

The genus *Owenia* (Annelida: Polychaeta) in the Persian Gulf, with description of *Owenia persica* sp. nov.

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Abstract

Owenia persica sp. nov. is erected on the basis of specimens collected on the Iranian coast of the Persian Gulf. Two previous reports of *Owenia fusiformis* Delle Chiaje from the Gulf are shown to be misidentifications: the specimens from Kuwait clearly belong to *O. persica* sp. nov., whereas the single specimen from the Strait of Hormuz likely belongs to another new species, *Owenia* sp. The accompanying Organisms Diversity and Evolution Electronic Supplement provides full descriptions of *O. persica* sp. nov. and *O.* sp., as well as an analysis of the ecological characteristics and local distribution of *O. persica* sp. nov. along the Iranian coast. The present work contributes to the growing evidence that the cosmopolitan *Owenia fusiformis* sensu lato constitutes a complex of several species.

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Systematics

Family Oweniidae Rioja, 1917.
Genus *Owenia* Delle Chiaje, 1841.

Owenia persica sp. nov.

Owenia fusiformis Delle Chiaje, 1841 sensu Mohamad (1971): 298; misidentification

Owenia sp. A – Koh and Bhaud (2003: Figs. 3K, 4K, 5K, 6K, 7K, 8K, 17(a)E)

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Etymology

The adjectival specific epithet refers to the type locality in the Persian Gulf.

Type material

Holotype (MNCN 16.01/10390) and 10 paratypes (MNCN 16.01/10391), deposited at Museo Nacional de Ciencias Naturales, Madrid, Spain. IRAN, east coast of Persian Gulf, north Nay Band Bay off Asaluyeh, 250 km S of Bandar Bousher, 52° 33.2'N, 27° 29.4'E; st. 18; 16 m depth; sample composition 42.6% gravel, 3.9% silt,

Table 1. Main characters differentiating *Owenia persica* sp. nov., *O.* sp. (Strait of Hormuz), and *O. fusiformis* Delle Chiaje (Bay of Banyuls)

	<i>Owenia persica</i> sp. nov.	<i>Owenia</i> sp.	<i>Owenia fusiformis</i>
Collar shape	Angular	Angular	Straight
Thorax	[<i>n</i> = 20 (Iran, Kuwait)]	[<i>n</i> = 1]	[<i>n</i> = 14]
Width/length ratio	Iran: 2.29–4.00 Kuwait: 2.72–2.93	1.28	1.09–1.26
Hooks	[<i>n</i> = 5 (Iran), 3 (Kuwait)]	[<i>n</i> = 1]	[<i>On</i> = 10]
Shoulders between teeth and shaft	Absent	Absent	Present
Dorsal offset	Marked	Marked	Absent
Length of teeth	Iran: 1.00–1.19 μm (0.69–0.76)	2.5–2.83 μm	2.05–2.41 μm
Tooth length/shaft width	Kuwait: 2.30–2.54 μm (0.62–0.73)	(0.75–0.77)	(0.89–0.92)
Distance from teeth to head	Iran: 0.93–1.45 μm Kuwait: 1.18–1.74 μm	1.0–1.14 μm	0.54–1.05 μm
Methyl green staining pattern on:			
Branchiae	Unreceptive to staining	Unreceptive to staining, except at bases of trunks	Uniformly light green
Dorsal side of collar	Dark, narrow bracket	Intensely stained, wide belt	Slightly stained, narrow belt
Mid-ventral side of collar	Circular spots and median V diffuse, whole figure longer than wide	Circular spots and median V fused, whole figure wider than long	Circular spots and median V well-defined, whole figure wider than long
Latero-ventral sides of collar	Two dark bands, longer than wide, wider at tip	Two dark bands, as long as wide	Two dark spots, as long as wide, wider at basis

3.2% organic matter, 19.7% pore water; November 2002, leg. E. Dutrieux.

Diagnosis

The main features distinguishing *Owenia persica* sp. nov. from *O. fusiformis* (Mediterranean Sea, Bay of Banyuls) and *Owenia* sp. are summarized in Table 1. *O. persica* sp. nov. differs from all other known species and populations in the genus (for a review see Koh and Bhaud 2003) in the hook shape in lateral view. *O. persica* sp. nov. and specimens from the Gulf of California (population “J” in Koh and Bhaud 2003) do not show a disruption between teeth and shaft (see the accompanying Electronic Supplement, Fig. 4F), due to the absence of shoulders. However, in *O. persica* sp. nov. the teeth are shorter, the thorax is longer, and the distance between the tips of two successive scales on capillary

chaetae is longer than in other material studied. The single specimen of *Owenia* sp. from Kuwait clearly belongs to a different species, but more specimens are required to allow its formal description as a new taxon.

References

- Delle Chiaje, S., 1841. Descrizione e Notomia degli Animali Invertebrati de la Sicilia Citeriore Osservati Vivi negli Anni 1822–1830, vol. V. C. Batelli, Napoli.
- Koh, B.S., Bhaud, M., 2003. Identification of new criteria for differentiating between populations of *Owenia fusiformis* (Annelida, Polycheta) from different origins; rehabilitation of old species and erection of two new species. *Vie Milieu* 53, 65–96.
- Mohammad, M.-B.M., 1971. Intertidal polychaetes from Kuwait, Arabian Gulf, with descriptions of three new species. *J. Zool. (London)* 163, 285–303.