

## Notas / Notes

### Demersal capture of an adult female ceratioid anglerfish, *Ceratias holboelli* Krøyer, 1845 (Lophiiformes, Ceratiidae) with a parasitic male from the North Spain Slope (Bay of Biscay, NE Atlantic)

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One adult female of the deep sea ceratioid anglerfish *Ceratias holboelli* Krøyer, 1845 was caught with a commercial trawling gear on the fishing ground named "Ranón" (43°53'N, 05°51'W) at 350 m depth, on a bottom of silt, sand and gravel, on 23/01/1984. At our knowledge this is the more southern record of an adult female of this species in the eastern North Atlantic.

The specimen is deposited in the Centro de Experimentación Pesquera (Consejería de Agricultura y Pesca del Principado de Asturias) collection, under the number CP/723, at Gijón (Spain).

The specimen is with intact illicium and esca. Body colour, as fixed in formalin, black with exception of the distal portion of the esca and some whitish areas on the lateral sides of the body. Esca bearing a single escal appendage with two lateral filaments (Fig. 1). Vomerine teeth absent. Two dorsal caruncles.

On the posterior left side of the belly there are attached one parasitic male, and slightly anterior to it, there are a whitish area that we think could be the scar of the attachment site of an additional, and lost, male (Fig. 2).

The main measures are:

a.- Female: Standard Length (SL): 480 mm; Body depth: 200 mm; Illicium length: 94.2 mm (19.6% of SL). Number of fin rays: Caudal: 8; Dorsal: 4; Anal: 4; Pectoral: 4.

b.- Male: Length: 12.5 mm

With a broad geographical distribution over the World Ocean, *C. holboelli*, joint with *C. uranoscopus*, are the most widely spread species of the genus (Regan & Trewavas, 1932; Bertelsen, 1951; Bertelsen & Pietsch, 1983, 1984; Pietsch, 1986),

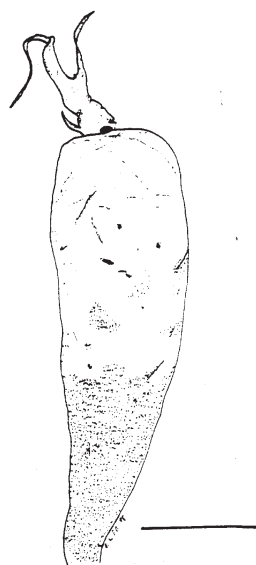


Fig. 1.— Esca of the spanish specimen of *Ceratias holboelli*. Bar length 1 mm.

Fig. 1.— Esca del ejemplar español de *Ceratias holboelli*. Escala 1 mm.

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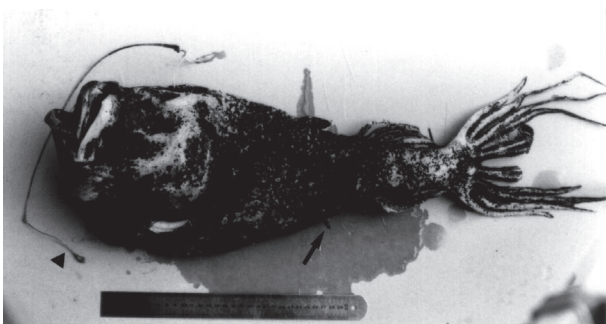


Fig. 2.— *Ceratias holboelli*. Female caught off the North Spain slope. Left side. Arrow head indicate illicium and esca. Arrow indicate parasitic male. Scale bar: 300 mm.

Fig. 2.— *Ceratias holboelli*. Hembra capturada en la costa norte de España. Costado izquierdo. La cabeza de flecha señala el illicium y el esca. La flecha señala al macho parásito. La regla que marca la escala tiene una longitud de 300 mm.

the third species, *C. tentaculatus*, being limited to the Southern Ocean (Bertelsen & Pietsch, 1983; Pietsch, 1986; Drioli & Vigne, 1992).

This is the first record of the species in the Bay of Biscay (NE Atlantic), (Fig. 3) although there was at least two previous records near this geographic area (Pietsch, 1986, p. 484), and it came us from a fishing ground whose depth limits between 200 and 400 m (Alcazar *et al.*, 1981) permit us qualify the capture as demersal. This is not the first time that adult females of *C. holboelli* are been caught in relatively shallow depths (i.e. the holotype came from 0-300 m, see Bertelsen, 1951, and Pietsch, 1986) although actually the bulk of specimens were caught at depths between 400 and 2000 m.

The parasitic male on our specimen is likely recently attached because its small size (SL 12,5 mm) range near that of the biggest free living (pre-metamorphic) males (SL 12 mm), whereas the size of the recorded bulk of attached males lies between 24 and 118 mm (Pietsch, 1976). Furthermore, we think that the whitish area seen on the belly, near the attached males, could to be the scar leave by another previously attached, and lost, male, as seen on other ceratioids with parasitic males, as *Haplophryne mollis* (Family Linophryniidae) (Munk & Bertelsen, 1983; Bertelsen & Pietsch, 1983).

If according with Bertelsen (1951, p. 235) on the influence of oceanic currents on the transport and spreading of adult ceratioids, an account of our record could be the hydrology and current regime of the deep-water masses in the Bay of Biscay and

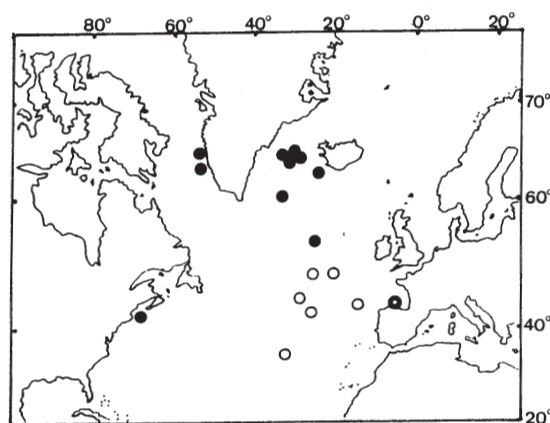


Fig. 3.— Distribution of *Ceratias holboelli* captured in the North Atlantic Ocean. Open circles: Specimens < 100 mm. Full circles: Specimens > 100 mm. Circle with white spot: Present record.

Fig. 3.— Distribución de *Ceratias holboelli* capturados en el Atlántico Norte. Círculos blancos: Ejemplares < 100 mm. Círculos negros: Ejemplares > 100 mm. Círculo con punto blanco: presente captura (SL 480 mm).

the influence of the northern spanish slope morphology on their dynamics. Although these aspect are still little known in the area of capture, the dynamics and bathymetric distribution of water masses have been studied recently (Boucher, 1985; Vangrieshen, 1985; Botas *et al.*, 1989). They have found a water mass from surface to 500 m in depth whose characteristics agree with those of the North Atlantic Central Water (NACW) (Botas *et al.*, 1989), with a mixing layer between 500 and 600 m with the underlying Mediterranean Water (MW) which extends down to 1000 m. These limits are

Table 1.— Physical parameters of water masses off North Spain between 43°40'-44°N / 5°50' and 6°10'W. (After Botas *et al.* 1989, 1990; Boucher, 1985, and Vangrieshem, 1985).

Table 1.— Parámetros físicos de las masas de agua del Norte de España, entre 43°40' y 44° N / 05°50' y 06°10' W (Según Botas *et al.* 1989, 1990; Boucher, 1985 y Vangrieshem, 1985).

Water Masses	Depths (m)	Temperature °C	Salinity ‰
NACW	75-500	11-13	35.53-35.58
NACW & MW mixing layer	500-600	10-11	35.58-35.79
MW	600-1000	9-11	35.79-35.82

NACW: North Atlantic Central Water; MW: Mediterranean Water.

slightly higher than those found by Boucher (1985) and Vangrieshem (1985), and it could be due to the topographic effects of the slope in the vicinity of the Avilés Canyon, and the superficial wind-drive dynamics that originate a small upwelling face to Cape of Peñas (Botas *et al.*, 1990).

The physical parameters of water masses in the area of capture agree well with those found elsewhere. *C. holboelli* adult female were recorded (Table I). We think the presence of this species in the Bay of Biscay could be not accidental, but likely more frequent as previously stated, although its scarcity can make difficult that other specimens could be caught in the next future.

#### ACKNOWLEDGEMENTS

The authors are greatly indebted to the late Dr. E. Bertelsen, and to Dr. T.W. Pietsch for reading an early draft of this paper and for their advice in the improvement of the text. We are also indebted to Dr. M. M. de la Hoz and Mr. J. L. Alcazar for comments and material.

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Recibido, el 10-IV-1997  
Aceptado, el 26-VIII-1997  
Publicado, el 31-X-1997