INTRODUCTION

(i) AIM OF THE PRESENT WORK :

The ferns have attracted attention of the botanists early in the past. Though there have been several valuable studies on the ferns of Southern India, Ferns of Western India, Ferns of Bombay by Beddome, E.Blatter and J.F.R. Almeida respectively and others; the literature on the Fern Flora of Western Ghats is profusely scattered in numerous books, journals, theses some of which are not easily available to the students interested in Ferns. Thus our knowledge about fern flora of this region is inadequate.

After publication of 'Ferns of Bombay' by E.Blatter and J.F.R.d'Almeida (1922), some Ferns of Kolhapur district by Parandekar (1966), Enumeration of plants from Gomantak, India (1966) by Vartak; Pteridophyte flora of Kolhapur district by Agashe (1969); there have been many major changes in the Taxonomy and Nomenclature and distribution of Ferns. An effort is made here to revise the complete fern flora of the Western Ghats, particularly, Maharashtra, Karnataka, Goa and some ferns from Silent Valley (Kerala), incorporating the important changes in the taxonomy, nomenclature and distribution of this group of vascular plants.

Every effort has been made to collect the material afresh from the fields in different seasons. The specimens are collected and processed and studied critically at the 'Blatter Herbarium' St.Xavier College, Bombay. During the

course of this work it was noted that several of the previously reported taxa are not found now. These may have been wrong identification due to lack of critical specimens or may be destroyed.

There are also some new additions to the fern species of this region.

In the text of the thesis very significant information and more easier key regarding each species is given so as to identify the specimen very easily. The included maps will help one to reach the ideal localities for ferns collection in Western Ghats. Some coloured photographs are also attested here so one can get an idea about the ecological habitat of that specimen. The text figures are taken from Beddome's - The Ferns of Southern India and some from reprint of Bole and Almeida 1977.

(ii) PREVIOUS WORK :

The florestic accounts of Pteridophytic vegetation of subcontinent have been given from time to time by many authors for various localities. Thus to name a few of them concerned with the Western Ghats, as random examples, the following could be mentioned :

Roxburgh (1820) occassionally referred to plants of this region as belonging to Konkan. John Graham (1839) a deputy Post-Master of Bombay gave the first systematic

account of the pteriodophytic flora of Bombay. It included 24 species of ferns, 6 of Lycopodium (2 Lycopodia and 4 Selaginella), 1 each of Marsilea, Salvia and Isoetes. The other important contributions are Dalzell (1852) and Gibson (1861) reported 4 new species of Lycopodium from Bombay ghats, Beddome (1883-1892) Ferns of Southern India, British India and Handbook to ferns of India; Baker (1887) Fern allies of India, E.Blatter and J.F.R. d'Almeida (1922) 'Ferns of Bombay', Mahabale,T.S. (1937) Indian Ophioglossum, Bharadwaja (1935) Isoetes in India, Raizada (1935) Psilotum in India, Blatter (1909) Ferns of Bombay Presidency, Alston (1945) enumerated 57 species of Indian Selaginella and gave their authentic distribution and nomenclature.

Mahabale (1962) has described 10 species of Ophioglossum from India. Panigrahi and Dixit (1966) gave an account of taxonomy, ecology and distribution of 24 species of Selaginella, 10 species and 4 varieties of Ophioglossum from India. Biswas (1939) described two new species of Elaphoglossum, E.ballardianum, Biswas and E.krajinae, Biswas from S.India; Parandekar (1966) has studied 40 different species of ferns, the majority of which - about 30 belongs to Polypodiaceae and the rest to the other families; from Kolhapur district, Vartak (1966) enumerated plants from Gomantak, India in which he has described 32 genera of ferns belonging to 49 species.

Gleicheniaceae : 1 Genus, 1 species

Polypodiaceae : 27 Genera; 43 species

Osmundaceae	: 1 Genus;	1 species
Schizaeaceae	: 1 Genus;	2 species
Marattiaceae	: 1 Genus;	1 species
Ophioglossaceae:	1 Genus;	1 species

Agashe (1969) has described 3 species of genus Ophioglossum and 3 species of genus Adiantum from Kolhapur district, Nair and Ghosh (1976) described 2 species of Pteris from Peninsular India and also recorded a new species of Cheilanthus from Western Ghats of India, C.keralensis, Bir and Surinder Mohan (1971) have described pteridophytic flora of Kodaikanal; Bole and Almeida (1977) have recorded four new species of pteridophytes from Bombay Presidency :

(i) Selaginella blatteri
(ii) Schizolegnia indica
(iii) Pteris almeidiana
(iv) Schizolegnia savantwadiensis

A new species of Ferns from South India (Trivandrum District, Kerala State) Grammitis pilifera (Grammitidaceae) has been described by Ravi,N. and Josaph (1977).

Puri (1970) has given a detailed account of Indian Pteridophytes used in Folk Remedies. Mahabale (1979) has given some interesting features of flora of Deccan with special reference to Western Ghats - the Sahyadris. Nair and Gosh (1978) have given notes on some additional distribution of ferns. Nair and Dixit (1981) gave a list of Taxa of Indian ferns as a supplement to the Handbook to the Ferns of British India.

Vohra et al.(1982) have given observation on the Cryptogamic flora of Silent Valley area which was explored during April-May 1980 for lichens, mosses and pteridophytes by above authors. They have recorded 17 families, 45 genera and 77 species (Ferns : 42 genera and 69 species, Fern allie: 03 genera and 08 species).

(iii) AREA UNDER STUDY :

The Western Ghats (the Sahyadri) lying between 8^{o} 15'N and 21^{o} 20'N latitude with an average height of 1,200 m runs for about 1600 km along border of the Deccan from near Tapti (Tapi) mouth in the north (Gujarat State, Surat district-Dangs) to Cape Comorin or Rameswaram (Kerala State) the Southernmost point of India, overlooking the Arabian Sea on the west and running more or less parallel to the coast.

Broadly the Sahyadri is divided into three sections namely :

1. The Northern Sahyadri (from Dangs to Goa)
2. The Central Sahyadri (from Goa to Nilgiri hills)
3. The South Sahyadri (from South of Pal ghat gap to the end of Cape Comorin or Rameswaram).

The Western Ghats or Sahyadri spread over variably in the following states and territory :

1. The Gujarat State (which fairly marks the northern end of Sahyadris).
2. The Maharashtra State

3. The Karnataka State
4. The Goa Territory
5. The Kerala State (fairly marks Southern end of Sahyadri)

Though it is intended to study ferns from Western Ghats right from Surat-Dangs i.e. the northern end of Western Ghats to Cape Comorin i.e. the Southernmost end of Western Ghats, the present piece of work is based on the ferns from Western Ghats distributed in the states of Maharashtra, Karnataka, Goa territory and Silent Valley, Kerala State.