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Shallow-water opisthobranch molluscs of the Murman coast of the Barents Sea, with new distributional data and remarks on biology

ALEXANDER V. MARTYNOV[1], TATIANA A. KORSHUNOVA[2], OLEG V. SAVINKIN[3]

[1]*Zoological Museum, Moscow State University, Bolshaya Nikitskaya Str. 6, Moscow, 103009, Russia, e-mail: sasha_martynov@inbox.ru;*
[2]*Institute of Higher Nervous Activity and Neurophysiology, Butlerova 5A, Moscow 117485, Russia;*
[3]*A.N. Severtzov Institute of Problems of Ecology and Evolution, Leninsky prospect 33, Moscow 117071, Russia*

ABSTRACT. The composition of opisthobranch mollusk fauna of the Murman coast of the Barents Sea is described using own and literature data reviewed for the first time. Data on distribution and ecology are given, some taxonomical problems are discussed. Three species new for Russian fauna — *Polycera quadrilineata, Doto fragilis* and *Eubranchus tricolor* and one species new for the Subarctic — *Embletonia pulchra* were discovered. The influence of periodical temperature changes on the opisthobranch fauna composition is discussed.

From faunistic point of view, the Barents Sea is one of the most studied areas of Russia owing to the fact that numerous expeditions have been exploring this region (historical review given in Galkin [1979]). For more than 100 years of research various information on opisthobranch molluscs of the Murman coast of the Barents Sea was accumulated. However, as distinct from shelled Opisthobranchia, which can be easily collected by a dredge or a bottom sampler, data on shell-less opisthobranchs are rather fragmentary (even during collecting on relatively accessible depths 0-30 m), first of all because the collection requires a special experience. The composition of opisthobranch mollusk fauna of the Murman coast of the Barents Sea (Fig. 1) is of particular interest because this area is the outermost limit of distribution of European boreal species to the east and, further, to the Arctic. Although the Murman coast is the oldest studied region in the Russian seas, the data on its opisthobranch species are scattered over faunistic monographs, lists and papers and often are based on the fauna of other areas, e.g. the White Sea. First records of opisthobranchs from the Barents Sea coast can be traced back to works of Middendorff [1849]. The first list of Arctic molluscs, including opisthobranchs was published by Herzenstein [1885, 1893]. A monograph of Derjugin [1915] on the fauna of Kola Bay includes an annotated list of some opisthobranchs from Kola Bay and neighboring areas. Several new records from the Murman coast were mentioned by Derjugin and Gurjanova [1926], Gurjanova [1927], Gurjanova et al. [1929], and Odhner [1939]. Ushakov [1948] presented a rather detailed list of opisthobranch molluscs from Dalne-Zelenetskaya Inlet in the framework of general list of invertebrates of this inlet, but without any comments. In recent period, the most valuable efforts to study the Arctic opisthobranchs were made by Roginskaya [1971, 1987]. In these comprehensive works there are some observations on nudibranchs and sacoglossans from Dalne-Zelenetskaya Inlet. Redkin and Martynov [2001] reported on appearance of large dorid *Archidoris pseudoargus* in upper subtidal of Dalne-Zelenetskaya Inlet. Martynov [2001] presented a revised list of nudibranchs of the Arctic.

Some opisthobranchs materials was collected during recent expeditions: detailed hydrobiological study of Dalne-Zelenetskaya Inlet and neighboring inlets in 1959-1969 by M.V. Propp group [Propp, 1962, 1971], investigation of Yarnyshnaya Inlet and in some parts of Dalne-Zelenetskaya Inlet by A.N. Golikov group in 1987-1988 [Golikov et al., 1993] and regular studies in the same inlet by T.A. Britayev group in 2002-2006.

There has never been a special review of opisthobranchs of this region. In the present paper the literature data, specimens from the Zoological Institute RAS, St. Petersburg (ZIN) and the data from authors' recent investigations of Yarnyshnaya, Dalne-Zelenetskaya, Plokhie Chevry and Shelpinskaya inlets of East Murman (0-50 m depth) are summarized and analysed (the materials housed in the Zoological Museum of Moscow University).