

A NEW GASTROPOD - OPISTHOBRANCH AT THE ROMANIAN BLACK SEA COAST

Marian-Traian GOMOIU¹, Marius SKOLKA²

¹ National Institute of Marine Geology and Geo-Ecology,
Constanta Branch, 304 Mamaia Blvd., Constanta 8700, Romania

² "Ovidius" University, Natural Sciences Faculty,
124 Mamaia Str., Constanta 8700, Romania

Abstract. A new species recorded at the Romanian Black Sea Coast - *Doridella obscura* Verrill 1870 (Gastropoda Opisthobranchiata: Corambidae) - is presented in this paper. This is a North-Atlantic form accidentally introduced into the Black Sea in the '80s, probably attached to the hull of ocean-going ships. The authors also present the illustrations of the new invertebrate, as well as some observations concerning its behavior in the new habitat.

Key Words: Gastropoda, Nudibranchiata, Black Sea, *Doridella*.

INTRODUCTION

Doridella obscura Verrill 1870, a little Opisthobranch Gastropod, was mentioned for the first time in the Black Sea by Roginskaya and Grintsov (1990) in the North-Western part of the sea, in 1986, and later, in 1989, on the Southern coast of Crimea on a mussel collector (Roginskaya, Grintsov 1990). With this mollusk, the number of Ophistobranch species in the Black Sea reaches 16 (Golikov et al., 1972, Gomoiu, 1961, 1966).

In November 1996, 17 young specimens of an unidentified gastropod without shell were collected in two samples from Mamaia Bay, on rocky bottom. In August 1997, an adult specimen of the same species was collected on a mussel colony, on a jetty near Mamaia, at 0.5 m depth. This living specimen was maintained in laboratory conditions - a microcosm aquarium - for 18 days. The observation of the behavior of *Doridella obscura* in captivity recorded that it finally accepted as food the Bryozoan *Conopeum seurati* Canu.

In October 1997, another two specimens were collected on a large colony of *C.seurati*, at 0.1 m depth. Near these specimens, about 20 flat spiraled egg masses were also present on the Bryozoan colony, each of them containing approximately 2000 eggs.

In order to identify the new immigrant, more than 100 papers written by the famous specialists K. Baba, I. Hamatani, Evelin and E. Marcus, etc. and some key-books (Thiele 1932, Prouvot-Fol 1954, etc.) were consulted.

SYSTEMATICAL STATE

Gastropoda

Euthyneura (Opisthobranchiata)

Ord. Nudibranchiata

Sord. Doridacea

Fam. Corambidae

Gen. *Doridella* Verrill 1870

(Syn. *Corambe* Bergh 1869 ?)

Doridella obscura Verrill 1870

The general aspect of the adult was drawn using the living individual. For the young specimens and for some details, fixed materials were also used (Fig.1).

Morphology. The body of the mollusk is oval, stiff; the notum curved is smooth. Young specimens were 2-4 mm long (Fig.1b) and the adult is 6-7 mm long, 3-3.5 mm broad and 2.5 mm high (Fig.1a). The color of the mollusk is olive-green, the chromatophores being most abundant on the central part of the notum. The rhinophores (Fig.1a, c), white, thin and elongated, with rounded tops, are protected by short and cylindric sheaths. On the rhinophores, some longitudinal pointed combs are present. The head (Fig.1b), mostly covered by the anterior part of the notum, presents two short lateral tentacles. The eyes are situated on the tentacles, subterminal. The foot, covered entirely by notum, is bilobate proximal and rounded distal. The gills (Fig.1b, c), lamellated, are situated median and distal, between the notum and the foot, on both sides of anus. Among the four gills, the two inferior ones are small, with 2-3 pairs of lamellae and the superior ones present 7-8 pairs of lamellae. Radula (Fig.1c), resembling those of the genera *Corambe* Bergh and *Corambella* Belch (Thiele, 1931; Prouvot-Fol, 1954) is characterized by the lack of the median tooth and a 5 (6) - 1 - 0 - 1 - (6) 5 formula. The two ante-median teeth are massive, claw-like, sharpened and dentated lateral.

The rest of the teeth are smaller and sharp pointed.

This Opisthobranch which was not mentioned at

the Romanian Coast is an Atlantic immigrant. Widely distributed on the North-American shore, *Doridella obscura* is quoted from the North-Eastern

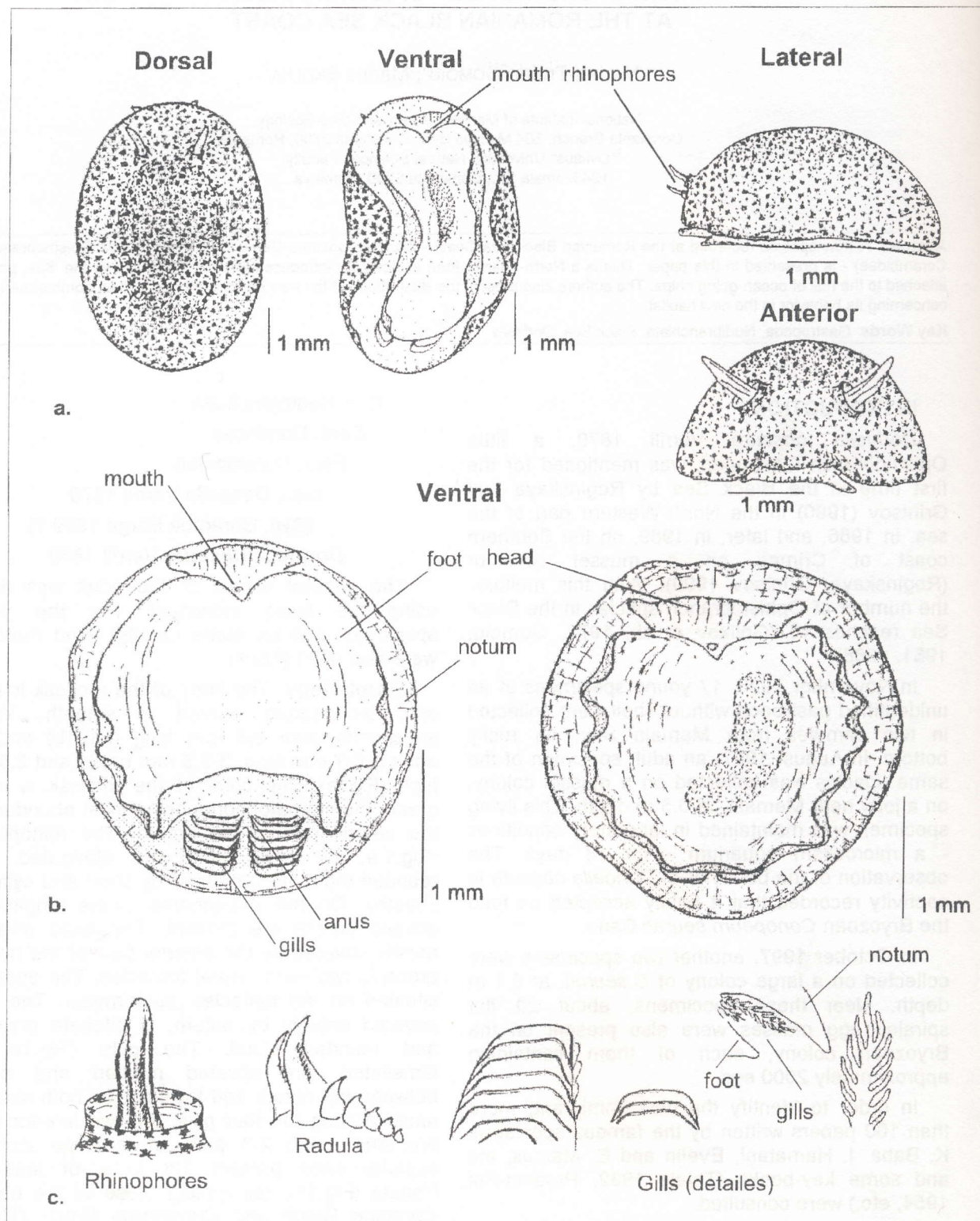


Fig.1. - *Doridella obscura* Verrill 1870;
a. adult specimen, b. young specimens, c. details. Original

part of the United States to the Gulf of Mexico and the Caribbean Sea. On the American immigrant opisthobranch and the Bryozoan - in the same benthal association.

In our samples, *Doridella obscura* was in association with other species like *Mytilus galloprovincialis*, *Actinia equina*, *Obelia longissima*, *Leptoplana tremellaris*, *Hediste diversicolor*, *Nereis zonata*, *Balanus improvisus*, *Idothea baltica*, *Sphaeroma pulchellum*, *Sphaeroma serratum*, *Stenothoe monoculiodes*, *Rhithropanopaeus harrisii tridentatus*, etc, the red algae *Ceramium rubrum* and *Ceramium elegans*, and the Bryozoans *Conopeum seurati*, *Lepralia pallasiana*, *Membranipora membranacea*, *Membranipora aurita* and *Bowerbankia gracilis*. From these species of Bryozoans, the most common in the area is *C. seurati*.

In the same association, in August-September 1997, we find also a number of young specimens of another interesting species - the little sea anemone *Aiptasiamorpha luciae* Verrill (Coelenterata, Anthozoa). This sea anemone was mentioned in 1960-1970 (Bacescu et al. 1971), but since then, no data on this species at the Romanian Coast have been available.

The penetration of this new immigrant in the Black Sea took place probably early in the 1980 - 1985s, approximately in the same period with another North-Atlantic species, the comb-jelly *Mnemiopsis leidyi* Agassiz. Low salinity of the Black Sea and the temperatures recorded in this area are not an obstacle in the spreading of this gastropod. On the American coast it is mentioned both in brackish and seawater (2-23 ‰). Related to the immigration, *Doridella obscura* was most probable brought into the Black Sea in the fouling

community of the ships as adults or as egg-capsules. The other theory, according to which this Opisthobranch gastropod was transported as larvae in the ballast water, appears to be less probable.

In the Black Sea, *Doridella obscura* conquers an empty ecological niche and develops stable populations well adapted to the new environment. Being a predator with no competitors (in the Black Sea there are no predators specialized on Bryozoans exclusively), this mollusk has unlimited food resources. In its Pontic habitat the Bryozoans like *Electra*, *Membranipora* and *Conopeum* species - its preferred prey - are largely distributed, covering mussels and rocky bottoms between the surface and 10-15 m depth.

In the future, we expect that this species will become common on the rocky bottoms in the biocoenosis with *Mytilus galloprovincialis* on the Romanian Coast. The presence of more than 10 young specimens in a single sample is a sign that this species is not a rare one.

Acknowledgements

This paper was presented at the national Symposium "25 years of activity at the Constanta Dolphinarium - 4 - 5 sept. 1997". We are grateful to GEOECOMARINA for publishing this paper with priority. Also, we are indebted to Dr. Irina Roginskaya for having sent us via fax the first article, in Russian, announcing the presence of *Doridella obscura* in the Black Sea. Just before the impression of the present article, we received an envelope containing other information on the Black Sea *Doridella* (Roginskaya, Grintsov, 1995; 1997) for which we would like to express our thanks again.

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