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# *Parandalia vivianneae* n. sp. and *P. tricuspis* (Müller), two estuarine polychaetes (Polychaeta: Pilargidae) from Eastern Mexico

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**Abstract:** On the basis of 32 specimens collected in La Mancha, Veracruz, México (19°38'N, 19°25'W), we describe *Parandalia vivianneae*. It is characterized by free—palps, emergent spines from setiger 7, ventral cirri from setiger 4, and 5—6 neurosetae per bundle. Taxonomic affinities and the ecology of the species are discussed. *Parandalia tricuspis* (Müller), a recently redescribed pilargid, is also recorded from this locality.

**Key words:** Polychaeta, new species, Mexico.

The family Pilargidae Saint–Joseph includes a remarkable group of marine benthic polychaetes. They are morphologically specialized for living either on or in soft–bottoms, many have either dorsal hooks, emergent spines, or lack them, and are rarely abundant. Pilargids from Mexico have been recently reviewed (Salazar–Vallejo 1987), but as it will be noted, there might remain other overlooked species, either undescribed or unrecorded.

Emerson & Fauchald (1971) established *Parandalia* without taking account of *Hermundura* Müller (1858). As has been discussed elsewhere (Salazar–Vallejo 1989), *Hermundura* should be regarded as a junior synonym of *Parandalia* since such name has not been in use during the last 50 years, and although in the recentmost edition of the International Code of Zoological Nomenclature, this point has been regretfully excluded, nothing could be improved by extracting ancient, unknown names to replace common and widely used ones. Thus, to avoid this mess, *Pandalla* should be retained. In this paper we describe *Parandalia vivianneae* and record *P. tricuspis* (Müller) from La Mancha, Veracruz, in Eastern Mexico.

Pilargidae Saint–Joseph 1899
Pilarginae Saint—Joseph 1899
*Parandalia* Emerson & Fauchald 1971
*Parandalia vivianneae* Salazar–Vallejo & Reyes–Barragán n. sp.

*Hermundura* sp Reyes 1986: 13 Fig.2.
*Parandalia* sp Hernández–Alcántara 1985:90 no Figs.

Material examined.– Thirty specimens, 25 complete, collected by M.P. Reyes in Laguna La Mancha, Veracruz, Mexico, as follows: 9 May 1983 (2 specimens), 20 November 1983 (2 specimens), 19 February 1984 (16 specimens, including holotype), 5 May 1984 (10 specimens). Holotype in the National Museum of Natural History, Smithsonian Institution (USNM 123356), Paratypes in the same place and in the British Museum (Natural History), Instituto de Ciencias del Mar y Limnología UNAM, and in the Zoological Museum and Institute, University of Hamburg.

Diagnosis. First parapodium uniramous. Eyespots wanting. Five to six neurosetae in a single series per bundle. Ventral cirrus from setiger 4.

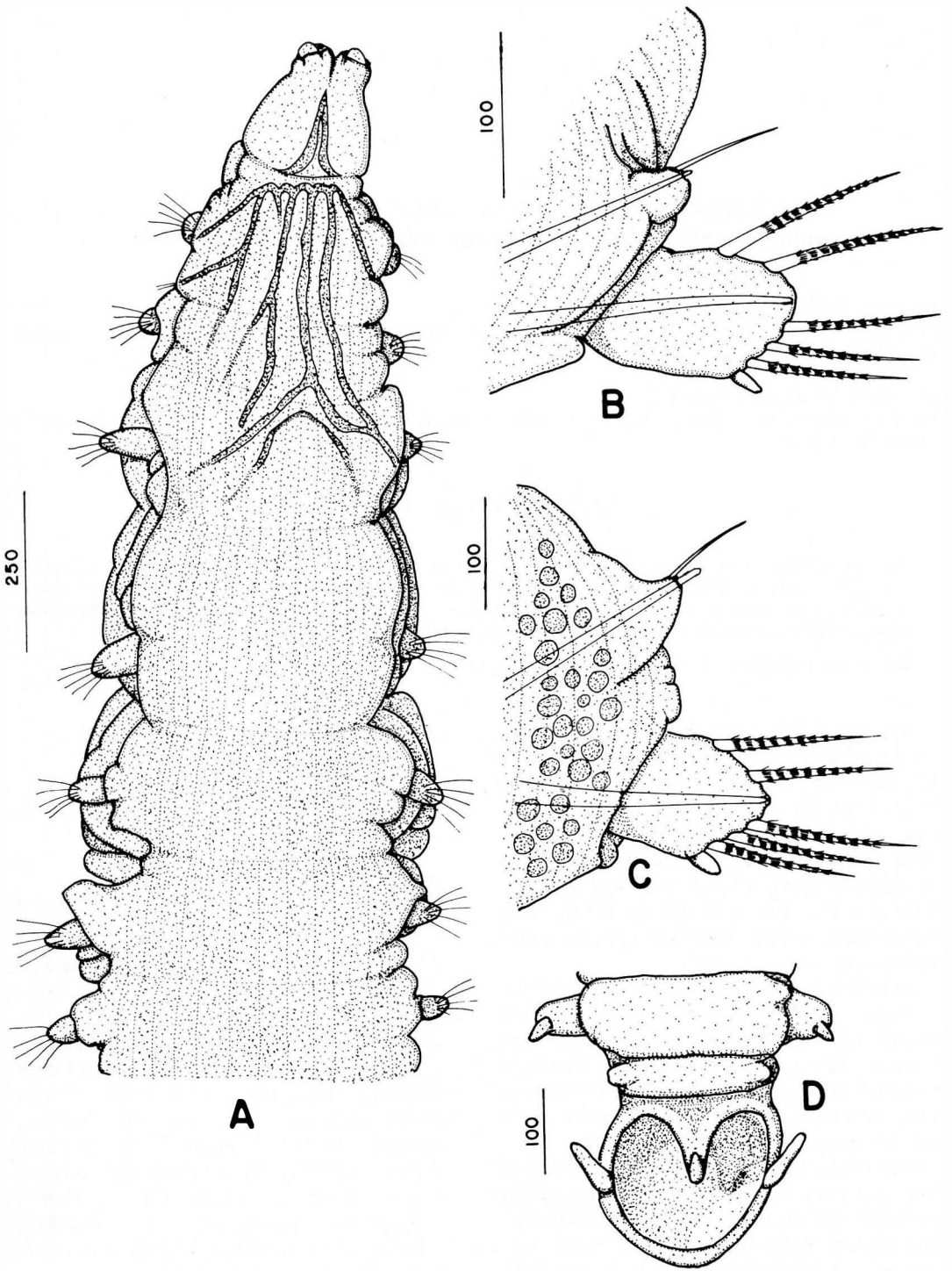


Figura 1. *Parandalia vivianneae* Salazar–Vallejo & Reyes–Barragán n. sp., A. Holotype, anterior end in dorsal view, B. Same, right parapodium 7 in posterior view, C. Same, right parapodium 30 in posterior view, D. Paratype, pygidium in ventral view (all scales in μm).

Description. Holotype a gravid female, brown–yellowish in color, body highly contracted, with 70 setigers, length 12.5 mm, width 1.0 mm including setae. Integument from anterior region with several narrow longitudinal furrows. Prostomium reduced (Fig. 1A) with two biarticulated subconical palps, massive palpophores free from each other, eversible palpostyles button–shaped. A nuchal organ as an inverted 'Y'. Peristomium dorsally fused with prostomium.

First parapodium uniramous, posterior parapodia biramous. Anterior parapodia invaginated, concealed by the dorsum; median parapodia more exposed, posterior parapodia unconcealed at all. Notopodia reduced throughout, consisting of a short subconical lobe with two thin capillaries per bundle in setigers 2–6. From setiger 7 (Fig. 1B) an emergent fragile hyaline spine replaces the lower capillary, thus each notopodium has an emergent spine and a capillary seta. Neuropodia well developed, with a series of 5–6 fragile setae, two or three supracicular and three subacicular in position. Each neuroseta spirally spinoulous and spinules brittle. Median parapodia (Fig. 1C) with enlarged neuropodia, increasing posteriorly in size until the prepygidial zone. Digitate ventral cirri first present from setiger 4, first as a tiny tubercle, fully grown posteriorly.

Pygidium (Fig. 1D) with ventro–terminal anus, bordered by an hemisphaerical expansion provided with three marginal anal cirri of the same size, all directed downwards as two laterals and one distal. Ova can be seen through the transparent body wall of median setigers, each ovum with a diammeter of 15—20 μm.

Remarks. Holotype much more contracted than paratypes. Some paratypes are swollen at setiger 4, as is often the case in other species in the genus, and have a less striated integument than the holotype. Mean length is 12.2 mm (range 5.5–20 mm), mean width is 1.1 mm (range 0.5 – 1.8 mm), and mean setiger number is 58 (range 34–74). Emergent spines always begin at setiger 7 but the degree of emergence depends upon the extent of contraction of the body. Ventral cirri start at setiger 4 but since these fragile structures may be lost during sieving, some specimens had to be observed carefully. The number of neurosetae apparently varies from zero to six (rarely seven) but, since they are brittle, their bases must be observed using parapodial mounts. The shape of the pygidium may be altered during sieving or by fixation, but both the hemisphaeric expansion as well as the three anal cirri remain as a stable feature. Most specimens have a row of dark–reddish granules in the pygidial basis, other shorter specimens with lengths of 5.5–8.5 mm, also have pigment granules in the parapodial basis. This pattern of pygidial pigmentation does not seem to be related to a juvenile–or–mature status, since some gravid females also have pigmented granules in their parapodial basis.

Type locality. Laguna La Mancha, Actopan, Veracruz, Mexico (19°38'N, 96°25'W).

Ecological data. *Parandalia vivianneae* n. sp. occurs in shallow water at La Mancha in sediments associated with the roots of the marine grass *Halodule wrighti beaudettei* (den Hartog). Most specimens collected in May were sexually mature, however mature specimens occured in all collections. The species also occurs at Laguna de Términos, Campeche, Mexico, in sediments associated with the red mangrove (*Rhizophora mangle*)

Distribution. Restricted to the type locality and Laguna de Términos. Both sites are estuarine localities in the southwestern Gulf of Mexico; specimens of this species might also be found in similar environments in Eastern Mexico.

Etymology. The specific name is to honor to work of Vivianne Solís and her leadership in the benthic ecology of polychaetes in the Gulf of Mexico.

Discussion. The taxonomic affinties among species in *Parandalia* have been recently clarified (Salazar–Vallejo 1989). In fact, this description waited for such review on the soundness of some taxonomic features. *Parandalia vivianneae* n. sp. is closely allied to *P. ocularis* Emerson & Fauchald (1971). Both species have uniramous first parapodium and neurosetae in a single series. But these two species differ in that *P. vivianneae* n. sp. lacks eyespots, has ventral cirri from setiger 4, and 5–6 neurosetae per bundle, instead of having eyespsots between second and third setiger, ventral cirri from setiger 8, and 7 neurosetae per bundle.

*Parandalia tricuspis* (Müller 1858)

*Parandalia tricuspis:* Salazar–Vallejo 1990: 510 Figs. 3, 4D–F; Salazar–Vallejo & Orensanz 1989:000 Fig. 1A,B.

Material examined. 20 November 1983 (1 specimen). A gravid female without the poste-

rior end, dark–yellowish in color, with 35 setigers, length 12.0 mm, width 1.5 mm including setae.

Prostomium reduced with two small biarticulated palps. Peristomium fused to prostomium. First parapodium uniramous, posterior parapodia biramous; ventral cirri present from setiger 4. Neurosetae in two series; the relationship between setiger number and the number of remaining setae in right parapodia is: 1:8, 3:8, 5:7, 10:11, 18:9, 25:6, 30:7. Ova may be seen in the coelomic spaces of setigers 17–33 but are more abundant in setigers 27–29.

Remarks. This specimen fits the redescription published elsewhere (Salazar–Vallejo 1989) based on specimens from the type–locality.

Distribution. Northern and southwestern Gulf of Mexico, Santa Catharina Island Brazil, and Uruguay. In estuarine areas and in shallow water soft–bottoms.

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## RESUMEN

Se describe *Parandalia vivianneae* sp. n., sobre la base de 30 ejemplares colectados en La Mancha, Actopan, Veracruz, México (19°38' N, 96°25'W). Se caracteriza por tener palpos libres, espinas emergentes desde el setígero 7, cirro ventral desde el setígero 4, y 5–6 neurosetas por haz. Se discuten las afinidades taxonómicas y la ecología de la especie. *Parandalia tricuspis* (Müller), un pilárgido recientemente redescrito, también se registra de esta localidad.

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