

CHAPTER - III

MATERIAL AND METHOD

i) Collection of Material :

For the present study of spore morphology, the ferns were collected from the following localities, from Maharashtra State, Karnataka State and Goa territory. (Text Fig. No.1).

I) Maharashtra State :

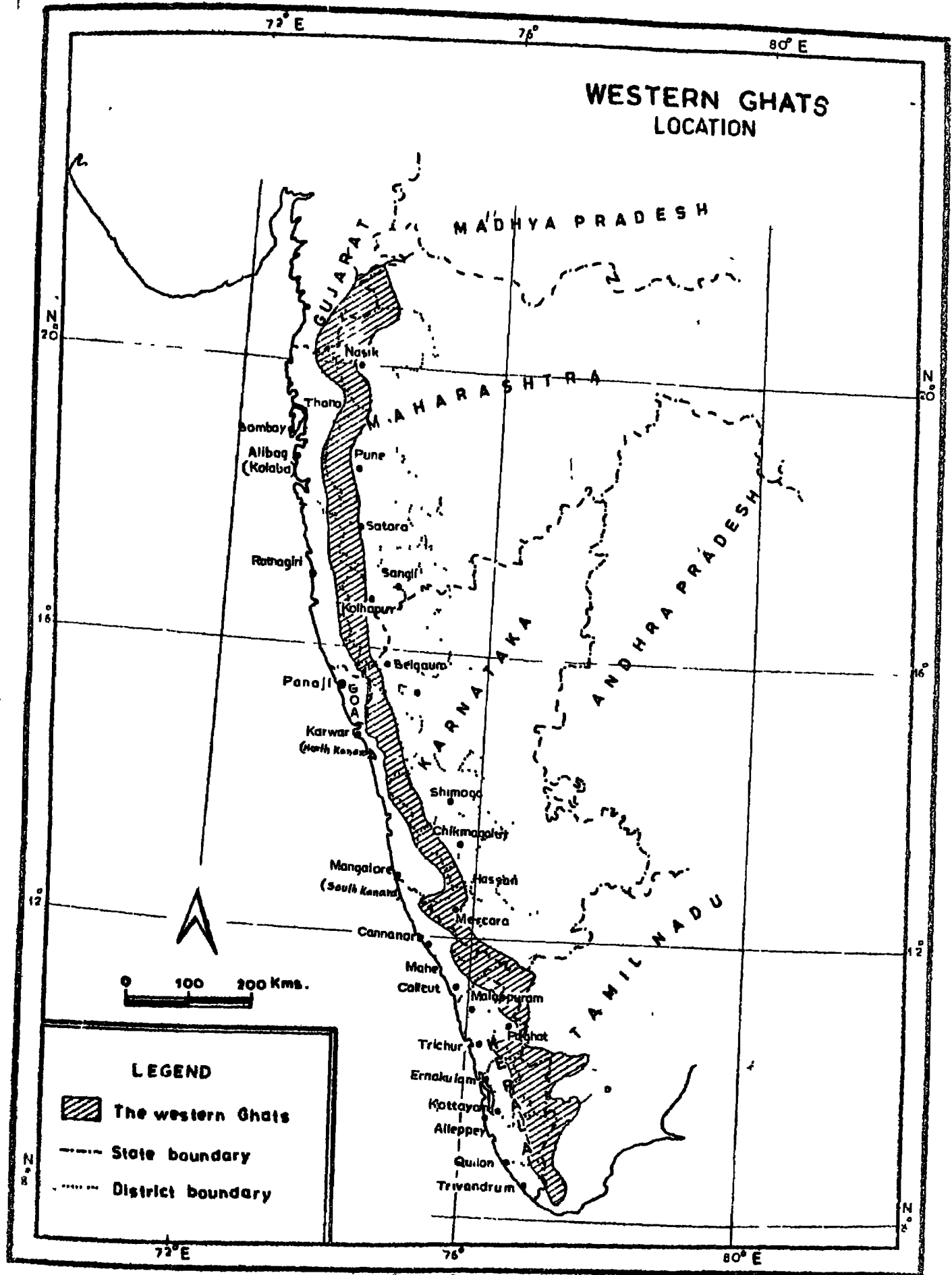
- 1) Nasik district - Bhaskargad, Trimbak, Anjaneri, Igatpuri.
- 2) Raigad district - Matheran.
- 3) Poona district - Lonawala, Khandala, Purander fort, Sinhagad, Parvati Hills, Bhimashanker etc.
- 4) Ratnagiri district - Amboli, Kumbharli, Tivra, Mala, South Tivra, Kundi, Amba, Anarkura, Bavada, Phonda, Ratnagiri.
- 5) Sindhudurg district - Amboli, Sawantwadi, Vengurla, Aronda, Malvan, Banda.
- 6) Satara district - Mahabaleswar, Kas, Panchgani.
- 7) Sangli district - Shirala.
- 8) Kolhapur district - Ajra, Kolhapur, Chandgad, Vishalgad, Radhanagari, Panhala.
- 9) Thana district - Valvihir, Kalsubai, Harishchandragad.

II) Karnatak State :

Castlerock, Anmode, North Canara.

III) Goa territory :

Kankon, Ponda, Londa, Mudgaon, Panjim, Dhudhsagar.



TEXT FIG. NO.1.

All the ferns included in the present spore morphological studies were collected personally, some of them were donated by Prof. Naiknaware N.A.

For the preparation of slides, the spores from mature sori were selected. The herbaria of all ferns studied spore-morphologically are prepared and they are retained at the Botany Department, Shivaji University, Kolhapur.

The slides were prepared by using Erdman's (1935) aceto-~~lysis~~ // ~~✗~~ lysis method. It was found that some of the spores swell after acetolysis. So far measurement purpose, the slides were prepared using Wodehouse's method also. The good specimen were photographed. (Es)

ii) List of Ferns under study :

In the light of classification by Pichi Sermolli (1958), following ferns from Western Ghats have been studied during this work.

1) Family - Marattiaceae

a) Angiopteris evecta . (Forst.) Hoffman

2) Family - Osmundaceae

a) Osmunda regalis . Linn.

\* no reference in the Bibliography!

- 3) Family - Gleicheniaceae
  - a) Gleichenia linearis .Burm.
  
- 4) Family - Schizaeaceae
  - a) Lygodium flexuosum .(L.) Sw.
  
- 5) Family - Polypodiaceae
  - a) Drynaria quercifolia .(Bory.) J.Sm.
  - b) Pyrrosia adnascens .Ching.
  - c) Lepisorus nudus .(Hook.)Ching.
  - d) Microsorium membranaceum .Ching.
  
- 6) Family - Cyatheaceae
  - a) Cyathea glabra .Bedd.
  - b) Cyathea spinulosa .Wall.
  
- 7) Family - Lindsaeaceae
  - a) Sphenomeris chinensis .Alston.
  - b) Schizolegna heterophylla .Alston.
  - c) Schizolegna ensifolia .Alston.
  - d) Schizolegna sawantwadiensis .Bole & Almeida.
  
- 8) Family - Pteridaceae
  - a) Acrostichum aureum .Linn.
  - b) Pteris quadriaurita .Hook.
  - c) Pteris pelluscens .Agardh.

- d) Pteris pellucida .Presli.
- e) Pteris vittata .Auctt.
- f) Pteris setigera .Hoff.
- g) Pteris longipinnula .Linn.

9) Family - Sinopteridaceae

- a) Cheilanthes tenuifolia .Burn.
- b) Aleuritopteris albomarginata .Ching.
- c) Aleuritopteris farinosa .Fee.

10) Family - Gymnogrammaceae

- a) Pityrogramma calomelonos .(L.) Link.

11) Family - Adiantaceae

- a) Adiantum lunulatum .Burm.

12) Family - Parkeriaceae

- a) Ceratopteris thalictroides .Brong.

13) Family - Davalliaceae

- a) Araistegia pulchra .(Don.) J.Sm.

14) Family - Oleandraceae

- a) Nephrolepis acuta .Linn.

## 15) Family - Aspleniaceae

- a) Asplenium panicale .Wall.

## 16) Family - Thelypteridaceae

- a) Lastrea calcarata .Bedd.
- b) Lastrea ornata .Ching.
- c) Nephrodium truncatus .Presl.
- d) Nephrodium molle .R.Br.
- e) Nephrodium pteroides .Retz.
- f) Cyclosorus dimorpha .Link.
- g) Cyclosorus truncatus .Poir.
- h) Cyclosorus unicus .Non.R.Br.

## 17) Family - Athyriaceae

- a) Athyrium fulcatum .Bedd.
- b) Athyrium hohenkerianum .Bedd.
- c) Diplazium latifolium .Moore.
- d) Diplazium esculentum .Sw.

## 18) Family - Aspidiaceae

- a) Hypodimatum crenatum .Kunze.
- b) Dryopteris cocleata .C.Chr.
- c) Tectaria macrodonta .Fee.

## 19) Family - Lomariopsidaceae

- a) Egenolfia appendiculata .Schott.
- b) Bolbitis virens .Wall.
- c) Bolbitis subcrenata .Bernh.
- d) Gymnopteris presliana .Bedd.

## 20) Family - Blechnaceae

- a) Blechnum orientale .Linn.

Thus 50 species belonging to 34 genera and 20 families have been studied for spore morphology.