



## PALAEOCENE (DANIAN-THANETIAN) FORAMINIFERA IN CARBONATE ENVIRONMENT OF THE CAUVERY BASIN, SOUTHERN INDIA

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### ABSTRACT

The carbonate environment that developed during the Palaeocene in the study area is well represented in the three units of the Ninniyur Formation. The environment ranged from the shallow inner-ramp to mid- to uppermost outer-ramp environment and was host to several groups of invertebrate and foraminiferal fauna and algal flora. In the studied profiles of the lower, middle and upper units of this formation, it appears that it is the inner-ramp environment and its low-diversity assemblage of fossil forms that persisted throughout the course of deposition. The assemblage consists of foraminifers, represented by miliolids and fewer members of rotaliid and agglutinated groups, and calcareous algae (dasyclads). As this environment had a small habitat-area (ecospace) with limited possibilities of further evolutionary differentiation, it was marked by the persistence of low-diversity biota throughout the Ninniyur succession. However, this continuum was broken when the deposition of the middle unit occurred in deeper mid- to uppermost outer-ramp locations of sea in the Periyakurichchi area. This change resulted in an enlarged habitat-area allowing for multiplication of microhabitats to give rise to high-diversity coralline algal assemblage with some planktic species.

**Keywords:** Palaeocene foraminifera (miliolids, agglutinated forms, etc.), Ninniyur Formation, Palaeoenvironment, south India