

## **7. SUMMARY AND CONCLUSIONS.**

## VII) SUMMARY AND CONCLUSION

The Dissertation embodies the floristic studies of the Palar basin in Tamil Nadu. The fossil plants were collected from the localities in Chingalpet district belonging to Sriperamatur beds. The work is divided into two parts. Part-I covers the plant impressions belonging to various group like Cycadophytes, Conifers and Ferns and Part-II covers the studies of petrified woods.

1. The Gondwana flora of India, and it's important aspects are given in Chapter I "Introduction" on pp. 1 to 10.
2. The second chapter is Previous Work. It gives the brief survey of earlier work by different workers on Middle and Upper Gondwana beds in India. Since the work deals with Mesozoic plants of East-Coast. The contents are useful in understanding the relations between Upper Gondwana flora of East-Coast and other Upper Gondwana floras in India. This is given on pp. 11 to 54.
3. Chapter-III is the Material and Methods. The chapter gives the different methods employed for the studies of plant fossil from Palar basin. It also gives general information about the nature of material. It is given on pp.55 to 61.
4. Geology and Topography of the area investigated in Palar basin is included here. It gives the useful information

about the localities, from which the material was collected. It is given on pp.62 to 68.

5. This Chapter is designated as Descriptive. It gives detail description of plants belonging to different groups. The impressions belong to -
- (1) Cycadophytes, (2) Conifers, (3) Ferns,
  - (4) Unclassified plants. Cycadophytes are represented by following genera -
- 1) Ptilophyllum Morris
  - 2) Pterophyllum Brongniart
  - 3) Dictyozamites Oldham
  - 4) Otozamities Braun
  - 5) Anomozamities Schimper
  - 6) Pseudoctenis Seward.

From the above six genera the genus Ptilophyllum is quiet rich and represented by 5 species. The genus Dictyozamites is the next dominant genus and represents 4 species. Pterophyllum is represented by 2 species. Anomozamities is represented by a single species. Otozamities is also represented by a single species. Pseudoctenis is also rare and has only one species.

The coniferal represent the second important group and included the following genera -

- 1) Elatocladus Halle.
- 2) Brachyphyllum Sahnii

3) Pagiophyllum Heer

4) Torreyites Seward

Ferns are represented by genus Sphenopteris Sternberg having a single species. Unclassified plants include the genus Phonicopsis which is represented by only one species.

The Part-II includes the petrified woods. These coniferous wood collected from different localities in Palar basin. They belong to following genera -

- 1) Araucarioxylon Kraus which is represented by a single species A.sriperamaturensis sp.nov.
- 2) Agathioxylon Hartig shows affinities with a living genus Agathis. It is represented by a new species A.palarensis sp.nov.
- 3) Planoxylon Stopes represents a transitional conifers, and represented by a single species P.jurassicum sp.nov. Presence of Planoxylon in Palar basin is quiet significant, because the genus has combination of Araucarian and Abitinean features. It suggests that a process of conifer evolution which was taking place in Palar basin is also throws more light on Palaeoecology of this region.
- 4) Prototaxoxylon Krausel and Dolianti shows a combination of Araucarian and Taxinean characters. It has also it's

own importance. Because presence of such woods in Palar basin suggests another line of conifer evolution after the first line of evolution represented by Planoxylon.

- 5) Circoporoxylon Krausel. The genus shows podocarpaceous affinities. It has circular simple pits in the field area. From India so far only one species C. amarjolense is described by Krausel and Jain. In the present work the genus is represented by a new species namely C. sriperamaturii. Hence it is the second report from India and becomes noteworthy feature of the Palar basin flora.

So it appears that out of 5 genera, 2 genera represents Transitional conifers. One can confirm the dominance of Araucariaceae in Palar basin from this account. The chapter gives a broad picture of the palaeofloristic of Palar basin and forms the important part of the dissertation. It is given on pp.69 to 119.

- 6) General Considerations : The Chapter represents the observation on the occurrence of several genera in the Palar basin. It also gives correlation of other Upper Gondwana floras from other parts of India. The East-Coast had a rich Upper Gondwana flora which can be easily compared with other Upper Gondwana floras of India. The floral assemblage of the region and it's

comparison with other floras reveals some important facts. One of it is that the flora represents a mixture of Rajmahal and Jabalpur elements. At the same time it has certain characteristic elements of it's own. From this fact an attempt is made to find the proper age of the fossil flora of Palar basin. The best results can be obtained from microfossil studies from this region. But due to little information about the micro fossil data the work become somewhat difficult. It is given on pp.120 to 143.

- 7) Summary and Conclusion : This chapter gives the brief contents and results arrived at from different chapters. It is given on pp.144 to 148.
- 8) References : It gives literature cited in the present dissertation and given on pp.149 to 168.

Finally the dissertation concludes with a note of deep sense of gratitutde and sincere thanks to my Supervisor Dr. P. A. Vagyani for his sustain help throughout the course of work.