

I INTRODUCTION

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The ferns have attracted the general, attention for their ornamental value. But to the botanist, the ferns constitute the beginning of the land plants evolution, in which the fundamental units of the sporophyte plant body- the root, the shoot, the leaves, the reproductive machinery have been differentiated but harmoniously linked. India being a rich tropical store house of plants, has its share of ferns both in its variety of form and distribution, and therefore a detailed consideration of the fern biology is highly warranted.

Within the present political boundaries of the country there are recorded atleast 600 well defined species of pteridophytes. Out of which 100 species belong to the fern allies and 500 species to the ferns. These pteridophytic members characterise the vegetation of the tropical , sub-tropical and warm temperate forests throughout the country.

Exhaustive and authoritative taxonomic account of the Indian ferns had been completed towards the close of the 19th century by R. H. Beddome (1863-1865, 1870, 1876, 1883, 1892, 1893, 1904, 1908), C.B. Clarke (1880), C.W. Hope (1899-1904) and Roxburgh (1894). But with the fast increasing knowledge about morphology, anatomy, cytology, biochemistry of sporophyt and gametophytes and in the light of the multi-character

approach to plant taxonomy, these works, by and large need revisions. The generic and specific description as given in some of these books, are found to be deficient in certain characters and they are applying to aggregates and species complexes. Therefore the country badly needs a revision of most of large fern genera.

Prof. B. K. Nayar, and his colleagues, have done yeoman service to botanical science by bringing out a series of bulletins on ferns of India, covering the genera Adiantum, Drynaria, Pseudodrynaria, Microsorium, Plagiogyria, Hemionitis, Cheilanthes, Actinopteris, Microlepia, Peranema, Acrophorus, Matteuccia, Bolbitis, Egenolfia and Lemmaphyllum.

Genus Pteris is one of the common member of pteridophytic floras of the country. The total number of sps. recorded from different parts of the country is approximately 57.

In spite of the common occurrence of this genus except Bower's comparative work on morphology and anatomy of sporophyte of Pteris as described in the third volume of his book "Fern", no detail studies of different species of Pteris are carried out in recent years. Hence it was decided to study the species of Pteris found in Western Ghats, morphologically, anatomically, palynologically etc.

The present dissertation deals with morphology and anatomy of Sporophyte and palynological studies of species P. vittata found commonly in Western Ghats.

The time available for this work was not sufficient to make comparative study of different species of Pteris and so also the gametophytic studies. The work is in progress and it is intended to workout all the species of Pteris found in Western Ghats.