

First record of *Semipallium coruscans coruscans* (Hinds, 1845) (Bivalvia: Pectinidae) in the south Adriatic Sea (Mljet Island, Croatia)

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Abstract

During a benthic survey, carried out in the summer of 1997 along the north part of the Mljet National Park (south Adriatic Sea), one live juvenile individual of an Indo-Pacific pectinid species, *Semipallium coruscans coruscans* (Hinds, 1845), was collected. This finding represent not only the first record of *S. coruscans coruscans* in the Adriatic Sea, but also for the whole Mediterranean Sea.

However, the finding of only one juvenile specimen, and of no other living adults or dead shells, is suggestive of an incidental introduction, perhaps by means of ship ballast water. Therefore, at the present knowledge, this species has to be considered as an alien species, with scarce or null possibilities of reproduction in the Adriatic waters.

Riassunto

Nel corso di una ricerca bentonica, condotta nell'estate del 1997 lungo la parte settentrionale del Parco Nazionale di Mljet (Mare Adriatico meridionale), è stato raccolto un esemplare giovanile vivente di una specie pettinide indopacifica, *Semipallium coruscans coruscans* (Hinds, 1845). Questo ritrovamento rappresenta non solo la prima segnalazione di *S. coruscans coruscans* per il Mare Adriatico, ma anche per l'intero Mediterraneo.

Tuttavia, il ritrovamento di un singolo esemplare giovanile, e non di altri esemplari adulti viventi o di conchiglie morte, depone per un'introduzione accidentale, forse tramite acqua di zavorra delle navi. Pertanto, allo stato attuale di conoscenza, questa specie deve essere ritenuta una specie aliena, con scarse o nulle possibilità di riproduzione nelle acque adriatiche.

Key words

Semipallium coruscans coruscans, bivalve, first record, Mljet, Adriatic Sea.

Introduction

A benthic survey focused at studying marine bivalves occurrence, vertical distribution and ecology, was carried out at the Mljet National Park (south Adriatic Sea) between 1995-1998 (Zerlić, 2001) where 84 different stations were investigated.

The single specimen of *Semipallium coruscans coruscans* (Hinds, 1845) was obtained in August 1997 from the debris collected by using a trammel bottom net in the station B (42° 48' N, 17° 20' E), located about 500 m north of the Crna seka donja islet (Mljet National Park) on a bottom of approximately 80 m of depth.

The occurrence and possible origin of this exotic species is discussed.

Material and methods

For identification of the *Semipallium coruscans coruscans* species, papers of Waller (1972) and Dijkstra & Kilburn (2001) were used. Work of Dijkstra & Kilburn (2001) was also used for classification and nomenclature purposes. Shell measurements were made according to Waller (1972).

Our *S. coruscans coruscans* specimen was collected byssally adhering to a colony of the bryozoan *Cellaria salicornioides* Lamouroux, 1861.

Systematics

Semipallium coruscans coruscans (Hinds, 1845) (Figs 1-2)

Chlamys coruscans coruscans, Waller, 1972: 231, pl. 1, figs 1-19, text figs 2, 12, 14 (synonymy, type data, description, functional morphology, ecology, distribution, discussion).

Semipallium coruscans coruscans, Dijkstra & Kilburn, 2001: 294, figs 31-32 (synonyms, type data, description, distribution, remarks).

Description

Semipallium coruscans coruscans (Hinds, 1845) is a new combination for *Pecten coruscans* Hinds (1845) and *Chlamys coruscans coruscans* (Hinds, 1845), introduced by Dijkstra & Kilburn (2001). This species has shells of small size, maximum 22 mm in height (but generally around 10-15 mm), slightly higher than long, with a right valve more convex than left, and with unequal auricles (Waller, 1972; Dijkstra & Kilburn, 2001). According to Waller (1972) and Dijkstra & Kilburn (2001), exterior shell surface main characteristic are: i) 12-15 primary tripartite radial ribs, from which 1-2 intercostals secondary radial riblets are formed, determining about 65 secondary riblets, and ii) a shagreen microsculpture between the costae.

Shells are variable in colour. Usually they are cream or bright

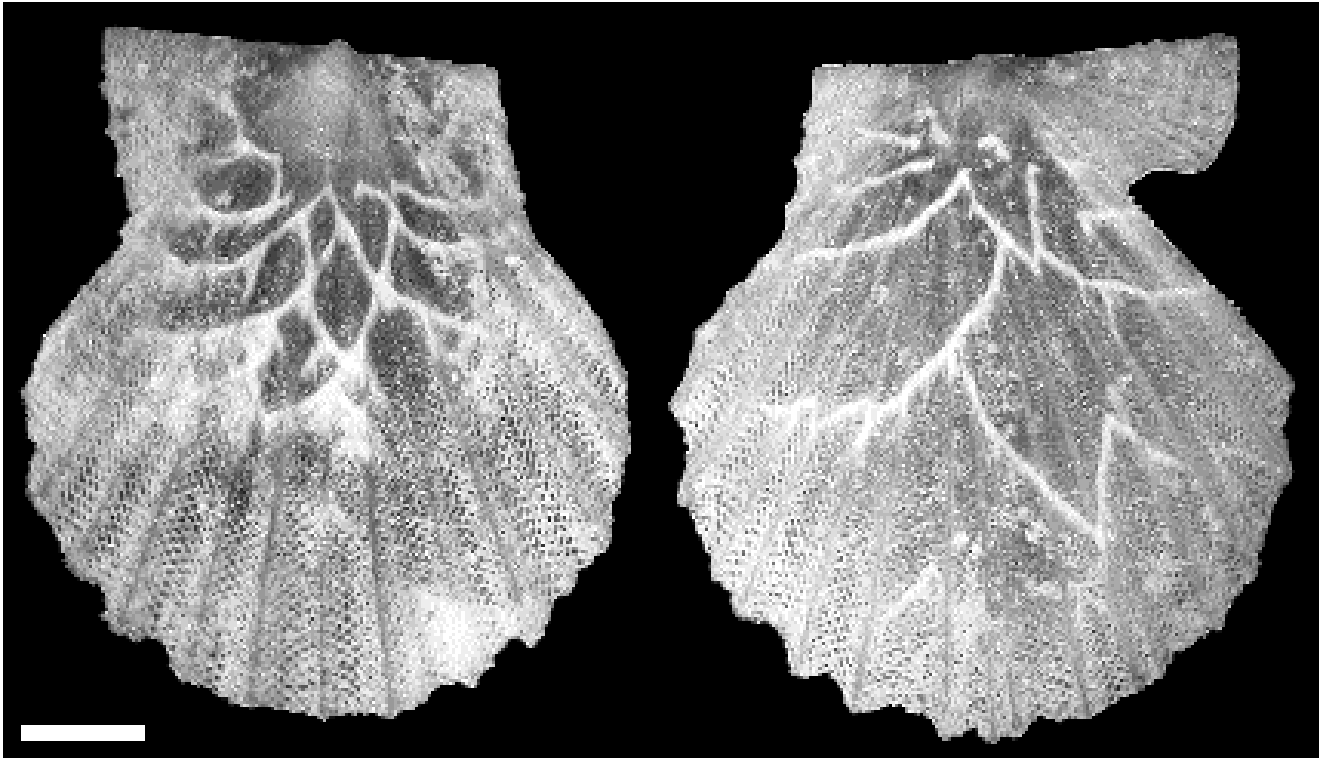


Fig. 1. *Semipallium coruscans coruscans* (Hinds, 1845). Scale bar = 1 mm.

Fig. 1. *Semipallium coruscans coruscans* (Hinds, 1845). Scala = 1 mm.

yellow, but these can also be dark brown, with white, red, purple or brown blotches or rays, and a few not pigmented primary ribs. Uniform white, yellow, pale orange or red specimens

were also recorded (Waller, 1972; Dijkstra & Kilburn, 2001). Our specimen of *S. coruscans coruscans* is 4.8 mm high and 5.2 mm long (Fig. 1), while its convexity is 1.2 mm. 14 radial

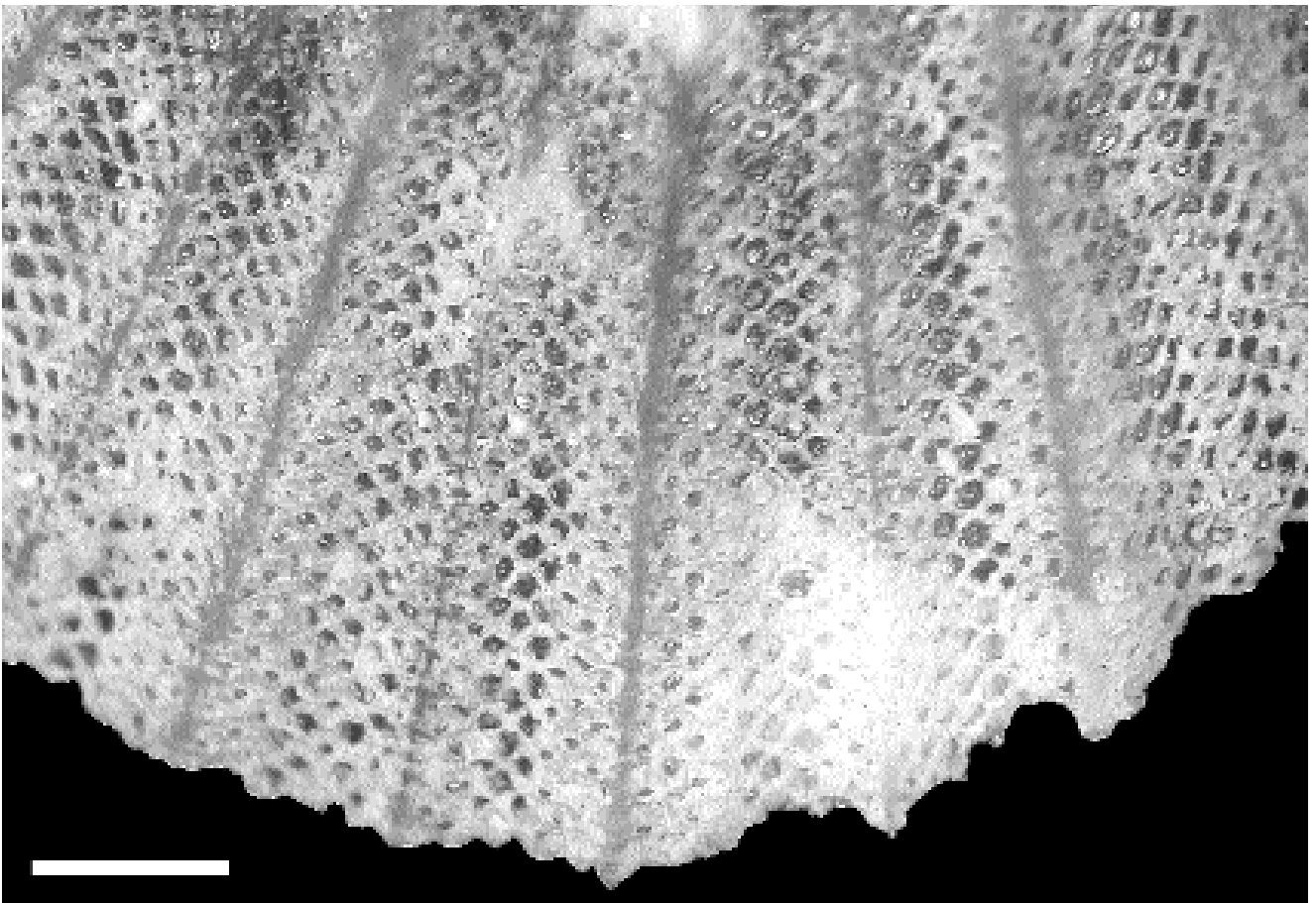


Fig. 2. Shagreen microsculpture detail near the ventral side of the shell. Scale bar = 0.5 mm.

Fig. 2. Dettaglio della microscultura zigrinata vicino alla parte ventrale della conchiglia. Scala = 0,5 mm.

ribs are present, with some secondary ribs in initial stage that however form a strongly developed shagreen microsculpture on the lower half of the shell, near the ventral side of the shell (Fig. 2). The colour of the shell is yellowish-brown, with white tinges and blotches in the centre of the shell, and a brownish part near umbo, at the beginning of the auricles.

Remarks

This species lives byssally attached to rocks and corals, more commonly in shallow waters down to about 25m depth (Waller, 1972; Dijkstra & Kilburn, 2001). Some deeper findings of dead specimens (75 m) were reported in literature (Dijkstra & Kilburn, 2001). This species prefers habitats characterised by clean water and strong currents and, in fact, is very rare in areas subjected to loads of terrigenous sediments (Waller, 1972).

The specimen is stored in the personal collection of the author.

Discussion and conclusion

S. coruscans coruscans is distributed in the tropical Indo-West Pacific region, but not in the Red Sea and Persian Gulf (Waller, 1972; Dijkstra & Kilburn, 2001). Its presence in the south Adriatic Sea does represent not only the first record for this sea, but also for the whole Mediterranean.

However, a Lessepsian migration phenomenon has to be excluded as a possible explanation to its presence in the Mediterranean, due to the absence of the species from the Red Sea and in other Eastern Mediterranean regions.

The finding of only one juvenile specimen, and not a single live adult or dead shells suggests an incidental introduction, possibly by means of ship ballast waters.

Metamorphosis, settlement and survival of the species in the study area should have been possible thanks to the favourable influence of clean and oligotrophic south Adriatic waters (Buljan, 1964; Viličić, 1989).

S. coruscans coruscans, at the present status of knowledge and in absence of other records for the Mediterranean, has therefore to be considered as an alien species. Its successful establishment in Adriatic waters seems therefore hardly possible in the future and has not to be expected.

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