



## Presence of *Platynereis mucronata* de León-González, Solís-Weiss & Valadez-Rocha, 2001 (Polychaeta: Nereididae) in Venezuelans waters

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**Abstract.** In a study of polychaetes associated to the algae *Sargassum vulgare* collected in the Gulf of Cariaco, Venezuela. Seventy-five specimens of a nereidid species were examined and identified as *Platynereis mucronata*. With this record the distribution range of this species extends to the coast of Venezuela.

**Keywords:** Polychaetofauna, annelids, biodiversity, distribution, nereidids.

**Resumen.** Presencia de *Platynereis mucronata* de León-González, Solís-Weiss & Valadez-Rocha, 2001 (Polychaeta: Nereididae) en aguas Venezolanas. En un estudio sobre poliquetos asociados al alga *Sargassum vulgare* recolectados en el Golfo de Cariaco, Venezuela, se examinaron 65 ejemplares de un neréidido e identificados como *Platynereis mucronata*. Con este registro se amplía el área de distribución de esta especie hasta la costa de Venezuela.

**Palabras clave:** Poliquetofauna, anélidos, biodiversidad, distribución, neréididos.

The Nereididae Lamarck, 1818 family is grouped within the order Phyllodocta, is one of the most representative and diverse families, with over 530 described species, belonging to 43 genera (Glasby *et al.*, 2000). The nereidid polychaetes are primarily marine, although some species are present in brackish waters. However, there are freshwater and even semi-terrestrial species. They are found in all substrates, and are distributed from the supralittoral to the abyssal zone (have been recorded up to 5000 m deep (de León-González, 2009). Nereididae species are considered of great importance in environmental studies because they are excellent indicators of the degree of conservation and/or contamination in particular ecosystems, being very useful for environmental monitoring programs (Wu *et al.*, 1985).

In Venezuela, 28 species of nereidid worms have been recorded (Amaral & Nonato, 1975; Liñero-Arana & Reyes-Vásquez, 1979;

Liñero-Arana, 1983; Liñero-Arana & Díaz-Díaz, 2007; Vanegas-Espinosa *et al.*, 2007), but only two are *Platynereis* species (*Platynereis coccinea* (Delle Chiaje 1822) and *Platynereis dumerilii* (Audouin & Milne Edwards 1834)), both registered in the Gulf of Cariaco (Amaral & Nonato 1975, Liñero-Arana & Reyes-Vásquez, 1979). In this study several specimens collected in three localities from northwestern of Venezuela were analyzed taxonomically and identified as *P. mucronata*.

The sampling was performed between March and April-2014 in La Angoleta, North coast of the Gulf of Cariaco, (10°34'36'' N, 64° 04' 27'' W), Macuro, Gulf of Paria, June-2014, and Chacachacare, Margarita Island (10°57'40.22"N, 64° 9'47.04"O), April-2015. Organisms were collected by hand with the aid of snorkeling equipment, from waters between 0.5 and 3m deep. These were sampled using plastic bags, separating the algae from the substrate and introducing them carefully

into the bags to prevent the escape of vagile organisms. The specimens of Macuro and Gulf of Cariaco were collected associated to *Sargassum vulgare* C. Agardh.; while those collected in Chacachacare were associated to *Thalassia testudinum* Banks ex König. The collected material was taken to the Laboratorio de Poliquetos at the Instituto Oceanográfico de Venezuela. Organisms were separated from the algae, following the methodology described by Díaz-Díaz & Cardenas-Oliva (2012); organisms and algae were fixed with 8 and 5% formaldehyde solution in seawater, respectively. Polychaetes were examined using compound and dissecting microscopes and structures with taxonomic value were extracted and mounted on slides for their study. Polychaetes were deposited in the reference collection at the Laboratorio de Biología de Poliquetos (LBP-FamilyNo.Cat./No.Specimens), Instituto Oceanográfico de Venezuela; *S. vulgare* were deposited in the reference collection of the Laboratorio de Ficología from the Instituto Oceanográfico de Venezuela.

Genus *Platynereis* Kinberg, 1865

*Platynereis mucronata* Leon-Gonzalez, Solís-Weiss & Valadez-Rocha, 2001  
(Figure 1a-j)

*Platynereis mucronata* de León-González, Solís-Weiss & Valadez-Rocha, 2001: 391-394, Fig. 2a-g, Fig. 3 c-d; de León-González, 2009: 350, Figs. 11K-L.

*Material examined:* Sixty-five specimens. La Angoleta: LBP-Ne 0315/3, March 2014, LBP-Ne 0316/4, April 2014 in; Macuro: LBP-Ne 0317/47; Chacachacare, Isla Margarita LBP-Ne 0316/11.

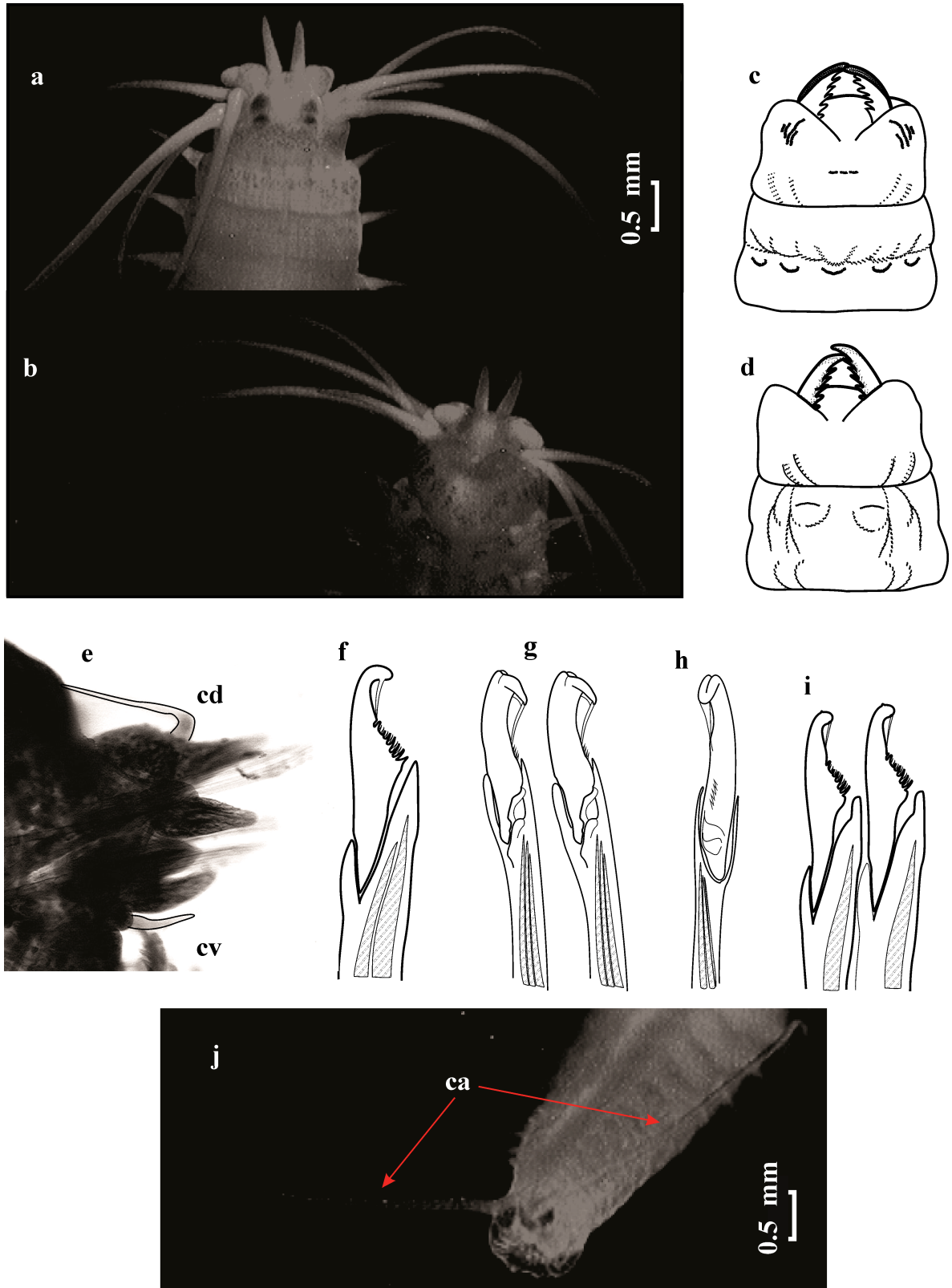
*Characterization.* Complete specimen with 75 chaetigers, 28 mm long and 3 mm wide. Prostomium pentagonal, four eyes in a trapezoidal arrangement, the anteriormost lensed. Frontal antennae cirriform. Biarticulate palps. Peristomium with four pairs of tentacular cirri. Longest dorsal tentacular cirri reaching chaetiger 6 anterior margin (Fig. 1a, b). Pharynx with pectinate paragnaths on both rings with the following arrangement: AI - AII and AV without paragnaths; AIII with 3 small pectinate bars in a transverse line; AIV with 4 pectinate bars, 3 small and one elongate; AVI with 2 pectinate bars, and AVII-AVIII with 5 pectinate bars in a transverse line (Figs. 1c-d). Anterior parapodia with dorsal, median and ventral ligules rounded, postsetal lobe triangular, dorsal cirrus medially inserted. Parapodia

from middle región with dorsal ligules expanded, median and ventral ligules subtriangular, postchaetal lobes conical; dorsal cirri medially inserted, ventral cirri similar, smaller (Fig. 1e). Posterior parapodia with the tips of dorsal ligules globular, median ligule with tip more rounded, dorsal cirri inserted in median anterior position. Anterior parapodia with supra-acicular spiniger homogomph notochaetae; supra-acicular spiniger homogomph and falciger heterogomph neurochaetae, with unidentate blade and dentate internal margin (Fig. 1f), infra-acicular chaetae heterogomph spiniger and falciger similar to supra-acicular ones. Supra-acicular notochaetae from middle region spinigers and falcigers; the latter, with unidentate blade with a small apical tooth and small teeth on the base (Fig. 1g); supra-acicular spiniger homogomph, neurochaetae and falciger heterogomph; infra-acicular falciger heterogomph chaetae (Fig. 1i). Notopodia from posterior region, with homogomph spiniger and falciger chaetae, the latter with bilobate blade frontally viewed (Fig. 1h), with a small apical tooth and few teeth; supra-acicular spiniger homogomph and falciger heterogomph neurochaetae, blade with serrated margin and small apical tooth, infra-acicular falciger heterogomph neurochaetae with blade distally rounded and without small apical tooth (Fig. 1i). Pygidium with two long anal cirri, anus terminal (Fig. 1j).

*Remarks.* The species was previously recorded associated to algae fixed to rocks and sponges (de León-González *et al.*, 2001). *Platynereis mucronata* is very close to *P. dumerilii* and *P. coccinea*. *P. mucronata* differs from *P. dumerilii* in that the latter species has double pectinate bars in AVII and AVIII; and from *P. coccinea*, in that this species has pectinate bars only in AIV. Amaral & Nonato (1975) recorded *P. coccinea* in the Gulf of Cariaco, Venezuela. However, the presence of this species in the Great Caribbean region is questionable because its distribution is limited to the NE Atlantic and the Mediterranean Sea (Núñez, 2004). Perhaps based in our results the material identified by Amaral & Nonato (1975) could represent another species.

*Variation.* Some specimens with bilobed blade in middle chaetigers. In small specimens, (8-12mm) paragnaths are almost imperceptible. Two specimens with slightly shorter cirrus, reaching chaetiger 5. In all specimens examined, the size of the teeth of the internal margin of falciger chaetae was relatively shorter than those referred to in the original description (de León-González *et al.*, 2001).

*Distribution.* Gulf of Mexico and Venezuela



**Figure 1.-** *Platynereis mucronata*: a) anterior end, dorsal view; b) anterior end, ventral view; c) pharynx, dorsal view; d) pharynx, ventral view; e) parapodium 40; f) supra-acicular neuropodial falciger, anterior chaetiger; g) notopodial falciger with small apical tooth, chaetiger 40; h) notopodial falciger, chaetiger 65; frontal view; i) neuropodial falciger, chaetiger 40; j) posterior end, ventral view.

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