II. BRIEF HISTORICAL ACCOUNT OF EXPLORATIONS IN MAHARASHTRA :

Some of the most prominent earliest explorers from Western India include Law, Graham, Nimmo, Sykes, Jacquemont, Gibson, Dalzell, Birdwood, Nairne, Hallberg, Aeland, Cooke, Woodrow, Ryan etc. "Graham's catalogue of the Bombay Plants" (Garham 1837) was followed by Dalzell and Gibson's "Flora of Bombay (1861) and Nairne's flora," Flowering plants of Western India" (1894). Woodrow (1897-1901) published many papers on the flora of Western India. Plant species of Matheran and Mahableshwar were enumerated by (Birdwood (1896-1897). Lisboa (1890-93) published a list of Bombay grasses (Lisboa 1896). Cooke, Woodrow and Gammie were ably assisted by Indian botanists like Kanitkar, Ranade, Bhide, Patwardhan, Paranjpye, Barns, Narayana, Godbole, Bhiva and Garde.

On the basis of collections and previous work, Cooke published."The flora of Bombay precidency (1901-08) covering the region from Sind to North Kanara. The work describes 147 families, 999 genera, 2513 species and 162 varieties from the Bombay precidency. Blatler and McCann during the years 1926-35 published a series of papers on Bombay flora dealing with account of many families and described many new species from the Sahydri ranges adding to our knowledge of the Bombay flora. They also published a monograph of the Bombay grasses.(Blatter and McCann, 1935). More species continued to the published by various authors in various journals either as new to science or

as a new records to the region. It has been assessed that as many as 5 gernra, 715 species, 4 subspecies, 104 varieties and 5 forma have been added in a span of 70 years, i.e. from 1908 to 1978. At present botanists have estimated 144 families 838 genera, 1939 species with 132 varieties in the present territory of Maharashtra (Mahabale and Chaudhari, 1987).

During the years 1944-1969, Santapau has published, numerous papers dealing with varied aspects such as history of botany, herbarium techniques enumeration accounts of botanical trips, nomenclatural nabites etc. The most important contributions by Santapau include. The "Acanthaceae of Bombay" (Santapau, 1952), The flora of purandhar (Santapau, 1957), The flora of Khandala of the Western Ghats of India" (Santapau, 1967), "Asclepiadaceae and Periplocaceae of Bombay" (Santapau and Irani, 1962) and The orchids of Bombay" (Santapau and Kapadia, 1964) Bole (1970) has given details of the important scientific publications by Fr.Santapau, From the same school Randeria (1960) has revised the genus Blumea DC. while Saldanha (1963), 1966) has critically studied he genera Striga Lour and Torenia L. in Western India and Almeida (1969, 1972) has described some new species of Arthraxon Dimeria and Ischaemum.

Vartak has contributed towards better understanding of flora of Maharashtra (Vartak 1966, Datar and Vartak, 1976, Vartak and Bhadbhade, 1973) Karnik (1961) and Mahabale and Karnik (1960) have studied the Flora and vegetation of satpura mountain S. and Dabhade (1966) has worked on flora of Ulhasnagar since

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1968, Naik from Marathwada University has contributed to flora of Aurangabad (Naik 1974, 1977, 1979) and Patunkar (1980) has published an account of Grass of Marathwada from Nagpur University. Mirashi and his team have carried out studies in Asteraceae Cyperaceae and Tubiflorae of Nagpur. Dande (1966) has worked on cyperaceae of Nagpur while Deshapnde and Deshpande (1963) have worked out the flora of chandmari hillocks and Balarpule (1971) has published an additions to the flora of Ramtek. From Shivaji University Mahajan and his associates (1968,1969) have published some papers on the flora of Kolhapur. Similarly Singh et al (1972)

Kulkarni and Deasi (1972), Kulkarni and Kazi (1972) kulkarni and Mudgal, 1977 and Kulkarni and Thite (1977,1979), of Kolhapur district have contributed to one flora.

Contributions made by Botanical survey of India. Western Circle Poona is significant (Puri and Jain 1959, 1960, Puri and Patil (1960, Jain 1959, Jain and Deshpande, 1964, Puri and Mahajan 1960, Patil 1957). Janardhanan (1966) explored the flora of Bhimashankar and reported some 838 species Venkata Reddi (1969,1970) reported some 850 species from Lonavala and Ambavane. Hemadri (1970) during exploration of flora of Junnar and its surrounding describe 14 new species and accounted for 936 species from Maharashtra have been described by Rolla Rao, Ansari Hemadri, Hemadri, Wadhwa, Reghvan and Singh. Malhotra and Moorthy (1974) listed nearly 800 species from Chanda district. Billore (1972) has enumerated nearly 1096 species belonging to 586 genera from Thana district Cheriau and Pataskar (1969 a,b)

have studied the flora of surgana Harsul ranges and Saptashringi and adjoining hills in Nasik district. Flora of Ahmednagar district is studied to some extent (Subramanyam and Rao (1961) Billore and Hemadri (1969).

In addition to these major works, general scientific articles by various workers on flora of Maharashtra have been published and it is not possible to include them in this review, however, one should refer to Karthikeyan et al (1981) Raghavan, 1987, Sharma and Singh, 1983, Mahabale and Chaudhari (1987). Mahabale and Chaudhari (1987) have given concised account of florestic works done in different districts and important places of Maharashtra. A good number of district floras have been recently published such as Flora of Akola District (Kamble and Pradhan, 1988), Flora of Sindhudurga (Kulkarni B.G. 1988) Flora of Sawantwadi (Almeda S.M. 1990), Flora of Osmanabad (Naik V.N. 1979), Flora of Goa, Div., Daman and Nagarhaveli (Rolla S.Rao, 1986), Flora of Satara district (Deshpande in Press).

Florestic Works In Satara District :

Satara is a hilly district drained by Krishna, Koyana Iravati and other rivers flowing through Krishna basin. These rivers rise from Mahableshwar which is the second highest peak

of Sahyadri, 1438 m in height. The district possesses semiervergreen forests on Konkan side while dry deciduous forests on Desh-side Places like Mahableshwar, Koyananagar, Panchgani plateau, Kas Plateau formed to be places of botanical interest as they have very rich flora. Flora of Mahableshwar and Panchgani is fairly well known. Kazi (1952) has given an account of Panchgani plants after Blatter in 1908 or Birdwood's (1896) account of Mahableshwar plants, there being no systematic account of the flora of both these places. Bole (1981 a, b, 1983, 1984, 1985,1988) has been revising plant of Mahableshwar in his series of articles in journal of Bombay Natural History society.

Initial work of Birdwood (1887,1896,1897) has helped in knowing the plant wealth of Mahableshwar regularly Cooke (1887, 1896) has added to flora of Mahableshwar. Lisboa (1886) listed plants seen at Mahableshwar. Chavan et al (1973) have explored area near a place near to Mahableshwar in Satara district. They have recorded 128 species belonging to 116 genera ,or 54 families. Santapau (1952,1962) listed the plants which occur mostly in deforested areas of Mahableshwar.

Flora of Satara district especially to Western ghat and plateaus in Satara district is very peculiar and interesting. Many taxa endemic to Maharashtra occur in this region. After Cooke many new species have been described from ghatsand plataeus in Satara district such as Dichanthium mucanni (Blatter, 1927), Heteropogoon ritchie (Blatt) and Ceropegia panchaganensis (Bltt. and McCann 1933), Habenaria panchganiensis (santapau and Kopadia 1957), Ceropegia santapaui (Wadhwa and Ansari 1968), Arthraxon satarensis (Almedia, 1970), Ceropegia noorjahaniae (Ansari, 1972), Dipcadi

ursulae (Deb and Dasgupta) 1975), D.Maharashtrensis (Deb and Dasgupta 1975) Aponogeton satarensis (Raghavan et al ,1982).

III. MATERIAL AND METHODS :

The present work is based on the results of two years of extensive and intensive study of the plants of this region. Collection tours were undertaken two to three times a month usually of one day duration. The area routes and most of places of collection have been shown in the Map-III. the trips were arranged in such a way as to cover all the important places of botanical interest and to collect most of the plants in flowering and fruiting stages.All the specimens collected were numbered according to their field numbers. The field notes taken regularly, included the habit, habitat, height of the plant, colour of the flowers, associations and other pertinent features.

The plants were identified tentatively in the field. Then the identifications were checked by using different floras. The floras used for identification are listed under selected bibliography, at the end of chapter. Then the identifications were confirmed by matching the specimens with authentic specimens in Botanical survey of India, Western Circle Poona. Identification of some of the species was done at Herbarium of Marathwada University, Aurangabad.

A representative collection of plants in different seasons and in different areas was made covering a wide range of habitats. While exploring an attempt was made to have the collection of three major periods i.e. pre-monsoon, mid-monsoon, post-mansoon. Every effort has been made to collect wild,

cultivated and exotic plants from various places in the Taluka. The habitats choosen were aquatic, semiaquatic, grasslands, forest undergrowth, hill slopes and hill tops of Ramdongar, Chandakhana hills and Kartikswami ghats. Flowers as well as small, delicate, whole plants were pickled for further critical study in the herbarium. At least 3 specimens of each species were collected from locality of collection. In rainy season the electric heating method was used to dry the specimens as they consists more moisture content. In summer and winter plant specimens were dried by using old news papers. For the poisoning of specimens, saturated solution of mercury chloride ($HgCl_2$) was used. The proper dried and poisoned specimens were mounted on the herbarium sheet by using glue and glass plate method (Jain-1977). Photographs of interesting plants were taken with Pentax camera and Kodak film.

the plants after proper drying, poisoning and mounting have been depositted in the Herbarium of Botany Department of Shivaji University, Kolhapur.

Attempts have been made to adopt the most recent and correct nomenclature. For nomenclatural changes most recently published Floras were consulted, however, Flora of Karnataka by Singh (1984) formed the main source. All the species within genera and genera within families are arranged according to Bentham and Hoooker's system at classification of seed plants. Local names are cited to most of the species by asking to local people and using previous literature.

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