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A New Lessepsian Mollusc *Hypselodoris infucata* (Ruppell & Leuckart, 1828) (Gastropoda: Nudibranchia) for the Coasts of Turkey

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Abstract: In this study, *Hypselodoris infucata*, which is reported only from Israeli waters, is reported for the first time on the Eastern Mediterranean coasts of Turkey, and its morphology and geographic distribution are described.

Key Words: Mollusca, Gastropoda, Opisthobranchia, Nudibranchia, *Hypselodoris infucata*

Türkiye Kıyılarından Yeni Kayıt Bir Lessepsiyen Tür: *Hypselodoris infucata* (Ruppell & Leuckart, 1828) (Gastropoda: Nudibranchia)

Özet: Bu çalışmada, Türkiye Kıyılarından ilk defa rapor edilmekte olan ve daha önce Akdeniz'de, sadece İsrail Kıyılarından bilinen *Hypselodoris infucata*'nın morfolojik özellikleri ve coğrafik dağılımı incelenmiştir.

Anahtar Sözcükler: Mollusca, Gastropoda, Opisthobranchia, Nudibranchia, *Hypselodoris infucata*

Introduction

Since the opening of the Suez Canal in 1869, a number of marine animals have been given the opportunity to migrate from the Red Sea through the Suez Canal northward to the Mediterranean (Lessepsian migration) and from the Mediterranean southward to the Red Sea (Anti-lessepsian migration).

Several reports dealing with migration of Indo-Pacific Mollusca into the Mediterranean Sea have been published during this century by Tillier and Bavay (1), Tomlin (2), G. Haas (3), Ghisotti (4), Barash and Danin (5-8), and Mienis and Gat (9). Most lessepsian molluscs were recorded in the Eastern Mediterranean with only a few penetrating the Western Mediterranean (8).

Falchi (10), Demir (11), Kinzelbach (12), Lindner (13), Enzenrob and Enzenrob (14), Niederhöfer et al. (15), Tringali and Villa (16), Micali and Palazzi (17), Engl (18), and Buzzurro and Greppi (19) studied the lessepsian molluscs along the Turkish coasts. Until the present study, *Hypselodoris infucata* (Figure 1) had not been recorded along the coasts of Turkey.

Materials and Methods

Four individuals of *H. infucata* were collected on June 12th, 1999, in the Yumurtalık Bight (Figure 2) of Iskenderun Bay on the rocky bottom at 1 m depth.

Identification and systematic classification of the species were carried out according to Vietti et al. (20) and Sabelli et al. (21).

Results and Discussion

Hypselodoris infucata was reported for the first time by Barash and Danin (5) from the Mediterranean coasts of Israel with the name *Glossadoris runcinata* but afterwards it was reported as *Hypselodoris infucata* for the same area by Mienis and Gat (9). *Hypselodoris infucata* individuals have been collected from the Turkish coasts

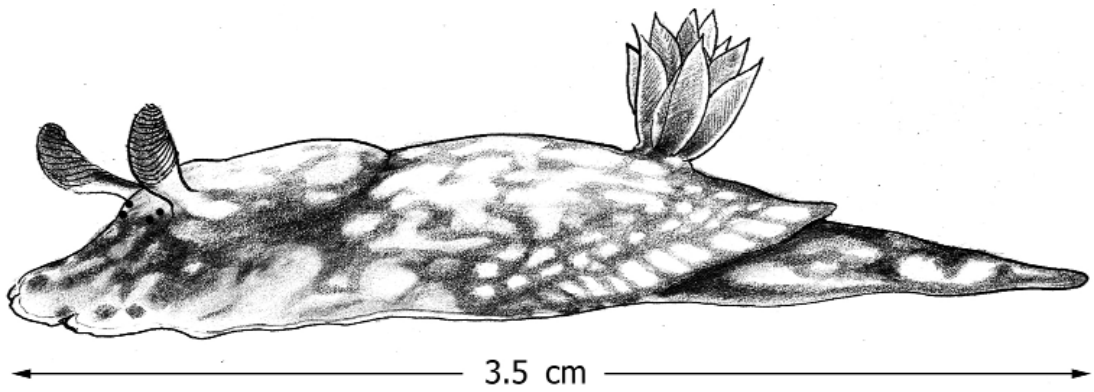

Figure 1. General view of *Hypselodoris infucata.*

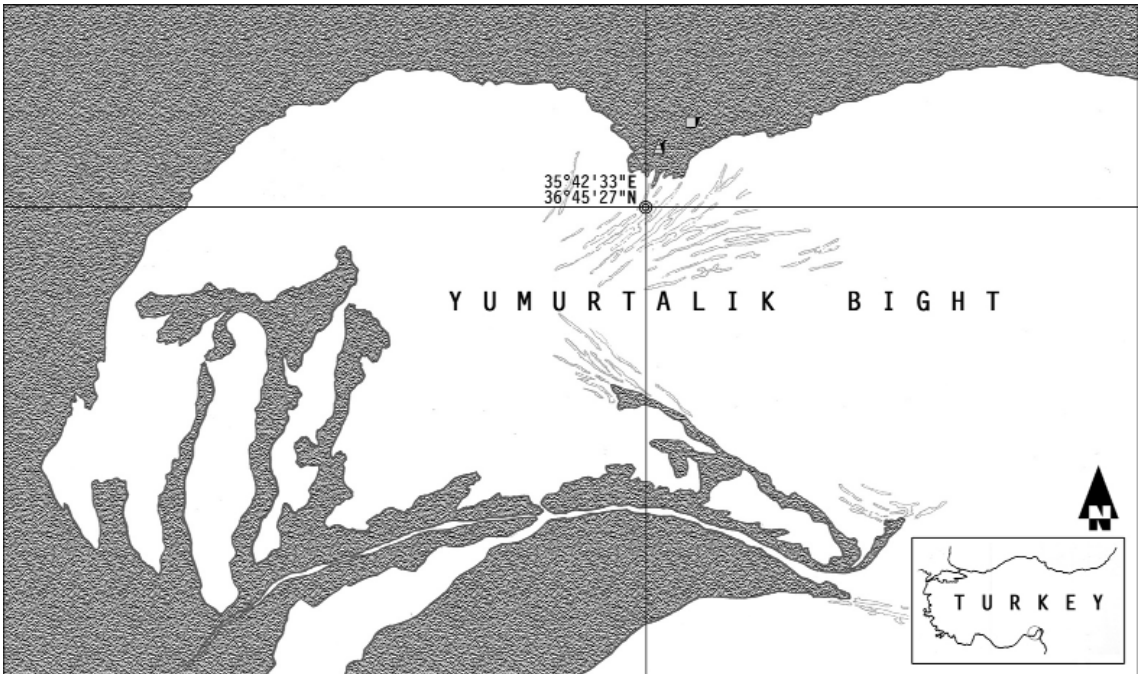

Figure 2. Map showing the locality Where *H. infucata* was found.

for the first time in Yumurtalık Bight of Iskenderun Bay in this study.

Systematic of the species:

Phylum: Mollusca Cuvier, 1797

Classis: Gastropoda Cuvier, 1797

Subclassis: Opistobranchia Milne-Edwards, 1848

Ordo: Nudibranchia Blainville, 1814

Familia: Chromodorididae Bergh, 1891

Genus: Hypselodoris Stimpson,1855

- *Hypselodoris infucata* (Rueppell & Leuckart, 1831) [Doris]

Main Synonyms: *Doris infucata* Ruppell and Leuckart, 1828; *Doris diardi* Kelaart, 1859; *Chromodoris runcinata* Bergh, 1875; *Chromodoris semperi* Bergh, 1877; *Glossodoris infucata* O'Donoghue, 1929; *Glossodoris runcinata* (Berg, 1877). Engel and Eeken, (1962).

Description: The ground colour of the back appears green with a complex patched pattern. The notal edge is pale blue with a line of yellow and dark blue spots. The same spots are scattered over the back. The rhinophore has a short white stalk and a bright orange club. The gills are white and lined with orange while the oral tentacles sometimes have orange tips.

Habitat: Shallow waters, rocky bottoms

Distribution: Indo-Pacific: Gulf of Suez- Et Tur, Gulf of Elat (Aqaba)- Elat, Red Sea, East Africa- Zanzibar, Dar Es Salaam, South Africa, Philippine Is., South Australia, New Caledonia, Fiji, Hawaii Is. (22).

The currents that occur in the northern end of the Suez Canal move northwards along the coasts of Egypt, Israel, Lebanon and Syria, and dissolve just after reaching the Turkish coasts (19). As a consequence, most of the lessepsian molluscs have been reported to occur on the coasts of the countries mentioned above. Although some of the lessepsian species found on the coast of Israel also could be found on the Turkish coast without occurring in any locations in the area, some species are only in the Turkish waters.

There is insufficient information about the distribution of lessepsian molluscs in the Mediterranean. It may be surmised that the pelagic larvae of the benthic molluscan species living in the Erythraean subregion are brought into the Mediterranean by the sea currents. It is very unlikely that the species from subregions that are remote from the Mediterranean should be able to migrate during larval stages, since the life span of the larvae is rather short. It is more reasonable to assume that the migrants from the distant subregions were transported during the adult stage by carriers (ships, fish, etc.) to the localities where they were collected in the Mediterranean.

Of course, the presence of *H. infucata* in the study area does not mean that they inhabit the Mediterranean coasts of Turkey. In order to say that one species is well-established in a particular area, this species must live permanently in this new habitat and reproduce there (23).

It should not be forgotten that newcomer species may cause some ecological problems in the new habitat. Therefore, more detailed ecological studies should be carried out on newcomer species.

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