The present work was undertaken primarily with a view to study the little-known microfaunal assemblages from the marine beds of the East-Coast Gondwanas and the Infra- and the Inter-trappean beds of the Rajahmundry area. The Raghavapuram shales (a middle division of the East-Coast Gondwanas of Lower Cretaceous age) have yielded a rich assemblage of arenaceous Foraminifera consisting of fifteen species, whereas the homotaxial beds of the Budavada and Vannavaram areas, as well as the marine equivalents of the Tirupati sandstones at Ayaparaz-Kotapilli, are devoid of microfossils. In the Inter-trappean beds (Paleocene), only a meagre fauna, including nine species of Foraminifera and some ophiuroid ossicles was found, but the Inter-trappean beds (Lower Eocene) at Pangadi, near Rajahmundry, yielded a rich microfauna comprising of eighteen species of Foraminifera, about sixteen species of Ostracoda, a few species of chara fruits and a rich assemblage of hitherto unreported ophiuroid ossicles.

Only the foraminiferal fauna from the Raghavapuram shales of the type area, and from the Infra- and the Inter-trappean beds near Pangadi, of the Rajahmundry area, is included in the present thesis. A check list of the important ostracode genera from the Inter-trappean beds is, however, included not only from the point of view of priority but also because of the fact that some of them are of great ecological significance. Inclusion of ecological data pertaining to these ostracodes has greatly substantiated the conclusions concerning the paleoecology of
the Inter-trappean beds as deciphered from the Foraminifera.

For convenience of presentation, the thesis has been subdivided into three main parts.

Part I - deals with the introduction, classification of the Foraminifera, and a brief account of the laboratory procedure and techniques which have been followed in the present study;

Part II - deals with the geology of the East-Coast Gondwanas including a systematic description of the Foraminifera from the Raghavapuram shales; and

Part III - deals with the geology of the Infra- and the Inter-trappean beds including separate systematic descriptions of the Foraminifera from the two horizons and a check list of the ostracode genera from the latter.

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