

Marine shell-bearing Gastropoda of Murman (Barents Sea): an annotated check-list

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ABSTRACT. Annotated check-list of shell-bearing Gastropoda of Murman Coast (Barents Sea Coast of Kola Peninsula) is presented. Based on original material collected in 1996-2013 and literature data 148 species are recorded for the region. Nine species: *Skenea rugulosa* (G.O. Sars, 1878), *Aclis sarsi* Dautzenberg et Fischer, 1912, *Admete clivicola* Høisæter, 2010, *Nassarius incrassatus* (Strøm, 1768), *Raphitoma leufroyi* (Michaud, 1828), *Taranis moerchi* (Malm, 1861), *Ondina divisa* (J. Adams, 1797), *Menestho albula* (Fabricius, 1780), *Bogasonia volutoides* Warén, 1989 were absent in previous reviews of Russian molluscan fauna. Three species with unclear taxonomical position are listed: *Skenea* cf. *trochoides*, *Omalogyra* cf. *atomus* and *Chrysallida* sp. A majority of species found in Murman waters have a boreal distribution and are typical for northern European fauna. References to previous studies based on material from Murman Coast as well as original records are listed for each species, some remarkable species are depicted and discussed.

Introduction

The Murman Coast, or Murman is a name for the coast of Kola Peninsula washed by the Barents Sea and includes area from the Russian-Norwegian border in Varangerfjord to Svyatoy Nos Cape.

The only survey of molluscan fauna of the Murman Coast was carried out by Solomon Herzenstein [1885] who summarized material collected during the voyages in 1880 and 1884 as well as published data. His list contains 84 shell-bearing gastropod species with detailed data on locality and material studied. More recent data on gastropod fauna of the region are dispersed within the numerous published sources focused mainly on benthic fauna of Murman.

As the result of activities of Murmansk Biological Station in Ekaterinenskaya Bay of Kola Inlet, a detailed survey of Kola Inlet environment and fauna including Mollusca was published [Derjugin, 1915]. The Station also carried out annual studies of the Kola Transect – standard transect stretched along the meridian 33°30'E from 69°30'N to 75°00'N, two sampling sites of which (69°30'N and 70°00'N)

were placed close to Kola Peninsula [Derjugin, 1924]. Some samples of bottom fauna including Mollusca were collected along the Murman Coast by both *Helgoland* expedition in 1898 and *Poseidon* expedition in 1913 [Thiele, 1928].

Biological station in Dalnie Zelentsy village was established after shutting of the research station in Ekaterinenskaya Bay in 1933. The first account of the fauna of the biological station vicinity (Yarnishnaya, Dalne-Zelenetskaya and Porchnikha bays) was published by Ushakov [1948]. The general direction of molluscan research during this period was comprehensive study of population ecology, life history, breeding and in some cases embryonic development of common species [Kuznetsov, 1946; 1948a; 1948b; 1950; 1951; Kuznetsov, Matveeva, 1948; Matveeva, 1955a; 1955b; 1966; 1974; Polyansky, 1950; 1955].

Studies focused on particular molluscan taxa which occur in Murman are not numerous. The review of the species of Buccinidae was presented by Kantor [1981]. Distribution of the littorinid molluscs along Murman Coast was discussed by Granovitch *et al.* [2004; 2008]. An account of opisthobranch fauna was given by Martynov *et al.* [2006]. Apart from this, some additional data of gastropod species composition may be extracted from distributional maps of some monographs focused on the Arctic fauna [Galkin, 1955; Golikov, 1980; 1995; Bogdanov, 1990]. Recent investigations of the Murman fauna shows that some species not previously recorded occur in Murman Coast [Kantor *et al.*, 2008; Chaban, Nekhaev, 2010; Nekhaev, 2011; 2013a; 2013b; Nekhaev, Kantor, 2012; Nekhaev *et al.*, 2014].

The goal of this paper is to summarize all known published records of gastropods from Murman coast as well as voluminous original data.

Materials and methods

Studied area includes coastal waters of the Kola Peninsula (SW Barents Sea). Its western border is located in the eastern part of Varangerfjorden and eastern one in the western part of Voronka of the

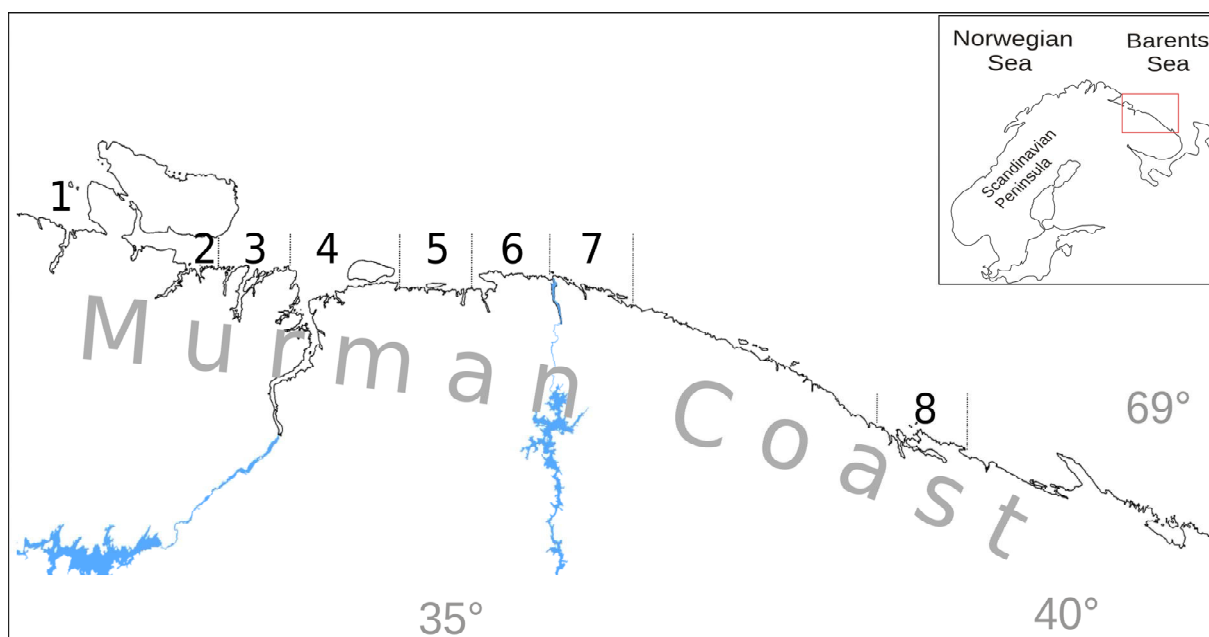


FIG. 1. Map of the region studied, numbers indicate studied areas (see text for details).

РИС. 1 Карта исследованного региона, номерами показаны районы (см. текст).

White Sea. Majority of examined material was collected from the inner areas of the bays and inlets, some samples collected as far off shore as 30-50 km are also included.

The material studied was collected from 1996 to 2013 during the numerous cruises along the Kola Peninsula and coastal expeditions carried out by research groups from Murmansk Marine Biological Institute of Russian Academy of Sciences (RAS) and A.N. Severtsov's Institute of Ecology and Evolution of RAS. Overview of bottom communities based on this surveys was partly published [Britaev *et al.*, 2010; Lyubina *et al.*, 2012a; 2012b; Deart, Britaev, 2014].

Material was collected by different types of grabs or by SCUBA diving. The bulk of samples were collected from areas 0.0625 m² – 0.1 m² and hence large molluscan species with low density were often undercollected. Collections of Zoological Institute of RAS (ZIN) for a particular taxa (especially Rissoidae) were examined. The majority of material studied were live animals, empty shells were used as an additional source of distributional information for rare species. More than 32000 live snails and about 600 empty shells from more than 300 stations (1050 samples) were studied.

References to previous studies, based on the material from Murman as well as original records are listed for each species. Distributional maps from some monographs focused on the fauna of Arctic were used as additional source of distributional information for some rare species. Neither confer-

ence abstracts nor unpublished PhD thesis were taken into account. Original records for the majority of species are listed in the text. Sixteen common species were collected in great number, and for saving space the studied material is listed in the online supplementary data.

There is no agreement on the English names of water bodies of the Murman Coast. For instance one of the most known bay was called Kolafjorden, Kola Fjord, Kola Bay, Kola Inlet, Kola Gulf, Kol'skiy Zaliv, Kolsky Bay by different authors. Another one was cited as Dalne-Zelenetskaya Bay, Dalne-Zelenetsky Inlet, Zelenetskaya Bay, Daln'yaya Zelenetskaya Bay. Some discrepancies are caused by different way of transliteration (e.g. Kol'skiy and Kolsky) or by omitting the endings (e.g. Motovsk and Motovski). In the following text full toponyms with endings are used with only exception for the Kola Inlet. Apart from the different spellings, the different terms describing coast outline are used almost for each area. Usually authors used "bay" or "inlet" for the shoreline indentations, terms "gulf", "fjord" as well "guba" and "zaliv" (latter transliterated from Russian) also can be found in literature. I use "inlet" for the long and narrow areas like Kola Inlet, Yarnishnaya Inlet and Ura Inlet, and use "bay" for all remaining toponyms.

Localities are numbered from west to east (Fig. 1): **Area 1** – eastern part of Varangerfjorden (including Pechenga Bay, and Bolshoy Aynov Island which is a part of Kandalaksha State Natural Reserve), **Area 2** – Motovski Bay, **Area 3** – vicinity

of Ura Inlet (including Ara Bay and Port-Vladimir), **Area 4** – vicinity of Kola Inlet (including Zelenetskaya Zapadnaya Bay and Kildin Isl.), **Area 5** – from Maliy Oleniy Strait to Dolgaya Bay, **Area 6** – Teriberskaya Bay, **Area 7** – vicinity of Dalnie Zelentsy (including Gavrilovskie Isls., Podpakhta, Dalne-Zelenetskaya, Shelpinskaya, Medvejya Bays and Yarnishnaya Inlet), **Area 8** – vicinity of Ivanovskaya Inlet (including Vostochniy Nokuevskiy, Zapadny Nokuevskiy, Dvorovaya and Drozdovka Bays), **Area 9** – outer areas of coastal waters. Actual data on gastropod fauna of other regions is still absent.

Classification generally follows that of CLEM-AM, all discordances are discussed in the text as well as main discrepancies with Kantor and Sysoev [2006]. Some remarks on taxonomy and diagnostics are presented for rare and newly recorded species.

SEM studies were carried out in Paleontological Institute of RAS and Zoological Institute of RAS by author, SEM photos of *Skenea* cf. *trochoides* were taken in Lomonosov Moscow State University by Dmitriy Palatov.

Abbreviations used are: AH – aperture height, AW – aperture width, LWH – last whorl height, M/S – motor ship, R/V – research vessel, SH – shell height, SW – shell width, sh – shell(s), sp – specimen(s), ZIN – Zoological Institute of RAS.

Results

Patellogastropoda

Acmaeoidae Forbes, 1850

Lepetidae Gray, 1850

Lepeta Gray, 1847

Lepeta caeca (Müller, 1776)

Previous records:

- *Lepeta coeca*: Herzenstein, 1885: 668-669 (Distribution in Murman: Ara bay, Motka bay, off Kildin Isl., vicinity of Teriberka and Shelpino); Derjugin, 1915: 525 (Distribution in Murman: Kola Inlet); Derjugin, 1924: 72 (Distribution in Murman: high sea); Thiele, 1928: 564-565 (Distribution in Murman: Port Vladimir); Ushakov, 1948: 30 (Distribution in Murman: vicinity of Dalnie Zelentsy); Matveeva, 1974: 81-84, tables 6-7, fig. 3 (Ecology; growth; breeding; life history);
- *Lepeta caeca*: Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: 518 specimens, 6-207 m (see supplementary material for details).

Iothia Forbes, 1849

Iothia fulva (Müller, 1776)

No previous records.

Material studied: **Area 1:** Pechenga Bay: 1 sp, 55 m, 69°37.80'N, 31°22.70'E, March 1997, *M/S BGK-73*; **Area 2:** 1 sp, 31 m, 69°40.71'N, 32°07.93'E, 25 Sept. 2007, *M/S GS-440*; 1 sh, 86 m, 25 May 1996, *M/S GS-440*; **Area 4:** Kola

Inlet: 15 sp, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; 1 sp, 13 m, 69°16.80'N, 33°33.07'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 19 m, 69°09.16'N, 33°32.74'E, 31 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 20 m, 69°08.80'N, 33°27.27'E, 1 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 17 m, 69°07.43'N, 33°24.07'E, 2 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 6:** Korabelnaya Bay: 1 sp, 6 m, 69°10.88'N, 35°09.76'E, 10 Sept. 2010; **Area 7:** 1 sp, 75 m, 69°09.94'N, 36°00.85'E, 3 July 2004, *R/V Dalnie Zelentsy*; Yarnishnaya Inlet: 1 sp, 40 m, 69°07.78'N, 36°01.51'E, 3 June 2009, *R/V Dalnie Zelentsy*; **Area 8:** Zapadny Nokuevskiy Bay: 2 sp, 72 m, 68°23.98'N, 38°24.28'E, 16 Aug. 2011, *M/S Viking-1*; Vostochniy Nokuevskiy Bay: 1 sp, 54 m, 68°22.46'N, 38°32.30'E, 30 July 2008, *R/V Dalnie Zelentsy*.

Lottiidae Gray, 1840

Tectura Gray, 1847

Tectura virginea (Müller, 1776)

Previous records:

- *Acmea virginea*: Derjugin, 1915: 524 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 30 (Distribution in Murman: vicinity of Dalnie Zelentsy); Propp, 1966: 96 (Distribution in Murman, no exact locality);
- *Tectura virginea*: Golikov, Kussakin, 1978: 39-40, fig. 21 (Description of shell; habitat; distribution in Murman, no exact locality); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: **Area 1:** 1 sp, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; **Area 2:** 1 sp, 21 m, 69°41.24'N, 32°08.73'E, 25 Sept. 2007, *M/S GS-440*; 3 sp, 45 m, 69°41.17'N, 32°09.31'E, 25 Sept. 2007, *M/S GS-440*; **Area 4:** Northern part of Kola Inlet: 38 sp, 4-33 m, 28 May – 2 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 5:** 11 sp, 30 m, 69°13.79'N, 34°51.49'E, 2 July 2004, *R/V Dalnie Zelentsy*; Dolgaya Bay: 1 sp, 42 m, 69°13.54'N, 35°01.24'E, 26 July 2008, *R/V Dalnie Zelentsy*; 1 sp, 23 m, 69°11.46'N, 34°58.15'E, 20 Aug. 2006; **Area 6:** Korabelnaya Bay: 2 sp, 9 m, 69°11.01'N, 35°09.58'E, 10 Sept. 2010; **Area 7:** Yarnishnaya Inlet: 57 sp, 26 m, 69°07.32'N, 36°02.12'E, 3 June 2009, *R/V Dalnie Zelentsy*; 2 sp, 14 m, 69°07.78'N, 36°00.60'E, 3 June 2009, *R/V Dalnie Zelentsy*; Dalne-Zelenetskaya Bay: 11 sp, 10 m, 69°07.28'N, 36°05.26'E, 3 July 2009; 2 sp, 9 m, 69°07.29'N, 36°05.00'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*; Medvejya Bay: 7 sp, 6-25 m, 19-24 Aug. 2007; **Area 8:** Vostochniy Nokuevskiy Bay: 4 sp, 54 m, 68°22.46'N, 38°32.30'E, 30 July 2008, *R/V Dalnie Zelentsy*.

Erginus Jeffreys, 1877

Erginus rubellus (Fabricius, 1780)

Previous records:

- *Acmea rubella*: Herzenstein, 1885: 668 (Distribution in Murman: Ara bay – empty shells); Ushakov, 1948: 30 (Distribution in Murman: vicinity of Dalnie Zelentsy).

Absent in material studied.

Testudinalia Moskalev, 1966

Testudinalia tessulata (Müller, 1776)

Previous records:

- *Patella (Acmaea) testudinalis*: Middendorff, 1849: 356-359 (Shell description; distribution in Murman, no exact locality);

- *Acmea testudinalis*: Herzenstein, 1885: 668 (Distribution in Murman: Varangerfjord, Ara bay, off Kildin Isl., Teriberka, Podpakhta, Shelpino); Derjugin, 1915: 524 (Distribution in Murman: Kola Inlet); Thiele, 1928: 564 (Distribution in Murman: vicinity of Port Vladimir); Ushakov, 1948: 30 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 254 (Ecology); Matveeva, 1955a: 32-47, tables 1-10, figs. 1-5 (Ecology; growth; breeding; life history);
- *Testudinalia tessellata*: Matveeva, 1974: 76-81, tables 2-5 (Ecology; growth; breeding; life history); Golikov, Kussakin, 1978: 35-36, fig. 18 (Description of shell; habitat; distribution in Murman, no exact locality); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: 233 specimens, 0-66 m (see supplementary material for details).

Patelloidea Rainesque, 1815

Patellidae Rafinesque, 1815

Patella vulgata Linnaeus, 1758 was reported by Russian authors from the Barents Sea without precise locality [Galkin, 1998]. This species has the known NE range border in Finmarken where it is not common [Høisæter, 2009] but is absent in material seen. It is likely that *Patella vulgata* occasionally occurs in Murman.

Ansates Sowerby, 1839

Ansates pellucida (Linnaeus, 1758)

Previous records:

- *Helcion pellucidus*: Golikov, Kussakin, 1978: 43-44, fig. 25 (Description of shell; habitat; distribution in Murman: Aynovy Isls.).

Material studied: **Area 1**: Bolshoy Aynov Isl.: 4 sp, littoral, 28 May – 25 June 2008, leg. I.O. Nekhaev; **Area 7**: Medvejya Bay: 1 sp, 15 m, 20 Aug. 2007.

Vetigastropoda

Scissurellodea Gray, 1817

Anatomidae McLean, 1989

Anatoma Woodward, 1859

Recent investigation of the norwegian *Anatoma* shows that few more species occurs in that region. [Høisæter, Geiger, 2011]. Only *Anatoma crispata* s. str. is present in my material.

Anatoma crispata (Fleming, 1828)

Previous records:

- *Scissurella crispata*: Herzenstein, 1885: 67 (Distribution in Murman: vicinity of Teriberka – empty shell); Thiele, 1928: 565 (Distribution in Murman: off Kildin Isl.).

Material studied: **Area 1**: 1 sh, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; **Area 2**: 6 sh, 197 m, 69°36.87'N, 32°16.43'E, 26 May 1996, *M/S GS-440*;

Area 3: 1 sh, 17 m, 69°22.70'N, 32°54.88'E, 6 Oct. 2006; **Area 4**: Kola Inlet: 1 sp, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; 6 sh, 22 m, 69°16.81'N, 33°32.99'E, 28 May 2013, leg. Yu.A. Zuev, S.V. Goldin; **Area 7**: 1 sh, 75 m, 69°09.94'N, 36°00.85'E, 3 July 2004, *R/V Dalnie Zelentsy*; Dalne-Zelenetskaya Bay: 2 sp, 66 m, 69°08.41'N, 36°04.54'E, 4 June 2009, *R/V Dalnie Zelentsy*; **Area 8**: Vostochniy Nokuevskiy Bay: 1 sp, 54 m, 68°22.46'N, 38°32.30'E, 30 July 2008, *R/V Dalnie Zelentsy*.

Fissurelloidea Fleming, 1822

Fissurellidae Fleming, 1822

Puncturella Lowe, 1827

Puncturella noachina (Linnaeus, 1771)

Previous records:

- *Puncturella noachina*: Herzenstein, 1885: 669 (Distribution in Murman: Varangerfjord, Ara bay, vicinity of Teriberka); Derjugin, 1915: 525 (Distribution in Murman: Kola Inlet); Thiele, 1928: 565 (Distribution in Murman: off Kildin Isl., off Nemetskiy cape); Ushakov, 1948: 30 (Distribution in Murman: vicinity of Dalnie Zelentsy); Propp, 1966: 96 (Distribution in Murman, no exact locality); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: 173 specimens, 5-213 m (see supplementary material for details).

Trochoidea Rafinesque, 1815

According to recent molecular investigations both Margaritidae and Solariellidae were considered as a distinct families, Skeneidae was placed in the Trochoidea, not Turbinoidea [Williams, Ozawa, 2006; Williams, 2012].

Trochidae Rafinesque, 1815

Gibbula Risso, 1826

Gibbula tumida (Montagu, 1803)

Previous records:

- *Gibbula tumida*: Ushakov, 1948: 30 (Distribution in Murman: vicinity of Dalnie Zelentsy); Galkin, 1955: 115-116, figs 74-76 (Shell and radula description; distributional map); Nekhaev, 2013a: 36, fig. 1 (E-G) (Remarks to identification).

Material studied: **Area 1**: 7 sp, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; **Area 3**: 32 sp, 5-25 m; **Area 4**: Kola Inlet: 10 sp, 13-43 m; **Area 5**: Maliy Oleniy Strait: 3 sp, 25 m, 69°14.190'N, 34°48.440'E, 30 May 2007, *R/V Dalnie Zelentsy*; Dolgaya Bay: 15 sp, 12-42 m; **Area 6**: 2 sp, 30 m, 69°11.96'N, 35°08.54'E, 3 July 2004, *R/V Dalnie Zelentsy*; Orlovka Bay: 1 sp, 23 m, 69°12.35'N, 35°16.00'E, 11 Oct. 2010; Korabelnaya Bay: 13 sp, 9 m, 69°11.01'N, 35°09.58'E, 10 Sept. 2010; **Area 7**: Yarnishnaya Inlet: 37 sp, 5-40 m; Dalne-Zelenetskaya Bay: 18 sp, 5-66 m; Medvejya Bay: 17 sp, 14-20 m; **Area 8**: Ivanovskaya Inlet: 1 sp, 22 m, 68°20.49'N, 38°28.22'E, 30 July 2008, *R/V Dalnie Zelentsy*; Dvorovaya Bay: 3 sp, 25 m, 68°26.05'N, 38°13.39'E, 27 July 08, *R/V Dalnie Zelentsy*; **Area 9**: 1 sp, 69 m, 68°12.76'N, 40°06.54'E, 30 July 2008, *R/V Dalnie Zelentsy*.

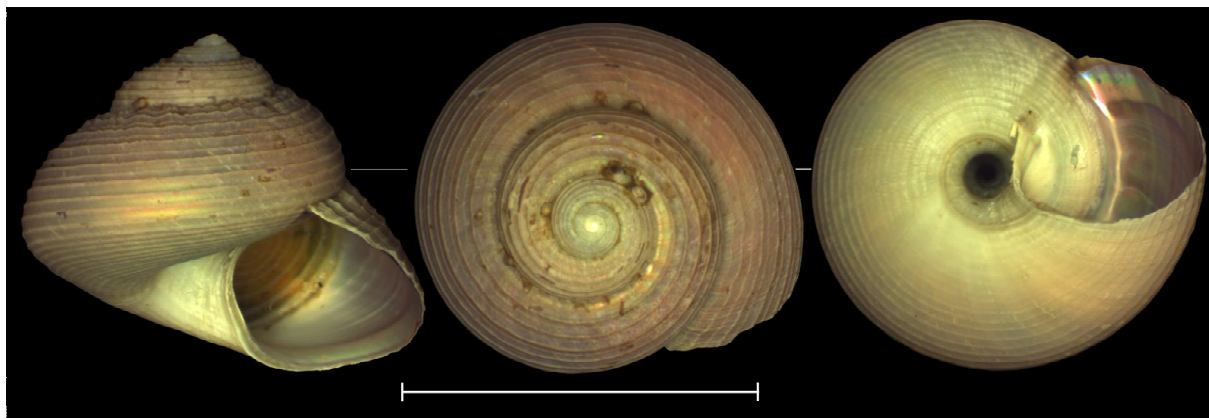


FIG. 2. Shell of *Margarites striatus*, Kola Inlet, 10 m, 69°07.27' N, 33°28.79' E. Scale bar = 10 mm.

РИС. 2. Раковина *Margarites striatus*, Кольский залив, 10 м, 69°07.27' N, 33°28.79' E. Масштабная линейка = 10 мм.

Gibbula cineraria (Linnaeus, 1758)

Previous records:

- *Gibbula cineraria*: Nekhaev, 2013a: 35-36, fig. 1 (A-D) (Description of shell; Distribution in Murman: Varangerfjorden, Yarnyshnaya Inlet).

Material studied: **Area 1:** Bolshoy Aynov Isl.: 21 sp, littoral, 28 May – 25 June 2008, *leg. I.O. Nekhaev*; Zapadnaya Malonemetskaya Bay: 6 sp, 69°42.420'N, 31°23.493'E, littoral, Sept. 2012, *leg. Yu.V. Deart*; Bolshaya Volokovaya Bay: 4 sp, 12-15 m, Sept. 2012, *leg. Yu.V. Deart*; **Area 7:** Yarnishnaya Inlet: 1 sp, 14 m, 69°07.78'N, 36°00.60'E, 3 June 2009, *R/V Dalnie Zelentsy*.

Calliostomatidae Thiele, 1924

Calliostoma Swainson, 1840

Calliostoma occidentale

(Mighels et C. B. Adams, 1842)

Previous records:

- *Trochus occidentalis*: Herzenstein, 1885: 673-674 (Distribution in Murman: Motka Bay, off Kildin Isl., Teriberskaya Bay); Derjugin, 1915: 527-528 (Distribution in Murman: Kola Inlet);
- *Calliostoma occidentale*: Galkin, 1955: 112-113, figs 71-74 (Shell and radula description; distributional map).

Material studied: **Area 4:** Kola Inlet: 1 sh, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*.

Margaritidae Thiele, 1924

Margarites Gray, 1847

Margarites costalis (Lovén in Gould, 1841)

Previous records:

- *Margarita striata*: Middendorff, 1849: 402-404 (Shell description; distribution in Murman, no exact locality);
- *Margarita cinerea*: Herzenstein, 1885: 672 (Distribution in Murman: Motka Bay, Ara Bay, off Kildin Isl., off Bolshoy Oleniy Isl., vicinity of Teriberka); Derjugin, 1915: 526-527 (Distribution in Murman: Kola Inlet); Thiele, 1928: 565 (Distribution in Murman:

vicinity of Port Vladimir); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);

- *Margarites (Margarites) striata cinerea*: Galkin, 1955: 31-32, figs 37-40 (Shell and radula description; distributional map);
- *Margarites costalis*: Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: **Area 2:** 4 sp, 31 m, 69°40.71'N, 32°07.93'E, 25 Sept. 2007, *M/S GS-440*; **Area 3:** vicinity of Vidyaev: 2 sp, 5-25 m, 29 June - 1 Sept. 2007; **Area 5:** 2 sp, 30 m, 69°13.79'N, 34°51.49'E, 2 July 2004, *R/V Dalnie Zelentsy*; Dolgaya Bay: 12 sp, 84 m, 69°11.97'N, 34°58.57'E, 25 July 2008, *R/V Dalnie Zelentsy*; 2 sp, 23 m, 69°11.46'N, 34°58.15'E, 20 Aug. 2006; 1 sp, 3-22 m, 10-12 Aug. 2005; **Area 7:** Yarnishnaya Inlet: 2 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, *R/V Dalnie Zelentsy*; 5 sp, 5-28 m, 31 July – 3 Aug. 2004; Dalne-Zelenetskaya Bay: 1 sp, 66 m, 69°08.41'N, 36°04.54'E, 4 June 2009, *R/V Dalnie Zelentsy*; **Area 8:** 1 sp, 123 m, 68°27.39'N, 38°23.80'E, 16 Aug. 2011, *M/S Viking-1*; Zapadnyy Nokuevskiy Bay: 2 sp, 72 m, 68°23.98'N, 38°24.28'E, 16 Aug. 2011, *M/S Viking-1*; Vostochniy Nokuevskiy Bay: 1 sp, 54 m, 68°22.46'N, 38°32.30'E, 30 July 2008, *R/V Dalnie Zelentsy*; **Area 9:** 1 sp, 177 m, 69°25.15'N, 33°05.33'E, 14 Aug. 2007, *M/S Gidrolog*; 1 sp, 202 m, 69°42.11'N, 34°01.10'E, 5 Sept. 2007, *R/V Dalnie Zelentsy*; 1 sp, 199 m, 69°35.16'N, 33°45.00'E, 6 Sept. 2007, *R/V Dalnie Zelentsy*.

Remarks. Authorship of this name usually erroneously referred as “Gould, 1841”.

Margarites striatus (Leach, 1819)

(Fig 2)

Previous records:

- *Margarita grönländica*: Herzenstein, 1885: 670-671 (Distribution in Murman: Varangerfjorden, Motka Bay, Ara Bay, Ura Inlet, off Kildin, vicinity of Teriberka and Podpakhta, off Gavrilovoy Isl., off Iokangskie Isl.); Derjugin, 1915: 526 (Distribution in Murman: Kola Inlet);
- *Margarites groenlandica*: Thiele, 1928: 565 (Distribution in Murman: vicinity of Port Vladimir); Propp, 1966: 96 (Distribution in Murman, no exact locality);
- *Margarita groenlandica*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);

- *Margarites (Margarites) groenlandicus groenlandicus*: Galkin, 1955: 80-82, figs 22-24 (Shell and radula description; distributional map);
- *Margarites groenlandicus*: Matveeva, 1974: 88-91, table 10, fig 6 (Ecology; growth; breeding; life history);
- *Margarites groenlandica groenlandica*: Golikov, Kussakin, 1978: 53-54, fig. 31 (Description of shell; habitat; distribution in Murman, no exact locality).

Material studied: 414 specimens, 5-200 m (see supplementary material for details).

Remarks. This species is known as *Margarites groenlandicus groenlandicus* (Gmelin, 1791) whereas the erroneous usage of this name by many authors was demonstrated by Rehder [1990]. Based on studying of the type material he suggested that *Trochus groenlandicus* Gmelin, 1791 was often cited as *Margarita umbilicalis* Broderip et Sowerby, 1829, known in the recent literature as *Margarites groenlandicus umbilicalis* (Broderip et Sowerby, 1829). The earliest available name for *Margarites groenlandicus groenlandicus* auct. is *Margarites striatus* (Leach, 1819).

Whereas the *Margarites striatus* is common in temperate European waters [Fretter, Graham, 1977; Høisæter, 2009], *M. groenlandicus* seems to be an arctic species and is not known from the coastal waters of Murman. The record of a single specimen from the Kola Inlet by Derjugin [1915] was probably based on misidentification.

The name *Margarites striatus striatus* was misapplied by Russian authors [e.g. Galkin, 1955; Kantor, Sysoev, 2006] and used for another species unknown from Murman coastal waters and similar to *Margarites costalis*.

***Margarites helcinus* (Phipps, 1774)**

Previous records:

- *Margarita arctica*: Middendorff, 1849: 397-399 (Shell description; distribution in Murman, no exact locality);
- *Margarita helicina*: Herzenstein, 1885: 670 (Distribution in Murman: Motka bay, Ara bay, off Kildin Isl., vicinity of Teriberka and Podpakhta, off Iokangs Isl.); Derjugin, 1915: 525-526 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 30 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 254-255 (Ecology); Kuznetsov, 1948b: 538-564, tables 1-11, figs., 1-17 (Ecology; growth; breeding; life history; production);
- *Margarites (Margarites) helcinus helcinus*: Galkin, 1955: 75-78, figs 16-19 (Shell and radula description; distributional map);
- *Margarites helicina*: Propp, 1966: 96 (Distribution in Murman, no exact locality); Golikov, Kussakin, 1978: 57-59, fig. 34 (Description of shell; habitat; distribution in Murman, no exact locality);
- *Margarites helcinus*: Matveeva, 1974: 84-88, tables 8-9, figs 4-5 (Ecology; growth; breeding; life history); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: 5302 specimens, 0-95 m (see supplementary material for details).

***Margarites olivaceus* (Brown, 1827)**

Previous records:

- *Margarita olivacea*: Herzenstein, 1885: 671-672 (Distribution in Murman: Ara Bay, Gavrilov Isl. – empty shells); Derjugin, 1915: 526 (Distribution in Murman: Kola Inlet);
- *Margarites olivacea*: Thiele, 1928: 565 (Distribution in Murman: off Kildin Isl.);
- *Margarites olivaceus*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Margarites (Margarites) olivacea olivacea*: Galkin, 1955: 85-88, figs 30-33 (Shell and radula description; distributional map).

Material studied: **Area 1**: 1 sp, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; **Area 4**: Kola Inlet: 7 sp, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; **Area 5**: Dolgaya Bay: 25 sp, 42 m, 69°13.54'N, 35°01.24'E, 26 July 2008, *R/V Dalnie Zelentsy*; **Area 7**: Dalne-Zelenetskaya Bay: 8 sp, 54 m, 69°07.78'N, 36°06.85'E, 4 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 59 m, 69°07.92'N, 36°05.45'E, 4 June 2009, *R/V Dalnie Zelentsy*; 3 sp, 66 m, 69°08.41'N, 36°04.54'E, 4 June 2009, *R/V Dalnie Zelentsy*; **Area 9**: 1 sp, 202 m, 69°42.11'N, 34°01.10'E, 5 Sept. 2007, *R/V Dalnie Zelentsy*; 12 sp, 69 m, 68°12.76'N, 40°06.54'E, 30 July 2008, *R/V Dalnie Zelentsy*.

***Margarites vahlii* (Møller, 1842)**

Previous records:

- *Margarites (Margarites) vahlii*: Galkin, 1955: 99-101, figs 53-56 (Shell and radula description; distributional map).

Absent in material studied.

Solariellidae Powell, 1951

Solariella Wood, 1842

Solariella varicosa

(Mighels et C.B. Adams, 1842)

Previous records:

- *Margarita varicosa*: Herzenstein, 1885: 673 (Distribution in Murman: Motka Bay, Ara Bay, off Kildin Isl., vicinity of Teriberka);
- *Solariella (Machaeroplax) varicosa*: Derjugin, 1915: 527 (Distribution in Murman: Kola Inlet);
- *Solariella varicosa*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Thiele, 1928: 565-566 (Distribution in Murman: vicinity of Port Vladimir); Galkin, 1955: 109-111, figs 63, 66-68 (Shell and radula description; distributional map); Matveeva, 1974: 91-94, tables 11-12, (Ecology; growth; breeding; life history).

Material studied: **Area 1**: Pechenga Bay: 1 sp, 37 m, March 1997, *M/S BGK-73*; **Area 2**: 1 sh, 103 m, 69°34.00'N, 32°53.10'E, 24 May 1996, *M/S GS-440*; 3 sp, 50 m, 69°37.48'N, 32°00.28'E, 27 May 1996, *M/S GS-440*; **Area 4**: Kola Inlet: 2 sp, 18 m, 69°02.49'N, 33°02.66'E, 14 July 2006, *M/S GS-440*; **Area 5**: Dolgaya Bay: 7 sp, 30 m, 69°10.16'N, 34°56.54'E, 25 July 2008, *R/V Dalnie Zelentsy*; **Area 7**: Yarnishnaya Inlet: 6 sp, 67 m, 69°08.71'N, 36°00.44'E, 2

June 2009, *R/V Dalnie Zelentsy*; 1 sh, 27 m, 69°07.21'N, 36°02.55'E, 5 July 2004, *R/V Dalnie Zelentsy*; 7 sp, 73 m, 69°07.64'N, 36°02.01'E, 19 Sept. 2012, *M/S Viking-2*; **Area 8**: Zapadnyy Nokuevskiy Bay: 2 sp, 72 m, 68°23.98'N, 38°24.28'E, 16 Aug. 2011, *M/S Viking-1*; Ivanovskaya Inlet: 10 sp, 34 m, 68°20.54'N, 38°28.32'E, 9 July 2004, *R/V Dalnie Zelentsy*.

Solariella obscura (Couthouy, 1838)

Previous records:

- *Margarita obscura*: Herzenstein, 1885: 672-673 (Distribution in Murman: Ara Bay, off Kildin Isl., off Bolshoy Oleniy Isl., vicinity of Teriberka and Podpakhta, off Iokangskie Isl.);
- *Solariella (Machaeroplax) obscura*: Derjugin, 1915: 527 (Distribution in Murman: Kola Inlet);
- *Solariella (Machaeroplax) bella*: Derjugin, 1915: 527 (Distribution in Murman: Kola Inlet);
- *Solariella obscura*: Thiele, 1928: 566 (Distribution in Murman: vicinity of Port Vladimir); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Galkin, 1955: 104-107, figs 60-63 (Shell and radula description; distributional map);
- *Solariella obscura v. bella*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Solariella obscura* var. *bella*: Galkin, 1955: 107-108, figs 62, 64 (Shell description; distributional map);
- *Solariella obscura* var. *intermedia*: Galkin, 1955: 104-107, figs 108-109 (Shell description; distributional map).

Material studied: **Area 2**: 1 sp, 103 m, 69°34.00'N, 32°53.10'E, 24 May 1996, *M/S GS-440*; **Area 4**: Kola Inlet: 1 sp, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; **Area 5**: Maliy Oleniy Strait: 1 sp, 25 m, 69°14.19'N, 34°48.44'E, 30 May 2007, *R/V Dalnie Zelentsy*; Dolgaya Bay: 1 sp, 45 m, 69°10.33'N, 34°56.54'E, 29 May 2009, *R/V Dalnie Zelentsy*; **Area 6**: Zavalishina Bay: 15 sp, 12 m, 69°11.38'N, 35°14.78'E, 10 Oct. 2010; **Area 7**: Yarnishnaya Inlet: 14 sp, 67 m, 69°08.71'N, 36°00.44'E, 2 June 2009, *R/V Dalnie Zelentsy*; 4 sp, 26 m, 69°07.32'N, 36°02.12'E, 3 June 2009, *R/V Dalnie Zelentsy*; **Area 8**: Dvorovaya Bay: 56 sp, 25 m, 68°26.05'N, 38°13.39'E, 27 July 08, *R/V Dalnie Zelentsy*; **Area 9**: 6 sp, 100 m, 68°31.85'N, 38°44.73'E, 30 July 08, *R/V Dalnie Zelentsy*.

Skeneidae Clark, 1851

Kantor and Sysoev [2006] erroneously reported *Skenea valvatoides* (Jeffreys, 1883) (as *Ganesa valvatoides*) from the Barents Sea referring to Golikov *et al.* [2001] who recorded that species for Laptev Sea. *Skenea valvatoides* is a species with unclear taxonomic position known only from type locality near the Coast of Portugal [Jeffreys, 1883; Warén, 1992] and its occurrence in the Laptev Sea is doubtful, besides no material of that species were found in ZIN [Kantor, Sysoev, 2006].

Skenea Fleming, 1825

Skenea trochoides (Friele, 1876)

(Fig 3 D; 4, A-C)

Previous records:

? – *Cyclostrema trochoides*: Herzenstein, 1885: 68 (Distribution in Murman: off Gavrilov Isl.)

– *Ganesa laevigata*: Galkin, 1955 (in part): 125-127, figs 88-90 (Shell and radula description; distributional map).

Material studied: **Area 7**: Dalne-Zelenetskaya Bay: 1 sh, 71 m, 69°08.39'N, 36°04.07'E, 20 Sept. 2012, *M/S Viking-2*.

Remarks. *Skenea trochoides* has elevated spire even in small specimens; protoconch consists of about 0.8 whorls, with two or three weak spiral riblets. The umbilical area with numerous arcuate axial grooves. Several strong rough ribs occur in the umbilicus. A single damaged shell of *Skenea trochoides* was found from Murman (Fig 3D), therefore also a specimens from central Barents Sea which was studied by SEM is illustrated (Fig 4 A-C).

The description of *Ganesa laevigata* by Galkin [1955] undoubtedly belongs to *Skenea trochoides* whereas he did not recognized *Skenea trochoides* and *Skenea ossiansarsi* (= *Cyclostrema laevigatum* auct.).

Number of whorls of the shell found is 2.75, SH = 1.45 mm, SW = 1.6 mm, protoconch of about 1 whorl with diameter 380 µm and nucleus of 120 µm.

Skenea cf. trochoides

(Fig. 3 E; 4, D-F)

No previous records.

Material studied: **Area 3**: 5 sh, 17 m, 69°22.70'N, 32°54.88'E, 6 Oct. 2006; **Area 7**: Yarnishnaya Inlet: 1 sh, 27 m, 69°07.21'N, 36°02.55'E, 5 July 2004, *R/V Dalnie Zelentsy*.

Remarks. Both protoconch and teleoconch of this form are significantly larger than in *Skenea trochoides* whereas no differences were found in shell shape and sculpture. I found it difficult to decide whether it is a giant form of *Skenea trochoides* or a distinct species due to very limited material.

The measurements of largest specimen with 3.1 whorls are (mm): SH=2.25, AH=1.25, LWH=1.9, SW=2.43, AW=1.23. Protoconch of 0.75 whorls, diameter 450 µm; in other specimen protoconch consists of 0.9 whorl with a diameter 480 µm and nucleus of 140 µm.

Skenea ossiansarsi Warén, 1991

(Fig. 3 C; 5, G-I)

No previous records.

Material studied: **Area 4**: Kola Inlet: 1 sp, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; **Area 7**: Yarnishnaya Inlet: 1 sp, 73 m, 69°07.64'N, 36°02.01'E, 19 Sept. 2012, *M/S Viking-2*; Dalne-Zelenetskaya Bay: 18 sp, 66 m, 69°08.41'N, 36°04.54'E, 4 June 2009, *R/V Dalnie Zelentsy*; 2 sh, 46 m, 69°07.85'N, 36°04.81'E, 20 Sept. 2012, *M/S Viking-2*.

Remarks. The sculpture of the basal area of *Skenea ossiansarsi* is similar to that of *Skenea tro-*

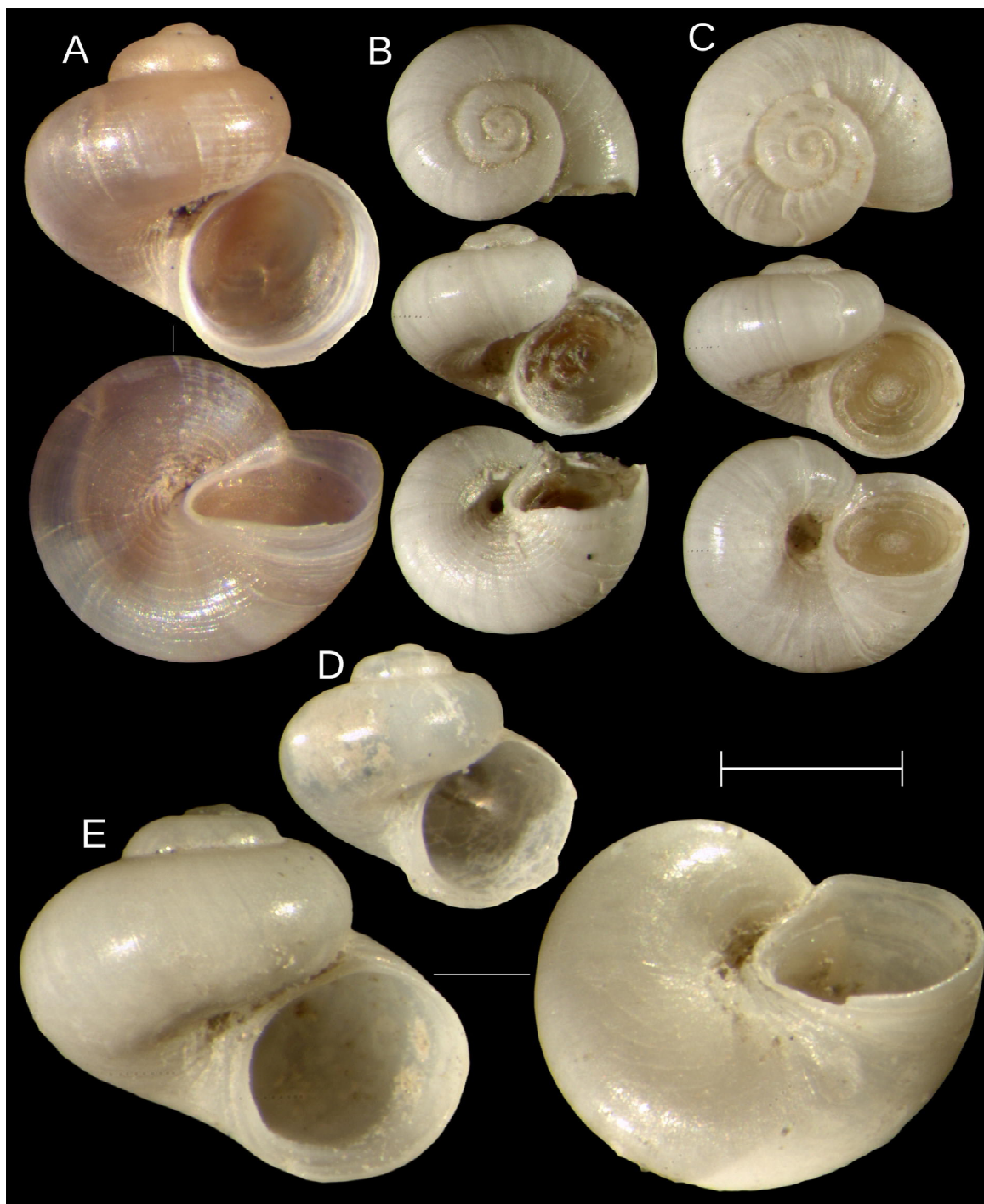


FIG. 3. Shells of *Skenea*: A – *Skenea basistriata*, Barents Sea, 144 m, 70°00'N, 33°30'E, 11 Aug. 2010; B – *Skenea rugulosa*, Dalne-Zelenetskaya Bay, 66 m, 69°08.41'N, 36°04.54'E; C – *Skenea ossiansarsi*, the same sample; D – *Skenea trochoides*, Dalne-Zelenetskaya Bay, 71 m, 69°08.39'N, 36°04.07'E, E – *Skenea cf. trochoides*, Ura Inlet, 17 m, 69°22.70'N, 32°54.88'E. Scale Bar = 1 mm.

РИС. 3. Раковины *Skenea*: А – *Skenea basistriata*, Баренцево море, 144 м, 70°00'N, 33°30'E, 11 августа 2010; В – *Skenea rugulosa*, губа Дальне-Зеленецкая, 66 м, 69°08.41'N, 36°04.54'E; С – *Skenea ossiansarsi*, из той же пробы; D – *Skenea trochoides*, губа Дальне-Зеленецкая, 71 м, 69°08.39'N, 36°04.07'E, Е – *Skenea cf. trochoides*, губа Ура, 17 м, 69°22.70'N, 32°54.88'E. Масштабная линейка = 1 мм.

choides, but the spire of the former species is visibly depressed and umbilical ribs are considerably weaker or absent.

The measurements of the specimen with 2.5

whorls are (mm): SH=1.02, AH=0.73, LWH=0.95, SW=1.45, AW=0.7.

This species was reported from the Kara Sea (80°58'N, 80°26'E') [Warén, 1991] and this was

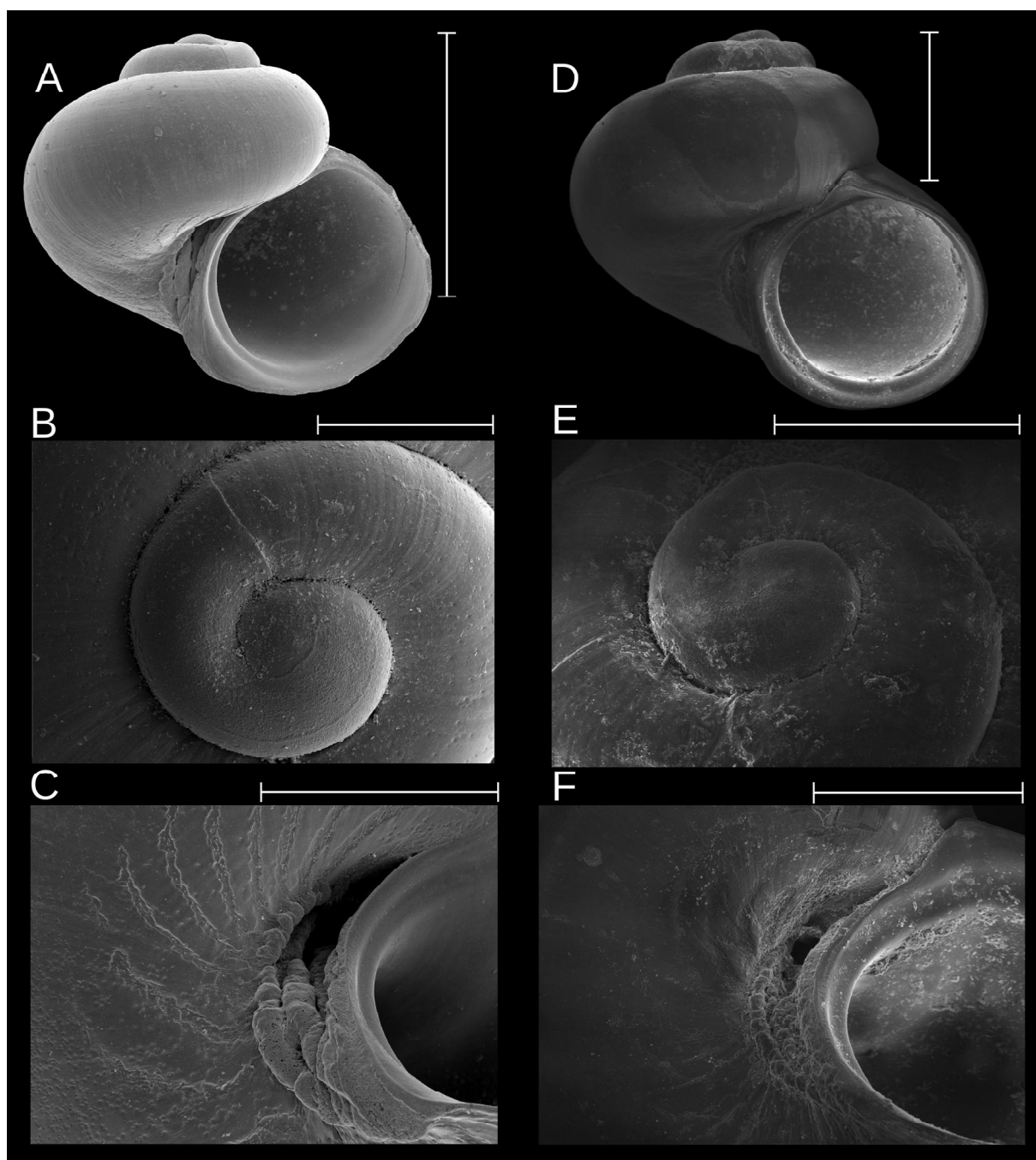


FIG. 4. Shells of *Skenia trochoides* (A-C) and *Skenia* cf. *trochoides* (D-F): A-C – Barents Sea, 71°00'N, 33°30'E, 11 Aug. 2010; D-F – Ura Inlet, 17 m, 69°22.70'N, 32°54.88'E. Scale bars: A, B, F – 900 μ m, B, C, E = 300 μ m.

РИС. 4. Раковины *Skenia trochoides* (A-C) и *Skenia* cf. *trochoides* (D-F): A-C – Баренцево море, 71°00'N, 33°30'E, 11 августа 2010; D-F – губа Ура, 17 м, 69°22.70'N, 32°54.88'E. Масштабные линейки: A, B, F – 900 μ m, B, C, E = 300 μ m.

overlooked in recent publications focused on fauna of Russian Arctic.

***Skenia basistriata* (Jeffreys, 1877)**

(Fig. 3 A)

No previous records.

Material studied: **Area 9:** 1 sp, 145 m, 70°00'N, 33°30'E, 12 Aug. 2011, *R/V Vilnius*; 3 sp, 145 m, 70°00'N, 33°30'E, 9

Aug. 2012, *R/V Vilnius*; 3 sp, 144 m, 70°00'N, 33°30'E, 11 Aug. 2010, *R/V Fridtjof Nansen*.

Remarks. *Skenia basistriata* may be distinguished by elevated spire, presence of spiral striae which in some specimens covers all of the shell surface and by presence of a single spiral rib in the initial part of teleoconch. Among the other *Skenia* species listed here (excluding *Skenia* cf. *trochoides*) *Skenia basistriata* have considerably larger size.

The measurements of specimen with 3 whorls are (mm): SH=1.89, AH=1.08, LWH=1.62, SW=2.03, AW=1.08, protoconch diameter 390 µm.

Galkin [1955] synonymized *Skenea basistriata* and *Skenea rugulosa*.

***Skenea rugulosa* (G.O. Sars, 1878)**

(Fig. 3 B; 5 A-F)

No previous records.

Material studied: **Area 1:** 1 sp, 213 m, 69°55.20'N, 31°32.60'E, 2 March 2007, *R/V Dalnie Zelentsy*; **Area 4:** Kola Inlet: 3 sp, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; **Area 5:** 4 sp, 30 m, 69°13.79'N, 34°51.49'E, 2 July 2004, *R/V Dalnie Zelentsy*; **Area 7:** Dalne-Zelenetskaya Bay: 1 sp, 54 m, 69°07.78'N, 36°06.85'E, 4 June 2009, *R/V Dalnie Zelentsy*; 8 sp, 66 m, 69°08.41'N, 36°04.54'E, 4 June 2009, *R/V Dalnie Zelentsy*; **Area 9:** 1 sp, 145 m, 70°00'N, 33°30'E, 12 Aug. 2011, *R/V Vilnius*; 2 sp, 142 m, 70°00'N, 33°30'E, 19 Aug. 2007, *R/V Dalnie Zelentsy*.

Remarks. *Skenea rugulosa* has depressed spire and narrow spiral lines present only on basal area. Within the material studied *Skenea rugulosa* often occurs sympatrically with *Skenea ossiansarsi* which may be distinguished by wide umbilicus whereas *Skenea rugulosa* usually has very narrow one.

Protoconch consists of 0.5-0.8 whorls, lacking any regular sculpture, its diameter is about 350 µm.

The measurements of specimen with 2.8 whorls are (mm): SH=1.50, AH=0.85, SW=1.65, AW=0.93.

The species is the first time found in Russia.

Turbinoidea Rafinesque, 1815

Colloniidae Cossmann, 1917

Colloniidae was treated as a subfamily in Bouchet and Rocroi [2005] but was considered as a distinct family in the recent classification of Turbinoidea [McLean, Kiel, 2007].

Moelleria Jeffreys, 1865

***Moelleria costulata* (Møller, 1842)**

Previous records:

– *Mølleria costulata*: Herzenstein, 1885: 668-669 (Distribution in Murman: Ara bay);

– *Moelleria costulata*: Thiele, 1928: 566 (Distribution in Murman: off Kildin Isl.); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: 258 specimens, 8-221 m (see supplementary material for details).

Caenogastropoda

Littorinimorpha

Capuloidea Fleming, 1822

Capulidae Fleming, 1822

***Trichotropis* Broderip et Sowerby, 1829**

Both *Trichotropis* species listed here considered

within genus *Ariadnaria* Habe, 1961 by Golikov [1986] authors based only on minor differences in shell shape.

***Trichotropis borealis* Broderip et Sowerby, 1829**

Previous records:

– *Trichotropis borealis*: Herzenstein, 1885: 677-678 (Distribution in Murman: Varangerfjorden, Ara Bay, off Kildin Isl., vicinity of Teriberka); Derjugin, 1915: 531 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).

Material studied: **Area 5:** 1 sp, 30 m, 69°13.79'N, 34°51.49'E, 2 July 2004, *R/V Dalnie Zelentsy*; **Area 7:** Dalne-Zelenetskaya Bay: 1 sp, 5-16 m, 2-17 Aug. 2003, *leg. A.V. Rzhavsky, Yu.A. Zuev*.

***Trichotropis conica* Møller, 1842**

Previous records:

– *Trichotropis conica*: Herzenstein, 1885: 678 (Distribution in Murman: vicinity of Shelpino – empty shell).

Material studied: **Area 3:** 1 sp, 17 m, 69°22.70'N, 32°54.88'E, 6 Oct. 2006; **Area 7:** Dalne-Zelenetskaya Bay: 2 sp, 54 m, 69°07.78'N, 36°06.85'E, 4 June 2009, *R/V Dalnie Zelentsy*; **Area 9:** 1 sp, 138 m, 69°15.69'N, 35°28.73'E, 4 Aug. 2008, *R/V Vilnius*.

Littorinoidea Children, 1834

Littorinidae Children, 1834

***Littorina* Férussac, 1822**

The genus was revised by Reid [1996] who recognized a number of previously overlooked species from Europe. Based on his revision Granovitch *et al.* [2004; 2008] specified species composition of *Littorina* of some localities on East Murman. According to their data six species occur in the region – *Littorina arcana*, *Littorina compressa*, *Littorina fabalis*, *Littorina obtusata*, *Littorina saxatilis* and *Littorina littorea*. Within my material only three species were distinguished but the majority of collections still needs reexamination.

***Littorina arcana* Hannaford Ellis, 1978**

Previous records:

– *Littorina arcana*: Granovitch, Sokolova, 2001: 241-243, figs. 1-2 (Description of shell and reproductive system; distribution in Murman: Dalne-Zelenetskaya Bay, Yarnyshnaya Inlet); Granovitch *et al.*, 2004: 1305-1316, tables 1-3, figs. 1-5 (Description of shell and reproductive system; parasitology; distribution in Murman: Dalne-Zelenetskaya Bay, Yarnyshnaya Inlet); Ganja *et al.*, 2006: 40-46, Fig. 2 (Histology); Granovitch *et al.*, 2008: 1425-1436, tables 1-2, figs. 1-7 (Description of shell and reproductive system; population genetics; distribution in Murman: vicinity of Dalnie Zelentsy); Mikhailova *et al.*, 2008: 5-9 (Interspecific hybridiza-

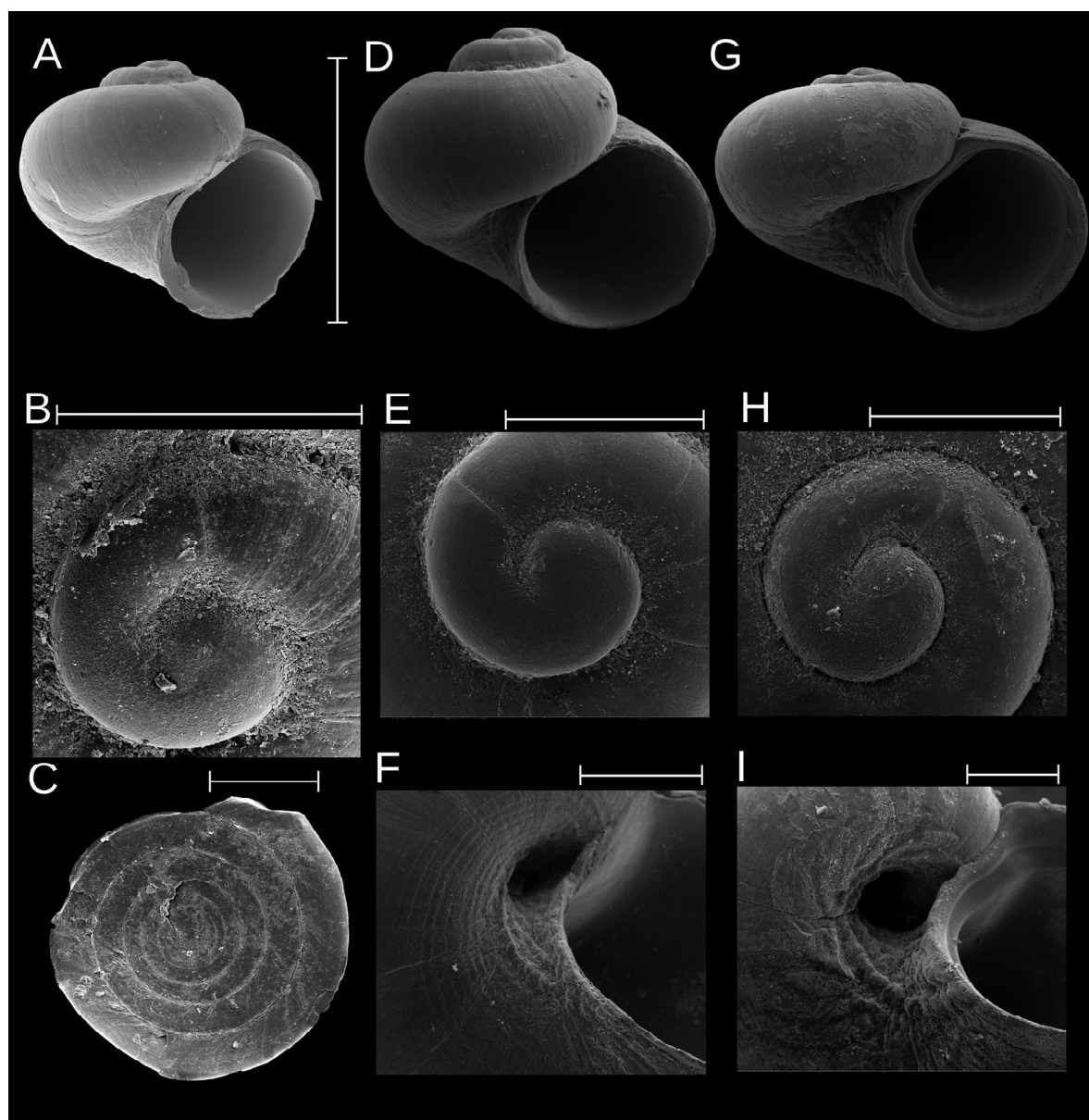


FIG. 5. Shells of *Skeneia rugulosa* (A-C, D-F) and *Skeneia ossiansarsii* (G-I), all from the same locality at Dalne-Zelenetskaya Bay, 66 m, 69°08.41'N, 36°04.54'E. Scale bars: A,D,G = 1 mm, B-C, E-F, H-I = 250 µm.

РИС. 5. Раковины *Skeneia rugulosa* (A-C, D-F) и *Skeneia ossiansarsii* (G-I), все из губы Дальне-Зеленецкой, 66 м, 69°08.41'N, 36°04.54'E. Масштабные линейки: A,D,G = 1 mm, B-C, E-F, H-I = 250 µm.

tion); Mikhailova *et al.*, 2009: 333-340 (Genetics); Starunova *et al.*, 2010: 23-34 (Variability of shell); Granovitch *et al.*, 2013: 293-301 (Genetics).

Absent in material studied.

***Littorina compressa* Jeffreys, 1865**

Previous records:

- *Littorina compressa*: Granovitch *et al.*, 2004: 1305-1316, tables 1-3, figs. 1-5 (Description of shell and reproductive system; parasitology; distribution in Murman: Dalne-Zelenetskaya Bay, Yarnyshnaya Inlet); Ganja *et al.*, 2006: 40-46, Fig. 2 (Histology); Granovitch *et al.*, 2008: 1425-1436, tables 1-2, figs. 1-7 (Description of shell and reproductive system;

population genetics; distribution in Murman: vicinity of Dalnie Zelentsy); Mikhailova *et al.*, 2008: 5-9 (Interspecific hybridization); Starunova *et al.*, 2010: 23-34 (Variability of shell).

Absent in material studied.

***Littorina fabalis* (Turton, 1825)**

Previous records:

- *Littorina fabalis*: Granovitch *et al.*, 2004: 1305-1316, tables 1-3, figs. 1-5 (Description of shell and reproductive system; parasitology; distribution in Murman: Dalne-Zelenetskaya Bay, Yarnyshnaya Inlet).

Absent in material studied.

***Littorina obtusata* (Linnaeus, 1758)**Previous records:

- ? – *Littorina palliata*: Herzenstein, 1885: 680 (Distribution); Derjugin, 1915: 532 (Distribution in Murman: Kola Inlet);
- *Littorina obtusata*: Herzenstein, 1885: 680 (Distribution); Kuznetsov, 1946: 437-440, tables 2, 4, 10, figs. 1-2 (Feeding, growth); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 256-257 (Ecology); Golikov, Kussakin, 1978: 93-94, fig. 57 (Description of shell; habitat; distribution in Murman, no exact locality); Polyansky, 1950: 1179-1181, table 1 (Embryonic development); Polyansky, 1955: 24-26, table 3 (Embryonic development); Matveeva, 1974: 117-121, tables 28-31, fig. 18 (Ecology; growth; breeding; life history); Granovitch *et al.*, 2004: 1305-1316, tables 1-3, figs. 1-5 (Description of shell and reproductive system; parasitology; distribution in Murman: Dalne-Zelenetskaya Bay, Yarnyshnaya Inlet).

Material studied: **Area 1:** Bolshoy Aynov Isl.: 219 sp, littoral, 28 May – 25 June 2008, *leg. I. Nekhaev*; **Area 3:** 84 sp, littoral, 28-29 Aug. 2007; **Area 4: Kola Inlet:** 60 sp, littoral, 69°07.40'N, 33°23.88'E, 2 June 2013, *leg. A.A. Frolov*; **Area 5:** Dolgaya Bay: 50 sp, littoral, 29-31 May 2009.

***Littorina saxatilis* (Olivi, 1792)**Previous records:

- ? – *Littorina rudis*: Herzenstein, 1885 (in part): 678-680 (Distribution); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, 1946: 439-437, tables 2, 3, 10 (Feeding, growth);
- *Littorina saxatilis*: Kuznetsov, Matveeva, 1948: 256 (Ecology); Kuznetsov, 1950: 1175-1176 (Breeding, population ecology); Kuznetsov, 1951: 285-286, tables 1-2 (Breeding, growth); Matveeva, 1974: 105-116, tables 20-27, figs. 13-17 (Ecology; growth; breeding; life history); Golikov, Kussakin, 1978: 86-87, fig. 52 (Description of shell; habitat; distribution in Murman, no exact locality); Granovitch *et al.*, 2004: 1305-1316, tables 1-3, figs. 1-5 (Description of shell and reproductive system; parasitology; distribution in Murman: Dalne-Zelenetskaya Bay, Yarnyshnaya Inlet); Granovitch *et al.*, 2008: 1425-1436, tables 1-2, figs. 1-7 (Description of shell and reproductive system; population genetics; distribution in Murman: vicinity of Dalnie Zelentsy); Mikhailova *et al.*, 2008: 5-9 (Interspecific hybridization); Mikhailova *et al.*, 2009: 333-340 (Genetics); Starunova *et al.*, 2010: 23-34 (Variability of shell); Granovitch *et al.*, 2013: 293-301 (Genetics).

Material studied: **Area 1:** Bolshoy Aynov Isl.: 50 sp, littoral, 28 May – 25 June 2008, *leg. I. Nekhaev*; **Area 4:** Kola Inlet: 251 sp, littoral, Belokamenka vicinity, 13 Aug. 2010.

Littorina saxatilis is the only viviparous species of *Littorina* known from the Murman coast. Remarkably that many of authors listed above, although did not recognize *Littorina arcana* and *L. compressa* pointed out on viviparity of *Littorina saxatilis* s.l., thus not confusing it with the mentioned species.

***Littorina littorea* (Linnaeus, 1758)**Previous records:

- *Littorina littorea*: Middendorff, 1849: 382-383 (Shell description; distribution in Murman, no exact locality); Herzenstein, 1885: 678 (Distribution); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 257 (Ecology); Matveeva, 1974: 121-128, tables 32-34, figs. 19-21 (Ecology; growth; breeding; life history); Golikov, Kussakin, 1978: 82-84, fig. 49 (Description of shell; habitat; distribution in Murman, no exact locality); Granovitch *et al.*, 2004: 1305-1316, tables 1-3, figs. 1-5 (Description of shell and reproductive system; parasitology; distribution in Murman: Dalne-Zelenetskaya Bay, Yarnyshnaya Inlet).

Material studied: **Area 1:** Bolshoy Aynov Isl.: 1 sp, littoral, 28 May – 25 June 2008, *leg. I.O. Nekhaev*; **Area 3:** 5 sp, littoral, 28-29 Aug. 2007; 13 sp, littoral, 6-7 Oct. 2006; **Area 4:** Kola Inlet: 7 sp, littoral, 69°16.79'N, 33°33.21'E, 28 May 2013, *leg. A.A. Frolov*; 12 sp, littoral, 69°16.79'N, 33°33.20'E, 28 May 2013, *leg. A.A. Frolov*; 31 sp, littoral, 69°12.54'N, 33°34.24'E, 29 May 2013, *leg. A.A. Frolov*; 1 sp, littoral, 69°08.85'N, 33°27.25'E, 1 June 2013, *leg. A.A. Frolov*; 11 sp, littoral, 69°08.85'N, 33°27.25'E, 1 June 2013, *leg. A.A. Frolov*; 1 sp, littoral, 69°07.21'N, 33°28.78'E, 30 May 2013, *leg. A.A. Frolov*.

***Lacuna* Turton, 1827**

I am following Reid [1989] who on the basis of morphological analysis considered *Epheria* Leach in Gray, 1847 as a subgenus of *Lacuna*. Contrariwise Russian authors usually regarded *Epheria* as a distinct genus [e.g. Golikov, 1987; 1995; Kantor, Sysoev, 2006].

Middendorff [1849] recorded *Lacuna crassior* (Montagu, 1803) from the Murman waters. There are no recently published records of *Lacuna crassior* as well as there are no specimens of this species from the coastal waters of Kola Peninsula in material seen. Herzenstein [1885] suggested that Middendorff's record was based on misidentification of *Lacuna vincta*.

***Lacuna vincta* (Montagu, 1803)**Previous records:

- *Lacuna vincta*: Middendorff, 1849: 379-380 (Shell description; distribution in Murman, no exact locality); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, 1948a: 192-214, tables 1-9, figs. 1-4 (Ecology; growth; breeding; life history); Kuznetsov, Matveeva, 1948: 255 (Ecology); Polyansky, 1950: 1179-1181, table 1 (Embryonic development); Polyansky, 1955: 23-24, tables 2, 3 (Embryonic development);
- *Lacuna divaricata*: Herzenstein, 1885: 681 (Distribution in Murman: all Murman Coast); Derjugin, 1915: 532 (Distribution in Murman: Kola Inlet); Kuznetsov, 1946: 440-442, tables 2, 10, figs. 4, 5 (Feeding, growth); Propp, 1966: 96 (Distribution in Murman, no exact locality);
- *Epheria vincta*: Matveeva, 1974: 100-104, tables 15-19, fig. 11-12 (Ecology; growth; breeding; life histo-

ry); Golikov, Kussakin, 1978: 72-74, fig. 43 (Description of shell; habitat; distribution in Murman, no exact locality); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: 2761 specimens, 0-84 m (see supplementary material for details).

Lacuna pallidula (Da Costa, 1778)

Previous records:

- *Lacuna pallidula*: Herzenstein, 1885: 680-681 (Distribution in Murman: Ara Bay, off Kildin Isl., vicinity of Shelpino); Derjugin, 1915: 532 (Reference to published data); Kuznetsov, 1946: 440-442, tables 2, 5, 6, 10, fig. 3 (Feeding, growth); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 255-256 (Ecology); Polyansky, 1950: 1179-1181, table 1 (Embryonic development); Polyansky, 1955: 20-23, tables 1, 3 (Embryonic development);
- *Lacuna neritoidea*: Matveeva, 1974: 94-100, tables 13-14, figs. 7-10 (Ecology; growth; breeding; life history); Golikov, Kussakin, 1978: 79-80, fig. 48 (Description of shell; habitat; distribution in Murman, no exact locality).

Material studied: **Area 1:** Bolshoy Aynov Isl.: 9 sp, littoral, 28 May – 25 June 2008, *leg. I.O. Nekhaev*; **Area 3:** 1 sp, littoral, 28-29 Aug. 2007; 161 sp, littoral, 6-7 Oct. 2006; **Area 4:** Kola Inlet: 1 sp, 5 m, 69°17.85'N, 33°26.98'E, 27 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 5 m, 69°16.80'N, 33°33.08'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 25 m, 69°07.29'N, 33°28.81'E, 30 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 5:** 1 sh, 25 m, 69°14.19'N, 34°48.44'E, 30 May 2007, *R/V Dalnie Zelentsy*; Dolgaya Bay: 4 sp, 3-22 m, 10-12 Aug. 2005; **Area 7:** Yarnishnaya Inlet: 1 sp, 5-28 m, 31 July – 3 Aug. 2004; Dalne-Zelenetskaya Bay: 4 sp, 10 m, 69°07.17'N, 36°04.32'E, 7 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*; Medvejya Bay: 2 sp, 6 m, 24 Aug. 2007; **Area 8:** Ivanovskaya Inlet: 2 sp, 22 m, 68°20.49'N, 38°28.22'E, 30 July 2008, *R/V Dalnie Zelentsy*.

Skeneopsidae Iredale, 1915

Skeneopsis Iredale, 1915

Skeneopsis planorbis (Fabricius, 1780)

Previous records:

- *Skeneopsis planorbis*: Herzenstein, 1885: 682 (Distribution); Derjugin, 1915: 532 (Distribution in Murman: Kola Inlet);
- *Skeneopsis planorbis*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Matveeva, 1974: 136-140, tables 26-27, fig. 3 (Ecology; growth; breeding; life history); Golikov, Kussakin, 1978: 129-130, fig. 88 (Description of shell; habitat; distribution in Murman, no exact locality).

Material studied: **Area 1:** Bolshoy Aynov Isl.: 2675 sp, littoral, 28 May – 25 June 2008, *leg. I.O. Nekhaev*; **Area 3:** 1 sp, 12 m, 69°22.58'N, 32°55.42'E, 6 Oct. 2006; 3 sp, 8 m, 69°20.92'N, 32°54.21'E, 7 Oct. 2006; 196 sp, littoral, 28-29 Aug. 2007; 969 sp, littoral, 6-7 Oct. 2006; vicinity of Vidyaevo: 3 sp, 10 m, 69°21.13'N, 32°54.37'E, 30 Aug. 2007; 6 sp, 5-25 m, 29 June – 1 Sept. 2007; **Area 4:** Kola Inlet: 2 sp, littoral, 69°13.20'N, 33°29.06'E, 26 May 2013, *leg. A.A. Frolov*; 489 sp, littoral, 69°13.20'N, 33°29.06'E, 26 May 2013,

leg. A.A. Frolov; 391 sp, littoral, 69°17.88'N, 33°26.92'E, 27 May 2013, *leg. A.A. Frolov*; 339 sp, littoral, 69°17.89'N, 33°26.93'E, 27 May 2013, *leg. A.A. Frolov*; 19 sp, 12 m, 69°17.85'N, 33°27.00'E, 27 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 144 sp, 5 m, 69°16.80'N, 33°33.08'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 10 sp, 13 m, 69°16.80'N, 33°33.07'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 6 sp, littoral, 69°12.55'N, 33°34.25'E, 29 May 2013, *leg. A.A. Frolov*; 15 sp, 7 m, 69°07.43'N, 33°24.00'E, 2 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, littoral, 69°07.21'N, 33°28.78'E, 30 May 2013, *leg. A.A. Frolov*; 11 sp, 5 m, 69°07.23'N, 33°28.76'E, 30 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 5:** Dolgaya Bay: 348 sp, littoral, 29-31 May 2009; **Area 7:** Yarnishnaya Inlet: 5 sp, 73 m, 69°07.64'N, 36°02.01'E, 19 Sept. 2012, *M/S Viking-2*; 4 sp, 5-28 m, 31 July – 3 Aug. 2004; Dalne-Zelenetskaya Bay: 1 sp, 9 m, 69°07.29'N, 36°05.00'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*; 2 sp, 46 m, 69°07.85'N, 36°04.81'E, 20 Sept. 2012, *M/S Viking-2*; Medvejya Bay: 1 sp, 6 m, 24 Aug. 2007.

Naticoidea Guilding, 1834

Naticidae Guilding, 1834

Single living specimen and single empty shell of *Bulbus smithi* were reported from Motovskiy Bay (as *Acrybia flava* (Gould, 1840)) by Thiele [1928]. Recently published records of this species from coastal waters of Kola Peninsula are absent.

Amauropsis Mörch, 1857

Amauropsis islandica (Gmelin, 1791)

Previous records:

- *Natica helicoides*: Middendorff, 1849: 416-419 (Shell description; distribution in Murman, no exact locality);
- *Natica islandica*: Herzenstein, 1885: 675-676 (Distribution in Murman: off Kildin Isl. – empty shells).

Material studied: **Area 1:** 2 sp, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; **Area 5:** 2 sp, 30 m, 69°13.79'N, 34°51.49'E, 2 July 2004, *R/V Dalnie Zelentsy*; Dolgaya Bay: 1 sp, 12 m, 69°11.97'N, 34°57.60'E, 31 May 2009, *R/V Dalnie Zelentsy*; **Area 6:** 1 sp, 40 m, 69°12.58'N, 35°06.88'E, 3 July 2004, *R/V Dalnie Zelentsy*; Orlovka Bay: 1 sp, 13 m, 69°12.23'N, 35°16.63'E, 11 Oct. 2010; **Area 7:** Yarnishnaya Inlet: 1 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, *R/V Dalnie Zelentsy*; 3 sp, 41 m, 69°07.41'N, 36°01.96'E, 20 Sept. 2012, *M/S Viking-2*; Dalne-Zelenetskaya Bay: 1 sp, 3 m, 69°07.07'N, 36°04.25'E, 4 July 2009, *leg. O.S. Lyubina, O.L. Zimina, I.O. Nekhaev*; 3 sp, 66 m, 69°08.41'N, 36°04.54'E, 4 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 46 m, 69°07.85'N, 36°04.81'E, 20 Sept. 2012, *M/S Viking-2*; 1 sp, 71 m, 69°08.39'N, 36°04.07'E, 20 Sept. 2012, *M/S Viking-2*.

Cryptonatica Dall, 1892

Cryptonatica affinis (Gmelin, 1791)

Previous records:

- *Natica clausa*: Middendorff, 1849: 419-421 (Shell description; distribution in Murman, no exact locality); Herzenstein, 1885: 677 (Distribution in Murman: Varangerfjorden, off Eretik Isl. (Ura Inlet), Kola Inlet, off Kildin Isl., off Gavrilovskie Isl., off Iokangskie Isl.); Derjugin, 1915: 530 (Distribution in Mur-

- man: Kola Inlet); Derjugin, 1924: 72 (Distribution in Murman: high sea); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 255 (Ecology);
- *Natica (Cryptonatica) clausa*: Thiele, 1928: 568 (Distribution in Murman: Varangerfjorden, Motovski Bay, off Kildin Isl.);
 - *Tectonatica clausa*: Matveeva, 1974: 142-145, tables 42, fig. 29 (Ecology; growth; breeding; life history);
 - *Cryptonatica clausa*: Anisimova, Frolova, 1994: 69
- Cryptonatica (Cryptonatica) clausa*: Golikov, Kussakin, 1978: 154-155, fig. 109 (Description of shell; habitat; distribution in Murman, no exact locality);
- (Distribution in Murman: Dolgaya Bay); Frolova *et al.*, 1997: 105 (Distribution in Murman: Kola Inlet).

Material studied: 88 specimens, 3-270 m (see supplementary material for details).

Euspira Agassiz in J. Sowerby, 1837

***Euspira pallida* (Broderip et Sowerby, 1829)**

Previous records:

- *Natica grönlandica*: Herzenstein, 1885: 676-677 (Distribution in Murman: Motka Bay, off Kildin Isl. – empty shells, off Bolshoy Oleniy Isl., off Iokangskie Isl.); Derjugin, 1915: 530 (Distribution in Murman: Kola Inlet);
- *Lunatia pallida*: Derjugin, 1924: 72 (Distribution in Murman: high sea);
- *Polynices (Lunatia) pallidus*: Thiele, 1928: 567 (Distribution in Murman: Motovski Bay); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Polynices pallidus*: Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay); Frolova *et al.*, 1997: 105 (Distribution in Murman: Kola Inlet).

Material studied: **Area 1:** 2 sp, 81 m, 69°52.00'N, 31°49.81'E, 3 March 2007, *R/V Dalnie Zelentsy*; 2 sp, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; Pechenga Bay: 1 sp, 37 m, March 1997, *M/S BGK-73*; **Area 2:** 11 sp, 86-270 m, May 1996 *M/S GS-440*; **Area 3:** vicinity of Vidyaev: 1 sp, 5-25 m, 29 June - 1 Sept. 2007; **Area 4:** Kola Inlet: 1 sp, 95 m, 69°18.38'N, 33°34.53'E, 22 Sept. 2012, *M/S Viking-2*; 1 sp, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; **Area 5:** Dolgaya Bay: 1 sp, 19 m, 69°11.50'N, 34°58.28'E, 29 May 2009, *R/V Dalnie Zelentsy*; 1 sp, 30 m, 69°10.16'N, 34°56.54'E, 25 July 2008, *R/V Dalnie Zelentsy*; **Area 7:** Yarnishnaya Inlet: 1 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 28 m, 69°07.10'N, 36°02.84'E, 3 June 2009, *R/V Dalnie Zelentsy*; Dalne-Zelenetskaya Bay: 3 sp, 17 m, 69°07.15'N, 36°04.58'E, 20 Sept. 2012, *M/S Viking-2*; **Area 8:** Ivanovskaya Inlet: 2 sp, 15-19 m; **Area 9:** 2 sp, 199 m, 69°35.16'N, 33°45.00'E, 6 Sept. 2007, *R/V Dalnie Zelentsy*; 1 sp, 145 m, 70°00'N, 33°30'E, 9 Aug. 2012, *R/V Vilnius*; 1 sp, 138 m, 69°15.69'N, 35°28.73'E, 4 Aug. 2008, *R/V Vilnius*.

Pseudopolinices Golikov et Sirenko, 1983

***Pseudopolinices nanus* (Møller, 1842)**

Previous records:

- *Natica nana*: Herzenstein, 1885: 676 (Distribution in Murman: off Kildin Isl., off Bolshoy Oleniy Isl., vicinity of Podpakhta, off Iokangskie Isl.);

- *Natica (Lunatia) nana*: Derjugin, 1915: 530 (Distribution in Murman: Kola Inlet);
- *Polynices nanus*: Thiele, 1928: 567 (Distribution in Murman: vicinity of Port Vladimir); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).

Material studied: **Area 6:** Zavalishina Bay: 6 sp, 12 m, 69°11.38'N, 35°14.78'E, 10 Oct. 2010; Orlovka Bay: 1 sp, 23 m, 69°12.35'N, 35°16.00'E, 11 Oct. 2010; 1 sp, 13 m, 69°12.23'N, 35°16.63'E, 11 Oct. 2010; Lodeynaya Bay: 1 sp, 9 m, 69°10.88'N, 35°07.43'E, 12 Oct. 2010; Korabelnaya Bay: 1 sp, 16 m, 69°10.49'N, 35°09.46'E, 10 Oct. 2010; 3 sp, 9 m, 69°10.66'N, 35°09.63'E, 9 Sept. 2010; 3 sp, 5 m, 69°10.76'N, 35°10.06'E, 10 Sept. 2010; **Area 8:** Dvorovaya Bay: 2 sp, 25 m, 68°26.05'N, 38°13.39'E, 27 July 08, *R/V Dalnie Zelentsy*.

Rissooidea Gray, 1847

Rissoidae Gray, 1847

Apart from 11 species listed below, *Alvania jeffreysi* (Waller, 1864) and *Setia latior* (Mighels et Adams, 1842) were reported from the coastal waters of Murman [Golikov, Kussakin, 1978; Anisimova, Frolova, 1994; Golikov, 1995]. The occurrence of the former one in Murman waters is likely but the reexamination of all specimens identified as *Alvania jeffreysi* and stored in ZIN from Russian seas showed that all of them belong to a mixture of rissoid species but not to that species [Nekhaev *et al.*, 2014]. *Alvania jeffreysi* may be distinguished by presence of fine zigzag spiral lines on protoconch [Bouchet, Warén, 1993; Warén, 1996b].

There is no agreement on the taxonomical position of *Setia latior*. Warén [1974] suggested that it belongs to Hydrobiidae. Golikov [1987; 1995] and Golikov and Kussakin [1978] probably used this name for the ribless form of *Pusilina inconspicua* (Alder, 1844), but this species may not occur in the coastal waters of Murman. The reexamination of specimens labelled as *Setia latior* from ZIN collections shows that they belong to juveniles of ribless *Rissoa* Fremenville in Desmarest, 1814 or *Pusillina* Monterosatto, 1884.

Alvania Risso, 1826

***Alvania moerchi* (Collin, 1886)**

No previous records.

Material studied: **Area 9:** 1 sp, 187 m, NO to Teriberka, 19 Aug. 1884, *leg. S. Herzenstein* (ZIN № 1); 1 sp, 200 m, 69°27.41'N, 35°57.88'E, 2 Aug. 2008, *R/V Vilnius*.

***Alvania punctura* (Montagu, 1803)**

Previous records:

- *Alvania punctura*: Nekhaev, 2013b: 1-3, figs. 1-3 (Description of shell, distribution in Murman: Dolgaya Bay, Yarnyshnaya Inlet).

Material studied: **Area 5:** Dolgaya Bay: 1 sp, 19 m, 69°11.50'N, 34°58.28'E, 29 May 2009, *R/V Dalnie Zelentsy*;

Area 7: Yarnishnaya Inlet: 2 sp, 26 m, 69°07.32'N, 36°02.12'E, 3 June 2009, *R/V Dalnie Zelentsy*.

Boreocingula Golikov et Kussakin, 1974
***Boreocingula castanea* (Møller, 1842)**

Previous records:

- *Paludinella castanea*: Middendorff, 1849: 375 (Shell description; distribution in Murman, no exact locality);
- *Onoba castanea*: Golikov, Kussakin, 1978: 112-113, fig. 71 (Description of shell; habitat; distribution in Murman, no exact locality); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: **Area 5:** Bolshaya Sharkovka Bay: 1 sp, 10 sh, 25 m, 69°12.59'N, 34°56.45'E, 20 Sept. 2012, *M/S Viking-2*; Dolgaya Bay: 2 sp, 12 m, 69°11.47'N, 34°58.83'E, 31 May 2009, *R/V Dalnie Zelentsy*; 1 sp, 13 m, 69°10.46'N, 34°55.73'E, 29 May 2009, *R/V Dalnie Zelentsy*; 1 sp, 33 m, 69°12.70'N, 34°59.48'E, 30 May 2009, *R/V Dalnie Zelentsy*; 1 sp, 31 m, 69°12.78'N, 34°59.48'E, 25 July 2008, *R/V Dalnie Zelentsy*; **Area 6:** 1 sp, 40 m, 69°12.58'N, 35°06.88'E, 3 July 2004, *R/V Dalnie Zelentsy*; 1 sp, 30 m, 69°11.96'N, 35°08.54'E, 3 July 2004, *R/V Dalnie Zelentsy*; Orlovka Bay: 1 sp, 23 m, 69°12.35'N, 35°16.00'E, 11 Oct. 2010; **Area 7:** Yarnishnaya Inlet: 9 sh, 41 m, 69°07.41'N, 36°01.96'E, 20 Sept. 2012, *M/S Viking-2*; Dalne-Zelenetskaya Bay: 1 sp, 59 m, 69°07.92'N, 36°05.45'E, 4 June 2009, *R/V Dalnie Zelentsy*; 16 sh, 46 m, 69°07.85'N, 36°04.81'E, 20 Sept. 2012, *M/S Viking-2*; Medvejya Bay: 1 sp, 15 m, 20 Aug. 2007; **Area 8:** Dvorovaya Bay: 4 sp, 25 m, 68°26.05'N, 38°13.39'E, 27 July 08, *R/V Dalnie Zelentsy*.

Frigidoalvania Warén, 1974
***Frigidoalvania janmayeni* (Friele, 1878)**

Previous records:

- *Rissoa jan-mayeni*: Herzenstein, 1885: 682 (Distribution in Murman: off Gavrilov Isl.).

Material studied: **Area 4:** Zelenetskaya Zapadnaya Bay: 1 sp, 77 m, 69°17.25'N, 33°43.72'E, 23 May 1996, *M/S GS-440*; **Area 9:** 1 sp, 248 m, 69°38.66'N, 33°52.73'E, 6 Sept. 2007, *R/V Dalnie Zelentsy*; 1 sp, 255 m, 69°30.00'N, 33°30'E, 9 Aug. 2012, *R/V Vilnius*; 1 sp, 190 m, 69°37.43'N, 36°24.88'E, 27 July 2008, *R/V Vilnius*.

Obtusella Cossmann, 1921
***Obtusella intersecta* (Wood, 1857)**

Previous records:

- *Obtusella intersecta*: Nekhaev, in press: figs. 1 (a-b), 2 (Description of shell; distribution in Murman: Teriberskaya Bay, Yarnishnaya Inlet).

Material studied: **Area 6:** 7 sp, 40 m, 69°12.58'N, 35°06.88'E, 3 July 2004, *R/V Dalnie Zelentsy*; 1 sh, 30 m, 69°11.96'N, 35°08.54'E, 3 July 2004, *R/V Dalnie Zelentsy*; **Area 7:** Yarnishnaya Inlet: 2 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 27 m, 69°07.21'N, 36°02.55'E, 5 July 2004, *R/V Dalnie Zelentsy*.

***Obtusella tumidula* (G.O. Sars, 1878)**

Previous records:

- *Setia tumidula*: Golikov, Kussakin, 1978: 107-108, fig.

67 (Description of shell; habitat; distribution in Murman: Dalne-Zelenetskaya Bay).

Material studied: **Area 5:** Malaya Sharkovka Bay: 1 sp, 27 m, 69°12.57'N, 34°54.31'E, 20 Sept. 2012, *M/S Viking-2*; Bolshaya Sharkovka Bay: 1 sp, 25 m, 69°12.59'N, 34°56.45'E, 20 Sept. 2012, *M/S Viking-2*; **Area 6:** Zavalishina Bay: 1 sp, 12 m, 69°11.38'N, 35°14.78'E, 10 Oct. 2010; Orlovka Bay: 2 sp, 23 m, 69°12.35'N, 35°16.00'E, 11 Oct. 2010; Korabelnaya Bay: 1 sp, 11 m, 69°10.22'N, 35°08.79'E, 10 Oct. 2010; **Area 7:** Yarnishnaya Inlet: 6 sp, 67 m, 69°08.71'N, 36°00.44'E, 2 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 73 m, 69°07.64'N, 36°02.01'E, 19 Sept. 2012, *M/S Viking-2*; Dalne-Zelenetskaya Bay: 9 sp, 59 m, 69°07.92'N, 36°05.45'E, 4 June 2009, *R/V Dalnie Zelentsy*.

Onoba H. et A. Adams, 1852
***Onoba aculeus* (Gould, 1841)**

Previous records:

- *Paludinella aculeus*: Middendorff, 1849: 374 (Shell description; distribution in Murman, no exact locality);
- *Rissoa aculeus*: Herzenstein, 1885: 682 (Distribution in Murman: Ara Bay, off Kildin Isl., vicinity of Shelpino, off Iokangskie Isl.);
- *Rissoa (Onoba) aculeus*: Derjugin, 1915: 532 (Distribution in Murman: Kola Inlet);
- *Cingula (Rissoa) aculeus*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 257 (Ecology);
- *Onoba aculeus*: Matveeva, 1974: 132-136, tables 37-38, fig. 24-25 (Ecology; growth; breeding; life history); Golikov, Kussakin, 1978: 110-111, fig. 69 (Description of shell; habitat; distribution in Murman, no exact locality); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay); Nekhaev *et al.*, 2014: 272-273, figs 1 (C-D), 4 (B, E) Table 1 (Description of shell, distribution in Murman: Varangerfjorden, Ura Inlet, Dolgaya Bay, Teriberskaya Bay, Yarnishnaya Bay, Ivanovskaya Bay).

Material studied: 3168 specimens, 0-84 m (see supplementary material for details).

***Onoba improcera* Warén, 1996**

Previous records:

- *Onoba improcera*: Nekhaev *et al.*, 2014: 273-274, figs 2, 4 (G-I), table 1 (Shell description, distribution in Murman: Dolgaya Bay, Ivanovskaya Inlet, high sea).

Material studied: **Area 2:** 1 sh, 20 m, 69°43.55'N, 32°08.53'E, 28 May 1996, *M/S GS-440*; **Area 4:** Kola Inlet: 11 sh, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; **Area 5:** 3 sh, 30 m, 69°13.79'N, 34°51.49'E, 2 July 2004, *R/V Dalnie Zelentsy*; Dolgaya Bay: 4 sp, 45 m, 69°10.33'N, 34°56.54'E, 29 May 2009, *R/V Dalnie Zelentsy*; 25 sp, 84 m, 69°11.97'N, 34°58.57'E, 25 July 2008, *R/V Dalnie Zelentsy*; 1 sp, 31 m, 69°12.78'N, 34°59.48'E, 25 July 2008, *R/V Dalnie Zelentsy*; **Area 7:** Yarnishnaya Inlet: 2 sh, 70 m, 69°08.50'N, 36°01.70'E, 19 Sept. 2012, *M/S Viking-2*; 1 sh, 41 m, 69°07.41'N, 36°01.96'E, 20 Sept. 2012, *M/S Viking-2*; Dalne-Zelenetskaya Bay: 2 sh, 71 m, 69°08.39'N, 36°04.07'E, 20 Sept. 2012, *M/S Viking-2*; **Area 8:** Zapadnyy Nokuevskiy Bay: 5 sp, 72 m, 68°23.98'N, 38°24.28'E, 16 Aug. 2011, *M/S Viking-1*; Vostochniy Nokuevskiy Bay: 1 sp, 54 m, 68°22.46'N, 38°32.30'E, 30 July 2008, *R/V Dalnie Zelentsy*.

***Onoba semicostata* (Montagu, 1803)**Previous records:

- *Onoba striata*: Golikov, Kussakin, 1978: 111-112, fig. 70 (Description of shell; habitat; distribution in Murman, no exact locality);
- *Onoba semicostata*: Nekhaev *et al.*, 2014: 269-272, figs. 1 (A-B), 4 (A, D), Table 1 (Description of shell, distribution in Murman: Varangerfjorden, Ura Inlet, Dolgaya Bay, Teriberskaya Bay, Yarnishnaya Bay, Ivanovskaya Bay).

Material studied: 1936 specimens, 5-213 m (see supplementary material for details).

***Onoba leptalea* (Verrill, 1884)**Previous records:

- *Onoba leptalea*: Nekhaev *et al.*, 2014: 274-277, figs. 3, 4 (C, F) (Description of shell, distribution in Murman: Varangerfjorden, Motovski Bay – empty shells, Kola Inlet – empty shells).

Material studied: **Area 1:** 2 sp, 213 m, 69°55.20'N, 31°32.60'E, 2 March 2007, *R/V Dalnie Zelentsy*; **Area 2:** 11 sh, 197 m, 69°36.87'N, 32°16.43'E, 26 May 1996, *M/S GS-440*; **Area 4:** Kola Inlet: 1 sh, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*.

Pseudosetia* Monterosato, 1884**Pseudosetia turgida* (Jeffreys, 1870)**Previous records:

- *Pseudosetia turgida*: Nekhaev, 2013a: 36, fig. 2 (Description of shell; distribution in Murman: high sea).

Material studied: **Area 9:** 26 sp, 142 m, 70°00'N, 33°30'E, 19 Aug. 2007, *R/V Dalnie Zelentsy*; 1 sp, 145 m, 70°00'N, 33°30'E, 9 Aug. 2012, *R/V Vilnius*; 1 sp, 145 m, 70°00'N, 33°30'E, 9 Aug. 2013, *R/V Dalnie Zelentsy*; 4 sp, 144 m, 70°00'N, 33°30'E, 11 Aug. 2010, *R/V Fridtjof Nansen*.

Rissoa* Freminville in Desmarest, 1814**Rissoa parva* (Da Costa, 1778)**

(Fig. 6)

Previous records:

- *Mohrensternia interrupta*: Golikov, Kussakin, 1978: 120-121, fig. 80 (Description of shell; habitat; distribution in Murman, no exact locality).

Material studied: 1981 specimens, 0-77 m (see supplementary material for details).

Rissoa parva inhabits Atlantic from the Mediterranean to the White Sea and demonstrates variation in shell sculpture throughout its range. Some of the specimens are strongly sculptured by axial ribs whereas another ones are smooth; intermediates are usually present in each population but not numerous.

The ribless form of *Rissoa parva* was described as a *Turbo interruptus* J. Adams, 1800 and in some publications considered as distinct species [Nordsieck, 1972; Verduin, 1976; Golikov, 1987; 1995]. On the other hand, Wigham [1975] demonstrated dependence of ribs development on wave activity in

a particular habitat, which was recently supported by studies of ontogeny and protoconch morphology [Warén, 1996a]. Majority of material seen belongs to “*interrupta*” form, whereas single specimens with low axial ribs on the upper whorls was found (Fig 6 B).

Hydrobiidae Stimpson, 1865

Littoral species *Ecrobia ventrosa* (Montagu, 1803) was reported from North Atlantic region including Iceland, Southern Scandinavia and White Sea [Wilke, Davis, 2000]. Hence its occurrence in Murman is very likely but that species had not been found neither by present studies nor during previous investigations.

***Peringia* Paladilhe, 1874**

In modern literature there is no agreement whether *Peringia* is distinct genus closely related to *Hydrobia* Hartmann, 1821 or a subgenus of it [e.g. Wilke *et al.*, 2000].

***Peringia ulvae* (Pennant, 1777)**Previous records:

- *Hydrobia ulvae*: Derjugin, 1915: 532 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 257 (Ecology); Matveeva, 1974: 128-132, tables 5-36, fig. 22-23 (Ecology; growth; breeding; life history); Golikov, Kussakin, 1978: 102-104, fig. 64 (Description of shell; habitat; distribution in Murman, no exact locality).

Material studied: **Area 2:** 1 sp, 20 m, 69°43.55'N, 32°08.53'E, 28 May 1996, *M/S GS-440*; **Area 3:** 3 sp, 8 m, 69°20.92'N, 32°54.21'E, 7 Oct. 2006; 6 sp, littoral, 28-29 Aug. 2007; 3 sp, littoral, 6-7 Oct. 2006; 2082 sp, littoral, estuary of Ura river, 24 Oct. 2011; vicinity of Vidyaev: 1 sp, 5-25 m, 29 June - 1 Sept. 2007; **Area 5:** Dolgaya Bay: 5 sp, 30 m, 69°10.16'N, 34°56.54'E, 25 July 2008, *R/V Dalnie Zelentsy*; 8 sp, 31 m, 69°12.78'N, 34°59.48'E, 25 July 2008, *R/V Dalnie Zelentsy*; **Area 7:** Yarnishnaya Inlet: 1 sp, 35 m, 69°05.38'N, 36°02.93'E, 6 July 2009, *leg. O.S. Lyubina, O.L. Zimina, I.O. Nekhaev*; 9 sp, 20 m, 69°05.44'N, 36°02.98'E, 14 Aug. 2006, *leg. A.A. Frolov*; Dalne-Zelenetskaya Bay: 4 sp, 9 m, 69°07.29'N, 36°05.00'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*; 23 sp, 8 m, 69°07.29'N, 36°05.21'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*.

Stromboidea Rafinesque, 1815**Aporrhaidae Gray, 1850*****Aporrhais* Da Costa, 1778*****Aporrhais pespelecani* (Linnaeus, 1758)**Previous records:

- *Aporrhais pespelecani*: Kantor *et al.*, 2008: 51-54, figs. 1-2 (Distribution in Murman: Motovski Bay, Yarnishnaya Inlet).

Material studied: **Area 3:** vicinity of Vidyaev: 3 sp, 6 m, 69°22.91'N, 32°54.37'E, 28 Aug. 2007.



FIG. 6. Shells of *Rissoa parva*: A-B – Dalne-Zelenetskaya Bay, 4 June 1940 (identified as *Mohrensternia interrupta*, ZIN № 8), C – Dalne-Zelenetskaya Bay, 8 m, 69°07.29'N, 36°05.21'E, 6 July 2009. Arrow indicates costae. Scale Bar = 2 mm.

РИС. 6. Раковины *Rissoa parva*: А-В – губа Дальне-Зеленецкая, 4 июня 1940 (определено как *Mohrensternia interrupta*, ЗИН № 8), С – губа Дальне-Зеленецкая, 8 м, 69°07.29'N, 36°05.21'E, 6 июля 2009. Стрелками показаны рёбра. Масштабная линейка = 2 мм.

Velutinoidea Gray, 1840 Velutinidae Gray, 1840

Velutinoidae is listed in accordance to Gulbin and Golikov [1997; 1998; 1999; 2000; 2001] which is not fully accepted in CLEMAM.

Ciliatovelutina Golikov et Gulbin, 1990 *Ciliatovelutina lanigera* (Møller, 1842)

Previous records:

- *Velutina lanigera*: Derjugin, 1915: 528 (Distribution in Murman: Kola Inlet); Derjugin, 1950: 13-14, fig. 7, table I (7) (Distributional map; description of shell and radula); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).

Absent in material studied.

Limneria H. Adams et A. Adams, 1851 *Limneria undata* (Brown in J. Smith, 1839)

Previous records:

- *Velutina zonata*: Middendorff, 1849: 433-434 (Shell description; distribution in Murman, no exact locality);
- *Velutina undata*: Herzenstein, 1885: 675 (Distribution in Murman: Varangerfjorden); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Velutina undata* typ.: Derjugin, 1915: 529 (Distribution in Murman: Kola Inlet);
- *Velutina undata* v. *expansa*: Derjugin, 1915: 529 (Distribution in Murman: Kola Inlet);

- *Velutella undata* f. *typica*: Derjugin 1950: 9-10, figs. 1, tables I (1), IV (1) (Distributional map; description of shell, radula and male genitalia).

Absent in material studied.

Marsenina Gray, 1850 *Marsenina glabra* (Couthouy, 1838)

Previous records:

- *Marsenina micromphala*: Derjugin, 1915: 529 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).
- *Marsenina glabra*: Thiele, 1928: 568 (Distribution in Murman: off Kildin Isl.).

Absent in material studied.

Onchidiopsis Bergh, 1853 *Onchidiopsis glacialis* (M. Sars, 1851)

Previous records:

- *Onchidiopsis glacialis*: Derjugin, 1915: 529 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).
- Absent in material studied.

Piliscus Lovén, 1859 *Piliscus commoda* (Middendorff, 1851)

Previous records:

- *Pilidium radiatum*: Herzenstein, 1885: 674 (Distribution in Murman: vicinity of Teriberka); Derjugin, 1915: 528 (Distribution in Murman: Kola Inlet);

- *Capulacmaea radiata*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).
Absent in material studied.

Velutella Gray, 1847

***Velutella plicatilis* (O. F. Müller, 1776)**

Previous records:

- *Velutina (Velutella) cryptospira*: Derjugin, 1915: 528 (Distribution in Murman: Kola Inlet);
– *Velutella plicatilis*: Derjugin 1950: 23-24, fig. 20, tables III (20), V (20) (Distributional map; description of shell, radula and male genitalia).
Absent in material studied.

Velutina Fleming, 1820

***Velutina velutina* (Müller, 1776)**

Previous records:

- *Velutina haliotoidea*: Middendorff, 1849: 432-433 (Shell description; distribution in Murman, no exact locality);
– *Velutina haliotoides*: Herzenstein, 1885: 674 (Distribution in Murman: Ara Bay, off Kildin Isl., vicinity of Teriberka); Derjugin, 1915: 528 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
– *Velutina velutina*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Derjugin, 1950: 19-20, fig. 15, tables II (15), V (15) (Distributional map; description of shell, radula and male genitalia); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay).

Material studied: **Area 2:** 1 sp, 31 m, 69°40.71'N, 32°07.93'E, 25 Sept. 2007, *M/S GS-440*; **Area 3:** vicinity of Vidyaevo: 1 sp, 5-25 m, 29 June - 1 Sept. 2007; **Area 4:** Kola Inlet: 1 sp, 13 m, 69°16.80'N, 33°33.07'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 4 m, 69°09.07'N, 33°32.62'E, 31 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 7 m, 69°07.43'N, 33°24.00'E, 2 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 5:** Dolgaya Bay: 1 sp, 3-22 m, 10-12 Aug. 2005; **Area 7:** Yarnishnaya Inlet: 3 sp, 5-28 m, 31 July – 3 Aug. 2004; Dalne-Zelenetskaya Bay: 1 sp, 66 m, 69°08.41'N, 36°04.54'E, 4 June 2009, *R/V Dalnie Zelentsy*; Medvejya Bay: 1 sp, 20 m, 19 Aug. 2007; **Area 8:** 1 sp, 130 m, 68°25.01'N, 38°38.66'E, 17 Aug. 2011, *M/S Viking-1*; Vostochniy Nokuevskiy Bay: 2 sp, 54 m, 68°22.46'N, 38°32.30'E, 30 July 2008, *R/V Dalnie Zelentsy*; **Area 9:** 1 sp, 132 m, 69°40.91'N, 34°06.82'E, 6 Aug. 2007, *R/V Vilnius*.

Remarks. Species name *Helix laevigata* Linnaeus, 1758 used in Kantor and Sysoev [2006] as valid was listed as *nomen dubium* in recent revision by Gulbin and Golikov [1999].

***Velutina schneideri* Friele, 1886**

Previous records:

- *Velutina schneideri*: Derjugin, 1915: 529 (Distribution in Murman: Kola Inlet); Derjugin 1950: 20-21, fig. 16, tables III (16), V (16) (Distributional map; description of shell, radula and male genitalia).

Material studied: **Area 4:** Kola Inlet: 2 sp, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*.

Ptenoglossa

Epitonioidea Berry, 1910

Epitoniidae Berry, 1910

Epitonium Röding, 1798

***Epitonium greenlandica* (Perry, 1811)**

Previous records:

- *Scalaria grönlandica*: Herzenstein, 1885: 684 (Distribution in Murman: off Kildin Isl., vicinity of Podpakhta Bay); Derjugin, 1915: 534 (Distribution in Murman: Kola Inlet); Derjugin, 1924: 72 (Distribution in Murman: high sea);
– *Scalaria groenlandica*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).
Material studied: **Area 9:** 1 sh, 132 m, 69°40.91'N, 34°06.82'E, 6 Aug. 2007, *R/V Vilnius*.

Eulimoidea Philippi, 1853

Eulimidae Philippi, 1853

Apart from the shell-bearing species listed below endoparasitic *Entocolax schwanitschi* Heding in Heding et Mandahl-Barth, 1938 was recorded by Derjugin [1915] and then by Schwanwitsch [1917] (in both publications as *Entocolax ludwigii* Voigt, 1888).

Eulima Risso, 1826

***Eulima bilineata* Alder, 1848**

Previous records:

- *Eulima bilineata*: Nekhaev, 2011: 69, table 1, figs. 1, 2 (Description of shell; distribution in Murman: Yarnishnaya Inlet, Dalne-Zelenetskaya Bay).

Material studied: **Area 4:** Kola Inlet: 2 sp, 95 m, 69°18.38'N, 33°34.53'E, 22 Sept. 2012, *M/S Viking-2*; 8 sp, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; **Area 7:** Yarnishnaya Inlet: 1 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 70 m, 69°08.50'N, 36°01.70'E, 19 Sept. 2012, *M/S Viking-2*; 2 sh, 73 m, 69°07.64'N, 36°02.01'E, 19 Sept. 2012, *M/S Viking-2*; Dalne-Zelenetskaya Bay: 4 sp, 54 m, 69°07.78'N, 36°06.85'E, 4 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 59 m, 69°07.92'N, 36°05.45'E, 4 June 2009, *R/V Dalnie Zelentsy*; 4 sp, 66 m, 69°08.41'N, 36°04.54'E, 4 June 2009, *R/V Dalnie Zelentsy*; 1 sh, 46 m, 69°07.85'N, 36°04.81'E, 20 Sept. 2012, *M/S Viking-2*.

Haliella Monterosato, 1878

***Haliella stenostoma* (Jeffreys, 1858)**

Previous records:

- *Haliella stenostoma*: Nekhaev, 2013a: 36, fig. 3 (Description of shell; Distribution in Murman: high sea).

Material studied: **Area 9:** 1 sp, 144 m, 70°00'N, 33°30'E, 11 Aug. 2010, *R/V Fridtjof Nansen*.

Hemiaculis G.O. Sars, 1878

***Hemiaculis ventrosa* (Jeffreys in Friele, 1876)**

No previous records.

Material studied: **Area 9:** 1 sh, 142 m, 70°00'N, 33°30'E, 19 Aug. 2007, *R/V Dalnie Zelentsy*.

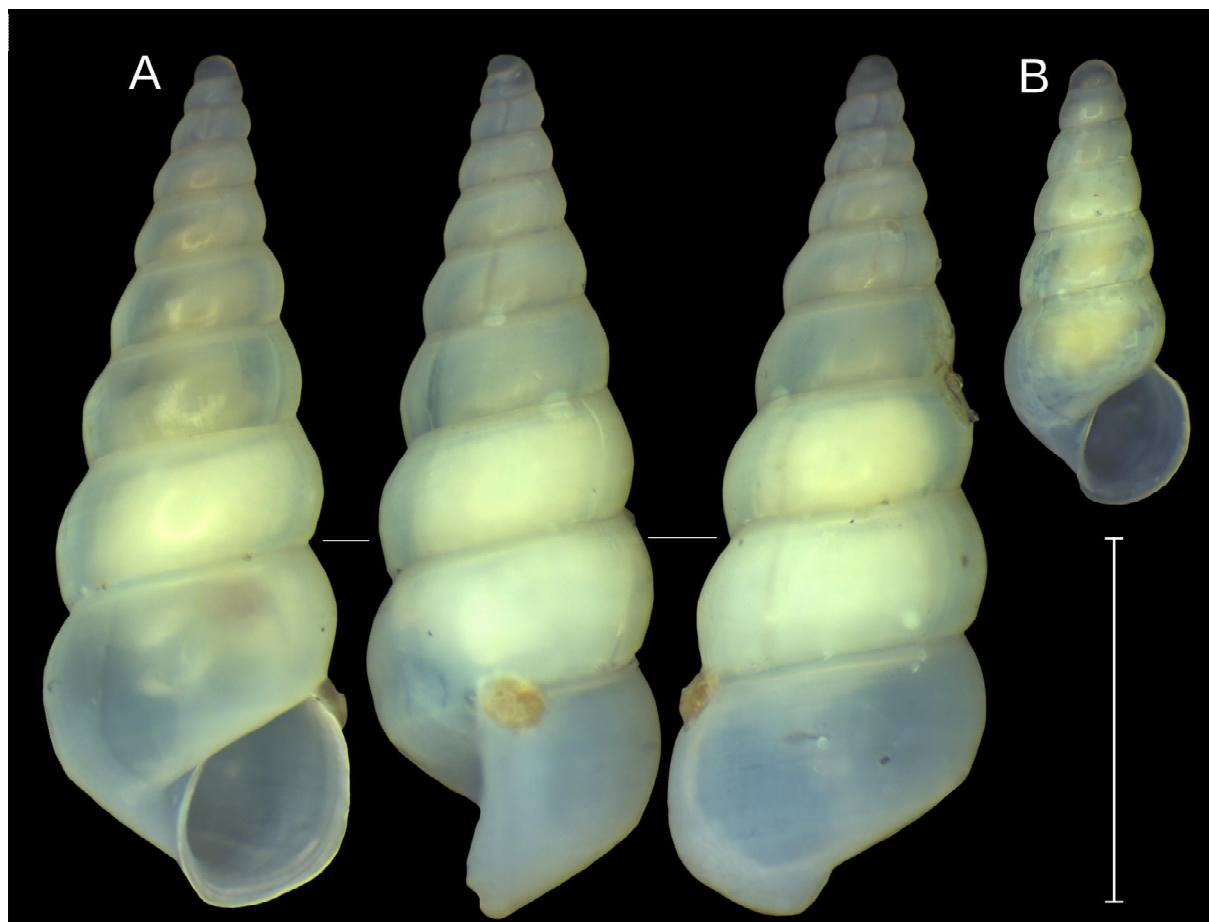


FIG. 7. Shells of *Aclis sarsi*: A – Barents Sea, 145 m, 70°00'N, 33°30'E, 9 Aug. 2013, B – the same locality, 12 Aug. 2011. Scale bar = 2 mm.

РИС. 7. Раковины *Aclis sarsi*: А – Баренцево море, 145 м, 70°00'N, 33°30'E, 9 августа 2013, В – тот же локалитет, 12 августа 2011. Масштабная линейка = 2 мм.

Aclididae G.O. Sars, 1878

Aclis Lovén, 1846

***Aclis sarsi* Dautzenberg et Fischer, 1912**

(Fig. 7)

No previous records.

Material studied: **Area 9:** 1 sp, 145 m, 70°00'N, 33°30'E, 12 Aug. 2011, *R/V Vilnius*; 1 sp, 145 m, 70°00'N, 33°30'E, 9 Aug. 2013, *R/V Dalnie Zelentsy*.

Remarks. *Aclis sarsi* may be hardly confused with any other species known from the Murman due to tall white shell with convex whorls and open umbilicus. *Aclis sarsi* like another species of *Aclis* have a dimorphism in shell shape [Bouchet, Warén, 1986; Høisæter, 2009]. Both forms of this species were found in my material.

Measurements of the largest specimen are (mm): SH=4.5, AH=1.1, LWH=1.9, SW=1.5, AW=0.8.

The species is the first time found in Russia.

Triphoroidea Gray, 1847

Cerithiopsidae H. Adams et A. Adams, 1853

Cerithiella Verill, 1842

***Cerithiella metula* (Lovén, 1842)**

Previous records:

- *Cerithium whiteavesii*: Herzenstein, 1885: 682-683 (Distribution in Murman: off Kildin Isl. – empty shells, off Gavrilov Isl.);
- *Lovenella metula*: Derjugin, 1915: 533 (Distribution in Murman: Kola Inlet).

Material studied: **Area 9:** 1 sp, 202 m, 69°42.11'N, 34°01.10'E, 5 Sept. 2007, *R/V Dalnie Zelentsy*.

Eumetula Thiele, 1912

***Eumetula arctica* (Mörch, 1857)**

Previous records:

- *Cerithiopsis costulata*: Herzenstein, 1885: 683 (Distribution in Murman: off Kildin Isl. – empty shell); Derjugin, 1915: 527 (Distribution in Murman: Kola Inlet).

Material studied: **Area 2:** 8 sh, 86 m, 25 May 1996, *M/S GS-440*.

Laeocochlis Dunker et Metzger, 1874

Laeocochlis sinistratus (Nyst, 1835)

Previous records:

- *Laeocochlis granosa*: Herzenstein, 1885: 684 (Distribution in Murman: vicinity of Teriberka – empty shell);
- *Laeocochlis granosa*: Derjugin, 1915: 533 (Distribution in Murman: Kola Inlet); Derjugin, 1924: 72 (Distribution in Murman: high sea).

Absent in material studied.

Neogastropoda

Muricoidea Rafinesque, 1815

Muricidae Rafinesque, 1815

Middendorff [1849] reported *Scabrotrophon fabricii* (Møller, 1842) (as *Tritonium craticulatum* Fabricius, 1780) from Russian Lapland but this material is lost [Kantor, Sysoev, 2006]. Recent collections of that species from the Murman are also absent.

Boreotrophon P. Fischer, 1884

Boreotrophon clathratus (Linnaeus, 1767)

Previous records:

- *Tritonium (Trophon) clathratum*: Middendorff, 1849: 454-457 (Shell description; distribution in Murman, no exact locality);
- *Trophon clathratus*: Herzenstein, 1885: 692 (Distribution in Murman: Varangerfjorden, Motka Bay, Ara Bay, off Kildin Isl., vicinity of Teriberka, off Iokangskie Isl.); Derjugin, 1915: 538 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Trophon clathratus* v. *gunneri*: Derjugin, 1915: 538 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Trophon clathratus gunneri*: Thiele, 1928: 569 (Distribution in Murman: off Kildin Isl.);
- *Boreotrophon clathratus*: Frolova *et al.*, 1997: 105 (Distribution in Murman: Kola Inlet).

Material studied: 98 specimens, 5-123 m (see supplementary material for details).

Boreotrophon truncatus (Strøm, 1768)

Previous records:

- *Trophon truncatus*: Herzenstein, 1885: 691-692 (Distribution in Murman: Ara Bay, vicinity of Teriberka and Podpakhta); Derjugin, 1915: 538 (Distribution in Murman: Kola Inlet); Thiele, 1928: 569 (Distribution in Murman: vicinity of Port Vladimir); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Boreotrophon truncatus*: Anisimova, Frolova, 1994: 69 (Distribution in Murman: Dolgaya Bay).

Material studied: 112 specimens, 5-59 m (see supplementary material for details).

Trophonopsis Bucquoy,

Dautzenberg et Dollfus, 1882

Trophonopsis barvicensis (Johnston, 1825)

Previous records:

- *Trophon barvicensis*: Herzenstein, 1885: 692-693 (Distribution in Murman: Motka Bay, off Kildin Isl.).

Absent in material studied.

Remarks. Specimen of *Trophonopsis barvicensis* from Murman (69°55'N, 32°38.4'E) was depicted by Kantor and Sysoev [2006] without any comments on its distribution in Murman.

Nucella Röding, 1798

Nucella lapillus (Linnaeus, 1758)

Previous records:

- *Purpura lapillus*: Herzenstein, 1885: 693 (Distribution in Murman: Ara Bay, vicinity of Teriberka); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 257-258 (Ecology); Matveeva, 1955b: 48-61, tables 1-8, figs. 1-6 (Ecology; feeding; growth; breeding; life history);
- *Nucella lapillus*: Matveeva, 1974: 167-171, table 57, fig. 39-40 (Ecology; growth; breeding; life history); Golikov, Kussakin, 1978: 192-193, fig. 134 (Description of shell; habitat; distribution in Murman, no exact locality); Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay); Dgebuadze, Kantor, 2006: 53-58, tables 1, 3, fig. 2 (Anomalies in reproductive system).

Material studied: **Area 1:** Bolshoy Aynov Isl.: 21 sp, littoral, 28 May – 25 June 2008, *leg. I.O. Nekhaev*; **Area 3:** 75 sp, littoral, 28-29 Aug. 2007; 164 sp, littoral, 6-7 Oct. 2006; **Area 4:** Kola Inlet: 3 sp, 5 m, 69°17.85'N, 33°26.98'E, 27 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 5 m, 69°16.80'N, 33°33.08'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 7 m, 69°07.43'N, 33°24.00'E, 2 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 5:** Dolgaya Bay: 8 sp, littoral, 29-31 May 2009; **Area 7:** Medvejya Bay: 1 sp, 20 m, 19 Aug. 2007; 4 sp, 7 m, 20 Aug. 2007; 3 sp, 5 m, 21 Aug. 2007; 2 sp, 20 m, 21 Aug. 2007; 1 sp, 6 m, 24 Aug. 2007.

Buccinoidea Rafinesque, 1815

Buccinidae Rafinesque, 1815

Middendorff [1849] reported *Buccinum angulosum* Gray, 1839 from the coast of Russian Lapland (= Murman Coast) but recent findings of this species from the region are absent.

Anomalisipho Dautzenberg et Fischer, 1912

Anomalisipho verkruzei (Kobelt, 1876)

Previous records:

- *Anomalisipho verkruzei*: Kantor, 1981: 1147 (Distribution in Murman – empty shell);
- *Helicofusus paraelator* sp.n.: Kantor, 1981: 1147-1148, fig. 1 (Shell description; distribution in Murman: high sea);
- *Anomalisipho frielei* sp.n.: Kantor, 1981: 1148-1149, figs. 2-3 (Shell description; distribution in Murman: high sea).

Absent in material studied.*Beringius* Dall, 1887***Beringius turtoni* (Bean, 1834)**Previous records:

- *Chrysodomus* (*Ukko*, *Fusus*) *turtoni*: Derjugin, 1915: 541 (Distribution in Murman: Kola Inlet);
- *Beringius turtoni*: Kantor, 1981: 1149 (Distribution in Murman, no exact locality);
- *Beringius ossiani*: Kantor, 1981: 1149 (Distribution in Murman – empty shell, no exact locality).

Absent in material studied.*Buccinum* Linnaeus, 1758***Buccinum undatum* Linnaeus, 1758**Previous records:

- *Tritonium* (*Buccinum*) *undatum*: Middendorff, 1849: 480-486 (Shell description; Distribution in Murman, no exact locality);
- *Buccinum undatum*: Herzenstein, 1885: 693-698 (Distribution in Murman; variety of shell); Derjugin, 1915: 541 (Distribution in Murman: Kola Inlet); Thiele, 1928: 569 (Distribution in Murman: vicinity of Port Vladimir); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 258 (Ecology); Matveeva, 1966: 123-132, tables 1-8, figs. 1-2 (Ecology; growth; breeding; life history); Matveeva, 1974: 145-153, tables 43-48, fig. 30 (Ecology; growth; breeding; life history); Golikov, Kussakin, 1978: 181-182, fig. 127 (Description of shell; habitat; distribution in Murman, no exact locality); Kantor, 1981: 1145 (Distribution in Murman, no exact locality); Dgebuadze, Kantor, 2006: 53-48, tables 1, 2, 4, fig. 1 (Anomalies in reproductive system).

Material studied: **Area 1:** Bolshoy Aynov Isl.: 2 sp, littoral, 28 May – 25 June 2008, *leg. I.O. Nekhaev*; **Area 4:** Kola Inlet: 1 sp, 8 m, 68°57.64'N, 33°02.22'E, 22 Sept. 2007, *M/S GS-278*; 1 sp, 12 m, 68°58.51'N, 33°02.41'E, 27 Sept. 2007, *M/S GS-440*; **Area 7:** Dalne-Zelenetskaya Bay: 2 sp, 10 m, 69°07.28'N, 36°05.26'E, 3 July 2009; 2 sp, 8 m, 69°07.29'N, 36°05.21'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*.

***Buccinum ciliatum* (Fabricius, 1780)**Previous records:

- *Buccinum sericatum*: Derjugin, 1915: 540 (Distribution in Murman: Kola Inlet).

Material studied: **Area 4:** Kola Inlet: 3 sp, 5 m, 69°16.80'N, 33°33.08'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 2 sp, 5 m, 69°08.83'N, 33°27.23'E, 1 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 5:** Dolgaya Bay: 1 sp, 3-22 m, 10-12 Aug. 2005; **Area 7:** Yarnishnaya Inlet: 7 sp, 5-28 m, 31 July – 3 Aug. 2004; Medvejya Bay: 1 sp, 15 m, 21 Aug. 2007.

Remarks. All specimens studied belong to subspecies *Buccinum ciliatum ciliatum*.

***Buccinum cyaneum* Bruguière, 1792**Previous records:

- ? – *Tritonium* (*Buccinum*) *tenebrosum* var. *cyanea*:

Middendorff, 1849: 488-490 (Shell description; Distribution in Murman, no exact locality);

- *Buccinum gröenlandicum*: Herzenstein, 1885: 692 (Distribution in Murman: Ara Bay, off Kildin Isl., vicinity of Teriberka and Shelpino); Derjugin, 1915: 538 (Distribution in Murman: Kola Inlet);
- *Buccinum groenlandicum*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Kuznetsov, Matveeva, 1948: 258 (Ecology); Matveeva, 1966: 133-138, tables 9-14, figs. 3-4 (Ecology; growth; breeding; life history); Matveeva, 1974: 153-158, tables 49-54, fig. 32-33 (Ecology; growth; breeding; life history);
- *Buccinum cyaneum*: Golikov, Kussakin, 1978: 182-184, fig. 128 (Description of shell; habitat; distribution in Murman, no exact locality).

Material studied: **Area 7:** Yarnishnaya Inlet: 6 sp, 5-28 m, 31 July – 3 Aug. 2004; Medvejya Bay: 10 sp, 14 m, 19 Aug. 2007; 1 sp, 20 m, 19 Aug. 2007; 3 sp, 5 m, 23 Aug. 2007; 4 sp, 7 m, 20 Aug. 2007; 1 sp, 15 m, 20 Aug. 2007.

***Buccinum glaciale* Linnaeus, 1791**Previous records:

- *Tritonium* (*Buccinum*) *glaciale*: Middendorff, 1849: 497-499 (Shell description; Distribution in Murman, no exact locality);
- *Buccinum glaciale*: Herzenstein, 1885: 699 (Distribution in Murman: vicinity of Teriberka); Kantor, 1981: 1145-1146 (Distribution in Murman – empty shells, no exact locality).

Absent in material studied.***Buccinum hydrophanum* Hancock, 1846**Previous records:

- *Tritonium* (*Buccinum*) *tenebrosum* var. *hydrophana*: Middendorff, 1849: 490-492 (Shell description; distribution in Murman, no exact locality);
- *Buccinum hydrophanum*: Herzenstein, 1885: 692 (Distribution in Murman: high sea); Derjugin, 1915: 538 (Distribution in Murman: Kola Inlet); Thiele, 1928: 570 (Distribution in Murman: Motovskiy Bay, off Kharlov Isl.); Kantor, 1981: 1146 (Distribution in Murman – empty shells, no exact locality).

Absent in material studied.***Buccinum scalariforme* Møller, 1842**Previous records:

- *Tritonium* (*Buccinum*) *tenue*: Middendorff, 1849: 501-502 (Shell description; distribution in Murman, no exact locality);
- *Buccinum tenue*: Herzenstein, 1885: 701 (Distribution in Murman); Derjugin, 1915: 541 (Distribution in Murman: Kola Inlet); Thiele, 1928: 569 (Distribution in Murman: Motovskiy Bay); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Matveeva, 1974: 159-160, fig. 35 (Ecology; growth; breeding);
- *Buccinum elatior*: Kantor, 1981: 1146 (Distribution in Murman, no exact locality).

Absent in material studied.

Remarks. The nomenclature of this species was revised by Alexeev and Gornichnykh [2009].

***Buccinum finmarkianum* Verkrüzen, 1875**

Previous records:

- ? – *Tritonium (Buccinum) humpreysianum*: Middendorff, 1849: 492-493 (Shell description; distribution in Murman, no exact locality);
- *Buccinum finmarchianum*: Herzenstein, 1885: 700-701 (Distribution in Murman: off Gavrilo Isl., high sea); Derjugin, 1915: 538-539 (Distribution in Murman: Kola Inlet); Matveeva, 1974: 158-159, fig. 34 (Ecology; breeding; life history); Kantor, 1981: 1146 (Distribution in Murman, no exact locality).

Material studied: **Area 9:** 8 sp, 132 m, 69°40.91'N, 34°06.82'E, 6 Aug. 2007, *R/V Vilnius*.

***Buccinum fragile* Verkrüzen in G.O. Sars, 1878**

Previous records:

- *Buccinum fragile*: Herzenstein, 1885: 699-700 (Distribution in Murman: vicinity of Teriberka); Derjugin, 1915: 539 (Distribution in Murman: Kola Inlet); Kantor, 1981: 1146 (Distribution in Murman, no exact locality).

Absent in material studied.

***Buccinum nivale* Friele, 1882**

Previous records:

- *Buccinum nivale*: Kantor, 1981: 1146 (Distribution in Murman, no exact locality).

Material studied: **Area 9:** 1 sp, 202 m, 69°42.11'N, 34°01.10'E, 5 Sept. 2007, *R/V Dalnie Zelentsy*.

Colus Röding, 1799

***Colus gracilis* (Da Costa, 1778)**

Previous records:

- *Fusus glaber*: Herzenstein, 1885: 703 (Distribution);
- *Neptunea (Sipho, Fusus) glabra*: Derjugin, 1915: 539 (Distribution in Murman: Kola Inlet);
- *Sipho glaber*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Sipho gracilis*: Kantor, 1981: 1147 (Distribution in Murman – empty shells, no exact locality).

Material studied: **Area 9:** 2 sp, 132 m, 69°40.91'N, 34°06.82'E, 6 Aug. 2007, *R/V Vilnius*.

***Colus islandicus* (Mohr, 1786)**

Previous records:

- *Tritonium (Fusus) islandicus*: Middendorff, 1849: 470-474 (Shell description; distribution in Murman, no exact locality);
- *Fusus islandicus*: Herzenstein, 1885: 702 (Distribution);
- *Neptunea (Sipho, Fusus) islandica*: Derjugin, 1915: 539 (Distribution in Murman: Kola Inlet);
- *Sipho islandicus*: Matveeva, 1974: 165-166, fig. 37 (Ecology; growth; breeding); Kantor, 1981: 1147 (Distribution in Murman, no exact locality).

Absent in material studied.

***Colus holboelli* (Møller, 1842)**

Previous records:

- ? – *Fusus turrinus*: Herzenstein, 1885: 703 (Distribution in Murman: Motka Bay);
- ? – *Neptunea (Sipho, Fusus) turrina*: Derjugin, 1915: 542 (Distribution in Murman: Kola Inlet);
- *Sipho tortuosus*: Kantor, 1981: 1147 (Distribution in Murman – empty shells, no exact locality).

Absent in material studied.

***Colus latericeus* (Møller, 1842)**

Previous records:

- *Fusus latericeus*: Herzenstein, 1885: 704 (Distribution in Murman: off Kildin Isl. – empty shell, vicinity of Teriberka);
- *Neptunea (Sipho) latericea*: Derjugin, 1915: 542-543 (Distribution in Murman: Kola Inlet);
- *Sipho latericeus*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Matveeva, 1974: 166-167, tables 6-7, fig. 38 (Ecology; growth; breeding);
- *Microfus latericeus*: Kantor, 1981: 1147 (Distribution in Murman, no exact locality).

Absent in material studied.

***Colus sabini* (Gray, 1824)**

Previous records:

- *Tritonium (Fusus) sabinii*: Middendorff, 1849: 474-475 (Shell description; distribution in Murman, no exact locality);
- ? *Fusus ebur*: Herzenstein, 1885: 703-704 (Distribution);
- *Fusus curtus*: Derjugin, 1915: 542 (Distribution in Murman: Kola Inlet);
- *Neptunea curta*: Derjugin, 1924: 73 (Distribution in Murman: high sea);
- *Sipho curtus*: Kantor, 1981: 1147 (Distribution in Murman, no exact locality);
- *Siphonorbis ebur*: Kantor, 1981: 1147 (Distribution in Murman, no exact locality).

Absent in material studied.

Neptunea Röding, 1798

***Neptunea despecta* (Linnaeus, 1758)**

Previous records:

- *Tritonium (Fusus) despectum*: Middendorff, 1849: 463-399 (Shell description; distribution in Murman, no exact locality);
- *Fusus despectus*: Herzenstein, 1885: 701-702 (Distribution);
- *Neptunea despecta*: Derjugin, 1915: 541-542 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Matveeva, 1974: 160-164, tables 55-56, fig. 36 (Ecology; growth; breeding; life history);
- *Neptunea despecta* v. *carinata*: Derjugin, 1915: 541-542 (Distribution in Murman: Kola Inlet);
- *Neptunea despecta despecta*: Kantor, 1981: 1146 (Distribution in Murman, no exact locality); Frolova *et al.*, 1997: 105 (Distribution in Murman: Kola Inlet).

Material studied: **Area 4:** Kola Inlet: 5 sp, 15 m, vicinity of Abram-mys, 15 Nov. 2007.

Volutopsius Mörch, 1857

***Volutopsius norvegicus* (Gmelin, 1791)**

Previous records:

- *Fusus norvegicus*: Herzenstein, 1885: 692 (Distribution in Murman – empty shell);
- *Neptunea (Volutopsis) norvegica*: Derjugin, 1915: 543-544 (Distribution in Murman: Kola Inlet);
- *Volutopsius norvegicus*: Kantor, 1981: 1146 (Distribution in Murman, no exact locality).

Absent in material studied.

Turrisipho Dautzenberg et Fischer, 1912

***Turrisipho fenestratus* (Turton, 1834)**

Previous records:

- *Siphonorbis fenestratus*: Kantor, 1981: 1147 (Distribution in Murman, no exact locality).

Absent in material studied.

***Turrisipho lachesis* (Mörsch, 1869)**

Previous records:

- *Neptunea (Siphonorbis) lachesis*: Derjugin, 1915: 543 (Distribution in Murman: Kola Inlet);
- *Sipho (Turrisipho) lachesis*: Thiele, 1928: 567 (Distribution in Murman: Motovskiy Bay – empty shell).

Absent in material studied.

Collumbellidae Swainson, 1840

Astyrus H. et A. Adams, 1853

***Astyrus rosacea* (Gould, 1840)**

Previous records:

- *Columbella rosacea*: Herzenstein, 1885: 693 (Distribution in Murman: Motka Bay, Ara Bay, off Kildin Isl., vicinity of Teriberka); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Columbella (Pyrene) rosacea*: Derjugin, 1915: 538 (Distribution in Murman: Kola Inlet).

Material studied: **Area 2:** 1 sh, 197 m, 69°36.87'N, 32°16.43'E, 26 May 1996, *M/S GS-440*; **Area 4:** Kola Inlet: 1 sh, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; 7 sp, 13 m, 69°16.80'N, 33°33.07'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 7:** Dalne-Zelenetskaya Bay: 2 sp, 10 m, 69°07.28'N, 36°05.26'E, 3 July 2009; 1 sp, 9 m, 69°07.29'N, 36°05.00'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*; 6 sp, 8 m, 69°07.29'N, 36°05.21'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*; 2 sh, 46 m, 69°07.85'N, 36°04.81'E, 20 Sept. 2012, *M/S Viking-2*.

Cancellariidae Forbes et Hanley, 1851

Admete Krøyer in Møller, 1842

***Admete viridula* (Fabricius, 1780)**

Previous records:

- *Cancellaria viridula*: Middendorff, 1849: 439-441 (Shell description; distribution in Murman, no exact locality);
- *Admete viridula*: Herzenstein, 1885: 685 (Distribution in Murman: Motka Bay, Ara Bay, Kildin Isl., vicinity of Teriberka, Iokangskie Isl.); Derjugin, 1915: 534 (Distribution in Murman: Kola Inlet); Thiele, 1928:

571 (Distribution in Murman: Varangerfjorden, Motovskiy Bay, off Kharlov Isl.); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Matveeva, 1974: 171-174, table 58, fig. 41-42 (Ecology; growth; breeding; life history);

- *Admete viridula* v. *undatocostata*: Derjugin, 1915: 534 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Admete viridula* v. *laevior*: Derjugin, 1915: 534-535 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Admete viridula* v. *producta*: Derjugin, 1915: 534-535 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Admete couthouyi*: Anisimova, Frolova, 1994: 69 (Distribution in Murman: Dolgaya Bay).

Material studied: **Area 2:** 1 sh, 270 m, 69°31.97'N, 32°53.81'E, 24 May 1996, *M/S GS-440*; 1 sp, 207 m, 69°33.90'N, 32°40.11'E, 25 May 1996, *M/S GS-440*; 1 sp, 86 m, 25 May 1996, *M/S GS-440*; **Area 4:** Zelenetskaya Zapadnaya Bay: 1 sp, 77 m, 69°17.25'N, 33°43.72'E, 23 May 1996, *M/S GS-440*; Kola Inlet: 3 sp, 17 m, 69°02.26'N, 33°02.54'E, 14 July 2006, *M/S GS-440*; 1 sp, 36 m, 69°02.75'N, 33°02.93'E, 14 July 2006, *M/S GS-440*; **Area 5:** 1 sh, 25 m, 69°14.19'N, 34°48.44'E, 30 May 2007, *R/V Dalnie Zelentsy*; **Area 9:** 1 sp, 144 m, 70°00'N, 33°30'E, 11 Aug. 2010, *R/V Fridtjof Nansen*; 1 sp, 190 m, 69°37.43'N, 36°24.88'E, 27 July 2008, *R/V Vilnius*; 1 sp, 132 m, 69°40.91'N, 34°06.82'E, 6 Aug. 2007, *R/V Vilnius*.

***Admete clivicola* Høisæter, 2010**

(Fig. 8)

No previous records.

Material studied: **Area 9:** 1 sh, 255 m, 69°30.00'N, 33°30'E, 18 Aug. 2007, *R/V Dalnie Zelentsy*.

Remarks. This species was recently described from the Norwegian slope [Høisæter, 2010]. According to the description, the distribution of this species is generally limited to upper bathyal zone with low temperature. The finding of *Admete clivicola* in Murman coastal waters is the most shallowest known record of that species. As only single empty shell was found it is impossible to state undoubtedly whether living specimens occur in this locality or not.

Measurements of the specimen found are (mm): SH=4.6, AH=1.8, LWH=3, SW=2.8, AW=1.7, whorls number is 4.2.

The species is the first time found in Russia.

Nassariidae Iredale, 1916

Nassarius Duméril, 1805

***Nassarius incrassatus* (Strøm, 1768)**

(Fig. 9)

No previous records.

Material studied: **Area 4:** Kola Inlet: 2 sp, 13 m, 69°16.80'N, 33°33.07'E, 28 May 2013, *leg. Yu.A. Zuev, S.V.*



FIG. 8. Shell of *Admete clivicola*, Barents Sea, 255 m, 69°30.00'N, 33°30'E. Scale bar = 3 mm.

FIG. 8. Раковина *Admete clivicola*, Баренцево море, 255 м, 69°30.00'N, 33°30'E. Масштабная линейка = 3 мм.

Goldin; **Area 7:** Dalne-Zelenetskaya Bay: 1 sp, 9 m, 69°07.29'N, 36°05.00'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*.

Remarks. There are no species known from the waters of Murman which may be confused with *Nassarius reticulatus* except juveniles of *Buccinum*. It may be distinguished from *Buccinum* species by considerably smaller size and large operculum.

The largest found specimen from Dalne-Zelenetskaya bay has 7.8 whorls, measurements (mm): SH=13.1, AH=5.9, LWH=9, SW=7.4, AW=3.2; its protoconch consists of less than 3.5 smooth whorls and have 0.95 mm in diameter.

The species is the first time found in Russia.

Conoidea Fleming, 1822

The classification of the superfamily is listed according to Bouchet *et al.* [2011].

Mangeliidae P. Fischer, 1883

The representatives of the family are not numerous in my material, hence the list of the Mangeliidae from Murman is mainly based on maps of distribution by Bogdanov [1990] without great detalization. Herzenstein [1885], Derjugin [1915], Thiele [1928] and Ushakov [1948] also recorded three more species from the Murman: *Oenopota declivis* (Lovén, 1846), *Curtitoma decussata* (Couthouy, 1839) (as *Lora tenuicostata* (G.O. Sars, 1878) in Thiele [1928]) and *Curtitoma violacea* (Mighels et Adams, 1842) (as *Bela bicarinata* Couthouy, 1838). Record of *Propebela cancellata* (Mighels et Adams, 1840) by

Derjugin [1915] is probably based on misidentification because this name was used for a mixture of species [Bogdanov, 1990].

Curtitoma Bartsch, 1941

Curtitoma trevelliiana (Turton, 1834)

Previous records:

- *Pleurotoma trevelliiana*: Herzenstein, 1885: 690 (Distribution in Murman: Ara Bay, off Kildin Isl.);
- *Bela trevelyana*: Derjugin, 1915: 537 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Curtitoma trevelliiana*: Bogdanov, 1990: 117-119, figs. 7 (B-G), 30, 57, 72-77, 386 (A-B), 407 (1-7) (Description of shell and radula; distributional map).

Material studied: **Area 1:** Pechenga Bay: 1 sp, 140 m, 69°40.45'N, 31°27.20'E, March 1997, *M/S BGK-73*; **Area 2:** 1 sh, 103 m, 69°34.00'N, 32°53.10'E, 24 May 1996, *M/S GS-440*; 1 sh, 270 m, 69°31.97'N, 32°53.81'E, 24 May 1996, *M/S GS-440*; **Area 4:** Kola Inlet: 1 sp, 22 m, 69°16.81'N, 33°32.99'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 10 m, 69°07.27'N, 33°28.79'E, 30 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 5:** Dolgaya Bay: 2 sp, 30 m, 69°10.16'N, 34°56.54'E, 25 July 2008, *R/V Dalnie Zelentsy*; **Area 7:** Yarnishnaya Inlet: 1 sp, 28 m, 69°07.10'N, 36°02.84'E, 3 June 2009, *R/V Dalnie Zelentsy*; 2 sp, 27 m, 69°07.21'N, 36°02.55'E, 5 July 2004, *R/V Dalnie Zelentsy*; **Area 8:** Zapadnyy Nokuevskiy Bay: 1 sp, 72 m, 68°23.98'N, 38°24.28'E, 16 Aug. 2011, *M/S Viking-1*; Drozdovka Bay: 1 sp, 8 m, 68°20.16'N, 38°24.79'E, 17 Aug. 2011, *leg. K.V. Vasilyev, S.V. Goldin*.

Curtitoma novajasemljensis (Leche, 1878)

Previous records:

- *Curtitoma novajasemljensis*: Bogdanov, 1990: 120-

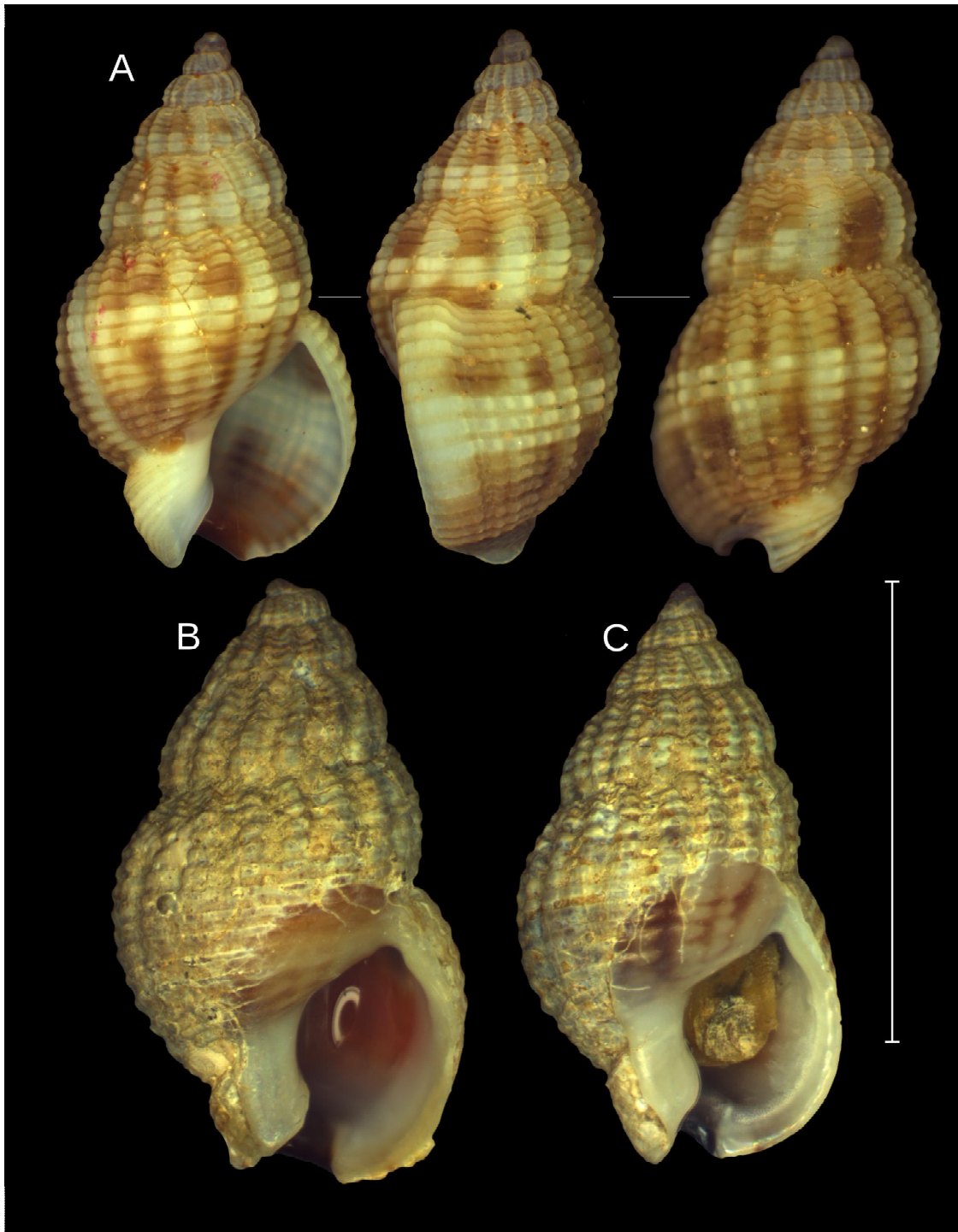


FIG. 9. Shells of *Nassarius incrassatus*: A – Dalne-Zelenetskaya Bay, 9 m, 69°07.29'N, 36°05.00'E; B-C – Kola Inlet, 13 m, 69°16.80'N, 33°33.07'E. Scale bar = 10 mm.

FIG. 9. Раковины *Nassarius incrassatus*: А – губа Дальне-Зеленецкая, 9 м, 69°07.29'N, 36°05.00'E; В-С – Кольский залив, 13 м, 69°16.80'N, 33°33.07'E. Масштабная линейка = 10 мм.

121, figs. 7 (A), 69-70, 387 (A-B), 407 (8-13), 440 (1)
(Description of shell and radula; distributional map).
Absent in material studied.

***Curtitoma conoidea* (G.O. Sars, 1878)**

Previous records:

– *Pleurotoma conoidea*: Herzenstein, 1885: 691 (Distri-

bution in Murman: off Gavrilov Isl., vicinity of Shel-
pino);

– *Bela conoidea*: Derjugin, 1915: 537 (Distribution in
Murman: Kola Inlet);

– *Curtitoma conoidea*: Bogdanov, 1990: 125-127, figs.
97-103, 389 (G-E), 410 (1-15), 443 (2) (Description of
shell and radula; distributional map).

Material studied: **Area 9:** 1 sp, 132 m, 69°40.91'N, 34°06.82'E, 6 Aug. 2007, *R/V Vilnius*.

Obesotoma Bartsch, 1941

***Obesotoma simplex* (Middendorff, 1849)**

Previous records:

- *Obesotoma simplex*: Bogdanov, 1990: 161-163, figs. 214-218, 400 (D), 424 (13-20), 456, 457 (Description of shell and radula; distributional map).

Absent in material studied.

Oenopota Mörch, 1852

***Oenopota cinerea* (Møller, 1842)**

Previous records:

- *Oenopota cinerea*: Bogdanov, 1990: 147-148, figs. 136-139, 394 (A-E), 414 (1-12), 452 (Description of shell and radula; distributional map).

Absent in material studied.

***Oenopota impressa* (Beck in Mörch, 1869)**

Previous records:

- *Pleurotoma impressa*: Herzenstein, 1885: 683 (Distribution in Murman: off Iokangskie Isl.);
- *Oenopota impressa*: Bogdanov, 1990: 145-147, figs. 161-167, 398 (A-E), 414 (13-23), 415 (1-12), 450, 451 (Description of shell and radula; distributional map).

Absent in material studied.

***Oenopota elegans* (Møller, 1842)**

Previous records:

- *Bela elegans*: Derjugin, 1915: 536 (Distribution in Murman: Kola Inlet);
- *Oenopota elegans*: Bogdanov, 1990: 150-151, figs. 147-154, 396 (A-E), 416 (6-15), 453 (1) (Description of shell and radula; distributional map).

Absent in material studied.

***Oenopota harpa* (Dall, 1855)**

Previous records:

- *Oenopota harpa*: Bogdanov, 1990: 151-152, figs. 155-160, 397 (A-B), 415 (13-22), 416 (1-5), 454, 455 (Description of shell and radula; distributional map).

Absent in material studied.

***Oenopota obliqua* (G.O. Sars, 1878)**

Previous records:

- *Pleurotoma obliqua*: Herzenstein, 1885: 686-687 (Distribution in Murman: off Kildin Isl., off Gavrilov Isl. – empty shell);
- *Oenopota obliqua*: Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay); Bogdanov, 1990: 143-144, figs. 211-213, 406 (A-B), 420 (1-10), 449 (Description of shell and radula; distributional map).

Material studied: **Area 3:** vicinity of Vidyaev: 1 sp, 6 m, 69°22.91'N, 32°54.37'E, 28 Aug. 2007.

***Oenopota pyramidalis* (Strøm, 1788)**

Previous records:

- *Pleurotoma pyramidalis*: Herzenstein, 1885: 685 (Dis-

tribution in Murman: Varangerfjorden, Ara Bay, Ura Inlet, off Kildin Isl., vicinity of Teriberka, Podpakta Bay, Iokangskie Isl.);

- *Bela pyramidalis*: Derjugin, 1915: 535 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Bela pyramidalis* v. *semiplicata*: Derjugin, 1915: 535 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Lora pyramidalis*: Thiele, 1928: 571 (Distribution in Murman: vicinity of Port Vladimir);
- *Oenopota pyramidalis*: Bogdanov, 1990: 140-141, figs. 191-208, 397 (D-E), 399 (A-B), 419 (1-34), 447 (Description of shell and radula; distributional map).

Material studied: **Area 7:** Dalne-Zelenetskaya Bay: 1 sp, 5-16 m, 2-17 Aug. 2003, *leg. A.V. Rzhavsky, Yu.A. Zuev*; 1 sp, 8-16 m, 17-19 Aug. 2008; **Area 9:** 1 sp, 132 m, 69°40.91'N, 34°06.82'E, 6 Aug. 2007, *R/V Vilnius*.

***Oenopota pingelii* (Møller, 1842)**

Previous records:

- *Bela pingelii*: Derjugin, 1915: 535 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Oenopota pingelii*: Bogdanov, 1990: 142-143, figs. 6, 209-210, 422, 24-30, 448 (Description of shell and radula; distributional map).

Absent in material studied.

Propebela Iredale, 1918

***Propebela angulosa* (G.O. Sars, 1878)**

Previous records:

- *Pleurotoma angulosa*: Herzenstein, 1885: 687-688 (Distribution in Murman: off Kildin Isl.);
- *Bela angulosa*: Derjugin, 1915: 536 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Propebela angulosa*: Bogdanov, 1990: 178-179, figs. 38 (A), 313-315, 437 (1-2) (Description of shell and radula; distributional map).

Material studied: **Area 4:** Kola Inlet: 1 sp, 20 m, 69°01.72'N, 33°02.08'E, 13 July 2006, *M/S GS-440*.

***Propebela arctica* (A. Adams, 1855)**

Previous records:

- *Propebela viridula*: Bogdanov, 1990: 195-196, figs. 265-273, 406 (D-E), 420 (11-24), 471-472 (Description of shell and radula; distributional map).

Absent in material studied.

***Propebela assimilis* (G.O. Sars, 1878)**

Previous records:

- *Propebela assimilis*: Bogdanov, 1990: 181-183, figs. 322-237, 431 (17-20), 432 (1-11), 404 (A-B), 466 (2-3), 467 (Description of shell and radula; distributional map).

Material studied: **Area 4:** Kola Inlet: 1 sp, 77 m, 69°18.80'N, 33°29.30'E, 22 Sept. 2012, *M/S Viking-2*; **Area 7:** Dalne-Zelenetskaya Bay: 1 sp, 5-16 m, 2-17 Aug. 2003, *leg. A.V. Rzhavsky, Yu.A. Zuev*.

***Propebela harpularia* (Couthouy, 1838)**Previous records:

- *Pleurotoma harpularia*: Herzenstein, 1885: 683 (Distribution in Murman: off Kildin Isl., Podpakhta, Iokangskie Isl.);
- *Bela harpularia*: Derjugin, 1915: 537 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Oenopota harpularia*: Anisimova, Frolova, 1994: 70 (Distribution in Murman: Dolgaya Bay);
- *Propebela harpularia*: Bogdanov, 1990: 186-187, figs. 355-367, 404 (V-G), 433 (1-22), 463 (1, 3) (Description of shell and radula; distributional map).

Material studied: **Area 2:** 1 sp, 21 m, 69°41.24'N, 32°08.73'E, 25 Sept. 2007, *M/S GS-440*; **Area 8:** Dvorovaya Bay: 4 sp, 25 m, 68°26.05'N, 38°13.39'E, 27 July 08, *R/V Dalnie Zelentsy*.

***Propebela exarata* (Møller, 1842)**Previous records:

- *Pleurotoma exarata*: Herzenstein, 1885: 689 (Distribution in Murman: Ara Bay, off Kildin Isl., Iokangskie Isl.);
- *Bela exarata*: Derjugin, 1915: 537 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Propebela exarata*: Bogdanov, 1990: 276-278, 405 (V), 428 (15-26), 473 (Description of shell and radula; distributional map).

Material studied: **Area 7:** Yarnishnaya Inlet: 1 sp, 27 m, 69°07.21'N, 36°02.55'E, 5 July 2004, *R/V Dalnie Zelentsy*; **Area 8:** Ivanovskaya Inlet: 1 sh, 34 m, 68°20.54'N, 38°28.32'E, 9 July 2004, *R/V Dalnie Zelentsy*.

***Propebela rugulata* (Møller in Reeve, 1846)**Previous records:

- *Bela rugulata*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Propebela rugulata*: Bogdanov, 1990: 183-184, figs. 330-343, 401 (A-G), 434 (1-22), 468 (1, 3) (Description of shell and radula; distributional map).

Material studied: **Area 1:** Pechenga Bay: 2 sp, 80 m, 69°41.54'N, 31°28.05'E, March 1997, *M/S BGK-73*; **Area 3:** 1 sp, 84 m, 69°20.35'N, 32°55.84'E, 15 Aug. 2007, *M/S Gidrolog*; **Area 5:** Dolgaya Bay: 1 sp, 13 m, 69°10.23'N, 34°57.39'E, 29 May 2009, *R/V Dalnie Zelentsy*; 1 sp, 30 m, 69°10.16'N, 34°56.54'E, 25 July 2008, *R/V Dalnie Zelentsy*; **Area 9:** 2 sp, 132 m, 69°40.91'N, 34°06.82'E, 6 Aug. 2007, *R/V Vilnius*.

***Propebela scalaris* (Møller, 1842)**Previous records:

- *Bela scalaris*: Derjugin, 1915: 535 (Reference to published data);
- *Propebela scalaris*: Bogdanov, 1990: 188-189, figs. 375-383, 402 (G-E), 403 (A-B), 437 (10-22), 438 (1-9), 469 (1) (Description of shell and radula; distributional map).

Material studied: **Area 2:** 1 sp, 197 m, 69°34.93'N, 33°04.04'E, 24 May 1996, *M/S GS-440*; 1 sp, 103 m, 69°34.00'N, 32°53.10'E, 24 May 1996, *M/S GS-440*.

***Propebela spitzbergensis* (Friele, 1886)**Previous records:

- ? – *Bela rugulata* (var. *spitsbergebsis*): Derjugin, 1915: 536 (Distribution in Murman: Kola Inlet);
- *Propebela spitzbergebsis*: Bogdanov, 1990: 184-185, figs. 344-347, 432 (12-23), 466 (1) (Description of shell and radula; distributional map).

Absent in material studied.***Propebela turricula* (Montagu, 1803)**Previous records:

- *Propebela turricula*: Bogdanov, 1990: 176-177, figs. 368-370, 404 (D-E), 405 (A), 433 (23-37), 463 (2) (Description of shell and radula; distributional map).

Material studied: **Area 7:** Yarnishnaya Inlet: 1 sh, 27 m, 69°07.21'N, 36°02.55'E, 5 July 2004, *R/V Dalnie Zelentsy*; **Area 9:** 1 sp, 100 m, 68°31.85'N, 38°44.73'E, 30 July 08, *R/V Dalnie Zelentsy*.

***Propebela nobilis* (Møller, 1842)**Previous records:

- *Pleurotoma nobilis*: Herzenstein, 1885: 689 (Distribution in Murman: Motka Bay, Kola Inlet, off Kildin Isl.);
- *Bela nobilis*: Derjugin, 1915: 536 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Lora nobilis*: Thiele, 1928: 571 (Distribution in Murman: vicinity of Port Vladimir);
- *Propebela nobilis*: Bogdanov, 1990: 179-181, figs. 316-321, 431 (1-16), 464, 465 (Description of shell and radula; distributional map).

Material studied: **Area 2:** 1 sp, 197 m, 69°36.87'N, 32°16.43'E, 26 May 1996, *M/S GS-440*; 1 sh, 50 m, 69°37.48'N, 32°00.28'E, 27 May 1996, *M/S GS-440*; 1 sh, 20 m, 69°43.55'N, 32°08.53'E, 28 May 1996, *M/S GS-440*; **Area 3:** vicinity of Vidyaevo: 1 sp, 6 m, 69°22.96'N, 32°55.10'E, 28 Aug. 2007; 1 sp, 6 m, 69°22.74'N, 32°54.48'E, 29 Aug. 2007; 1 sp, 5-25 m, 29 June - 1 Sept. 2007; **Area 5:** Dolgaya Bay: 1 sp, 13 m, 69°10.23'N, 34°57.39'E, 29 May 2009, *R/V Dalnie Zelentsy*; **Area 7:** Yarnishnaya Inlet: 1 sp, 67 m, 69°08.71'N, 36°00.44'E, 2 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 5-28 m, 31 July - 3 Aug. 2004; Dalne-Zelenetskaya Bay: 1 sp, 59 m, 69°07.92'N, 36°05.45'E, 4 June 2009, *R/V Dalnie Zelentsy*; **Area 8:** Zapadnyy Nokuevskiy Bay: 19 sp, 72 m, 68°23.98'N, 38°24.28'E, 16 Aug. 2011, *M/S Viking-1*; Ivanovskaya Inlet: 1 sp, 15 m, 68°20.07'N, 38°28.60'E, 20 Aug. 2011, leg. *K.V. Vasilyev, S.V. Goldin*.

Raphitomidae Bellardi, 1875*Rahitoma* Bellardi, 1875***Raphitoma leufroyi* (Michaud, 1828)**
(Fig 10 A)

No previous records.

Material studied: **Area 4:** Kola Inlet: 1 sh, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*.

Remarks. *Raphitoma leufroyi* had been not known

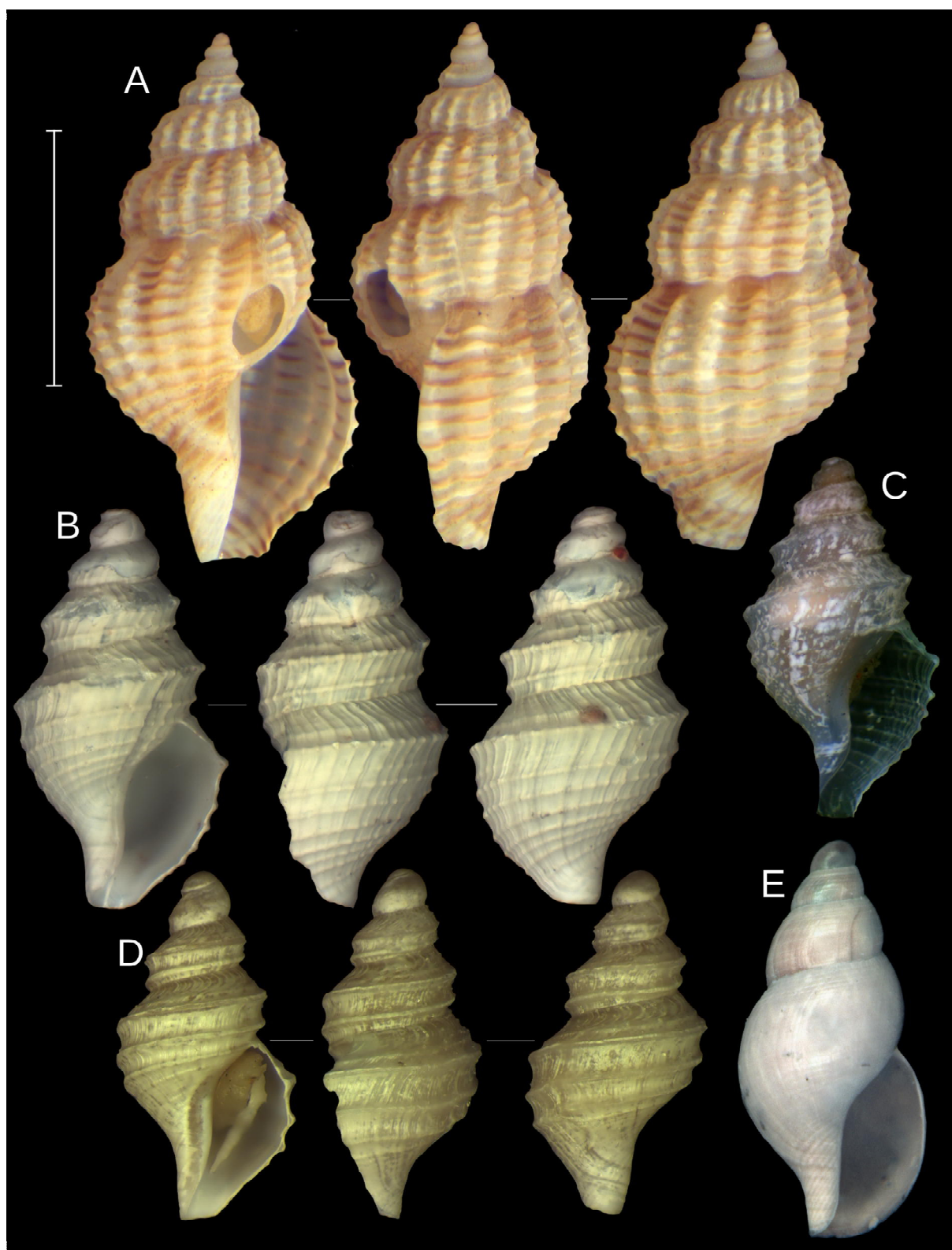


FIG. 10. Shells of Raphitomidae: A – *Raphitoma leufroyi*, Kola Inlet, 43 m, 69°18.90'N, 33°29.08'E; B – *Taranis moerchi*, Barents Sea, 250 m, 69°30'N, 33°30'E; C – *Taranis moerchi*, Barents Sea, 216 m, 69°30.40'N, 33°23.32'E; D – *Nepotilla amoena*, 240 m, 70°42.50'N, 39°24.77'E, 28 Aug 2008, R/V *Vilnius*; E – *Thesbia nana*, Barents Sea, 144 m, 70°00'N, 33°30'E. Scale bar = 3 mm.

FIG. 10. Раковины Raphitomidae: A – *Raphitoma leufroyi*, Кольский залив, 43 м, 69°18.90'N, 33°29.08'E; B – *Taranis moerchi*, Баренцево море, 250 м, 69°30'N, 33°30'E; C – *Taranis moerchi*, Баренцево море, 216 м, 69°30.40'N, 33°23.32'E; D – *Nepotilla amoena*, 240 м, 70°42.50'N, 39°24.77'E, 28 августа 2008, НИС "Вильнюс"; E – *Thesbia nana*, Баренцево море, 144 м, 70°00'N, 33°30'E. Масштабная линейка = 3 мм.

northward to Trondheimsfjorden [Høisæter, 2009], and than it is not possible to say, whether this species permanently occurs in coastal waters of Murman.

Studied specimen is young, its coloration is yellowish-cream; sculpture of the body whorls consists of 15 thick axial costae crossed by 11 thin spiral ribs. Protoconch surface partly destroyed; the extant parts covered by diagonally cancellated sculpture.

Measurements are (mm): SH=6.22, AH=3.48, LWH=5.26, SW=4.22, AW=1.85, protoconch diameter is 0.52, nucleus is 0.10, whorls number is 7.5, whorls number of protoconch is 3.5.

The species is the first time found in Russia.

Taranis Jeffreys, 1867

***Taranis moerchi* (Malm, 1861)**

(Fig. 10 B, C)

No previous records.

Material studied: **Area 1:** Pechenga Bay: 1 sp, 70 m, March 1997, *M/S BGK-73*; **Area 9:** 1 sp, 216 m, 69°30.40'N, 33°23.32'E, 6 Sept. 2007, *R/V Dalnie Zelentsy*; 1 sp, 2 sh, 250 m, 69°30'N, 33°30'E, 1 Sept. 2006, *R/V Dalnie Zelentsy*.

Remarks. This species may be distinguished from *Nepotilla amoena* by characters of both adult and embryonic shells. The teleoconch sculpture consists of narrow spiral keels, the most prominent of which marks the shoulder of the whorl and from prosocline narrow costae which are slightly weaker than spiral ones. Protoconch have more than 1.2 whorls and covered by numerous (more than 10) relatively thick spiral ribs.

Measurements of the largest specimen found are (mm): SH=3.85, AH=1.74, LWH=2.63, SW=2.11, AW=0.93.

The species is the first time found in Russia.

Thesbia Jeffreys, 1867

***Thesbia nana* (Lovén, 1846)**

(Fig. 10 E)

Previous records:

– *Thesbia nana*: Nekhaev, Kantor, 2012: 51-54, figs. 1-2 (Description of shell; distribution in Murman: high sea).

Material studied: **Area 4:** Kola Inlet: 1 sh, 22 m, 69°16.81'N, 33°32.99'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 9:** 1 sp, 255 m, 69°30.00'N, 33°30'E, 18 Aug. 2007, *R/V Dalnie Zelentsy*; 2 sp, 2 sh, 142 m, 70°00'N, 33°30'E, 19 Aug. 2007, *R/V Dalnie Zelentsy*; 2 sp, 1 sh, 144 m, 70°00'N, 33°30'E, 11 Aug. 2010, *R/V Fridtjof Nansen*.

Nepotilla Hedley, 1918

***Nepotilla amoena* (G.O. Sars, 1878)**

(Fig. 10 D)

Previous records:

– *Raphitoma amoena*: Herzenstein, 1885: 685 (Distribution in Murman: off Gavrilov Isl. – empty shell);

– *Taranis amoena*: Thiele, 1928: 571-572 (Distribution in Murman: Motovskiy Bay).

Absent in material studied.

Remarks. *Nepotilla amoena* may be distinguished from other raphitomids listed here by presence of few (3-4) coarse spiral ribs and lacks of axial sculpture apart from growth lines.

This species is absent in my material from Murman waters. However I depict specimen from the adjacent part of the Barents Sea for comparison with other raphitomids.

Heterobranchia

“Lower Heterobranchia”

Mathildoidea Dall, 1889

Mathildidae Dall, 1889

Turritelopsis G.O. Sars, 1878

***Turritelopsis stimpsoni* Dall, 1919**

Previous records:

– *Turritella acicula*: Herzenstein, 1885: 682 (Distribution in Murman: Ara Bay – empty shell, off Kildin Isl. – empty shell);

– *Turritelopsis acicula*: Derjugin, 1915: 533 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).

Material studied: **Area 8:** 1 sp, 123 m, 68°27.39'N, 38°23.80'E, 16 Aug. 2011, *M/S Viking-I*.

Omalogyroidea G.O. Sars, 1878

Omalogyridae G.O. Sars, 1878

Omalogyra Jeffreys, 1860

***Omalogyra cf. atomus* (Philippi, 1841)**

(Fig. 11)

No previous records.

Material studied: **Area 4:** Kola Inlet: 6 sp, littoral, 69°13.20'N, 33°29.06'E, 26 May 2013, *leg. A.A. Frolov*; 1 sp, 5 m, 69°12.90'N, 33°29.02'E, 26 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, littoral, 69°16.79'N, 33°33.20'E, 28 May 2013, *leg. A.A. Frolov*; 195 sp, 5 m, 69°16.80'N, 33°33.08'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 13 m, 69°16.80'N, 33°33.07'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 6 sp, 22 m, 69°16.81'N, 33°32.99'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 19 sp, 5 m, 69°12.50'N, 33°34.22'E, 29 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 3 sp, 11 m, 69°12.48'N, 33°34.17'E, 29 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 33 sp, 4 m, 69°09.07'N, 33°32.62'E, 31 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 154 sp, 5 m, 69°08.83'N, 33°27.23'E, 1 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 50 sp, 4 m, 69°07.42'N, 33°23.96'E, 2 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 6 sp, 7 m, 69°07.43'N, 33°24.00'E, 2 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 3 sp, 10 m, 69°07.27'N, 33°28.79'E, 30 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 7:** Yarnishnaya Inlet: 2 sh, 27 m, 69°07.21'N, 36°02.55'E, 5 July 2004, *R/V Dalnie Zelentsy*.

Remarks. Embryonic shells of seven specimens from Kola Inlet examined under the SEM usually have weak sculpture formed by rough wrinkles or granules which in some cases are spirally orientated. On the other hand majority of authors noted that protoconch of *Omalogyra atomus* is smooth [Fret-

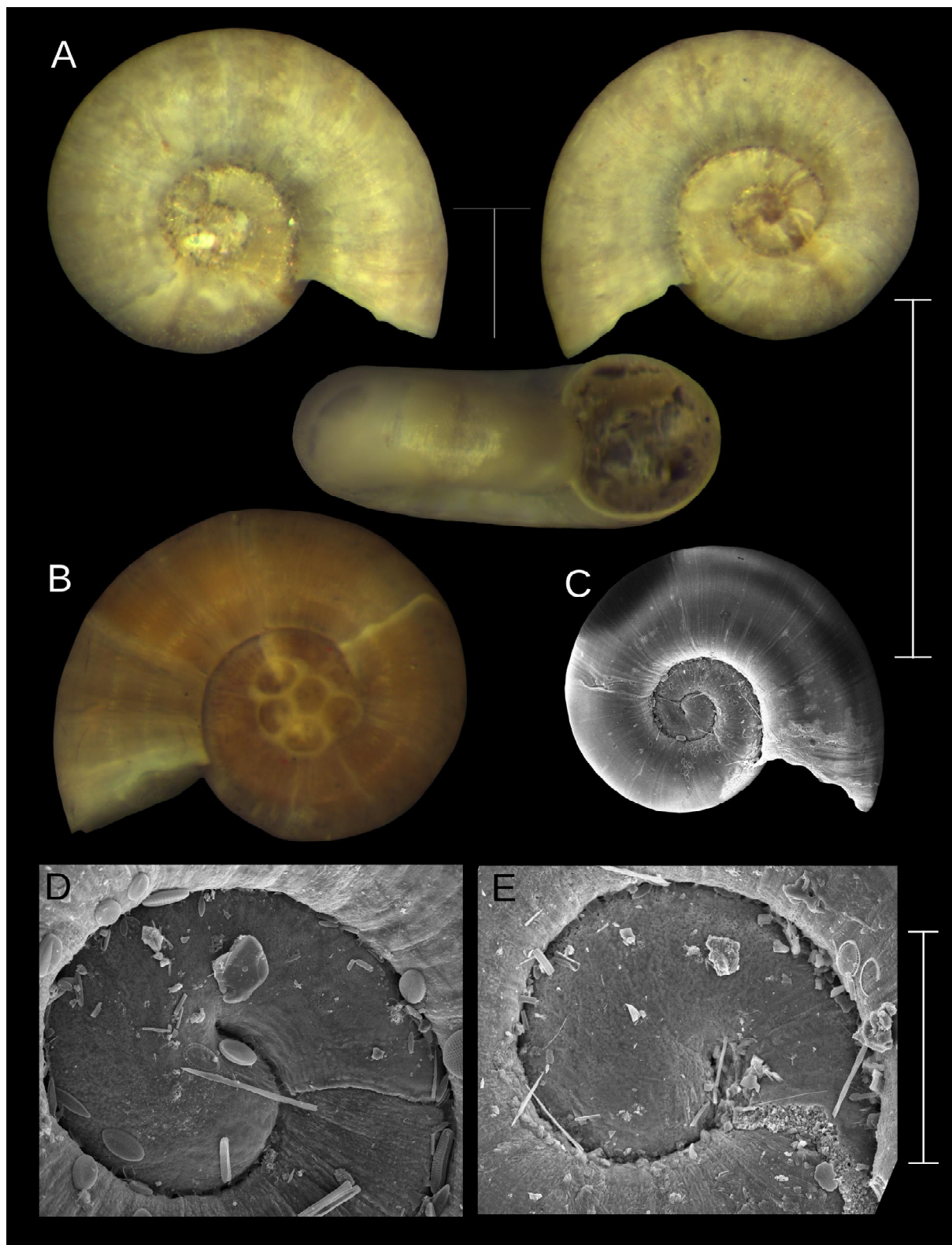


FIG. 11. Shells and egg capsules of *Omalogyra* cf. *atomus*: A – Kola, Inlet, 22 m, 69°16.81'N, 33°32.99'E; B – specimen with egg capsule, Kola Inlet, littoral, 69°13.20'N, 33°29.06'E; C-E SEM photos of shell details, the same locality. Scale bars: A-C = 1 mm, E-F = 50 μm.

РИС. 11. Раковины и яйцевые капсулы *Omalogyra* cf. *atomus*: А – Кольский залив, 22 м, 69°16.81'N, 33°32.99'E; В – экземпляр с кладкой, Кольский залив, литораль, 69°13.20'N, 33°29.06'E; С-Е СЭМ фотографии деталей раковин из того же местообитания. Масштабная линейка: А-С = 1 мм, Е-Ф = 50 μm.

ter, Graham, 1978; Palazzi, 1988; Baeumler *et al.*, 2008] except Anistratenko *et al* [2007] who also found granulated sculpture on the specimens from Black Sea.

Palazzi [1988] described *Omalogyra disculus* Palazzi, 1988 from Madeira, differing from *Omalogyra atomus* by having a wrinkled embryonic shell which was not depicted especially. *Omalogyra disculus* still had not been found anywhere apart from its type locality and I found difficulties in comparison of my material with that species. I hope that future studies of my material will clarify whether it belongs to particular or several described species or to an undescribed ones.

Surprisingly that this mainly intertidal species was overlooked by numerous previous studies of Murman marine fauna. *Omalogyra cf. atomus* was likely overlooked due to its extremely small size or was confused with *Skeneopsis planorbis* which is as far as twice larger and distinctly asymmetrical usually with more or less distinct spire.

Several specimens found have egg capsules on the shell surface; each capsule contains 3-5 eggs with diameter of egg 90-130 μm (Fig 11, B), whereas capsules of British *Omalogyra atomus* are fastened on algae had one or two eggs with diameter 125 μm [Fretter, 1948; Fretter, Graham, 1978].

The measurements of large specimens with more than 2.5 whorls are (mm): SH=0.46, SW=1.18, AW=0.36 which agrees with Fretter and Graham [1978] and Gofas and Warén [1998] but contradicts with Baeulmer *et al.* [2008].

Pyramidelloidea Gray, 1840 Pyramidellidae Gray, 1840

Within seven species listed here three are new for Russia and one was recorded for the first time for region recently [Nekhaev, 2011]. The majority of northern Pyramidellidae are small with inconspicuous usually colorless shell and hence newly recorded species most likely were overlooked by previous authors. It is also likely that some more unrecorded species of *Chrysallida*, *Ondina* and *Odostomia* which are numerous in Scandinavia also occur in coastal waters of Murman. Useful sources for diagnostics of North European Pyramidellidae are Fretter *et al.* [1986], van Aartsen [1987] and Warén [1991; 1993].

Derjugin [1915] recorded *Aartsenia candida* (Møller, 1842) (as *Natica candida*) from the Kola Inlet. Any recent records of this rare arctic species from the waters of Murman are absent.

Chrysallida Carpenter, 1856 *Chrysallida eximia* (Jeffreys, 1849) (Fig. 12 A, B)

No previous records.

Material studied: **Area 2:** 2 sh, 197 m, 69°36.87'N, 32°16.43'E, 26 May 1996, *M/S GS-440*; **Area 3:** 2 sh, 17 m, 69°22.70'N, 32°54.88'E, 6 Oct. 2006; **Area 4:** Kola Inlet: 7 sh, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; 1 sp, 18 m, 69°12.92'N, 33°29.32'E, 26 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 12 m, 69°17.85'N, 33°27.00'E, 27 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*.

Remarks. The species may be distinguished from other pyramidellid species listed here by its sculpture which consists of relatively frequent (15-17 on the last whorl) costae crossed by three spiral ribs.

The measurements of one of the largest specimens are (mm): SH=1.9, AH=1.3, LWH=1.9, SW=1.2, AW=0.7.

This species was reported from the Franz Joseph Land by Golikov and Scarlato [1977] based on unnamed published source and not mentioned since in recent literature [Golikov, 1995; Golikov *et al.*, 2001]. No material of *Chrysallida eximia* from Russia was found in the museum collections [Kantor, Sysoev, 2006]. Hence the Murman Coast is only reliable locality of this species in Russia.

Chrysallida sp. (Fig. 12 C)

No previous records.

Material studied: **Area 4:** Kola Inlet: 1 sp, 13 m, 69°16.80'N, 33°33.07'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*.

Remarks. Single living specimen with damaged shell surface was found. The extant sculpture consist of costae (wider than in *Chrysallida eximia*) and 3 or 4 spirals located on the base of the shell.

There are five almost flat whorls, measurements are (mm): SH=2.5, AH=1, LWH=1.6, SW=1.4, AW=0.7.

Probably belongs to *Chrysallida spiralis* (Montagu, 1803).

Odostomia Fleming, 1817 *Odostomia turrita* Hanley, 1844 (Fig. 12 E)

Previous records:

– *Odostomia turrita*: Nekhaev, 2011: 69-70, table 2, figs. 1, 3 (Description of shell; distribution in Murman: Kola Inlet, Yarnyshnaya Inlet, Dalne-Zelenetskaya Bay).

Material studied: **Area 1:** 1 sp, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; **Area 4:** Kola Inlet: 3 sp, 12 m, 68°58.51'N, 33°02.41'E, 27 Sept. 2007, *M/S GS-440*; 1 sp, 23 m, 69°01.77'N, 33°02.67'E, 14 July 2006, *M/S GS-440*; 1 sp, 18 m, 69°02.49'N, 33°02.66'E, 14 July 2006, *M/S GS-440*; 14 sp, 13 m, 69°16.80'N, 33°33.07'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 3 sp, 11 m, 69°12.48'N, 33°34.17'E, 29 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 3 sp, 10 m, 69°08.82'N, 33°27.23'E, 1 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 4 sp, 7 m, 69°07.43'N, 33°24.00'E, 2 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 1 sp, 17 m, 69°07.43'N, 33°24.07'E, 2 June 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 5:**

2 sp, 30 m, 69°13.79'N, 34°51.49'E, 2 July 2004, *R/V Dalnie Zelentsy*; Dolgaya Bay: 1 sp, 42 m, 69°13.54'N, 35°01.24'E, 26 July 2008, *R/V Dalnie Zelentsy*; **Area 7**: Yarnishnaya Inlet: 5 sp, 40 m, 69°07.78'N, 36°01.51'E, 3 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 14 m, 69°07.78'N, 36°00.60'E, 3 June 2009, *R/V Dalnie Zelentsy*; Dalne-Zelenetskaya Bay: 76 sp, 10 m, 69°07.28'N, 36°05.26'E, 3 July 2009; 16 sp, 9 m, 69°07.29'N, 36°05.00'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*; 5 sp, 8 m, 69°07.29'N, 36°05.21'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*.

Remarks. *Odostomia turrita* was reported from the gills of European lobster *Homarus gammarus* (Linnaeus, 1758) [Sneli, 1972] which is absent in the Barents Sea. *Odostomia turrita* was also not found on the gills of any large crustacean species inhabiting the Murman coast. Høisæter [1989] demonstrated the association of *Odostomia turrita* with tubicolous polychaete *Pomatoceros* spp. that was also suggested by Schander [1995].

Ondina de Folin, 1870

***Ondina divisa* (J. Adams, 1797)**

(Fig. 12 D)

No previous records.

Material studied: **Area 1**: Pechenga Bay: 1 sh, 55 m, 69°37.80'N, 31°22.70'E, March 1997, *M/S BGK-73*; **Area 2**: 2 sh, 197 m, 69°36.87'N, 32°16.43'E, 26 May 1996, *M/S GS-440*; **Area 3**: 1 sh, 17 m, 69°22.70'N, 32°54.88'E, 6 Oct. 2006.

Remarks. Few empty shells with partially damaged surface were found. Spirals are present on the extant parts of the surface both on periphery and shell base.

Ondina divisa may be recognized by a weak spiral striature and the presence of columellar fold. The initial whorl of *Ondina divisa* is almost planispiral, not upturned like on *Menestho* spp. and *Liostomia eburnea*.

Measurements of the largest one are (mm): SH=3.1, AH=1.4, LWH=2.

The species is the first time found in Russia.

Liostomia G.O. Sars, 1878

***Liostomia eburnea* (Stimpson, 1851)**

(Fig. 13 A)

No previous records.

Material studied: **Area 1**: 1 sp, 59 m, 69°39.90'N, 31°45.00'E, 3 March 2007, *R/V Dalnie Zelentsy*; **Area 6**: 7 sp, 68 m, 69°10.83'N, 35°08.68'E, 3 July 2004, *R/V Dalnie Zelentsy*; 31 sh, 69 m, 69°10.88'N, 35°08.46'E, 30 May 2007, *R/V Dalnie Zelentsy*.

Remarks. *Liostomia eburnea* may be recognized from other scandinavian pyramidellid species by a smooth slender shell and absence of columellar fold.

Measurements of one of the largest shell found are (mm): SH=3.8, AH=2.0, LWH=2.8, SW=2.1, AW=1.2.

Menestho Møller, 1842

***Menestho albula* (Fabricius, 1780)**

(Fig. 13 B)

No previous records.

Material studied: **Area 1**: 2 sh, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; **Area 4**: Kola Inlet: 5 sh, 43 m, 69°18.90'N, 33°29.08'E, 22 Sept. 2012, *M/S Viking-2*; **Area 5**: 4 sp, 30 m, 69°13.79'N, 34°51.49'E, 2 July 2004, *R/V Dalnie Zelentsy*; **Area 7**: Dalne-Zelenetskaya Bay: 5 sh, 46 m, 69°07.85'N, 36°04.81'E, 20 Sept. 2012, *M/S Viking-2*; 2 sh, 71 m, 69°08.39'N, 36°04.07'E, 20 Sept. 2012, *M/S Viking-2*.

Remarks. *Menestho albula* generally resembles *Menestho truncatula* but differs in more slender shell, lesser aperture and coarser sculpture. Like *Menestho truncatula*, *Menestho albula* has no tooth or fold on the columella.

Measurements of one of the largest shell found are (mm): SH=3.2, AH=1.3, LWH=2.1, SW=1.7, AW=0.9.

The species is the first time found in Russia.

***Menestho truncatula* Odhner, 1915**

(Fig. 13 C)

No previous records.

Material studied: **Area 6**: 5 sp, 7 sh, 68 m, 69°10.83'N, 35°08.68'E, 3 July 2004, *R/V Dalnie Zelentsy*; 31 sh, 69 m, 69°10.88'N, 35°08.46'E, 30 May 2007, *R/V Dalnie Zelentsy*; **Area 7**: Yarnishnaya Inlet: 7 sp, 22 m, 69°06.26'N, 36°03.13'E, 20 Sept. 2012, *M/S Viking-2*.

Remarks. *Menestho truncatula* has less slender shell than other species of Pyramidellidae listed here.

Measurements of one the largest shell found are (mm): SH=3.5, AH=1.6, LWH=2.5, SW=2, AW=1.3.

Rissoelloidea Gray, 1850

Rissoellidae Gray, 1850

Rissoella Gray, 1847

Rissoella globularis

(Jeffreys in Forbes et Hanley, 1852)

Previous records:

- *Jeffreysina globularis*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Golikov, Kussakin, 1978: 123-124, fig. 82 (Description of shell; habitat; distribution in Murman, no exact locality);
- *Rissoella globularis*: Matveeva, 1974: 140-142, fig. 28 (Distribution in Murman: Yarnishnaya Bay; Ecology; growth; breeding; life history).

Material studied: **Area 4**: Kola Inlet: 3 sp, littoral, 69°13.20'N, 33°29.06'E, 26 May 2013, *leg. A.A. Frolov*; 1 sp, 5 m, 69°12.90'N, 33°29.02'E, 26 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 2 sp, 10 m, 69°12.92'N, 33°29.07'E, 26 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 19 sp, 18 m, 69°12.92'N, 33°29.32'E, 26 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; 2 sp, littoral, 69°17.89'N, 33°26.93'E, 27 May 2013, *leg. A.A. Frolov*; **Area 7**: Yarnishnaya Bay: 5 sp, littoral, 13 July 1987.

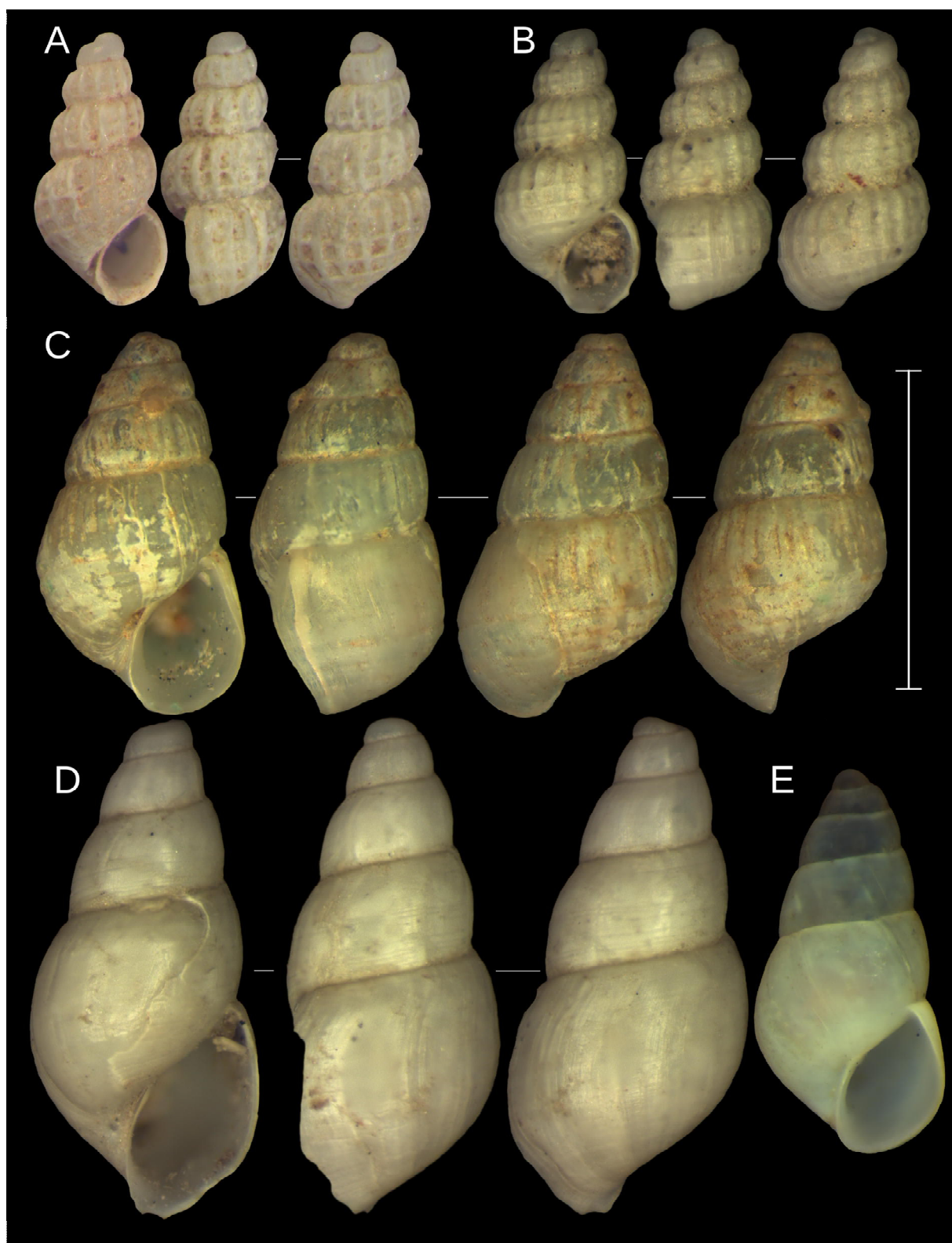


FIG. 12. Shells of Pyramidellidae: A – *Chrysallida eximia*, Kola Inlet, 43 m, 69°18.90'N, 33°29.08'E; B – *Chrysallida eximia*, Ura Inlet, 17 m, 69°22.70'N, 32°54.88'E; C – *Chrysallida* sp., Kola Inlet, 13 m, 69°16.80'N, 33°33.07'E; D – *Ondina divisa*, Ura Inlet, 17 m, 69°22.70'N, 32°54.88'E; E – *Odostomia turrata*, Yarnishnaya Inlet, 40 m, 69°07.78'N, 36°01.51'E. Scale Bar = 2 mm.

РИС. 12. Раковины Pyramidellidae: A – *Chrysallida eximia*, Кольский залив, 43 м, 69°18.90'N, 33°29.08'E; B – *Chrysallida eximia*, губа Ура, 17 м, 69°22.70'N, 32°54.88'E; C – *Chrysallida* sp., Кольский залив, 13 м, 69°16.80'N, 33°33.07'E; D – *Ondina divisa*, губа Ура, 17 м, 69°22.70'N, 32°54.88'E; E – *Odostomia turrata*, губа Ярнышная, 40 м, 69°07.78'N, 36°01.51'E. Масштабная линейка = 2 мм.

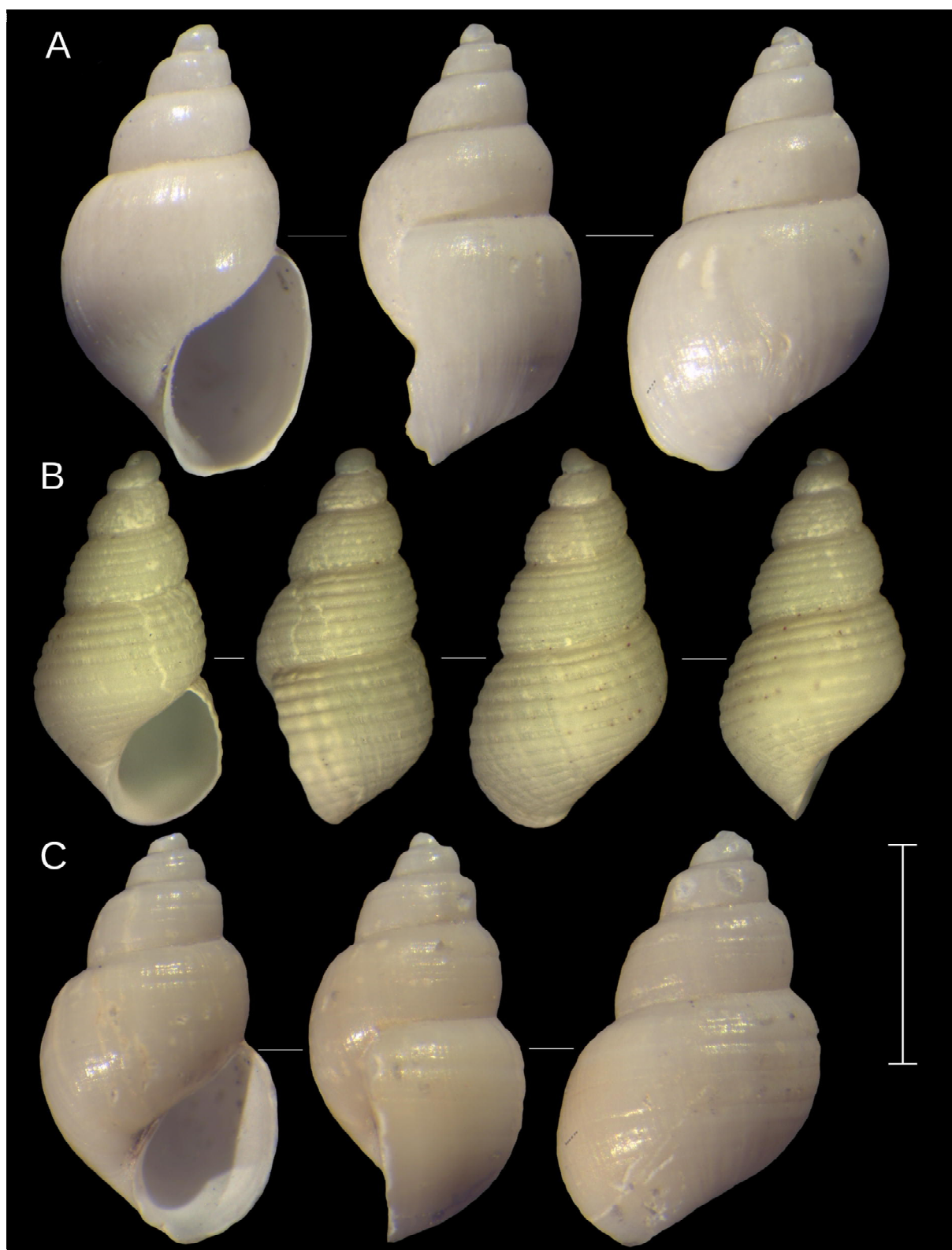


FIG. 13. Shells of *Liostomia* and *Menestho*: A – *Liostomia eburnea*, 69 m, 69°10.88'N, 35°08.46'E; B – *Menestho albula*, Dalne-Zelenetskaya Bay, 46 m, 69°07.85'N, 36°04.81'E; C – *Menestho truncatula*, 69 m, 69°10.88'N, 35°08.46'E. Scale bar = 2 mm.

РИС. 13. Раковины *Liostomia* и *Menestho*: А – *Liostomia eburnea*, 69 м, 69°10.88'N, 35°08.46'E; В – *Menestho albula*, губа Дальне-Зеленецкая, 46 м, 69°07.85'N, 36°04.81'E; С – *Menestho truncatula*, 69 м, 69°10.88'N, 35°08.46'E. Масштабная линейка = 2 мм.

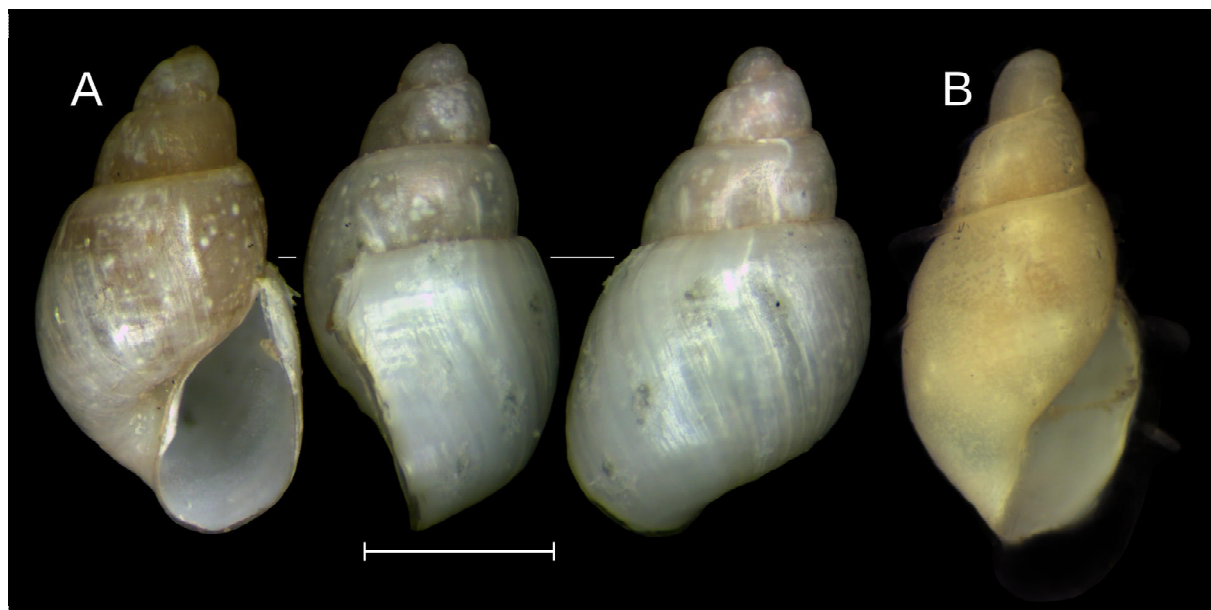


FIG. 14. Shells of *Toledonia limnaeoides* (A) and *Bogasonia volutooides* (B): A – border of the Barents and White seas, 69 m, 68°12.76'N, 40°06.54'E; B – Barents Sea, 200 m, 69°27.41'N, 35°57.88'E. Scale bar = 1 mm.

РИС. 14. Раковины *Toledonia limnaeoides* (A) и *Bogasonia volutooides* (B): A – граница Баренцева и Белого морей, 69 м, 68°12.76'N, 40°06.54'E; B – Баренцево море, 200 м, 69°27.41'N, 35°57.88'E. Масштабная линейка = 1 мм.

Opisthobranchia
Cephalaspidea
Diaphanoidea Odhner, 1914
Diaphanidae Odhner, 1914

Bogasonia Warén, 1989
***Bogasonia volutooides* Warén, 1989**
(Fig. 14 B)

No previous records.

Material studied: **Area 9:** 1 sp, 200 m, 69°27.41'N, 35°57.88'E, 2 Aug. 2008, *R/V Vilnius*.

Remarks. This species generally resembles *Toledonia limnaeoides* in shell shape but has strongly developed semitransparent periostracum which prolongates outer lip and forms two coarse spiral ribs on the periphery of the whorls.

Measurements of the specimen found with periostracal parts are (mm): SH=2.8, AH=1.5, LWH=2, SW=1.5, AW=0.9; without periostracal parts: SH=2.5, AH=1.3, LWH=1.9, SW=1.2, AW=0.7.

Bogasonia volutooides was described from few localities off Northern Iceland [Warén, 1989] and has not been reported since that.

The species is the first time found in Russia.

Diaphana Brown, 1827
***Diaphana minuta* Brown, 1827**

Previous records:

– *Diaphana minuta*: Martynov *et al.*, 2006: 60 (Distribution in Murman: Dalne-Zelenetskaya Bay).

Material studied: **Area 4:** Kola Inlet: 3 sp, 13 m,

69°16.80'N, 33°33.07'E, 28 May 2013, *leg. Yu.A. Zuev, S.V. Goldin*; **Area 5:** Dolgaya Bay: 1 sp, 12 m, 69°11.47'N, 34°58.83'E, 31 May 2009, *R/V Dalnie Zelentsy*; 3 sp, 30 m, 69°10.16'N, 34°56.54'E, 25 July 2008, *R/V Dalnie Zelentsy*; **Area 6:** 1 sh, 30 m, 69°11.96'N, 35°08.54'E, 3 July 2004, *R/V Dalnie Zelentsy*; **Area 7:** Yarnishnaya Inlet: 1 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 14 m, 69°07.78'N, 36°00.60'E, 3 June 2009, *R/V Dalnie Zelentsy*; Dalne-Zelenetskaya Bay: 2 sp, 8 m, 69°07.29'N, 36°05.21'E, 6 July 2009, *leg. K.V. Vasilyev, S.V. Goldin*; 1 sp, 59 m, 69°07.92'N, 36°05.45'E, 4 June 2009, *R/V Dalnie Zelentsy*.

***Diaphana hiemalis* (Couthouy, 1839)**

Previous records:

?– *Diaphana globosa*: Derjugin, 1915: 545 (Distribution in Murman: Kola Inlet).

Material studied: **Area 7:** Yarnishnaya Inlet: 1 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 70 m, 69°08.50'N, 36°01.70'E, 19 Sept. 2012, *M/S Viking-2*; **Area 9:** 1 sp, 211 m, 69°28.86'N, 33°11.04'E, 13 Aug. 2007, *M/S Gidrolog*; 1 sp, 145 m, 70°00'N, 33°30'E, 9 Aug. 2012, *R/V Vilnius*; 3 sp, 100 m, 68°31.85'N, 38°44.73'E, 30 July 08, *R/V Dalnie Zelentsy*.

Toledonia Dall, 1902
***Toledonia limnaeoides* (Odhner, 1913)**
(Fig. 14 A)

Previous records:

– *Toledonia limnaeoides*: Odhner, 1939: 6 (Distribution in Murman: Kola Inlet); Martynov *et al.*, 2006: 60 (Reference to published data).

Material studied: **Area 9:** 18 sp, 69 m, 68°12.76'N, 40°06.54'E, 30 July 2008, *R/V Dalnie Zelentsy*.

Philinoidea Gray, 1850
Cylichnidae H. et A. Adams, 1854

Apart from the species listed below, Herzenstein [1885] and Derjugin [1915] reported findings of living *Haminoea solitaria* (Say, 1822), *Cylichnoides occulta* (Mighels et Adams, 1842) and shells of *Cylichnoides densistriata* (Leche, 1878). The former one is an American Atlantic species which does not inhabit European waters [Malaquias, Cervera, 2006]. Lemche [1948] suggested that all records of *Haminoea solitaria* from Europe belongs to *Cylichnoides occulta* s.l..

Cylichnoides occulta was usually considered as a senior synonym of *Cylichnoides scalpta* [Lemche, 1948; Golikov, 1987]. Contrariwise in handbook by Filatova and Zatsëpin [1948] which was usually used by Russian researches for the gastropod species identification, only *Cylichnoides scalpta* was present. Hence I have difficulties in interpretation of majority of previous records of both *Cylichna occulta* and *Cylichna scalpta*.

Recently Chaban [2004; Chaban, Martynov, 2006] based on shell morphology and reproductive system suggested that *Cylichnoides scalpta* and *Cylichnoides occulta* are distinct species. In material seen only *Cylichnoides scalpta* was present, whereas there is no evidences of findings of *Cylichnoides occulta* s.str. in the coastal waters of Murman.

Cylichnoides densistriata likely inhabits waters of Murman but had not been found during previous investigations [Martynov *et al.*, 2006] and is absent in material seen.

Cylichna Lovén, 1846
Cylichna alba (Brown, 1827)
(Fig. 15 C)

Previous records:

- *Cylichna alba*: Herzenstein, 1885 (in part): 704-705 (Distribution); Derjugin, 1915: 544 (Distribution in Murman: Kola Inlet); Derjugin, 1924: 73 (Distribution in Murman: high sea); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Frolova *et al.*, 1997: 105 (Distribution in Murman: Kola Inlet); Martynov *et al.*, 2006 (in part): 60 (Distribution in Murman: Dalne-Zelenetskaya Bay).

Material studied: **Area 1:** 1 sp, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; Pechenga Bay: 1 sp, 120 m, 69°39.50'N, 31°26.30'E, March 1997, *M/S BGK-73*; 1 sp, 140 m, 69°40.45'N, 31°27.20'E, March 1997, *M/S BGK-73*; 2 sp, 80 m, 69°41.54'N, 31°28.05'E, March 1997, *M/S BGK-73*; **Area 3:** 1 sp, 135 m, 69°27.09'N, 33°06.92'E, 14 Aug. 2007, *M/S Gidrolog*; **Area 9:** 1 sp, 230 m, 69°56.86'N, 34°35.33'E, 12 Aug. 2007, *M/S Gidrolog*; 1 sp, 219 m, 69°50.68'N, 34°19.22'E, 12 Aug. 2007, *M/S Gidrolog*; 1 sp, 255 m, 69°30.00'N, 33°30'E, 23 Sept. 2011, *R/V Dalnie Zelentsy*; 1 sp, 255 m, 69°30.00'N, 33°30'E, 18 Aug. 2007, *R/V Dalnie Zelentsy*; 1 sp, 145 m, 70°00'N, 33°30'E, 9 Aug. 2013, *R/V Dalnie Zelentsy*.

Cylichna corticata (Beck in Möller, 1842)
(Fig. 15 A, B)

Previous records:

- *Cylichna alba*: Herzenstein, 1885 (in part): 704-705 (Distribution); Martynov *et al.*, 2006 (in part): 60 (Distribution in Murman: Dalne-Zelenetskaya Bay);
- *Cylichna alba* v. *corticata*: Derjugin, 1915: 545 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).

Material studied: 114 specimens, 8-197 m (see supplementary material for details).

Remarks. *Cylichna corticata* is usually considered as a variety of *Cylichna alba* [Sars, 1878; Herzenstein, 1885; Lemche, 1948] which differs from typical form in larger size, presence of reddish or yellowish periostracum and thin but clearly visible spiral striation on the shell surface. Chaban [2004] also noted differences in number of marginal teeth between these species.

In my material *Cylichna corticata* is clearly coastal species whereas *Cylichna alba* s.str. usually does not occur in shallow waters.

Cylichnoides Minichev, 1977
Cylichnoides scalpta (Reeve, 1855)
(Fig. 15 D)

Previous records:

- *Cylichna scalpta*: Derjugin, 1915: 545 (Distribution in Murman: Kola Inlet – empty shell); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy).

Material studied: **Area 1:** Pechenga Bay: 1 sp, 80 m, 69°41.54'N, 31°28.05'E, March 1997, *M/S BGK-73*; **Area 2:** 4 sp, 65 m, 69°28.86'N, 32°47.96'E, 25 May 1996, *M/S GS-440*; **Area 7:** Yarnishnaya Inlet: 11 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, *R/V Dalnie Zelentsy*; 2 sp, 73 m, 69°07.64'N, 36°02.01'E, 19 Sept. 2012, *M/S Viking-2*.

Remarks. *Cylichnoides scalpta* differs from *Cylichnoides occulta* s. str. in having hole at apex, shell shape which is almost rectangular and weaker spiral striation.

Scaphandridae G.O. Sars, 1878

This family was not accepted in Bouchet and Rocroi [2005] and Kantor and Sysoev [2006] but was reinstated during the recent investigation [Malaquias *et al.*, 2009].

Scaphander Montfort, 1810
Scaphander punctostriatus
(Mighels et Adams, 1842)

Previous records:

- *Scaphander punctostriatus*: Herzenstein, 1885: 706 (Distribution in Murman: off Kildin Isl., off Gavrilov Isl. – empty shell);
- *Scaphander punctostriatus*: Derjugin, 1915: 544 (Dis-

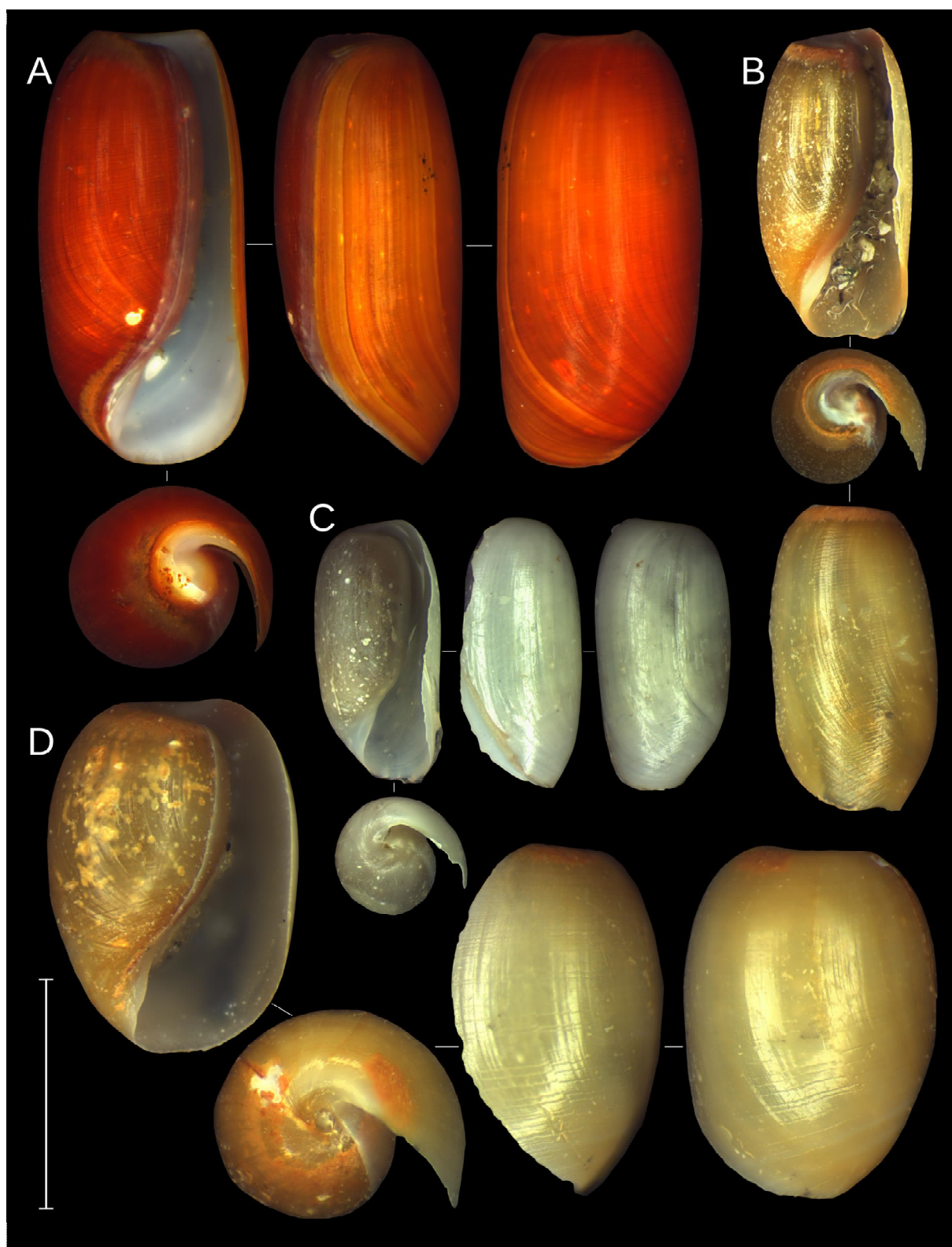


FIG. 15. Shells of Cylichnidae: A – *Cylichna corticata*, 17 m, 69°07.15'N, 36°04.58'E; B – *Cylichna corticata*, Yarnishnaya Inlet, 73 m, 69°07.64'N, 36°02.01'E; C – *Cylichna alba*, 145 m, 70°00'N, 33°30'E; D – *Cylichnoides scalpta*, 73 m, 69°07.64'N, 36°02.01'E. Scale bar = 3 mm.

FIG. 15. Раковины Cylichnidae: А – *Cylichna corticata*, 17 м, 69°07.15'N, 36°04.58'E; В – *Cylichna corticata*, губа Ярнышная, 73 м, 69°07.64'N, 36°02.01'E; С – *Cylichna alba*, 145 м, 70°00'N, 33°30'E; D – *Cylichnoides scalpta*, 73 м, 69°07.64'N, 36°02.01'E. Масштабная линейка = 3 мм.

tribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Martynov *et al.*, 2006: 60 (Reference to published data); Chaban, Nekhaev, 2013: 165-171, figs. 1-3 (Description of shell, radula and gut morphology).

Material studied: **Area 2:** 1 sp, 103 m, 69°34.00'N, 32°53.10'E, 24 May 1996, *M/S GS-440*; **Area 3:** 4 sp, 135 m, 69°27.09'N, 33°06.92'E, 14 Aug. 2007, *M/S Gidrolog*; **Area 4:** Kola Inlet: 1 sp, 54 m, 69°03.73'N, 33°10.89'E, 15 July 2006, *M/S GS-440*; 1 sp, 102 m, 69°04.34'N, 33°15.82'E, 15 July 2006, *M/S GS-440*; 5 sp, 20 m, 69°02.24'N, 33°03.21'E, 14 July 2006, *M/S GS-440*; 1 sp, 95 m, 69°18.38'N, 33°34.53'E, 22 Sept. 2012, *M/S Viking-2*; **Area 7:** Yarnishnaya Inlet: 1 sp, 67 m, 69°08.71'N, 36°00.44'E, 2 June 2009, *R/V Dalnie Zelentsy*; 1 sp, 73 m, 69°07.64'N, 36°02.01'E, 19 Sept. 2012, *M/S Viking-2*; **Area 9:** 3 sp, 216 m, 69°30.40'N, 33°23.32'E, 6 Sept. 2007, *R/V Dalnie Zelentsy*; 1 sp, 255 m, 69°30.00'N, 33°30'E, 9 Aug. 2012, *R/V Vilnius*; 1 sp, 200 m, 69°27.41'N, 35°57.88'E, 2 Aug. 2008, *R/V Vilnius*; 12 sp, 132 m, 69°40.91'N, 34°06.82'E, 6 Aug. 2007, *R/V Vilnius*.

Philinidae Gray, 1850

Family Philinidae was recently revised by Ohnheiser and Malaquias [2013] who concluded that all North Atlantic species belongs to *Philine* s.l. based on COI sequences analysis. However *Philine quadrata* and *Philine finmarchica* which are the type species of *Ossiania* and *Praephiline* respectively are separated in different branches on the cladogramme [Ohnheiser and Malaquias, 2013: Fig. 33], whereas type species of both *Philine* and *Retusophilina* were not studied. No morphological analysis supporting this hypothesis were presented. Hence I refrain from accepting *Philine* as the only valid genus for Barents Sea Philinidae and follow to classification by Chaban and Martynov [2006].

Ossiania Monterosato, 1884 *Ossiania quadrata* (Wood, 1839)

Previous records:

- *Philine quadrata*: Herzenstein, 1885: 707-708 (Distribution in Murman: Motka bay, off Kildin Isl., vicinity of Teriberka, Podpakhta Bay); Derjugin, 1915: 546 (Distribution in Murman: Kola Inlet); Derjugin, 1924: 73 (Distribution in Murman: high sea); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Ossiania quadrata*: Martynov *et al.*, 2006: 61 (Reference to published data).

Material studied: 124 specimens, 16-255 m (see supplementary material for details).

Praephiline Chaban et Soldatenko, 2009 *Praephiline finmarchica* (M. Sars, 1859)

Previous records:

- *Philine finmarchica*: Herzenstein, 1885: 707 (Distribution in Murman: Motka bay, off Gavrilov Isl.); Derjugin, 1915: 545-546 (Distribution in Murman:

Kola Inlet); Frolova *et al.*, 1997: 105 (Distribution in Murman: Kola Inlet); Martynov *et al.*, 2006: 60 (Reference to published data).

Material studied: 69 specimens, 3-200 m (see supplementary material for details).

Philine Ascanius, 1772 *Philine denticulata* (J. Adams, 1800) (Fig. 16)

No previous records.

Material studied: **Area 1:** 1 sp, 42 m, 69°40.82'N, 31°37.00'E, 6 July 2005, *R/V Dalnie Zelentsy*; **Area 6:** 40 sp, 68 m, 69°10.83'N, 35°08.68'E, 3 July 2004, *R/V Dalnie Zelentsy*; **Area 7:** Yarnishnaya Inlet: 60 sp, 27 m, 69°07.21'N, 36°02.55'E, 5 July 2004, *R/V Dalnie Zelentsy*; **Area 8:** Ivanovskaya Inlet: 6 sp, 34 m, 68°20.54'N, 38°28.32'E, 9 July 2004, *R/V Dalnie Zelentsy*.

Remarks. This species was already reported from the Barents Sea [Chaban, 2001; Chaban, Martynov, 2006] based on personal communication of P.A. Lyubin and was not depicted by Chaban and Martynov [2006].

Philine denticulata is only species of Philinidae known from the Murman waters with external shell.

Retusophilina Nordsieck, 1972 *Retusophilina lima* (Brown, 1827)

Previous records:

- *Philine lima*: Herzenstein, 1885: 708 (Distribution in Murman: vicinity of Shelpino); Derjugin, 1915: 546 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Retusophilina lima*: Martynov *et al.*, 2006: 60 (Reference to published data).

Absent in material studied.

Retusidae Thiele, 1925 *Retusa* Brown, 1827

Both *Retusa pertenuis* (Mighels, 1834) and *Retusa turrita* (Møller, 1842) listed below were usually considered as synonyms of *Retusa obtusa* (Montagu, 1803) which is used for a mixture of species [Chaban, 2000; Sneli *et al.*, 2005; Høisæter, 2009]. I follow Chaban and Martynov [2006] who proposed that *Retusa obtusa* s. str. does not inhabit Russian waters and accepted *Retusa pertenuis* and *Retusa turrita* as valid species.

Retusa pertenuis (Mighels, 1834)

Previous records:

- *Urticulus pertenuis*: Herzenstein, 1885: 706 (Distribution in Murman: off Kildin Isl.);
- *Retusa pertenuis*: Martynov *et al.*, 2006: 61 (Distribution in Murman: Dalne-Zelenetskaya Bay).

Material studied: **Area 1:** 2 sp, 59 m, 69°39.90'N, 31°45.00'E, 3 March 2007, *R/V Dalnie Zelentsy*.

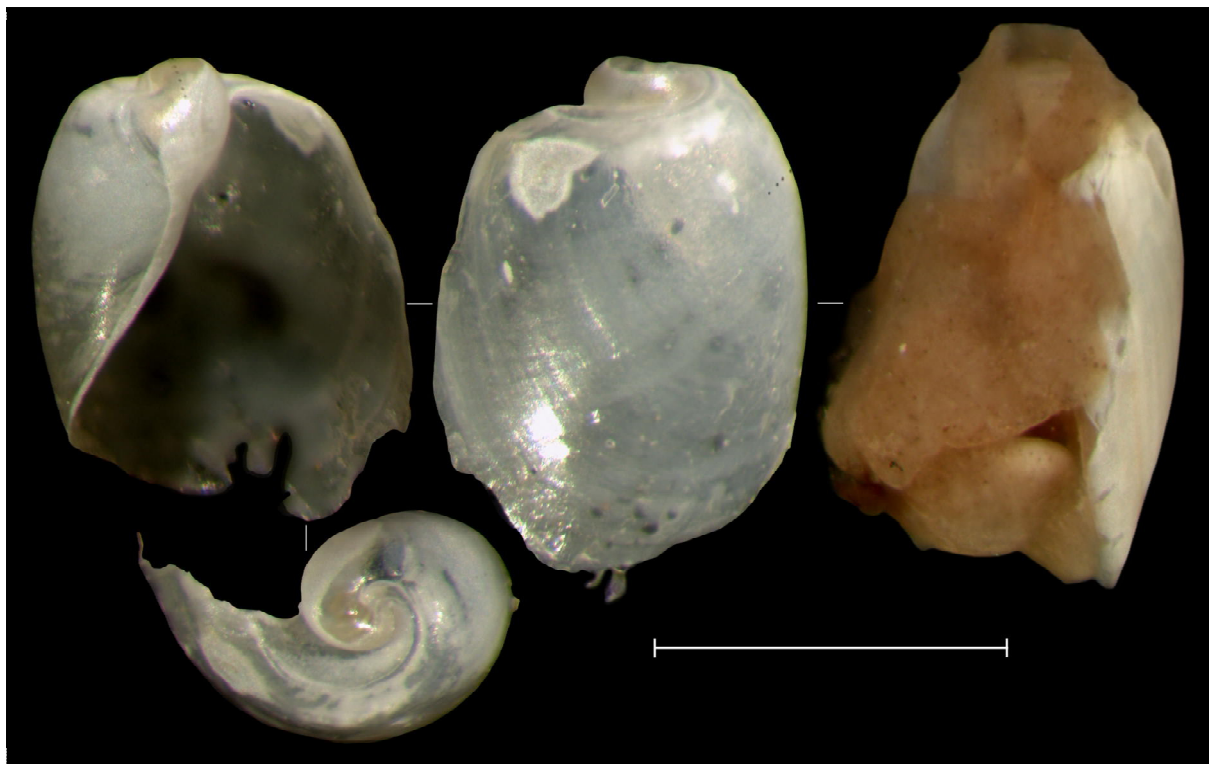


FIG. 16. Shell and fixed animal of *Philine denticulata*, Barents Sea, 68 m, 69°10.83'N, 35°08.68'E. Scale bar = 1 mm.

FIG. 16. Раковина и зафиксированный экземпляр *Philine denticulata*, Баренцево море, 68 м, 69°10.83'N, 35°08.68'E. Масштабная линейка = 1 мм.

Retusa turrita (Møller, 1842)

No previous records.

Material studied: **Area 4:** Kola Inlet: 3 sp, 5 m, 69°12.90'N, 33°29.02'E, 26 May 2013, leg. Yu.A. Zuev, S.V. Goldin; 6 sp, 10 m, 69°12.92'N, 33°29.07'E, 26 May 2013, leg. Yu.A. Zuev, S.V. Goldin; **Area 6:** Zavalishina Bay: 1 sp, 12 m, 69°11.38'N, 35°14.78'E, 10 Oct. 2010; Orlovka Bay: 2 sp, 23 m, 69°12.35'N, 35°16.00'E, 11 Oct. 2010; 9 sp, 13 m, 69°12.23'N, 35°16.63'E, 11 Oct. 2010; Lodeynaya Bay: 6 sp, 29 m, 69°10.69'N, 35°07.73'E, 12 Oct. 2010; Korabelnaya Bay: 14 sp, 12 m, 69°10.69'N, 35°10.02'E, 10 Oct. 2010; 1 sp, 16 m, 69°10.49'N, 35°09.46'E, 10 Oct. 2010; 4 sp, 54 m, 69°10.78'N, 35°09.45'E, 11 Sept. 2010; 33 sp, 67 m, 69°11.01'N, 35°09.26'E, 10 Sept. 2010; 8 sp, 8 m, 69°10.62'N, 35°10.25'E, 9 Sept. 2010; **Area 7:** Yarnishnaya Inlet: 5 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, R/V *Dalnie Zelentsy*; 1 sp, 28 m, 69°07.10'N, 36°02.84'E, 3 June 2009, R/V *Dalnie Zelentsy*; 1 sp, 2 sh, 27 m, 69°07.21'N, 36°02.55'E, 5 July 2004, R/V *Dalnie Zelentsy*; Dalne-Zelenetskaya Bay: 1 sh, 17 m, 69°07.15'N, 36°04.58'E, 20 Sept. 2012, M/S *Viking-2*; **Area 8:** Zapadny Nokuevskiy Bay: 8 sp, 72 m, 68°23.98'N, 38°24.28'E, 16 Aug. 2011, M/S *Viking-1*.

Retusa pellucida (Brown, 1827)

Previous records:

- *Retusa pellucida*: Chaban, Nekhaev, 2010: 196–204, figs. 1–21 (Description of shell and reproductive system; distribution in Murman: Ura Inlet, Teriberkaya Bay, Yarnyshnaya Inlet).

Material studied: **Area 3:** vicinity of Vidyaevo: 1 sp, 10 m, 69°21.13'N, 32°54.37'E, 30 Aug. 2007; 1 sp, 11 m, 69°21.06'N, 32°54.26'E, 29 Aug. 2007; 9 sp, 6 m, 69°22.91'N, 32°54.37'E, 28 Aug. 2007; 1 sp, 6 m, 69°22.74'N, 32°54.48'E, 29 Aug. 2007; 8 sp, 5–25 m, 29 June – 1 Sept. 2007; **Area 4:** Kola Inlet: 8 sp, 18 m, 69°12.92'N, 33°29.32'E, 26 May 2013, leg. Yu.A. Zuev, S.V. Goldin; **Area 5:** Dolgaya Bay: 1 sp, 12 m, 69°11.47'N, 34°58.83'E, 31 May 2009, R/V *Dalnie Zelentsy*; 1 sp, 12 m, 69°11.97'N, 34°57.60'E, 31 May 2009, R/V *Dalnie Zelentsy*; **Area 6:** Korabelnaya Bay: 1 sp, 12 m, 69°10.69'N, 35°10.02'E, 10 Oct. 2010; 1 sp, 8 m, 69°10.62'N, 35°10.25'E, 9 Sept. 2010; **Area 7:** Yarnishnaya Inlet: 1 sp, 80 m, 69°07.80'N, 36°02.11'E, 3 June 2009, R/V *Dalnie Zelentsy*; Dalne-Zelenetskaya Bay: 2 sp, 3 m, 69°07.07'N, 36°04.25'E, 4 July 2009, leg. O.S. Lyubina, O.L. Zimina, I.O. Nekhaev; 1 sp, 54 m, 69°07.78'N, 36°06.85'E, 4 June 2009, R/V *Dalnie Zelentsy*; Medvejya Bay: 3 sp, 6 m, 24 Aug. 2007.

Anaspidea

Akeroidea Mazzarelli, 1891

Akeridae Mazzarelli, 1891

Akera Müller, 1776

Akera bullata Müller, 1776

Previous records:

- *Akera bullata*: Martynov *et al.*, 2006: 61 (Distribution in Murman: Dalne-Zelenetskaya Bay).

Material studied: **Area 3:** vicinity of Vidyaevo: 4 sp, 5–25 m, 29 June – 1 Sept. 2007; **Area 4:** Kola Inlet: 1 sp, 10 m,

69°12.92'N, 33°29.07'E, 26 May 2013, leg. Yu.A. Zuev, S.V. Goldin; 11 sp, 18 m, 69°12.92'N, 33°29.32'E, 26 May 2013, leg. Yu.A. Zuev, S.V. Goldin.

Discussion

A total of 148 species of shell-bearing gastropods are known from the coastal waters of Murman, six species are known only by empty shells: *Skenea trochoides*, *Skenea* cf. *trochoides*, *Hemiacclis ventrosa*, *Admete clivicola*, *Raphitoma leufroyi* and *Ondina divisa*. Nine species: *Skenea rugulosa*, *Aclis sarsi*, *Admete clivicola*, *Nassarius incrassatus*, *Raphitoma leufroyi*, *Taranis moerchi*, *Ondina divisa*, *Menestho albula*, *Bogasonia volutoides* were absent in previous reviews of Russian molluscan fauna. Most probably these species were overlooked during the previous investigations. The future findings of additional species missing in this study are also likely.

A majority of species found in Murman waters have a boreal distribution. Typical arctic species are not numerous: *Margarites olivaceus*, *Moelleria costulata*, *Alvania moerchi*, *Frigidoalvania janmayeni*, *Boreocingula castanea*, *Obtusella tumidula*, *Onoba improcera*, *Onoba leptalea*, *Buccinum scalariforme*, *Buccinum hydrophanum*, *Menestho truncatula*, *Liostomia eburnea* and some others. Species reaching southern coast of Europe are *Gibbula cineraria*, *Littorina fabalis*, *Littorina obtusata*, *Littorina saxatilis*, *Littorina littorea*, *Alvania punctura*, *Onoba semicostata*, *Pseudosetia turgida*, *Rissoa parva*, *Aporrhais pespelecani*, *Eulima bilineata*, *Haliella stenostoma*, *Nucella lapillus*, *Taranis moerchi*, *Odostomia turrita* and some others. All of these species as well as some boreal ones have their NE distributional border close to the coast of the Kola Peninsula. Northern species usually occur deeper than southern ones which are often common intertidally.

A bulk of species known from Murman waters are also reported from Norwegian coast [Høisæter, 2009]. Apart from species with questionable taxonomical status (e.g. some Mangeliidae and Cephalaspidea), only four species: *Buccinum scalariforme*, *Menestho albula*, *Menestho truncatula* and *Bogasonia volutoides* are still not found in Norway.

Fauna of shell-bearing Gastropoda of adjacent White Sea is considerably poorer than that of the Murman. Only 84 species occur in former region [Wilke, Davis, 2000; Golikov *et al.*, 2001; Chaban, 2001], seven of which are not included in the present list of Murman fauna: *Punctulum wyvillethomsoni* (Friele, 1877), *Alvania verilli* (Friele, 1886), *Ecrobia ventrosa* (Montagu, 1803), *Lacuna crassior* (Montagu, 1803), *Neptunea ventricosa* (Gmelin, 1791), *Neptunea communis* (Middendorff, 1848) and *Aartsenia candida* (Møller, 1842). All of them

excluding *Lacuna crassior* and *Ecrobia ventrosa* have predominately arctic distribution and also known from the eastern Barents Sea.

Data on species distribution along the Murman coast is summarized in Table 1. The known species diversity of Kola Inlet and vicinity of Dalnie Zelentsy is twice than that of other regions. This dissociation is due to availability of published data for certain regions and unequal scrutiny within the areas during the recent investigations.

Only four species were found in all of the areas: *Puncturella noachina*, *Margarites striatus*, *Boreotrophon clathratus* and *Admete viridula*. Furthermore *Testudinalia tessulata*, *Margarites helicinus*, *Solar-iella varicosa*, *Lacuna vincta*, *Moelleria costulata* and *Lepeta caeca* were not recorded only from high sea (area 9). Future investigations will clarify details of species distribution along the Murman Coast.

Only 18 species of shell-bearing gastropods are typical for the intertidal zone of Murman, nine more species occur intertidally occasionally (Table 1). The majority of the species found are typical for the relatively shallow waters (down to few hundred meters depth) within their range.

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Table 1. Continuation

Таблица 1. Продолжение

Species	Depth range	Areas								
		1	2	3	4	5	6	7	8	9
<i>Aclis sarsi</i>	145									1
<i>Cerithiella metula</i>	54-202				2			2		1
<i>Eumetula arctica</i>	36-90		3		2					
<i>Laeocochlis sinistratus</i>	72-180				2		2			2
<i>Boreotrophon clathratus</i>	5-288	1	1	1	1	1	2	1	1	1
<i>Boreotrophon truncatus</i>	5-288	1		1	1	1	1	1		
<i>Trophonopsis barvicensis</i>	N/A		2		2					
<i>Nucella lapillus</i>	0-20	1		1	1	1	2	1		
<i>Anomalisipho verkruezeni</i>	200-207									2
<i>Beringius turtoni</i>	200				2					2
<i>Buccinum undatum</i>	(0)-137	1		2	1			1		
<i>Buccinum ciliatum</i>	5-198				1	1		1		
<i>Buccinum cyaneum</i>	(0)-40			2	2		2	1		
<i>Buccinum glaciale</i>	N/A						2			3
<i>Buccinum hydrophanum</i>	202-210				2					2
<i>Buccinum scalariforme</i>	160-220		2		2			2		2
<i>Buccinum finmarkianum</i>	45-205				2			2		1
<i>Buccinum fragile</i>	18-324				2		2			2
<i>Buccinum nivale</i>	202									1
<i>Colus gracilis</i>	67-132				2			2		1
<i>Colus islandicus</i>	100-279				2					2
<i>Colus holboelli</i>	N/A		2		2					2
<i>Colus latericeus</i>	32-324				2		2	2		2
<i>Colus sabini</i>	175-242				2					2
<i>Neptunea despecta</i>	14-297				2			2		2
<i>Volutopsis norwegicus</i>	72-288				2					2
<i>Turrisipho fenestratus</i>	242									2
<i>Turrisipho lachesis</i>	180-306			3	2					
<i>Astyris rosacea</i>	8-198		2	2	1		2	1		
<i>Admete viridula</i>	17-270	2	1	2	1	3	2	2	2	1
<i>Admete clivicola</i>	N/A									3
<i>Nassarius incrassatus</i>	9-13				1			1		

Species	Depth range	Areas								
		1	2	3	4	5	6	7	8	9
<i>Curtitoma trevillianiana</i>	8-140	1	3	2	1	1		1	1	
<i>Curtitoma novajasemljensis</i>	N/A									?
<i>Curtitoma conoidea</i>	90-132				2			2		1
<i>Obesotoma simplex</i>	N/A									?
<i>Oenopota cinerea</i>	N/A									?
<i>Oenopota impressa</i>	N/A								2	
<i>Oenopota elegans</i>	90-94									?
<i>Oenopota harpa</i>	N/A									?
<i>Oenopota obliqua</i>	6			1	2	2		2		
<i>Oenopota pyramidalis</i>	7-162	2		2	2		2	1	2	1
<i>Oenopota pingelii</i>	72-185				2			2		
<i>Propebela angulosa</i>	18-144				1			2		
<i>Propebela arctica</i>	N/A									?
<i>Propebela assimilis</i>	77				1			1		
<i>Propebela harpularia</i>	11-137		1		2	2		2	1	
<i>Propebela exarata</i>	18-315			2	2			1	2	
<i>Propebela rugulata</i>	13-132	1		1		1		2		1
<i>Propebela scalaris</i>	103-197		1							
<i>Propebela spitzbergensis</i>	N/A									?
<i>Propebela turricula</i>	100							3		1
<i>Propebela nobilis</i>	6-197		1	1	2	1		1	1	
<i>Raphitoma leufroyi</i>	N/A				3					
<i>Taranis moerchi</i>	70-250	1								1
<i>Thesbia nana</i>	144-255									1
<i>Nepotilla amoena</i>	N/A		2					3		
<i>Turritellopsis stimpsoni</i>	123			3	2			2	1	
<i>Omalogyra cf. atomus</i>	0-22				1			3		
<i>Chrysallida eximia</i>	12-18		3	3	1					
<i>Chrysallida sp.</i>	13				1					
<i>Odostomia turrita</i>	7-42	1			1	1		1		
<i>Ondina divisa</i>	N/A	3	3	3						
<i>Liostomia eburnea</i>	59-68	1					1			

Table 1. Concluded

Таблица 1. Окончание

Species	Depth range	Areas								
		1	2	3	4	5	6	7	8	9
<i>Menestho albula</i>	30	3			3	1		3		
<i>Menestho truncatula</i>	22-68						1	1		
<i>Rissoella globularis</i>	0-18				1			1		
<i>Bogasonia volutoides</i>	200									1
<i>Diaphana minuta</i>	70-211							1		1
<i>Diaphana hiemalis</i>	8-80				1	1	3	1		
<i>Toledonia limnaeoides</i>	69				2					1
<i>Cylichna alba</i>	42-255	1		1	2			2		1
<i>Cylichna corticata</i>	8-197	1	1		1		1	1	1	
<i>Cylichnoides scalpta</i>	65-80	1	1		3			1		
<i>Scaphander punctostriatus</i>	20-255		1	1	1			1		1
<i>Ossiania quadrata</i>	16-255	1	2	1	1		2	1	1	1
<i>Praephiline finmarchica</i>	3-200		2	1	1	1	1	1	1	1
<i>Philine denticulata</i>	27-68	1					1	1	1	
<i>Retusophilina lima</i>	14-117		2		2			2		
<i>Retusa pertenuis</i>	(0)-59	1			2			2		
<i>Retusa turrita</i>	5-80				1		1	1	1	
<i>Retusa pellucida</i>	3-80			1	1	1	1	1		
<i>Akera bullata</i>	10-18			1	1			2		
total		49	41	52	104	45	45	103	38	53

Remarks: Only life collected specimens were used for description of depth range. (0) – occurrence of species intertidally unusual; 1 – record based on original material; 2 – record based on published source only; 3 – record based on empty shell(s) only.

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Морские раковинные брюхоногие моллюски Мурмана (Баренцево море): аннотированный список видов

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РЕЗЮМЕ. Приведён аннотированный список видов раковинных брюхоногих моллюсков Мурманского берега (баренцевоморское побережье Кольского полуострова). На основании материала, собранного в 1996-2003 годах и литературных данных для региона отмечено 148 видов. Девять из указанных видов: *Skenea rugulosa* (G.O. Sars, 1878), *Aclis sarsi* Dautzenberg et Fischer, 1912, *Admete clivicola* Høisæter, 2010, *Nassarius incrassatus* (Strøm, 1768), *Raphitoma leufroyi* (Michaud, 1828), *Taranis moerchi* (Malm, 1861), *Ondina divisa* (J. Adams, 1797), *Menestho albula* (Fabricius, 1780), *Bogasonia volutoides* Warén, 1989

отсутствуют в сводках по фауне России. Три вида, приведённые в списке: *Skenea* cf. *trochoides*, *Omalogyra* cf. *atomus* and *Chrysallida* sp. имеют неясный таксономический статус. Большинство отмеченных видов имеют бореальный тип распространения и характерны для фауны северной Европы. Для каждого вида приведены ссылки на опубликованные работы, базировавшиеся на материале собранном на Мурмане, а также сведения о просмотренном материале. Для некоторых примечательных видов приведены краткие комментарии и иллюстрации.

Additional materials

Table S1. Distribution of most abundant species in Murman Coast:

[http://www.ruthenica.com/documents/Nekhaev_S1]

