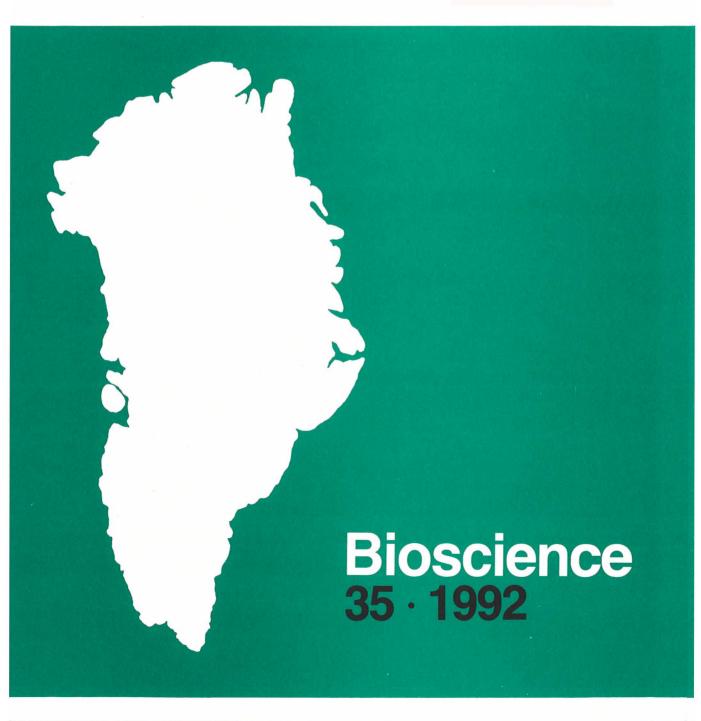
# **Meddelelser om Grønland**

# An annotated and illustrated list of the types of Mollusca described by H. P. C. Møller from West Greenland

Tom Schiøtte and Anders Warén



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#### Scientific editor – Botany

Gert Steen Mogensen, Botanical Museum, Gothersgade 130, DK-1123 Copenhagen K. Telephone +4533111744.

#### Scientific editor – Zoology

G. Høpner Petersen, Zoological Museum, Universitetsparken 15, DK-2100 Copenhagen Ø. Telephone +4531354111.

This volume edited by G. Høpner Petersen.

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TOM SCHIØTTE and ANDERS WAREN

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A list of molluscan names introduced by H. P. C. Møller is presented together with a short biography. The type material of the new taxa is listed and selected specimens are figured. Previously published information about Møller's species is supplemented with hitherto unpublished extracts from his notebooks and manuscripts. The currently valid name, when it can be determined, is given for each taxon.

Tom Schiøtte, Zoological Museum, University of Copenhagen, Universitetsparken 15, DK-2100 Copenhagen Ø, Denmark and Anders Warén, Swedish Museum of Natural History, Frescativägen 44, Box 50007, S-10405 Stockholm, Sweden.

#### Introduction

Hans Peter Christian Møller introduced 83 new molluscan taxa from Greenland, in two short papers (1841, 1842a). He also described four new species of ascidians, but they are not discussed here. His descriptions were precise but they were short and not accompanied by figures, which has led to misinterpretation of some names. Many of the species he described are common and several have become type species of genera. To facilitate future taxonomical work we have compiled unpublished information from Møller's manuscripts as a supplement to his descriptions.

As a background for our comments and to put Møller's work into a historic perspective, we start with a biography.

#### Hans Peter Christian Møller (1810–1845)

Not very much information is available about the life and work of Hans Peter Christian Møller. The following biography has been compiled mainly from Gosch (1875, 1878), Sveistrup & Dalgaard (1945), and the archives of the Arctic Institute, Charlottenlund and the Zoological Museum, University of Copenhagen (ZMUC).

Møller was born on 2 November 1810 in Helsingør, Denmark the son of a physician. He finished school in 1830, and obtained a university degree in theology in 1837. He also served in the army where he became a lieutenant. His prime interest, however, appears to

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have been zoology, especially marine fauna. During his time at the university, Møller seems to have become acquainted with the zoologists at the University of Copenhagen, among them H. Krøyer, Japetus Steenstrup, and J.H. Reinhardt, the professor of zoology.

In 1835 Møller started to work on a large manuscript on Danish molluscs. It was never finished, but this manuscript and other existing notes show an unusual knowledge about invertebrates and especially molluscs. Mørch used these notes 35 years later when he wrote his survey over the Danish molluscs (1871).

We do not know the official purpose of Møller's first visit to Greenland, but Reinhardt's interest in the Arctic fauna may have contributed. Møller sailed for Greenland in 1838, and during his journey across the North Atlantic, he spent the time taking notes on the pelagic fauna and preparing water colour paintings of the animals he collected during the cruise.

In Greenland, Møller soon became acquainted with captain C. Holbøll, the administrator of South Greenland and a keen naturalist with whom Møller came to cooperate closely.

For at least some time during this stay in Greenland Møller worked for "Oldskriftselskabet". This is a Danish antiquarian society for which he mapped old Norse ruins. The results of this work were published after his return to Denmark.

Only a few months after his arrival in Godthaab (now Nuuk), he began compiling material for a monograph over the molluscs of Greenland. During the winter 1839–1840 this manuscript was enlarged and improved.

It now contained a wealth of notes on distribution, behaviour, zonation, and feeding biology, supplemented with pencil drawings and watercolour paintings of the crawling animals.

Møller stayed in Greenland until August 1840. After his return to Copenhagen, he studied the Arctic collections of the Royal and the University museums. He had brought back large collections of molluscs, and began to give away or exchange reference collections of molluscs from western Greenland with collectors and museums. He also continued his earlier work on the Danish fauna.

The publication of the monograph over the molluscs of Greenland could, evidently, not be done promptly, perhaps for economical reasons. Instead, Møller published a treatise on the northern species of the pteropod genus *Limacina* (1841). In this ten page paper he described in detail the distribution, external morphology and swimming behaviour of two species of *Limacina*. Most of his observations had been done in aquaria. It was announced that plates to supplement the paper would appear in the next issue of the journal, but these were never published.

In 1842 Møller published "Index Molluscorum Groenlandiae", a list of the West Greenland mollusc fauna. More than eighty new names were introduced here, accompanied by short diagnoses, but regrettably very little of Møller's unusually broad knowledge of his field was included.

At the meeting of the Scandinavian natural scientists in 1842 (published 1843), Møller presented a geographical comparison of distribution and zonation of the North Atlantic molluscs and discussed the influence of salinity of the sea on the size of the animals.

In April 1843 Møller was appointed "temporary inspector" of the province "North Greenland". This appointment would give him opportunities to study and collect in areas he had not visited before. At this time the eastern coast of Greenland was poorly known and the northern coasts were virtually unknown. The central and southern parts of the west coast (called North and South Greenland) were administrated by two inspectors, who resided in Godhavn (now Qeqertarsuaq) and Godthaab respectively.

From the summer of 1843, when his employment began, Møller explored his province and observations on molluscs were added to his notebooks. He also made a detailed study of a beached fin whale, the results of which were published after his death (Møller 1846). Compared with his first visit in southern Greenland, his field work and collecting were insignificant, perhaps because of his duties as inspector or perhaps because of poor health. A few months after acquiring his new position, he was shipwrecked off Disko Island and the strenuous way back to Godhavn had to be made on foot, through perilous areas.

Because of his fragile health, Møller had to apply to be relieved from his position and he returned to Denmark in the autumn of 1844, after only a year as inspector.

It does not seem, however, that he spared his health after leaving Greenland, which may have been fatal. In December he was industriously collecting marine molluscs in Norway and in June 1845 he began a tour to various European cities, visiting scientists and collections. He carried his Greenland manuscript with him and his deteriorating health seems not to have slowed down his writing. He died in Rome, 18 October 1845, only 34 years old.

Møller is not a well known malacologist, but had he not died so young things might have been different. If his manuscript had been published, it would have been an outstanding scientific contribution. The leading malacologists of the time, for example J. E. Gray, the Adams brothers, and the Sowerbys in Great Britain or J. C. Chenu and G. P. Deshayes in France rarely produced anything more advanced than Møller's preliminary report (1842a & b). J. G. Jeffreys' masterpiece "British Conchology", published twenty years after Møller's death, is more similar to Møller's Greenland manuscript.

Møller's (largely unpublished) studies on depth zonation were contemporary with or before those of E. Forbes, M. Sars, and A. S. Ørsted and his thoughts about the consequences of reduced salinity were 70 years before A. C. Johansen (1916). Together, this shows his presence at the frontier of the marine science of his time.

### Møller's documents

A large collection of Møller's manuscripts, letters and notes are held in the archive of the Zoological Museum, University of Copenhagen. In connection with the Greenland material the most important documents, with their archive registration numbers, are:

- B 146 a: "Bemærkninger over de grønlandske Mollusker... 1838"; first draft of an unpublished manuscript on Greenland Mollusca.
  - c: A letter to colony administrator Kielsen in Fiskernæs, Greenland on malacological and other subjects.
- B 147 a: Second draft (in six notebooks), not yet in a final form, of the large, unpublished manuscript on Greenland Mollusca, and manuscript for Møller (1841); also notes from the trip home from Greenland 1840, lists of material donated to others, and notes on material from other arctic and boreal areas.
  - b: "Index Molluscorum Groenlandiae"; two versions of the manuscript for Møller (1842).
  - e: A large, indexed collection of drawings and water colours of arctic invertebrates.

- f: Two diaries, June 1840 to August 1842 and May 1843 to September 1845.
- T 303: A catalogue in O. A. L. Mørch's handwriting, apparently of all those of Møller's molluscs from Greenland and other parts of the world donated to the University Natural History Museum.
- T 321: "Index Collectionis Molluscorum Groenlandicum C. Holbøllii & C. Mølleri. Godthaab 1839"; a list of species collected until 1839.

#### Møllers collection

After studying Møller's diaries and manuscripts and comparing with the existing Greenland material collected by Møller, our opinion is that only a very minor part was added after the publication of "Index Molluscorum Groenlandiæ". Therefore everything can be regarded as potential type material, unless it is dated later than 1841, or bears locality names from Disko Bay or north of that.

Møller's collection of molluscs was large and contained material not only from Greenland, but also from other parts of the world. Much of it had evidently (notes in B 147a(6), T 321) been obtained through exchange with other collectors, but it does not seem to contain type material of contemporary authors. Some of his material from Greenland came from Capt. Holbøll.

Møller either donated his collection and manuscripts, or they were given by others, to the University Natural History Museum in Copenhagen (a forerunner of the present Zoological Museum). He also distributed specimens to other museums and private collectors. A list of some of these is given in one of his notebooks (B 147a (6)). Among the recipients were King Christian VIII of Denmark, who had a large, private shell collection, Krøyer, Steenbuch, Grove, Bang, and Forchhammer (all Danish scientists or collectors). Through Count Yoldi and others, material was also given to Petit de la Saussaye in Paris, Riise in St. Thomas (Virgin Islands), and Oken in Jena. Large collections also made their way to the Swedish Museum of Natural History, the Natural History Museum, London, and the Zoologisches Museum der Humboldt Universität, Berlin.

In addition to material in his own collection, Møller also studied the collections in the two natural history museums in Copenhagen. These collections had been worked on and determined by J. Steenstrup (University Museum) and H. Beck (the Royal Museum). In many cases Steenstrup and Beck had put manuscript names on specimens believed to belong to undescribed species. Beck (1837) had also published several of these *nomina nuda*. Møller used some of their names, as well as names used by Capt. Holbøll and gave these persons credit for the names. After having seen Møller's notes and having followed the way Møller changed and refined his concepts of the species, we feel that they should be credited to Møller only. He is truly the person responsible for the interpretations and conclusions.

None of Møller's descriptions contains a defined type locality, although it is obvious from the title that they all come from Geeenland. This was because Møller planned a much larger and more complete treatment of the fauna, accompanied by illustrations. Perhaps the beginning malacological activities in the New England region by people like J.P. Couthouy and J.W. Mighels, who described several new species of the Arctic fauna, pushed Møller to publish his "Index" to save some species as "his".

We use some of Møller's drawings and water colours in this paper to demonstrate his concept of the species, and in some cases, to present new information since there exists no figures of living animals of the species elsewhere.

To overcome the lack of type localities, we have extracted from Møller's notes and labels the localities at which he collected his specimens. A map of these with the locality names that Møller used is given in Fig. 1. In connection with the map we list them together with the Greenlandic forms of the names.

As a result of type material from Møller being widely scattered in museum collections, we feel that it will facilitate future work if the selection of lectotypes is restricted to the lots kept in Copenhagen, or in the few cases where no specimens remain there, to the collections in Stockholm.

#### Abbreviations

- BMNH The Natural History Museum, London.
- SMNH Swedish Museum of Natural History, Stockholm.
- USNM U. S. National Museum of Natural History, Washington, D. C.
- ZMUC Zoological Museum, University of Copenhagen.

#### List of Møller's new taxa

We have included all names introduced or made available by Møller (1841, 1842a), also varietal names, and we have tried to include names credited to Møller but published by other authors. The names of varieties are considered subspecific according to ICZN (1985: article 45g).

In a few cases Møller used already introduced names with the suffix "nob." These are listed and commented.

We have tried to make the list more useful by adding what we consider the presently valid name and systematic position for each taxon. When the valid name or systematic position has recently changed, we have added references to the relevant publication.

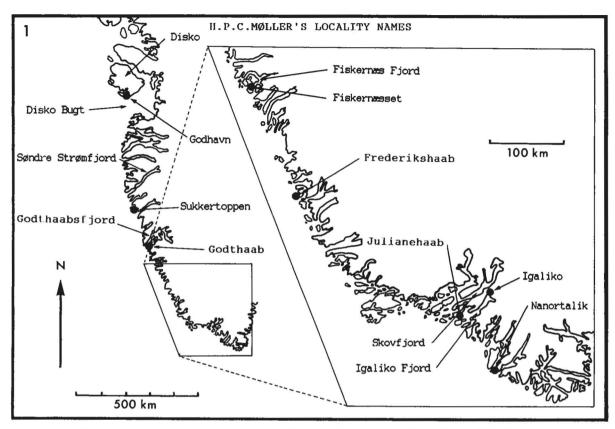


Fig. 1. Map of West Greenland with locality names used by H.P.C. Møller. The name Baals River, which Møller often used in his manuscript, must be a misspelling of Baals-Revier, an old name for Godthaabsfjord. Greenlandic names that are now replacing the Danish: Qeqertarsuaq = Godhavn; Maniitsoq = Sukkertoppen; Nuuk = Godthaabs; Nuup Kangerlua = Godthaabsfjord; Queqertarsuatsiaat = Fiskernæsset; Paamiut = Frederikshaab; Qaqortoq = Julianehaab; Tunulliarfik = Skovfjord; Igalikup Kangerlua = Igaliko Fjord.

Some of Møller's specimens have apparently unpublished varietal names on the labels. These are mentioned in our compilation, but are not italicized and have no nomenclatorial standing. Following ICZN (1985: article 72b(i)), such specimens can not be considered types unless the varietal name has entered the literature, but we are not aware of any such case among these names.

Almost all of Møller's collection consists of dried specimens; if there are specimens preserved in alcohol, we have mentioned it.

#### Genera

Admete Møller, 1842a:88 ("Kröyer"). Cancellariidae. Type species: Admete crispa Møller, 1842 by monotypy. Remarks: For comments on Admete viridula and Defrancia viridula see Sneli & Stokland (1986) and Harasewych & Petit (1987).

Amaura Møller, 1842a:80 ("nob.") (not Geyer, 1837). Pyramidellidae. Type species: *Amaura candida* Møller, 1842 (not Geyer, 1837) by monotypy.

Remarks: Renamed Aartsenia Warén, 1991.

Menestho Møller, 1842a:83 ("nob."). Pyramidellidae. Type species: Turbo albulus Fabricius, 1780 by monotypy.

Yoldia Møller, 1842a:91 ("nob."). Yoldiidae.

Type species: *Yoldia hyperborea* Torell, 1859 (Opinion 769).

#### Named species and subspecies

- Doris acutiuscula Møller, 1842a:79 ("Stp." [Steen-strup]).
- Type locality: Julianehaab (ZMUC label), on Laminaria, 7.3-18 m (Møller MS).
- Type material: 4 syntypes ZMUC GAS-1 (in alcohol).
- Remarks: Now Onchidoris muricata (Müller, 1776) (Onchidorididae) (Lemche 1941:22).

Onychoteuthis amoena Møller, 1842a:76 ("O? amoena nob.").

Type locality: West Greenland, not specified.

- Type material: None located. According to Gray (1849:68) there should be three specimens in BMNH.
- Remarks: Type species of *Gonatus* Gray, 1849 (by monotypy). Mørch (1857:89), citing Steenstrup (pers.comm.), synonymised this species with *Gonatus fabricii* (Lichtenstein, 1818) (Gonatidae). This view was confirmed by Kristensen (1981:65). The description appears to be based on juvenile specimens.

Yoldia angularis Møller, 1842a:92 ("nob.").

Figs 70-71 & 95.

- Type locality: Julianehaab (ZMUC label), 127–146 m (Møller MS).
- Type material: 3 syntypes ZMUC BIV-1; 3 syntypes BMNH 1843.6.30.378–380.
- Remarks: Mørch (1857:93) considered Y. angularis a synonym of Yoldia thraciaeformis (Storer). Now Megayoldia thraciaeformis (Storer, 1836) (Yoldiidae).

Litorina arctica Møller, 1842a:82 ("nob.").

Fig. 24.

- Type locality: Everywhere in West Greenland, in the tidal zone, occurring in large numbers (Møller MS).
- Type material: 5 syntypes ZMUC GAS-2; several syntypes SMNH 3844; 5 syntypes BMNH 1843.6.30 90-94.
- Remarks: On his own label accompanying the ZMUC specimens, Møller used the name "Littorina litoralis" (Fabricius 1780:402 called the species Nerita littoralis). A later label in the lot says "Littorina palliata Say, L. arctica Møller, Grønland". Mørch (1857:80) considered it synonymous with Littorina groenlandica laevior (which is probably a Mørch name). Now Littorina obtusata (Linné, 1758) (Littorinidae) (D. Reid in litt.).

Planorbis arcticus Møller, 1842a:78 ("Beck") (Beck, 1837:123, nomen nudum).

Figs 13–14.

Type locality: A single locality at Igaliko (Møller MS).

- Type material: 6 syntypes ZMUC GAS-3; 4 syntypes SMNH 3843; 5 syntypes BMNH 1843.6.30.282–286.
- Remarks: Systematic position uncertain; see Burch (1982:200), but it belongs to *Gyraulus* Agassiz, 1837 (Planorbidae). It was not mentioned by Clarke (1981).

Pandorina arenosa Møller, 1842a:93 ("nob."). Figs 84-85.

Type locality: Many localities in West Greenland, sand and clay, 55–91 m (Møller MS).

Type material: 6 syntypes ZMUC BIV-2.

Remarks: This name was by Møller published for a new species, not *Pandora arenosa* Conrad, 1834 from the southeastern U.S.A., which belongs to the genus

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Pandora. Now Lyonsia arenosa (Møller, 1842) (Lyonsiidae).

Trichotropis atlantica Møller, 1842a:85 ("Beck"). Figs 35 & 103.

- Type locality: West Greenland, not specified, but Møller (MS) states that it is rather common at 55–109 m.
- Type material: 7 syntypes ZMUC GAS-4; 2 syntypes SMNH 3821; 4 syntypes BMNH 1843.6.30.46–49.
- Remarks: Mørch (1857:82) considered *T. atlantica* a synonym of *Trichotropis borealis* Broderip & Sowerby. Now *Trichotropis borealis* Broderip & Sowerby, 1829 (Capulidae) (Ponder & Warén 1988).

Limacina balea Møller, 1841:489 ("nob.").

Figs 97–99.

- Type locality: Near Godthaab (Møller MS).
- Type material: None located.
- Remarks: Now *Limacina retroversa* (Fleming, 1823) forma *balea* (Møller) (van der Spoel 1967:47) (Limacinidae).

Defrancia beckii Møller, 1842a:87 ("nob.").

Figs 56-57.

- Type locality: West Greenland, not specified, 9–73 m (Møller MS).
- Type material: 9 syntypes ZMUC GAS-5; 6 syntypes SMNH 3829.
- Remarks: As for *Defrancia scalaris*. Mørch (1857:83) renamed it *Pleurotoma violacea* var. *ventricosa*.

Leda buccata brevis Møller, 1842a:90 ("Var. brevis"). Figs 72–73.

- Type locality: Godthaab (ZMUC label), 55–218 m (Møller MS).
- Type material: Syntypes, 14 specimens and 5 valves ZMUC BIV-3; 4 syntypes BMNH 1843.6.30.82-85.

Remarks: Now Nuculana pernula (O.F.Müller, 1777).

Leda buccata Møller, 1842a:90 ("Stp." [Steenstrup]). Figs 90–91.

- Type locality: West Greenland, not specified, 55–218 m (Møller MS).
- Type material: Syntypes, 44 specimens and 30 valves ZMUC BIV-4 BIV-8; 5 syntypes SMNH 3833.
- Remarks: Now Nuculana pernula (O.F.Müller, 1777) (Nuculanidae).

Amaura candidu Møller, 1842a:80 ("nob.").

Fig. 17.

- Type locality: West Greenland, not specified.
- Type material: 12 syntypes ZMUC GAS-6 GAS-9; 1 syntype SMNH 3812; 3 syntypes BMNH 1843.6.30 125–127.
- Remarks: Now Aartsenia candida (Møller, 1842) (Pyramidellidae) (Warén 1991).

Rissoa castanea Møller, 1842a:82 ("nob."). Fig. 30.

- Type locality: ?Godthaab (no exact locality is given on the label of the lectotype, but Møller (MS) states that the species is found at Godthaab, on gravel and pebbles, at 27–109 m depth).
- Type material: Lectotype ZMUC GAS-10; 4 paralectotypes ZMUC GAS-11; 7 paralectotypes BMNH 1843.6.30.246–252.
- Remarks: Lectotype selected by Warén (1974:124). Now *Boreocingula castanea* (Møller, 1842) (Rissoidae) (Ponder 1985:65-66).

Patella cerea Møller, 1842a:89 ("nob.").

Fig. 32.

Type locality: Søndre Strømfjord and Skovfjord (ZMUC labels) and other, unspecified West Greenland localities; Møller (MS) states that it is widely distributed in considerable numbers at 36–109 m.

Type material: 4 syntypes ZMUC GAS-12 & GAS-13.

- Remarks: Mørch (1857:88) considered it a synonym of Lepeta caeca (O.F.Müller). Now Lepeta caeca (O.F.Müller, 1776) (Lepetidae).
- Modiola cicercula Møller, 1842a:92 ("M? cicercula nob.").

Figs 80-81.

- Type locality: Godthaab (ZMUC label), 36-146 m (Møller MS).
- Type material: Syntypes, 20 valves ZMUC BIV-9; 4 syntypes SMNH 3836; 7 syntypes BMNH 1843.6.30 313–319.
- Remarks: Mørch (1857:94) considered *M. cicercula* a synonym of *Crenella decussata* (Montagu). Now *Crenella decussata* (Montagu, 1803) (Mytilidae).

Defrancia cinerea Møller, 1842a:86 ("nob."). Fig. 50.

- Type locality: West Greenland, not specified.
- Type material: 2 syntypes ZMUC GAS-14; 1 syntype SMNH 3826; 3 syntypes BMNH 1843.6.30.21-23.

Remarks: As for Defrancia scalaris.

Leda complanata Møller, 1842a:90 ("nob"). Figs 78–79.

- Type locality: Julianehaab (ZMUC label), 36-91 m (Møller MS).
- Type material: Hundreds of syntypes ZMUC BIV-10; 8 syntypes SMNH 3835.
- Remarks: Renamed Nuculana minuta var. grandis Mørch, 1857:93. Now Nuculana minuta (O.F.Müller, 1777) (Nuculanidae).
- Lima conclusa Michaelis & Scherk, 1847:114 ("Møller"). Nomen nudum.

Remarks: Michaelis & Scherk (1847) must have based their use of this name on earlier correspondance with Møller or identification labels in Krøyer's collection. In his manuscripts (B 147a(4) & B 147b) Møller initially considered this a new species, and used the name *Lima conclusa*, but later he crossed it over and replaced it with *Lima sulcata* Leach. Mørch (1857:94) recorded it as *Lima sulculus* Leach.

Trichotropis conica Møller, 1842a:85 ("nob."). Fig. 36.

- Type locality: Frederikshaab, 55 m (Møller MS) and Søndre Strømfjord (one ZMUC label).
- Type material: 2 syntypes ZMUC GAS-15 & GAS-16.
- Remarks: Still recognized as *Trichotropis conica* Møller, 1842 (Capulidae) (Ponder & Warén 1988).

Natica cornea Møller, 1842a:80 ("nob.").

Fig. 11.

- Type locality: ?Godthaabsfjord (no exact locality is given on the label of the lectotype, but Møller (MS) gives "Baals River", 55–73 m as his collecting locality).
- Type material: Lectotype ZMUC GAS-17; 2 paralectotypes ZMUC GAS-18; 1 paralectotype SMNH 3810; 2 paralectotypes BMNH 1843.6.30.205–206.
- Remarks: Lectotype designated by Marincovich (1977:219). Now Amauropsis islandica (Gmelin, 1791) (Naticidae).

Bulla corticata Møller, 1842a:79 ("Beck").

Figs 2–3 & 118.

- Type locality: West Greenland, not specified; Møller (MS) states that it is common at 55–109 m, although not in large numbers.
- Type material: 95 syntypes ZMUC GAS-19 GAS-22 + 6 specimens "var. teretior" (unpublished) ZMUC GAS-23; 3 syntypes BMNH 1843.6.30.273-275.
- Remarks: Mørch (1857:77) considered Bulla corticata a synonym of Cylichna alba (Brown, 1827) (Scaphandridae), a view shared by Lemche (1948:76-77).

Nucula corticata Møller, 1842a:90 ("Holb." [Holbøll]). Figs 68–69.

Type locality: Sukkertoppen, 73 or 182 m (Møller MS).

- Type material: 1 possible syntype ZMUC BIV-11, labelled as "*Nucula delphinodonta* Linn. Grönland Möller 57...".
- Remarks: Mørch (1857:93) considered Nucula corticata a synonym of Nucula delphinodonta (Mighels & Adams, 1842), but Soot-Ryen (1966:6) considered it a distinct species. Now Nuculoma corticata (Møller, 1842) (Nuculidae).

Margarita costulata Møller, 1842a:81 ("M? costulata nob.").

Figs 27-29.

- Type locality: "Baals River" (Møller MS), and Julianehaab (one ZMUC label).
- Type material: 23 syntypes ZMUC GAS-24 GAS-26.

- Remarks: Type species of *Moelleria* Jeffreys, 1865, by monotypy. Now *Moelleria costulata* (Møller, 1842) (Turbinidae).
- Turritella costulata Møller, 1842a:83 ("T? costulata nob.") (not Borson, 1825 or Potiez & Michaud, 1838).

Fig. 65.

Type locality: West Greenland, not specified.

- Type material: Lectotype ZMUC GAS-128.
- Remarks: Renamed *Cerithium (Bittium) arcticum* Mørch, 1857:82. Now *Eumetula arctica* (Mørch, 1857) (?Cerithiellidae).

Admete crispa Møller, 1842a:88-89 ("nob."). Figs 40 & 110.

- Type locality: West Greenland, not specified, but said to be widely distributed, on clay, 55–109 m (Møller MS).
- Type material: 1 syntype SMNH 3832; 4 syntypes BMNH 1843.6.30. 149–152.
- Remarks: Mørch (1857:82) considered A. crispa a synonym of Cancellaria (Admete) viridula (Fabricius). Now Admete viridula (Fabricius, 1780) (Cancellariidae).
- Buccinum cyaneum: Møller (1842a:84-85) ("B. cyaneum Beck").
- Remarks: Møller (MS: B 147a(3)) used the name "Buccinum cyaneum B.". We suppose that he meant B. cyaneum Bruguière, 1789, and that the "B" was believed to mean "Beck" by a mistake during the publication process.

Defrancia cylindracea Møller, 1842a:86 ("nob."). Figs 54-55.

- Type locality: West Greenland, not specified, 18–73 m (Møller MS).
- Type material: 5 syntypes SMNH 3828.
- Remarks: As for *Defrancia scalaris*. Mørch (1857:83) considered *D. cylindracea* a synonym of *Pleurotoma violacea* Mighels & Adams, 1842, which was published shortly before Møller (1842a) (see references: Mighels & Adams 1842).

Defrancia elegans Møller, 1842a:86 ("nob."). Fig. 49.

- Type locality: Godthaab, where it is rare (Møller MS). Type material: 9 syntypes ZMUC GAS-27 & GAS-28 +
- 1 specimen "forma elongata" (unpublished) ZMUC GAS-29; 3 syntypes BMNH 1843.6.30.18–20.

Remarks: As for Defrancia scalaris.

Cardium elegantulum Møller, 1842a:93 ("Beck"). Figs 82–83 & 94.

Type locality: West Greenland, not specified, but stated to be widely although sparsely distributed, on clay, gravel, and pebbles, 55–109 m (Møller MS).

- Type material: 2 syntypes ZMUC BIV-12 & BIV-13; 2 syntypes SMNH 3837; 5 syntypes BMNH 1843.6.30.238-242.
- Remarks: Now Goethemia elegantulum (Møller, 1842) (Cardiidae) (Lambiotte 1979), but Goethemia Lambiotte, 1979 may turn out to be a synonym for some North Pacific genus (G.H. Petersen pers. comm.).
- Scalaria eschrichti Møller, 1842a:83 ("Holb." [Holbøll]).

Figs 41 & 106.

- Type locality: Davis Strait (ZMUC label of lectotype) (Møller (MS) states that the species is rare but can be found near Godthaab).
- Type material: Lectotype ZMUC GAS-30; 14 paralectotypes ZMUC GAS-31 – GAS-33; 4 paralectotypes BMNH 1843.6.30. 190–193.
- Remarks: Lectotype selected by Bouchet & Warén (1986:528, fig.1225). Type species of Acirsa Mørch, 1857, subsequently designated by Bouchet & Warén (1986:526). Now Acirsa eschrichti (Møller, 1842) (Epitoniidae).

Defrancia exarata Møller, 1842a:85-86 ("nob.").

Fig. 45.

- Type locality: West Greenland, not specified, 45–100 m (Møller MS).
- Type material: 8 syntypes ZMUC GAS-34; 6 syntypes SMNH 3824; 5 syntypes BMNH 1843.6.30.29–33.

Remarks: As for Defrancia scalaris.

Onychoteuthis fabricii: Møller (1842a:76) ("nob."). Figs 100 & 112.

Remarks: It appears from Møller (MS: B 147a(1)) that he knew Lichtenstein's (1818) work on *Onychoteuthis* and therefore presumably also *O. fabricii* Lichtenstein, 1818. We therefore believe his "nob." after the name to be a lapse. Møller's drawings (Fig. 100) of the animal's tentacle clubs clearly shows his material to belong to Lichtenstein's species, which is now referred to *Gonatus* Gray, 1849. Møller's water colours of the species (Fig. 112), showing two common colour phases, are unique.

Trophon fabricii Møller, 1842a:87 ("Beck").

Figs 60 & 101.

- Type locality: West Greenland (no exact locality; Møller (MS) states that the species can be found along the coast of West Greenland, on stones and shell gravel, at 55–73 m depth).
- Type material: Lectotype ZMUC GAS-35; 68 paralectotypes ZMUC GAS-36 – GAS-40 (GAS-35 & GAS-36, the lectotype and three paralectotypes, are from the collection of O.Fabricius).
- Remarks: Lectotype selected by Bouchet & Warén (1985:135, fig. 303). Now *Trophon fabricii* Møller, 1842 (Muricidae).

Lacuna glacialis Møller, 1842a:82 ("nob.").

Figs 33 & 117.

- Type locality: Godthaab, probably in 18–36 m (Møller MS).
- Type material: 4 syntypes ZMUC GAS-41.
- Remarks: Now Lacuna crassior (Montagu, 1803) (Littorinidae).

Margarita glauca Møller, 1842a:81 ("nob."). Fig. 19.

- Type locality: West Greenland, not specified, on gravel, pebbles, and shell-gravel, 55–109 m (Møller MS).
- Type material: 7 syntypes ZMUC GAS-42; 4 syntypes SMNH 3813; 5 syntypes BMNH 1843.6.30.354–358; 1 syntype USNM 181675.
- Remarks: Mørch (1857:87) considered *M. glauca* a synonym of *Margarita argentata* Gould, 1841. Now *Margarites olivaceus* Brown, 1827 (Trochidae).

Astarte globosa Møller, 1842a:93 ("nob.").

Type locality: West Greenland, not specified.

Type material: None located.

Remarks: Mørch (1857:92) considered this a synonym of *Astarte striata* (Leach). Now *Astarte montagui* (Dillwyn, 1817) (Astartidae).

Rissoa globulus Møller, 1842a:82 ("nob."). Fig. 31.

- Type locality: West Greenland (not specified; Møller (MS) states that it is "not rare" and found at 18–36 m depth).
- Type material: Lectotype ZMUC GAS-43; many paralectotypes ZMUC GAS-44, GAS-125 & GAS-126; 4 paralectotypes SMNH 3815; 6 paralectotypes BMNH 1843.6.30.257–262.
- Remarks: Lectotype designated by Warén (1974:125). Now *Boreocingula globulus* (Møller, 1842) (Rissoidae) (Ponder 1985:65–66).

Mitra groenlandica Møller, 1842a:88 ("Beck"). Figs 64a-b & 115.

- Type locality: West Greenland, not specified, but stated to be widely distributed, on clay, pebbles, and shellgravel, 55–109 m (Møller MS).
- Type material: 32 syntypes ZMUC GAS-45 & GAS-46; 2 syntypes SMNH 3831.
- Remarks: Type species of *Volutomitra* H. & A.Adams, 1853 (by original designation). Now *Volutomitra* groenlandica (Møller, 1842) (Volutomitridae).

Natica groenlandica Møller, 1842a:80 ("Beck"). Fig. 10.

- Type locality: Southwest Greenland, (where Møller (MS) found it widely distributed, but in small numbers, at 55–109 m depth).
- Type material: Lectotype ZMUC GAS-47; 4 paralectotypes ZMUC GAS-48 – GAS-50; 1 paralectotype SMNH 3809.

Remarks: Lectotype designated by Marincovich (1977:280). Now *Euspira pallida* (Broderip & Sowerby, 1829) (Naticidae) (Marincovich 1977).

Sigaretus groenlandicus Møller, 1842a:83 ("S? groenlandicus nob.").

Fig. 111.

Type locality: "Baals River" and Frederikshaab, 55–73 m (Møller MS).

Type material: None located.

Remarks: Møller's original specimens were missing already in 1853 (Bergh 1853:339). We can presently not say which are the correct names of the Arctic species of Lamellariidae.

Succinea groenlandica Møller, 1842a:77 ("Beck") (Beck, 1837: 99, nomen nudum). Fig. 6.

Type locality: South West Greenland, where it is common in a few places (Møller MS).

Type material: 14 syntypes ZMUC GAS-51 & GAS-52; 6 syntypes SMNH 3841; 4 syntypes BMNH 1843.6.30 374–377.

Remarks: Zilch & Jaeckel (1962:112) considered this a form of *Succinea pfeifferi* (Rossmässler, 1835), Waldén (1966:61) considered it a "geographical race", while Mienis (1988: 95) recorded it as *Oxyloma elegans groenlandica* (Møller, 1842) (Succineidae).

Euplocamus holboellii Møller, 1842a:79 ("nob.").

Type locality: West Greenland, not specified.

Type material: None located.

Remarks: Now *Palio dubia* (M.Sars, 1829) (Polyceridae) (Lemche 1941:24 and Platts 1985:150).

Fusus holboellii Møller, 1842a:88 ("nob.").

Fig. 63.

Type locality: West Greenland, not specified.

Type material: Holotype ZMUC GAS-53.

Remarks: Now Colus holboellii (Møller, 1842) (Buccinidae).

Lymnaea holboellii Møller, 1842a:78 ("Beck") (Limnophysa holböllii Beck, 1837:111, nomen nudum).

Fig. 8.

Type locality: West Greenland, not specified.

Type material: 27 syntypes ZMUC GAS-54 – GAS-56. Remarks: See L. vahlii.

Mangelia holboellii Møller, 1842a:85 ("Beck"). Figs 59 & 107.

- Type locality: South West Greenland, not specified, but stated to be widely distributed, on clay and shell-gravel, 5-109 m (Møller MS).
- Type material: 11 syntypes ZMUC GAS-57; 3 syntypes SMNH 3822; 5 syntypes BMNH 1843.6.30.50-54.
- Remarks: Now Astyris rosacea (Gould, 1841) (Columbellidae).

Pupa hoppii Møller, 1842a:77 ("nob."). Fig.15.

Type locality: At Nisik [?] and Igaliko (Møller MS).

- Type material: 14 syntypes ZMUC GAS-58 GAS-60; 4 syntypes SMNH 3839; 6 syntypes BMNH 1843.6.30 342–347.
- Remarks: Zilch & Jaeckel (1962:89) considered this species valid and placed it in *Vertigo* Müller, 1774 in the group of *V. modesta* (Say, 1824) and *V. arctica* (Wallenberg, 1858). Mienis (1988:95) recorded it as *Vertigo modesta hoppii* (Møller, 1842) (Vertiginidae).

Fusus kroeyeri Møller, 1842a:88 ("nob.").

Fig. 62.

Type locality: West Greenland, not specified.

Type material: Lectotype ZMUC GAS-61.

Remarks: Lectotype selected by Bouchet & Warén (1985:231, fig. 631). Type species of *Plicifusus* Dall, 1902 and *Parasipho* Dautzenberg & Fischer, 1912 (both by original designation). Now *Colus* or *Plicifusus kroeyeri* (Møller, 1842) (Buccinidae).

Defrancia lactea Reeve, 1846:species 324 ("Møller").

Remarks: Reeve introduced the name *Pleurotoma molleri* as a replacement name for "*Defrancia lactea* Møller". We are not aware that this name ever was published by Møller, but it appears in Møller (MS: B 147a(4 & 6)), where he describes the species and says that it is very rare. Mørch (1857:83), perhaps after studying Møller's MS, synonymised it with *Defrancia nobilis* Møller (see this).

Turritella lactea Møller, 1842a:82 ("nob."). Fig. 39.

- Type locality: West Greenland, not specified in MS; ZMUC syntypes are from many South West Greenland localities.
- Type material: 73 syntypes ZMUC GAS-62 GAS-67; 2 syntypes SMNH 3816; 4 syntypes BMNH 1843.6.30 128–131.
- Remarks: Mørch (1857:82) considered T. lactea a synonym of Turritella reticulata Mighels & Adams. Now Tachyrynchus reticulatus (Mighels & Adams, 1842) (?Cerithiidae).

Leda buccata laevior Møller, 1842a:90 ("Var. lævior"). Type locality: West Greenland, not specified, 55–218 m (Møller MS).

Type material: None located.

Remarks: Now Nuculana pernula (O.F.Müller, 1777).

Margarita undulata laevior Møller, 1842a:81 ("Var. lævior").

Fig. 21.

Type locality: West Greenland, not specified.

Type material: 68 syntypes ZMUC GAS-68 – GAS-70; 5 syntypes BMNH 1843.6.30.220–224. Remarks: Now Margarites groenlandicus (Gmelin, 1791) (Trochidae) (Rehder 1990:117).

Velutina lanigera Møller, 1842a:83 ("nob.").

Figs 22-23.

- Type locality: Julianehaab and Godthaab (Møller MS).
- Type material: 7 syntypes ZMUC GAS-71; 1 syntype SMNH 3818; 3 syntypes BMNH 1843.6.30.139-141.
- Remarks: We can presently not say which are the correct names of the Arctic species of Velutinidae. *Velutina lanigera* Møller, 1842 is, however, still generally known under this name.

Fusus latericeus Møller, 1842a:88 ("nob.").

Fig. 61.

- Type locality: West Greenland (no exact locality, but Møller (MS) stated that the species was found in Igaliko Fjord and around Godthaab, on sand and clay, at 27–55 m depth).
- Type material: Lectotype ZMUC GAS-72; 2 paralectotypes BMNH 1843.6.23.205-206.
- Remarks: Lectotype selected by Bouchet & Warén (1985:231). Now *Colus latericeus* (Møller, 1842) (Buccinidae).

Nucula lenticula Møller, 1842a:90 ("nob.").

Figs 66-67.

- Type locality: Godthaab and Sukkertoppen (ZMUC labels).
- Type material: Syntypes, 12 specimens and 14 valves ZMUC BIV-14 & BIV-15; 2 syntypes SMNH 3687.
- Remarks: ZMUC syntypes considered lost until recently. Now Yoldiella lenticula (Møller, 1842) (Nuculanidae).

Doris liturata Møller, 1842a:78 ("Beck").

Fig. 116.

- Type locality: Near Godthaab, where it is common, on seaweeds and rocks (Møller MS).
- Type material: None located.
- Remarks: Mørch (1857:78) considered *D. liturata* a synonym of *Doris muricata* Müller, 1776. However, accepting Lemche (1941: 20) as the authority on the subject, it should be considered a junior synonym of *Onchidoris bilamellata* Linné, 1767 (Onchidorididae).

Defrancia livida Møller, 1842a:87 ("nob.").

Fig. 58.

Type locality: Godthaab and Frederikshaab, clay, 73–91 m (Møller MS).

Type material: 7 syntypes ZMUC GAS-73.

Remarks: As for *D. scalaris*. Mørch (1857:83) considered *Defrancia livida* to be *Pleurotoma borealis* Reeve, 1846 and considered Møller's name preoccupied by Linné. There is, however, to our knowledge no *Defrancia livida* Linné. Leda macilenta Møller, 1842a:90 ("Stp." [Steenstrup]). Figs 74-75.

- Type material: Many syntypes ZMUC BIV-16; 6 syntypes SMNH 3834.
- Remarks: Mørch (1857:93) considered *L. macilenta* a synonym of *Nuculana pernula* (O.F.Müller). Now *Nuculana pernula* (O.F.Müller, 1777) (Nuculanidae).

Thracia myopsis Møller, 1842a:94 ("Beck").

Figs 86-89, 93 & 102.

- Type locality: West Greenland (not specified; Møller (MS) states that the species occurs in 73–182 m depth).
- Type material: Lectotype ZMUC BIV-17; about 40 paralectotypes ZMUC BIV-18 – BIV-22; 3 paralectotypes SMNH 3838; 6 paralectotypes BMNH 1843.6.23.204, 1843.6.30.390–394.
- Remarks: Lectotype selected by Coan (1990:26). Now *Thracia myopsis* Møller, 1842 (Thraciidae) (Coan 1990:24).

Natica nana Møller, 1842a:80 ("nob").

Fig. 12.

- Type locality: West Greenland (not specified; Møller (MS) mentions the occurrence of the species in several localities in Southwest Greenland, on sand, shell-gravel and pebbles, at 55–73 m depth).
- Type material: Lectotype ZMUC GAS-74; 15 paralectotypes ZMUC GAS-75 – GAS-77; 1 paralectotype SMNH 3811; 3 paralectotypes BMNH 1843.6.30. 207–209.
- Remarks: Lectotype designated by Marincovich (1977:303). Type species of *Pseudopolinices* Golikov & Sirenko, 1983. Now *Polinices nanus* (Møller, 1842) (Naticidae) (Bouchet & Warén in press).

Defrancia nobilis Møller, 1842a:85 ("nob.").

Figs 42-43 & 114.

- Type locality: Frederikshaab and Igaliko, clay, 27–109 m (Møller MS).
- Type material: 9 syntypes ZMUC GAS-78; 4 syntypes SMNH 3823; 4 syntypes BMNH 1843.6.30.37-40.
- Remarks: As for *Defrancia scalaris*. Mørch (1857:83), who had probably studied Møller's manuscripts and material carefully, considered *Defrancia nobilis* to be a synonym of *Pleurotoma molleri* Reeve, 1846 (= *Defrancia lactea* Reeve; see this name).

Defrancia pingelii Møller, 1842a:86 ("nob."). Figs 51–52.

- Type locality: Several West Greenland localities, 73–109 m (Møller MS).
- Type material: 8 syntypes ZMUC GAS-79 GAS-82; 1 syntype SMNH 3846; 3 syntypes BMNH 1843.6.30 24–26.
- Remarks: As for Defrancia scalaris. Renamed Pleurotoma cancellata var. purpurea Mørch, 1857:83.

Lymnaea pingelii Møller, 1842a:78 ("Beck") (Limnophysa pingelii Beck, 1837:111, nomen nudum).

Fig. 9.

Type locality: A small pond between the mountains at Godthaab (Møller MS).

Type material: 5 syntypes ZMUC GAS-83.

Remarks: See L. vahlii.

*Turritella polaris* Møller, 1842a:83 ("Beck"). Figs 38 & 104.

- Type locality: West Greenland, not specified.
- Type material: 1 syntype SMNH 3817; 3 syntypes BMNH 1843.6. 30.132–134.
- Remarks: Mørch (1857:82) considered this species synonymous with *Turritella erosa* Couthouy, 1838 (Turritellidae) a synonymy that is still accepted (Warén in prep).
- Bullaea punctata Møller, 1842a:79 ("nob.") (not Bullaea punctata Clark, 1828 = Philine punctata (J. Adams, 1800)).
- Type locality: Godthaab (ZMUC label).
- Type material: 2 syntypes ZMUC GAS-84 (in alcohol).
- Remarks: Now *Philine lima* (Brown, 1827) (Philinidae) (Lemche 1948:93).

Bulla reinhardi Møller, 1842a:79 ("Holb." [Holbøll]). Fig. 5.

- Type locality: West Greenland, not specified.
- Type material: 2 syntypes ZMUC GAS-85.
- Remarks: Mørch (1857:77) considered B. reinhardi synonymous with Bulla insculpta Totten, 1835. Lemche (1948:78) made an unjustified emendation in correcting Møller's species name to reinhardti on the grounds that the species was named after professor Reinhardt. Møller (1842) did not actually state this, and none of the other requirements of ICZN (1985: Art.32c) are met. Now Cylichna occulta (Mighels, 1841) (Scaphandridae) (Lemche 1948:78).

Litorina arctica retusa Møller, 1842a:82 ("Var. retusa"). Nomen nudum.

- Remarks: Møller used the name "*Littorina litoralis* var. *retusa*" on a label accompanying 5 specimens, ZMUC GAS-86.
- Pleurotoma rugulatus Reeve, 1846:species 345 ("Møller").
- Remarks: Reeve transferred "Defrancia rugulatus Møller" to Pleurotoma. The name had never been published by Møller, and we have not found it in any of his manuscripts or notes. It has, however, later appeared in the literature from time to time, with Møller cited as author. The species probably belongs to Oenopota Mørch, 1852 (Turridae) but we do not want to make any statements about the correct names for the Arctic species of this genus.

Type locality: Godthaab (ZMUC label).

Tergipes rupium Møller, 1842a:78 ("nob.").

Type locality: At Frederikshaab (ZMUC label), on seaweeds, 3.6 m (Møller MS).

Type material: 2 syntypes ZMUC GAS-87 (in alcohol). Remarks: Now *Eubranchus rupium* (Møller, 1842) (Eu-

branchidae) (Just & Edmunds 1985:110).

Rissoa saxatilis Møller, 1842a:82 ("nob."). Fig. 26.

Type locality: Numerous everywhere at the coast of West Greenland (Møller MS).

Type material: Many syntypes ZMUC GAS-88; 2 syntypes SMNH 3878; 8 syntypes BMNH 1843.6.30.263– 270.

Remarks: Now Onoba aculeus (Gould, 1841) (Rissoidae) (Warén 1974:125).

Buccinum scalariforme Møller, 1842a:84 ("Beck"). Figs 37 & 46.

- Type locality: Near Godthaab, on clay and fine sand, 36–55 m (Møller MS).
- Type material: 15 syntypes ZMUC GAS-89; 5 syntypes SMNH 3819; 6 syntypes BMNH 1843.6.23.174–175 & 1843.6.30.156–159.
- Remarks: We can presently not give the correct specific names for the Arctic species of *Buccinum* (Linné, 1758) (Buccinidae).

Defrancia scalaris Møller, 1842a:85 ("nob."). Fig. 44.

Type locality: West Greenland, not specified.

- Type material: 13 syntypes ZMUC GAS-90; 4 syntypes SMNH 3845; 3 syntypes BMNH 1843.6.30.34–36.
- Remarks: Belongs to *Oenopota* Mørch, 1852 (Turridae), but we do not want to make any statements about the correct names for the Arctic species of this genus.

Rissoa scrobiculata Møller, 1842a:82 ("nob."). Figs 34 & 92.

- Type locality: ?Godthaabsfjord (no exact locality is given on the label of the lectotype, but Møller (MS) states "Baals River", 109 m as his collection locality, and says that the species is rare).
- Type material: Lectotype ZMUC GAS-91; 5 paralectotypes ZMUC GAS-92 & GAS-127; 4 paralectotypes SMNH 3814; 4 paralectotypes BMNH 1842.6.30.253– 256.
- Remarks: Lectotype designated by Warén (1974:133). Now Alvania scrobiculata (Møller, 1842) (Rissoidae) (Warén 1974:133).

Natica septentrionalis Møller, 1842a:80 ("Beck"). Fig. 25.

Type locality: Southwest Greenland (no exact locality, but widely distributed, in small numbers, in 55–127 m depth (Møller MS)).

- Type material: Lectotype ZMUC GAS-93; 3 paralectotypes ZMUC GAS-94; 1 paralectotype SMNH 3808; 3 paralectotypes BMNH 1843.6.30.199–201.
- Remarks: Lectotype designated by Marincovich (1977:414). Now *Cryptonatica affinis* (Gmelin, 1791) (Naticidae) (Bouchet & Warén in press).

Cyclas steenbuchii Møller, 1842a:93 ("nob").

Type locality: West Greenland, not specified.

Type material: 9 syntypes ZMUC BIV-23; ?6 syntypes BMNH 1843.6.30.295-300 (not found although searched for by K. Way).

Remarks: Now Pisidium casertanum steenbuchii (Møller, 1842) (Sphaeriidae) (Kuiper pers comm.).

Bulla subangulata Møller, 1842a:79 ("nob."). Figs 4 & 105.

- Type locality: West Greenland, not specified, 73–82 m (Møller MS).
- Type material: 2 syntypes ZMUC GAS-95 & GAS-96; 2 syntypes BMNH 1843.6.30.276-277.
- Remarks: Mørch (1857:77) synonymised this species with *Diaphana debilis* Gould, 1840, while Lemche (1948:72–74) synonymised it with *Diaphana minuta* Brown, 1827, but the type material may belong to two different species of *Diaphana* Brown, 1827 (Diaphanidae). This question will be attended in a coming revision by Schiøtte.

Defrancia suturalis Reeve, 1846:species 343 ("Møller").

Remarks: Reeve introduced the name *Pleurotoma* greenlandica as a replacement name for "Defrancia suturalis Møller". We are not aware that this name was ever published by Møller, but it appears in Møller (MS: B 147a(6), B 147b) without a description.

Margarita undulata trochiformis Møller, 1842a:81 ("Var. trochiformis").

- Figs 18 & 119.
- Type locality: West Greenland, not specified.
- Type material: 6 syntypes ZMUC GAS-97; 2 syntypes BMNH 1843.6.30.225–226.
- Remarks: Now Margarites striatus (Leach, 1819) (Trochidae) (Rehder 1990:119).

Leda minuta tumida Møller, 1842a:90 ("Var. tumida"). Figs 76-77.

- Type locality: West Greenland, not specified.
- Type material: 4 syntypes BMNH 1843.6.30.338-341.
- Remarks: Now Nuculana minuta (O.F.Müller, 1777) (Nuculanidae).

Bulla turrita Møller, 1842a:79 ("nob.").

Fig. 16.

Type locality: West Greenland, not specified; stated to be very rare, 55–73 m (Møller MS).

Type material: 17 syntypes ZMUC GAS-98 – GAS-100; 2 syntypes BMNH 1843.6.30.271–272.

Remarks: ZMUC GAS-100 consists of 6 large specimens with a low spire. Specimens in ZMUC GAS-98 – GAS-99 are smaller and have a well developed spire. It is clear from Møller's description as well as from a small vignette in one of his manuscripts (B 147a(2)) that he regarded the smaller form as typical. Now *Retusa obtusa* (Montagu, 1803) (Retusidae) (Lemche 1948:50–54 & 84–86, where the various forms are discussed).

Buccinum undulatum Møller, 1842a:84 ("nob.") (not B. undulatum W. Wood, 1828 = Planaxis lineata Lamarck).

Fig. 47.

- Type locality: Nanortalik, "Baals River" and Disko, very rare (Møller MS).
- Type material: 9 syntypes ZMUC GAS-101 GAS-103 + 3 specimens "var. tenuis" (unpublished) ZMUC GAS-104; 2 syntypes BMNH 1843.6.23.161–162.
- Remarks: As for *B. scalariforme*. We are not aware of any replacement name for this preoccupied name of Møller, but we are convinced that there already exists an available name, if this should turn out to be a good species.

Defrancia vahlii Møller, 1842a:86 ("Beck").

Fig. 53.

- Type locality: Along the coast of West Greenland, where it is common, 55–109 m (Møller MS).
- Type material: 6 syntypes ZMUC GAS-105; 3 syntypes SMNH 3827; 3 syntypes BMNH 1843.6.30.371–373.
- Remarks: As for *Defrancia scalaris*. Mørch (1857:83) considered it a synonym of *Fusus pleurotomarius* Couthouy.
- Lymnaea vahlii Møller, 1842a:77 ("Beck") (Limnophysa vahlii Beck, 1837:111, nomen nudum).

Fig. 7.

- Type locality: Ponds in southwestern Greenland (Møller MS).
- Type material: Hundreds of syntypes ZMUC GAS-106 - GAS-110 + 10 specimens of "var. elongata" (unpublished) ZMUC GAS-111; 6 syntypes SMNH 3842.
- Remarks: Hubendick (1951:145) considered Møller's three species of Lymnaea to be conspecific and used the name Lymnaea vahlii (Møller, 1842) (Lymnaei-dae).

Margarita vahlii Møller, 1842a:81 ("nob."). Fig. 20.

- Type locality: "Baals River" and Fiskernæs Fjord, on stones, 73 m (Møller MS).
- Type material: 9 syntypes ZMUC GAS-112; 6 syntypes BMNH 1843.6.30.359-364; 3 syntypes USNM 181694.

Remarks: Now Margarites vahlii (Møller, 1842) (Trochidae).

Fusus carinatus ventricosus Møller, 1842a:87 ("Var. ventricosa") (not Fusus ventricosus Anton, 1838).

Type locality: West Greenland, not specified.

Type material: None located.

Remarks: A drawing in Møller (MS: B 147b(2)) indicates that this name could be based on *Neptunea despecta* (Linné, 1758) (Buccinidae).

Mytilus vitrea Møller, 1842a:91 ("Holb." [Holbøll]).

Type locality: Sukkertoppen, 73 m (Møller MS).

Type material: None located.

Remarks: Type species of *Dacrydium* Torell, 1859, by monotypy. Now *Dacrydium vitreum* (Møller, 1842) (Mytilidae).

Defrancia woodiana Møller, 1842a:86 ("nob."). Fig. 48.

Type locality: West Greenland, not specified.

- Type material: 5 syntypes ZMUC GAS-113; 1 syntype SMNH 3825; 2 syntypes BMNH 1843.6.30.27–28.
- Remarks: As for *Defrancia scalaris*. Møller described *D. woodiana* as a new species, but included a reference to "*Pleur. turricula* Wood". We have not been able to find that W. Wood used this combination anywhere, only "*Murex turricula*" (sp. 133), which is probably *Murex turricula* Montagu, 1803. We believe the reference to be a mistake by Møller, and that *D. woodiana* is not a replacement name.

#### **Unnamed species**

At the end of the paper Møller (1842a:96–97) lists 10 species, which he has not been able to identify and did not describe as new. At least three of these can be identified.

No.3 is *Scissurella crispata* Fleming according to Mørch (1857: 87). It appears with a figure (B 147e:no number) and description in Møller (MS: B 147a(3)) under the MS name "...*medicago*".

No.4 is *Liostomia eburnea* Stimpson, 1851 (Mørch 1857:81).

No.6 is perhaps Onchidiopsis glacialis (M.Sars, 1851) = O. groenlandica Bergh, 1853 (Bergh 1853:346 and Jensen 1944:65), but we are uncertain about the correct specific names for the arctic Lamellariidae.

No.7 formed the basis for *Montacuta moelleri* Mørch, 1875.

#### Acknowledgements

We thank the Arctic Institute, Charlottenlund, Denmark for useful information from their archives. Kathie Way, BMNH, is thanked for searching out Møller material there, Dr.Alan Kabat, Museum of Comparative Zoology, Cambridge, U.S.A. for information on the dates of publication of Mighels & Adams (1842), Dr.Thomas K. Kristensen, Danish Bilharziasis Laboratory, Charlottenlund, Denmark for information concerning Møller's cephalopods, Dr. David G. Reid, BMNH for information on *Littorina*, and Tammes Menne, ZMUC, for help with interpretation of Møller's handwriting. Catherine Lamb is thanked for revising the English. The editor, Dr. G.H. Petersen, ZMUC, was helpful in several respects.

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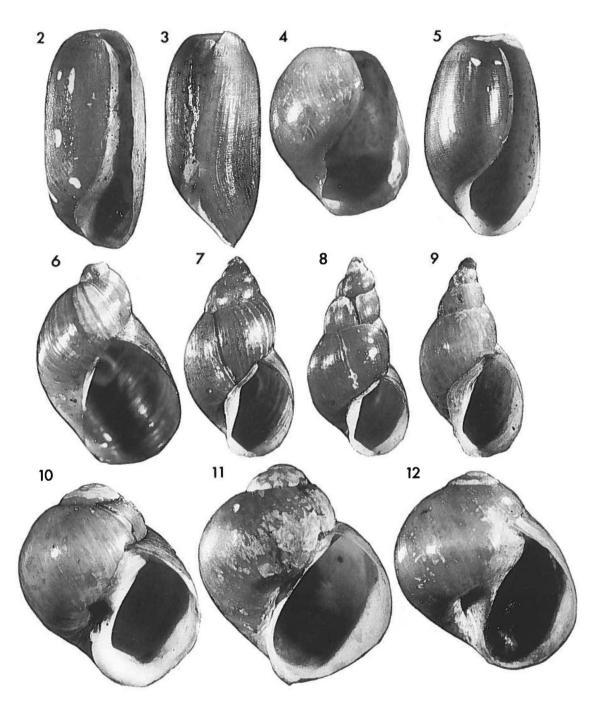
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- Figs. 2-3. Bulla corticata, 2 syntypes, 10.0 & 10.1 mm high ZMUC GAS-19. Fig. 4. Bulla subangulata, best preserved syntype, 5.2 mm high. ZMUC GAS-95. Fig. 5. Bulla reinhardi, syntype, 11.3 mm high. ZMUC GAS-85. Fig. 6. Succinea groenlandica, syntype, 8.1 mm high. ZMUC GAS-51. Fig. 7. Lymnaea vahlii, syntype, 17.4 mm high. ZMUC GAS-106. Fig. 8. Lymnaea holboellii, syntype, 13.8 mm high. ZMUC GAS-54. Fig. 9. Lymnaea pingelii, syntype, 15.1 mm high. ZMUC GAS-83. Fig. 10. Natica groenlandica, lectotype, 12.8 mm high. ZMUC GAS-17. Fig. 11. Natica cornea, lectotype, 7.4 mm high. ZMUC GAS-17. Fig. 12. Natica nana, lectotype, 6.5 mm high. ZMUC GAS-74.



- Figs. 13-14. Planorbis arcticus, 2 syntypes, 3.9 & 4.1 mm in diameter. ZMUC GAS-3.
  Fig. 15. Pupa hoppii, syntype, 2.4 mm high. SMNH 3839.
  Fig. 16. Bulla turrita, syntype, 3.2 mm high. ZMUC GAS-99.
  Fig. 17. Amaura candida, syntype, 9.0 mm high. ZMUC GAS-7.
  Fig. 18. Margarita undulata trochiformis, syntype, 10.0 mm high. ZMUC GAS-97.
  Fig. 19. Margarita glauca, syntype, 3.8 mm high. ZMUC GAS-42.
  Fig. 20. Margarita vahlii, syntype, 3.0 mm high. ZMUC GAS-112.

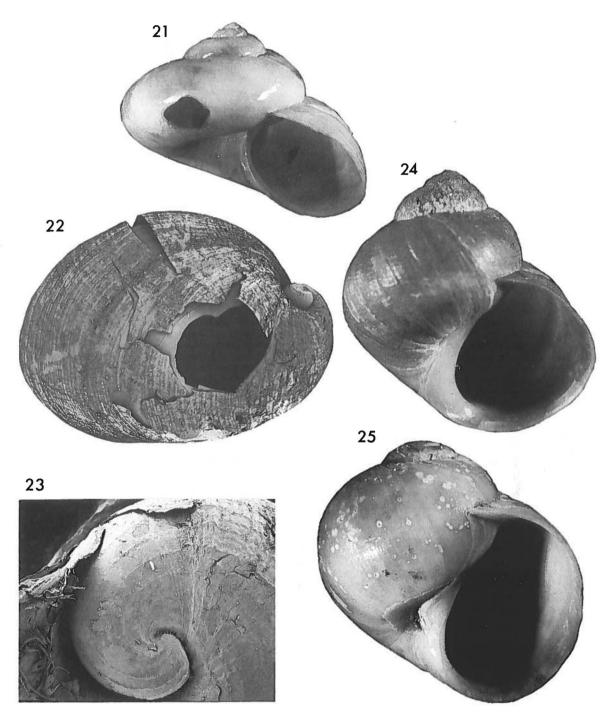
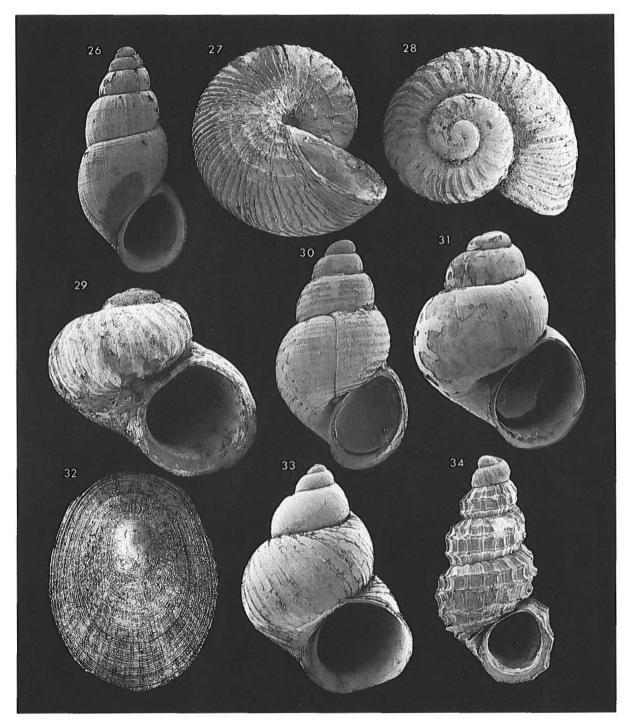
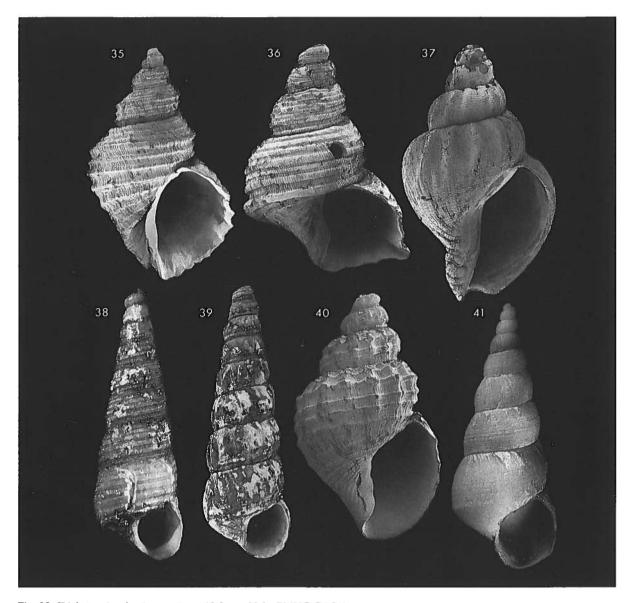


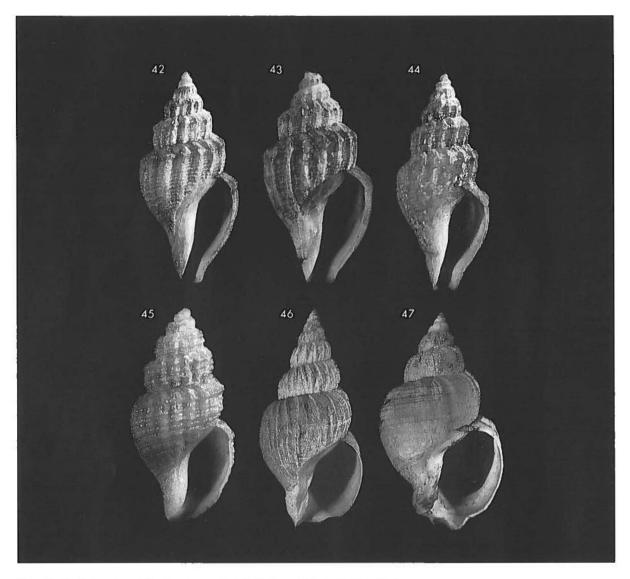
Fig. 21. Margarita undulata laevior, syntype, 11.5 mm high. ZMUC GAS-68. Figs. 22–23. Velutina lanigera, syntype, 11.0 mm long and apex × 50. ZMUC GAS-71. Fig. 24. Litorina arctica, syntype, 10.9 mm high. ZMUC GAS-2. Fig. 25. Natica septentrionalis, lectotype, 17.4 mm high. ZMUC GAS-93.



- Fig. 26. Rissoa saxatilis, syntype, 3.9 mm high. ZMUC GAS-88. Figs. 27-29. Margarita costulata, syntypes, 2.0, 1.6 & 2.3 mm in diameter. ZMUC GAS-24. Fig. 30. Rissoa castanea, lectotype, 4.1 mm high. ZMUC GAS-10. Fig. 31. Rissoa globulus, lectotype, 2.8 mm high. ZMUC GAS-43. Fig. 32. Patella cerea, syntype, 10.2 mm long. ZMUC GAS-12. Fig. 33. Lacuna glacialis, syntype, 10.8 mm high. ZMUC GAS-41. Fig. 34. Rissoa scrobiculata, lectotype, 3.4 mm high. ZMUC GAS-91.



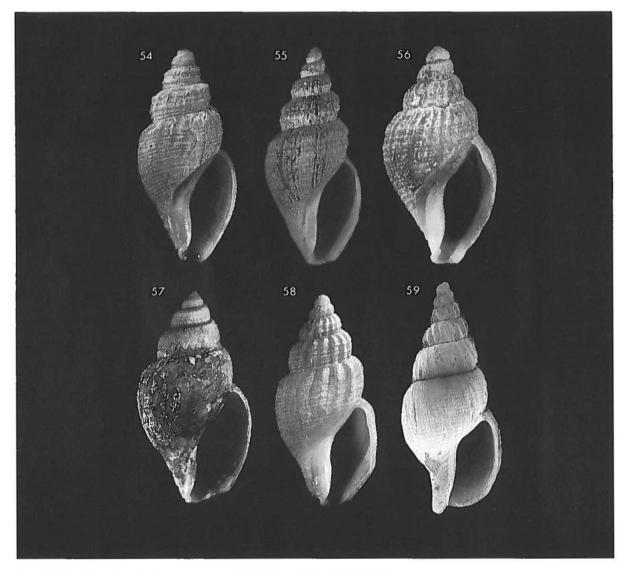
- Fig. 35. Trichotropis atlantica, syntype, 10.0 mm high. ZMUC GAS-4. Fig. 36. Trichotropis conica, syntype, 12.5 mm high. ZMUC GAS-16. Fig. 37. Buccinum scalariforme, syntype, 11.0 mm high. ZMUC GAS-89. Fig. 38. Turritella polaris, syntype, 16.7 mm high. SMNH 3817. Fig. 39. Turritella lactea, syntype, 19.0 mm high. ZMUC GAS-65. Fig. 40. Admete crispa, syntype, 9.0 mm high. SMNH 3832. Fig. 41. Scalaria eschrichti, lectotype, 20.1 mm high. ZMUC GAS-30.



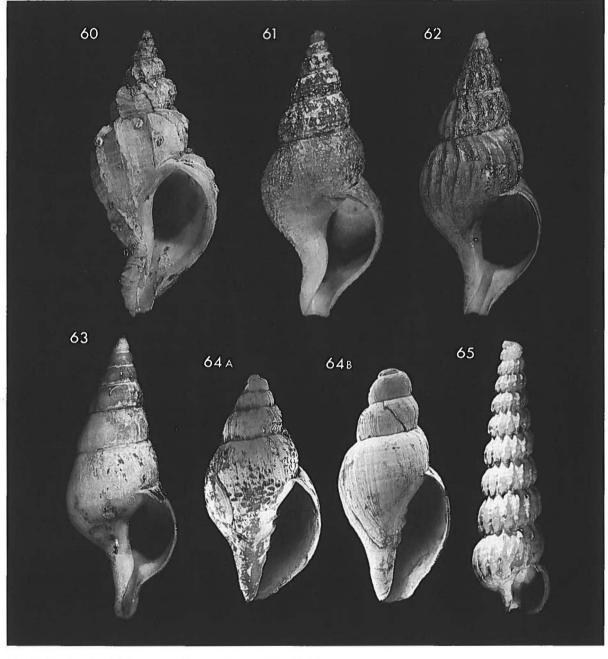
- Figs. 42–43. Defrancia nobilis, 2 syntypes, 17.4 & 18.8 mm high. ZMUC GAS-78. Fig. 44. Defrancia scalaris, syntype, 15.9 mm high. ZMUC GAS-90. Fig. 45. Defrancia exarata, syntype, 9.6 mm high. ZMUC GAS-34. Fig. 46. Buccinum scalariforme, syntype, 49.5 mm high. ZMUC GAS-89. Fig. 47. Buccinum undulatum, syntype, 53.5 mm high. ZMUC GAS-103.



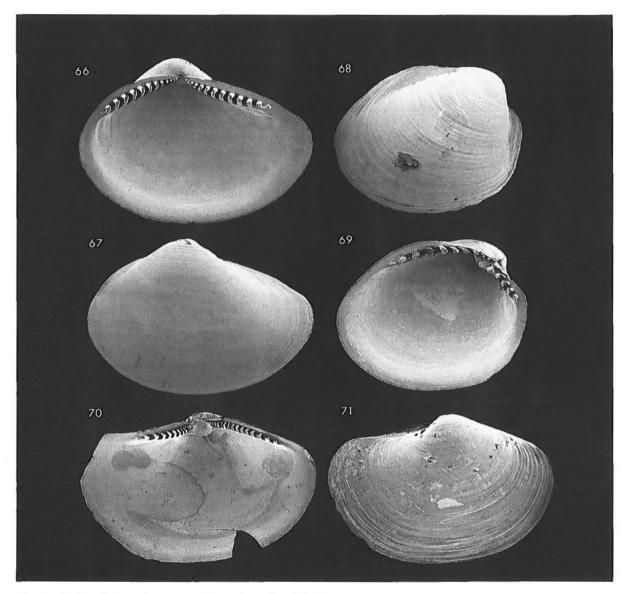
- Fig. 48. Defrancia woodiana, syntype, 10.8 mm high. ZMUC GAS-113.
  Fig. 49. Defrancia elegans, syntype, 9.3 mm high. ZMUC GAS-27.
  Fig. 50. Defrancia cinerea, syntype, 10.8 mm high. ZMUC GAS-14.
  Figs. 51-52. Defrancia pingelii, syntypes, 9.3 & 10.5 mm high. ZMUC GAS-81 & GAS-79.
  Fig. 53. Defrancia vahlii, syntype, 16.3 mm high. ZMUC GAS-105.



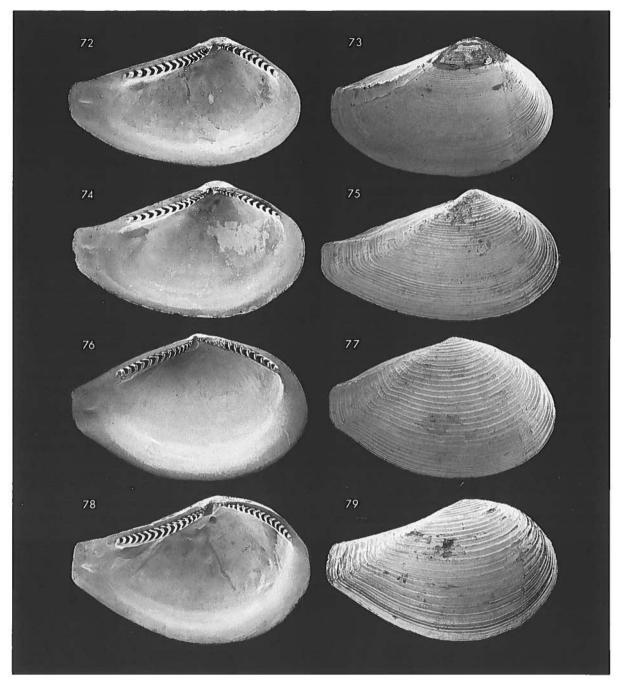
Figs. 54–55. Defrancia cylindracea, syntypes, 6.7 & 8.8 mm high. SMNH 3828. Figs. 56–57. Defrancia beckii, syntypes, 5.6 & 8.3 mm high. ZMUC GAS-5. Fig. 58. Defrancia livida, syntype, 9.7 mm high. ZMUC GAS-73. Fig. 59. Mangelia holboellii, syntype, 8.0 mm high. ZMUC GAS-57.



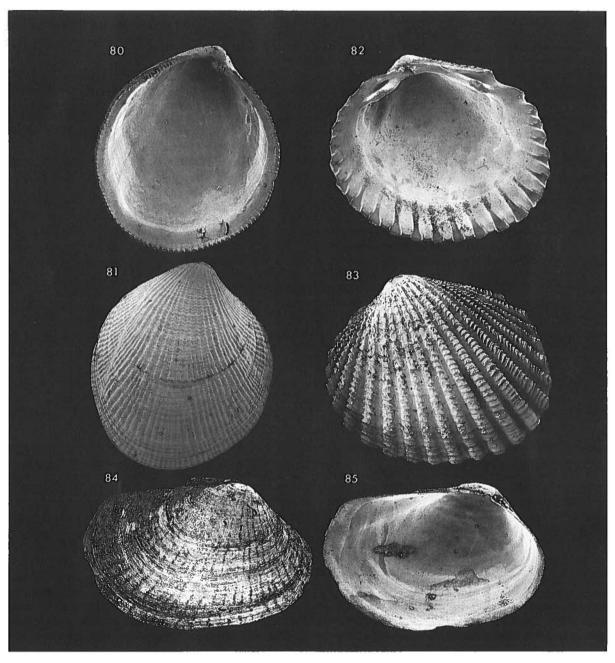
- Fig. 60. Trophon fabricii, lectotype, 44.0 mm high. ZMUC GAS-35. Fig. 61. Fusus latericeus, lectotype, 25.0 mm high. ZMUC GAS-72. Fig. 62. Fusus kroeyeri, lectotype, 68.0 mm high. ZMUC GAS-61. Fig. 63. Fusus holboellii, holotype, 60.3 mm high. ZMUC GAS-53. Fig. 64a-b. Mitra groenlandica, syntypes, 12.3 & 11.0 mm high. ZMUC GAS-45. Fig. 65. Turritella costulata, lectotype, 9.3 mm high. ZMUC GAS-128.



Figs. 66–67. Nucula lenticula, syntype, 5.3 mm long. SMNH 3687. Figs. 68–69. Nucula corticata, possible syntype, 3.8 mm long. ZMUC BIV-11. Figs. 70–71. Yoldia angularis, syntype, 12.7 mm long. ZMUC BIV-1.



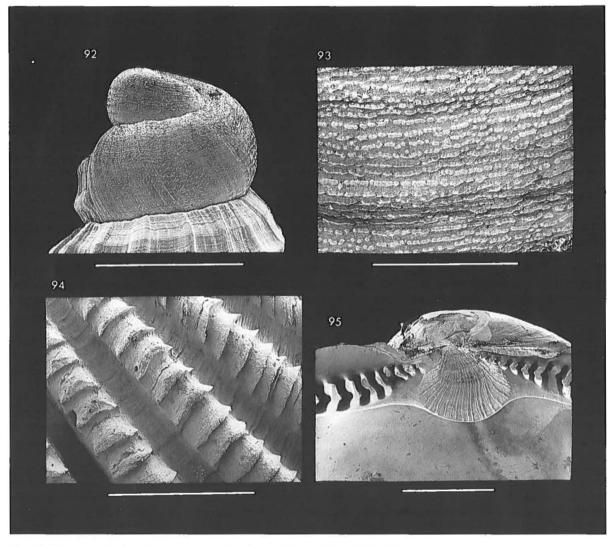
- Figs. 72–73. Leda buccata brevis, syntype, 11.0 mm long. ZMUC BIV-3. Figs. 74–75. Leda macilenta, syntype, 11.0 mm long. ZMUC BIV-16. Figs. 76–77. Leda minuta tumida, syntype, 11.4 mm long. BMNH 1843. 6.30.338–341. Figs. 78–79. Leda complanata, syntype, 11.1 mm long. ZMUC BIV-10.



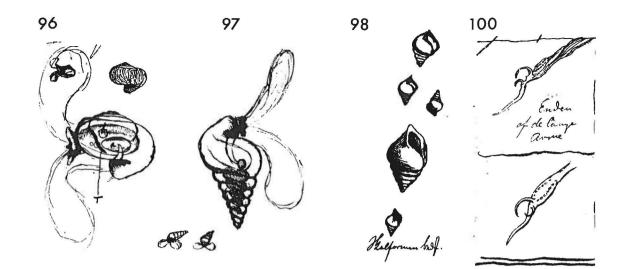
Figs. 80–81. Modiola cicercula, syntype, 5.5 mm long. SMNH 3836. Figs. 82–83. Cardium elegantulum, syntype, 7.7 mm long. ZMUC BIV-12. Figs. 84–85. Pandorina arenosa, syntype, 11.0 mm long. ZMUC BIV-2.



Figs. 86–87. *Thracia myopsis*, lectotype, 17.3 mm long. ZMUC BIV-17. Figs. 88–89. *Thracia myopsis*, paralectotypes, 4.7 & 5.5 mm long. ZMUC BIV-22. Figs. 90–91. *Leda buccata*, syntype, 22.0 long. ZMUC BIV-4.



- Fig. 92. Rissoa scrobiculata, lectotype, apex. Scalebar = 0.5 mm. ZMUC GAS-91.
  Fig. 93. Thracia myopsis, paralectotype, surface structure. Scalebar = 0.5 mm. ZMUC BIV-22.
  Fig. 94. Cardium elegantulum, syntype, surface structure. Scalebar = 1 mm. ZMUC BIV-12.
  Fig. 95. Yoldia angularis, syntype, central part of hinge. Scalebar = 1 mm. ZMUC BIV-1.



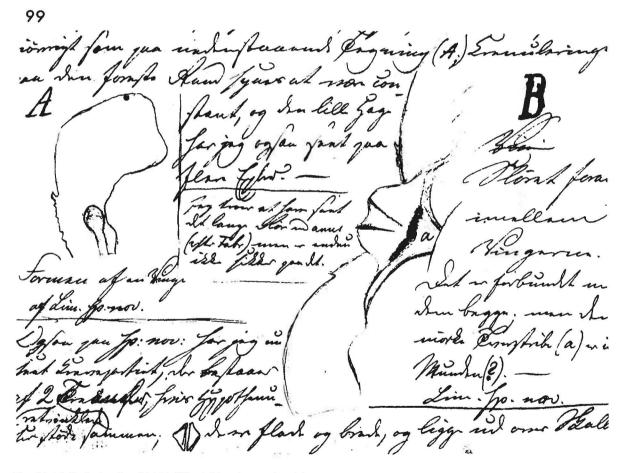
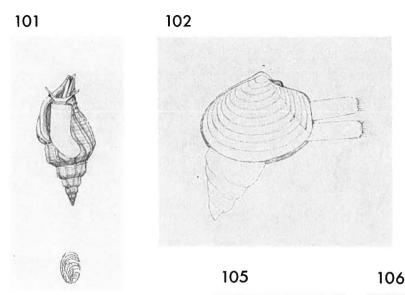
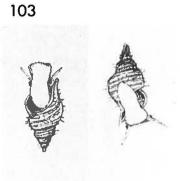


Fig. 96. Møller's drawing (B 147a(6)) of *Limacina arctica*, 1:1. Figs. 97–99. Møller's drawings (B 147a(6)) of *Limacina balea*, 1:1. Fig. 100. Møller's drawing (B 147a(1)) of tentacle clubs in *Onychoteuthis fabricii*, 1:1.

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- Fig. 101. Møller's drawing (B 147e:17) of Trophon fabricii, 1:1.
  Fig. 102. Møller's drawing (B 147e:32) of Thracia myopsis, 1:1.
  Fig. 103. Møller's drawings (B 147e:25) of "Trichotropis collinea", an MS name for T. atlantica, 2:1.
  Fig. 104. Møller's drawings (B 147e:30) of Turritella polaris, 2:1.
  Fig. 105. Møller's drawing (B 147e:40) of "Bulla japeti", an MS name for Bulla subangulata, 2:1.
  Fig. 106. Møller's drawing (B 147e:43) of Scalaria eschrichti, 1:1.
  Fig. 107. Møller's drawing (B 147e:27) of "Mangelia cerea", an MS name for M. holboellii, 2:1.
  Fig. 108. Møller's drawings (B 147e:35) of a Turbonilla, not in Møller (1842), 1:1.



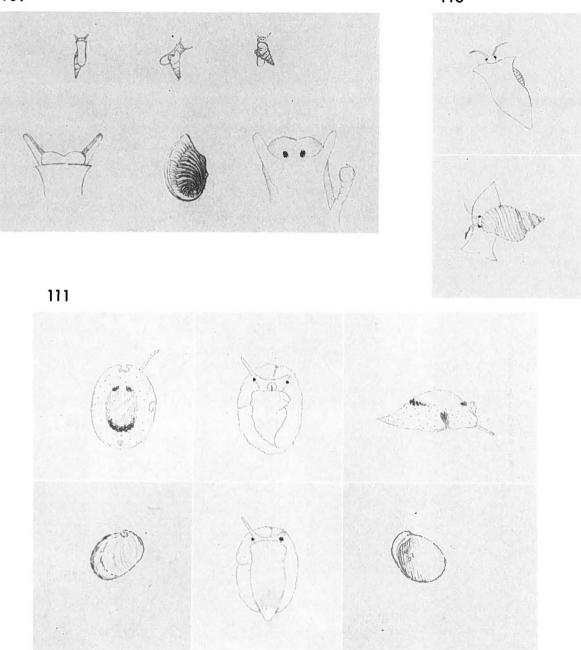
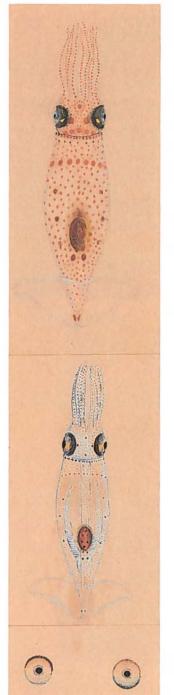
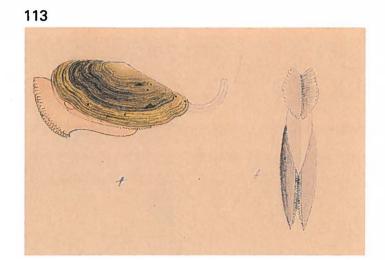
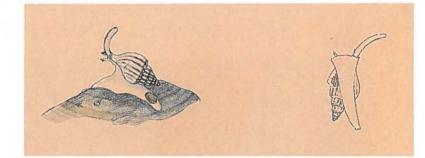


Fig. 109. Møller's drawings (B 147e:35) of *Menestho albula*, 1:1. Fig. 110. Møller's drawings (B 147e:46) of *Admete crispa*, 1:1. Fig. 111. Møller's drawings (B 147e:31) of a *Sigaretus*, probably *S. groenlandicus*, 2:1.













- Fig. 112. Møller's paintings (B 147e:49-50) of Onychoteuthis fabricii, 1:1.
  Fig. 113. Møller's paintings (B 147e:51) of a Yoldia, which he identified as Pandora glacialis (not in Møller 1842), 1:1.
  Fig. 114. Møller's paintings (B 147e:3) of "Defrancia costulata", probably an MS name for D. nobilis, 1:1.
  Fig. 115. Møller's painting (B 147e:22) of Mitra groenlandica, 1:1.
  Fig. 116. Møller's painting (B 147e:15) of Doris liturata, 1:1.
  Fig. 117. Møller's painting (B 147e:7) of Lacuna glacialis, 1:1.
  Fig. 118. Møller's painting (B 147e:5) of "Bulla borealis", an MS name for B. corticata, 1:1.
  Fig. 119. Møller's painting (B 147e:no number) of "Margarita Steenbuchi", an MS name for M. undulata trochiformis, 1:1.

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