



***Benthodytes violeta*, a new species of a deep-sea holothuroid (Elasipodida: Psychropotidae) from Mar del Plata Canyon (south-western Atlantic Ocean)**

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Abstract

A new species of elasipodid holothuroid, *Benthodytes violeta* sp. nov., is described from the Mar del Plata Canyon off Buenos Aires Province (around 38°S–54°W). It was taken at four locations at depths ranging from 1500 to 1950 m. This new species has a violet gelatinous body of up to 200 mm in length, with eight pairs of dorsal appendages, lateral festooned edges and four rows of tube feet ventrally. Body wall ossicles comprise rods and crosses with three or four arms and a central bipartite apophysis borne on the primary cross; tentacles and gonad deposits comprise rods and crosses with three and four arms. This is the first report of a holothuroid from the Mar del Plata Canyon area.

Key words: Echinodermata, Holothuroidea, south-western Atlantic Ocean, sea cucumber, Mar del Plata Canyon

Resumen

Una nueva especie de holoturio elasipódido, *Benthodytes violeta* sp. nov., es descrita para el Cañón de Mar del Plata, aguas afuera de la Provincia de Buenos Aires (aproximadamente 38°S–54°W). Fue recolectada en cuatro puntos a profundidades entre 1500 y 1950 m. Esta nueva especie tiene cuerpo color violeta y gelatinoso con hasta 200 mm de largo, con ocho pares de apéndices dorsales, borde festoneado y cuatro hileras de podios ventrales. Los osículos de la pared del cuerpo comprenden barrotes y cruces con tres y cuatro brazos y una apófisis central bipartita en la cruz primaria; tentáculos y gónadas con barrotes y cruces con tres y cuatro brazos. Este es el primer reporte de un holoturio para el área del Cañón de Mar del Plata.

Introduction

The Mar del Plata Canyon. is located at the end of La Plata River beginning at 500 m, the typical V-shape configuration starts at 1200 to 3700 m. The slope has sandy muds; near the canyon there is higher sand and pebble content, and the V-shape part is muddy with rocks from the walls of the canyon (Violante *et al.* 2010).

Théel (1882), who reported on the deep-sea sea cucumbers of the Challenger Expedition, erected the order Elasipoda and the genus *Benthodytes*. Also an excellent review of the taxonomy of deep sea holothuroids was made by Hansen (1975), in which he also described several new species, including *Benthodytes plana* Hansen, 1975 and *B. valdiviae* Hansen, 1975. The most recent *Benthodytes* species recorded is *Benthodytes wolffi* Rogacheva & Cross, 2009 by Rogacheva *et al.* (2009a). Nonetheless, holothurians of the family Psychropotidae are amongst the least studied deep-sea holothuroids (Rogacheva *et al.* 2009a).

The genus *Benthodytes* includes 11 valid species worldwide: *Benthodytes abyssicola* Théel, 1882; *B. gosarsi* Gebruk, 2008; *B. incerta* Ludwig, 1893; *B. lingua* Perrier R, 1896; *B. plana* Hansen, 1975; *B. sanguinolenta* Théel, 1882; *B. sibogae* Sluiter, 1901; *B. superbus* Koehler & Vaney, 1905; *B. typica* Théel, 1882; *B. valdiviae* Hansen,

the body, meanwhile in *B. sanguinolenta*, *B. wolffi* and *B. incerta* the dorsal papillae are present throughout the two dorsal radii. The number of tentacles in *B. violeta* is 16, whereas *B. gosarsi* has from 12 to 14, *B. valdiviae* 12 to 15, *B. abyssicola* 15 and *B. sanguinolenta* 18.

Benthodytes violeta has cross-shaped deposits, this ossicles are absent in *B. typica*, *B. superbus* and *B. sanguinolenta*, in *B. gosarsi* and *B. valdiviae* are lacking on the ventral side, and in *B. abyssicola*, are not present the three arms deposits. Besides *Benthodytes lingua* do not have rods or three armed deposits, different from *B. violeta*. *Benthodytes plana*, on the other hand possesses large, five-armed crosses with bipartite apophysis and *B. sibogae* possess four armed spiny crosses in the gonad, in addition to bipartite apophysis. *Benthodytes violeta* clearly differs from *B. wolffi* in the absence for the last one, of any kind of deposits in the body wall.

The main characters separating *B. violeta* from the other species of the genus *Benthodytes*, are the number of tentacles, the distribution of the papillae on the dorsum and the shape of the body wall deposits. *Benthodytes violeta* was found at the edge of the Canyon on mixed sand-muddy bottoms. The presence of such sediment in the digestive tract of all dissected individuals in addition to the shield-shaped tentacles, indicate deposit feeding habits. The concentration of detrital organic matter common on canyons (de Leo *et al.* 2010), could enhance the development of such deep-sea populations.

More work on the biodiversity of the canyon is in progress, in addition to that recently published (see Cerino & Lauretta 2013) and the current one. All these indicate the richness of the fauna, particularly of the south-west Atlantic shelf and the Mar del Plata Canyon area.

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