ABSTRACT. Annotated check-list of shell-bearing Gastropoda of Murman Coast (Barents Sea) 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), Onidia divisa (J. Adams, 1797), Menestho albula (Fabricius, 1780), Bogasonia voluitoides 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 Varangerfjorden 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, 1924]. 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
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 these 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 conference 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’skij 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’skij and Kolsky) or by omitting the endings (e.g. Motovsk and Motovskiy). 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 “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 – Motovskiy 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 Zelelnsty (including Gavrilovskie Ils., Podpakhta, Dalne-Zelenetskaya, Shelpinskaya, Medvejeva Bays and Yarnishnaya Inlet), **Area 8** – vicinity of Ivanovskaya Inlet (including Vostochniy Nokuevskiy, Zapadnii 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 discourses 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. *trochoideae* 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 – specimen(s), ZIN – Zoological Institute of RAS.

**Results**

**Patellogastropoda**

**Acmaeoidea Forbes, 1850**

**Lepeta** Gray, 1850

**Lepeta** Gray, 1847

**Lepeta caeca** (Müller, 1776)

Previous records:

- **Lepeta caeca**: Herzenstein, 1885: 668-669 (Distribution in Murman: Murman: vicinity of Dalnie Zelelnsty; Matveeva, 1974: 81-84, tables 6-7, fig. 3 (Ecology; growth; breeding; life history);

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

**Iothyia** Forbes, 1849

**Iothyia 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 Zelelnsty; Yarnishnaya Inlet: 1 sp, 40 m, 69°07.78'N, 36°01.51'E, 3 June 2009, R/V Dalnie Zelelnsty; Area 8: Zapadnii 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 Zelelnsty. |

**Lottiidae Gray, 1840**

**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 Zelelnsty); 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 Zelelnsty; 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 Zelelnsty; Dolgaya Bay: 1 sp, 42 m, 69°13.54'N, 35°01.24'E, 2 June 2008, R/V Dalnie Zelelnsty; 1 sp, 23 m, 69°11.46'N, 34°58.15'E, 20 Aug. 2006; Area 6: 1 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 Zelelnsty; 2 sp, 14 m, 69°07.98'N, 36°00.60'E, 3 June 2009, R/V Dalnie Zelelnsty; Dalnie-Zelenetskaya Bay: 1 sp, 9 m, 69°09.04'N, 36°01.51'E, 3 June 2009, R/V Dalnie Zelelnsty; Area 8: Vostochniy Nokuevskiy Bay: 4 sp, 54 m, 68°22.46'N, 38°32.30'E, 30 July 2008, R/V Dalnie Zelelnsty. |

**Erginus Jeffreys, 1877**

**Erginus rubellus** (Fabricius, 1780)

Previous records:

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

| Absent in material studied. |

**Testudinalia Moskalew, 1966**

**Testudinalia tessulata** (Müller, 1776)

Previous records:

- **Patella (Acmea) 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 Finnmarken where it is not common [Høisæter, 2009] but is absent in material seen. It is likely that Patella vulgata occasionally occurs in Murman.

Adjacent Species

Anates Sowerby, 1839

Anates pellucida (Linnaeus, 1758)

Previous records:

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


Vetigastropoda
Scissurellidea 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, RV 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; Daline-Zelenetskaya Bay: 2 sp, 66 m, 69°08.41'N, 36°04.54'E, 4 June 2009, R/V Dalnie Zelentsy; Area 8: Vostoknyi Nokuevskiy Bay: 1 sp, 54 m, 68°22.46'N, 38°32.30'E, 30 July 2008, R/V Dalnie Zelentsy.

Fissurelloidea Fleming, 1822
Fissurelloidea 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).

Trochidae 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°11.90'N, 35°08.54'E, 3 July 2004, R/V Dalnie Zelentsy; Orlova 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: Yamishnaya 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'E, 38°28.22'E, 30 July 2008, 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.
**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).


**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);

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 Vidyaevo: 2 sp, 31 m, 69°40.71'N, 32°07.93'E, 25 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, 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; Zapadniy Nokuevskiy Bay: 1 sp, 72 m, 68°23.98’N, 38°24.28’E, 16 Aug. 2011, M/S Viking-1; Vostochniy Nokuevskiy Bay: 1 sp, 66 m, 69°08.41’N, 36°04.54’E, 4 June 2009, 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 groenlandica*: Herzenstein, 1885: 670-671 (Distribution in Murman: Varangerfjorden, Motka Bay, Ara Bay, Ura Inlet, off Kildin, vicinity of Teriberka and Podpakhta, off Gavrivloy 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);
- *Margarita striata*: Herzenstein, 1885: 670-671 (Distribution in Murman: Varangerfjorden, Motka Bay, Ara Bay, Ura Inlet, off Kildin, vicinity of Teriberka and Podpakhta, off Gavrivloy Isl., off Iokangskie Isl.); Derjugin, 1915: 526 (Distribution in Murman: Kola Inlet);

![FIG. 2. Shell of Margarites striatus, Kola Inlet, 10 m, 69°07.27’N, 33°28.79’E. Scale bar = 10 mm.](image-url)
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 groenlandicus (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 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 helicinus (Philips, 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) helicinus helicinus: 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 helicinus: 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 (Moller, 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 (Machaeroplas) 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: 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: Zapadnyi Nokuevskiy Bay: 2 sp, 72 m, 68°23.98’E, 38°13.39’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 var. bella: 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).


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:

Remarks. The sculpture of the basal area of Skenea ossiansarsi is similar to that of Skenea tro-
chooides, 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
overlooked in recent publications focused on fauna of Russian Arctic.

**Skenea basistria**ta (Jeffreys, 1877)  
(Fig. 3 A)

No previous records.

Material studied: Area 9: 1 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. *Skenea basistria**ta may be distinguished by elevated spire, presence of spiral stria- 

tion 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 *Skenea* species listed here (excluding *Skenea cf. trochoid**es*) *Skenea basistria**ta have considerably larger size.

**Fig. 4.** Shells of *Skenea trochoides* (A-C) and *Skenea 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 µm, B, C, E = 300 µm.

The measurements of specimen with 3 whors 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; **Area 3:** 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 whors, lacking 
any regular sculpture, its diameter is about 350 µm.

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

The species is the first time found in Russia.

**Turbinoida 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 Turbinoida 
[McLean, Kiel, 2007].

**Moelleria Jeffreys, 1865**
**Moelleria costulata (Moller, 1842)**

Previous records:
– Mölleria costulata: Herzenstein, 1885: 668-669 (Distribution in Murman: Ara bay);

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

**Caenogastropoda**
**Littorinimorpha**
**Capuloidea Fleming, 1822**
**Capulidae Fleming, 1822**

**Trichotropis Broderie 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 Broderie et Sowerby, 1829**

Previous records:

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. Rehavsky, Yu.A. Zuev.

**Trichotropis conica Moller, 1842**

Previous records:

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.

**Littorinoida 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-
**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 Zeletsey); 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); Poliansky, 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).


Littorina saxatilis (Olivi, 1792)

Previous records:

? – Littorina rudis: Herzenstein, 1885 (in part): 678-680 (Distribution); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zeletsey); 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: 100-104, tables 15-18, figs. 13-17 (Ecology; growth; breeding; life history); Granovitch et al., 2008: 1305-1316, tables 1-3, figs. 1-5 (Description of shell and reproductive system; parasitology; distribution in Murman: Dalne-Zelenetskaya Bay, Yarnyshnaya Inlet).


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 Zeletsey); 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).


Lucana 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. Contrary to 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 Midden dorff’s record was based on misidentification of Lacuna vinca.

Lacuna vinca (Montagu, 1803)

Previous records:

– Lacuna vinca: Middendorff, 1849: 379-380 (Shell description; distribution in Murman, no exact locality); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zeletsey); 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); Poliansky, 1955: 23-24, tables 2, 3 (Embryonic development);

– Lacuna divisorca: 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 vinca: 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); Poliansky, 1950: 1179-1181, table 1 (Embryonic development); Poliansky, 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 Ayvon 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**: 1 sp, littoral, 28 May – 25 June 2008,

- **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 Guiding, 1834

Naticidae Guiding, 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);

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; Medvejya Bay: 1 sp, 6 m, 24 Aug. 2007.

**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 Erettik Isl. (Ura Inlet), Kola Inlet, off Kildin Isl., off Gavriloivskie Isl., off Iokanskie 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 Zelessy); Kuznetsov, Matveeva, 1948: 255 (Ecology);

\[Natica (Cryptonatica) clausa\]: Thiele, 1928: 568 (Distribution in Murman: Varangerfjorden, Motovskiy 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);

\[Natica (Lunatia) clausa\]: 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: Motovskiy Bay); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelessy);

- \[Polynices pallidus\]: 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 Zelessy; 2 sp, 42 m, 69°40.82', 31°37.00'E, 6 July 2005, R/V Dalnie Zelessy; 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 Vidyaevo: 1 sp, 5-25 m, 29 June - 1 Sept. 2007, \[Area 4\]: Kola Inlet: 1 sp, 95 m, 69°18.38', 33°34.53'E, 22 Sept. 2012, M/S Viking-2; 1 sp, 43 m, 69°18.90', 33°29.08'E, 22 Sept 2012, M/S Viking-2; \[Area 5\]: Dolgaya Bay: 1 sp, 19 m, 69°11.50', 34°58.28'E, 25 July 2008, R/V Dalnie Zelessy; 1 sp, 30 m, 69°10.16', 34°56.54'E, 25 July 2008, R/V Dalnie Zelessy; \[Area 7\]: Yarnishnaya Inlet: 1 sp, 80 m, 69°07.80', 36°02.11'E, 3 June 2009, R/V Dalnie Zelessy; 1 sp, 28 m, 69°07.10', 36°02.84'E, 3 June 2009, R/V Dalnie Zelessy; Dalnie-Zelentsy Bay: 3 sp, 17 m, 69°07.15', 36°04.58'E, 20 Sept. 2012, M/S Viking-2; \[Area 8\]: Ivanovsky Bay: 2 sp, 15-19 m; \[Area 9\]: 2 sp, 199 m, 69°35.16', 33°45.00'E, 6 Sept. 2007, R/V Dalnie Zelessy; 1 sp, 145 m, 70°00.00', 33°30.00'E, 9 Aug. 2012, R/V Vilnius; 1 sp, 138 m, 69°15.69', 35°28.73', 4 Aug. 2008, R/V Vilnius.

\[Pseudopolinices\] Golikov et Sirenko, 1983

\[Pseudopolinices nanus\] (Moller, 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 Zelessy).


Rissooidea Gray, 1847

Rissoidae Gray, 1847

Apart from 11 species listed below, \[Alvania jeffreysi\] (Wallner, 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 [1887; 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 \[Rissoa Freminville in Desmarest, 1814 or Pusilina Monterosatto, 1884.\]

\[Alvania Risso, 1826\]

\[Alvania moerchi\] (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', 35°10.06'E, 10 Sept. 2010; \[Area 8\]: Dvoryava Bay: 2 sp, 25 m, 68°26.05', 38°13.39'E, 27 July 08, R/V Dalnie Zelessy.

\[Alvania punctura\] (Montagu, 1803)

Previous records:

- \[Alvania punctura\]: Nekhaev, 2013b: 1-3, figs. 1-3 (Description of shell, distribution in Murman: Dolgaya Bay, Yarnishnaya Inlet).

Material studied: \[Area 5\]: Dolgaya Bay: 1 sp, 19 m, 69°11.50', 34°58.28'E, 29 May 2009, R/V Dalnie Zelessy;
**Boreocingula** Golikov et Kussakin, 1974

*Boreocingula castanea* (Moller, 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:**
- Korsakovka Bay: 9 sp, 59 m, 69°07.92'N, 36°05.45'E, 27 July 08, R/V Dalnie Zelentsy.

**Area 7:**
- Yarnishnaya Inlet: 9 sh, 41 m, 69°07.41'N, 36°01.96'E, 20 Sept. 2012, R/V Dalnie Zelentsy; 1 sp, 30 m, 69°11.97'N, 34°58.54'E, 3 July 2004, R/V Dalnie Zelentsy; 1 sp, 255 m, 69°30.00'N, 33°30'E, 28 May 1996, M/S GS-440.
- Inlet: 9 sh, 41 m, 69°07.41'N, 36°01.96'E, 20 Sept. 2012, R/V Dalnie Zelentsy; 1 sp, 30 m, 69°11.97'N, 34°58.54'E, 3 July 2004, R/V Dalnie Zelentsy; 1 sp, 255 m, 69°30.00'N, 33°30'E, 28 May 1996, M/S GS-440.
- Olrovlavaya Bay: 4 sp, 25 m, 68°26.05'N, 38°13.39'E, 27 July 08, R/V Dalnie Zelentsy.

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**Frigoalvania** Warén, 1974

*Frigoalvania jan-mayeni* (Friele, 1878)

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

**Material studied:**

**Area 4:**

**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; 1 sp, 263 m, 69°30.00'N, 33°30'E, 28 May 1996, M/S GS-440.

**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:**

**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: vicinity of Shelpino, off Iokangskie Isl.);
- *Rissoa (Onoba) aculeus*: Derjugin, 1915: 352 (Distribution in Murman: Kola Inlet);
- *Cingula (Rissoa) aculeus*: Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
- *Onoba aculeus*: Matveeva, 1948: 257 (Ecology);
- *Onoba improcera*: Matveeva, 1948: 132-136, tables 37-38, fig. 24-25 (Ecology; growth; breeding; life history);
- *Onoba improcera*: Nekhaev, 1994: 70 (Distribution in Murman: Dalne Zelentsy 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:**
- 2; 4 (G-I), table 1 (Shell description, distribution in Murman: Teriberskaya Bay, Yarnishnaya Inlet, high sea).

**Area 2:**

**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).
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:


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 Filniss; 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 interrupta 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); Kaznetsov, 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).


Stromboidea Rafinesque, 1815

Aporrhais Da Costa, 1778

Aporrhais pespelecani (Linnaeus, 1758)

Previous records:
– Aporrhais pespelecani: Kantor et al., 2008: 51-54, figs. 1-2 (Distribution in Murman: Motovskiy Bay, Yarnishnaya Inlet).

Material studied: Area 3: vicinity of Vidyaevo: 3 sp, 6 m, 69°22.91’N, 32°54.37’E, 28 Aug. 2007.
Shell bearing Gastropoda of Murman coast

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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 glabra: Thiele, 1928: 568 (Distribution in Murman: off Kildin Isl.).

Absent in material studied.

Onchidiopsis Bergh, 1853

Onchidiopsis glacialis (M. Sars, 1851)

Previous records:


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);
Absent in material studied.

Velutella Gray, 1847
Velutella plicatilis (O. F. Müller, 1776)

Previous records:
– Velutella (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 haliotoidea: Herzenstein, 1885: 674 (Distribution in Murman: Ara Bay, off Kildin Isl., vicinity of Teri, 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 Vidyayevo: 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′E, 38°38.66′E, 17 Aug. 2011, M/S Viking-2; Vostochniy Nokuevsky 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

Epitonium Röding, 1798
Epitonium greenlandica (Perry, 1811)

Previous records:
– Scalaria grönlandica: Herzenstein, 1885: 684 (Distribution in Murman: off Kildin Isl., vicinity of Podpakhata Bay); Derjugin, 1915: 534 (Distribution in Murman: Kola Inlet); Derjugin, 1924: 72 (Distribution in Murman: high sea);

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

Eulimidea Philippi, 1853

Eulimidae Philippi, 1853

Apart from the shell-bearing species listed below endoparasitic Entocolax schwantzscii Heding in Hed ing 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, 19 Sept. 2012, M/S Viking-2; 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°07.80′N, 36°02.11′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.

Haliotidae G.O. Sars, 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.

Hemiacilis G.O. Sars, 1878

Hemiacilis 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.
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, 9 Aug. 2013, *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.

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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.);


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:

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

**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) clathratus: 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** (Strom, 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);

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).


**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 verkruezeni** (Kobelt, 1876)

**Previous records:**
- Anomalisipho verkruezeni: Kantor, 1981: 1147 (Distribution in Murman – empty shell);
- Helicofusus paraelatior 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).
**Beringius** Dall, 1887

**Beringius turtoni** (Bean, 1834)

Previous records:
- *Chrysodorus (Ukko, Fiusus) turtoni*: Derjugin, 1915: 541 (Distribution in Murman: Kola Inlet);
- *Beringius turtoni*: Kantor, 1981: 1149 (Distribution in Murman, no exact locality);
- *Beringius ossianti*: 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: 153-158, tables 49-54, fig. 32-33 (Ecology; growth; breeding; life history);

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, 9 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* ciliatum


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 grönlandicum*: 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 49-54, fig. 32-33 (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) tenebrosum* var. *hydrophana*: Middendorff, 1849: 501-502 (Shell description; Distribution in Murman, no exact locality);
- *Buccinum tenebrosum*: 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);

Absent in material studied.
Remarks. The nomenclature of this species was revised by Alexeev and Gornichnych [2009].

**Buccinum finmarkianum** Verkrüzen, 1875
Previous records:

? – Tritonium (Buccinum) humpreyi: Middendorff, 1849: 492-493 (Shell description; distribution in Murman, no exact locality);
– Buccinum finmarkianum: Herzenstein, 1885: 700-701 (Distribution in Murman: off Gavrilov 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 Vilnius.

**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);

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, 1876)
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 turritus: Herzenstein, 1885: 703 (Distribution in Murman: Motka Bay);
? – Neptunea (Sipho, Fusus) turrita: Derjugin, 1915: 542 (Distribution in Murman: Kola Inlet);

Absent in material studied.

**Colus latericus** (Møller, 1842)
Previous records:

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

Absent in material studied.

**Colus sabini** (Gray, 1824)
Previous records:

– Tritonium (Fusus) sabini: 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 despera** (Linnaeus, 1758)
Previous records:

– Tritonium (Fusus) despera: Middendorff, 1849: 463-399 (Shell description; distribution in Murman, no exact locality);
– Fusus desperus: Herzenstein, 1885: 701-702 (Distribution);
– Neptunea despera: Derjugin, 1915: 541-542 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy); Matveeva, 1974: 160-164, tables 6-7, fig. 36 (Ecology; growth; breeding; life history);
– Neptunea despera v. carinata: Derjugin, 1915: 541-542 (Distribution in Murman: Kola Inlet);
– Neptunea despera despera: 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.
**Volutopsis** Mörch, 1857

**Volutopsis norwegicus** (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);

Absent in material studied.

**Turrisipho Dautzenberg et Fischer, 1912**

**Turrisipho fenestratus** (Tourt, 1834)

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

Absent in material studied.

**Turrisipho lachesis** (Mörch, 1869)

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

Absent in material studied.

**Columbellidae Swainson, 1840**

**Astyris** H. et A. Adams, 1853

**Astyris 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);

Material studied: **Area 2**: 1 sh, 197 m, 69°36.87'N, 33°33.07'E, 6 June 2008, R/V Dalnie Zelentsy; **Area 4**: 1 sh, 25 m, 69°14.19'N, 34°48.44'E, 30 May 2007, R/V Vilnius; **Area 9**: 1 sp, 132 m, 69°40.91’N, 34°06.82’E, 6 Aug. 2007, R/V Vilnius.

**Admete couthouyi** Ushakov, 1948

Material studied: **Area 9**: 1 sp, 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 [Hoisæter, 2010]. According to the description, the distribution of this species is generally limited to upper bathyal zone with low temperature. The finding of *Admete couthouyi* 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.
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 detailization. Herzenstein [1885], Derjugin [1915], Thiele [1928] and Ushakov [1948] also recorded three more species from the Murman: *Oenopota declivis* (Lovén, 1846), *Curitoma decussata* (Couthouy, 1839) (as *Lora tenuicostata* (G.O. Sars, 1878) in Thiele [1928]) and *Curitoma violacea* (Mighels et Adams, 1842) (as *Bela bicarinata* Couthouy, 1838). Record of *Prophebela 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].

*Curitoma Bartisch, 1941*

*Curitoma trevelliana* (Turton, 1834)

Previous records:

– *Pleurotomella trevilliana*: Herzenstein, 1885: 690 (Distribution in Murman: Ara Bay, off Kildin Isl.);
– *Bela treveliana*: Derjugin, 1915: 537 (Distribution in Murman: Kola Inlet); Ushakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
– *Curitoma trevilliana*: 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).


*Curitoma novajasemljensis* (Leche, 1878)

Previous records:

– *Curitoma novajasemljensis*: Bogdanov, 1990: 120-
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:
– *Pleurotomaria conoidea*: Herzenstein, 1885: 691 (Distribution in Murman: off Gavrilov Isl., vicinity of Shelpino);
– *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).

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*: A – губа Дальне-Зеленецкая, 9 м, 69°07.29’N, 36°05.00’E; B-C – Кольский залив, 13 м, 69°16.80’N, 33°33.07’E. Масштабная линейка = 10 мм.
Oebesotoma Bartsch, 1941
Oebesotoma simplex (Middendorff, 1849)

Previous records:
- Oebesotoma 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 Möhr, 1852

Oenopota obliqua

Previous records:
- Oenopota obliqua: 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 Möhr, 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 (Moller, 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 Vidyaevo: 1 sp, 6 m, 69°22.91’N, 32°54.37’E, 22 Aug. 2007.

Oenopota pyramidalis (Strom, 1788)

Previous records:
- Pleurotoma pyramidalis: Herzenstein, 1885: 685 (Distribution 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. semipliaca: 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 (Moller, 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. 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. 322-327, 431 (17-20), 432 (1-11), 404 (A-B), 466 (2-3), 467 (Description of shell and radula; distributional map).
**Propebela harpularia** (Couthouy, 1838)

Previous records:
- *Pleurotoma harpularia*: Herzenstein, 1885: 689 (Distribution in Murman: off Kildin Isl., Podpakha, 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).


**Propebela exarata** (Moller, 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** (Moller 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).


**Propebela scalaris** (Moller, 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, 25 May 1996, *M/S GS-440*.

**Propebela spitzbergensis** (Friele, 1886)

Previous records:
- ? *Bela rugulata* (var. spitzbergenesis): Derjugin, 1915: 536 (Distribution in Murman: Kola Inlet);
- *Propebela spitzbergenesis*: 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** (Moller, 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);


Raphitomidae Bellardi, 1875

Raphitoma Bellardi, 1875

**Raphitoma leufroyi** (Michaud, 1828)

(FIG 10 A)

No previous records.


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, ИС “Вильнюс”; E – Thesbia nana, Баренцево море, 144 м, 70°00'N, 33°30'E. Масштабная линейка = 3 мм.
northward to Trondheimsfjorden [Hoisaeter, 2009], and then 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 cancelled 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:**


**Remarks.** Embryonic shells of seven specimens from Kola Inlet examined under the SEM usually have weak sculpted 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.

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

Palazzi [1988] described Omalogastra disculus Palazzi, 1988 from Madeira, differing from Omalogastra atomus by having a wrinkled embryonic shell which was not depicted especially. Omalogastra 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. Omalogastra 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 Omalogastra 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=0.7. These measurements 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 eximia** (Jeffreys, 1849)

(Fig. 12 A, B)

No previous records.

**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.

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.

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. 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.

No previous records.
Menesthia Moller, 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°19.90’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.

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:
-- *Jeffreyssina 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).


Menostoma 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, 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; **Area 6:** 1 sh, 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; **Area 5:** 3 sp, 14 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 polychaetes *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 extent 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 *Odostomia 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 2:** 6 sp, 68 m, 69°10.83’N, 35°08.68’E, 3 July 2004, R/V Dalnie Zelentsy; **Area 6:** 7 sp, 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 pyramellid 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.

Rissoelloidea Gray, 1850

*Rissoellidae* Gray, 1850

*Rissoella* globularis  
(Jeffreys in Forbes et Hanley, 1852)

Previous records:
-- *Jeffreyssina 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).

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 turrita, Yarnishnaya Inlet, 40 m, 69°07.78'N, 36°01.51'E. Scale Bar = 2 mm.
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.

Opisthobranchia
Cephalaspidea
Diaphanoidea Odhner, 1914
Diaphanidae Odhner, 1914
Bogasonia Warén, 1989
Bogasonia volutoides 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 volutoides 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: Yamishnaya 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°07.80’N, 36°02.11’E, 3 June 2009, R/V Dalnie Zelentsy; 3 sp, 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:

Material studied: Area 7: Yamishnaya 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, 68°12.76’N, 40°06.54’E, 30 July 2007, M/S Gidrolog; 1 sp, 145 m, 69°07.92’N, 36°05.45’E, 4 June 2009, 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 belong 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 Zatsepin [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, 7 June 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°56.88′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 Møller, 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:

Material studied: Area 1: 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 Gidrolog; Area 7: Yarnishnaya Inlet: 1 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 Bouche 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 puncto-striatus: Herzenstein, 1885: 706 (Distribution in Murman: off Kildin Isl., off Gavrilov Isl. – empty shell);
– Scaphander punctostriatus: Derjugin, 1915: 544 (Dis-
FIG. 15. Shells of Cyichnidae: 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 Cyichnidae: A – *Cylichna corticata*, 17 м, 69°07.15'N, 36°04.58'E; B – *Cylichna corticata*, губа Ярнышная, 73 м, 69°07.64'N, 36°02.01'E; C – *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.
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 Praephilina respectively are separated in different branches on the cladogramme [Ohnheiser and Malaquias, 2013: Fig. 33], whereas type species of both Philine and Retusophiline 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); Usakov, 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).

Praephilina Chaban et Soldatenko, 2009
Praephilina 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.

Retusophiline Nordsieck, 1927
Retusophiline lima (Brown, 1827)

Previous records:
–Philine lima: Herzenstein, 1885: 708 (Distribution in Murman: vicinity of Shelpino); Derjugin, 1915: 546 (Distribution in Murman: Kola Inlet);
Usakov, 1948: 31 (Distribution in Murman: vicinity of Dalnie Zelentsy);
–Retusophiline 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 (Montag, 1803) which is used for a mixture of species [Chaban, 2000; Sneli et al., 2005; Heisæter, 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.);

Material studied: Area 1: 2 sp, 59 m, 69°39.90’N, 31°45.00’E, 3 March 2007, R/V Dalnie Zelentsy.
Shell bearing Gastropoda of Murman coast

**Retusa turrita** (Møller, 1842)

No previous records.


**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, Teriberskaya Bay, Yarnishnaya Inlet).


**Anaspidea**

Akeriodea 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).

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, Hemiaclas 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, Bogasasia 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, Alvinia moerchi, Frigidodavania jannayeni, 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, Alvinia punctulum, Onoba semicostata, Pseudoseta 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, Menesthe albula, Menesthe truncatula and Bogasasia 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 wvylilethomsoni (Friele, 1877), Alvinia verilli (Friele, 1886), Ecrobia ventrosa (Montagu, 1803), Lacuna crassior (Montagu, 1803), Neptunia ventricosa (Gmelin, 1791), Neptunia 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, Solarialla varicosas, 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.

Acknowledgements

I would like to express gratitutde to the staff of Zoobenthos laboratory of Murmansk Marine Biological Institute, especially I am grateful to Valentina Payusova who sorted manually a bulk of the samples used for present study, Olga Lyubina and Alexander Frolov who supervised benthic studies in coastal waters of Murman. I want to thank Yuri Deart (Moscow) for the opportunity to access material collected by expeditions of Severtsov’s Institute of Ecology and Evolution. I am also grateful to Elena Chaban (Sankt-Petersburg) for the consultations in taxonomy of Cephalaspidea and Boris Sirenko (Sankt-Petersburg) for his help during my work in Zoological Institute of RAS. I thank Dmitriy Palatov (Moscow) for the SEM photos of Skenea cf. trochoides and Pavel Parkhaev (Moscow) for the help during my work with SEM. I appreciate the help of Yuri Kantor (Moscow) who make valuable remarks to the manuscript.

References

Table 1. Distribution of species of shell-bearing Gastropoda along the Murman Coast

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<td><em>Retusa turrita</em></td>
<td>5-80</td>
<td>1</td>
</tr>
<tr>
<td><em>Retusa bellucida</em></td>
<td>3-80</td>
<td>1</td>
</tr>
<tr>
<td><em>Akera bullata</em></td>
<td>10-18</td>
<td>1</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td>48</td>
<td>41</td>
</tr>
</tbody>
</table>

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 раковины 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 (Ström, 1768), Raphitoma leufoyi (Michaud, 1828), Taranis moerchi (Malm, 1861), Ondina divisa (J. Adams, 1797), Menestho albula (Fabricius, 1780), Bogasonia volutoides Warèn, 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.

Таблица S1. Распределение наиболее многочисленных видов в Мурманском побережье:

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