

First record of *Himantolophus mauli* (Lophiiformes: Himantolophidae) on the slope off Asturias, central Cantabrian Sea, eastern North Atlantic Ocean

by

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RÉSUMÉ. - Premier signalement de *Himantolophus mauli* (Lophiiformes : Himantolophidae) au large des côtes des Asturies, mer Cantabrique centrale, Atlantique Nord-Est.

Le poisson bathypélagique *Himantolophus mauli* (Lophiiformes: Ceratioidei: Himantolophidae), était, jusqu'à présent, connu par 20 femelles métamorphosées, toutes collectées dans l'Atlantique Nord entre 25° et 66°N environ. Sa présence est signalée pour la première fois au large des côtes des Asturies, dans le centre du golfe de Gascogne, au nord de la péninsule Ibérique.

Key words. - Lophiiformes - Himantolophidae - *Himantolophus mauli* - ANE - Cantabrian Sea - First record.

Although more than two-thirds of the known bathypelagic fish species belong to the suborder Ceratioidei (Pietsch, 2005), members of the ceratoid family Himantolophidae (Footballfishes) are rare in museum collections. The family has a worldwide distribution, occurring in the mesopelagic and bathypelagic zones of the Atlantic, Indian, and Pacific Oceans, most often collected between depths of 200 and 800 m, with a few specimens from nets fished below 1000 m (Bertelsen and Krefft, 1988). Containing a single genus *Himantolophus* Reinhardt, 1837, and 18 species, five of which are known from the eastern North Atlantic (Bertelsen and Krefft, 1988; Jónsson and Pálsson, 1999; Quéro *et al.*, 2000), the family, like all ceratioidei, is characterized by extreme sexual dimorphism. While females may reach a standard length (SL) of 47 cm (Jónsson and Pálsson, 1999), the males never exceed 3.9 cm SL (Bertelsen and Krefft, 1988). Specific identification of females is based primarily on illicial and escal morphology, which is the major systematic character of the entire suborder (Bertelsen and Krefft, 1988).

Here we report the first record of *Himantolophus mauli* Bertelsen and Krefft, 1988 from the slope waters off Asturias, in the Central Cantabrian Sea, north Spain (Fig. 1).

A single female specimen of *H. mauli* (192 mm SL, 800 g) was caught at 545 m depth, off the coast of Asturias (43°47'N-05°02'W) by a commercial trawler on 30 December 2003. The specimen was identified, measured, preserved, and registered in the fish collection of the Museo Marítimo de Asturias in Luanco (MMA O-1354) (Fig. 2). Measurements were taken using a dial caliper and rounded down to the nearest millimetre. Measurements and terminology for the illicial apparatus followed Bertelsen and Krefft (1988).

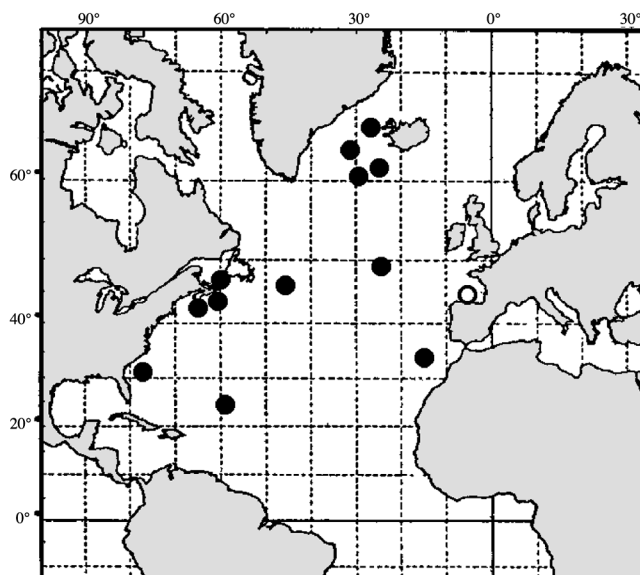


Figure 1. - Geographic distribution of known material of *Himantolophus mauli*, with a new record off Asturias, northern Spain, indicated by an open circle. A single symbol may indicate more than one capture. [Distribution géographique du matériel connu d'*Himantolophus mauli*, avec un nouveau cas recensé au large des Asturies, au nord de l'Espagne, indiqué par un cercle vide. Un symbole unique peut signaler plusieurs captures.]

Description

D: 5; A: 4; P: 15; C: 9. The following measurements are given in millimetres, followed by percent of standard length within parentheses, except for total and standard lengths: Total length: 255; standard length 192; pre-anal length: 161 (83.9); pre-anal fin length: 182 (94.8); pre-dorsal fin length: 160 (83.3); pre-pectoral fin length: 98 (51.0); body depth: 133 (69.3); body width: 82 (42.7); caudal peduncle depth: 42 (21.9); anal fin base length: 21 (10.9); dorsal fin base length: 36 (18.8); pectoral fin base length: 32 (16.7); eye diameter: 6 (7.3); pre-orbital length: 28 (14.6); pre-illcium length: 14 (7.3); length of illicium: 99 (51.6); length of illicial stem: 63 (32.8); diameter of escal bulb: 13 (6.8); total length of distal escal appendage (DA): 157 (81.8); length of DA base: 26 (13.5); length of main branches of DA: 111 (57.8).

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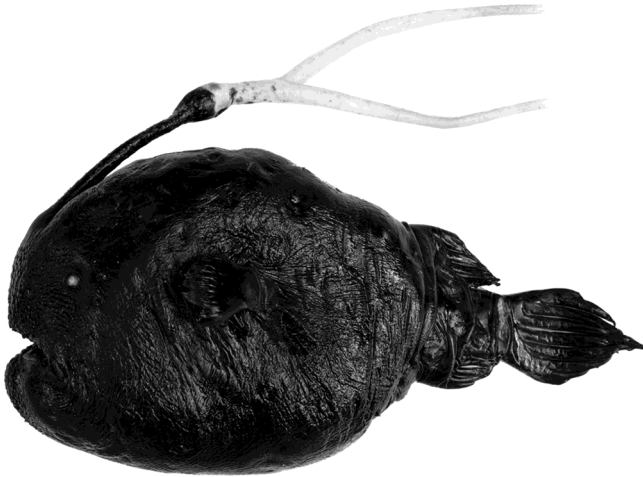


Figure 2. - *Himantolophus maui*, 192 mm SL, 255 mm TL, captured on the slope waters of Asturias. [*Himantolophus maui*, specimen de 192 mm LS, 255 mm LT, capturé dans la zone bathyale, au niveau de la pente de la marge continentale des Asturies.]

Illicium well developed. Illicial stem long, pliable, and simple, without secondary appendages. Distal light guiding escal appendage long, with two main branches simple. Dermal spines absent on escal bulb and appendages. Conical dermal spines present on each side of the body. Papillae on snout and chin well developed.

Dark brown to black over entire surface of head and body. All fin rays, including illicial stem (except for several small white blotches along length), uniformly black. Proximal half of branches of distal light-guiding escal appendage faintly pigmented.

Discussion

Although material of *H. maui* has been known for some, the first reported specimen misidentified by Maul (1961) as *Himantolophus compressus* (Osorio, 1912), it was not recognized and given species status until Bertelsen and Krefft (1988) made a recent revision of the genus. We now know of only 20 individuals (Bertelsen and Krefft, 1988; Rodríguez-Marín *et al.*, 1996; Jónsson and Pálsson, 1999; Kukuev and Trunov, 2002) all collected from the North Atlantic Ocean between about 25° and 66°N. Because the number of captures of this species is so low, and the available information based mostly on specimens collected as by-catch from commercial fishing vessels, the geographic distribution and general biology of *H. maui* are poorly known. For example, there are no data on food habits and sexually mature individuals are yet unknown.

A careful examination and comparison of the new specimen with the description and figures provided by Bertelsen and Krefft

(1988) show no significant differences. Nearly all counts and measurements fall well within the ranges reported for the species. The only small exception is the length of illicium, which appears to be slightly less long than the range given for the specimens examined by Bertelsen and Krefft (1988). This discrepancy, however, is easily explained by a difference in interpretation of how the distance should be measured.

The present record of *H. maui* constitutes an intermediate locality in the eastern North Atlantic between its southernmost (Madeira) and northernmost occurrences (Iceland), which most likely suggests that this species has a continuous distribution in this part of the world.

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