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NOTA CIENTÍFICA

First record of the swimming sea cucumber *Enypniastes eximia* Théel, 1882 (Echinodermata: Holothuroidea) in Peruvian waters

Primer registro del pepino de mar nadador *Enypniastes eximia* Theel, 1882 (Echinodermata: Holothuroidea) en aguas peruanas

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Abstract

Enypniastes eximia Théel, 1882 (Echinodermata: Holothuroidea) a swimming sea cucumber is reported for the first time from Peru. The species was collected in the Continental rise (563-1,201 m) off Trujillo Department. Reference material has been deposited in the Coleccion Cientifica del Instituto del Mar del Peru (IMARPE), Lima, Peru.

Keywords: First record, biodiversity, Southeast Pacific.

Resumen

Se registra por primera vez para el Perú la especie pelágica de pepino de mar *Enypniastes eximia* Théel, 1882 (Echinodermata: Holothuroidea). La especie fue recolectada en el talud continental (563-1,201 m) frente al departamento de Trujillo. Material de referencia se encuentra depositado en la Colección Científica del Instituto del Mar del Perú (IMARPE), Lima, Perú.

Palabras clave: Primer Registro, biodiversidad, Pacífico Sudeste.

Introduction

Enypniastes eximia Théel, 1882 (Family Pelagothuridae Ludwig, 1894) is a benthopelagic, cosmopolitan swimming sea cucumber (Miller and Pawson, 1990; Borrero *et al.*, 2003) found at depths between 461 and 5,689 m. This is the first time that *E. eximia* is found in Peruvian waters.

In 1999 Bluhm and Gebruk reported its existence in the "Peruvian Basin" (a circular area of 10.8 km^2, centered at 7°4.4' S and 88°27.6' W), using photographs of a deep-sea area far away from the Peruvian continental shelf; about 450 nautical miles from the coast (not territorial Peruvian waters).

Specimens were found off Trujillo Department (~7°58.93'S, 80°35.10'W). Organisms were collected using a Bacalao Trawl 586/200 on board of the R/V SHINKAI MARU. Reference material was deposited the Scientific Collection of the Instituto del Mar del Perú (IMARPE).

Taxonomy

Phylum Echinodermata Klein, 1734 (ex Bruguière, 1789)
Order Elasipodida Théel, 1882
Suborder Psychropotina Hansen, 1975
Family Pelagothuridae Ludwig, 1894
Genus *Enypniastes* Théel, 1882

Enypniastes eximia Théel, 1882

(Figures 1, Table 1)

***Enypniastes eximia*.-** Pawson, 1965: 19, 27; Miller & Pawson, 1990: 10-11, figs. 1c,d, 4; Borrero *et al.*, 2003: 76, fig. 3C.

Material examined: 450 specimens of three localities (Table 1). IMARPE 03-000475, 1 specimen, August 6th, 1999, R/V SHINKAI MARU, Bacalao Trawl 586/200, off Trujillo, between

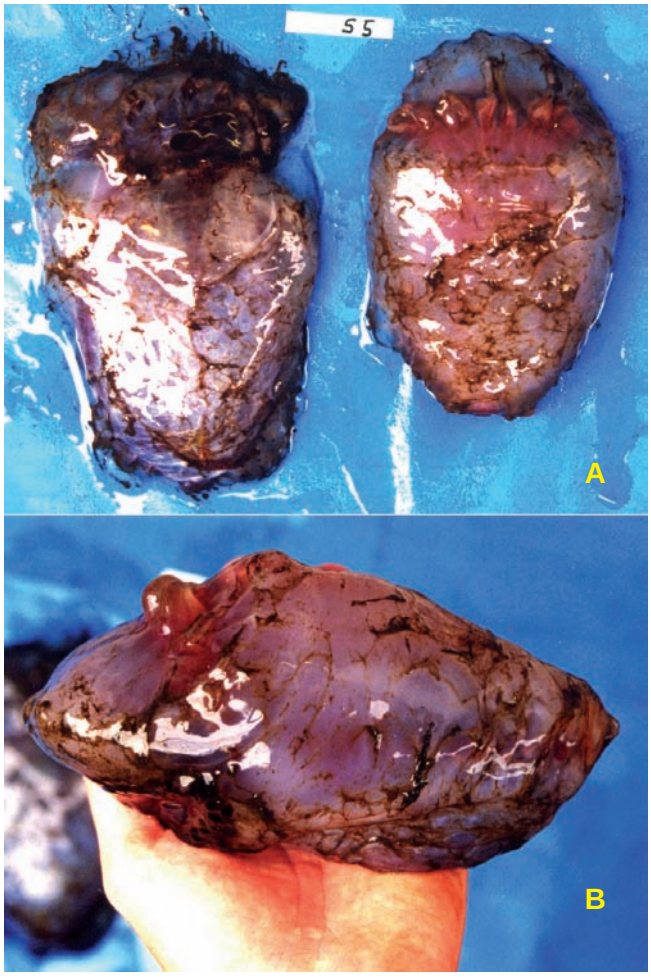

Figure 1. (A)Two specimens of *Enypniastes eximia* Théel, 1882. The large anterior webbed veil is visible in the specimen of the left side. (B) Lateral view. Total length of the specimen ~12 cm.

Table 1. *Enypniastes eximia* abundance data (number of specimens and weight). n= number of specimens.

Inicial Latitude	07°58.93		08°05.65		06°39.69	
Inicial Longitude	80°35.10		80°32.91		81°03.35	
Final Latitude	07°57.52		08°04.03		06°38.53	
Final Longitude	80°35.67		80°33.49		81°04.69	
Depth (m)	1,201		1,163		563	
Date	Aug 6th 1999		Aug 7th 1999		Aug 7th 1999	
Initial time (hrs.)	12:46		16:40		07:45	
Final time (hrs.)	13:16		17:11		08:10	
Trawling time (min.)	30		31		25	
	n	weight (kg)	*n*	weight (kg)	*n*	weight (kg)
Total number of specimens and total weight	219	97.56	58	25.78	173	57.65

7°58.93' S, 80°35.10' W and 7°57.52' S, 80°35.67' W, 1,201 m, coll. Y. Hooker; 218 specimens, August 6th, 1999, R/V SHINKAI MARU, Bacalao Trawl 586/200, off Trujillo, between 7°58.93' S, 80°35.10' W and 7°57.52' S, 80°35.67' W, 1,201 m, coll. Y. Hooker; 58 specimens, August 7th, 1999, R/V SHINKAI MARU, Bacalao Trawl 586/200, off Trujillo, between 8°05.65' S, 80°32.91' W and 8°04.03' S, 80°33.49' W, 1,163 m, coll. Y. Hooker; 173 specimens, August 7th, 1999, R/V SHINKAI MARU, Bacalao Trawl 586/200, off Trujillo, between 6°39.69' S, 81°03.35' W and 6°38.53' S, 81°04.69' W, 563 m, coll. Y. Hooker. Capture total weight 180.99 kg.

Description: This species has a distinctive barrel-shaped body and a large anterior webbed veil incorporating up to 12 conical podia (Fig. 1A). There are two rectangular postero lateral veils composed of 10-15 webbed podia. No ossicles are found in the body wall or any other part of the external or internal structures. *Enypniastes eximia* is transparent; internal structures, especially the sediment-filled coiled intestine, are readily visible through the body wall. Individuals examined during this study ranged from 11 to 25 cm in length.

Color: Reddish to dark purple. The coloration of the integument varies with body size; small individuals are pale pink and large adults are dark brown-red to crimson (Miller and Pawson, 1990).

Distribution: *Enypniastes eximia* is cosmopolitan at depths of 461-5,689 m (Miller and Pawson, 1990; Borrero et al., 2003). Swimming specimens observed from submersibles or in seafloor photographs have always been found within a few meters of the seabed (Bluhm and Gebruk, 1999). Billett *et al.* (1985) have collected juvenile specimens as much as 3,000 m above the seabed, and the same species has been reported (as *Pelagothuria bouvieri*) at the surface (Hérouard, 1923).

Remarks: *Enypniastes eximia*, employs a "burglar alarm" strategy of predator deterrence. After feeding on benthic sediments it lifts off the bottom and spends most of its time up in the water column. Light production is triggered mechanically and is produced by hundreds of granular bodies within its gelatinous integument. The skin of *E. eximia* is very fragile and strong physical contact causes the skin to be sloughed off in a glowing cloud. The deciduous skin is also sticky and it readily adheres to most surfaces. Physical contact elicits light production that can "paint" a predator with patches of the glowing skin, thus revealing the presence of the attacker to its own visually cued predators (Robison, 1992).

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