularly serrate, acute to acuminate at apex, base cuneate; inflorescence heads, solitary; involucre bracts hirsute; outer bracts densely greyish-white hirsute; inner bracts tinged purplish; ray florets 5–6, white, apex 3-lobed; disc florets yellow, base tubular; achenes oblong, silky pubescent; pappus feathery bristles, 4–5 mm long.

Flowering and Fruiting: December–March.

Occurrence: Found in roadsides.

Distribution: INDIA (Introduced), ARGENTINA, MEXICO.

Specimen examined: Kokrajhar, Bismuri, *S. Basumatary 0687* (BUBH), 25.01.2022.

18. *Xanthium* L., Sp. Pl. 2:987. 1753.

1. *Xanthium strumarium* L., Sp. Pl. 2:987. 1753; Hook.f., Fl. Brit. India 3:303. 1881 ; Kanjilal *et al.*, Fl. Assam 3:116. 1939; Deb, Fl. Tripura 2:231. 1983. *X. indicum* Deb, Fl. Tripura 2:231. 1983; Chowdhery in Hajra *et al.*, Fl. India 12:427. 1995; Chowdhery *et al.* in Giri *et al.*, Materials for the Fl. Arunachal Pradesh 2:52. 2008.

Vern. name: Okhra (Bodo).

Annual herb, to 1 m tall; leaves alternate, ovate-cordate, 3–5 lobed, 5–10 × 6–8 cm, margin irregularly serrate, acuminate at apex, base cordate and acute, glabrescent above, pubescent beneath; basal nerves 3; petioles 2–4 cm long; inflorescence unisexual, heads; male heads globose; female heads ovoid; fruits elliptic-oblong, involucre bract modified to hooked spines.

Flowering and Fruiting: December–May.

Occurrence: Found in open places in dried water bodies.

Distribution: INDIA (Almost throughout the country), AFGHANISTAN, BHUTAN, CAMBODIA, CHINA, LAOS, MOROCCO, MYANMAR, SRI LANKA, THAILAND.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0489* (BUBH), 07.02.2020.

Uses: Leaves are often cooked with dried fish and eaten in curry. It also used malaria, inflammation, and urinary diseases (Das *et al.* 2010, Teron 2011).

19. *Youngia* Cass. in Ann. Sci. Nat. (Paris) 23:88. 1831.

1. *Youngia japonica* (L.) DC., Prodr. 7(1):194. 1838; Hook.f., Fl. Brit. India 3:395. 1881; Mamgain and Rao in Hajra *et al.* Fl. India 12:329. 1995; Chauhan in Singh *et al.*, Fl. Manipur 1:555. 2000; Singh in Singh *et al.*, Fl. Mizoram 1:806. 2002. *Prenanthes japonica* L., Mant. Pl. 107. 1767.

Herb, erect, to 60 cm; stem terete; leaves alternate, runcinate, 3–4 × 9–11 cm; lateral nerves 4–6 pairs, leaf margin lobed, mucronate at apex; petiole to 4.5 cm long; inflorescence racemose, head, to 50 cm long; capitulum 1.1 cm long; corolla many, 4–5-lobed, yellow, sparsely pubescent, base white; papus white; achene ribbed, light green on young, brown when old.

Flowering and Fruiting: March–July.

Occurrence: Found in open area of waste places.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, PHILIPPINES, TAIWAN, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0008* (BUBH), 16.03.2018.

121. VIBURNACEAE Raf. In Ann. Gen. Sci. Ohys. 6:87. 1820.

About 2 genera and 15 species in India; 2 genera and 5 species in Assam; 1 genus and 1 species recorded from the study area.

1. *Viburnum* L., Sp. Pl. 1:267. 1753.

1. *Viburnum colebrookeanum* Wall. ex DC., Prodr. 4:325. 1830; Clarke in Hook.f., Fl. Brit. India 3:5. 1880; Kanjilal *et al.*, Fl. Assam 3:4. 1939; Haridasan and Rao, Forest Fl. Meghalaya 2:456. 1987; Chowdhery *et al.* in Hajra *et al.*, Materials for Fl. Arunachal Pradesh 1:562.1996; Chauhan in Singh *et al.*, Fl. Manipur 1:459. 2000. (Plate 63A).

Vern. name: Sangrema Biphang (Bodo).

Shrub, to 4 m tall; branchlets puberulent on juvenile; leaves opposite, elliptic-oblong, 10–16 × 4–7 cm, margin serrate, acuminate at apex, base cuneate, glabrous both sides; lateral nerves

7–9 pairs; petioles 1.5–2 cm long; inflorescence axillary, pedunculate, umbellate cymes; flowers 5-merous; corolla creamy white; stamens 5; fruits oblong.

Flowering and Fruiting: February–June.

Occurrence: Found in mixed deciduous forests.

Distribution: INDIA (NE India), BANGLADESH, BHUTAN, MYANMAR, NEPAL.

Specimen examined: Kokrajhar, Diglipara, *S. Basumatary 0691* (BUBH), 27.03.2022.

122. ARALIACEAE Juss., Gen. Pl. 217. 1789.

About 17 genera and 69 species in India; 7 genera and 11 species in Assam; 3 genera and 3 species recorded from the study area.

Key to the genera

- 1a. Leaves simple and prostrate herbs.....3. *Hydrocotyle*
- 1b. Leaves palmately compound.....2
- 2a. Scandent shrub.....2. *Heptapleurum*
- 2b. Small size tree.....1. *Brassaiopsis*

1. *Brassaiopsis* Decne. and Planch. in Rev. Hort. (Paris), sér 4, 3:106. 1854.

1. *Brassaiopsis glomerulata* (Blume) Regel, Gartenflora 275. 1863; Deb, Fl. Tripura 1:196. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:430. 1985. *B. speciosa* Clarke in Hook.f., Fl. Brit. India 2:737. 1879. *Aralia glomerulata* Blume, Bijdr. Fl. Ned. Ind. 873. 1826.

Tree, to 8 m tall; stem prickly; leaves palmately compound, leaflets 9; leaflets elliptic, 18–25 × 4–6 cm, margin entire, apex acute or acuminate, base cuneate; petiolule to 5 cm long; petiole to 50 cm long; inflorescence panicle of umbel, axillary, to 40–60 cm long; peduncle with brown hairs, branched; bracts rusty; flowers 5–7 m across; calyx 5-lobed, apex margin hairy, brownish; petals 5, light yellow; stamens 5; anther yellow or brown, filament white.

Flowering and Fruiting: May–August.

Occurrence: Found in hilly slopes.

Distribution: INDIA (Throughout the country), BANGLADESH, CAMBODIA, CHINA, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Ultapani, *S. Basumatary 0047* (BUBH), 02.06.2018.

2. *Heptapleurum* Gaertn., Fruct. Sem. Pl. 2:472. 1791.

1. *Heptapleurum venulosum* (Wight and Arn.) Seem in J. Bot. 3:80. 1865. *Schefflera venulosa* Clarke in Hook.f., Fl. Brit. India 2:729. 1879; Kanjilal *et al.*, Fl. Assam 2:353. 1938; Balakr., Fl. Jowai 1:224. 1981; Deb, Fl. Tripura 1:197. 1981; Harid. and Rao, Forest Fl. Meghalaya 1:440. 1985. *Paratropia venulosa* Wight and Arn., Prodr. Fl. Ind. Orient. 1:377. 1834. (Plate 16D).

Scandent or climbing shrub; stem terete, green with brown lepidots; leaves palmately compound, 4–7 leaflets; petiole 10–15 cm long; leaflets oblong-elliptic, 11–15 × 4–5 cm, margin entire, apex acuminate, base cuneate; petiolule to 4 cm long; inflorescence panicle raceme, terminal, branched, to 40 cm long; peduncle reddish; flower bisexual; calyx unlobed, green; corolla 5, free, apex acute, yellow with scattered reddish colour; stamens 5; anther yellow.

Flowering and Fruiting: May–August.

Occurrence: Found in deciduous forest or in roadside.

Distribution: INDIA (Throughout the country), BANGLADESH.

Specimen examined: Kokrajhar, Jharbari, *S. Basumatary 0035* (BUBH), 07.05.2018.

3. *Hydrocotyle* L., Sp. Pl. 1:234. 1753.

1. *Hydrocotyle sibthorpioides* Lam., Encycl. 3(1):153. 1789; Deb, Fl. Tripura 2:196. 1983; Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:538. 1996. *H. rotundifolia* Roxb., Fl. Ind. 2:38. 1824; Clarke in Hook.f., Fl. Brit. India 2:668. 1879; Kanjilal *et al.*, Fl. Assam 2:340. 1938.

Vern. name: Manimuni Phisa (Bodo).

Herb, prostrate, rooting at nodes; stem and branches terete, glabrous; leaves, orbicular-reniform, 1–1.5 x 1–1.2 cm, margin crenate, rounded at apex, base cordate, glabrous or glabrescent both sides; petioles 1–3 cm long; inflorescence axillary, umbels; flowers subsessile; corolla 5-lobed, pinkish; fruits schizocarps, compressed with persistent styles.

Flowering and Fruiting: September–March.

Occurrence: Found in open forests.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, BORNEO, CAMEROON, CHINA, MYANMAR, PHILIPPINES, SRI LANKA, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, S. Basumatary 0481 (BUBH), 23.01.2021.

Uses: Plant juice is used in stomach problems.

123. APIACEAE Lindl., Intr. Nat. Syst. Bot. ed. 2:21. 1836.

About 72 genera and 288 species in India; 11 genera and 14 species in Assam; 2 genera and 2 species recorded from the study area.

Key to the genera

- 1a. Plants prostrate; internode non-hollowed; leaves simple.....1. *Centella*
1b. Plants erect; internode hollowed; leaves compound.....2. *Oenanthe*

1. *Centella* L. Sp. Pl. ed. 2, 2:1393. 1763.

1. *Centella asiatica* (L.) Urb. in Mart., Fl. Bras. 11(1):287. 1879; Deb, Fl. Tripura 2:192. 1983. *Hydrocotyle asiatica* L., Sp. Pl. 1:234. 1753; Clarke in Hook.f., Fl. Brit. India 2:669. 1879; Kanjilal *et al.*, Fl. Assam 2:340. 1938.

Vern. name: Manimuni Gidir (Bodo).

Herb, prostrate, rooting at nodes; stem terete; leaves reniform, 2–3 × 1.5–2.5 cm, margin crenate or subentire, rounded at apex, base cordate, glabrous both sides; nerves radiating; petioles 6–10 cm long, sheathing at base, puberulent; inflorescence axillary, umbels, 3–5-flowered; flowers sessile; calyx lobes minute; petals 4, pinkish, recurved at apex; stamens 4; ovary 2-celled; stigma bilobed; fruits ovoid-globose.

Flowering and Fruiting: November–April.

Occurrence: Found in open fields, often in paddy fields.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CAMEROON, SRI LANKA, THAILAND, ZIMBABWE.

Specimen examined: Kokrajhar, Haltugaon, S. Basumatary 0480 (BUBH), 23.01.2021.

Uses: Pounded fresh leaves are mixed with honey and taken to cure cough and anemia. It is also consumed to cure indigestion, loss of memory, cold and cough, and leprosy (Das *et al.* 2010).

2. *Oenanthe* L., Sp. Pl. 1:254. 1753.

1. *Oenanthe javanica* DC., Prodr. 4:138. 1830; Balakr., Fl. Jowai 1:220. 1981. *O. stolonifera* DC., Prodr. 4:138. 1830; Clarke in Hook.f., Fl. Brit. India 2:696. 1879; Kanjilal *et al.*, Fl. Assam 2:341. 1938.

Vern. name: Dao Penda (Bodo).

Perennial herb, to 50 cm tall; stems hollowed, rooting from nodes; leaves alternate, compound, bipinnate; leaflets ovate-lanceolate, 2–4 x 1.5–2.5 cm, margin serrate, acuminate at acuminate, base cuneate, glabrous both sides; petiolules 2–4 mm long; inflorescence compound umbels, axillary, leaf opposed; flowers white; fruits orbicular, flattened.

Flowering and Fruiting: March–December.

Occurrence: Found in shady places in lowland area.

Distribution: INDIA (Almost throughout the country), BANGLADESH, BHUTAN, CAMBODIA, CHINA, JAPAN, LAOS, MYANMAR, THAILAND, VIETNAM.

Specimen examined: Kokrajhar, Haltugaon, *S. Basumatary 0482* (BUBH), 23.01.2021.

Uses: Shoots are eaten cooked as vegetables.