

A new zoroasterid asteroid from the Eocene of Seymour Island, Antarctica


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New, well-preserved fossil starfish material is recorded from the Eocene La Meseta Formation exposed in Seymour Island, Antarctica. The use of new technology (i.e., microCT) on several fragments enabled the visualization of new characters and the differentiation of a new species, *Zoroaster marambioensis* sp. nov., which was previously identified as *Zoroaster* aff. *Z. fulgens*. Diagnostic characters of *Z. marambioensis* sp. nov. are (i) central disc plate enlarged, lobate and flattened, (ii) disc ring with enlarged, tumid radials and polygonal, flattened inter-radials, (iii) primary spines on disc only present on radials, (iv) oral armature with 1–3 primary spines and 1–2 secondary spines for each prominent adambulacral. The depositional setting represents the outer zone of an estuary dominated by marine processes affected by long lived hyperpycnal flows. We argue that zoroasterids colonized a distal part of the estuary under normal marine salinity and were killed by the input of freshwater carried by a hyperpycnal flow, and immediately buried by fine grained sandstone. Sedimentological data suggest that *Z. marambioensis* sp. nov. lived in shallow-water environments, it seems possible that they were adapted to higher temperatures than other Recent species of the genus, which inhabit cold, deep marine environments.

Key words: Asteroidea, Zoroasteridae, palaeoenvironment, Paleogene, La Meseta Formation, Antarctic Peninsula.

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