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New records of molluscs of the families Eulimidae and Pyramidellidae (Gastropoda) from the Barents Sea and adjacent Polar Basin

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ABSTRACT. New findings of four gastropod species: *Melanella laurae*, *Hemiaclis ventrosa* (family Eulimidae), *Chrysallida sublustris* and *Odostomia acuta* (family Pyramidellidae) are described. *O. acuta* was previously confused by Russian authors with *H. ventrosa*, distribution of both species in the Barents Sea is limited to the coastal waters of Finmark and Murman. *M. laurae* and *C. sublustris* were found for the first time in the adjacent to the Barents Sea parts of the Arctic Ocean.

Introduction

Gastropods of the families Pyramidellidae and Eulimidae are predominately parasites and are common in marine benthic ecosystems all over the world. However, only three pyramidellid species, *Menestho truncatula* Odhner, 1915, *Aartsenia candida* (Møller, 1842) and *Liostomia eburnea* (Stimpson, 1851) and single shell-bearing eulimid species – *Hemiaclis ventrosa* (Jeffreys in Friele, 1876) had been reported from the Russian Arctic seas [Golikov *et al*., 2001; Kantor, Sysoev, 2006] until the last decade when the pyramidellids *Odostomia turrita* Hanley, 1844, *Ondina divisa* (Adams, 1797), *Menestho albula* (Fabricius, 1780), *Chrysallida eximia* (Jeffreys, 1849) and *Chrysallida* sp. as well as eulimids *Eulima bilineata* Alder, 1848 and *Haliella stenostoma* (Jeffreys, 1858) have been recorded for the first time from the Murman Coast of the Barents Sea [Nekhaev, 2011; 2013; 2014]. The adjacent coast of Scandinavia has significantly more diverse fauna of both families encompassing together about 50 species [Høisæter, 2009; 2014]. Also, several tens of parasitic species are known from the bathyal and abyssal zones of the Atlantic including the Subarctic region [Bouchet, Warén, 1986].

Diversity of pyramidellids and eulimids in the Barents Sea is likely underestimated due to small sizes and inconspicuous shells of many representatives of the families. Therefore, examination of old museum collections and recently obtained material gives a new data on distribution of these families in the Arctic. This paper is aimed to provide a new data on species composition of parasitic gastropods in the Barents Sea and adjacent parts of the Arctic Ocean.

Materials and Methods

Present paper is based on the materials stored in the collections of European museums and on samples recently collected during the cruises of R/V *Dalnie Zelentsy*. Detailed account of the material studied is provided in the species entries.

Abbreviations: ZIN – Zoological Institute of Russian Academy of Sciences (Saint-Petersburg, Russia), ZMB – Zoological Museum of the University of Bergen (Norway), ZMO – Zoological Museum of the University of Oslo (Norway).

Taxonomy

Ptenoglossa
Eulimidae Philippi, 1853

Melanella Bowdich, 1822
Melanella laurae (Friele, 1886)
(Fig. 1 A-C)

Eulima laurae Friele, 1886: 30, tab XI, figs 13, 14a.
Melanella laurae – Bouchet, Warén, 1986: 367, figs 861-862; Warén, 1993: 188, fig. 28D.

Material examined. Type material: syntype of *Eulima laurae*. ZMO D4419, 69°46'N, 16°15'E, 1187 m, R/V *Vøringen,* st. 192, 7.07.1877. **Other material:** Arctic Ocean, 82°01.7'-82°01.39'N, 43°33.18'-43°34.0'E, 284 m, R/V *Polarstern*, st. 27, 21.08.1993, ZIN 62126 (1 empty shell).

Diagnosis. Shell very slender, small, solid, glossy, colorless, semitransparent, consists of about 7-8 moderately convex whorls. Embryonic shell cup-shaped. Sculpture of adult shell consists of delicate, very densely arranged axial riblets. Aper-

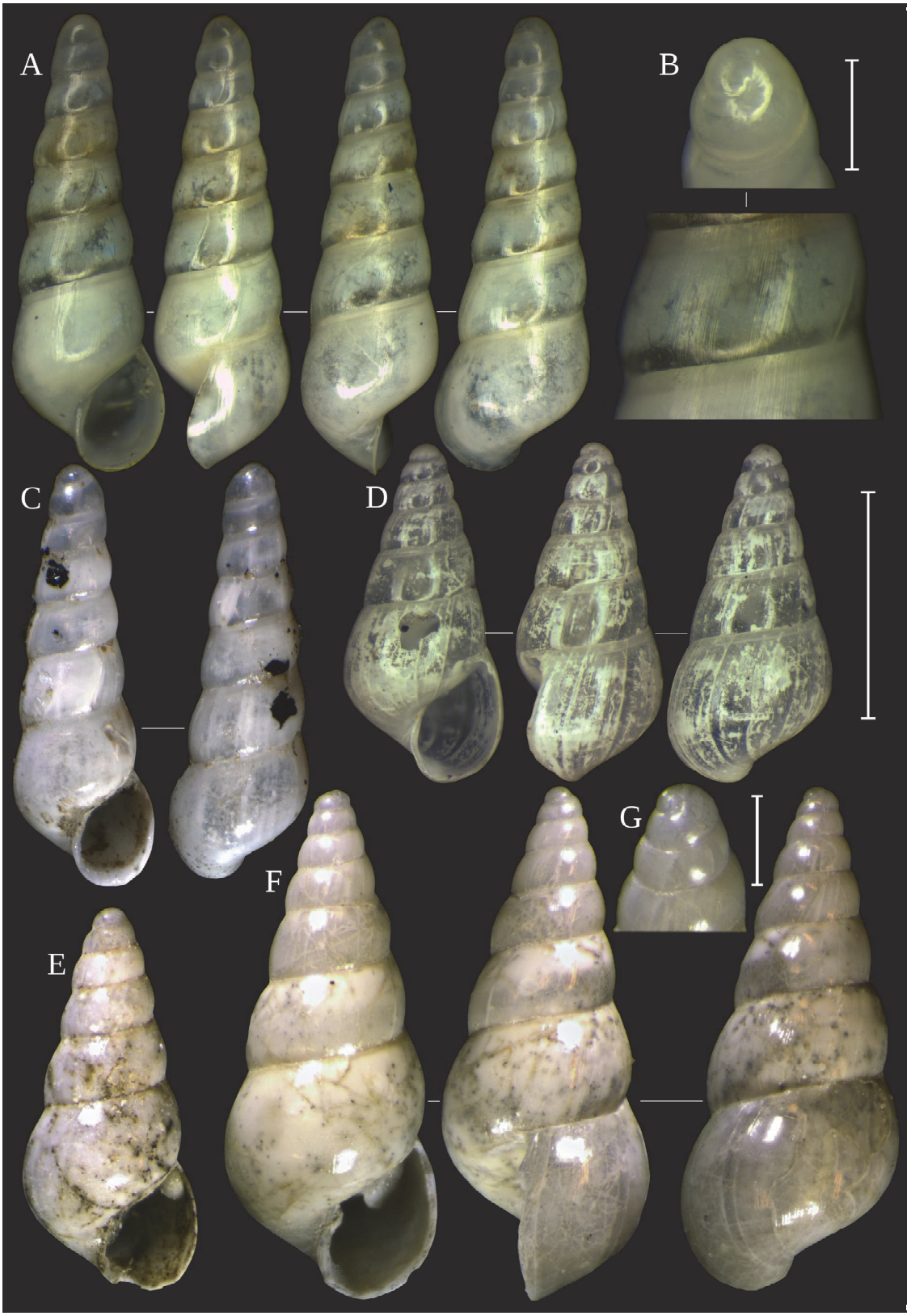

FIG. 1. Shells of Eulimidae. **A–C.** *Melanella laurae*; **A–B**, Arctic Ocean, 82°01.7'-82°01.39'N, 43°33.18'-43°34.0'E, 284 m; **C**, syntype, ZMO D4419. **D–G.** *Hemiaclis ventrosa*; **D**, Southwestern Barents Sea, 70°00'N, 33°30'E, 142 m; **E**, syntype of *Hemiaclis glabra,* ZMO D980b; **F–G,** syntype of *Hemiaclis glabra,* ZMO D980a. Scale bars: **A, C–F** = 2 mm, **B, G** = 0.5 mm.

РИС. 1. Раковины представителей Eulimidae. **A-C.** *Melanella laurae*; **A–B**, Северный Ледовитый океан, 82°01.7'-82°01.39'N, 43°33.18'-43°34.0'E, 284 м; **C**, синтип, ZMO D4419. **D–G.** *Hemiaclis ventrosa*; **D**, юго-восток Баренцева моря, 70°00'N, 33°30'E, 142 м; **E**, синтип *Hemiaclis glabra,* ZMO D980b; **F–G,** синтип *Hemiaclis glabra,* ZMO D980a. Масштаб: **A, C–F** = 2 мм, **B, G** = 0.5 мм.

ture oval with acute angle in upper part; inner lip convex, prosocline in side view. Umbilicus absent.

Distribution. The species is known from the bathyal depths of the Norwegian Sea and the upper slope of the Arctic Ocean, depth range 284-1187 m [Bouchet, Warén, 1986; herein].

Parasitized host. Unknown, probably holothurians, like for other representatives of the genus [Bouchet, Warén, 1986].

Remarks. *Melanella laurae* is the first shell-bearing Eulimid species found from the Arctic Ocean.

Hemiaclis G.O. Sars, 1878
Hemiaclis ventrosa (Jeffreys in Friele, 1876)
(Fig. 1 D-G)

Aclis ventrosa Friele, 1876: 61, fig. 7.
Hemiaclis glabra G.O. Sars, 1878: 198, tab. 11, figs. 14-15.
Hemiaclis ventrosa – Bouchet, Warén 1986: 454, figs 942, 1067-1071, 1074-1075; Nekhaev, 2014: 92.

Material examined: Type material: 3 syntypes of *Hemiaclis glabra*. ZMO D980a and D980b, Bodø, leg. G.O. Sars. **Other material:** Southwestern Barents Sea, 70°00'N, 33°30'E, 142 m, R/V *Dalnie Zelentsy,* 19.08.2007 (1 empty shell).

Diagnosis. Shell small, cone-shaped, slender, glossy, colorless, semitransparent, consists of 6-7 flattened whorls. Sculpture of adult shell consists only of thin growth lines. Aperture drop-shaped; inner lip rounded, prosocline in side view. Umbilicus absent.

Distribution. The species is known from the American Coast (off Georgia), Iceland, Scandinavia and southwestern Barents Sea, 142-3000 m [Bouchet, Warén, 1986; Nekhaev, 2014].

Remarks. *Hemiaclis ventrosa* had been recorded from the Barents and White seas by Russian authors [Golikov, 1987; Golikov *et al*., 2001; Kantor, Sysoev, 2006]. Reexamination of ZIN collections, which includes two lots identified as *Hemiaclis ventrosa* from Finmark, shows that both belong to *Odostomia acuta* (see below). Material from the White Sea reported by Golikov [1987] had not been found. Therefore, present finding is the only reliable record of the species in the Russian seas.

One of the syntypes of *Hemiaclis glabra* with the number D980a is placed in a separate tube and marked as a lectotype, however I could not find any formal lectotype designation.

Heterobranchia
Pyramidellidae Gray, 1840
Chrysallida Carpenter, 1856
Chrysallida sublustris (Friele, 1886)
(Figs. 2 A-C)

Odostomia sublustris Friele 1886: 29, tab XI, fig. 11a.
Chrysallida sublustris – Warén, 1991: 102, fig. 31D; Warén, 1993: 198, figs. 28 E, F; Høisæter, 2014: 23, figs 25-26.

Material examined. Type material: 7 syntypes. ZMB 21613, 69°46' N, 16°15' E, 1187 m, R/V *Vøringen*, sta. 192. **Other Material:** Franz Joseph Land, 80°44.186'N, 53°36.848' E, 251 m, R/V *Dalnie Zelentsy*, sta. 40, 23.08.2006 (5 spm). Northeastern Barents Sea, 78°59.2'N, 64°17'E, 367 m, R/V *Dalnie Zelentsy*, sta. 55, 26.04.2016 (1 spm).

Diagnosis. Shell very small, slender, glossy, colorless, consists of 5-6 convex whorls, divided by deep suture. Embryonic shell consists of about 0.7-0.8 whorls, without sculpture visible in stereomicroscope. Sculpture of adult shell consists of wavy widely spaces axial ribs. Single spiral rib started from upper part of aperture and irregular traces of spiral striature often present on base of shell. Aperture oval, umbilicus narrow.

Distribution. Eastern Atlantic and Arctic: south of Jan Mayen and Iceland, North to Faroes, lower slope of the Norwegian Sea, Franz Joseph Land. Depth range 250-1187 m [Warén, 1993; Høisæter, 2014; this paper].

Ecology. The sample from the Franz Joseph Land was taken from the silty-clay substrate, near-bottom temperature and salinity were -1.3° C and 34.7‰ respectively.

Parasitized host. Unknown.

Remarks. Several authors [Warén, 1991; Høisæter, 2014] stated absence of spiral sculpture in *Chrysallida eximia*, however, specimens from Franz Joseph Land have low spiral lines as described above, which agrees with specimens illustrated by Warén [1993]. Syntypes are in such a poor state that presence of this sculpture cannot be checked.

Odostomia Fleming, 1813
Odostomia acuta Jeffreys, 1848
(Fig. 2 D-F)

Odostomia acuta Jeffreys, 1848: 338-339; Høisæter, 2014: 31-32, figs. 38-42.
Hemiaclis glabra – Kantor, Sysoev, 2006: 132-133, pl. 60A (not of Jeffreys, 1848).

Material examined. Southwestern Barents Sea, 70°46'N, 29°58'E, 46 m, R/V *Persey*, sta. 946, 13.06.1928, ZIN 42943 (1 empty shell); Southwestern Barents Sea, 71°11'N, 25°49'E, 308 m, R/V *Persey*, sta 1134, 1.07.1929, ZIN 42942 (1 empty shell).

Diagnosis. Shell small, white, teleoconch consists of 6-7 moderately convex whorls. Embryonic shell consists of 2 smooth whorls; their axis perpendicular to teleoconch axis. Shell surface covered by orthocline growthlines. Aperture oval; umbilicus distinct.

Distribution. Eastern Atlantic: from the Mediterranean, along the coast of Europe to Eastern Finmark [Høisæter, 2014; this paper].

Ecology. Found on sandy substrate with shell-rock.

Parasitized host. *Odostomia acuta* is associat-

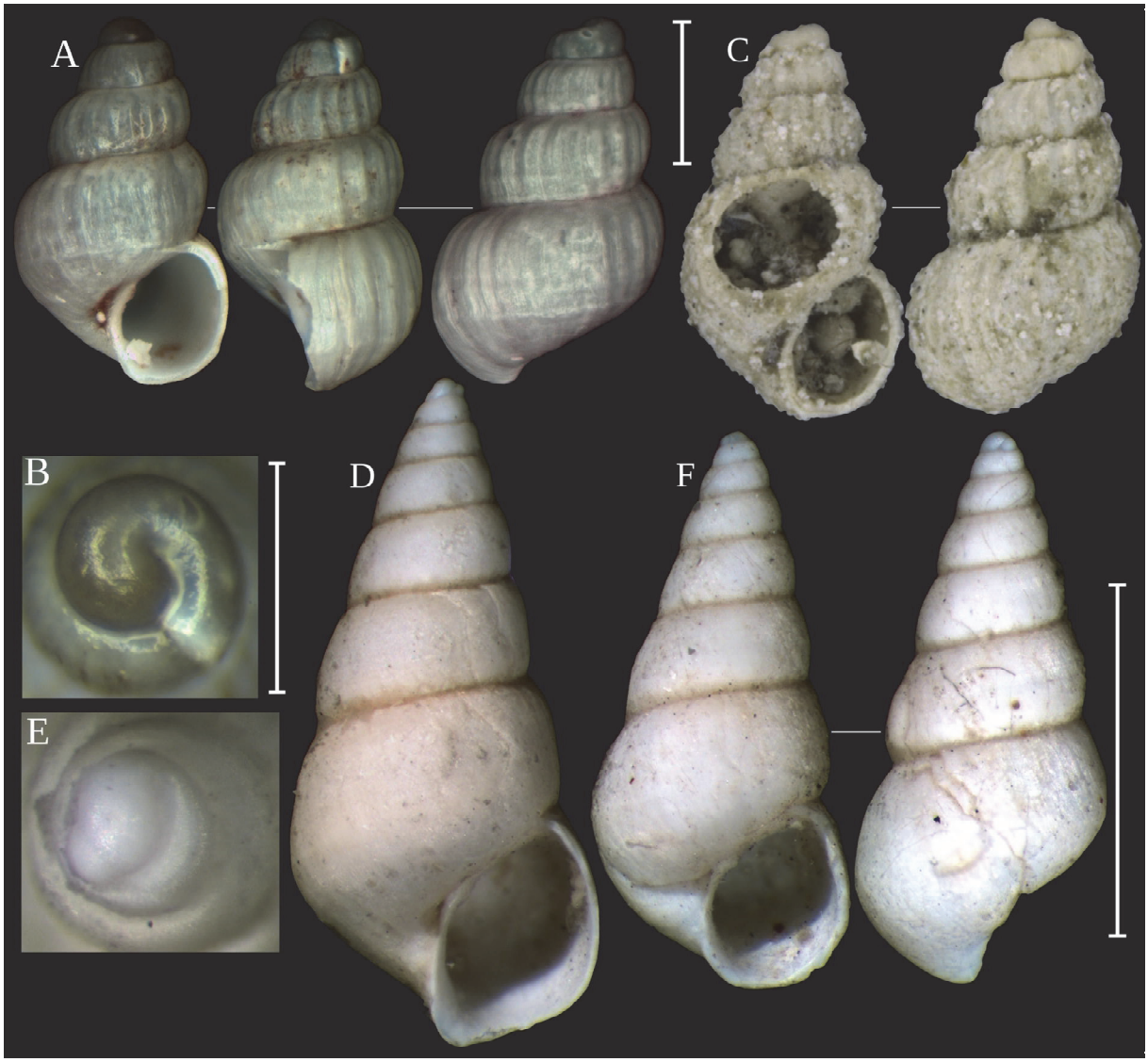

FIG. 2. Shells of Pyramidellidae. **A–C.** *Chrysallida sublustris*; **A–B,** Franz Joseph Land, 80°44.186'N, 53°36.848'E, 251 m; **C**, syntype, ZMB 21613. **D–F**. *Odostomia acuta*; **D–E,** Southwestern Barents Sea, 70°46'N, 29°58'E, 46 m; **F**, Southwestern Barents Sea, 71°11'N, 25°49'E, 308 m. Scale bars: **A, C** = 1 mm, **B, E** = 0.5 mm, **D, F** = 3 mm.

FIG. 2. Раковины представителей Pyramidellidae. **A–C.** *Chrysallida sublustris*; **A–B,** Земля Франца Иосифа, 80°44.186'N, 53°36.848'E, 251 м; **C**, синтип, ZMB 21613. **D–F**. *Odostomia acuta*; **D–E,** юго-восток Баренцева моря, 70°46'N, 29°58'E, 46 м; **F**, юго-восток Баренцева моря, 71°11'N, 25°49'E, 308 м. Шкалы: **A, C** = 1 мм, **B, E** = 0.5 мм, **D, F** = 3 мм.

ed with polychaete worm *Myxicola infundibulum* (Montagu, 1808) which is the most likely host of the snails [Høisæter, 2014].

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References

Bouchet P. Warén A. 1986. Revision of the Northeast Atlantic bathyal and abyssal Aclididae, Eulimidae, Epitoniidae (Mollusca, Gastropoda). *Bolletino Malacologico,* Supplement 2: 299-576.

Friele H. 1876. Bidrag til Vestlandets Molluskfauna. *Forhandlinger i Videnskabs-selskabet i Christiania,* 1875: 57-64.

Friele H. 1886. Zoology, Mollusca II. *Den Norske Nordhavs-expedition, 1876-1878*, 3(16): 1-44, pl. 7-12.

Golikov A.N. 1987. Classis Gastropoda (part.). In: Starobogatov Ya.I., Naumov A.D. (Eds.) Molluscs of the White Sea. *Opredeliteli po faune SSSR, izdavae-*

mye zoologicheskin institutom Akademii nauk SSSR, 151: 41-149 [In Russian].
Golikov A.N., Sirenko B.I., Chaban E.M. 2001. Class Gastropoda. Subclass Pectinibranchia. In: Sirenko B.I., ed. *List of species of free-living invertebrates of Eurasian and Arctic seas and adjacent deep waters*, 51(59): 104-108.
Høisæter T. 2009. Distribution of marine, benthic shell bearing gastropods along the Norwegian coast. *Fauna Norvegica*, 28: 5-106.
Høisæter T. 2014. The Pyramidellidae (Gastropoda, Heterobrabchia) of Norway and adjacent waters. A taxonomic review. *Fauna Norvegica,* 34: 7-78.
Jeffreys J.G. 1848. On the recent species of *Odostomia*, a genus of gasteropodous mollusks inhabiting the seas of Great Britain and Ireland. *Annals and Magazine of Natural History*, 2: 330-351.
Kantor Yu. I., Sysoev A.V. 2006. *Marine and Brackish water Gastropoda of Russia and ajecent countries: an illustrated catalogue.* KMK Scientific Press Ltd., Moscow, 371 p., 140 pl.
Nekhaev I.O. 2011. Two species of parasitic molluscs new for Russian Seas. *Ruthenica, Russian Malacological Journal*, 21(1): 69-72.
Nekhaev I.O. 2013. Distributional notes on *Gibbula cineraria* (Linnaeus, 1758), *Pseudosetia turgida* (Jeffreys, 1870) and *Haliella stenostoma* (Jeffreys, 1858) in Russian part of the Barents Sea. *Ruthenica, Russian Malacological Journal*, 23: 35-39.
Nekhaev I.O. 2014. Marine shell-bearing Gastropoda of Murman (Barents Sea): an annotated check-list. *Ruthenica, Russian Malacological Journal,* 24: 75-121.
Sars, G.O. 1878. *Mollusca regionis arcticae Norvegiae. Oversigt over de I Norges arktiskes region forekommende Bloddyr. Bidrag til kundskaben on Norges arktiske fauna.* Trukt Hos AW Brøgger, Cristiania, 466 p.
Warén A. 1991. New and little known Mollusca from Iceland and Scandinavia. *Sarsia*, 76:53-124.
Warén A. 1993. New and little known Mollusca from Iceland and Scandinavia. Part. 2. *Sarsia*, 78: 159-201.

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Новые находки моллюсков семейств Eulimidae и Pyramidellidae (Gastropoda) в Баренцевом море и прилегающих районах Полярного бассейна

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РЕЗЮМЕ. Описаны новые находки четырёх видов брюхоногих моллюсков: *Melanella laurae* (Friele, 1886), *Hemiaclis ventrosa* (Jeffreys in Friele, 1876) *Chrysallida sublustris* (Friele, 1886) и *Odostomia acuta* Jeffreys, 1848. *O. acuta* ранее отечественными авторами был неверно указан как *H. ventrosa,* распространение обоих видов в Баренцевом море ограничено прибрежными водами Мурмана и Финмаркена. *M. laurae* и *C. sublustris* впервые отмечены в прилегающих к Баренцевому морю частях Северного Ледовитого океана.