Cretaceous heteromorph ammonoid biostratigraphy of southern India

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with 2 plates and 4 tables

Abstract. Heteromorph ammonoids, distributed variously in the Cretaceous sediments of southern India, are known from the rocks of Late Albian through Middle Maastrichtian. Baculoids are the most frequent, followed by turritilitids, anisoceratids, scaphitids and nostoceratids. A biostratigraphic zonation is proposed based on these ammonoids belonging to 26 species distributed among 13 genera. Stratigraphic correlation with biostratigraphic zones worked out earlier, is attempted. Palaeoecological interpretation based on these uncoiling ammonoids suggests a shallow sea being the general ecological niche. The inner and outer neritic environment is differentiated by the preponderance of anisoceratid fossils in the latter.

Résumé. Les ammonites hétéromorphes très répandues dans les séries cré타cees de l'Inde sud sont reconnues des sédiments de l'Albien jusqu'au Maestrichtien moyen. Baculitides sont les plus fréquentes, suivies par turritilitides, anisoceratides, scaphitides et nostoceratides. Une zonation biostratigraphique est proposée qui se base sur ces ammonites appartenant à 26 espèces appartenant à 13 genres. Une corrélation stratigraphique avec les zones biostratigraphiques proposés avant, est tenté. L'interprétation paléoécologique de la faune à ammonites non enroulées suggère que ces ammonites étaient répandues dans d'une mer peu profonde. Les milieux intérieurs et extérieurs distingués par la prépondérance de les anisoceratides dans le dernier.

Introduction

The uncoiling or heteromorph ammonoids have established a special rank for themselves in the study of the Cretaceous fauna. The occurrences of baculoids, scaphitids and turritilitids are known from almost all continents and are widely used for the biostratigraphic zonation of Cretaceous rocks. Recent studies by many researchers in Africa, America and Europe have emphasised the usage of the evolutionary lineage of heteromorph groups in the correlation of the rocks and in the recognition of Cretaceous stage boundaries, especially at the Albian–Cenomanian and Santonian–Campanian stages (KLINGER and KENNEDY 1978; KENNEDY 1984). In view of these important developments in the study of heteromorphs, a humble beginning is made at present to identify various heteromorph biozones in the Cretaceous of southern India and for a possible palaeoecological interpretation on their distribution in these rocks.

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