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NOTE

New record and range extension of the primnoid octocoral *Verticillata castellviae* in the Southwest Atlantic Ocean

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ABSTRACT. In this study we report the presence of the soft coral *Verticillata castellviae* at 947 m deep, off Buenos Aires Province, Argentina, which constitutes the northernmost record for this species. The specimen was collected as a bycatch species with a troncopyramidal trap during an experimental cruise devoted to the study of the red crab *Chaceon notialis* and the Patagonian lobsterette *Thymops birsteini*.

Key words: New distributional record, Primnoidae, bycatch species, cold-water corals.

Nuevo registro y extensión de la distribución del octocoral primnoideo *Verticillata castellviae* en el Océano Atlántico Sudoccidental

RESUMEN. En este estudio se reporta la presencia del coral blando *Verticillata castellviae* en la plataforma continental externa de la Provincia de Buenos Aires, Argentina, a 947 m de profundidad, lo que constituye el registro más septentrional para esta especie. El ejemplar de estudio fue colectado con una trampa troncopiramidal, como parte de la captura incidental, durante una campaña de pesca experimental dedicada al estudio del cangrejo rojo *Chaceon notialis* y de la langosta patagónica *Thymops birsteini.*

Palabras clave: Nuevo registro de distribución, Primnoidae, captura incidental, corales de aguas frías.

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Octocorals are a poorly known group in the marine benthic communities of the Argentine waters in the Southwest Atlantic Ocean. Although some species could be found in waters < 100 m, the majority of the records come from greater depths (i.e. Zamponi and Pérez 1995; Excoffon et al. 2004; Pérez and Zamponi 2004; Portela et al. 2012; McFadden and van Ofwegen 2013; Schejter et al. 2018, 2020a, 2020b; Pérez and Cordeiro 2020). They play important ecological roles in the bentho-pelagic coupling (Rossi et al. 2017), in the throphic ecology of the system (i.e. Buhl Mortensen et al. 2017), in the blue carbon budget (i.e. Coppari et al. 2019) and as essential fish habitats (i.e. Baillon et al. 2012), among others. They may constitute marine animal forests and coral gardens, hosting a large and biodiverse associated fauna (i.e. De Clip-

pele et al. 2015; Schejter et al. 2020a). Additionally, octocorals have been studied from a chemical perspective, considering that new molecules and bioactive compounds have been discovered from several species (Rojo de Almeida et al. 2010; Almeida et al. 2014; Patiño Cano et al. 2018).

Between July 4th and August 3rd of 2017, the FV 'Atlantic Express' performed an experimental fishing cruise devoted to the study of the red crab *Chaceon notialis* R.B. Manning and Holthuis, 1989 and the Patagonian lobsterette *Thymops birsteini* (Zarenkov and Semenov, 1972) at the continental shelf edge and slope of Argentina. Troncopyramidal traps were used as sampling devices and placed along the shelf for a period of about 52 h (Mauna et al. 2017). In general, trapping is a common fishing practice that has low bycatch rates and often cause minimal habitat destruction, at least when compared to trawling or dredging activities (Eno et al. 2001; National Research Council 2002). However, setting and retrieval of the traps, including dragging along the seafloor, may cause the catch of benthic organisms (bycatch) and can damage habitat components such as corals, sponges, and other epifauna (Stevens 2020). As a complementary objective during the same cruise, samples of the bycatch species were preserved frozen onboard and transported to the Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP) for their proper identification. A general and preliminary list of the organisms recorded as bycatch was reported by Mauna et al. (2018). The present contribution, reports the presence of the soft coral *Verticillata castellviae* (Zapata-Guardiola, López-González and Gili, 2013), also recorded as a bycatch species, which constitutes the northernmost record for the species.

Taxonomy

Phylum Cnidaria Hatschek, 1888
Class Anthozoa Ehrenberg, 1834
Subclass Octocorallia Haeckel, 1866
Order Alcyonacea Lamouroux, 1812
Family Primnoidae Milne Edwards, 1857
Genus *Verticillata* Zapata-Guardiola, López-González and Gili, 2013
Verticillata castellviae (Zapata-Guardiola, López-González and Gili, 2013)
(Figure 1)

Synonyms

Plumarella (*Verticillata*) *castellviae* Zapata-Guardiola, López-González and Gili, 2013; Schejter et al. 2020b: 224, 229.

Material examined

Two specimens collected as bycatch in a red crab trap at 38° 27′ 00″ S, 54° 39′ 32″ W, 947 m, on July 29th 2017 (FV 'Atlantic Express').

Description

Yellowish, uniplanar, pinnate colonies, with polyps almost perpendicular to branchlet, placed in whorls of 4-6, each polyp with eight marginal sclerites and with a strong terminal thorn (Figure 1).

Notes

Cairns and Wirshing (2018: 11) changed the status of *Verticillata* from subgenus to genus. This species is distributed from Tierra del Fuego to Malvinas Islands and Burdwood Bank (Zapata-Guardiola et al. 2013). Recently, Schejter et al. (2020b) recorded this species for the second time after its original description from samples collected at the Marine Protected Area Namuncurá/Burdwood Bank.

According to Steinman et al. (2020), our specimens were collected from an area comprised within a giant cold-water coral mound province called 'Northern Argentine Mound Province' linked to a contourite depositional system that covers at least 2,000 km^2. These ecosystems are characterized by particular conditions that include the availability of suspended food and sediment particles in combination with a suffi-

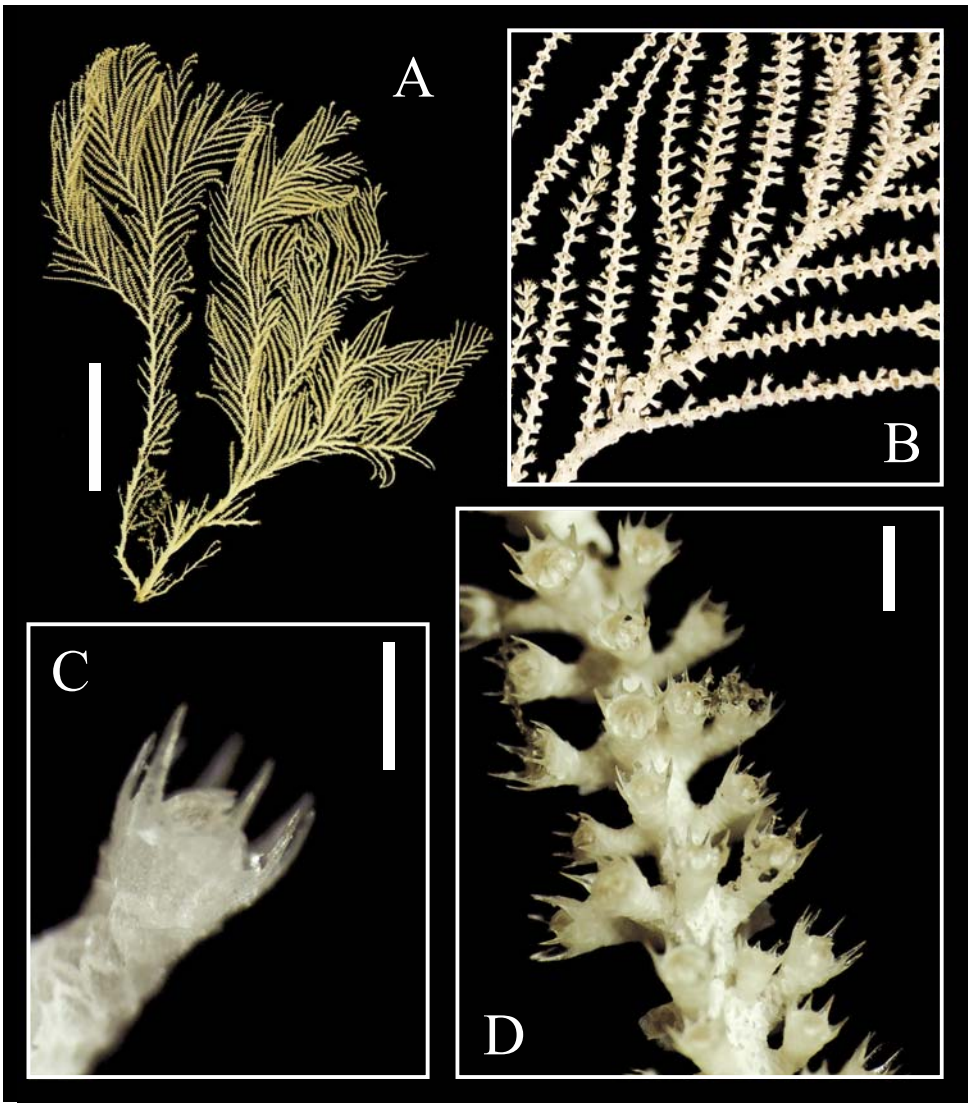

Figure 1. *Verticillata castellviae*. A) General morphology of the colony. Scale bar: 6 cm. B) Detail of the branches in the colony. C) Detail of a single polyp in the colony. Scale bar: 0.5 mm. D) Detail of the verticillate arrangement of the polyps in a branch. Scale bar: 1 mm.

cient bottom-current strength, keeping material in suspension while preventing destructive erosion and excessive sedimentation. These habitats in the Southwest Atlantic Ocean are understudied and they probably still host undescribed species and a high biodiversity as already observed in the nearby area of the Mar del Plata canyon (Martínez et al. 2014; Ocampo et al. 2014; Risaro et al. 2020) and in a southern submarine canyon located at the Ameghino system (Bremec and Schejter 2010; Schejter et al. 2014).

Considering our finding of *V. castellviae* off Buenos Aires (38° 27′ 00″ S) and the previously recorded distribution range from Tierra del Fuego and Malvinas (Zapata Guardiola et al. 2013) to Burdwood Bank (~ 54° S, Schejter et al. 2020b),

Figure 2. Other bycatch species recorded during the same haul. A) *Plumarella* sp. Scale bar: 6 cm. B) Detail of the arrangement of the polyps in the *Plumarella* sp. colony. Scale bar: 2 mm. C) *Thouarella* sp. settled on a dead skeleton of the coral *Bathelia candida.* Scale bar: 9 cm. D) *Thouarella* sp., arrow shows an epibiotic comatulid crinoid. Scale bar: 10 cm. E) *B. candida*. Scale bar: 6 cm. F) Fragment of an hexactinellid sponge. Scale bar: 9 cm. G) *Astrotoma agassizii*. Scale bar: 10 cm. H) *Thouarella* sp. Scale bar: 4 cm.

it is likely that this species has a continuous distribution all along the Argentine continental edge and slope, as recorded for other octocoral species (Portela et al. 2012; Schejter et al. 2018). This distribution pattern is favored by the Malvinas Current, a branch of the Circumpolar Current flowing northward along the continental shelf of Argentina (Piola and Gordon 1989, Combes and Matano 2014).

Additional comments

Other organisms recorded as bycatch species at the same place were an unidentified species of *Plumarella*, some fragments of *Thouarella* spp. with epibiotic crinoids, the colonial scleractinian *Bathelia candida* Moseley, 1880, also used as settlement substrate for other corals, and the ophiuroid *Astrotoma agassizii* Lyman, 1875. Fragments of two sponge species were also recorded, one belonging to the Class Hexactinellida and a second specimen belonging to the Order Haplosclerida (Figure 2).

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