

Short communication

New record of *Pherecardia striata* (Polychaeta: Amphinomidae) from Easter Island, Chile

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ABSTRACT. The polychaete amphinomid *Pherecardia striata* (Kingberg, 1857) is newly reported from the littoral off Easter Island (27°10'S, 109°20'W). The specimens are smallest than those collected in other tropical islands of the Pacific Ocean. *P. striata* resulted to be the least abundant of the three species of Amphinomidae collected from Easter Island: *Eurythoe complanata* (Pallas, 1776) and *Linopherus* sp. (Kohn & Lloyd, 1973b).

Keywords: *Pherecardia striata*, Amphinomidae, Polychaeta, benthos, biodiversity, Easter Island, Chile.

The main antecedents of Easter Island benthic polychaetes (27°10'S, 109°20'W) are contained in 11 articles: Chamberlin (1919), Augener (1922), Fauvel (1936), Hartmann-Schröder (1962), Kohn & Lloyd (1973a, 1973b), Castilla & Rozbaczylo (1987), Di Salvo *et al.* (1988), Rozbaczylo & Castilla (1988), Cañete (1997) and Boyko (2003). These works have described three species of Amphinomidae to be present at Easter Island littoral: *Eurythoe complanata* (Pallas, 1776), *Linopherus* sp. (Kohn & Lloyd, 1973b), and *Pherecardia striata*, which was only reported by Fauvel (1936).

P. striata is relatively common in the tropical zone of the Pacific Ocean (Kohn & Lloyd, 1973a, 1973b; Cañete, 1989; Rajasekaran & Fernando, 2012), and it is adapted to spatial macro-scale dispersion (Glasby, 2005) because of the qualities of its teleplanic larvae (rostraria). The aim of this study is to register for second time the presence of this species in the littoral of Easter Island, to increase the knowledge on polychaete benthic biodiversity at this remote island.

The analysis of approximately 60 samples over three summer periods (1983-1985) (Di Salvo *et al.*, 1988) allowed register the presence of three specimens of *P. striata*, each collected in equal sample numbers.

Pherecardia striata (Kinberg, 1857)

(Figs. 1a-1d)

Synonymy

Hermodice striata (Kinberg, 1857)

Hermodice striata (Fauvel, 1936)

Pherecardia striata (Day, 1967; pp. 131, Figs. 3.2 p-t; Kohn & Lloyd, 1973b; Cañete, 1989).

Material under study: specimens were collected manually or by scuba diving performed by Dr. L.H. Di Salvo (Di Salvo *et al.*, 1988), fixed in 10% formaldehyde, and deposited in the Systematics Room, Pontificia Universidad Católica de Chile (SSUC), Santiago, Chile - Easter Island polychaetes. Sta. 1 (1983): Apina Nui, 1 m depth, intertidal pool, under stone, 1 specimen; Sta. 2 (1984): Tahai, 20 m depth, no antecedents of the collection site, 1 specimen; and Sta. 3 (1985): Tahai, 35 m depth, on the coral *Porites lobata*, 1 specimen.

Description: *P. striata* is characterized by a soft, smooth, and whitish body; with numerous brown to black streaks on the dorsal zone that highlight white notopodial bristles; subquadrangular in cross section (Fig. 1a). Body length less than 20 mm. Prostomium with a medium antenna originated from the middle zone of the eye pair (Fig. 1b); anterior pair of short antennae that do not exceed the anterior base of the prostomium. Prominent caruncle with a fine dorsal medial sulcus, and 6 to 7 lateral folds that decrease in size from the front to the posterior end; reaches the third or fourth chaetiger segment (Fig. 1b). Gills start in the first chaetiger segment and have a scarce number of cylindrical-shaped branches; some of them are Y-shaped bifurcated; they are not dendritic (Fig. 1c). Single dorsal cirrus on each notopodium. Two types of notopodial setae: 1) white and thin capillary setae, with an

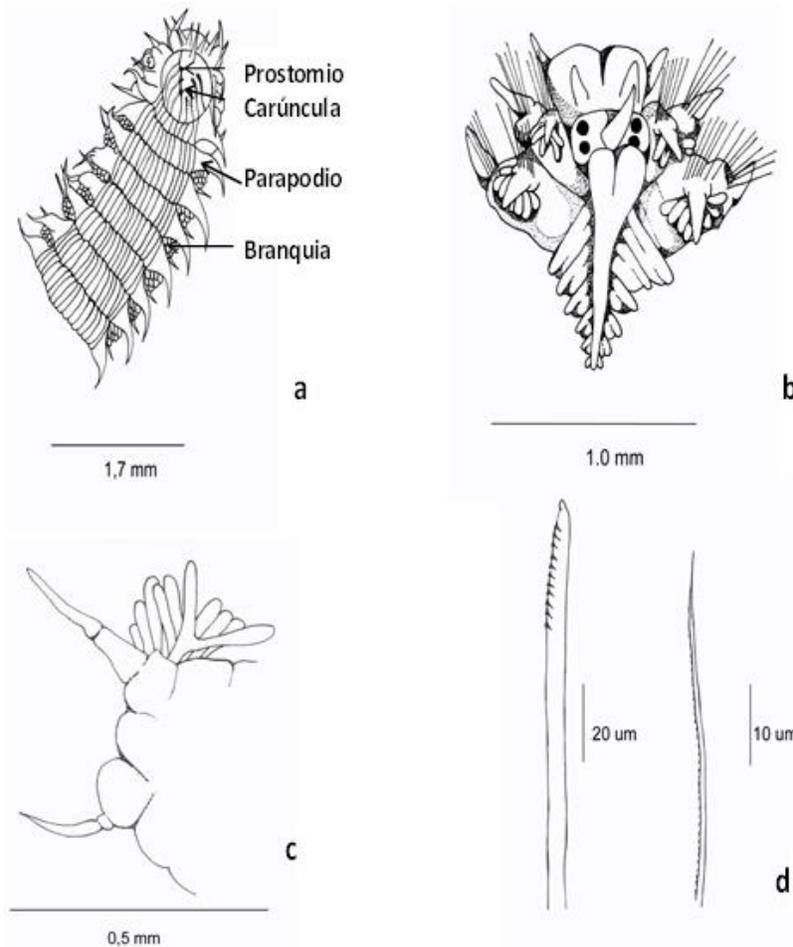


Figure 1. a) Dorsal view of the front end of the polychaete *Pherecardia striata*; b) prostomium, dorsal view; c) parapodium 4, anterior view; d) notochaeta and capillary neurochaeta, parapodium 4.

elongated tip and serrated margin, and 2) hook-shaped uncini, straight, and margin with 9 to 11 rows of spines (Fig 1d). Thin neuropodial bristles, thin and capillary-like, with serrated edges and a smooth, thin tip (Fig. 1d).

Comment: This is the second registration and collection of specimens in the littoral of Easter Island. It is considered that Amphinomidae of the *Hermodice* genus are very similar to the representatives of the *Pherecardia* genus. In this way, Yáñez-Rivera & Salazar-Vallejo (2011) provide evidence that confirm the differences between *Hermodice* (Kingberg, 1857) and *Pherecardia* Horst, 1886, being both genera currently valid. *P. striata* has gills that start in the chaetiger segment 1, whereas in the other two species of amphinomids from Easter Island, the gills start in the chaetiger segment 2. The three species have distinct gill morphology.

Distribution: Madagascar, Indonesia, Mozambique, Philippines, India, South Africa, Easter Island, New

Caledonia, Hawaii Islands, Cook Islands, and Marshall Islands. Apparently it possesses circumtropical distribution in the Pacific and Indian Ocean.

Bathymetric distribution in Easter Island: intertidal to shallow subtidal.

P. striata was originally described in the location of Eimeo, Society Islands. Later, it was described for the entire tropical zone of the Pacific and Indian Ocean (Knox, 1957; Day, 1967; Reish, 1968; Gibbs, 1972; Rullier, 1972; Kohn & Lloyd, 1973a, 1973b). The wide geographic distribution of this species should be due to the existence of the rostraria larva, which is typical for Amphinomidae polychaetes and has adaptations for a prolonged pelagic larval life (Glasby, 2005). This pattern of geographic distribution shown by *P. striata* is typical of species with circumtropical and subtropical distribution.

This is the second time *P. striata* is collected in the littoral of Easter Island. This species resulted to be the

least abundant of the three species of Amphinomidae known in Easter Island, being the other two *Eurythoe complanata* (Pallas, 1776) and *Linopherus* sp. (Kohn & Lloyd, 1973b), which were also collected in this study (Cañete, 1989). *P. striata* has medium size (20 mm length), as compared to the other two Amphinomidae species (120 and 8 mm length respectively). The small size of these polychaetes, their coloring, and the fact they live in subtidal areas, might have motivated their unnoticed passage under the eyes of other researchers who visited the island in the twentieth century.

The small size of the specimens collected in Easter Island may be due to their adaptation to the microspaces left by dominant corals on the littoral, such as *Porites lobata* and *Pocillopora* spp. In other parts of the Pacific and Indian Ocean, *P. striata* can reach a size of up to 200 mm (Rajasekaran & Fernando, 2012). The competition with *Eurythoe complanata*, an abundant amphinomid of Easter Island, may limit food availability (actiniarian) and size. By bringing together past and current information, it can be seen that *P. striata* is present on the littoral of the entire island, similar to that described for the Polynoidae family (Cañete, 1997). *P. striata* was previously collected in the Cave Bay and in Hanga Roa by Fauvel (1936).

The richness in polychaete species belonging to the Amphinomidae family at Easter Island is small in comparison to other tropical islands of the Pacific Ocean of relatively similar size (Reish, 1968; Gibbs, 1972; Rullier, 1972; Kohn & Lloyd, 1973a; Rozbaczylo & Carrasco, 1995). Such situation could be due to the geographic isolation of the island, its small size, relative geological youth, and lack of awareness about the biodiversity in the subtidal zone (Di Salvo *et al.*, 1988; Boyko, 2003).

Finally, it is important to emphasize that it is urgent to know the current status of the benthic biodiversity of Easter Island, especially now that this island is part of the large marine park that would protect the existing biodiversity.

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