

A new species of the genus *Doridunculus* G.O. Sars, 1878 (Mollusca, Nudibranchia): a hydroid-feeding dorid from the abyssal depths of the Sea of Japan

A. V. MARTYNOV*, I. S. ROGINSKAYA**

*Zoological Museum of Moscow State University, Bolshaya Nikitskaya Str., 6, 103009 Moscow, RUSSIA, sasha_martynov@inbox.ru;

**P.P. Shirshov Institute of Oceanology RAS, Moscow, Nakhimovsky Prospect, 36, Moscow, RUSSIA, irina7@hotmail.com

ABSTRACT. A new species of the rare and poorly studied genus *Doridunculus* G.O.Sars is described from the deep-sea basin of the Sea of Japan (depth 3000-3620 m). *Doridunculus unicus* sp. nov. differs from the two other known representatives of the genus by a complete absence of the notal crests, asymmetrical notal lobes and by details of its radula structure. For the new species the unusual feeding ecology was revealed. *D. unicus* sp. nov. lives within huge accumulations of the colonies of hydroids *Egmundella* sp. (Campanulinidae) and feeds on these hydrozoans (numerous broken fragments of *Egmundella* sp. were found in the oesophagus, stomach and intestine of the new species).

59th cruise of this vessel in 1976, and had an opportunity to see specimens of *Doridunculus* sp. in semi-alive condition just after lifting the trawl aboard.

Thus, upon the ocean floor of the Sea of Japan at depths exceeding 3500 m, a species lives that is closely related to a very interesting group of suctorial phanerobranch dorids. All known representatives of this group (*Armodoris*, *Prodoridunculus*, *Akiodoris*, *Doridunculus* and *Echinocorambe*) are studied very insufficiently and provide a poor material for taxonomic considerations. After more than 70 years of "cryptic" history of this undescribed species of *Doridunculus* it is time to name and describe it.

Over 70 years it has been known that a nudibranch mollusc, externally very similar to the North Atlantic *Doridunculus echinulatus* G.O. Sars, exists in the deep sea basin of the Sea of Japan.

For the first time a single specimen (Fig. 1 A-D) of this enigmatic species was found at the depth 3535 m during the deep-sea trawling on the schooner "Rossinante" under the leadership of professor K.M. Derjugin in 1933. Soon this specimen was identified by N.I. Volodchenko as an undescribed species *Doridunculus japonica* (nom. nudum) and placed in the collection of the Zoological Institute, St.-Petersburg (Leningrad at that time) where it has been stored until now. Unfortunately, Volodchenko has never published a description of this extremely interesting species. Although, later on the species name was mentioned by Volodchenko in two publications [Volodchenko, 1941; Volodchenko in Ushakov, 1953] without any description, and in two unpublished works — her thesis [Volodchenko, 1940b] and the abstract of the thesis [Volodchenko, 1940a].

Only in the early 1970s numerous specimens of *Doridunculus* sp. were collected during the deep-sea researches of the R/V "Vityaz" in the Sea of Japan. One of the authors, I.S. Roginskaya, took part in the

Abbreviations in figures:

a — ampulla; b.c. — bursa copulatrix; c.a. — common atrium; en — entrance of insemination duct to bursa; f.g.m. — female gland mass; i.d. — insemination duct; p.a. — preprostatic portion of the vas deferens; pr — prostata; p.sh. — penial sheath with ejaculatory duct; r.s. — receptaculum seminis; s.c. — special area of vas deferens; v — vagina.

Doridunculus unicus sp. nov.

(Figs. 1-5)

? *Doridunculus japonica* Wolodtschenko (sic!) (1935): Volodchenko, 1941: 60 — nom. nudum.

non *Doridunculus* (sic!) *japonica* Wolod.: Volodchenko in Ushakov, 1953: 257 — nom. nudum.

Adalaria sp.: Levenstein, Pasternak, 1973: 1101.

MATERIAL. Holotype. (Zoological Museum of Moscow University [ZMMU], No. Lc-25739) R/V "Vityaz", cruise 59, sta. 7517, Sea of Japan, 42°28.2'N, 138°20.9'E, depth 3620 m, trawl "VK" (triple modification of the Sigsbee trawl), on hydroids *Egmundella* sp., July 1, 1976. Paratypes. 1 specimen (Zoological Institute, St.-Petersburg, No. 1 in systematic catalog), "Rossinante", sta. LVIII (No. 329), Sea of Japan, 49°49'N, 134°14'E, depth 3535 m, dense oily mud of chocolate colour, August 6, 1933, collected by N. Spassky, identified and labeled by N.I. Volodchenko as *Doridunculus japonica*, nom. nudum. 14 specimens (5 specimens in ZMMU, No. Lc-25740; 9 specimens in P.P. Shirshov In-