
CHAPTER : III
MATERIAL AND
METHODS

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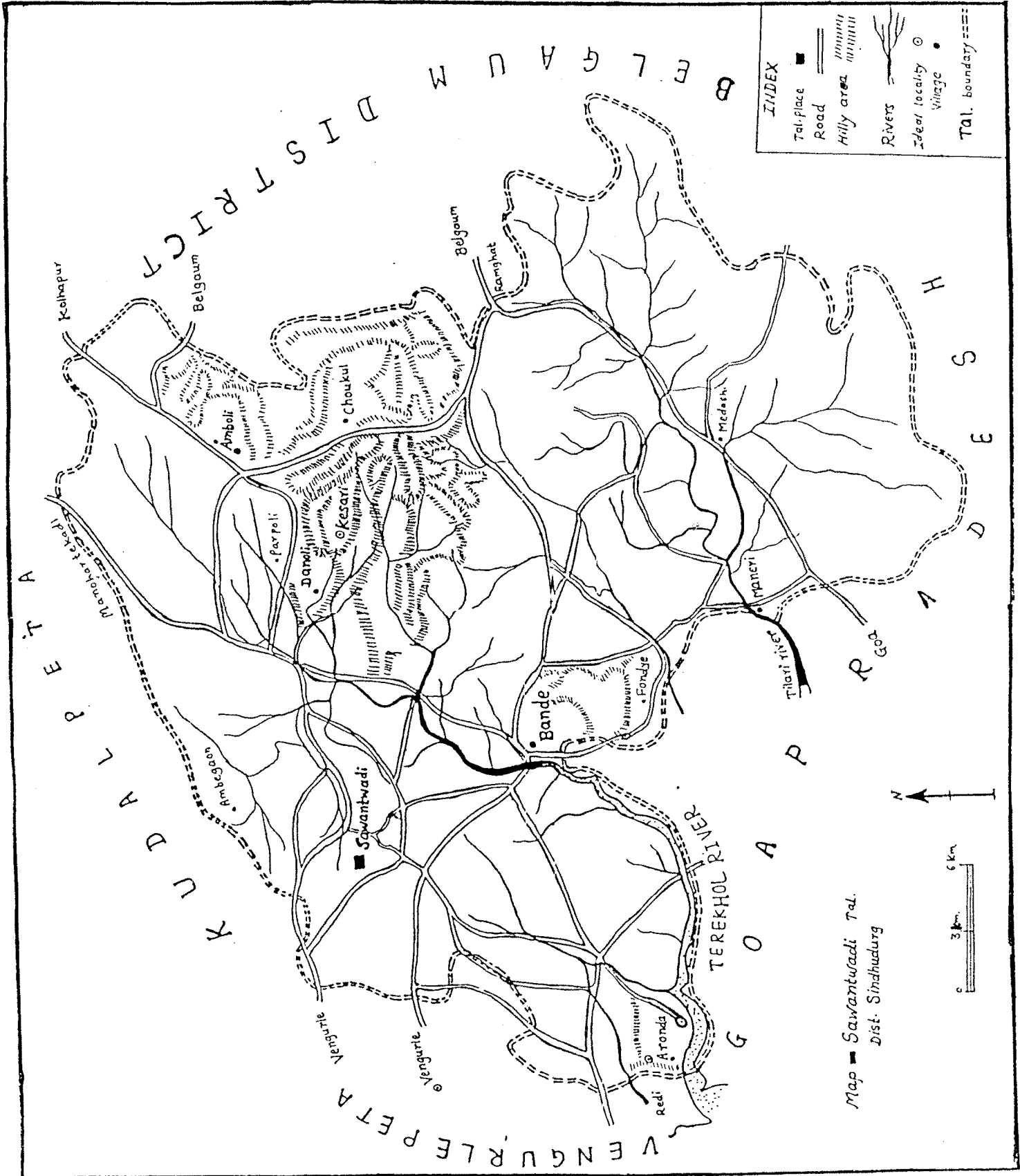
The Western Ghats is the whole line of mountains to West of Peninsular India running almost parallel to Western Coast of India. It runs for about 1600 Km. along the border to Deccan with an average height of 1200 mtr. They get very high rainfall about 135 to 625 cm or even more per annum but the coastal plains get only 125-250 cms. of rainfall as the Sahyadris blocks the mountains clouds. The monsoon is periodic and hence the forests are not uniformly developed and they are discontinuous.

The vegetation is the result of the interactions of numerous factors, the sum total of which constitutes the environment. These factors include soil, rainfall and climate predominantly. Taking into consideration these important factors the forests of Western Ghats are of following types.

1. Evergreen forest.
2. Semievergreen forests.
3. The moist deciduous forest.
4. Tropical, dry, deciduous forest.
5. Southern tropical thorn forest.

For luxuriant growth of ferns and fern allies there is necessity of moist and shady places. Therefore, the thick forest canopies are normally rich in pteridophytes.

Map No. 1



★ Location of Kesari in **S**indhudurg district.

Pteridophytes, although found common, do not form a dominant vegetation anywhere in Western Ghats. Under favourable conditions, occasionally they become locally abundant.

For present piece of work the ferns were collected from district Sindhudurg which has got a rich Pteridophytic flora. The district has got number of localities ideal for fern collection. Kesari is a small village situated about 11 miles east of Savantwadi (Map No.1). In collections made for two successive year (1987-88; 1988-89) from Kesari, 47 species of Pteridophytes belonging to 28 genera and 20 families were collected. Based on habit and habitat they are classified into eight different groups. In addition, the ferns found in habitat different than that existing near Kesari, were collected from different localities in Western Ghats round about Kolhapur district, example: Acrostichum aureum from Aronda, Actiniopteris dichotoma from Kolhapur, Azolla pinnata from Kolhapur, Ceratopteris thalictroides from Amba Ghats etc.

All the ferns collected are preserved in the Department of Botany, Shivaji University, Kolhapur. Herbaria were prepared for each fern noting all the details.

For sectioning of the leaves the fronds or leaflets were preserved in F.A.A.

For preparation of microtome sections of the leaves of the ferns the technique described by Jonhanson (1940) was

followed. The sections were double stained by using safranin and light green. The slides were properly labelled and are preserved in the Department of Botany, Shivaji University, Kolhapur.

The microphotography was done by using MFAKS system of JENAVAL Carl Zeiss with photographic attachment. The film used was NP 55 -ve.