III. MATERIAL AND METHODS

The name Kamthi was first used by Blanford (in Hughes, 1877) representing a military station of 'Kamptee', present at the distance of 19 Kms. from Nagpur in North East direction. In Maharashtra, it is exposed in Wardha-Godavari valley. It shows a rich fossil assemblage in the Chandrapur and Nagpur districts.

The material in the present investigation was collected from Adhari, Nandori and Panwadala in Chandrapur District and Satnaori Bazargaon in Nagpur district. From Adhari Megafossil impressions and Petrified gymnospermous woods were collected. From Nandori and Panwadala gymnospermous woods were collected. From Satnori and Bazargaon only megafossil impessions were collected.

The plant remains of Kamthi stage are preserved as impressions and petrifications. The first locality Nandori (20°12'; 79°02') is situated on the Warora-Chandrapur road, about 5 Kms. east of Warora. The other locality Panwadala is situated in the interior part of this area. From Nandori petrified woods were collected along a Nala near the farm belonging to V.G. Thengne and Mr. Jeevtode, Ex. M.L.A. The fossils were collected after the rainy seasons, in the months of November and December. At Panwadala the woods are found along the dried streams. They were highly silicified and showed poor quality. The locality Adhari is situated in the Chandrapur district at (20°8'; 79°11'). It is situated at the

distance of 16 Kms. from Bhandak on the Outskirt of Bhandak reserve forest. The petrified woods and impressions are found along the Nallah cuttings. The woods are found scattered on the surface or in situ. The localities Bazargaon and Satnori are situated on the Nagpur-Amarawati road. The plant impressions were collected from shales exposed in stone quarry near Satnori and Bazargaon.

The petrified woods were collected from these localities and brought to laboratory for further investigation. They were thoroughly washed with water and the dirt was removed from their surface. The woods numbered by using white paint and India ink. For microscopic examiantion the sections were cut in a cutting machine. The machine equipped with circular diamond edged saw which is driven by electric motor. The cutting was carried out in a water mixed with cutting oil. Sections of 20-30 μ thick were prepared in a desired plane such as T.S., T.L.S., R.L.S. The surface was primarily ground on a glass plate using 'O' grade carborandom powder. The polished surface was then fixed on a glass plate using natural Canada Balsam. This was done by heating the Canada Balsam on slide with help of spirit lamp. Next a section was pressed on Canada Balsam firmly. It was allowed to cool. Further the fixed section was ground on a grinding machine using carborandom powder of '60' grade, '90' and '120' grades respectively. It was continued till the section becomes transluscent. The sections were further ground on a glass plate

using 'O' grade powder. Now the section is ready for final mounting. The section was removed from the slide by heating it on the spirit lamp. The sections were further washed in Xylene solution to remove the particles of Canada Balsam. Finally the sections were mounted in laboratory Canada Balsam and covered with cover glass. They were kept on a hot plate for drying.

The anatomical characters of the section were observed under compound microscope of Olympus make. The Camera Lucida sketches of important characters were drawn by using Camera Lucida instrument of Erma make. The sketches were inked by using Black ink and finally text figures were selected for a plate. The magnifications of the text figures were introduced in the explaination of text figures.

The important characters of the section were photographed using microphotographic equipment of Carl-zeiss make. For microphotography the film having speed of 125 A.S.A. was used. The photographs were developed in the contrastive developer Kodak-D and prints were made on Agfa papers with hard, normal and special grades. The photoplates were prepared by Pasting the photographs on mounting paper. Magnifications of photographs were calculated and introduced in the explaination of plate figures. For measurement of tracheids, ray cells and pits circular micrometer, Oknar was used. The measurements were converted in μ using suitable formula.

The impressions were preserved on reddish or whitish sandstone. The sandstones were open by using the hammer of the bedding plane. The exposed impressions were carefully packed in the field and transported to the laboratory. The morphological characters of the impressions such as shape, venation, habit etc. were sketched on ivory paper using India ink. The impressions were photographed under strong reflected light using Pantex Camera. Some times they were photographed by using coping camera, reprovitt-II. The photographs were enlarged sufficiently to show the details. The procedure was found suitable in studying leaf impressions. The magnification of text figures and photographs were calculated and introduced in the explaination of text and plate figures. Some times maceration of dark patches found on the leaf impression was carried out. Since Carbon material was not present the maceration process yielded no results.