

# CHAPTER III

## MATERIAL AND METHODS



### MATERIAL AND METHOD

Acrostichum aureum is a genus growing in brakish water. The material for present investigation was collected from a village Aronda in Sindhudurga district. Aronda is situated 15 miles to the South-west of Savantwadi. It is nearly 6 Km. from the sea-shore where the river Terekhol joins the Arabian sea. There is a small river locally called as Velve Nala or Velve river which joins the river Terekhol at Sawarjuva. This river has fresh water during rainy season only. Rest of the year the water becomes saline due to flooding with sea-water. The salinity of the water is more towards sea shore and gradually decreases towards landward direction. A geographical analysis of the floral distribution and composition of the Terekhol inlet has been done by Shinde and Mustafa (1974). They have observed zonation of the mangroves from Terekhol river mouth towards interior. At Aronda where the salinity is low as compared to shore area where the mangroves like Acanthus ilicifolius, Exoecuria agollocha thrive well. The other less commonly occurring mangroves are Avicennia alba, Sonnerattia apetala and Rhizophora mucronata, etc. In such mangroves vegetation the most commonly occurring fern is Acrostichum aureum forming dense ground cover. The same plants were collected for the anatomical and morphological

studies included in the present piece of work.

Methods :

For anatomical studies of root, rhizome and fronds hand section were taken.

The rhizome and the lowest portions of rachis were found to be very hard for hand sectioning and hence they were first softened in F.A.A. for few days and then hand sectioned.

To make the slides permanent the usual double staining procedure i.e. saffranin followed by fast green was used.

The epidermal outgrowths such as scales were removed by means of scalpel and mounted in prestained jelly with saffrain.

For studying the epidermal structure of the leaf, epidermal strips of fresh leaves as well as those preserved in F.A.A. were removed by means of sharp knife and mounted in glycerine jelly prestained with saffranin.

The venation studies were made by making the pinnae transparent by repeated changes of F.A.A. which dissolved the chlorophyll.

ref? The spores were acetolysed using the procedure  
described by Erdtman 1935 for spore morphologic studies.  
For measurement purposes the slides were prepared by  
ref? ~~Wodehose~~<sup>SP.</sup> 1935 method.

The necessary camera lucida drawings were made for  
explaining the morphology and anatomy of sporophytes of  
Acrostichum aureum and they are supplemented with micro-  
photographs.

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