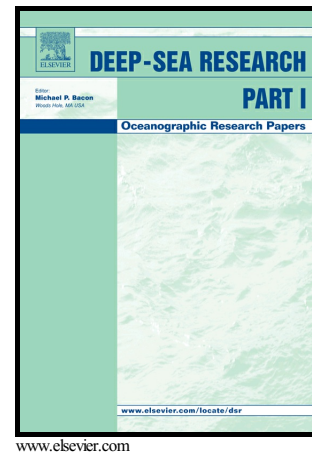


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South America-Africa missing links revealed by the taxonomy of deep-sea molluscs: Examples from prochaetodermatid aplacophorans

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Abstract

Prochaetodermatidae (Mollusca, Aplacophora, Caudofoveata), typical inhabitants of the deep sea, occur mainly along the continental slope, sometimes in high abundance. Their diversity in some regions, such as the South Atlantic Ocean, is little studied. The genus *Claviderma* is so far composed of one Pacific Ocean, two Indian Ocean and seven Atlantic Ocean species. Collections of the southeastern Brazilian coast contained three species of this genus. One, *C. virium* sp. nov., is new to science, and the other two, *C. crassum* and *C. amplum*, are new occurrences, extending their distributions southward into the western Atlantic. The external morphology and details of their radula and sclerites are described. The new species is distinguished by its long trunk and comparatively narrow, short posterium, and its trunk sclerites bearing numerous evident transverse growth lines. In the Atlantic Ocean, species with similar body forms and with sclerites of the same shape occur off the western and eastern coasts: the South American *C. compactum* is similar externally to the African *C. brevicaudatum*, and the Brazilian *C. virium* sp. nov. is comparable to the eastern Atlantic *C. gladiatum*. This suggests that these pairs of species are sister-groups, sharing the same morphological traits as a result of common ancestry. In the western and eastern Atlantic, most species of *Claviderma* that live over a wider range of depths are more widely distributed.

Keywords: Prochaetodermatidae; Aplacophora; southwestern Atlantic; taxonomy; distribution patterns

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