

New record of *Ophiosyzygus disacanthus* Clark, 1911 (Echinodermata: Ophiuroidea: Ophiomyxidae) in the Caribbean Sea

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Abstract.—*Ophiosyzygus disacanthus* Clark, 1911 is reported for the first time in the Caribbean Sea; this is the third record of this species in the literature. A comparison with two other records from the southwestern coast of Japan (Clark 1911) and the Gulf of Mexico (Turner & Heyman 1995) is presented.

Ophiosyzygus disacanthus was described by Clark (1911) from the southwestern coast of Japan. This species was further documented by Turner & Heyman (1995), who revised the diagnosis of the monotypic genus *Ophiosyzygus* and the description of its type species, *O. disacanthus*, based on the type material (two specimens) and on new material (two specimens) collected recently from the Gulf of Mexico, off the southwestern coast of Florida. Among other characters, the genus was diagnosed by Clark (1911) as lacking radial shields and dorsal arm plates; but Turner & Heyman (1995) found these structures, and they emended the generic diagnosis, completed the original description of *O. disacanthus*, and commented on the family Ophiomyxidae, specifically about its small radial shields and thin dorsal arm plates, which have been often overlooked in this family. In this note, we record *O. disacanthus* from the Caribbean Sea, specifically off the Colombian coast.

Materials and Methods

As part of a project developed by the Marine and Coastal Research Institute (INVEMAR), designed to inventory the ben-

thic macrofauna from the continental shelf and upper slope region of the Caribbean coast of Colombia, two specimens of *Ophiosyzygus disacanthus* were collected at 9°46'61"N, 76°13'72"W in 155 m depth on 26 Apr 2001. Sampling was conducted on board the B/I *Ancón*; a 5 m opening trawl net was used. The material is deposited in the collection of the Museo de Historia Natural Marina de Colombia (MHNMC), catalogue number INV EQU01927. The specimens were measured, and photographs were taken, after fixing in 70% ethanol. The plates of the ventral interradius of the disc were measured after treatment with sodium hypochlorite, and also the disc granules were measured.

Family Ophiomyxidae Ljungman, 1867

Ophiosyzygus Clark, 1911

Ophiosyzygus disacanthus Clark, 1911

Fig. 1

Remarks.—The specimens of *O. disacanthus* collected off the Colombian coast agree with the diagnosis of the genus as emended by Turner & Heyman (1995), as well as with the characteristics included in the species description about the thornier arm spines, the presence of dorsal arm

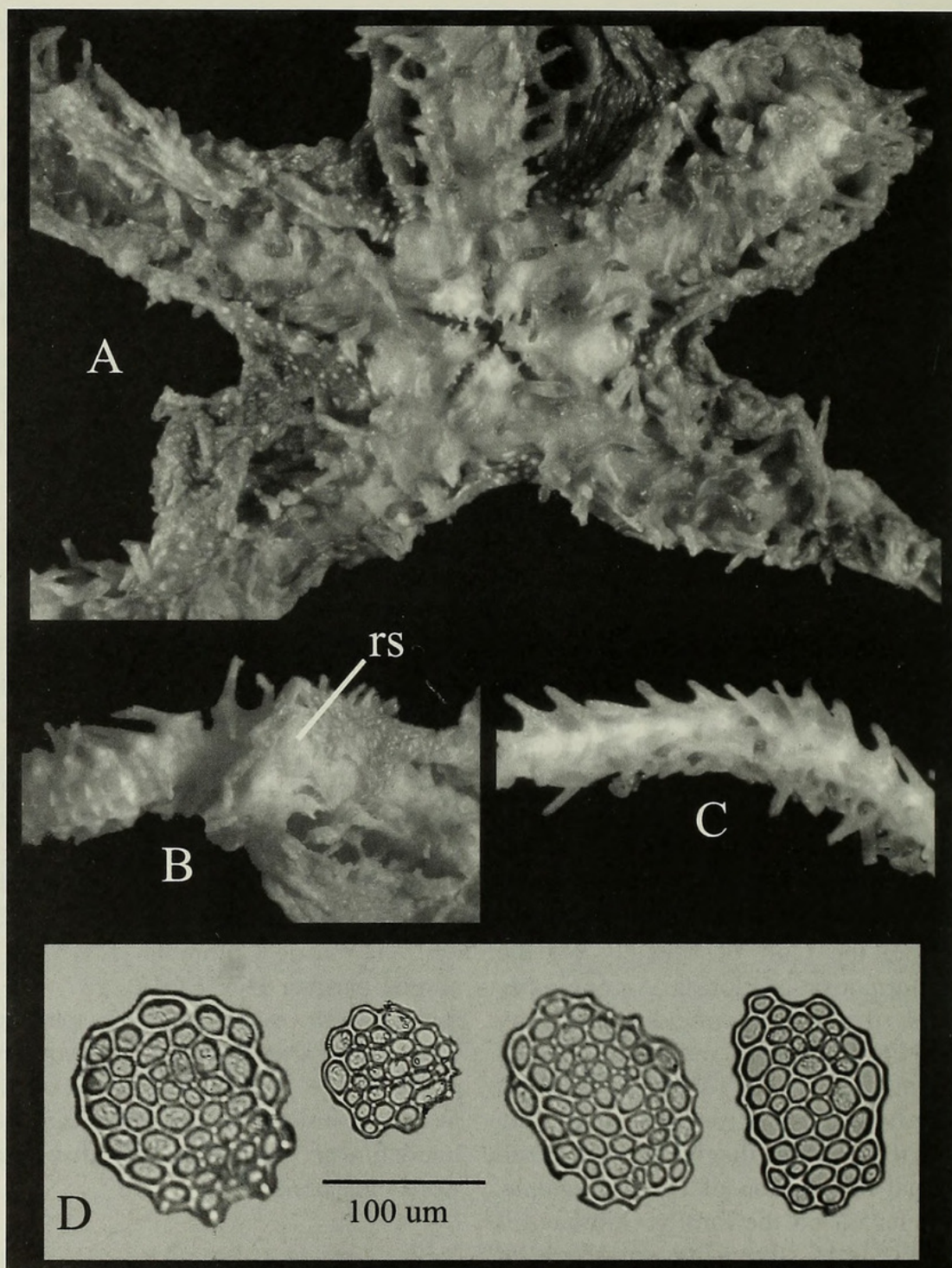


Fig. 1. *Ophiosyzygus disacanthus*. A. Ventral surface of disc (disc diameter: 15 mm). Note shape of oral papillae and white, opaque and irregular granules. B. Dorsal surface of disc and proximal part of arm. Note small radial shields (rs). C. Lateral view of arm. Note upper arm spines successively united by broad, thin, horizontal membrane. D. Four plates of ventral interradial plates of disc.

plates, and of flat and multiperforate plates embedded in the skin of the ventral interradial plates of the disc; these are visible after treatment with sodium hypochlorite (Fig. 1D). The ventral interradial plates are slightly

longer ($115.7 \pm 35.1 \mu\text{m}$, $n = 23$) than those of the Gulf of Mexico specimens ($111 \pm 22 \mu\text{m}$, $n = 24$) measured by Turner & Heyman (1995). The number of oral papillae is variable; 3–6 in the Colombian spec-

imens (Fig. 1A), 2–4 in those from Japan, and 2–5 in Florida specimens. The irregular granules of the disc are white, opaque, and are present in the ventral (Fig. 1A) and dorsal integument. One of the specimens has ventral granules larger ($155 \pm 34.6 \mu\text{m}$, $n = 16$) than the dorsal ones ($104 \pm 15.4 \mu\text{m}$, $n = 15$); in the other specimen, the dorsal and ventral granules are similar in size ($111.4 \pm 21.6 \mu\text{m}$, $n = 21$), but the dorsal granules are elongate. In general the granules of the two specimens from Colombia are smaller than those of the holotype ($232 \pm 67.8 \mu\text{m}$, $n = 34$) and paratype ($221 \pm 53.8 \mu\text{m}$, $n = 21$) and similar in size to the specimens from Florida ($84 \pm 21.9 \mu\text{m}$, $n = 9$; $124 \pm 32.8 \mu\text{m}$, $n = 10$) (Turner & Heyman 1995). The arms of both specimens are broken. The discs are damaged, disc diameters are 10 and 15 mm, 3 mm more than the maximum size of previously collected specimens (Clark 1911, Turner & Heyman 1995). The depth (155 m) where the Colombian specimens were taken is within the range recorded for other specimens: 188–278 m for the type material in the Pacific Ocean and 127–159 m for the specimens collected in the eastern Gulf of Mexico (Turner & Heyman 1995).

In accordance with previous findings, this species is found mostly in rocky and hard substrata, covered with a veneer of sand or in deep sand in the case of Gulf of Mexico samples. The station from which specimens were collected in the Colombian Caribbean was one of the most diverse among all those sampled in the INVEMAR project and produced a large number of fishes and invertebrates characteristic of hard substrata or reef bottoms. Among these, 39 species of echinoderms were found, collected from gorgonians (e.g., *Astrocnida isidis*, *Asteropora annulata*, *Asteroschema* cf. *laeve*, *A. oligactes*) and other substrata (e.g., *Nemaster rubiginosus*, *Endoxocrinus parrae*, *Ophioderma appressum*, *Ophiothrix suensonii*). The most diverse taxa, in descending order, were echinoderms, cnidarians, fishes, decapods, crus-

taceans, and mollusks; also many individuals and possibly many species of sponges were collected, but they are not yet identified (Reyes et al. 2004). Turner & Heyman (1995) also reported a diverse habitat, with cnidarians, echinoderms, sponges, and crustaceans at one station and crustaceans, cnidarians, echinoderms, and sponges at the other station.

The world distribution of *O. disacanthus* is interesting because its presence in the Gulf of Mexico and the Colombian Caribbean might be a relict of a wider distribution in the Tethys Sea, as in the case of the genus *Quadratus*, a myxine fish that was considered restricted to the Western Pacific, but that was collected also during this project in the Western Atlantic (Mok et al. 2001).

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