

CHAPTER 2

REVIEW OF LITERATURE

With long coastline, mountains to dense forest and mangrove environment, India is home to diverse spider species. Several European researchers commenced research on Indian spiders and it was later carried on by Indian Arachnologists. Spider research in India began in the late 1800s. The early contributions to the Indian Arachnology were made by the pioneer workers viz., Blackwall (1864, 1867) described fourteen new species in the families Lycosidae, Thomisidae, Epeiridae, Salticidae, Drassidae and Theridiidae; Stoliczka (1869) examined the spiders of Western and Eastern India, providing the first thorough detailed descriptions and illustrations of spiders from the families Thomisidae, Salticidae, Nephilidae, Pisauridae and Linyphiidae; Thorell (1895) provided many descriptions as well as established new species from the families Theraphosidae, Palpimanidae, Zodariidae, Clubionidae, Agelenidae, Dictynidae, Psechridae, Scytotidae, Pholcidae, Theridiidae, Uloboridae, Tetragnathidae, Lycosidae, Oxyopidae, Sparassidae and Salticidae from Burma region which was once part of British India; Cambridge (1897) reported six new species within the genus *Ctenus* and *Thalassius* from Burma; Cambridge (1892a) described a new species of *Ariamnes*, namely *Ariamnes simulans* from West Bengal; Simon (1885a and b, 1887, 1888, 1889, 1897, 1904, 1905, 1906) documented numerous species from the eastern India islands and Himalayan regions; Pocock (1895, 1899 a and b, 1900 a and b, 1901) encompassed 200 species of spiders from India, Burma and Ceylon which also included detailed description of spiders found in British India, new species descriptions and details on Mygalomorphs of the Oriental region.

The subsequent works commenced in the 20th Century. Pocock (1900a) presented the list of spiders (216 species) of British India for the very first time. In 1915, Narayan documented seven novel species and one subspecies of spiders that mimic ants. Gravely (1915) documented new species of the genus, namely *Idiops*, *Sasonichus*, *Plesiophrictus*

and *Haplocastus* from the Indian states of Bihar, Orissa, Maharashtra and Kerala; Gravely (1921a) described five new Mygalomorphs species viz., *Damarchus excavatus*, *Storena birenifer*, *Tetragnatha viridofura*, *Araneus viridisoma*, *Hermippoides arjuna*; Gravely (1921b) reported new species of the genus *Tetragnatha* and *Orsinome*, namely *T. mackenziei*, *T. cochinchensis*, *T. sutherlandi*, *T. moulmeinensis* and *O. listeri* from the states of West Bengal, Bihar, Kerala and Orissa; Gravely (1935a) reported seven new species of Mygalomorphs, namely *Damarchus bifidus*, *Atypus sutherlandi*, *Plesiophriectus blatteri*, *P. madraspatanus*, *Annandaliella pectinifera*, *Haplocastus tenebrosus* and *Selenocosmia sutherlandi*; Gravely (1935b) documented the first occurrence of male of *Ornithoctonus minax*. Gravely (1922) provided descriptions and illustration of habitus *Eucta javana*, *Nephila maculata*, *Cyclosa confraga* and *Gasteracantha arcuata*; Gravely (1924) studied the spiders of the family Lycosidae and provided notes on their distribution; Gravely (1931) described 18 new species viz., *Ctenus andamanensis*, *C. sikkimensis*, *C. indicus*, *C. himalayensis*, *C. cochinchensis*, *Acantheis indicus*, *Heteropoda sikkimensis*, *Spariolenus petricola*, *Selenops shevaroyensis*, *Cheiracanthium himalayensis*, *Syrisca barkudensis*, *Sphingius longipes*, *S. nilgiriensis*, *S. kambakamensis*, *S. barkudensis*, *C. albopicta*, *C. himalayensis*, *C. flavipes*. Sherriffs (1919) studied the spiders of families Uloboridae, Psecridae, Oecobiidae, Eresidae, Sicariidae, Scytotidae, Prodidomidae, Drassidae, Hersiliidae, Pholcidae, Theridiidae, Tetragnathidae, Oxyopidae, Salticidae and Araneidae; Sherriffs (1927) described a new species *Dictyna marakata*; Sherriffs (1928) reported three new species, namely *Phonognatha vicitra*, *Argiope lalita* and *Cyrtophora ksudra*; Sherriffs (1929, 1931) studied the spiders of the families Araneidae, Thomisidae and Salticidae; Sherriffs (1951, 1955) provided detailed descriptions and illustrations of the oriental spider Genus *Oxyopes*, describing six new species. Reimoser (1934) conducted research on spiders in the same region, identifying and documenting numerous species. Fage (1924) explored spiders from the Siju Caves of Garo hills in Assam, which now later falls in Meghalaya. Bhattacharya (1935a and b) provided descriptions of ant-mimicking spiders from Bengal. Sinha (1951a and b) investigated the spiders belonging to Araneidae, Hersiliidae and Lycosidae families; Sinha (1952) described three new species of *Argiope*, viz., *A. shillongensis*, *A. pradhani* and *A. kalimpongensis*. Basu (1963) described *Thomisus*

sorajaii from West Bengal; Basu (1964a) reported two new species of *Pistius*, namely *P. roonwali* and *P. kanikae* additionally Basu (1964b) described *Oxyptila reena*; Basu (1965a) documented new species of *Pistius*, viz., *P. bhadurii*, *P. gangulyi*, *P. barchensis* and *P. robusta*; Basu (1965b) described two new Thomisid species, namely *Xysticus hindusthanicus* and *Thomisus beautifularis*. Basu (1979) documented new spiders' species from the family Thomisidae. Contributions of new species to the family Thomisidae was also made by Sen (1963, 1964), where he described *Thomisus shillongensis* and *Stiprhopus soureni*, additionally Sen and Basu (1963, 1973) reported *T. mimae* and *Runcinia chauhani*.

Tikader (1980, 1982) carried out extensive study on spiders in the Indian subcontinent, where he identified and documented numerous new spider species in India, and these works were consolidated into three comprehensive volumes focussing on spider families: Thomisidae (Tikader, 1980), Lycosidae (Tikader and Malhotra, 1980), Araneidae and Gnaphosidae (Tikader, 1982a and b). His research covered a range of geographical locations, including the spider fauna of Maharashtra (1963b), Rajasthan (1966e), Sikkim (1970), Andaman and Nicobar Islands (1977a), and on spiders in the Calcutta vicinity later known as Kolkata (Tikader and Biswas, 1981). Tikader (1987) published the Handbook of Indian Spiders, and the first comprehensive list of 1067 species Indian spiders belonging to 249 genera under 43 families. Tikader and Biswas (1974) documented several carb spiders, where they described *Xysticus bengalensis* and *X. himalayaensis*; Tikader and Biswas (1978) reported two new species from Lyssomanidae, viz., *Lyssomanes karnatakaensis* and *L. bengalensis*; Tikader and Biswas (1979) described two new *Tharpyna*, namely *T. indica* and *T. himachalensis*.

Additionally, Tikader and Gajbe (1975, 1976a, b, c, 1977a, b, c, d, 1979) described new species from the genus, namely *Drassodes*, *Drassyllus*, *Zelotes*, *Sergiolus*, *Scopodes*, *Megamyrmecon*, *Scotophaeus*, *Liodrassus*, *Gnaphosa*, *Callilepis*, *Haplodrassus*, *Geodrassus* and *Nodocion*, all within the Gnaphosidae family. Tikader and Gajbe (1973, 1976d, e) described *Plator kashmirensis*, *P. himalayaensis* and *P. solanensis*. Tikader and

Malhotra (1974, 1976a, 1976b, 1978a, 1978b, 1980, 1981) described new species from spider families viz., Oonopidae, Zodaridae, Lycosidae, Deinopidae, Salticidae, Lycosidae and conducted a revision of spider belonging to the genus *Ctenus*. Furthermore, Tikader and Sethi (1990) focussed on the study of giant crab spiders within the family Sparassidae. Phaniel (1963) delivered a comprehensive account with detailed illustrations along with natural history of spiders from Madras. Sadana (1969, 1971a, 1980, 1991) described new species, namely *Lycosa bhatnagari*, *Pardosa bhatnagari*, *Phlegra citri* and *Zygoballus citri*.

Sadana and Kaur (1974a, b), Sadana and Bajaj (1980), Sadana and Goel (1995) and Sadana and Gupta (1995, 1998), focussed on spiders primarily from North India and added new spider species, namely *Chorizopes tikaderi*, *Marpissa ludhianaensis*, *Cheiracanthium punjabensis*, *Oxyopes ludhianaensis*, *Oxyopes gurjanti* and *Myrmarachne ludhianaensis* to the Indian Araneid fauna. Patel (1973, 1975a, b, c, 1978a, b) focussed on spiders of Gujarat region where he described several new species, namely *Theridion tikaderi*, *Larinia tyloridia*, *L. chhagani*, *Filistata napadensis*, *Scytodes kinsukus*, *Peucetia akwadaensis*, *Pritha dharmakumarsinhji* and *Sahastata ashapuriae*, and also provided detailed descriptions of several spiders. Patel and Patel (1972, 1973a, b, 1975a, b) described several new species from the genus *Cyllognatha*, *Selenops*, *Heteropoda*, *Drassodes*, *Scotophaeus*, *Phaeoedus*, *Amaurobius*, all of which are from Gujarat.

Patel and Reddy (1988, 1989, 1990a, b, c, 1991a, b, 1993a, b) extensively documented spiders from Andhra Pradesh where they reported new species viz., *Ctenus tuniensis*, *C. narashinhai*, *Storena arakuensis*, *S. tikaderi*, *Pisaura decorata*, *P. podilensis*, *Homalonychus raghavai*, *Cheiracanthium sambii*, *C. seshii*, *Simallo aurobindoi*, *Tegenaria hemanginae*, *Meta abdominalis*, *Neoscona dhumani*, *Hippasa valiveruensis*, *Lycosa balaramai*, *L. thoracica* and *Pardosa gopalai*. Reddy and Patel (1992a, b, c, d, 1993a, b, c, d, 1994) further added to the Araneid fauna of Andhra Pradesh by describing 13 new species belonging to the genus *Thomisus*, *Tegenaria*, *Neoscona*, *Oedignatha*, *Choriozopes*,

Pisaura, *Lutica*, *Ctenus* along with redescription of *Araneus fulvus*. Bradoo (1979, 1980) reported two new spider species, namely, *Myrmarachne platypalpus* and *Uloborus ferokus*; Sethi and Tikader (1988) reviewed the family Sparassidae, describing six new species; Monga et al. (1988, 1989) documented two new species viz., *Heteropoda gourae* and *Marpissa singhi*; Monga and Singh (1989) described *Theridion sadani*, overall contributing to the knowledge on Indian spider fauna.

Gajbe describe new species of the family Gnaphosidae, viz., Gajbe (1979) described three new species, namely *Sosticus nainitalensis*, *S. dherikanalensis* and *S. sundargarhensis*; Gajbe (1983) described *Pterotricha tikaderi*; Gajbe (1984) reported three new species of *Callilepis* viz., *C. pawani*, *C. ketani* and *C. rajani*; Gajbe (1987a, b, c, d) described four new species of the genus *Haplodrassus*, *Rachodrassus*, *Scopodes* and *Drassyllus*; Gajbe (1989) described two new Gnaphosid species, namely, *Scotophaeus bharatae* and *Echemus viveki*; Gajbe (1992a) reported four new species, viz., *Gnaphosa rohtakensis*, *Haplodrassus ambalaensis*, *H. bengalensis* and *Scotophaeus kalimpongensis*; Gajbe (1992b) reported *Haplodrassus viveki* and *H. Jacobi*; Gajbe (1992c) described *Oxyopes pawani* and *Peucetia ketani*; Gajbe (1992d) reported *Mimetus tikaderi*; Gajbe (1993a) documented first record of *Hersilia savignyi* from India; Gajbe (1993b,c,d,f) described *Sosticus pawani*, *Apodrassodes yogeshi*, *Megamyrmecon jodhpurensis* and *Liodrassus tikaderi*; Gajbe (1993e) provided the first report of male of *Uloborus danolius*; Gajbe (1999) studied the spider of the genus Oxyopidae and additionally described 14 new species, namely *Oxyopes ashae*, *O. biharensis*, *O. gujaratensis*, *O. bharatae*, *O. rukminiae*, *O. kamalae*, *O. kusumae*, *O. nalinae*, *Peucetia rajani*, *P. yogeshi*, *P. punjabensis*, *P. biharensis*, *P. pawani* and *P. viveki*. Gajbe and Bhadra (1978) reported new record of spider from the family Urocteidae. Gajbe and Gajbe described new species of spiders from the families Oxyopidae (Gajbe and Gajbe, 1999a, b), Thomisidae (Gajbe and Gajbe, 1999c, d), Philodromidae (Gajbe and Gajbe, 1999e, f, g), Lycosidae (Gajbe and Gajbe, 1999h) and Araneidae (Gajbe and Gajbe, 1999i).

Majumder and Tikader (1991) reviewed the spiders belonging to the Clubionidae family. Biswas (1975, 1977) described two new species of the genus *Peucetia* (Oxyopidae) and *Platythomisus* (Thomisidae). Biswas (1984a, b) identified six new species within the Clubionidae, Gnaphosidae, and Salticidae families, incorporating a single newly discovered species within the Araneidae family. Biswas (1991, 1993) also reported new species within the Clubionidae family. Biswas and Mazumder (1981, 1995) reported two new crab spiders (Thomisidae) together with compilation of 92 spider species categorized into 38 genera across 7 families, followed by Biswas and Biswas (1984) described two new jumping spiders (Salticidae). Biswas and Biswas (1992) compiled 213 species of spiders distributed across 70 genera within 20 families, among them 11 species found in 8 genera from 6 families were introduced as new discoveries and additionally 39 species spanning 25 genera and 10 families were documented here for the first time in West Bengal. Biswas et al. (1996) recorded *Oxyopes* spiders in West Bengal while Kundu et al. (1999) documented new spiders (Heteropodidae) in the same region. In the Buxa Tiger Reserve of West Bengal, Saha et al. (1994, 1995) discovered two species belonging to Heteropodidae and three to Lycosidae, followed by Saha et al. (1995) documenting five new records of Araneids from the area along with with a new species viz., *Neoscona raydakensis*. Furthermore, Biswas et al. (1996) documented 11 *Oxyopes* species, with five of them identified as new species, within the Buxa Tiger reserve.

Gajbe (2004a) introduced three new species of Lycosidae in Madhya Pradesh, India. In a subsequent work, Gajbe (2004b, c) examined the spiders from the family Oecobiidae, Eresidae, Hersiliidae, Urocteidae, and Uloboridae, along with studies on spiders from Lycosidae in the same region. Gajbe (2005a) explored spiders from the Araneidae family in the same region, while in another study (Gajbe, 2005b) focussed on the spiders of the Philodromidae family. Additionally, Gajbe (2005c) investigated spiders within the Thomisidae family, and in a separate study (Gajbe, 2005d) spiders from the Gnaphosidae family were examined. Gajbe (2007) contributed to the understanding of Arachnida fauna of Madhya Pradesh (including Chhattisgarh). Furthermore, Gajbe (2008a) described new

species of Philodromidae, while in a spate work, Gajbe (2008b) documented a new species of Thomisidae. Gajbe (2008c) also released publications on Oxyopidae of India and neighbouring regions. Gajbe and Gajbe (2000a, b, c, d, e) documented new spider species viz., *Philodromus pali*, *Thomisus sundari*, *Neoscona platnicki*, *Oxyopes pankaji* and *Runcinia yogeshi* from Madhya Pradesh, subsequently Gajbe and Gajbe (2004 a, b) further described two new species, namely *Larinia emertoni* and *Chorizopes kastoni* from Madhya Pradesh, India.

Biswas and Roy (2005a) provided a detailed account of three newly discovered species from the genera *Peucetia* and *Oxyopes*, both belonging to the family Oxyopidae in India. In another work, Biswas and Roy (2005b) outlined the characteristics of a new spider species from the genus *Camaricus* (Thomisidae). Furthermore, Biswas and Roy (2005c) described three additional species each from the family Thomisidae, Clubionidae and Pisauridae respectively. Additionally Biswas and Roy (2005d, 2008) described a new species of Heteropodidae along with six new species each belonging to the family Dictynidae, Slaticidae, Thomisidae, Clubionidae, Gnaphosidae and Lycosidae. Subsequent studies on spiders in eastern India were conducted by Saha and Raychaudhuri (2003, 2004a, b, c, 2007a, b, c, d) where they described 13 new arachnid species, namely, *Oxyopes longispinus*, *O. rajai*, *Peucetia gauntleta*, *Zilla globosa*, *Ordgarius hexaspinus*, *Strigoplus bilobus*, *Heteropoda denticulata*, *H. bhattacharjee*, *Olios jaldaparaensis*, *Peucetia betlaensis*, *Thomisus nirmali*, *Camaricus siltorsus*, *Xysticus bengdakus*; Sen et al. (2010a, b, c, d, 2011a, b, c, 2012a, b, c, 2013, 2015) documented new species of spiders viz., *Thalassius pseudoalbobocinctus*, *Indosmodicinus bengalensis*, *Hersilia longivulva*, *Muriricia trapezodica*, *Theridion bengalensis*, *Oxyopes gorumaraensis*, *Cyclosa bilobata*, *Massuria uthoracia*, *Misumena mickeyi*, *Pharta indica*, *Miagrammopes apostrophus*, following description of new record of *Stiphropus sangayus* from India, new combination for *Chryso angula*, *Hamataliwa ovata*, along with some work on Mygalomorphs of the genus *Heligmomerus* and *Chilobrachys*, and additionally recorded 148 species of spider from protected areas of West Bengal; Sen et al. (2011) reported new records of *Tukaraneus*

palawanensis and *Neoscona yptinika* along with from India; Roy et al. (2010, 2014a, b, 2015, 2016, 2017) rediscovered *Phrynarachne tuberosa* and *P. peeliana* from India after a century, recorded the genus *Evarcha* for the first time from India, described new species, namely, *Chorizopes quadrituberculata*, *Linyphia bilobata*, studied the Salticidae and Araneidae spiders from Tea estates of West Bengal recording 23 salticids and 32 araneid species respectively; Dhali et al. (2012, 2014, 2015, 2016a, b, 2017) recorded 31 species of Lycosids, two new records, namely *Euophrys frontalis* and *E. omnisuperstes* from India, described new species of Oxyopidae viz., *Oxyopes fabae*, *Clubiona denticulata*, *C. serrata*, *C. bilobata*, *C. pseudocordata*, *C. hexadentatata*, and also worked on the ground dwelling spiders recording a total of 89 species; Prasad et al. (2021a, b, 2022) redescribed *Lycosa bistrinata*, rediscovery of *Thomisus granulifrons* after 113 years, recorded first occurrence report of *Pardosa parathompsoni* from India. Bhandari and Gajbe (2001a, b, c) conducted study on spiders, identifying and describing three new species within the Araneidae family, three within the Thomisidae and four within each of the Uloboridae, Philodromidae, Gnaphosidae and Lycosidae families in Madhya Pradesh.

Azarkina (2002) focussed on new and lesser known species within the genus *Aelurillus* and in her work she specifically identified and described two previously unknown species of *Aelurillus* viz., *A. improvisus* and *A. minimontanus* from northern India. Dobroruka (2004) documented a new species of Salticidae named *Curubis sipeki* and reported a new record of Salticid *Bristowia heterospinosa* in India. Jastrzębski conducted several studies on Himalayan Salticidae, exploring *Menemerus* in 1997a, *Rhene* in 1997b, *Spartaeinae* (1997c), *Carrhotus* in 1999 and the genus *Bianor* in 2007b. Logunov has contributed significantly to Indian arachnology through a series of studies (2001, 2004, 2010, 2017, 2019, 2020, 2021a, b, c). In 2001, he redefined the Salticids genera *Bianor* and *Harmochirus*, introducing the new genus *Sibianor*. Logunov (2004) re-evaluated the taxonomic classification of spiders belonging to the genus *Lyssomanes* from India, subsequently placing them into a distinct genus named *Hindumanes*. (2010) introduced a new species *Yllenus* (Salticidae) from northern India. His Logunov (2017) study focused on new species and records in the genus *Synagelides* (Salticidae). Logunov (2019), he

provided taxonomic notes on the *Harmochirina* from South and Southeast Asia, Logunov (2020) saw additional notes on the genus *Stenaelurillus* from India. Logunov (2021a), extended his work to notes on the genus *Chinattus* along with studies on new species and records of Salticids. Logunov has made substantial contributions through collaborative efforts as well viz., Logunov and Hereward (2006) introduced new species and synonymies within the genus *Synagelides* (Salticidae), Logunov and Azarkina (2018) redefined and partially revised the Salticid genus *Stenaelurillus*. More recently, Logunov et al. (2022) recorded the first instance of *Pseudomogrus* (Salticidae) in India, unveiling a new species in the process.

Marusik et al. (2012) explored the spider genus *Amaurobius* resulting in a new species *A. kaponeni*. Marusik et al. (2014) provided new records viz., *Pardosa haupti*, *Gnaphosa dege* and *Enoplognatha diodonta*. Additionally, Marusik et al. (2020) provided a redescription of two west Himalayan *Cheiracanthium*. In the same year, Marusik et al. (2020) contributed to the taxonomic notes on *Amaurobius* including a new species *A. caucasicus*.

In a series of studies spanning from 2001 to 2022, renowned arachnologists Peter Jäger explored the diversity of giant crab spiders in the Himalayas, presenting findings on the radiation of two genera in the snow covered regions, introducing a new huntsman spider genus with a distinctive cymbial spur from the southern Indian mountain ranges (Jäger, 2006), unveiling three new *Pseudopoda* species in northern India (Jäger, 2008), conducting comprehensive revision of spider genus *Olios* (Jäger, 2020), and introducing a new spider genus *Bowie* (Jäger, 2022), further Jäger and Kulkarni (2016) unveiled an unexpected species of the genus *Pseudopoda* in the Western Ghats, and (Jäger, Sudhikumar and Tripathi, 2022) provided descriptions of three Sparassidae species from India, including first ever characterization of the males of *Olios kiranae* and *Thelcticopis moolampilliensis*. In Andhra Pradesh, India, various studies led by Javed et al. (2010) focussed on spiders of the genera *Murricia*, *Hersilia* describing new species and in the same year Javed et al.

(2010) redescribed *Sipalolasma arthropophysis* along with its natural history observations, while additional research by Rao et al. (2006a, b) described new spiders of the genera *Poecilotheria*, *Tmarus* and *Argiope*, and Srinivasulu et al. (2013) contributed to the araneofauna of the region by recording interesting species of comb-footed genera *Latrodectus*, *Rhomphaea* and *Coleosoma*.

Sunil Jose (2011, 2013, 2017a, b, c, 2020, 2021a, b) has notable contributions in South India, particularly in Kerala, viz., discovery of new spider species along with first record viz., *Cyrtarachne keralensis* (Jose, 2011), *Yaginumaella aishwaryi* (Jose, 2013) and *Dolichognatha longiceps* (Jose, 2014). Sunil Jose (2017a, b, c) reported new records of *Poecilotheria hanumavilasumica*, redescribed *Haploclostus kayi* and found a new *Sahydroaraneus* species. Jose (2020) described a new mygalomorph spider viz., *Neoheterophriectus chimminiensis*. Sunil Jose (2021a, b) described *Conothele chinnarensis* and also reported *Poecilotheria rufilata*. Sunil Jose and Sebastian (2001a, b) documented the occurrence of *Psechrus alticeps* and presented new reports of Thomisids. Sunil Jose and Sebastian (2007, 2008) introduced two new species viz., *Thelcticopis moolampilliensis* and *Annandaliella ernakulamensis*. Sunil Jose and Prasanth (2015) provided detailed insights on the male of *Annandaliella travancorica*. Sunil Jose et al. (2003, 2004) described the female *Amyciaea forticeps* along with redescription of its male counterpart and provided renewed description of *Tetragnatha viridorufa*. Sunil Jose (2003) reported the initial record of *Thalassius albocinctus*. Further, Sunil Jose et al. (2007) highlighted the initial record of *Perenethis unifasciata*. Sudhikumar et al. (2004) recorded the presence of the genus *Trigonobothrys* and presented the first description of the female of *T. martinae*. Sudhikumar et al. (2004) described the female of *Trigonobothrys martiane*, additionally Sudhikumar et al. (2009) described *Suffasia keralaensis*.

Sudhin et al. (2016) provided the initial description of the male and presented insights into the cymbial notch as well as mating plug of genus *Aetius*. In a subsequent work, Sudhin et al. (2017) conducted a comprehensive revision of *Hindumanes* unveiling

H. wayanadensis. Sudhin et al. (2019a, b) introduced three new spider species *Cocalus lacinia*, *Marengo zebra* and *M. batheryensis*. Sudhin et al. (2020, 2021) redescribed *Asemonea cristata*, and further introduced new spider species *Carrhotus tholpettyensis*. Sudhin et al. (2022) addressed taxonomic questions regarding the placement of *Tibellus elongates* and *Apollophanes bangalores*. Sudhin et al. (2022a, b) unveiled new species, namely, *Afraflacila miajlarensis*, *A. kurichiadensis*, *Cocalus shendurneyensis* and *Habrocestum mookambikaensis*. Sudhin et al. (2023, 2023a, b, c) discovered and recorded new species viz., *Dendrolycosa sahyadriensis*, *Stenaelurillus megamalai*, *S. neyyar*, *Phintella dhritiae*, *P. platnicki* and *Colopsus peppara*. Sudhin and Sen (2023a, b) documented the spider species within the Shendurney Wildlife Sanctuary and further provided taxonomic information and observations of *Oxytate* (Thomisidae). These collective studies offer distinctive insight to the comprehensive understanding of the Arachnid fauna of Western Ghats region, showcasing a diverse range of spider species.

Malamel et al. (2013) clarified the taxonomic status of *Fecenia travancoria*, recognizing the junior synonym of *F. protensa*. Malamel et al. (2015, 2015a) documented the first occurrence of the genus *Bavia* (Salticidae) and *Lysania* (Lycosidae) along with introduction of new species *B. insularis* and *L. prolixus*. Further, Malamel et al. (2015b) concluded that *Cyrtarachne keralensis* is a junior synonym *Anepsion maritatum*. Malamel and Sudhikumar (2017) reported the first sighting of *Epidius pravati* from India and subsequently Malamel and Sebastian (2018) examined the taxonomic status of *Leucauge granulata*, *L. argentata*, *L. bengalensis* and *L. tuberculata*. Continuing their work, Malamel et al. (2018, 2019a, b, 2019) described new spider species viz., *Wolongia papafrancisi*, *Epeus triangulopalpis*, *Piranthus planolancis*, *Indomarengo chavarapater*, *Marengo sachintendulkar*, and followed by taxonomic revision of genus *Psellonus* (Philodromidae). Mirza et al. (2011) conducted extensive study on *Haploclastus validus* (Theraphosidae). Subsequently, Mirza et al. (2012) unveiled a new *Idiops* species accompanied by a comprehensive key encompassing various *Idiops* species in India. Mirza and Sanap (2012) introduced *Idiops rubrolimbatus* and offered additional notes on *I. bombayensis*. Mirza and

Sanap (2013) revalidated the genus *Phlogiodes* (Theraphosidae). Mirza et al. (2014a) reviewed the Theraphosidae genus *Eumenophorinae* and presented five new species along with a new genus. Mirza et al. (2014b) described arboreal tarantula viz., *Poecilotheria chaojii*. Mirza et al. (2016) provided insights into genus *Tigidia* and described *T. konkanensis*. Further, Mirza et al. (2017) introduced a new genus and species of Dipluridae. Mirza and Mondal (2018) unveiled a new genus *Gravelyia* along with two new species i.e. *G. excavatus* and *G. striatus*. Mirza (2022) presented a new species of *Conothele*, and subsequently, Mirza (2023) provided additional notes on *Tigidia* along with three new species viz., *T. jalgaonensis*, *T. tangerina* and *T. fasciata*. Sanap and Mirza (2011) reported two new species i.e. *Scalidognathus nigriaraneus* and *S. tigerinus*. Sanap and Mirza (2013, 2014) provided notes on female *Plesiophrictus millardi* and introduced a new iridescent tarantula *Thrigmopoeus psychedelicus*. Sanap and Mirza (2015) identified a new large Idiopidae i.e. *Heligmomerus maximus*. Sanap et al. (2017) documented two previously unknown species of *Langelurillus* (Salticidae). Sanap et al. (2019) uncovered hisponine spider *Jerzego sunillimaye* and provided observations on the life history of this newfound species. Sanap et al. (2022) reported the discovery of new species of *Conothele* (Halonoproctidae). Furthermore, in the same year Sanap and Caleb (2022) identified and described *Langelurillus tertius*.

Sankaran et al. (2014) studied *Hermippus* (Zodariidae) identifying three new species. Sankaran et al. (2015) provided redescription of *Gasteracantha geminata*. Sankaran et al. (2015a, b, c) reviewed the genus *Martensopoda* (Sparassidae) and introduced a new sac spider *Castianeira furva*, and additionally discussed *Theridion echinatum* as a younger synonym of *Theridion zonulatum*. Sankaran and Sebastian (2016) compiled a checklist of Tetrablemmidae with description of *Shearella alii*. Sankaran et al. (2017, 2017a and 2017b) introduced new monotypic genus *Ovia* (Lycosidae), described *Paratus perus* and reviewed the genus *Tylorida* in an additional publication. Sankaran and Sebastian (2017a, b) redescribed *Zoica puellula* and relocated *Z. harduarae* to Agelenidae along with introduction of new species *Anaxibia folia* (Dictynidae). Sankaran et al. (2018)

provided a renewed description of *Castianeira zetes* (Corinnidae). Sankaran and Sebastian (2018a, b, c, d) documented the initial occurrence of *Africactenus* and offered updated description for two *Ctenus* species, they identified a new synonym of Thrigmopoeinae and clarified the taxonomic placement of *Phonognatha vicitra*, and later they introduced new species of Gnaphosidae. Sankaran et al. (2019) presented *Habrocestum longipspinum* and redescribed *Curubis tetrica*. Sankaran and Sebastian (2019) clarified the taxonomic placement of *Systaria barkudensis*. Sankaran et al. (2019a, b, c) addressed the taxonomic validity including transfer and new synonymies of *Castianeria*, *Scopoides*, *Lutica* and *Tropizodium* as well new species of *Indopallida*. Sankaran et al. (2020) explored new synonymy of *Nephila* along with additional notes on colour polymorphism. Sankaran et al. (2020a, b, c, d, e, f, g) studied the validity of Indian ground spiders, addressing the genera such as *Drassyllus*, *Nodocoin*, *Glenognatha*, *Storena*, *Plator*, *Phaeoecelus*, *Sphingius* and *Makdiops*. Sankaran et al. (2021a, b, c, d) conducted revision of *Arctosa* (Lycosidae), they explored taxonomic validity of *Apodrassodes*, *Herpyllus* and *Sergiolus*, and corrected the article on taxonomic validity of *Phaeoecelus* (Gnaphosidae), further contributions include notes on genus *Evipa* (Lycosidae). Sankaran and Caleb (2021) provided the taxonomic validity of *Megamyrmaekion* and *Gaviphosa*. Sankaran (2021a) transferred *Homalonychus raghavi* to *Storenomorpha*. Sankaran (2021b) provided a comprehensive review of genera *Apochinomma* and *Corinnomma*. Sankaran et al. (2022) documented *Siamspinops* for the first time, describing female of *Makdiops shevaroyensis* and compiled a catalogue of Selenopidae. Sankaran and Joseph (2022) concentrated on determining the identity of *Cryptothele collina*. Sankaran (2022a, b, c) covered various topics on Indian Palpimanidae, Liocranidae and the synonymy of *Aracus* with *Zelotes* (Gnaphosidae). Sankaran and Joseph (2023) reported the male of *Bowie indicus*. Sankaran and Tripathi (2023) provided first report of *Hongkongia* (Gnaphosidae) with description of *H. novia*. Sankaran (2023a, b) provided an update on genus *Corinnomma* and offered taxonomic observations on *Asceua* and *Cydrela* along with comments on *Euryeidon*.

Ahmed et al. (2015a, b, c, d, e, f) reported the discovery of *Peucetia phantasma*, *Dictis mumbaiensis*, *Paraplectna rajashree*, *Thecticopis kirankhalapi* and *Cyrtarachne sunjoymongai* including the documentation of first occurrence of *Portia albimana*. Ahmed et al. (2016) extended their findings with the identification of *Eriovixia gryffindori*. Another significant finding by Ahmed et al. (2017) is the first report of *Brettus cingulatus*. Keswami and Vankhede (2012, 2013 and 2014) re-examined *Chilobrachys assamensis*, unveiled a new record *Lipocrea epeiroides* and introduced *Clubiona foliata*. Keswami (2013) undertook a comprehensive revision of *Cyclosa* genus, presenting detailed descriptions of two previously unknown species of *Cyclosa* and providing description of male counterpart of *C. moonduensis*. Vankhede et al. (2013) documented a new *Hygropoda* species. Chatterjee et al. (2017) reported *Menemerus nigli* (Salticidae) from India. Chatterjee et al. (2018a, b) documented *Hyptiotes affinis* (Uloboridae) and further reported the first sighting of *Psechrus inflatus* (Psechridae). Banerjee et al. (2019) provided fresh insights into the behaviour and characteristics of *Neobrettus tibialis* (Salticidae). Babu et al. (2021, 2022) provided an additional geographical occurrence report for *Bianor angulosus*, and additionally explored the classification and geographic range of *Philoponella feroka*. Sen et al. (2021) documented the initial identification of *Araneus tubabdominus* (Araneidae). Marathe et al. (2022) presented new species viz., *Stenaelurillus shwetamukhi*, *S. tamravarni* and *S. vyaghri*. Sampathkumar et al. (2022, 2023) investigated the geographic range of *Scytodes fusca*, and further provided notes on geographic range of *Tetragnatha nitens*.

Kulkarni and Deshpande (2012a, b) reported the discovery of *Oxyopes sataricus* and provided additional morphological details of *Arachnura angura*. Kulkarni and Smith (2013) documented the presence of *Polys columnaris* in India. Kulkarni (2014) identified and described *Tylorida sataraisensis*. Kulkarni and Joseph (2015) highlighted the first occurrence of *Siler* genera. Kulkarni and Lewis (2015) provided a detailed description of male counterpart of *Tylorida sataraisensis*. Kulkarni and Yadav (2015) addressed the distributional gap of *Tylorida striata*. Kulkarni et al. (2017) studied the genus *Meotipa*

describing a new species i.e. *M. sahyadri*. Further, Kulkarni and Dupérré (2019) described a new species of *Altheopus* i.e., *A. devraii*.

Siliwal et al. (2005) compiled an updated checklist of Indian spiders. Siliwal et al. (2007, 2009) described three new species viz., *Plesiophrictus nilagiriensis*, *Diplothele gravelyi* and *D. tenebrosus*. Siliwal et al. (2009) reported the genus *Conothele*, describing two new species. Siliwal (2009a, b) revalidated the taxonomic position of *Ischnocolus* and described *Chryso pseudotheridula*. Siliwal and Molur (2009a, b) included the redescription, distribution and status of *Thrigmopoeus truculentus* along with description of *Sason rameshwaram*. Siliwal and Raven (2010) reported taxonomic changes in two species of *Haploclastus*. Siliwal et al. (2010) transferred two species of the genus *Idiops* to *Helgimomerus*, providing a redescription of *H. barkudensis*. Siliwal et al. (2011) recorded the genus *Tigidia* along with three new species viz., *T. sahyadri*, *T. nilgiriensis* and *T. rutilofronis*. Siliwal et al. (2012) described new genus *Neoheterophrictus* (Theraphosidae) together with description of *N. crurofulvus*, *N. sahyadri* and *N. uttarakannada*. Siliwal et al. (2013) worked on *Poecilotheria striata*, and discussed its taxonomic details, geographical range and conservation status. Siliwal et al. (2014) identified and introduced *Atypus* (Atypidae). Siliwal et al. (2015) introduced genus *Damarchilus* comprising two previously unknown species i.e. *D. nigricus* and *D. rufus*. Siliwal et al. (2015) investigated the ecological aspects and unveiled two additional species of *Conothele*. Siliwal et al. (2017) introduced three new species of *Ariadna*. Siliwal et al. (2020) characterized and documented five previously undiscovered species of *Helgimomerus* and *Idiops*.

Tripathi et al. (2021, 2022, and 2023) reported the initial occurrence of *Menemerus marginatus* (Salticidae), *Plexippus minor* (Salticidae) and introduced *Oecobius thar* from India. Tripathi et al. (2023a, b, c, d, e, f, g) provided the first descriptions and sightings of various species, such as *Myrmarachne uniseriata*, *M. spissa*, *Steatoda albomaculata*, *Bassanoides tristrami*, *Steatoda erigoniformis*, and new species i.e. *Hasarius mumbai*, *Palpimanus narsinhmehtai* and *Sparbambus sindhudurg*. Quasin and Uniyal (2012)

documented the initial occurrence of *Phylloneta impressa*. Quasin et al. (2012, 2015, 2017, 2018, 2019 and 2022) reported the first occurrence of *Episinus affinis*, *Rubroridion musivum*, *Steatoda cingulata*, *Tamgrinia palpator* and *Titanoeca asimilis*, followed by subsequent finding of new species viz., *Himalmartensus nandadevi*, *Draconarius joshimath* and *Trachelas chamoli*. Grismado et al. (2011) documented the discovery of five new species of *Aprusia* in South Asia which includes one from India, specifically *Aprusia kerala*. Additionally, Grismado et al. (2014) study involved comprehensive review of *Dysderoides* genus and their Himalayan counterpart, the genera *Trilacuna*, proposing a new genus *Himalayana*, and introduced eight newly described species. Prószyński (1992a, b) focussed on examination of Salticid specimens which includes India present in multiple US collections, subsequently he carried out taxonomic assessment on Salticidae spiders from India.

Prajapati et al. (2016a, b, c, 2018) reported the discovery of *Tropizodium kalami*, *T. viridurbium*, *Stenaelurillus digitus*, *S. gabrieli* and *Icius vikrambatrai*, additionally documented spiders of Gujarat University Campus providing additional notes on *Eilica tikaderi*. Prajapati (2019) introduced a new species of *Phlegra*. Prajapati et al. (2020) made the first record of *Uroballus*, accompanied by description of *U. nazirwanii*. Prajapati and Kamboj (2020a, b) added further morphological characters to the male of *Icius alboterminus* and revealed the female of *Phintelloides undulatus*. Prajapati (2021) provided supplementary information regarding the distribution of *Zimiris doriae* (Gnaphosidae). Prajapati et al. (2021) described *Phintella cholkei* and *Icius tukarami*. Prajapati et al. (2021, 2021a, b) introduced *Palpimanus narsinhmehtai* along with new combination, further provided redescription of *Plexippus clemens*, and also reported the occurrence of *Afraflacilla banni*. Lastly, Prajapati and Dudhra (2022) provided description of *Tanzania yellapragadai*.

Tyagi et al. (2019) utilized DNA barcoding for the identification of spiders which led to the contribution of 489 barcodes to the global database, delimiting to the

knowledge's on taxonomic complexes. Prasad et al. (2019, 2020) unveiled *Theridion* Odisha, and additionally reported *Coleosoma blandum*. Prasad et al. (2021a, b) provided redescription of *Lycosa bistrata*, subsequently rediscovered *Thomisus granulifrons*. Prasad et al. (2022) clarified the geographical distribution of *Evarcha flavocincta*. Furthermore, Prasad et al. (2022) reported the presence of *Pardosa parathompsoni* (Lycosidae). Babu et al. (2021-2023) documented new distribution of *Bianor angulosus*, subsequently discussed the classification and geographical range of *Philoponella feroka*, and additionally identified two new species *Afraflacilla adavathurensis* and *A. kerala*. Asima et al. (2021) provided new distribution data on *Maripanthus* (Salticidae). Asima et al. (2021, 2022, 2023a, b) introduced new species viz., *Uloborus shendurneyensis*, *Habrocestum shendurneyensis*, *H. kerala*, *Thiania indica* and *Pancorius sebastiani*. Pravalikha et al. (2013, 2014) published the initial documentation of *Hersilia orvakalensis*, and subsequently described *Hersilia aadi*. Pravalikha and Srinivasulu (2015) introduced a new species *Thomisus telanganaensis*.

Caleb and Mathai (2013) identified and described *Poecilochroa tridotus* and *Zelotes tambaramensis*. Caleb (2014) introduced *Phintella alboterminus*. Caleb et al. (2014) contributed to the identification of new species belonging to *Hyllus*. Additionally, Caleb et al. (2014) presented a detailed description of *Drassodes luridus*. Caleb and Mathai (2014a, b, c) identified and described three new species i.e. *Deinopsis scrubjunglei*, *Chrysilla jesudasi* and *Stenaelurillus sarojinae* along with description of intriguing jumping spiders, further continuing their work they reported *Araneus viridisomus*. Caleb and Karthikeyani (2015), Caleb and Mathai (2015) and Caleb et al. (2015) brought forth novel jumping spiders *Cosmophasis undulata*, *Harmochirus exaggeratus*, *Langona albolinea*, *Mashonarus davidi*, *Phanuelus gladstone* and *Phlegma prasanna*. Caleb and Sanap (2016) documented the discovery of *Stenaelurillus lesserti* in new locations in South India. Caleb et al. (2016) studied on social spiders and reported three species (*Stegodyphus pacificus*, *S. sarasinorum* and *S. tibialis*). Caleb (2016a, b, c, 2017) made a significant finding and provided descriptions of *Curubis erratica*, taxonomic information is provided for five species of

jumping spiders found in India and additionally provided taxonomic notes on five species of genus *Myrmarachne* (*M. kuwagata*, *M. melanocephala*, *M. platalaeoides*, *M. prava* and *M. ramunni*), and subsequently reported the genus *Icius* along with new species *I. kumariae*. Caleb and Sanap (2017) rediscovered *Piranthus decorus* 122 years after its original description. Caleb and Benjamin (2017) explored the type of *Myrmarachne uniseriata*. Caleb et al. (2017a, b, c) determined *Hersilia aadi* as a junior synonym of *Hersilia savignyi*, further redescribed and synonymised *Stenaelurillus arambagensis*, and additionally introduced two new species (*Epocilla sirohi* and *Mogrus rajasthanensis*). Caleb et al. (2018) explored two additional synonyms of *Orsinome* (Tetragnathidae). Caleb et al. (2018) introduced a new species of *Pseudopoda* i.e., *P. cheppe*.

Furthermore, Caleb et al. (2018) discussed a newly discovered spartaeine i.e. *Brettus gravelyi*. Caleb et al. (2018) presented findings of two new spider species from Western Himalayas viz., *Nandicius vallisflorum* and *Pellenes himalaya*. Caleb and Kumar (2018) introduced *Pellenes iva*. Caleb (2018a, b) documented the initial record of *Micaria dives*, and provided redescription of *Olios lamarcki*. Caleb et al. (2018a, b) described the female of *Chrysiila volupe*, followed by description of *Colyttus prozyskii* and *Synagelides brahmaputra*. Caleb and Acharya (2019) documented the first record of *Schenkelia* (Salticidae). Caleb et al. (2019) offered redescription of *Rudakius ludhianaensis* (Salticidae). Caleb (2019a, b) discussed the taxonomic status of *Deinopis goalparaensis*, and also compiled a detailed inventory of jumping spiders in India. Caleb et al. (2019a, b) focused on the genus *Pancorius* (Salticidae) presenting new species *P. nagaland*, additionally introduced a new species *Indopallida* Darjeeling and new combinations viz., *I. insularis*, *I. thorelli* and *Bavirecta casteti*. Caleb et al. (2020) identified new species within the *Carrhotus* viz., *C. andhra*, *C. assam* and *C. silanthi*. Caleb and Acharya (2020) focussed on the genus *Phintelloides* (Salticidae) introducing *P. manipur*. Caleb (2020a, b) introduced a novel jumping spider genus *Orientattus*, additionally explored the spider fauna in the scrub jungle of the Madras Christian College campus, Chennai. Caleb et al. (2021) discovered the species *Maripanthus gloria*. Caleb et al. (2021) provided taxonomic insights

on *Epocilla aura* and *E. calcarata*. Caleb and Wijesinghe (2022) identified three additional synonyms of *Oxyopes hindostanicus*. Caleb et al. (2022a, b, c) offered taxonomic information regarding members of the *Rhene* genus in South and Southeast Asia, and further described two new species viz., *Plexippus itgnatius* and *Colopsus arkavathi*. Caleb (2023) explored in more detail the taxonomic identity of *Marpissa mizoramensis*, *Evarcha optabilis*, *Phidippus tirapensis*, *Hyllus maskaramus* and *Pancorius manipuriensis*. Lastly, Caleb et al. (2023) identified and published *Siler niser*.

Works on Spiders from Assam

Basumatary et al. (2018a, b) provided the first report of *Hyllus diardi* and *Cyrtarachne nagasakiensis*. Subsequent studies by Basumatary et al. (2019a, b) revealed *Eriovixia kachugaonensis*, *Meotipa ultapani* and *Paraplectana mamoniae*. Basumatary et al. (2020a, b, c) documented two new species i.e. *Vailimia jharbari* and *Chinattus prabodhi*, and redescribed *Asianopis goalparaensis*. Basumatary et al. (2021) and Basumatary and Brahma (2021) made a significant rediscovery of *Dexippus kleini* after 129 years and also introduced *Gravelyia boro*.

Chetia and Kalita (2012) conducted a study in Gibbon Wildlife Sanctuary from the north-eastern state of Assam and recorded a total of 95 spider species, distributed among 56 genera and 18 families. Pandit (2019) carried out research on spider diversity within the Tinsukia district and documented 18 families, 52 genera and 80 species. Ahmed et al. (2014a, b) provided two new records of genus *Chrysilla* (Saltcidae) and *Wadicosa* (Lycosidae), and introduced two new species viz., *C. assamensis* and *W. prasantae* from Sonitpur district of Assam. Tikader and Malhotra (1978) discovered previously unknown *Deinopid* species viz., *Asianopis goalparaensis* within Kokrajhar district of Assam.

Sharma et al. (2023) investigated the impact of urbanization on spider communities in Guwahati city across urban, semi urban and forest habitats revealing significant

differences in spider composition among these habitats; the research highlights the highest taxonomic diversity in forests and lowest in urban parks and the analysis indicates that habitat types significantly influence spider abundance, additionally functional diversity, including richness and divergence varies across habitats, with forests exhibiting maximum functional richness and urban sties showing maximum functional divergence, the finding underscore that urban land use changes can impact both the structure and functioning of spider communities.

Anindita et al. (2017) conducted research in the Jowai area of Meghalaya where they identified 24 species across 10 families, with Araneidae family exhibiting the highest spider representation, comprising of 45% of the total and also revealed a species diversity of 2.17 and evenness of 0.7.

Das et al. (2021) conducted study in Tripura and recorded 32 species across 13 families and 8 genera, notably, nine species were reported for the first from the state.

Basumatary and Brahma (2017) studied the Arachnid fauna of Chakrashila Wildlife Sanctuary and recorded 65 spider species, 47 genera and 16 families with Araneidae as the dominant family.

Singh (2016) studied spider fauna of Barpeta district in Assam where he collected 1013 individuals representing 60 spider species from 39 genera and 14 families with Araneidae and Salticidae are the most dominant families, and the distribution analysis indicates that *Argiope pulchella* covers 12.83% of the total spider population.