

Abstract

The Chirang Reserve Forest (CRF) is one of the oldest reserve forests and falls under the Manas Biosphere Reserve of the Bodoland Territorial Region (BTR) in Assam. BTR is rich in biodiversity, regarded as a part of the Indo-Burma biodiversity hotspot, which is home to numerous intriguing floral and faunal components. An extensive field study in this biodiversity rich area was carried out during 2018–2022. During the time of collections, the useful data such as habit, habitat, flowering and fruiting season, field collection number, types of forests and some of the associated species were also noted in a field note book. Some of the Orchids were grown in Bodoland University Orchidarium for further observation, identification, and conservation. The study is anticipated to provide all the information needed to create policies for a sustainable livelihood and a balanced approach to conservation management of the forest.

The vegetation of CRF is classified as (a) Semi-Evergreen Forest (b) Moist Deciduous Forest (c) Dry deciduous Forest (d) Riparian Forest and (e) Scrub Forest. The present study recorded a total of 728 plant taxa of 492 genera belonging to 138 families. Out of 728, angiosperms comprised 690 taxa, gymnosperms had 3 species, and pteridophytes had 36 taxa. Dicotyledons are comprised of 528 taxa in 358 genera belonging to 104 families. It is included with 171 taxa: trees, 163 shrubs, 127 herbs, and 67 climbers. Monocotyledons comprise 162 taxa under 105 genera in 19 families. Of these, 143 taxa are herbs, 10 are climbers, and 9 are shrubs. Among all, Orchidaceae Juss. is the dominant family with 77 species, and *Ficus* L. is the dominant genus with 24 species. The study made one rediscovery, 8 new distribution records to Assam, and newly added 210 taxa to the flora of Bodoland Territorial Area District (BTAD) (now BTR). The study also recorded a total of 51 species in 40 genera belonging to 18 families with threatened categories, 13 endemic species, 21 species of 16 genera belonging to 10 families as primitive plants, and 13 monotypic genera belonging to 12 families. A total of 174 species under 145 genera belonging to 79 families are recorded with their traditional uses. Of which, 99 species have medicinal values, 57 species as vegetables or other foods, 44 species as edible fruits and 7 species are used in fish poisoning. A total of 53 species under 46 genera belonging to 23 families have been encountered as exotic species.

Additionally, the threat status of the study area is discussed and presented in the form of data and images. To conserve and utilise forest resources in a sustainable manner, certain

recommendations about biodiversity conservation are provided. The present study provides the first comprehensive documentation on the flora of the Chirang Reserve Forest, Assam. This study will be helpful in identification, conservation, management of threatened and endemic species in the forest. Besides the inventory of flora, the present study will also be helpful for researchers, biodiversity conservationists, policymakers, foresters, and the local people for the sustainable management of the biological diversity of the Chirang Reserve Forest.