

CHAPTER IV

4. FLORISTIC WORKS

4.1 Previous Floristic Works

Indian flora were scientifically and systematically explored for the first time only since the 1840s. I.H. Burkill (1965) notes that three organised attempts were made about that time to explore and collect the plants of the Himalayas for the first time. While, the first two attempts, led by Thomas Thomson and others were for North-Western Himalayas, Sir J.D. Hooker took up the third one for Eastern Himalayas. Thus Hooker became the first botanical explorer of Eastern Himalayas while writing the Flora of British India as a whole.

In all the previous floristic works Darjeeling has been considered as a part of Sikkim. Therefore, in the historical notes on floristics, Darjeeling cannot be singled out and treated separately.

Sir J.D. Hooker arrived at Darjeeling on the 16th of April 1848. Employing about 18 collectors, he visited Senchale, Tonglu and Rangit valley via Lebung and Ging. In the autumn he travelled to Nepal and upto Tibetan passes. Having spent about three months in the higher Himalayas he returned back to Darjeeling via Sikkim. After this, he proceeded for Meghalaya (Khasi Hills) at the end of 1849. It is estimated that he collected about 3500 plant species from Darjeeling-Sikkim region alone. The results of this exploration have become the foundation of Indian Systematic Botany. His outstanding works are :

1. *Flora of British India* (1872-1897)
2. *The Himalayan Journals* (1854)
3. *Flora Indica* (1855), with T. Thomson.
4. *Rhododendrons of Sikkim-Himalayas* (1849-51)
5. *A Sketch of the Flora of British India* (1907).

The other botanical explorers of the region are: Thomas Anderson (1832-1870) who is also known for his productive work of *Introduction of Cinchona Cultivation to Darjeeling*; J.A. Gammie (1894); Robert Pantling with Sir George King (*Orchids of Sikkim Himalayas*, 1898); George H. Cave (c1897) with Sir W.W. Smith (1909); H.J. Elwes (1877); C.B. Clarke (1876,1885), George Watt (1881); Sir George King (1840-1909), C.C. Lacaite (1913).

After the publication of the *Flora of British India*, the following explorers have given important contributions to the Flora of Darjeeling-Sikkim Himalayas: J.S. Gamble (1878,1895); A.M. Cowan and J.M. Cowan (1929); I.H. Burkill (1965); K.P. Biswas (1940,1956,1967); S.K. Mukherjee (1940); H.L. Chakrabarty (1959); H. Hara (1963,1968,1971); H. Kanai (1966,1971); M. Mizushima (1963); S. Nakao (1964); H. Ohashi (1975); A.J.C. Grierson and D.G. Long (1983-onwards as part exploration along with *Flora of Bhutan*).

Numerous publications on the flora of this region has been made by many botanists. They are as follows: M.J. Berkeley (1850); P. Bruhl (1926); Percy Brown (1936); H.P.V. Townend (1936); D. Chatterjee (1938, 1949); P.C. Duncan (1935); G.A. Gammie (1893-94); B.N. Gosh (1951-57); F. Kingdonward (1913,1942); M. Tamura (1964); P.N. Mehra and S.S. Bir (1964); K.M. Mathew (1970,1981); A. Mukherjee (1991); U.C. Pradhan (1987,1992); D.C. Paul (1994); G.S. Yonzone (1984,1986,1993); A.P. Das (1981,1985,1987,1995); R.B. Bhujel (1984,1985,1986,1994,1995).

4.2 Importance of the Present Work

The district of Darjeeling occupies a unique place in the floristic map of India, since the region is estimated to represent one-seventh of flora of the country (Yonzon 1993). The entry of several migrant species from surrounding countries and their naturalisation has added richness to the flora and vegetation, which already displays a distinct degree of diversity in terms of number of species, altitudinal distribution and ecological relationships. While, a number of vegetation wealth of the region is still from being fully known.

The district of Darjeeling has never before, been taken as a separate unit of study. This has always been considered along with Sikkim which differs from Darjeeling in possessing alpine flora and totally lacking the plains region or a distinct Terai belt as of Darjeeling. A true tropical flora is absent in sikkim. The deeper valleys and interior regions of the Darjeeling district hitherto remain unexplored. The usual way of survey were along the trekking routes and poachers' tracks, in the previous studies..

The present work in the first place is an attempt to fill up these lacunae and make a thorough survey, documentation and re-examination of the past records, to integrate all information on Dicotyledonous Angiosperms into one single treatise. In addition to nomenclature and precise description, the following information will be useful: 1. local names (popular), 2. flowering and fruiting periods, 3. ecological status, 4. ethnobotanical notes and 5. exact location of distribution within the district and 6. above all, a checklist of the dicotyledonous flora of the district.

In an attempt to update and supplement the century old Flora of British India of Sir J.D. Hooker (1872-1897), the preparation of Flora of India by the Botanical Survey of India is in progress. In the process, a regionwise systematic botanical survey, covering the entire country is essential to make a consolidated and upto date account. The District Flora Projects mooted by the Botanical Survey of India, is expected to compile the knowledge of present plant wealth of India. As a part of this project, the author has undertaken the systematic floristic survey of the Darjeeling district.

Enthnobotanically the region is very important. From a pre- historic period, men in this region, have been practising their own botany in management of food, medicine, clothing and other household needs. The accumulation of knowledge of these valuable secrets that may be helpful in ascertaining their commercial exploitation, has already fallen due. The flora may be a useful information in taking up such works in near future.

The importance of the flora in fact, lies inside the universal truth that no regional and hence national progress can be possible unless we have a clear scientific knowledge of our natural wealth and resources. The Darjeeling Hills, being in the heart of Eastern Himalayas is known for a multitude economic plants chiefly ornamental, medicinal, aromatic, spice, timber and other non timber forest produces (Bhujel 1984).

The present flora will be useful to the naturalists, foresters, ecological and economic planners, scholars and others to evaluate the vegetation and formulate various developmental programmes to conserve, enrich, to manage and even exploit within the parameters of nature's balance. The district of Darjeeling has, of late attracted several environmentalists working towards conservation and protection of its natural resources. The FLORA and the HERBARIUM shall be helpful to them in formulating mass education, conservation and sustainable developments, planning of environmental approaches to protect and propagate the endangered, vulnerable, rare and indeterminate plant species.