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SHORT COMMUNICATION

First record of the starfish *Luidia atlantidea* in the Canary Islands

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We document the first observations of *Luidia atlantidea* Madsen, 1950 (Luidiidae; Paxillosida, Asteroidea) along the coasts of the Canary Islands, which represents a new westward occurrence of its known range. Individuals were observed during a visual scuba diving census in the islands of Gran Canaria (northwestern and eastern coasts) and Tenerife (eastern coast). These occurrences highlight the importance of the systematic biodiversity monitoring and surveillance of the dynamic changes in the environment, whereas future research is required to reveal the underpinnings for its presence.

Key words: Asteroidea, Gran Canaria, Tenerife, Coastal, Biodiversity monitoring, Atlantic.

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INTRODUCTION

The echinoderm fauna of the Macaronesian archipelagos is less known compared to that of the European Eastern Atlantic coasts. Although this group has been the subject of considerable research effort in the Canary Islands, it was primarily directed towards the sea urchin *Diadema africanum* Rodríguez et al., 2013 (Hernández et al. 2013). The Asteroidea in this archipelago is currently composed of 25 species, and include one from the genus Luidia; *Luidea ciliaris* (Philippi, 1837) (Hernández et al. 2013).

Luidia atlantidea Madsen, 1950 is distributed in the Atlantic along the West African coast from Morocco to Zaire, including the Cape Verde Islands (Clark 1982; Clark & Downey 1992). A northerly range extension of this species has recently been described from the Alboran Sea (Gallardo-Roldán et al. 2015). In terms of habitat selection, the species has been found on rocky substrates with grey mud, sand and calcareous algae; muddy sand; broken shell; mud with stones and sand in a depth range between 10 to 80m (Clark & Downey 1992).

MATERIAL AND METHODS

Opportunistic sightings were collected during a visual scuba diving census, focusing on the angelshark *Squatina squatina* (Linnaeus, 1758), at a depth range between 0.2 to 40 m in coastal areas off the Canary Islands; see Narváez & Osaer (2017) and Osaer & Narváez (2016). Depth, water temperature, activity and maximum radius were recorded, and photographs were taken for species identification. This identification was done based on characteristics described by Clark & Downey (1992): five arms

and abactinal paxillae with two matching longitudinal lateral series each side outnumbering the much larger adjacent superomarginal paxillae by 15-20/10; abactinal side with dark grey coloration and actinal side white; a white stripe along the superomarginal paxillae, and marginal spines dark basally with white tips.

RESULTS AND DISCUSSION

On 10 April 2017, 21 July 2017 and 13 September 2017, individuals *L. atlantidea* were observed in Baja de Pulido (28º22'44" N 16º21'44" W, Tenerife), and in the Special Areas of Conservation Costa de Sardina del Norte (ES7010066, 28°09'12" N 15°41'59" W, Gran Canaria) and Playa del Cabrón (ES7010053, 27°52'16"N 15°22'56"W, Gran Canaria) at 14.6, 13.2 and 11.6 m depth, and 19, 21 and 22 ˚C water temperature, with maximum radius 16, 18 and 20.5 cm respectively. All individuals were observed while moving over volcanic black sand and sand substrates (Fig. 1).

The present communication is the first documented record of *L. atlantidea* in the Canarian archipelago and indicates a new westward occurrence of its known range. Considering that none of the observations were obtained during previous surveys directed towards echinoderms, it can be expected that future research of this taxon in this region will reveal more records in different locations and islands, confirming its persistence over several years. Such research could also reveal whether the starfish was introduced by an unknown vector or gradually extended its native range without being detected over the years.

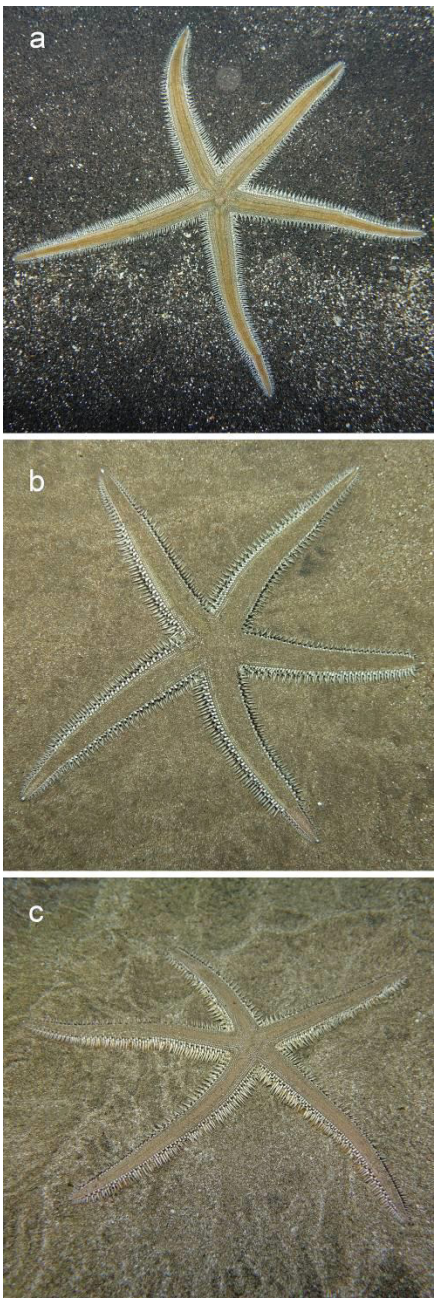

Fig.1. Individuals of *Luidia atlantidea* Madsen, 1950 from the Canary islands, observed during visual census. **a.** Baja de Pulido, Tenerife, moving over black volcanic sand (R= 16 cm); **b.** Gran Canaria, Special Area of Conservation Costa de Sardina del Norte (R= 18 cm); **c.** Gran Canaria, Special Area of Conservation Playa del Cabrón (R= 20,5 cm). R is the maximum measured radius.

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