

CHAPTER-III

MATERIAL AND METHOD

The work deals with material collected from localities present on East-Coast of Tamilnadu. The area is called as Sriperamatur beds. In this area fossils are exposed at several places around the Sriperamatur town situated on Bangalore-Madras Road and is 40 Km. away from Madras. The exposures are mostly small patches in nalla cuttings and in newly dug wells. These are soft fine grained sand stones and are exposed at the bedding plane. The shales are yellowish white in colour and soft. The plant impressions are found in them. The collections were made in the month of October and February because the area is drier in this period. Out of several places three places were selected for major collections because the material found there showed good preservation. The shales were broken carefully using small hammer and impressions found were carefully packed in news paper packing. Sometimes already exposed impressions were found and they were affected with sunlight and dust. Such material was carefully cleaned and packed with cotton because it was more friable.

The second locality Vellum is situated 8 km. south of Sriperamatur, here the petrified woods are found on the surface they were weathered blocks of silicified woods and found scattered on the ground.

Foote (1879) first time mentioned the occurrence of

fossils at this place but no other details were recorded. Sahni (1931) first time made some studies of petrified coniferous woods found at the locality and described Mesembrioxylon parthsarthyi, it is the first authentic report on coniferous wood. He also described Cupressinoxylon coromandelinum from this area. He also described a doubtful specimen under the name ? Mesembryoxylon sp. besides these reports there are no other records of woods from this area. In our work 5 species of woods have been described belonging to Podocarpoxyton, Agathioxylon and Araucarioxylon.

For studying the impressions they were brought to laboratory and throughly cleaned with camel hair brush later on they were photographed under the strong incident light using Pentax SLR camera. Some times photographs were taken under the diffuse light in open door area. For photographs Orwo film with speed of 125ASA is used. The films was developed using Kodak contrast developer and prints were made on Agfa special and normal paper. Prints of the desire size were prepared to show venation pattern and other details of the impressions. Magnification were calculated and introduced in the discriptive part.

For studying petrifications the woods were washed in dil. HCl to clean the dust then they were measured and sections were cut using the electrically driven diamond saw sufficient thin section showing T.S., T.L.S. and R.L.S. were made. They were mounted on the slide by using commercial

Canada balsam and ground on the grinding machine using 60, 90 and 120 grades of emery powder they were ground till they become translucent, and finally ground on the glass plate using '0' grade emery powder to make them sufficient thin. Then the material was removed from the slide by using spirit lamp and cleaned in xylene solution, next it is mounted on the slide using Canada balsam and covered with the cover glass. Now the slide is ready for observation. After observing the important characters text figures were prepared by using Erma mirror type Camera lucida on Ivory paper using india ink. The measurement of tracheids, ray cells and pits were taken by using circular micrometer of Zeiss make and readings were calculated in to μ . The text figures were fixed on a card-sheet and their magnifications were calculated.

Microphotographs of important anatomical characters were taken by using Olympus microphotographic attachment and microscope for taking the photographs suitable exposures were used finally the prints were made using those methods applied in photography of impressions. The plates were prepared using the prints and proper magnifications were calculated and introduced in the descriptive part of the wood.