

Notas / Notes

First record of the elusive oceanic squid *Thysanoteuthis rhombus* Troschel, 1857 (Cephalopoda: Thysanoteuthidae) in the Catalan coast

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ABSTRACT

The diamondback squid *Thysanoteuthis rhombus* Troschel, 1857 is a large and elusive oceanic squid species. Here, we provide the first record of the species for the Catalan coast and integrate this finding in the current knowledge of the species in close areas.

Keywords: Mediterranean Sea, Cephalopoda, Oegopsida, Thysanoteuthidae, first record.

RESUMEN

Primera cita del elusivo calamar oceánico *Thysanoteuthis rhombus* Troschel, 1857 (Cephalopoda: Thysanoteuthidae) en la costa catalana

El chipirón volantin (*Thysanoteuthis rhombus* Troschel, 1857) es una especie de calamar oceánico grande y elusivo. En este trabajo se proporciona el primer registro de la especie para la costa catalana y se discute en el contexto de registros de la especie en zonas cercanas.

Palabras clave: Mar Mediterráneo, Cephalopoda, Oegopsida, Thysanoteuthidae, primera cita.

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The diamondback squid *Thysanoteuthis rhombus* Troschel, 1857 is a large oceanic squid, which reach a maximum mantle length of 1 m and 30 kg of total weight (Jereb & Roper, 2010). It is considered a cosmopolitan species distributed worldwide in tropical and temperate open waters. The rhomboidal fins are large and extend all the length of the mantle, giving to this species a characteristic diamond shape. *T. rhombus* is known in the Mediterranean Sea since the XIX century (Troschel, 1857); however, its oceanic lifestyle hinders its detection. Although it is a com-

mon species in Mediterranean waters (Biagi & Bello, 2009), records are scattered in the scientific literature.

During the night of the 29th August 2017 a specimen of *T. rhombus* was caught in the fishing grounds off the Catalan coast in the northwestern Mediterranean Sea (40.75527° N, 1.34805° E) at seafloor depth of 180 m, by the purse seine fleet from the Port of Tarragona. It was an immature subadult (Fig. 1A), measuring 93 mm mantle length and 33 g of total weight. Its sex was not possible to visually assess due the lack of detectable gonads at a macroscopic level. In Table 1,

the dorsal mantle length, the ventral mantle length, the maximum mantle width, the fin length, the fin width, the head length, the head width, the length of the right arms I-IV and the right tentacle are provided according with the guidelines of Roper & Voss (1983). The characteristic well-developed anal photophore of juveniles and early subadults was present (Fig. 1B). The stomach content weighted 0.94 g and was entirely formed by fish fragments, including 3 vertebrae and 5 bones (0.37 g). Unfortunately, no otolith was recovered and the fish remain unidentified.

Some previous records of *T. rhombus* are known for the Iberian waters. The first one consisted in a single large individual fished in Mahón (Minorca) in 1978 (Morales, 1981), followed by the record of an egg mass by Guerra & Rocha (1997). Guerra *et al.* (2002) reported four additional egg masses in Mediterranean waters and other four in the Canary Islands. Escánez Pérez *et al.* (2012) reported several egg masses in the Canary Islands. Three large specimens were also reported in the Cantabrian Sea (Guerra *et al.*, 2012). In the last work, it is also mentioned the capture of two individuals of both sexes in a tuna net in Ceuta. Templado and Luque observed two additional individuals in the Almeria coast (Guerra, 1992). For a compre-

hensive list of Catalanian and Iberian cephalopods, see Sánchez (2009) and Guerra (1992), respectively. Zaragoza *et al.* (2015) recorded 56 *T. rhombus* paralarvae sampled in 2004 and 2005. The presence of paralarvae at least during two consecutive years near the Ibiza Channel (Zaragoza *et al.*, 2015), as well as the egg mass at the South of the Balearic Islands (Guerra & Rocha, 1997) and the newly reported subadult from Tarragona suggest that *T. rhombus* might be a common resident of the Balearic Sea. Besides those Iberian records, the species have been cited in other areas of the Mediterranean Sea (Issel, 1920; Sanzo, 1929; Biagi, 1982; Vardala-Theodorou *et al.*, 1991; Jereb & Ragonese, 1994; Ezzeddine-Najai, 1996; Giordano *et al.*, 1998; Bello, 1999; Salman *et al.*, 2003; Marčić *et al.*, 2009; Thessalou-Legaki *et al.*, 2012; Yahel *et al.*, 2017). Its oceanic lifestyle together with the absence of any target jigging fishery for oceanic squids in the area (Jereb & Roper, 2010) might complicate further encounters with this large oceanic squid. Despite its size and palatability, only a targeted fishery occurs in Japanese waters (Arkhipkin *et al.*, 2015), but small catches are also reported in Jamaica, the Canary Islands and India (Aiken *et al.*, 2007; Escánez Pérez *et al.*, 2012; Sajikumar *et al.*, 2020).

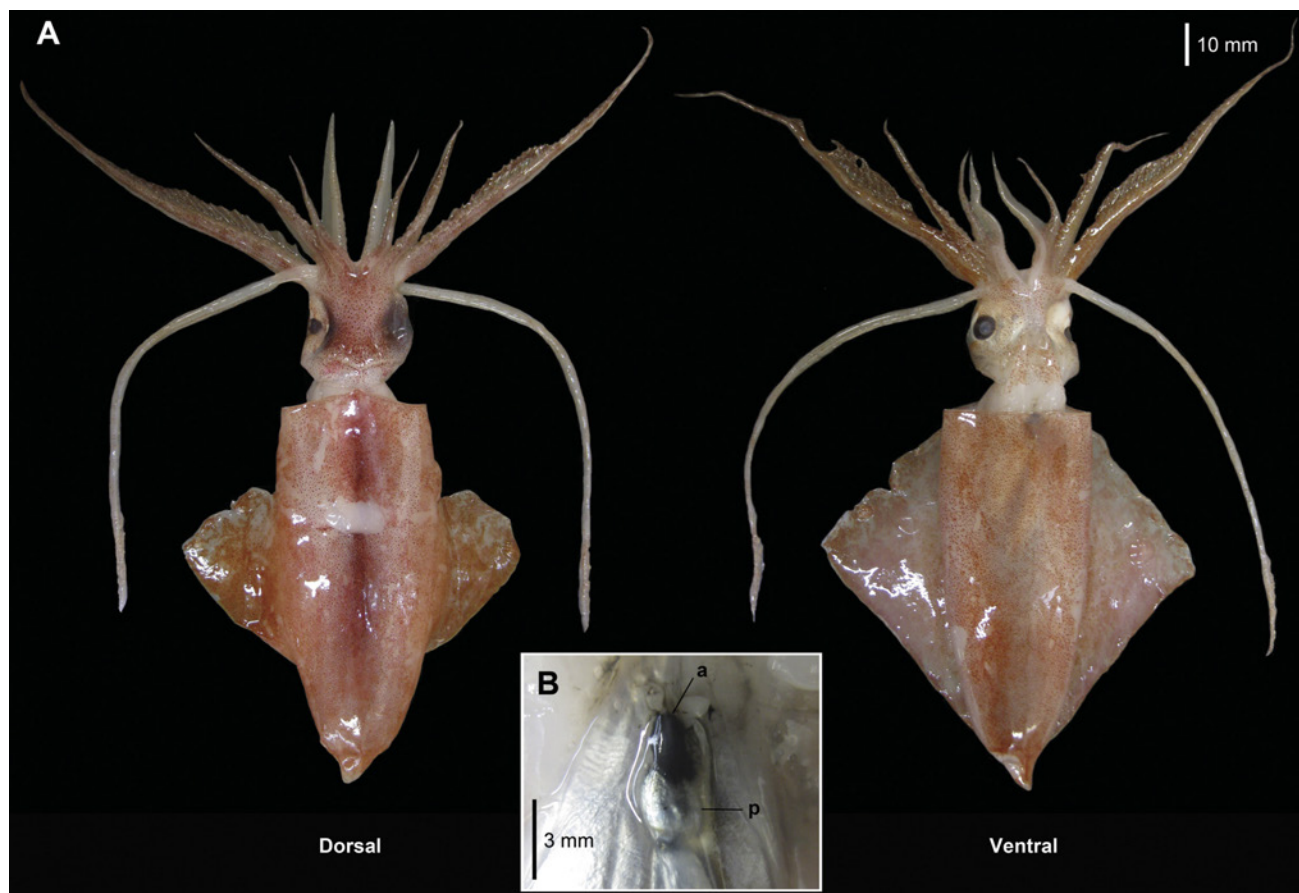


Fig. 1.— *Thysanoteuthis rhombus* Troschel, 1857. A. Dorsal and ventral views of the specimen ICMC000069 (CBR-ICM, Barcelona, Spain). B. Dissection showing the distal portion of the digestive system, the anal photophore (p) is near the anus (a).

Fig. 1.— *Thysanoteuthis rhombus* Troschel, 1857. A. Vistas dorsal y ventral del espécimen ICMC000069 (CBR-ICM, Barcelona, España). B. Disección mostrando la parte distal del sistema digestivo, el fotóforo anal (p) se encuentra cerca del ano (a).

Table 1.— Morphometric measures of the *Thysanoteuthis rhombus* Troschel, 1857 specimen ICMC000069 (CBR-ICM, Barcelona, Spain) according with Roper & Voss (1983).

Tabla 1.— Medidas morfológicas del espécimen ICMC000069 de *Thysanoteuthis rhombus* Troschel, 1857 (CBR-ICM, Barcelona, España) de acuerdo con Roper & Voss (1983).

Variable	Value (mm)
Dorsal mantle length	93
Ventral mantle length	96
Maximum mantle width	39
Fin length	87
Fin width	98
Head length	24
Head width	25
Right arm I length	21
Right arm II length	45
Right arm III length	79
Right arm IV length	32
Right tentacle length	138

MATERIAL EXAMINED. Unsexed individual. 29/08/2017, at night. 40.75527° N, 1.34805° E. Fished by a purse seine vessel at surface waters (seafloor at 180 m of depth). M. Hernández leg. Voucher accession number ICMC000069, Biological Reference Collections of the Institut de Ciències del Mar (CBR-ICM, Barcelona, Spain), formalin fixed.

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