Chapter 2: REVIEW OF LITERATURE

2.1 Botanical explorations in India:

Botanical explorations in India started in the British rule in different parts of India in preparation of numerous floristic accounts. Roxburgh (1795-1819) collected plants from Coromandel Coast; Graham (1836) from Bombay; Masters (1840) from Bengal; Elliot (1859) at Andhra Pradesh; Anderson (1859) from Lucknow; Beddome (1863) from Madras; Stewart (1869) in Punjab; Beddome (1869-74) in South India; Duthie (1883) in North-West India; Cameron (1894) at Mysore etc. The nineteenth century was marked by the completion of ‘Flora of British India’ in seven volumes by Hooker (1872-1897). This flora served as basis for several regional floras appeared after its publication.

Botanical exploration in India in 19th century can also be divided into 2 periods: prior to the reorganization of BSI in 1956 and after 1956. There has been intensive floristic study in the country in the current century. It is not possible to mention all those work in a brief note, hence some of the eminent ones are mentioned here.

Fyson (1932), Mayuranathan (1929), Gamble (1928), Cooke (1901-1908), Santapau (1953), Puri (1960), Prain (1903), Kanjilal et al. (1934-40), Parkinson (1923), Witt (1911) etc.

Uncovered by this, there are some workers whose intensive collections and descriptions are of immense importance in the history of Indian taxonomic studies. Duthie (1888), Fischer (1938), Ramdeo (1969), Santapau (1988), Rao (1994), Talbot (1901-11), Gammie (1903), Bhide (1911), Bhandari (1978), Prain (1903), Maheswari (1963), Gupta (1967), Biswas (1943), Duthie (1883), Bor (1940), Mukherjee (1940), Kachroo (1953), Majumder (1956), Raizada (1958), Collet (1902) etc. were among them. Hajra and Jain (1978), Jain (1982), Nair (1978), Rao (1977-1979), Maheshwari (1963),
Kapoor (1962), Kataki (1986), Balakrishnan (1981-1983), Deb (1981-83), Bennet (1978), Mathew (1981-83), Srivastava (1976), Jamir and Rao (1988), Mishra (2007), etc. are some of the prominent investigators who published numerous valuable work in the post 1956 period. Many universities, colleges and some autonomous institutions have also been doing exploration and publishing their findings in books, periodicals etc. from time to time.

2.2 Botanical explorations in North-East India:

Floristic studies in N. E. India has earlier been mainly carried out by Hooker (1872-1897), Griffith (1848), Kanjilal (1934-1940), Bor (1940), Deb (1981-83) Fischer (1921), etc. Eastern circle of BSI at Shillong and BSI station at Itanagar have been publishing some valuable data in this regard. Apart from BSI and Government departments, the universities of this region have also been doing some taxonomic work as research programme, Ph.D programme etc. at their level. As a result numerous research papers, Ph.D thesis, books, floras, manuals etc. have come out from this region. Kanjilal and his co-workers (1934-40) explored the then Assam (present N. E. Assam) and published ‘Flora of Assam’ in four volumes (Vol. I-IV). These volumes mainly dealt with trees and shrubs with few herbs and occasionally mentioned some of the established cultivar species. It was Bor (1940) who published the fifth volume of ‘Flora of Assam’ to deal with Poaceae.

studied the Orchid flora of Arunachal Pradesh while in Meghalaya the orchids were studied in detail by Kataki (1986). Kataki along with Hynniewta published ‘Orchids of Nagaland’ (2000). A few works on Cryptogrammic flora has also been done. ‘The Ferns of Nagaland’ were published by Jamir and Rao (1988). Bir et al. (1989) worked on Pteridophytic flora of North-East India.

Buchanan Hamilton (1820), Robinson (1841), Gammie (1895), Carter et al. (1921) were the pioneer in the field of botanical explorations in Assam. A. Das became the silviculturist and Botanical Forest Officer in 1931 and took charge of publishing the ‘Flora of Assam’. During his tenure Vol. I-IV were all published (1934-40). On the other hand except the compilation of grasses by Bor (1940) we are yet to get the complete monocot flora of Assam and much of the flora of this country still remain incomplete although it is one of the 34 hotspots of the country.


Jain and Hajra (1996) studied the two main National Parks of Assam i.e., Kaziranga and Manas. Contribution of Borthakur (1981) on Ethnobotanical Studies of Karbi-Anglong
(Mikir Hill District) had enlightened about the information of indigenous way of utilization of plants by those of Karbi people.

Barua et al. (1988) surveyed the primitive angiosperms of North-East India and enlisted as many as 133 different primitive angiosperms. Barua et al. (1989) contributed to the Pteridophytic flora of Kamrup District of Assam.

2.3 Botanical explorations in Assam:

Gustav Mann, the first Conservator of Forests of Assam during 1863-1881 made splendid collections from different parts for a detailed knowledge on the Flora of Assam. Based on his collections and explorations, different workers have published their floristic accounts on the plants of Assam. Apart from him, other eminent workers were Buchanan Hamilton (1820), Roxburgh (1832), Robinson (1841), Griffith (1848) and Hooker and Thomson (1855). Ultimately, Hooker (1872-1897) has mentioned all of these including the area of collection, in his monumental publication in 7 vols. of the ‘Flora of British India’. At the initiative of Sir Archdale Earle, the then Chief Commissioner of Assam, U. N. Kanjilal joined the Forest Service of Assam. During his tenure (1906-1928), he made extensive and intensive collections from most parts of erstwhile Assam. Apart from him, there are some collectors whose names are worth mentioning like Hajra and Jain (1978), Borthakur and Hajra (1976), Kar and Panigrahi (1963) and Kachroo (1953).

Rao and Verma (1970-76) had taken the initiative of publishing ‘Materials towards the Monocot Flora of Assam’ and brought out a publication in the Bulletin of BSI. But a number of families of Monocotyledones are still left out.
The work on taxonomic and floristic research of present Assam has been initiated and activated by Chowdhury. He discovered several species of plants new to science and recorded a number of plants previously unknown from areas within Assam. Novelties include 3 new species of orchids discovered in the mainland of Assam, namely, *Dendrobium assamicum* Chowdhury (1988), *Eulophia kamarupa* Chowdhury (1993) and *Zeuxine debrajiana* Chowdhury (1996).

In addition to literature cited above, a good number of research papers on floristic study in different parts of Assam have been published in journals and periodicals from time to time. Some of them were consulted by Nath and Chowdhury (1994), Pathak (1990), Islam (1990), Chowdhury and Singh (1992), Biswas *et al.* (1991), Shukla (1996), Hajra and Jain (1978), Baruah *et al.* (1996), Baishya (1999), Baruah and Baruah (2000), Bora and Kumar (2001), Agarwala and Borah (2001), etc.


The most mentionable monographic work (published literature) in Assam is ‘The Rubiaceae of Assam and NEFA’ by Kar and Panigrahi (1963); ‘The Compositae of Assam and NEFA’ by Panigrahi and Kar (1966); ‘Ranunculaceae of Assam and NEFA’ by Katak and Panigrahi (1964); ‘Monocot Flora of Assam and NEFA’ by Panigrahi (1965).


enumerates 4273 species of vascular plants of Assam in its present circumscription. These include 40 sp. of fern allies, 315 sp. of ferns, 23 sp. of gymnosperms and among angiosperms 2823 sp. of dicotyledones and 1072 sp. of monocotyledons.

2.4 Botanical explorations in Kamrup District:

Floristic study of Kamrup District was initially carried out by Rao and Rabha (1966-67). They worked on the vegetation of the Southern Part of Kamrup District, Assam. Thereafter a good number of research papers was published in different journals and periodicals. Some of them are ‘Hydrophytic Vegetation of Jalukbari’ by Satyanarayan (1962), ‘Some Ayurvedic important Plants from District Kamrup’ by Deka et al. (1983), ‘Floristic analysis of Angiosperms of Kamrup District, Assam’ by Chowdhury et al. (1994), ‘An Ethnobotanical Survey on Medicinal Plants used in Reproductive Health Related Disorders in Rangia Sub-Division, Kamrup, Assam’ by Kalita et al. (2011).
