



New species of the scale worm genus *Pholoe* (Polychaeta: Pholoidae) from southeast Brazil

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Abstract

Exploration of poorly known regions of the Brazilian coast has resulted in the discovery of a new species in the scale worm family Pholoidae. *Pholoe microantennata* **sp. nov.** occurs at the Campos Basin (states of Espírito Santo and Rio de Janeiro) and along the northern coast of São Paulo State. It differs from other species in the genus because it has numerous large and conical marginal papillae on the elytra and two small lateral antenna attached to the distal portion of the prostomium. The family Pholoidae remains species-poor compared with most polychaete families, and it currently comprises 24 species worldwide. In Brazil, only three species of this family have been recorded.

Key words: Brazilian coast, Campos Basin, scale worms, taxonomy, sublittoral zone.

Introduction

Pholoidae is one of six polychaete families known as “scale-worms”, in which the dorsal cirri of alternating segments are modified to form overlapping scales which cover all or most of the dorsum (Fauchald 1977). This family is composed of tiny individuals who rarely exceed 2 cm in length and 90 segments (Rouse & Pleijel 2001). The history of the Pholoidae taxa was summarized by Pettibone (1992), who distinguished six genera: *Pholoe*, *Laubierpholoe*, *Imajimapholoe*, *Taylorpholoe*, *Pholoides* and *Metaxypsamma*. Before this revision, the genus *Pholoe* was included in the Sigalionidae primarily because of the compound neurosetae of its species, although additional characteristics distinguish the two families (Table 1).

TABLE 1. A comparison of the characteristics of the families Pholoidae and Sigalionidae (sensu Pettibone, 1992).

Characteristic/Family	Pholoidae	Sigalionidae
Body	Short, subretangular, with few segments (< 90)	Long, narrow, slender, with numerous segments (>300)
Tentaculophores of segment 1	Attached medial to palps	Attached dorsal to palps
Branchiae	Absent	Present; attached to the lateral sides of elytraphores and dorsal tubercles
Compound neurosetae	Falcigers; blades short	Falcigers or spinigers; blades short and long, uni or multi-articulate

Based on molecular data, Wiklund *et al.* (2005) replaced *Pholoe* into Sigalionidae and suggested that the family Pholoidae should be synonymized with Sigalionidae. New molecular studies indicated a strong relationship between *Pholoides* and Sigalionidae, but not between *Pholoe* and Sigalionidae. Therefore, the authors decided to maintain the latter genus as part of the Pholoidae family and synonymized Pholoididae (type *Pholoides*) with Sigalionidae (Norlinder *et al.* 2012).

Twenty four Pholoidae species are currently recognized (Read & Fauchald 2013), including 16 species of *Pholoe* and *Pholoe microantennata*, which is described in this study. In Brazilian waters, only three species from