Gastropoda (Mollusca) from the Rockall and Hatton Banks, northeastern Atlantic Ocean. Part 2.

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ABSTRACT
Records are given on the occurrence and abundance of 33 gastropod species in Patellogastropoda, Cocculiniformia and Vetigastropoda (excluding the species in the families Trochaclididae, Pendromidae and Turbinidae) that have been collected during the NIOZ expeditions (2004-2008) to the Rockall and Hatton Banks. New species have not been described even though three unidentified species are included. Many species should be considered as rare and some of them have never been recorded in this part of the Atlantic Ocean. The family Fissurellidae is particularly well represented with 11 species.

Key words: Atlantic Ocean, Rockall Bank, Hatton Bank, Archaeogastropoda, Vetigastropoda, Patellogastropoda, Cocculiniformia, Gastropoda, taxonomy, Moundforce, HERMES

INTRODUCTION
The Koninklijk Nederlands Instituut voor Onderzoek der Zee (NIOZ) has participated in the Moundforce and HERMES programs. One of the objectives was to chart the biodiversity of the cold-water coral communities. During expeditions conducted in 2004 (Mienis et al., 2004 [Moundforce]), 2005 (Van Duyl et al., 2005 [HERMES]) and 2006 (Duineveld, 2006 [HERMES]) sediment samples have been taken from the coral-rich sea-bottom on the southeastern slope of the Rockall Bank and in 2008 (Lavaleye, 2008 [HERMES]) on the Hatton Bank. In two previous publications, we (Hoffman et al., 2008 & 2010) discussed 38 species in the ‘skeneimorph’ families Trochaclididae, Pendromidae and Turbinidae (including Skeneinae).

This paper discusses 33 species in the clades Patellogastropoda, Cocculiniformia and Vetigastropoda (excluding the skeneimorph families). These clades were historically grouped in the subclass Archaeogastropoda.

The specimens figured in this paper are deposited in the collection of NCB Naturalis or in the private collection of the first author. All collected specimens refer to empty shells. Specimen counts for relatively rare species are accurate. Counts for species in samples with many specimens have been based on an extrapolation of a specimen count in a subset of a large sediment sample because it has been practically unachievable to come to an exhaustive sorting and sampling of all individual specimens. Consequently, the accuracy of these large sample counts is low. To give an indication of how common or rare a species is, a qualitative estimate of species abundance has been expressed in specimens per kilo dry sediment where adequate information has been available. This abundance is based on subjective sampling, visual identification and counting.

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ABBREVIATIONS

CLEMAM = Check-List of European MArine Mollusca
HERMES = Hotspot Ecosystem Research of the Margins of European Seas
NCB = Nederlands Centrum voor Biodiversiteit
NIOZ = Koninklijk Nederlands Instituut voor Onderzoek der Zee
WoRMS = World Register of Marine Species
ZMA = Zoölogisch Museum Amsterdam

SYSTEMATICS

Clade: Patellogastropoda
Family: Lepetidae

*Iothia fulva* (O. F. Müller, 1776)  
(Figs 1-3)

*Patella fulva* O. F. Müller, 1776: 237  
*Iothia fulva*: Hubendick & Warén, 1975: 38, figs 250-251  
*Iothia fulva*: Graham, 1988: 86, fig. 24

Material examined.-  
ROCKALL BANK: Moundforce 2004/33A, depth 673 m, 1 specimen; HERMES 2005/15, depth 593 m, 68 specimens; HERMES 2005/23, depth 667 m, 625 specimens; HERMES 2005/34, depth 767 m, 2 specimens; HERMES 2006/10C, depth 587 m, 148 specimens; HERMES 2006/12, depth 1091 m, 2 specimens; HERMES 2006/23A, depth 578 m, 51 specimens; HERMES 2006/28A, depth 588 m, 15 specimens; HERMES 2006/56, depth 578 m, 7 specimens; HERMES 2006/65, depth 1087 m, 3 specimens; HATTON BANK: HERMES 2008/35, depth 796 m, 32 specimens; HERMES 2008/56, depth 788 m, 4 specimens; HERMES 2008/92, depth 822 m, 1 specimen. Abundances are 10 sp/kg in the depth range 400-600 m; 61 sp/kg in 600-800 m; 3.6 sp/kg in 800-1000 m and 0.8 sp/kg in 1000-1200 m.

Description.-  
Small and elevated patelliform shell. Length up to 4 mm. Protoconch is a simple cap with about 0.6 whors; diameter is about 150 µm. Apex leans towards the posterior side. Side view shows a clear concave and convex side. Margin is fragile yet blunt, oval in outline with usually a flat basal plane. Structure shows regular radial ribs that are intersected by somewhat anterior side it is convex. Margin of the aperture is sharp. Structure shows radial ribs and regular growth lines with nodules at the interfaces. The colour of fresh specimens is translucent white.

Discussion.-  
Only juvenile specimens have been found on the Rockall and Hatton Banks. Identification was verified with specimens from shallow water (depth about 100 m) off NE Shetland and it proved that our juvenile specimens are identical apart from the orange colour in the shallow water specimens. The species lives on the continental shelf off Iceland and off NW Europe from the Barents Sea to the Azores.

*Propilidium exiguum* (Thompson, 1844)  
(Figs 4-5)

*Patella exigua* Thompson, 1844: 281 pp.  
*Propilidium exiguum*: Hubendick & Warén, 1975: 38, figs 252-254  
*Propilidium exiguum*: Graham, 1988: 88, fig. 25

Material examined.-  
ROCKALL BANK; Moundforce 2004/33A, depth 673 m, 1 specimen; HERMES 2005/15, depth 593 m, 68 specimens; HERMES 2005/23, depth 667 m, 625 specimens; HERMES 2005/34, depth 767 m, 2 specimens; HERMES 2006/10C, depth 587 m, 148 specimens; HERMES 2006/12, depth 1091 m, 2 specimens; HERMES 2006/23A, depth 578 m, 51 specimens; HERMES 2006/28A, depth 588 m, 15 specimens; HERMES 2006/56, depth 578 m, 7 specimens; HERMES 2006/65, depth 1087 m, 3 specimens; HATTON BANK: HERMES 2008/35, depth 796 m, 32 specimens; HERMES 2008/56, depth 788 m, 4 specimens; HERMES 2008/92, depth 822 m, 1 specimen. Abundances are 10 sp/kg in the depth range 400-600 m; 61 sp/kg in 600-800 m; 3.6 sp/kg in 800-1000 m and 0.8 sp/kg in 1000-1200 m.

Description.-  
Very flat and small patelliform shell with oval base. Length up to 2 mm. Protoconch is eroded in all specimens. Apex is leaning towards the posterior end. The posterior side shows a concave outline; at the
regular growth lines. Occasionally nodules are formed at the intersection of growth lines and radial ribs. Juvenile specimens have a septum, which disappears when growing to sub-adult. The colour is cream white.

Discussion.- *Propilidium exiguum* is common on the Rockall and Hatton Banks. The species lives along the European shelf and in the Mediterranean Sea.

Clade: Cocculiniformia
Family: Cocculinidae

*Cocculina* species
(Figs 14-16)

Material examined.- HATTON BANK: HERMES 2008/36, depth 700 m, 2 specimens.

Description.- Shell fragile, conical-shaped with a strongly elongated ellipsoidal base. Apex of the shell is pointed towards the posterior side. The protoconch is broken off but clearly of a cocculinid form.

Transition to sub-adult is smooth. The outside shell is relatively smooth with numerous thin growth lines and a few vague radial lines at the anterior side. The elevated shell has a relatively straight outline at the posterior and is somewhat rounded at the anterior side. The margin is sharp and slightly curving inwards. The inside is smooth with a clear horseshoe-shaped muscle scar and a clear mantle line. The protoconch area shows a round indented bowl. From the apex a triangular margin is developed until the level of the muscle scar. Longest axis is about 3.3 mm, shortest axis about 1.5 mm, height 2.5 mm. The color of the specimen is cream white.

Discussion.- The generic classification of this species is uncertain. An alternative placement could be in the family Pseudococculinidae. We have refrained from describing it as a new species as the protoconchs are broken off/severely eroded.

Clade: Vetigastropoda
Family: Lepetellidae

*Lepetella ionica* F. Nordsieck, 1973
(Figs 6-13)

*Lepetella ionica* F. Nordsieck, 1973: 4-7

Material examined.- ROCKALL BANK: HERMES 2005/23, depth 1087 m, 1 specimen; HERMES 2006/10C, depth 587 m, 1 specimen; HERMES 2006/65, depth 1087 m, 2 specimens; HATTON BANK: HERMES 2008/36, depth 700 m, 2 specimens.

Description.- Small and elevated lepetellid shell. Apex of shell is frequently leaning slightly towards the posterior end. The protoconch is lost in all specimens. A circular nipple-shaped protoconch scar with diameter of about 300 µm; its apex is central and bluntly elevated. A clear growth line marks transition to sub-adult.

The outside of the shell is smooth with fine growth lines developing into a more irregular and rough pattern near the margin. Outline of the margin is circular to ellipsoidal. The inside of the shell is smooth with a vague horseshoe-shaped muscle scar and an indented circular protoconch area. The margin is thickened in a way that the inside shell surface at the edge is nearly perpendicular to the margin plane. The largest shell has a diameter of 1.9 mm at the base, which is about equal to its height. The colour is cream white; a fresh specimen shows a more translucent triangular sector in the posterior area of the shell.

Discussion.- *Lepetella ionica* has been described from the Ionian Sea but it has been reported by Dantart & Luque (1994) as occurring on both sides of the Iberian Peninsula. *Lepetella ionica* is the only European lepetellid with a flat base and, hence, we identify our specimens accordingly.
Family: Osteopeltidae

**Osteopelta ceticola** Warén, 1989
(Figs 17-19)

*Osteopelta ceticola* Warén, 1989: 6, figs 3, 4A-B

Material examined.-
ROCKALL BANK: HERMES 2006/65, depth 1087 m, 2 damaged specimens.

Description.-
Fragile conical-shaped shell with oval base. Apex of shell is nearly central. Protoconch is broken off. Diameter of protoconch scar about 1 mm, with a blunt nodular apex eccentrically leaning to the posterior end. Transition to sub-adult is smooth. Outside shell is relatively smooth with numerous thin growth lines. The elevated shell has a relatively straight outline yielding a classical cone shape. The margin is sharp and broken in our specimens. Radial dotted lines are visible near the margin. The inside is smooth and glossy with hardly visible muscle scars and a clear mantle line near the margin of the shell. Longest axis is about 1.9 mm, height 0.4 mm. Possibly it is a juvenile specimen. The appearance of the specimen is translucent white.

Discussion.-
Warén, 1989 reported two specimens collected on whale bones from off SW Iceland. We have no record of whale bones at any of the sampled stations.

Family: Pseudococculinidae

**Copulabyssia** species
(Figs 20-22)

Material examined.-
ROCKALL BANK: HERMES 2006/65, depth 1087 m, 1 specimen.

Description.-
Fragile flat bowl-shaped shell with an almost circular base. Protoconch of the shell is at the extreme posterior end; its diameter is about 190 µm with a typical cocculinid shape. Surface area of the protoconch has irregularly shaped shallow pits with a typical size range of 0.5-5 µm. Transition to sub-adult is clear.

The outside of the shell is relatively smooth with numerous irregular thin growth lines. The shell has a high, well-rounded outline. The margin is sharp. The inside is smooth. Longest axis is about 1.3 mm, height 1.0 mm. The appearance of the specimen is opaque cream white.

Discussion.-
The specimen superficially resembles *Copulabyssia corrugata* (Jeffreys, 1883) but the characteristic regular concentric growth ridges are very weak in this specimen.

**Pilus conicus** (Verrill, 1884)
(Figs 23-25)

*Cocculina conica* Verrill, 1884: 204

*Pilus conicus*: Warén, 1991: 82, fig. 20

Material examined.-
ROCKALL BANK: HERMES 2006/12, depth 1091 m, 1 specimen; HERMES 2006/65, depth 1087 m, 1 specimen.

Description.-
Fragile, small and high cap-shaped shell with an almost circular base. Apex of shell is placed beyond the extreme posterior margin. Protoconch diameter is about 190 µm with a typical cocculinid shape. Surface area of the protoconch has irregularly shaped shallow pits with a typical size range of 0.5-5 µm. Transition to sub-adult is clear.

The outside of the shell is relatively smooth with numerous irregular thin growth lines. The shell has a high, well-rounded outline. The margin is sharp. The inside is smooth. Longest axis is about 1.3 mm, height 1.0 mm. The appearance of the specimen is opaque cream white.

Discussion.-
The species has originally been described by Verrill from the American East coast, off New York. Warén, 1991, introduced the genus *Pilus*, when describing three additional specimens from SW Iceland.
The current material confirms a deep-water amphitropical distribution.

Family: Fissurellidae

**Fissurisepta granulosa** Jeffreys, 1883
(Figs 26-29)

*Fissurisepta granulosa* Jeffreys, 1883: 675, pl. 50 fig. 9
*Fissurisepta granulosa*: Hubendick & Warén, 1974: 25, figs 218-220
*Fissurisepta granulosa*: Warén, 1991: 54-55, fig. 1C

Material examined.-
ROCKALL BANK: HERMES 2006/23A, depth 578 m, 4 specimens.

Description.-
Small and highly conical shell with an ellipsoidal base. Apex of shell is placed centrally with an oval opening (foramen). In fully adult specimens, the protoconch is eroded. Protoconch diameter is about 150 µm. Transition to sub-adult is clear. Outside shell is covered with regularly aligned upwards pointing granules. During growth stages additional alignments of granules are added. The shell has a conical outline with nearly straight sides. The margin is sharp. The inside is smooth with a central septum. Longest axis is about 1.5 mm, shortest axis 1.3 mm, height 1.5 mm. The appearance of the specimen is opaque cream white. Periostracum is thin and greenish-light brown.

Discussion.-
The species has only been encountered on the Rockall Bank by us. Its distribution is from Iceland, along the European shelf and into the Mediterranean Sea.

**Cornisepta crossei** (Dautzenberg & H. Fischer, 1896) (Figs 30-32)

*Propilidium crossei* Dautzenberg & H. Fischer, 1896: 492, pl. 22 fig. 15
*Cornisepta crossei*: McLean & Geiger, 1998: 24

Material examined.-
ROCKALL BANK: HERMES 2006/29, depth 1443 m, 3 specimens.

Description.-
High and conical shell with an ellipsoidal base. Apex of shell is placed eccentric with an oval opening (foramen) with its margin raised high on one side. The protoconch is eroded in adult specimens. Outside shell is covered with regularly aligned pointed granules, which have a concentric as well as a radial alignment. Background surface is smooth yielding a glossy shine. The flat shell has a conical outline with a slightly fluted margin. The margin is sharp. The inside is smooth and shows a septum. Longest axis is about 3.5 mm, shortest axis 2 mm, height 5 mm. The colour of a fresh specimen is opaque white.

Discussion.-
The species has originally been described from the Azores. The current records indicate a range extension to the North.

**Profundisepta profundi** (Jeffreys, 1877) (Figs 33-35)

*Puncturella profundi* Jeffreys, 1877: 232
*Profundisepta profundi*: Warén, 1991: 55, fig. 1E
*Profundisepta profundi*: McLean & Geiger, 1998: 7, figs 3A-G

Material examined.-
ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 6 specimens; Moundforce 2004/33A, depth 673 m, 44 specimens; Moundforce 2004/34, depth 575 m, 8 specimens; Moundforce 2004/37, depth 557 m, 4 specimens; Moundforce 2004/41C, depth 784 m, 12 specimens; HERMES 2005/23, depth 667 m, 2 specimens; HERMES 2006/12, depth 1091 m, 1 specimen; HERMES 2006/23, depth 587 m, 6 specimens. Abundances are 3.0 sp/kg at 400-600 m and 16 sp/kg at 600-800 m; it is rare at greater depth.

Description.-
Solid elevated cone-shaped shell with a nearly oval base. Apex of shell is placed centrally with a droplet-shaped opening (foramen) and a protoconch at the pointed posterior end. Protoconch diameter is about 800 µm. The outside of the shell has a regular reticulate network of radial ribs and regular elevated growth lines. The sides of the outline are nearly straight. The aperture margin is sharp and regularly
undulating following the exterior radial rib structure. The base is flat and has an oval outline. The inside is smooth with the exterior structure showing through the translucent shell. The septum is smooth with a straight margin at the opening. Longest axis is about 6 mm, shortest axis 3.5 mm, height 3 mm. The colour is translucent white.

Discussion.-
The species lives along the continental shelves of the NW and NE Atlantic. It is locally common on the Rockall Bank.

**Puncturella noachina** (Linnaeus, 1771)  
(Figs 36-38)

*Patella noachina* Linnaeus, 1771: 511  
*Puncturella noachina*: Hubendick & Warén, 1974: 25, figs 210-211  
*Puncturella noachina*: Graham, 1988: 68, fig. 16

Material examined.-
ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 10 specimens; HERMES 2005/15, depth 593 m, 1 specimen; HERMES 2006/10C, depth 578 m, 1 specimen; HERMES 2006/23, depth 587 m, 4 specimens; HATTON BANK: HERMES 2008/35, depth 796 m, 3 specimens; HERMES 2008/36, depth 700 m, 66 specimens; HERMES 2008/59, depth 788 m, 4 specimens; HERMES 2008/92, depth 822 m, 4 specimens; HERMES 2008/117, depth 958 m, 71 specimens. Abundances are 0.5 sp/kg at 400-600 m, and 17 sp/kg at 600-800 m; it has not been found at greater depth.

Description.-
Solid elevated cone-shaped shell with an oval base. Apex of the shell is placed centrally with an arrow-shaped opening (foramen) with the protoconch at the pointed posterior end. Protoconch diameter is about 1000 µm. Outside shell has regular radial ribs and numerous, irregular, fine growth lines. The margin is regularly undulating following the exterior radial rib structure. The base is flat and has an ellipsoidal outline. The inside is smooth except at the margin which is crenulated.

The septum is smooth but showing fine growth lines with a crescent-shaped margin at the opening. Longest axis is about 5 mm, shortest axis 3.5 mm, height 5 mm. The colour is cream white.

Discussion.-
The species is common along the continental shelves of the NW and NE Atlantic Ocean.

**Rimula granulata** Seguenza, 1862  
(Figs 39-44)

*Rimula granulata* Seguenza, 1862: 14, pl. 5 fig. 6  
*Puncturella granulata*: Dautzenberg & H. Fischer, 1896: 491

Material examined.-
ROCKALL BANK: Moundforce 2004/33A, depth 673 m, 18 specimens; Moundforce 2004/34, depth 575 m, 22 specimens; HERMES 2005/15, depth 593 m, 108 specimens; HERMES 2005/23, depth 667 m, 237 specimens; HERMES 2006/8B, depth 628 m, 65 specimens; HERMES 2006/10C, depth 587 m, 14 specimens; HERMES 2006/23A, depth 578 m, 88 specimens; HERMES 2006/56, depth 578 m, 11 specimens. Abundances are 4.6 sp/kg at 400-600 m and 17 sp/kg at 600-800 m; it has not been found at greater depth.

Description.-
Solid elevated cap-shaped shell with an ellipsoidal base. Apex of the shell leans towards the posterior margin. A short slitband (selenizone) is developed from the apex to the foramen at the highest point in the centre of the shell. The foramen is very elongated and pointed to the anterior end. Protoconch diameter is about 1000 µm.

Outline of the shell is steep and nearly straight at the posterior side and convex at the anterior side. Outside shell has regular radial ribs and numerous, somewhat regular elevated growth lines. Pointed granules are developed at the crossings of radial and growth ribs. The margin is sharp. The basal plane is curved inwards and has an ellipsoidal outline. The inside is smooth. The septum is smooth but showing fine growth lines with a straight margin at the opening. The foramen is extended to the anterior margin by a single rib. Longest axis is about 5 mm, shortest axis is 3.5 mm, height 5 mm. The colour of a specimen is cream white, its periostracum is light brown.

Discussion.-
The species has originally been described from the Miocene of Sicily, Italy.
However, it does not live in the Mediterranean Sea but in the eastern Caribbean and in the NE Atlantic Ocean. It is common on the Rockall Bank.

_Cranopsis asturiana_ (P. Fischer, 1882) (Figs 45-47)

**Rimula asturiana** P. Fischer, 1882: 51
_Cranopsis asturiana_: Warén, 1991: 55, fig. 1D

Material examined.-
ROCKALL BANK: Moundforce 2004/34, depth 575 m, 2 specimens; Moundforce 2004/41C, depth 784 m, 4 specimens; HERMES 2005/15, depth 593 m, 2 specimens; HERMES 2005/23, depth 667 m, 1 specimen; HERMES 2006/8B, depth 628 m, 3 specimens; HATTON BANK: HERMES 2008/92, depth 822 m, 7 specimens; HERMES 2008/117, depth 958 m, 2 specimens. Abundances are 0.2 sp/kg at 400-600 m, 2.7 sp/kg at 600-800 m and 14 sp/kg at 800-1000 m; it has not been found at greater depth.

Description.-
Solid elevated cap-shaped shell with an ellipsoidal base. Apex of shell is overhanging the posterior margin. A selenizone (slitband) is developed from the apex to the foramen about halfway down the anterior side of the shell. The foramen is very elongated and pointed to the anterior end. Protoconch diameter is about 600 µm. Outside shell has regular well-rounded radial ribs and numerous, somewhat regular elevated growth lines. Minor ribs developed between major radial ribs. The margin is well rounded.

Discussion.-
_Cranopsis asturiana_ lives in the Caribbean Sea and along the continental slopes of the NW and NE Atlantic Ocean. It is less common on the Rockall and Hatton Banks.

_Diodora edwardsi_ (Dautzenberg & H. Fischer, 1896) (Figs 48-50)

**Glyphis edwardsi** Dautzenberg & H. Fischer, 1896: 489, pl. 22 figs 6-7

Material examined.-
ROCKALL BANK: HERMES 2005/23, depth 667 m, 5 fragments.

Description.-
We refer to the original description by Dautzenberg & Fischer (1896) because only fragments were available from the Rockall Bank. A fine grid of radial ribs and elevated growth lines form a fine reticulate mesh where the crossings form nodules. The apical opening (foramen) is ellipsoidal in shape; longest axis is about 3 mm, shortest axis 2 mm.

Discussion.-
The species has originally been described from the Azores. It has been reported from various isolated localities along the NW European continental slope.

_Emarginula tuberculosa_ Libassi, 1859 (Figs 51-53)

_Emarginula tuberculosa_ Libassi, 1859: 15, fig. 1
_Emarginula guernei_ Dautzenberg & Fischer, 1896: 490, pl. 22 figs 8-9
_Emarginula tuberculosa_ Piani, 1984: 214-215, figs 46-48

Material examined.-
ROCKALL BANK: Moundforce 2004/34, depth 575 m, 4 specimens; Moundforce 2004/37, depth 557 m, 2 specimens; HERMES 2005/15, depth 593 m, 11 specimens; HERMES 2005/23, depth 667 m, 4 specimens; HERMES 2006/23A, depth 578 m, 2 specimens; HERMES 2006/28A, depth 588 m, 5 specimens; HATTON BANK: HERMES 2008/59, depth 788 m, 1 specimen; HERMES 2008/117, depth 958 m, 1 specimen. Abundances are 0.3 sp/kg at 400-600 m, 5 sp/kg at 600-800 m and 0.5 sp/kg at 800-1000 m.

Description.-
Solid cap-shaped shell with an ellipsoidal base. Apex of shell is leaning past the posterior margin. A selenizone is developed from the apex to the slit at the anterior margin. Outside shell has regular well-rounded radial ribs and regular
elevated growth lines yielding a reticulate surface with pointed granules at the crossings. The selenizone exhibits growth ridges at regular intervals. The margin is rounded with crenulations aligning with the radial exterior pattern. The basal plane is curved inwards and has an ellipsoidal outline. The inside has radial lines from the apex to the margin. The muscle scar is unclear. A septum is developed largely in the interior shell; the margin with the slit is curved inwards. Longest axis is about 10 mm, shortest axis 6 mm, height 6 mm. The colour is cream white.

Discussion.-

*Emarginula tuberculosa* has been described as a fossil from Sicily, Italy. It lives in the Caribbean Sea and along the North American East coast, in the Mediterranean Sea and in the neighbouring Atlantic Ocean from the Iberian Peninsula to the Azores. The current records indicate a range extension to the North. The species is uncommon on the Rockall and Hatton Banks.

*Emarginula fissura* (Linnaeus, 1758)  
(Figs 54-57)

*Patella fissura* Linnaeus, 1758: 784  
*Emarginula fissura*: Piani, 1984: 195-196, figs 1-12

Material examined.-
ROCKALL BANK: Moundforce 2004/41C, depth 784 m, 3 specimens.

Description.-
Solid elevated fissurellid shell with an ellipsoidal base and reticulate structure. Apex of shell is leaning towards the extreme posterior margin. Protoconch has two stages, both without slitband (selenizone). The last stage has fine radial riblets. The diameter of the protoconch is 750 µm, its height is 340 µm.

A selenizone is developed from the apex to the slit at the anterior margin. Outside structure is a coarse and regular network of radial ribs and growth ridges. The margin is rounded with crenulations aligning with the radial exterior pattern. The basal plane is curved inwards and has an ellipsoidal outline. The inside has radial lines from the apex to the margin. The muscle scar is unclear. Longest axis is about 4.1 mm, shortest axis 2.7 mm, height 2.8 mm. The colour is cream white.

Discussion.-

*Emarginula fissura* is a common upper shelf species along the shores of NW Europe. It is rare on the Rockall Bank.

*Emarginula rosea* Bell, 1824  
(Figs 58-60)

*Emarginula rosea* Bell, 1824: 52, pl. 4 figs 1-2  
*Emarginula rosea*: Piani, 1984: 223-227, figs 72-89

Material examined.-
ROCKALL BANK: HERMES 2005/15, depth 593 m, 2 specimens; HERMES 2006/28A, depth 588 m, 3 specimens.

Description.-
Solid and highly elevated fissurellid shell with an ellipsoidal base and fine reticulate structure. Apex of shell is leaning beyond the posterior margin. A selenizone is developed from the apex to the slit at the anterior margin. Outside structure is a regular network of dominant radial ribs and fine growth ridges. The margin is rounded with fine regular crenulations aligning with the radial exterior pattern. The basal plane is curved inwards and has an ellipsoidal outline. The inside has radial lines from the apex to the clear muscle scar. Longest axis is about 6.8 mm, shortest axis 5.4 mm, height 6.4 mm. The colour is cream white.

Discussion.-

*Emarginula rosea* is a common shallow water species along the shores of NW Europe. It is rare on the Rockall Bank. We are somewhat uncertain on its identification because of its deep-water locality.

*Emarginula christiaensi* Piani, 1984  
(Figs 61-66)

*Emarginula elata* Locard, 1898 (non *E. elata* Libassi, 1859): 82-83, pl. 4 figs 13-15
Emarginula christiaensi Piani, 1984: 217-220, figs 65-71

Material examined.-
ROCKALL BANK: Moundforce 2004/33A, depth 673 m, 49 specimens; Moundforce 2004/34, depth 575 m, 18 specimens; Moundforce 2004/37, depth 557 m, 5 specimens; Moundforce 2004/41C, depth 784 m, 9 specimens; HERMES 2005/15, depth 593 m, 36 specimens; HERMES 2005/23, depth 667 m, 116 specimens; HERMES 2005/34, depth 767 m, 5 juvenile specimens; HERMES 2006/8B, depth 628 m, 16 specimens; HERMES 2006/10C, depth 587 m, 24 specimens; HERMES 2006/23A, depth 578 m, 21 specimens; HERMES 2006/28A, depth 588, 72 specimens; HERMES 2006/56, depth 578 m, 7 specimens. Abundances are 2.8 sp/kg at 400-600 m and 11 sp/kg at 600-800 m; it has not been found at greater depth.

Description.-
Solid elevated cap-shaped shell with an ellipsoidal base. Apex of shell is leaning to the posterior margin. A selenizone is developed from the apex to the slit opening at the anterior margin. Protoconch diameter is about 200 µm and a second protoconch diameter is 900 µm. Juvenile shells show the early development without a slit. The juvenile features are eroded in adult specimen. Outside shell has regular well-rounded radial ribs and regular elevated growth lines. The margin is solid with crenulations aligning with the radial exterior pattern.

The basal plane is nearly flat and has an ellipsoidal outline. The inside is smooth with some radial lines in the centre and a clear horse-shoe shaped muscle scar. A septum is developed; its margin with the slit is straight. Longest axis is about 16 mm, shortest axis 10 mm, height 10 mm. The colour is cream white.

Discussion.-
The species has described been originally as Emarginula elata Locard, 1898 from the Talisman expedition. However, this name was preoccupied by E. elata Jeffreys, 1865, which in turn was preoccupied by E. elata Libassi, 1859. Piani renamed the species Emarginula christiaensi and resolved the confusion. The species is known from the Mediterranean Sea and the neighbouring Atlantic Ocean and its range is hereby extended to the NE Atlantic Ocean. It is common on the Rockall Bank.

Family: Scissurellidae

Anatoma crisata (Fleming, 1828) (Figs 67-71)

Scissurella crisata Fleming, 1828: 366
Anatoma crisata: Hubendick & Warén, 1974: 25, fig. 205
Anatoma crisata: Graham, 1988: 60, fig. 13

Material examined.-
ROCKALL BANK: Moundforce 2004/33A, depth 673 m, 1710 specimens; Moundforce 2004/34, depth 575 m, 1617 specimens; Moundforce 2004/37, depth 557 m, 5159 specimens; Moundforce 2004/41C, depth 784 m, 584 specimens; HERMES 2005/15, depth 593 m, 9400 specimens; HERMES 2005/23, depth 667 m, 5426 specimens; HERMES 2005/34, depth 767 m, 16 specimens; HERMES 2006/8B, depth 628 m, 714 specimens; HERMES 2006/10C, depth 587 m, 5348 specimens; HERMES 2006/12, depth 1091 m, 760 specimens; HERMES 2006/23A, depth 578 m, 4974 specimens; HERMES 2006/28A, depth 588 m, 16787 specimens; HERMES 2006/56, depth 578 m, 4679 specimens; HERMES 2006/76, depth 548 m, 1304 specimens; HATTON BANK: HERMES 2008/35, depth 796m, 70 specimens; HERMES 2008/59, depth 788m, 70 specimens; HERMES 2008/92, depth 822m, 12 specimens. Abundances are 780 sp/kg at 400-600 m, 530 sp/kg at 600-800 m and 43 sp/kg at 800-1000 m; it is less common at greater depth.

Description.-
Fragile elevated shell with slit and selenizone in the middle of the ultimate whorl. Apex of shell is elevated but protoconch is flattened. Protoconch diameter is about 200 µm and has 1.2 whorls. The teleoconch has 3-4 globose whorls with the selenizone at the extreme periphery. The upper side of the whorls has very strong curved ridges at regular distances with minor spiral lines in the background area. The suture is sharp.

The bottom side of the whorl, below the selenizone (slitband), has a fine mesh of curved regular growth lines and regular spiral lines of an equal strength. The aperture is well rounded and the umbilicus is open and deep. The height and width of shell is about 4 mm. The colour is cream white.
**Discussion.**

**Anatoma crispata** is originally described from Noss, Shetland and it resembles **Anatoma aspera** Philippi, 1844, originally described from the Tertiary in Italy. **Anatoma aspera** has a more elevated spire, more globose whorls but a more flattened apex.

**Anatoma crispata** is a circumpolar species living in the Atlantic Ocean South into the Mediterranean Sea and off NW Africa and off the Caribbean, and South to Baja California in the NE Pacific Ocean. The species is extremely common in the Rockall-Hatton area.

**Anatoma umbilicata** (Jeffreys, 1883)  
(Figs 72-73)

**Scissurella umbilicata** Jeffreys, 1883: 88-89, pl. 19

Material examined.-  
ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 16 specimens; Moundforce 2004/37, depth 557 m, 2 juvenile specimens; HERMES 2005/15, depth 593 m, 19 specimens; HERMES 2006/12, depth 1091 m, 1 specimen; HERMES 2006/23A, depth 578 m, 120 specimens; HERMES 2006/65, depth 1087 m, 2 specimens; HATTON BANK: HERMES 2008/35, depth 796 m, 3 specimens; HERMES 2008/36, depth 700 m, 9 specimens. 
Abundances are 22 sp/kg at 400-600 m, 12 sp/kg at 600-800 m, 0 sp/kg at 800-1000 m, 0.5 sp/kg at 1000-1200 m and 2.0 sp/kg at 1443 m; it is rare at greater depth.

Description.-  
The species is similar to **Anatoma crispata** but **Anatoma umbilicata** can be distinguished by (1) the apex is much more flattened and (2) the upper side of the whorls has numerous fine spiral growth ridges and it is flattened and its suture is closer to the slitband of the previous whorl.

**Discussion.**

**Anatoma umbilicata** lives along the continental slopes of NW Europe and into the Mediterranean Sea. It is uncommon on the Rockall and Hatton Banks.

**Family: Solariellidae**

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**Solariella micans** Dautzenberg & H. Fischer, 1896 (Figs 74-81)

**Material examined.**

ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 4 specimens; HERMES 2006/12, depth 1091 m, 5 specimens.

**Description.**

Firm compressed glossy shell with wide-open umbilicus when juvenile but with a callus-covered umbilicus when adult. Height 7 mm, width 8 mm. Globose protoconch diameter is about 380 µm; it has 1.2 whors with a granulated surface. The teleoconch has well-rounded whors with an oval cross-section. The structure shows 5-7 spiral well rounded ribs of growing size and distance when juvenile; the spirals disappear when adult. Fine prosocline growth lines are evident.

The aperture plane is curved inwards; the lip is sharp. The suture is deep when juvenile but turns shallow in the body whorl. The umbilicus is open and deep in sub-adult specimens; its inside shows clearly defined spiral ribs. When adult, the umbilicus is covered by columellar callus. The colour is glossy cream white.

**Discussion.**

**Solariella micans** has originally been described from the Azores and its range is hereby extended to the Rockall Bank.

**Solariella species**  
(Figs 82-85)

**Material examined.**

ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 10 dead specimens.

**Description.**

Firm and compressed shell with wide open umbilicus. Height 1.8 mm. Globose protoconch diameter is about 400 µm and has 1.2 whors; surface structure in our specimens has been eroded. The teleoconch has well rounded whors with a circular cross-section. The structure shows
about 15-20 well rounded spirals which are more widely spaced on the upper whorl. The spirals are intersected by axial ribs that form wide undulations at the top of the whorls. The suture is shallow.

The aperture is slightly prosocline with a flat cross-section. The lip is sharp. The inside is smooth and covered with mother of pearl. The umbilicus is open and deep; its outer area is framed by a strong spiral rib. Inside the umbilicus a spiral keel is shown. The colour is cream white.

Discussion.-
The available specimens are remarkably consistent in shape and structure. It is similar to the variable species *Solariella obscura* (Couthouy, 1838) but this species has a clear prosocline aperture and generally does not feature the circular cross-section of the whorls.

The various species in *Solariella* are notoriously variable in shape and structure and we are currently reluctant to describe a new species.

Family: Calliostomatidae

*Calliostoma cleopatra* (Locard, 1898)

(Figs 88-89)

Zizyphinus cleopatra Locard, 1898: 44-45, pl. 2 figs 20-23

Material examined.-
ROCKALL BANK: Moundforce 2004/34, depth 575 m, 23 specimens; Moundforce 2004/37, depth 557 m, 20 juvenile specimens; HERMES 2005/15, depth 593 m, 2 specimens; HERMES 2005/34, depth 767 m, 7 juvenile specimens; HERMES 2006/12, 1091 m, 2 juvenile specimens; HERMES 2006/23A, depth 578 m, 7 juvenile specimens; HERMES 2006/28A, depth 588 m, 5 juvenile specimens; HERMES 2006/56, depth 578 m, 2 specimens; HERMES 2006/65, depth 1087 m, 1 juvenile specimen. Abundance is 1.1 sp/kg at 400-600 m; few juveniles are found at greater depth.

Description.-
Firm elevated cone-topped shell. The protoconch is inflated with a fine pattern. Early whorls have strong radial ribs with regular nodules, which develop into nodular bands in adult specimen. The transition between the upper side and lower side of the ultimate whorl shows a weak keel. Outline is cone-shaped with flattened base. The base shows coarse well-rounded spiral ribs that decrease in width from the centre to the margin. An umbilicus is absent. Size of adult specimens is typically 15 to 30 mm. The colour is cream white.

Discussion.-
The species has originally been described from off Western Sahara and it has been reported as far North as the Bay of Biscay. It is locally common on the upper slopes of the Rockall Bank.

*Calliostoma leptophyma* Dautzenberg & H. Fischer, 1896 (Figs 90-92)

*Calliostoma leptophyma* Dautzenberg & Fischer, 1896: 482, pl. 21 fig. 6
*Calliostoma laqueatus* Locard, 1898: 38-40, pl. 2 figs 16-19

Material examined.-
ROCKALL BANK: HERMES 2006/12, depth 1091 m, 8 juvenile specimens; HERMES 2006/65, depth 1087 m, 4 juvenile specimens.

Description.-
Highly elevated trochoid shell. Inflated protoconch with fine pattern and a varix. Protoconch diameter is 400 µm, its height is 325 µm. Teleoconch has sharp radial ribs on top and about 9 well-rounded spiral ribs at the base.

The transition between the upper side and lower side of the ultimate whorl shows a weak keel. Outline is cone-shaped with rounded base. An umbilicus is absent. Height of larger specimens is typically 5.0 mm, width is 4.4 mm. The colour is yellowish-white.

Discussion.-
The lower side of the body whorl of the shell is less flattened than that of *Calliostoma occidentale* (Mighels & Adams, 1842). The species has been reported on coral-rich seamounts off NW Africa. The current records provide a northern range extension.
**Calliostoma ovesulum** (Locard, 1898)  
(Figs 93-94)

Gibbula ovesulum Locard, 1898: 47-49, pl. 3 figs 1-4

Material examined.

ROCKALL BANK: Moundforce 2004/34, depth 575 m, 2 specimens; Moundforce 2004/37, depth 557 m, 5 juvenile specimens; HERMES 2005/15, depth 784 m, 2 specimens; HERMES 2005/15, depth 593 m, 885 specimens; HERMES 2005/23, depth 667 m, 25 specimens; HERMES 2006/8B, depth 628 m, 7 specimens; HERMES 2006/10C, depth 587 m, 23 specimens; HERMES 2006/12, depth 1091 m, 51 specimens; HERMES 2006/23, depth 587 m, 310 specimens; HERMES 2006/28A, depth 588 m, 195 specimens; HERMES 2006/56, depth 578 m, 182 specimens; HERMES 2006/65, depth 1087 m, 5 specimens; HERMES 2006/76, depth 548 m, 86 specimens; HATTON BANK: HERMES 2008/36, depth 700 m, 9 specimens; HERMES 2008/92, depth 822 m, 16 specimens; HERMES 2008/117, depth 958 m, 1 specimen. Abundances are 26 sp/kg at 400-600 m, 6 sp/kg at 600-800 m, 30 sp/kg at 800-1000 m and 1.3 sp/kg at 1000-1200 sp/kg.

**Description.**

Description is similar to *Calliostoma cleopatra*. The protoconch is globose and covered with a coarse structure which was eroded in most of our specimens. A varix marks the transition to the teleoconch. The teleoconch whorls have strong radial ribs which are sharp when juvenile and turn smooth and well rounded when adult.

The base shows shallow well rounded spiral ribs that decrease in width from the umbilicus to the margin. In juvenile specimen, the basal ribs are again sharper and more equidistant. The umbilicus is narrow and deep. Size of adult specimen is typically 15 to 30 mm.

**Discussion.**

The type locality of *Calliostoma ovesulum* is off Morocco. It has also been reported in the Bay of Biscay. The records from the Rockall Bank indicate a range extension to the North.

**Calliostoma occidentale** (Mighels & Adams, 1842)  
(Figs 95-96)

Trochus occidentale Mighels & Adams, 1842: 47-48, pl. 4 fig. 16

Calliostoma formosa: Hubendick & Warén, 1975: 38, fig. 260

Calliostoma occidentale: Graham, 1988: 128, fig. 43

Material examined.

ROCKALL BANK: Moundforce 2004/33A, depth 673m, 43 specimens; Moundforce 2004/34, depth 575 m, 48 specimens; Moundforce 2004/37, depth 557 m, 87 specimens; Moundforce 2004/41C, depth 784 m, 2 specimens; HERMES 2005/15, depth 593 m, 885 specimens; HERMES 2005/23, depth 667 m, 25 specimens; HERMES 2006/8B, depth 628 m, 7 specimens; HERMES 2006/10C, depth 587 m, 23 specimens; HERMES 2006/12, depth 1091 m, 51 specimens; HERMES 2006/23, depth 587 m, 310 specimens; HERMES 2006/28A, depth 588 m, 195 specimens; HERMES 2006/56, depth 578 m, 182 specimens; HERMES 2006/65, depth 1087 m, 5 specimens; HERMES 2006/76, depth 548 m, 86 specimens; HATTON BANK: HERMES 2008/36, depth 700 m, 9 specimens; HERMES 2008/92, depth 822 m, 16 specimens; HERMES 2008/117, depth 958 m, 1 specimen. Abundances are 26 sp/kg at 400-600 m, 6 sp/kg at 600-800 m, 30 sp/kg at 800-1000 m and 1.3 sp/kg at 1000-1200 sp/kg.

**Description.**

Description is similar to *Calliostoma cleopatra*. The protoconch is typical of *Calliostoma*: globose, ending with a varix and covered with wide shallow pits spaced at regular intervals. The early development of the teleoconch exhibits nodular bands on the upper side of the whorl. The nodules disappear progressively in adult specimens.

The base shows a few well-rounded spiral ribs that vanish from the umbilicus to the margin. No umbilicus is present. Size of adult specimens is 5 to 10 mm.

**Discussion.**

The species is common along the continental slopes of the NW and NE Atlantic Ocean.

**Family: Chilodontidae**

**Calliotropis ottoi** (Philippi, 1844)  
(Figs 97-99)

Trochus ottoi Philippi, 1844: 227, pl. 28 fig. 9

Calliotropis ottoi: Warén, 1980: pl. 2, figs 3-4

Material examined.

ROCKALL BANK: Moundforce 2004/29, 1443 m, 4 juvenile specimens; HATTON BANK: HERMES 2008/117, depth 958 m, 1 juvenile specimen.

**Description.**

Firm elevated shell with an inflated protoconch, which has 1.2 whorls. Teleoconch whorl has strong regular axial ribs and up to 5 spiral ribs with regular
pointed intersections. The whorls are inflated; the opening is slightly prosocline. Outline of whorls is angular. Umbilicus is wide and deep with radial and axial ribs inside. Size of our juvenile specimens is only 1-3 mm. The colour is translucent white.

Discussion.-

*Calliotropis ottoi* has originally been described from the Plio-Pleistocene of Messina, Sicily, Italy. The species lives along the continental slopes of the NE and NW Atlantic Ocean and in the Mediterranean Sea.

*Danilia tinei* (Calcarca, 1839) (Figs 100-103)

*Monodonta tinei* Calcarca, 1839: 14-15 (in reprint), fig. 8

*Heliciella costellata* O. G. Costa, 1861: 80

*Danilia tinei*: Graham, 1988: 102, fig. 30

*Danilia costellata*: Palazzi & Villari, 2001: 12-13, 34

Material examined.-

ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 1 juvenile specimen; Moundforce 2004/41C, depth 784 m, 1 adult and 1 juvenile specimen.

Description.-

Firm elevated trochoid shell with a flat apex. Protoconch is globose with 1.2 whorls; its size is 400 µm x 325 µm. The first whorl of the teleoconch is nearly flat and its axis is under an angle of about 30 degrees with that of the remaining part of the teleoconch. The teleoconch whorl has regular axial prosocline ribs and up to 9 spiral ribs with protruding cusps at the intersections. These cusps are strongly developed in juvenile specimens. The whorls are well rounded; the opening is slightly prosocline.

The umbilicus is narrow and deep in juvenile specimens with radial and axial ribs inside but it disappears in adult species where the columellar callus covers the umbilicus. The aperture of a single adult specimen shows a large tooth at the base of the columella, strong callus along the columella and lip. The lip has about 8 smooth teeth. The inside is glossy and with spiral and nodular structure. Height of our adult specimen is 11.0 mm. The colour is white when juvenile and light brown when adult.

Discussion.-

*Danilia tinei* has originally been described from Palermo and Pantellaria. It lives on the continental slopes of W Europe, NW Africa and in the Mediterranean Sea. The editors of WoRMS have synonymised *Danilia costellata* (O.G. Costa, 1861) with *D. tinei*. In contrast, CLEMAM retain them as separate species.

Family: Seguenziidae

*Ancistrobasis reticulata* (Philippi, 1844) (Figs 104-105)

*Solarium reticulatum* Philippi, 1844: 149, pl. 25 fig. 6

*Ancistrobasis reticulata*: Warén, 1991: 56, fig. 1A

Material examined.-

ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 1 specimen; Moundforce 2004/33A, depth 673 m, 73 specimens; Moundforce 2004/34, depth 575 m, 27 specimens; Moundforce 2004/37, depth 557 m, 8 specimens; Moundforce 2004/41C, depth 784 m, 28 specimens; HERMES 2005/15, depth 593 m, 18 specimens; HERMES 2005/23, depth 667 m, 215 specimens; HERMES 2005/34, depth 767 m, 4 specimens; HERMES 2006/8B, depth 628 m, 10 specimens; HERMES 2006/10C, depth 587 m, 161 specimens; HERMES 2006/12, depth 1091 m, 1 specimen; HERMES 2006/23A, depth 822 m, 1 specimen; HERMES 2006/28A, depth 588 m, 18 specimens; HERMES 2006/56, depth 578 m, 22 specimens; HATTON BANK: HERMES 2008/35, depth 788 m, 4 specimens; HERMES 2008/59, depth 788 m, 8 specimens; HERMES 2008/92, depth 788 m, 1 specimen; HERMES 2008/117, depth 958 m, 2 specimens. Abundances are 7 sp/kg at 400-600 m and 37 sp/kg at 600-800 m and 2.3 sp/kg at 800-1000 m.

Description.-

Firm elevated cone-topped shell. Diameter of an adult specimen is typically 5 mm, its height is 5 mm. Inflated smooth protoconch with 1.2 whorls with a clear transition to the teleoconch; the maximum diameter is 220 µm. The first teleoconch whorl has one major spiral rib, which forms a keel. This keel later develops into
a shouldered suture. The upper side of the whorls has a network of spiral and axial ribs with small nodules at the crossings. One fine radial rib is developed between two major ones. A sharp keel is developed at the outside margin of the whorls. Below this keel a flattened base is shown with spiral ribs. The umbilicus is wide and deep with a sharp spiral rib at the keel. The inside of the umbilicus exhibits fine axial ribs. Colour is white, its appearance is dull.

Discussion.-

*Ancistrobasis reticulata* has originally been described from the Quaternary of the Fiume-Lamato valley, Calabria, Italy. The species lives along the continental slopes of the NE and NW Atlantic Ocean, and in the Caribbean Sea. It is a common and consistently present species in the Rockall-Hatton area.

*Carenzia carinata* (Jeffreys, 1877) (Figs 106-109)

*Seguenzia carinata* Jeffreys, 1877: 320-321
*Seguenzia carinata*: Jeffreys, 1885: 43, pl. 5 figs 3-3a
*Seguenzia carinata*: Abbott, 1974: 38
*Carenzia carinata*: Quinn, 1983: 355-364

Material examined.-
ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 5 specimens; HATTON BANK: HERMES 2008/36, depth 700 m, 6 specimens; HERMES 2008/117, depth 958 m, 1 specimen.

Description.-
Firm cone-topped shell. Inflated smooth protoconch with 1.2 whorls with a clear transition to the teleoconch; the maximum diameter is 300 µm. The first teleoconch whorl has one major spiral rib and two fine ones. The fine ribs vanish in the later whorls; the major rib forms the edge of a weak keel on the upper side of the whorl. Regular growth lines show a deep anal indentation at the margin of the aperture; similar as encountered in many turrids.

A sharp keel is developed at the outside margin of the whorls. Below this keel a smooth and glossy base is shown. At the keel margin a single circular rib is present. The umbilicus is wide and very deep with a spiral structure inside. Diameter of an adult specimen is typically 3 mm, its height is 2 mm. The colour is cream white; the shell is translucent.

Discussion.-

*Carenzia carinata* is a rare deep-water species living on the continental slopes in the NW and NE Atlantic Ocean from the Rockall Bank to the Cape Verdean Islands, off Florida and the Caribbean Sea. Quinn (1983) transferred the species to his newly described genus *Carenzia*.

*Basilissopsis watsoni* Dautzenberg & H. Fischer, 1896 (Figs 110-112)

*Basilissopsis watsoni* Dautzenberg & H. Fischer, 1896: 163-164, pl. 3 figs 9-11
*Basilissopsis watsoni*: Warén, 1996: 206, figs 8-E-F

Material examined.-
ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 1 eroded and fragmentary specimen.

Description.-
Firm elevated shell with pagoda-like outline. Whorls have strong axial ribs with two spiral ribs and a protruding keel. The juvenile whorls show a keeled shoulder which develops into a more rounded outline in the ultimate whorl. The aperture is prosocline.

The base is flat with 2-3 spiral lines at the keel margin. The central base is smooth with fine growth lines. The umbilicus is wide and open and two spiral lines mark the umbilical margin. The inside of the umbilicus shows fine axial and radial lines. Size of the specimen is 2.0 mm. the colour is cream white.

Discussion.-

*Basilissopsis watsoni* is a rare deep-water species living on the continental slopes in the NE Atlantic Ocean. It has been reported from off Iceland, the Azores and now from the Rockall Bank.

*Seguenzia elegans* Jeffreys, 1885 (Figs 113-115)
Seguenzia elegans Jeffreys, 1885: 42-45, pl. 5 figs 1, 1a
Seguenzia elegans: Abbott, 1974: 38

Material examined.-
ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 1 worn specimen.

Description.-
Small elevated trochoid-type shell with pagoda-like outline. Protoconch is globose and has 1.2 whorls; the transition to the teleoconch is clear. Whorls have two sharp radial keels: one at the shoulder and one at the periphery. The shoulder and the body whorl show fine growth lines. The aperture is well-rounded. An umbilicus is not present. Height of the specimen is 2.0 mm, width is 1.4 mm. The colour is yellowish white.

Discussion.-
Seguenzia elegans is a rare deep-water species originally described from the Bay of Biscay. It lives on the continental slopes in the NE Atlantic Ocean as far South as offshore Morocco and it is also living off Bermuda.

Family: Liotiidae

Vetulonia paucivaricosa
(Dautzenberg, 1889) (Figs 86-87)

Trochus cancellatus Jeffreys, 1883: 96, pl. 20 fig. 4
Solariella cancellata var. paucivaricosa
Dautzenberg, 1889: 64, pl. 4 figs 11a-d
Vetulonia jeffreysi Dall, 1913: 87

Material examined.-
ROCKALL BANK: Moundforce 2004/29, depth 1443 m, 3 specimens; HERMES 2006/23, depth 587 m, 3 specimens; HATTON BANK: HERMES 2008/35, depth 706 m, 1 specimen; HERMES 2008/92, depth 822 m, 1 specimen; HERMES 2008/117, depth 958 m, 2 specimens.

Description.-
Fragile elevated trochiform shell. Height is 4 mm. Inflated protoconch with 1.2 whorls with a clear transition to the teleoconch. Teleoconch whorls are well-rounded. The outer lip is blunt. The suture is deep. Umbilicus is open, narrow and tortuous. Aperture is prooscine; cross-section is straight. Surface shows many regular varices with fine equidistant spiral ribs. The colour is white.

Discussion.-
The species has been described by Dautzenberg from the Azores as a variety of Trochus cancellatus Jeffreys, 1883 that was recorded from off Portugal. However, Jeffreys’ name was preoccupied and Dall placed it in the new genus Vetulonia Dall, 1913 and replaced it by Vetulonia jeffreysi Dall, 1913. Dautzenberg's name has been raised to the specific level in CLEMAM as V. jeffreysi is regarded as a junior synonym. Vetulonia paucivaricosa is known from the Bay of Cadiz, off the western Iberian Peninsula and from the Azores. The current records indicate a range extension to the North. The species is uncommon on the Rockall and Hatton Banks.

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Figs 1-5. Lepetidae, *Iothia* and *Propilidium*. 1-3. *Iothia fulva* (O.F. Müller, 1776), HERMES 2006/65, 1087 m, length 1.9 mm; 1. Side view; 2. Apical view; 3. Inside view; 4-5. *Propilidium exiguum* (Thompson, 1844), HERMES 2006/23A, 578 m, length 2.2 mm; 4. Side view; 5. Apical view.
Figs 54-60. Fissurellidae, *Emarginula*. 54-57. *Emarginula fissura* (Linnaeus, 1758), Moundforce 2004/41C, 784 m, height 2.8 mm, length 4.1 mm, width 2.7 mm; 54. Side view; 55. Apical view; 56. Inside view; 57. Protoconch diameter 750 µm, height 340 µm. Red arrow indicating protoconch-teleoconch transition; 58-60. *Emarginula rosea* Bell, 1824, HERMES 2006/28A, 588 m, height 6.4 mm, length 6.8 mm, width 5.4 mm; 58. Side view; 59. Apical view; 60. Inside view.
Figs 67-73. Scissurellidae, *Anatoma*. 67-71. *Anatoma crispata* (Fleming, 1828); 67-69. HERMES 2006/23A, 578 m, height 2.3 mm, width 2.5 mm; 67. Ventral view; 68. Apical view; 69. Basal view; 70-71. HERMES 2006/56, 578 m, height 3.9 mm, width 3.9 mm; 70. Ventral view; 71. Protoconch diameter 200 µm, height 140 µm; 72-73. *Anatoma umbilicata* (Jeffreys, 1883), Moundforce 2004/37, 557 m, height 3.5 mm, width 4.1 mm; 72. Ventral view; 73. Protoconch diameter 240 µm, height 160 µm.
Figs 74-81. Solariellidae, Solariella micans Dautzenberg & Fischer, 1896. 74-77. HERMES 2006/12, 1091 m, height 3.2 mm, width 3.5 mm; 74. Ventral view; 75. Basal view; 76. Apical view; 77. Protoconch diameter 400 µm, height 325 µm; 78-81. Moundforce 2004/29, 1443 m, height 6.1 mm, width 7.6 mm; 78. Ventral view; 79. Basal view; 80. Apical view; 81. Protoconch diameter 365 µm, height 300 µm.
Figs 82-87. Solariellidae and Liotiidae. 82-85. Solariellidae, *Solariella* species, Moundforce 2004/29, 1443 m; 82. Ventral view, height 2.1 mm, width 2.2 mm; 83. Basal view; 84. Ventral view, height 1.8 mm, width 1.9 mm; 85. Apical view; 86-87. Liotiidae, *Vetulonia paucivaricosa* (Dautzenberg, 1889), HERMES 2008/117, 958 m, height 4.0 mm, width 4.0 mm; 86. Ventral view; 87. Apical view.
Figs 88-96. Calliostomatidae, Calliostoma. 88-89. Calliostoma cleopatra (Locard, 1898), HERMES 2006/10C, depth 587 m, width 18.0 mm; 88. Ventral view; 89. Basal view; 90-92. Calliostoma leptophyma Dautzenberg & Fischer, 1896, HERMES 2006/65, 1087 m, height 5.0 mm, width 4.4 mm; 90. Ventral view; 91. Basal view; 92. Protoconch, diameter 400 µm, height 325 µm; 93-94. Calliostoma obesulum (Locard, 1898), HERMES 2006/10C, 587 m, width 15 mm; 93. Ventral view; 94. Basal view; 95-96. Calliostoma occidentale (Mighels & Adams, 1842), HERMES 2005/23, depth 667 m, height 6.3 mm; 95. Ventral view; 96. Protoconch diameter 550 µm.