



***Tonicia atrata* and *Chiton cumingsii* (Polyplacophora: Chitonidae): First records in European waters**

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At present, over 300 species of marine alien Mollusca are reported from the European waters (Streftaris *et al.* 2005; Zenetos *et al.* 2010). However, only three alien polyplacophoran have been recorded: *Chaetopleura angulata* (Spengler, 1797), *Acanthopleura gemmata* (Blainville, 1825) and *Chiton hululensis* (E. A. Smith, 1903); the latter is considered as “questionable” (Zenetos *et al.* 2010). These polyplacophoran constituting about 1% of the alien marine mollusc reported from Europe. Here we present the first record of *Tonicia atrata* (Sowerby, 1840) and *Chiton cumingsii* Frembly, 1827 in European waters, constituting the first evidence of their presence outside their native range. Furthermore, we give brief notes on the taxonomy and distribution of *T. atrata* and *C. cumingsii*, and discuss the potential pathways for introduction to Europe.

In Europe, *T. atrata* occurs together with the well-known alien *Ch. angulata*; and probably both species have historically been misidentified in collections because both reach large size (> 60 mm) and in many cases the larger size was commonly used to differentiate the presumed alien (*Ch. angulata*) from the native polyplacophoran of smaller size. Recently in the Bay of Biscay, both species coexist with the Mediterranean *Chiton olivaceus* Spengler, 1797, which has become a new alien for this region (authors' pers. obs.).

Preserved specimens in the collections of the Department of Biology of Organisms and Systems (Zoology), University of Oviedo, Spain (BOS), previously identified as *Ch. angulata* from Atlantic coastal waters of the Iberian Peninsula and Canary Islands collected throughout the last decades, were re-examined.

Genus *Tonicia* Gray, 1847

Type species: *Chiton elegans* Frembly, 1827; by subsequent designation (Gray, 1847) = *Tonicia chilensis* (Frembly, 1827).

***Tonicia atrata* (Sowerby, 1840)**

Fig. 1A, B, C

Material examined: *Eo estuary*, 43°28'N, 7°03'W (Jan. 1978): BOS-CHI10, BOS-CHI11; *Sado estuary*, 43°28'N, 7°03'W (Jul. 1985): BOS-CHI12, BOS-CHI13, BOS-CHI14; *Avilés Port* 43°33'N, 5.55'W, (May 2010): BOS-CHI15.

Habitat and distribution: Intertidal rocks, boulders and *Macrocystis* holdfasts (Dell 1971). In southern Chile this species was recorded under stones, in pools; from mid to low eulittoral (Schwabe *et al.* 2006). It is also recorded from the Magellan Strait and the Falkland Islands (Sirenko 2006).

Diagnosis and description: Long straight oval shape. Head plate semicircular in outline, with posterior margin straight, showing radially arranged striations; insertion plate with 9–10 slits. Intermediate plates rectangular in outline; posterior margin slightly concave on both sides of protruding apex; lateral areas slightly elevated, with ocelli restricted to anterior half of lateral areas; jugal area not elevated with a fine dentated jugal sinus between the apophyses; solid articulamentum with one slit in insertion plates; apophyses short, trapezoidal. Tail plate semicircular in outline with mucro situated in anterior half; postmucronal area showing concentric growth marks.

Remarks: The variability in colour of this species extends from dark brownish to greenish or greyish, with or without radial lines in blue or white colour (Fig. 1A–C). The largest specimen measures 71 mm long, 30 mm broad.