

ECHINOIDS OF THE CENOMANIAN–TURONIAN (CRETACEOUS) BOUNDARY OF THE SERGIPE BASIN, NORTHEASTERN BRAZIL

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In the Sergipe Basin echinoids occur in most sections of latest Cenomanian to early Turonian age. Locally they are very abundant and appear in accumulations. Whereas the Albian to middle Cenomanian yield a diverse echinoid fauna – e.g., 17 species are reported from the Cenomanian – the uppermost Cenomanian to lowermost Turonian is dominated by one species, *Mecaster batnensis* (Coquand, 1862). Higher in the lower Turonian the occasional *M. fourneli* (Agassiz & Desor, 1847) and intermediate forms between the two species occur. *M. batnensis* is also known from the Turonian of Texas and is common in various regions of the southern Tethys (e.g., Portugal, Morocco, Algeria, Tunisia, Egypt and Syria). It has also been reported from the upper Cenomanian of the Iullemeden Basin in Niger, central West Africa. The nearly exclusive occurrence of *Mecaster batnensis* in the Cenomanian–Turonian boundary beds of Sergipe leads to the following palaeoecological interpretations: (1) With its highly developed petals, the genus *Mecaster* can be taken as an indicator for relatively high water temperature. (2) The monospecific occurrence of the infaunal *Mecaster* and the absence of bulk-sediment swallows and regular echinoids generally suggest a deeper-water environment, in comparison with the shallower conditions indicated by the more diverse fauna of early to mid Cenomanian age. (3) *Mecaster*, with narrower and relatively open ambulacra, as in *M. batnensis*, characterizes deeper environments of the outer platform. This is a contribution to IGCP-Project 381 'South Atlantic Mesozoic Correlations'.