

CHAPTER II

PAST AND PRESENT WORK

Past work: Witt (1908) listed the plants found in the Berar forest circle of the Central Provinces. The list contains 333 species of which 159 are from Yavatmal. Other than this no other floristic work has been published covering the forest areas of this district excepting for a few plants which have been listed in the working plans that have been published from time to time.

Present work: The present work had been undertaken to provide an up-to-date flora of the district. **There is a great** need for such a work as the floristics of this district has not **yet** been catalogued.

The plant exploration work was initiated in the month of December, 1976. A number of tours were carried out covering all the seasons to collect plants from all the areas of the district. A total of 577 species , 1 subspecies and 1 variety comprising 365 genera and 98 families have been collected. The dicotyledones are represented by 79 families, 271 genera, 418 species, 1 **subspecies** and 1 variety; the monocotyledones by 19 families, 94 genera and 159 species.

MATERIALS AND METHODSFIELD STUDY

The forest areas of the district have been divided into two divisions - East Yavatmal division and West Yavatmal division. The East Yavatmal division is subdivided into ten ranges and the West Yavatmal division into seven.

The plant exploration tours were conducted during various seasons such as pre- and post-monsoon, winter and summer. Camping was in P.W.D. or Forest Rest Houses as close to the forest areas as possible. The advantage being availability of more time to spend in collection of plants and to observe the flora in detail.

While the plants were collected, the essential field data such as the local names of plants, their uses if any, the height of the plant, the associated species, the details regarding habitat, colour of young shoots and leaves, colour and smell of the flower and fruits, whether latex present or not, etc. have been noted. In short, all the details of a plant which cannot be observed in a herbarium specimen were observed and recorded in the field book with the hope that they would aid in the proper understanding and identification of the species.

For collection of plants assorted size of polythene bags were used. Each collection - usually 6 specimens of a plant - in flowering and/or fruiting condition were taken and they were given a field number and tied together and put in a small polythene bag which prevented the leaves from shrivelling. All such small bags were put in a large and thick polythene bag which was easy to carry in the field. These bags are preferable to a traditional vasculum made of metal which is too heavy and tend to convey heat to the plants within.

In case of herbs, complete plants were collected to show their root system or underground parts, if any. Especially in grasses the root system had to be collected to study any special feature if there were rhizomes and to decide their duration. In case of parasitic plants their host plants have also been collected to document the parasite-host relationship.

In the case of climbers, shrubs, trees, convenient size of representative specimens were collected. It was kept in mind that selection of specimens for mounting should be done in the field itself. The leaves were carefully checked to avoid insect eaten or fungi infected ones. If the leaves or inflorescence or fruits were too large for the mounting board they were trimmed suitably. When a leaf had to be removed for want of space the petiole was left on the specimen itself to show the phyllotaxy.

The drying of the specimens was done in the conventional method using blotters, news papers, wire presses etc. The fresh specimens were immersed in a solution of rectified spirit with mercuric chloride (Fosberg & Sachet, 1965), to kill any insect that might be there in the specimen. The process also helps the plants to dry quickly. If any specimen was found to be difficult to identify with the help of local flora in the field the flowers were preserved in 4% formalin to be studied in detail later at the headquarters.

HERBARIUM STUDY

After returning to the headquarters at Pune, the dried and processed specimens were mounted on the mounting board and sorted family-wise. After confirming the field identification with the help of various floras, monographs and revisions, if available, they were compared with the already identified and incorporated herbarium specimens and their correct identity was thus confirmed. Afterwards their nomenclature was checked and updated, the herbarium labels were written and the specimens have been incorporated in the herbarium at Botanical Survey of India, Western Circle, Pune (BSI).

PLAN OF THE FLORA

The 'flora' starts with an introduction and a key to the families. The classification of Bentham & Hooker (1862 - 1883) has been followed in the arrangement of families with a slight modification to accommodate some family concepts of the later authors - given in the notes wherever necessary.

Dichotomous keys have been constructed, based usually on easily observable macroscopic characters and salient features of the species. Such keys have been provided to genera, species and varieties wherever needed to identify easily the plants of the area. The generic key for the family Poaceae has been adopted with necessary modifications from 'Synopses of awned and unawned grasses of former Madras Presidency (Karthikeyan, 1972, 1980).

The genera within a family and species under genera have been arranged alphabetically for the sake of convenience of the user.

The nomenclature has been brought up-to-date as far as possible, in consonance with the International Code of Botanical Nomenclature (Stafleu et al. 1978, Voss & Greuter, 1981). The correct name is followed by basionym and synonyms, if any, to connect the name with the Flora of British India or

the regional flora. Wherever latest taxonomic work is available for any species such as revisions or dealing with nomenclature it has been cited. Invariably reference to J.D.Hooker's Flora of British India, Cooke's Flora of the Presidency of Bombay and Witt's Forest Flora of the Berar Circle have been given. The local (Marathi) name if available, has been appended at the end of the citation.

The diagnostic or prominent features of a species have been provided in brief. The characters reflected in the key have not been repeated in the description. This has been followed by the phenological details, illustrations, if available, distribution of the species in the district and any other available relevant field data. The localities have been arranged alphabetically and collection numbers have been provided serially. The numbers without names are mine. Critical comments regarding the nomenclature or other aspects have been placed at the end. Cultivated plants have been mentioned at the end of the family account.

Metric system has been used for giving measurements. Conventional abbreviations have been used throughout the work.