CHAPTER II
REVIEW OF LITERATURE.
REVIEW OF LITERATURE:

The present day botany and the work on the Floras has been pioneered by Linnaeus with his unique publication of *Genera Plantarum* and *Species Plantarum* in 1737 and 1753 respectively. Aiton (1789) has published a monumental work in *Hortus Kewensis* and later this has been revised by Aiton & Aiton (1810-1813), since then several eminent workers have contributed to our present day knowledge of Indian Botany. Note-worthy among them were: Roxburgh (1795-1819), Brandis (1874,1907), Blatter and Hallberg (1918-1921), Duthie (1903-1922), Cooke (1901-1908), Gamble (1915-1936), Haines (1921-1925), Santapau (1948, 1949, 1950, 1956, 1960, 1961, & 1967) etc.

Dr. Roxburgh has initiated the work on floral exploration and result of his work was published in "*Flora Indica*" (1814-1832). Later on with the help of eminent Botanists, Dr. Sir J.D. Hooker and Thomson published *Flora Indica* (1855) and "*Flora of British India*" (1872-1897) which are considered the base of Indian Taxonomy. Razi in his work (1969) added in number of species and genera of India Phanerogames which are not included in J.D. Hooker’s "*Flora of British India*".

Since the publication of "Flora of British India" (Hooker, 1872-1897) remarkable contribution have come out on the provincial and local flora. A number of regional floras pertaining to different regions of the country have also appeared. Notable among them are "*Flora of Upper Gangatic Plain and Adjacent Shiwaliks*" by Duthie (1903-1922); "*Flora of Presidency of Bombay*" by Thomus Cooke (1901-1908); The Bombay Flora by Dalzell & Gibson (1861). "*Flora of Madras Presidency*" by Gamble (1915-1935); "*Forest Flora of School Circle*" by Rai Sahib Upendra Nath Kanjilal (1934-1940); "*Flora Similensis*" by Collectt (1921) and Calder (1935); "*Indian Trees*" by Brandis (1874 & 1906); "Botany of Bihar and Orissa" by Haines (1921-1925); "Bengal Plants" by D. Prain (1903); "*Flora of Bombay*" by Cowen (1950); "*The Grasses of North West India*" by Stewart (1945); "*Grass Flora of Coimbatore Districts*" by Rao (1956); "*Flora of the Nilgiri Hills tops and Pulney*" by Fyson (1915-1920); "*The Trees, Shrubs and Woody Climbers of the Bombay*" by Talbot (1894). "Vegetational studies from
Pakistan (1960); by Bor (1947), "Flora of Mount Abu" by Sutaria (1941); Mathew has contributed much to the Floristic work of Tamil Nadu (1983, 1989).

All these floras were published in either in 19th or years of 20th century. During next 40 years no noteworthy publication or work was published till the publication of "Flora of Khandala Ghats" by Santapau (1953), the Father of present Indian Botany. The notable floras published afterwards are "Flora of Delhi" by J.K. Maheshwari (1963, 1966) ; "Flora Nainitalensis" by R.K. Gupta (1968) ; "Grasses of Upper Gangetic Plain" by Raizada and Jain (1964); "Flora of Indian Desert" by Patel (1968); "Supplement to Flora Upper Gangetic Plain" by H.B. Raizada (1976); "Herbaceous Flora of Dehradun" by C.R. Babu (1977); "Flora of Bhopal by Oomachan (1977); "Forest Flora of Melghat" By Patel (1968) etc. On aquatic plants main work is those of Fasset (1940), Biswas & Calder (1936), Subramanyam (1962), Haines (1916), Davis & Culler (1979), Chaterjee (1939), Dahlgren et al. (1985), Hutchinson (1959, 1964, 1967). Raj Shekher & Razi (1976-77), Hickey & King (1988). Champion (1936), Raizada (1949, 1954), Dalhgren et al. (1985).


Santapau (1938 a ) remarks that quite a large number of areas in India particularly those of Madhya Pradesh are still unexplored and very inadequately studied, inspite the fact that it has the largest area among the India states. As the name indicates it covers the central part of the country. But still a comprehensive Flora of this state remains to be worked out. Kanjilal in his list "Trees and Shrubs" the Eastern
Circle" Pilibhit, Audh and Bundelkhand included some of the areas of M.P. and U.P. i.e. Banda, Jhansi and Hamirpur. Wahid Khan (1939) may be treated first to publish a separate list of forest species from Madhya Pradesh.


Panigarhi and his co-workers have also contributed to the botany of Madhya Pradesh in many volumes such as:
Panigrahi et. al. (1966) Vol. I (Dilleniaceae to Moringaceae),
Panigrahi and Arora (1965 a) Vol II (Rosaceae to Rubiaceae),
Panigrahi and Arora (1965 b) Vol. III (Rosaceae to Rubiaceae),
Panigrahi and Prasad (1966) Vol. IV (Euphorbiaceae to Urticaceae) and

All these publications included only the enumerative list of species however, no systematic flora has been worked out except for "Flora of Bhopal" by Oommachan (1977) and "Leguminosae of Madhya Pradesh" by Tiwari, 'Madhya Pradesh Plants by Waheed Khan (1973), "Flora of Bandhavgarh" by Tiwari (1968), "Vascular plants of Bastar" by Subramanyam & Henry's (1966), Shrivastava with his co-workers (1949, 1983, 1984) and Shukla and others (1967, 1984) have done taxonomic work of some genera of M.P.

Duthie in his "Flora of Upper Gangetic Plain" recognized "Bundelkhand" as distinct botanical regions and cited as many as 296 collection references from this region. The Botanical Survey of India has been evincing keen interest in the flora of this state and tours were undertaken from 1957 onwards to cover areas like Bastar, Baghelkhand, Rewa, Alirajpur, Sardarpur, Mandu, Barwani. Indore, Bhopal, Guna, Baran, Kota, Jhalwar, Garhi Mandi, Khera, Sirsuda, Sadalatpur, Mane and Piplani. Information on studies on the individual genera of the state are also available in literature such as:

Chrozophora (Balkrishnan, 1973), Euphorbia (Shukla & Roy, 1984), Sonchus (Shrivastava, 1984), Ipomoea (Shrivastava, 1983), Blumea (Shrivastava & Shukla, 1984). However, the districts of Sagar was not included. The botany of Sagar is little known. Prior to the publication of the "Flora of Upper Gangetic Plain" and of the adjacent Siwalik and Sub Himalayan tracts" by J.F. Duthie, no concentrated exploration of the area was undertaken. In the "Flora of Upper Gangetic Plains" Duthie (1901) Sagar is reported upon and at some places a mention of collection of Vicary and Jordon has been made from Sagar. Witt (1916) included in his "Descriptive List of Trees and Shrubs. Climbers and Economic Herbs of the Northern and Berar Forest Circles, Central

During last two decades, lot of work on the floristic work on wild plant species (as evident by review of literature) have been done. So far cultivated plants are concerned, except the work of Bailey (1949,1950). Bor (1954), Bunce (1971) Jindal (1970), Randhwa (1957). Arora (1996), Neiring (1973), Pratt (1974), Wymann (1970). No work has been done.

Plant wealth of Botanic Garden has not been studied so far, though they are considered as living museum, ex-situ treasures of plant diversity concentrated in very limited space, and that's why are important institutions for the research conservation and use of biological diversity combined with the task of teaching and raising awareness among general public. The need for conservation our plant resources, through Botanic Garden have been adequately emphasized by BGCS (1987). BGCI (1999), CBD (1994), IUCN (1989), CITES ( ), FAO (1999), IABG, RBG (1999), UNEP (1996), WCMC (1992), WRI (1992), UNEP (1992, 1994).

Looking to the suggestive role of BGCI, IABG and CBD for Biodiversity conservation through Botanic Garden and need for global network of data of plant wealth of each and every garden of the World, either in the form of Index Seminum or complete data, present work on the "Studies on the Flora of University Botanic garden of Sagar" was undertaken with a purpose to give an exposure of man made flora of Botanic Garden as well as the weed flora which appeared in garden along with cultivated plants in different seasons at different habitats.