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Molluscs from a shallow bay of King George Island (Antarctica, South Shetland Islands): An annotated checklist with new distributional records

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Abstract

During the 31st Soviet Antarctic expedition in 1986/87, the mollusc fauna was studied at several stations in Ardley Cove, a bay of Maxwell Bay on King George Island, and in Fildes Strait (between King George Island and Nelson Island). The depths sampled were between the intertidal and 100 metres. While the two intertidal stations were visited several times, the deeper stations were usually sampled once. A total of 59 mollusc taxa were identified, of which 27 belonged to Bivalvia, 29 to Gastropoda and 3 to Polyplacophora. Some of these species were discovered for the first time in the area of King George Island. While some species were found exclusively in the intertidal zone, others were restricted to the greater depths. Only very few species were detected from eulittoral down to depths of 100 metres. Particularly worth mentioning are the taxonomic analyses of the species within the genera *Altenaeum* Spaink, 1972 and *Cuspidaria* Nardo, 1840 as well as the species *Onoba filostria* (Melvill & Standen, 1912) and *Kidderia subquadrata* (Pelseneer, 1903). The importance of a thorough taxonomic analysis for the composition of the mollusc fauna, especially with regard to climate-induced changes in the Antarctic, is discussed.

Key words: Southern Ocean, Mollusca, Bivalvia, Gastropoda, Polyplacophora, distribution, taxonomy

Introduction

There is a long tradition of research into the fauna of the Antarctic and sub-Antarctic waters, particularly the molluscs (Dell 1972). Some examples of the first works were the studies of King (1832), Gould (1849), Smith (1875) and Martens (1878). The famous works by Martens & Pfeffer (1886), Smith (1902), Lamy (1906), Melvill & Standen (1907) and Thiele (1912) were added later. Reviews with comprehensive checklists and revisions from more recent times have been published, for example, by Powell (1951, 1960, 1965), Dell (1964, 1990), Aldea & Troncoso (2008, 2010a), Passos & Magalhães (2011) and Engl (2012). There are numerous studies and expeditions that have set themselves the goal of exploring the shelf areas and deep sea of this continent (e.g. Egorova 1982, Mühlenhardt-Siegel 1989, Hain 1990, Numanami 1996, Forcelli 2000, Linse 2002, Gordillo *et al.* 2017). For some years now, there have been endeavours to store the information in databases and make it available to users (Griffiths *et al.* 2003, Gutt *et al.* 2013). Some previous activities have focussed in particular on the exploration of the Antarctic Peninsula and the offshore islands as well as the islands belonging to the so-called Scotia Arc (e.g. Linse *et al.* 2002, Narchi *et al.* 2002, Zelaya 2005b, Troncoso *et al.* 2007, Aldea & Troncoso 2008, Osorno-Arango & Cantera-Kintz 2021). With regard to King George Island, to which our study area Maxwell Bay belongs, some ecologically and faunistically orientated studies should be mentioned, which at least partially include the molluscs. From Admiralty Bay in particular, a neighbouring bay of Maxwell Bay, several publications are known (e.g. Arnaud *et al.* 1986, Absher & Feijó 1998, Jażdżewski *et al*. 2001, Narchi *et al.* 2002, Siciński *et al.* 2011, Chelchowski *et al.* 2021). In contrast, only few studies are known for our study area (Maxwell Bay) (Rauschert 1991, Engl 2012, Bick & Arlt 2013, Martín *et al.* 2016).

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The aim of this study is to list and describe all mollusc species found during a sampling campaign in a bay of King George Island. This study is unique in that the molluscs were collected along a gradient from the intertidal zone to a depth of 100 metres on different substrates. This not only allows the species to be characterised, but also provides information on the preferred depth and habitat of each species. The results are supplemented by comments on the geographical occurrence of all species. All species are illustrated.

Material and Methods

The Scotia Arc is an island and ridge system that forms a discontinuous connection between today's South American Plate and the Antarctic Peninsula. It forms a barrier for the exchange of water between the Pacific and the Atlantic and thus for the Antarctic Circumpolar Current. Among others, South Georgia, South Orkney Islands and South Shetland Islands belong to this arc system, which encloses the Scotia Sea. King George Island is the largest of the South Shetland Islands and lies around 120 kilometres off the coast of the Antarctic Peninsula. Three large bays in the south of the island characterise its appearance: King George Bay, Admiralty Bay and Maxwell Bay. The latter is also home to the Russian Antarctic station 'Bellingshausen' and our investigation area (Fig. 1).

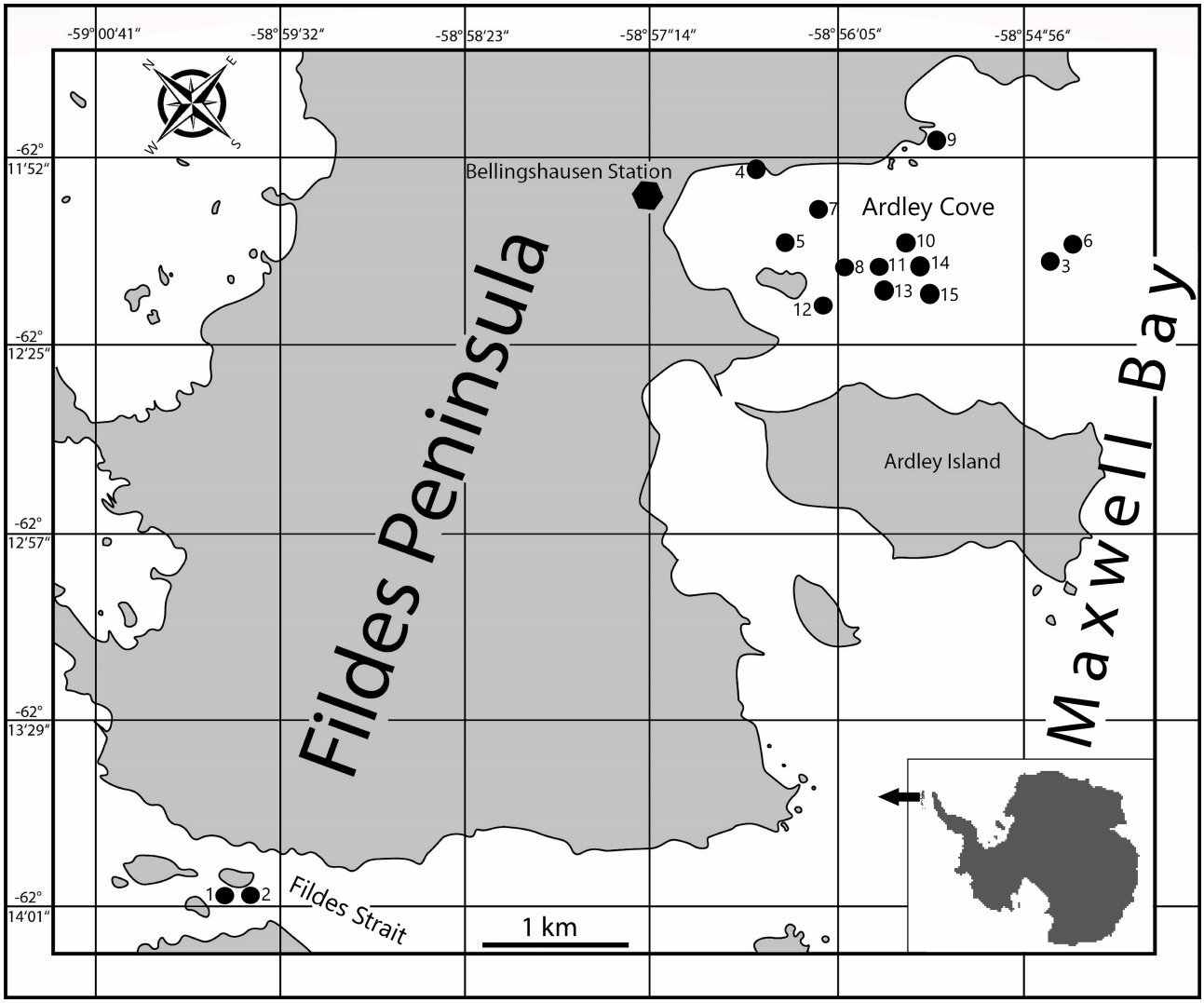

FIGURE 1. Investigation area Ardley Cove and Fildes Strait at King George Island, South Shetland Islands. Station numbers refer to Table 1.

The molluscs described here were collected by the co-author in the eastern part of the Fildes Peninsula on King George Island, South Shetland Islands, near the Russian Antarctic station 'Bellingshausen' during the 31st Soviet Antarctic expedition (1985 to 1987). All stations were located in the Ardley Cove as part of the Maxwell Bay and the Fildes Strait (Fig. 1 and Tab. 1). Water entering this bay originates from the Weddell Sea by east wind drift or the Bellingshausen Sea by west wind drift, depending on seasonal water circulation and prevailing wind direction (Gordon & Nowlin 1978). Water temperature and salinity were not measured but are likely similar those found by Tian *et al.* (2015). Water temperature in Ardley Cove was there in the range 0.72-1.36°C (mean: 1.02°C) and the salinity from 33.97 to 34.14.

TABLE 1. Sampling stations during the 31st Soviet Antarctic expedition in 1986/87 where molluscs were found.

Station	Area	South	West	Depth (m)	Date
1	Fildes Strait	62.2332	59.0012	50	18 January 1986
2	Fildes Strait	62.2332	58.9985	70	31 January 1986
3	Ardley Cove	62.2025	58.9187	100	28 February 1986
4	Krestianka Point	62.1982	58.9504	0.5	8 times from 12/1986 to 03/1987
5	Ardley Cove	62.2016	58.9486	15	06 January 1987
6	Ardley Cove	62.2019	58.9167	100	06 January 1987
7	Ardley Cove	62.2000	58.9472	50	09 January 1987
8	Ardley Cove	62.2032	58.9410	35	13 January 1987
9	Lapidary Point	62.1969	58.9357	0.5	3 times from 1/1987 to 2/1987
10	Ardley Cove	62.2019	58.9393	60	2 times from 1/1986 to 2/1987
11	Ardley Cove	62.2032	58.9395	40	07 February 1987
12	Ardley Cove	62.2045	58.9436	15	09 February 1987
13	Ardley Cove	62.2032	58.9397	50	01 March 1987
14	Ardley Cove	62.2032	58.9327	70	01 March 1987
15	Ardley Cove	62.2041	58.9295	90	07 March 1987

The Fildes Strait, one of the sampling areas, is characterised by an extremely strong, tide-dependent current. The bottom of this area therefore consists mainly of hard substrate, stones and rubble. The sediment of Ardley Cove, the second sampling area, consists of fine sand and silt, and in the intertidal zone (the tidal range is about 1 to 1.5 metres), third sampling area, there are boulder fields and littoral pools with rocky bottoms, some of which are covered with brown algae. All samples, except those from the eulittoral, were collected using a dredge with an edge length of 0.3 m. The contents were sieved through a sieve with a mesh size of 0.5 mm. Samples from the intertidal zone were taken during low tide using a plastic tube corer (5 cm^2). This method is extensively described by Bick & Arlt (2013). These samples were washed through a sieve with a mesh size of 0.2 mm.

All samples were fixed in 4 % borax-buffered formalin.

The molluscs from these samples were hand-sorted under a low-magnification binocular (Zeiss Discovery.V8) and colour photographs were taken of selected samples at IOW (Leibniz Institute for Baltic Sea Research) using a microscope camera (Axiocam 105 color). High-resolution imaging was done on selected samples using the Scanning Electron Microscope at IOW (FESEM Zeiss Merlin VP compact with Gemini I electron column; acceleration voltage 5–15 KV; 5axis stage with 3–70° tilt function; detectors: SE, VPSE, InLens SE, BSD; Magnification: 12–2.000 000). The SEM samples were coated with Iridium or Gold, by using a Cressington sputter coater for high resolution imaging.

The taxonomy was aligned with MolluscaBase (2025).

Unless otherwise indicated, the material is kept in the Zoological Museum of Hamburg (ZMH), Germany. The material is later inventoried and numbered there.

Results

During the sampling campaigns in 1986/87, a total of 59 mollusc taxa with about 4697 individuals were detected at the 15 stations analysed. Of these, 27 species belonged to the Bivalvia, 29 to the Gastropoda and 3 to the Polyplacophora. Some of these species were found for the first time in the area. Molluscs were observed at all depths (Fig. 2). The highest diversity was found at a depth of 70 m (Fig. 2). While some species were found exclusively in the intertidal zone, others were restricted to the greater depths (Tab. 2). Surprisingly, 20 species were found in the rock pools and under stones in the intertidal zone, which are covered by ice over a large period of the year. The most common species in the intertidal area were the gastropod *Laevilitorina umbilicata* Pfeffer, 1886 and the bivalve *Kidderia subquadrata* (Pelseneer, 1903). *Altenaeum charcoti* (E. Lamy, 1906) and *Limopsis lilliei* E. A. Smith, 1915 occurred most frequently in the sublittoral (here is meant from 15 m depth and deeper). Only very few species were detected from the eulittoral down to a depth of 100 metres. These include *Altenaeum narchii* (Passos & Domaneschi, 2006), *Margarella antarctica* (E. Lamy, 1906) and *Nacella concinna* (Strebel, 1908).

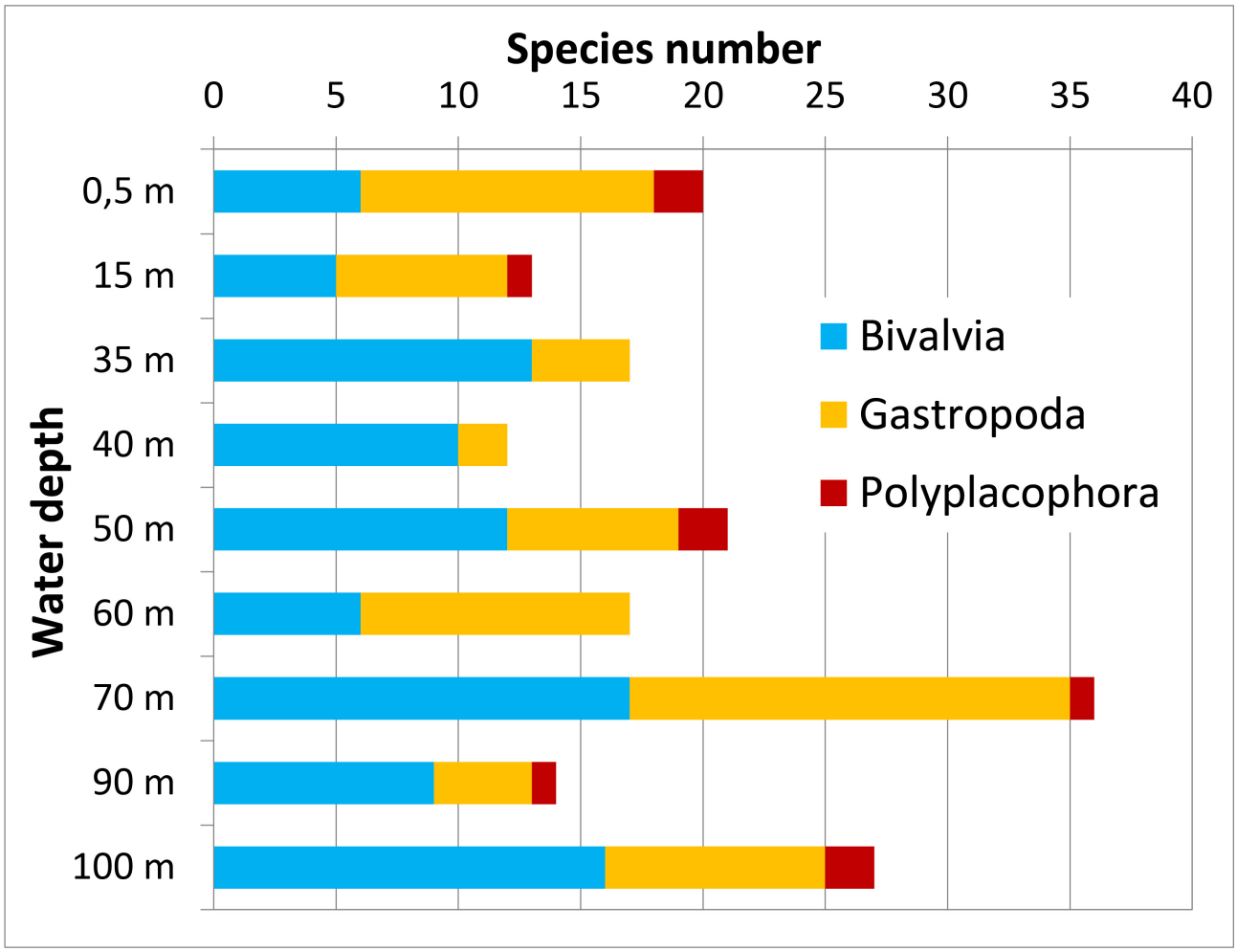

FIGURE 2. Number of species per depth, separated by mollusc classes.

TABLE 2. Species abundance sorted according to their frequency per depth. Species marked with an asterisk (*) are first records for King George Island.

Species	0.5m	15m	35m	40m	50m	60m	70m	90m	100m
Laevilitorina umbilicata Pfeffer, 1886	564	1							
Kidderia subquadrata (Pelseneer, 1903)	236								
Laevilitorina caliginosa (A. Gould, 1849)	54								

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TABLE 2. (Continued)

Species	0.5m	15m	35m	40m	50m	60m	70m	90m	100m
Lissarca bennetti Preston, 1916	50								
Altenaeum narchii (Passos & Domaneschi, 2006)	45	4	115	45	46	2	37	12	
Eatoniella caliginosa (E. A. Smith, 1875)	31				2				1
Trophon nucelliformis P. G. Oliver & Picken, 1984	25								
Tonicina zschaui (Pfeffer, 1886)	22				3				1
Philobrya olstadi (Soot-Ryen, 1951)	13								
Skenella paludinoides (E. A. Smith, 1902)	8				1	8			
Margarella antarctica (E. Lamy, 1906)	7	1	3		15	7	1	16	4
Notaeolidia sp.	6	1							
Hemiarthrum setulosum P. P. Carpenter, 1876	2	4						1	4
Nacella concinna (Strebel, 1908)	2			15	50	60	70	90	100
Laevilacunaria antarctica (E. von Martens, 1885)	2						7		
Limea pygmaea (R. A. Philippi, 1845)	1	9							
Eatoniella kerguelenensis (E. A. Smith, 1875)	1				8	5	6		3
Onoba kergueleni (E. A. Smith, 1875)	1					1	4		3
Ennucula ardleyana Zettler & Bick, 2025*	1								2
Pellilitorina pellita (E. von Martens, 1885)	1								
Subonoba turqueti (E. Lamy, 1906)		100	6		13	5	159	15	11
Altenaeum charcoti (E. Lamy, 1906)		32	200	126	86	22	15	34	7
Skenella umbilicata Ponder, 1983		13							
Laternula elliptica (P. P. King, 1832)		11	5		1		1		
Amauropsis bransfieldensis (Preston, 1916)		7					8		2
Aequiyoldia eightsii (Jay, 1839)		5	78	7	16		57	5	8
Thyasira scotiana Zelaya, 2009*			101		16	65	2	4	20
Cyclocardia antarctica (E. A. Smith, 1907)			45	72	68		6	51	6
Onoba filostria (Melvill & Standen, 1912)*			41	18	76	11	29		
Limopsis lilliei E. A. Smith, 1915			17	155	175		12	21	23
Thracia meridionalis E. A. Smith, 1885			16	9	46		1		91
Thyasira debilis (Thiele, 1912)			9		4	1	3		62
Nucula falklandica Preston, 1912			7	4	7		7	10	
Cyamiocardium denticulatum (E. A. Smith, 1907)			3	11	30	6	67	66	76
Subonoba gelida (E. A. Smith, 1907)			2			4	6		31
Yoldiella valettei (E. Lamy, 1906)			1	1	3		9		89
Philobrya wandelensis E. Lamy, 1906			1						
Antarctophiline alata (Thiele, 1912)				1					
Callochiton bouveti Thiele, 1906					2		21		
Trophon minutus Melvill & Standen, 1907						3	1		
Pseudokellya franki Zelaya & Ituarte, 2009						2	1		8
Rissoidae indet.						1	1		
Cuspidaria minima (Egorova, 1993)						1			3
Toledonia sp.						1			
Altenaeum gibbosum (Thiele, 1912)*							4		
Powellisetia deserta (E. A. Smith, 1907)							4		

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TABLE 2. (Continued)

Species	0.5m	15m	35m	40m	50m	60m	70m	90m	100m
Antimargarita dulcis (E. A. Smith, 1907)							2		
Prosipho crassicostatus (Melvill & Standen, 1907)							2		
Lissarca notorcadensis Melvill & Standen, 1907							1	9	
Proneptunea rufa P. G. Oliver & Picken, 1984							1	1	
Nuculana inaequisculpta (E. Lamy, 1906)							1		3
Belalora striatula (Thiele, 1912)*							1		
Cyamiomactra laminifera (E. Lamy, 1906)							1		
Prosipho cf. glacialis Thiele, 1912							1		
Trophon leptocharteres P. G. Oliver & Picken, 1984							1		
Cuspidaria infelix Thiele, 1912									2
Philobrya limoides E. A. Smith, 1907									2
Prosipho spiralis Thiele, 1912*									2
Mysella antarctica (E. A. Smith, 1907)*									1

Checklist of species

Class Bivalvia Linnaeus, 1758

Subclass Protobranchia Pelseneer, 1889 (5 species)

Superfamily Nuculoidea Gray, 1824 (2 species)

Family Nuculidae J. E. Gray, 1824 (2 species)

1. ***Nucula falklandica*** **Preston, 1912 [Figs 3A–E]**

Nucula falklandica Preston, 1912: 637, pl. 21, fig. 3

Material examined. • 7 spms, Stn. 2; • 6 spms, Stn. 7; • 6 spms, Stn. 8; • 4 spms, Stn. 11; • 1 spm, Stn. 13; • 10 spms, Stn. 15.

Type locality. Port Stanley, Malvinas/Falkland Islands, from a fish stomach.

Bathymetric distribution. 5–500 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Shetland Islands, South Orkney Islands. South America: Malvinas/Falkland Islands, Strait of Magellan.

Remarks. *Nucula falklandica* from the 26th Soviet Antarctic Expedition from King George Island, which is housed in the Zoological Museum Hamburg, is illustrated in Engl (2012). Rauschert (1991) published his findings from the 26th (1980–1982) and 30th (1984–1986) Soviet Antarctic Expedition from Ardley Cove near King George Island. The provenance of these records is almost exactly the same as that of the present study. At that time, he detected the species at 12 stations in depths between 5 and 70 metres. In the present study we observed this species between 35 and 70 m.

References. Rauschert (1991), Villarroel & Stuardo (1998), Engl (2012), Aldea *et al.* (2020), Zettler & Bick (2025).

2. ***Ennucula ardleyana*** **Zettler & Bick, 2025 [Figs 3F–I]**

Ennucula ardleyana Zettler & Bick, 2025: 86, figs 11–18

Material examined. • 2 spms (Holotype SMF 367275; Paratype SMF 367276), Stn. 3; • 1 spm (Paratype SMF 367277), Stn. 9.

Type locality. Ardley cove, Maxwell Bay, King George Island, South Shetland Islands.

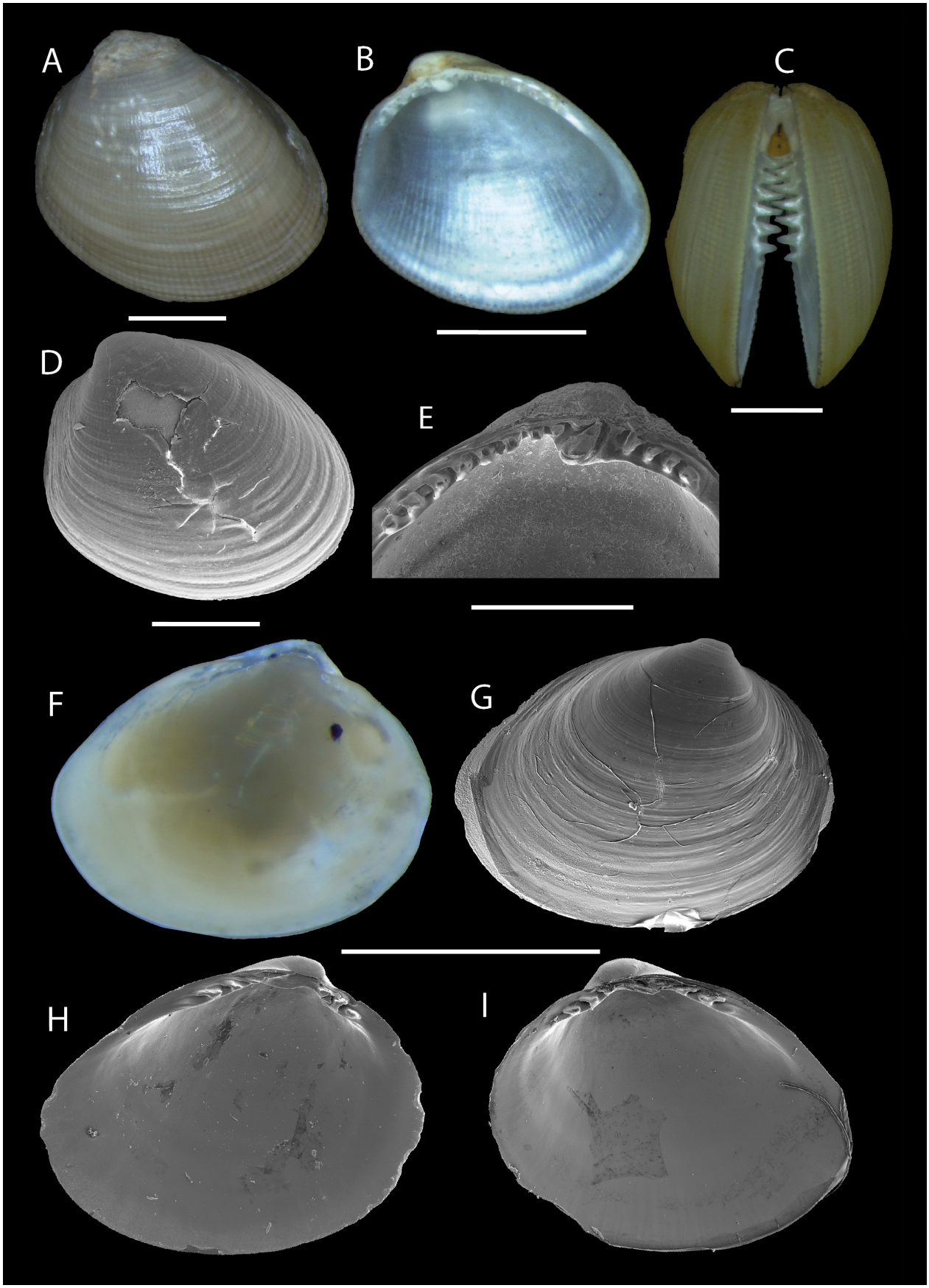

FIGURE 3. A–E: *Nucula falklandica* Preston, 1912; F–I: *Ennucula ardleyana* Zettler & Bick, 2025. Unless otherwise indicated, the scale is always 1 mm.

Bathymetric distribution. 1–100 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: -. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. We have recently described this species from this material. It is the first recent record of an *Ennucula* species in South Shetland Islands. No *Ennucula* species were found during the numerous Antarctic expeditions, although some of them also visited King George Island. It is very likely that *E. ardleyana* was overlooked in earlier studies due to its small size.

References. Zettler & Bick (2025).

Superfamily Nuculanoidea H. Adams & A. Adams, 1858 (1854) (3 species)

Family Nuculanidae H. Adams & A. Adams, 1858 (1854) (1 species)

3. ***Nuculana inaequisculpta*** **(E. Lamy, 1906) [Figs 4A–D]**

Yoldia inaequisculpta E. Lamy, 1906: 125, fig. 3

Material examined. • 3 spms, Stn. 3; • 1 spm, Stn. 14.

Type locality. South Orkney Islands.

Bathymetric distribution. 30–304 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Palmer Archipelago. Subantarctica: -. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. While the spiral sculpture is much more pronounced in young specimens than in adults, the postero-ventral decurvation is not developed in young individuals (Fig. 4D). We found this species in depths between 70 and 100 m. The species is already known from the Maxwell and Admiralty Bays.

References. Arnaud *et al.* (1986), Rauschert (1991), Absher & Feijó (1998), Villarroel & Stuardo (1998), Narchi *et al.* (2002), Engl (2012), Steger *et al.* (2023).

Family Yoldiidae Dall, 1908 (1 species)

4. ***Yoldiella valettei*** **(E. Lamy, 1906) [Figs 4E–G]**

Yoldia valettei E. Lamy, 1906: 126, fig. 4

Material examined. • 67 spms, Stn. 3; • 22 spms, Stn. 6; • 1 spm, Stn. 8; • 1 spm, Stn. 11; • 3 spms, Stn. 13; • 9 spms, Stn. 14.

Type locality. South Orkney Islands.

Bathymetric distribution. 15–1263 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Shetland Islands, South Orkney Islands, Drake Passage. South America: Malvinas/Falkland Islands, southern Chile.

Remarks. Prodissoconch I has a size of about 185 µm and a characteristic pitted surface. We found the species at six stations between 35 and 100 m. The species is already known from the Maxwell and Admiralty Bays.

References. Arnaud *et al.* (1986), Dell (1990), Rauschert (1991), Engl (2012), Reed *et al.* (2014).

Family Sareptidae Stoliczka, 1870 (1 species)

5. ***Aequiyoldia eightsii*** **(J. C. Jay, 1839) [Figs 4H–J]**

Nucula eightsii J. C. Jay, 1839: 113, pl. 1, figs 12–13

Material examined. • 43 spms, Stn. 2; • 4 spms, Stn. 3; • 4 spms, Stn. 6; • 10 spms, Stn. 7; • 78 spms, Stn. 8; • 7 spms, Stn. 11; • 5 spms, Stn. 12; • 6 spms, Stn. 13; • 14 spms, Stn. 14; • 5 spms, Stn. 15.

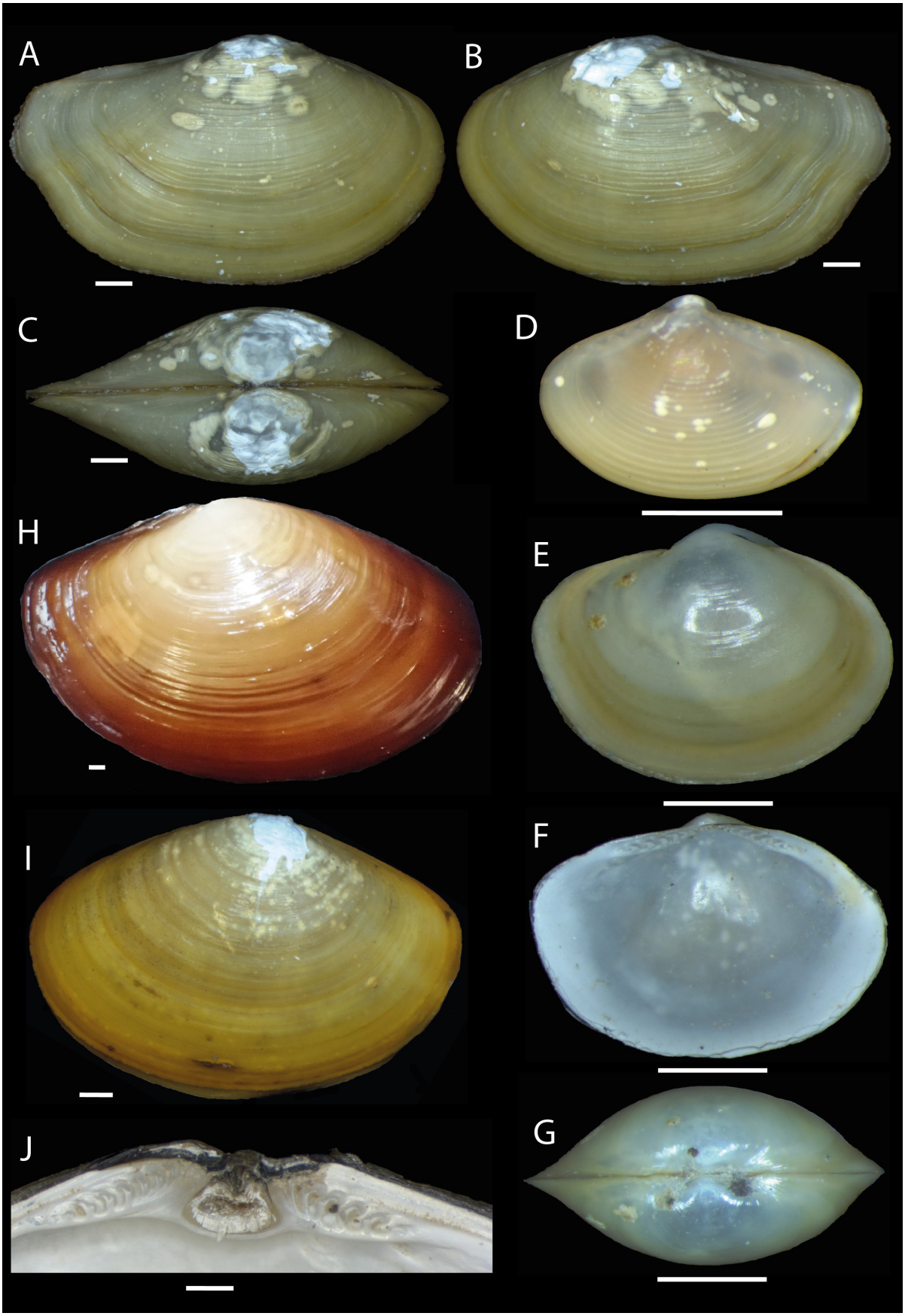

FIGURE 4. A–D: *Nuculana inaequisculpta* (E. Lamy, 1906); E–G: *Yoldiella valettei* (E. Lamy, 1906); H–J: *Aequiyoldia eightsii* (J. C. Jay, 1839). Unless otherwise indicated, the scale is always 1 mm.

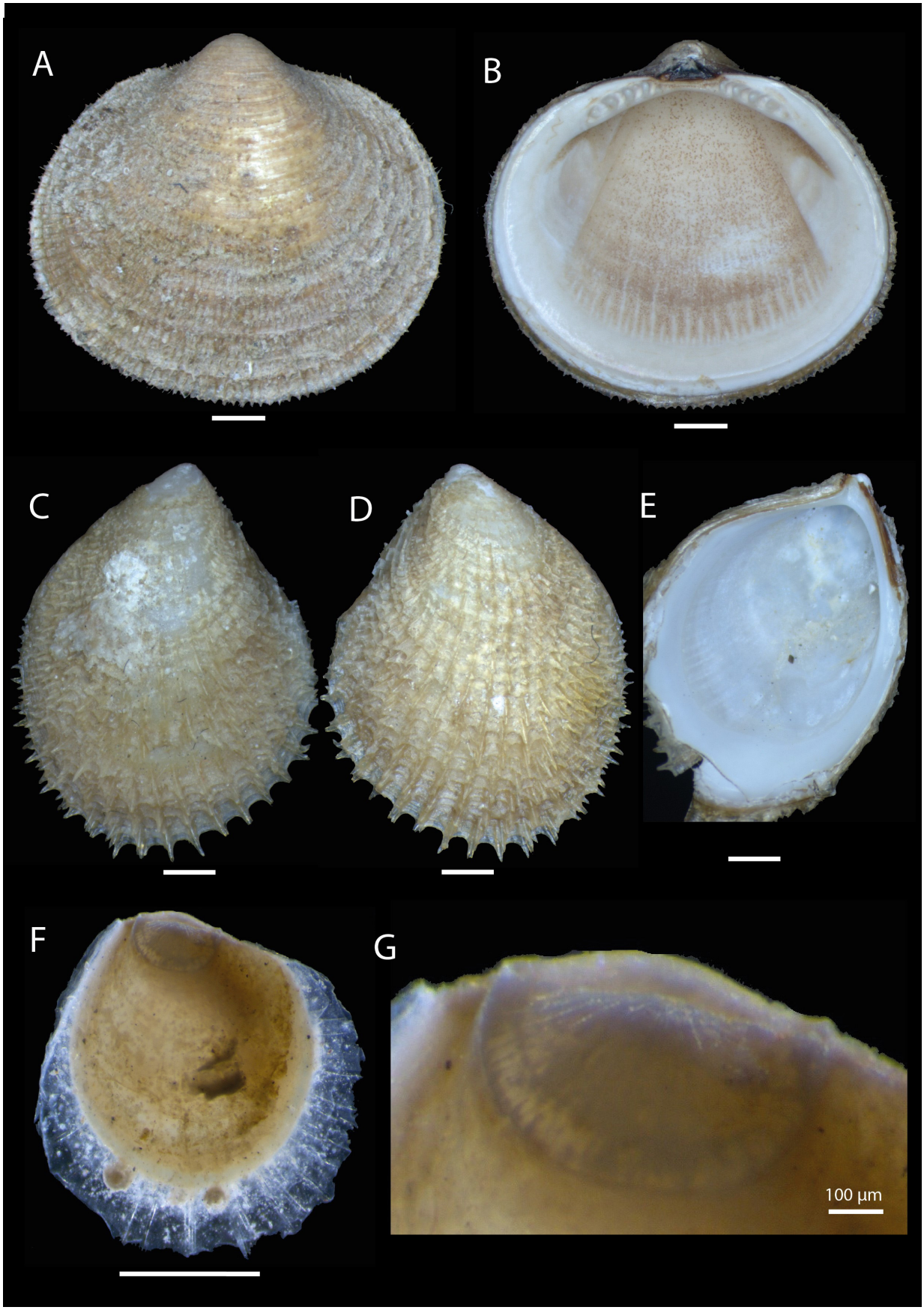

FIGURE 5. A–B: *Limopsis lilliei* E. A. Smith, 1915; C–E: *Philobrya olstadi* (Soot-Ryen, 1951); F–G: *Philobrya limoides* E. A. Smith, 1907. Unless otherwise indicated, the scale is always 1 mm.

Type locality. South Shetland Islands.

Bathymetric distribution. 4–824 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: Kerguelen Islands. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: Malvinas/Falkland Islands, South Patagonia.

Remarks. *Aequiyoldia eightsii* is very common in our study area. In the neighbouring Admiralty Bay it was also found frequently down to a depth of 240 m. During our survey, the species was recorded in Fildes Strait and Ardley Cove in depths between 15 and 100 m.

References. Nicol (1966), Arnaud *et al.* (1986), Dell (1990), Rauschert (1991), Absher & Feijó (1998), Troncoso *et al.* (2001), Narchi *et al.* (2002), Aldea & Troncoso (2008, 2010a), Engl (2012), Steger *et al.* (2023).

Subclass Autobranchia Grobben, 1894 (22 species)

Superfamily Limopsoidea Dall, 1895 (6 species)

Family Limopsidae Dall, 1895 (1 species)

6. *Limopsis lilliei* E. A. Smith, 1915 [Figs 5A–B]

Limopsis lilliei E. A. Smith, 1915: 76, pl. 1, fig. 18

Material examined. • 1 spm, Stn. 2; • 11 spms, Stn. 3; • 12 spms, Stn. 6; • 75 spms, Stn. 7; • 17 spms, Stn. 8; • 155 spms, Stn. 11; • 100 spms, Stn. 13; • 11 spms, Stn. 14; • 21 spms, Stn. 15.

Type locality. Off the Cape Bird Peninsula in McMurdo Sound (Ross Sea), 457 m depth.

Bathymetric distribution. 10–870 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: Macquarie Island. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. *Limopsis lilliei* was one of the most common species found during our study. The depths were between 35 and 100 m. The species is already known from the Maxwell and Admiralty Bays.

References. Nicol (1966), Arnaud *et al.* (1986), Dell (1990), Rauschert (1991), Narchi *et al.* (2002), Aldea & Troncoso (2010a), Engl (2012).

Family Philobryidae F. Bernard, 1897 (5 species)

7. *Philobrya olstadi* (Soot-Ryen, 1951) [Figs 5C–E]

Philippiella olstadi Soot-Ryen, 1951: 12, pl. 1, figs 9–10

Material examined. • 13 spms, Stn. 9.

Type locality. Deception Islands (South Shetland Islands), 75 m depth.

Bathymetric distribution. 0–75 m.

Substrate. Soft bottom, probably attached to some biological or abiotic structures.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Shetland Islands, South Orkney Islands. South America: -.

Remarks. We found it at one station in the intertidal zone. The species was already known from the study area from previous Soviet Antarctic expeditions.

References. Engl (2012), Urcola & Zelaya (2024).

8. *Philobrya limoides* Smith, 1907 [Figs 5F–G]

Philobrya limoides E. A. Smith, 1907: 4, pl. 3, figs 2–2b

Material examined. • 2 spms, Stn. 3.

Type locality. Ross Sea in depths between 37 and 238 m.

Bathymetric distribution. 5–220 m.

Substrate. Soft bottom, probably attached to some biological or abiotic structures.

Geographical distribution. Antarctica: Ross Sea, Davis Sea, Weddell Sea. Subantarctica: -. Scotia Arc: South Shetland Islands, South Orkney Islands. South America: -.

Remarks. We follow the argumentation of Urcola & Zelaya (2024), who regard *P. limoides* as a valid species and not as a synonym of *Philobrya sublaevis* Pelseneer, 1903. We found two specimens in depth of 100 m. The species is already known (as *P. sublaevis*) from the Maxwell and Admiralty Bays.

References. Arnaud *et al.* (1986), Absher & Feijó (1998), Narchi *et al.* (2002), Engl (2012), Urcola & Zelaya (2024).

9. ***Philobrya wandelensis*** **E. Lamy, 1906 [Figs 6A–B]**

Philobrya wandelensis E. Lamy, 1906: 50, fig. 4

Material examined. • 1 spm, Stn. 8.

Type locality. Wandel (or Booth) Island at the Antarctic Peninsula.

Bathymetric distribution. 5–321 m.

Substrate. Soft bottom, probably attached to some biological or abiotic structures.

Geographical distribution. Antarctica: Antarctic Peninsula, Weddell Sea, Ross Sea. Subantarctica: -. Scotia Arc: South Georgia, South Shetland Islands, South Orkney Islands, South Sandwich Islands. South America: -.

Remarks. We found one specimen in depth of 35 m. The species is already known from the Maxwell and Admiralty Bays.

References. Nicol (1966), Arnaud *et al.* (1986), Hain (1990), Mühlenhardt-Siegel (1989), Dell (1990), Absher & Feijó (1998), Narchi *et al.* (2002), Aldea & Troncoso (2008), Engl (2012), Jackson *et al.* (2015), Urcola & Zelaya (2021, 2024).

10. ***Lissarca bennetti*** **Preston, 1916 [Figs 6C–E]**

Lissarca bennetti Preston, 1916: 271, pl. 13, figs 7, 7a

Material examined. • 50 spms, Stn. 4.

Type locality. Bransfield Straits near South Shetland Islands at a depth of 27 m (from a fish stomach).

Bathymetric distribution. 0–30 m.

Substrate. Epibenthic, attached by byssus to hard substrates, algae or hydroids and bryozoans.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. Until recently, the name *L. miliaris* (R. A. Philippi, 1845) was used for the findings at King George Island. Güller & Zelaya (2025) revised the species complex morphologically and genetically and have re-established *L. bennetti* for the Scotia Arc islands and the Antarctic Peninsula while *L. miliaris* is restricted to the Magellan region. We have observed this species only at one intertidal station with about 50 specimens. The species is already known from the Maxwell and Admiralty Bays. For Antarctic Peninsula beds it is one of the most common epibenthic species on the red algae *Gigartina* (Rosenfeld *et al.* 2017).

References. Arnaud *et al.* (1986), Rauschert (1991), Absher & Feijó (1998), Narchi *et al.* (2002), Engl (2012), Aghmich *et al.* (2016), Rosenfeld *et al.* (2017), Güller & Zelaya (2025).

11. ***Lissarca notorcadensis*** **Melvill & Standen, 1907 [Figs 6F–H]**

Lissarca notorcadensis Melvill & Standen, 1907: 144, figs 14, 14a

Material examined. • 1 spm, Stn. 2; • 9 spms, Stn. 15.

Type locality. Scotia Bay, South Orkney Islands, 16 to 27 m depth.

Bathymetric distribution. 18–1120 m, but usually in shallower depths.

Substrate. Epibenthic, attached to spines of sea urchins and only exceptionally to sponges, bryozoans, gorgonians, hydroids, ascidians or algae.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. Our observations were made at depths of 70 and 90 m. The species is already known from the Maxwell and Admiralty Bays. According to Güller & Zelaya (2025), this species is probably a species complex of at least two different species that occur either on the islands of the Scotia Arc or in the Antarctic.

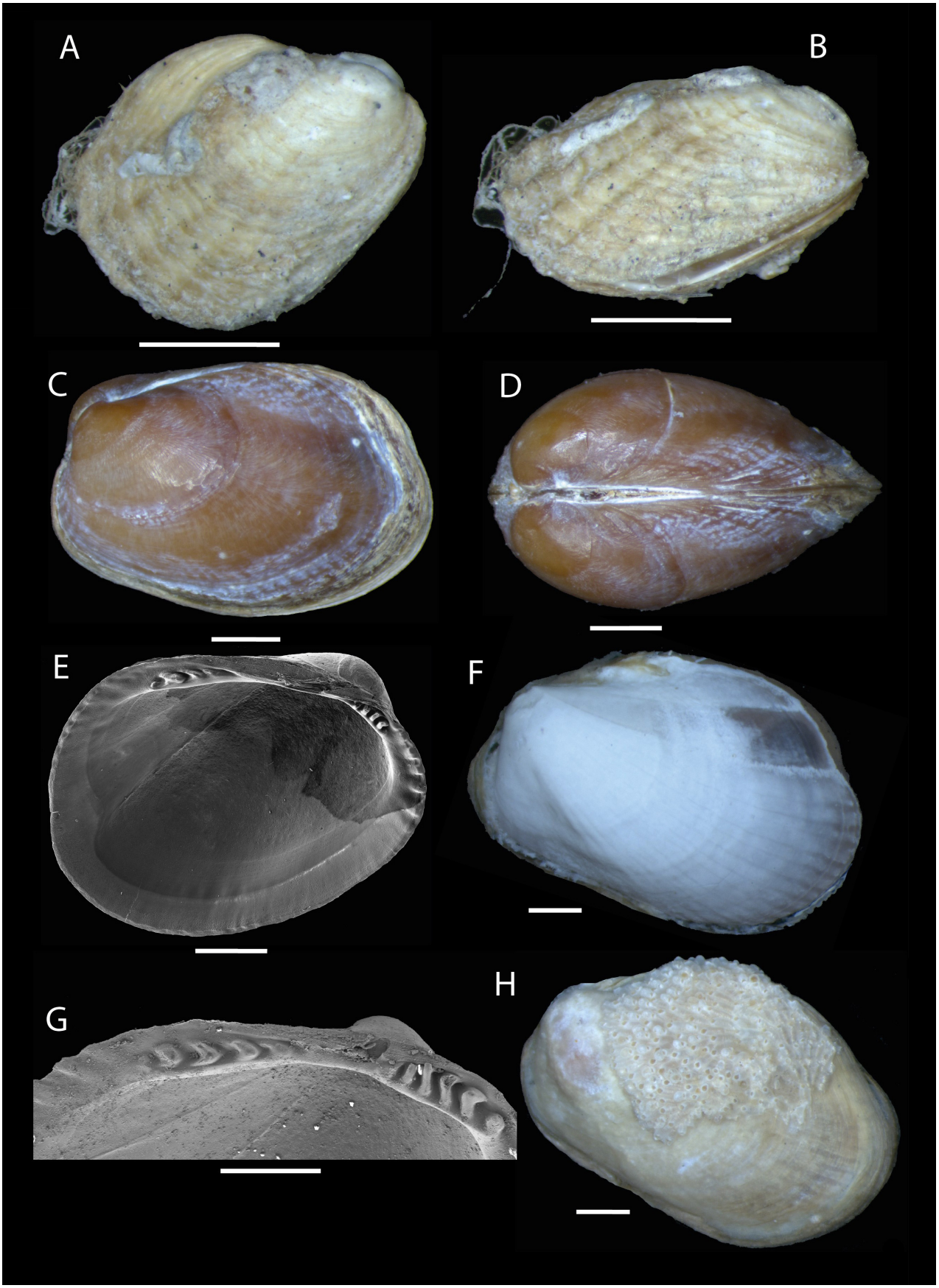

FIGURE 6. A–B: *Philobrya wandelensis* E. Lamy, 1906; C–E: *Lissarca bennetti* Preston, 1916; F–H: *Lissarca notorcadensis* Melvill & Standen, 1907. Unless otherwise indicated, the scale is always 1 mm.

References. Nicol (1966), Arnaud *et al.* (1986), Dell (1990), Absher & Feijó (1998), Narchi *et al.* (2002), Aldea & Troncoso (2010a), Engl (2012), Steger *et al.* (2023), Güller & Zelaya (2025).

Superfamily Limoidea Rafinesque, 1815 (1 species)

Family Limidae Rafinesque, 1815 (1 species)

12. ***Limea pygmaea*** **(R. A. Philippi, 1845) [Figs 7A–C]**
Lima pygmaea R. A. Philippi, 1845: 56

Material examined. • 9 spms, Stn. 5; • 1 spm, Stn. 9.

Type locality. Strait of Magellan.

Bathymetric distribution. 0–598 m.

Substrate. Hard bottom, probably attached to stones or macrophytes.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: Kerguelen Islands, Macquarie Islands. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: Straits of Magellan, Malvinas/Falkland Islands.

Remarks. We found this species at two stations from the intertidal to 15 m. The species is already known from the Maxwell and Admiralty Bays.

References. Arnaud *et al.* (1986), Dell (1990), Absher & Feijó (1998), Narchi *et al.* (2002), Engl (2012), Huber (2010), Aldea *et al.* (2020).

Superfamily Carditoidea A. Férussac, 1822 (1 species)

Family Carditidae A. Férussac, 1822 (1 species)

13. ***Cyclocardia antarctica*** **(E. A. Smith, 1907) [Figs 7D–E]**
Cardita antarctica E. A. Smith, 1907: 2, pl. 2, figs 15, 15a

Material examined. • 1 spm, Stn. 3; • 5 spms, Stn. 6; • 67 spms, Stn. 7; • 45 spms, Stn. 8; • 72 spms, Stn. 11; • 1 spm, Stn. 13; • 6 spms, Stn. 14; • 51 spms, Stn. 15.

Type locality. "Near the Antarctic Circle" from 465 m depth.

Bathymetric distribution. 0–1674 m, but usually in shallower depths.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: Kerguelen Islands, Bouvet Island. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. Until recently the species was identified as *C. astartoides* (E. von Martens, 1878), which falls into the synonymy of *Cardita astartoides* Deshayes, 1858 (see MolluscaBase 2025). We observed *C. antarctica* in depths between 35 and 100 m. The species is already known from the Maxwell and Admiralty Bays.

References. Nicol (1966), Arnaud *et al.* (1986), Dell (1990), Rauschert (1991), Absher & Feijó (1998), Troncoso *et al.* (2001), Narchi *et al.* (2002), Aldea & Troncoso (2010a), Engl (2012), Huber (2015).

Superfamily Cyamioidea G. O. Sars, 1878 (3 species)

Family Cyamiidae G. O. Sars, 1878 (2 species)

14. ***Cyamiocardium denticulatum*** **(E. A. Smith, 1907) [Figs 7F–H]**
Cyamium denticulatum E. A. Smith, 1907: 3, pl. 3, figs 4–4b

Material examined. • 1 spm, Stn. 1; • 66 spms, Stn. 2; • 60 spms, Stn. 3; • 16 spms, Stn. 6; • 10 spms, Stn. 7; • 3 spms, Stn. 8; • 6 spms, Stn. 10; • 11 spms, Stn. 11; • 19 spms, Stn. 13; • 1 spm, Stn. 14; • 66 spms, Stn. 15.

Type locality. Winter Quarters, McMurdo Sound (Ross Sea), 23 m depth.

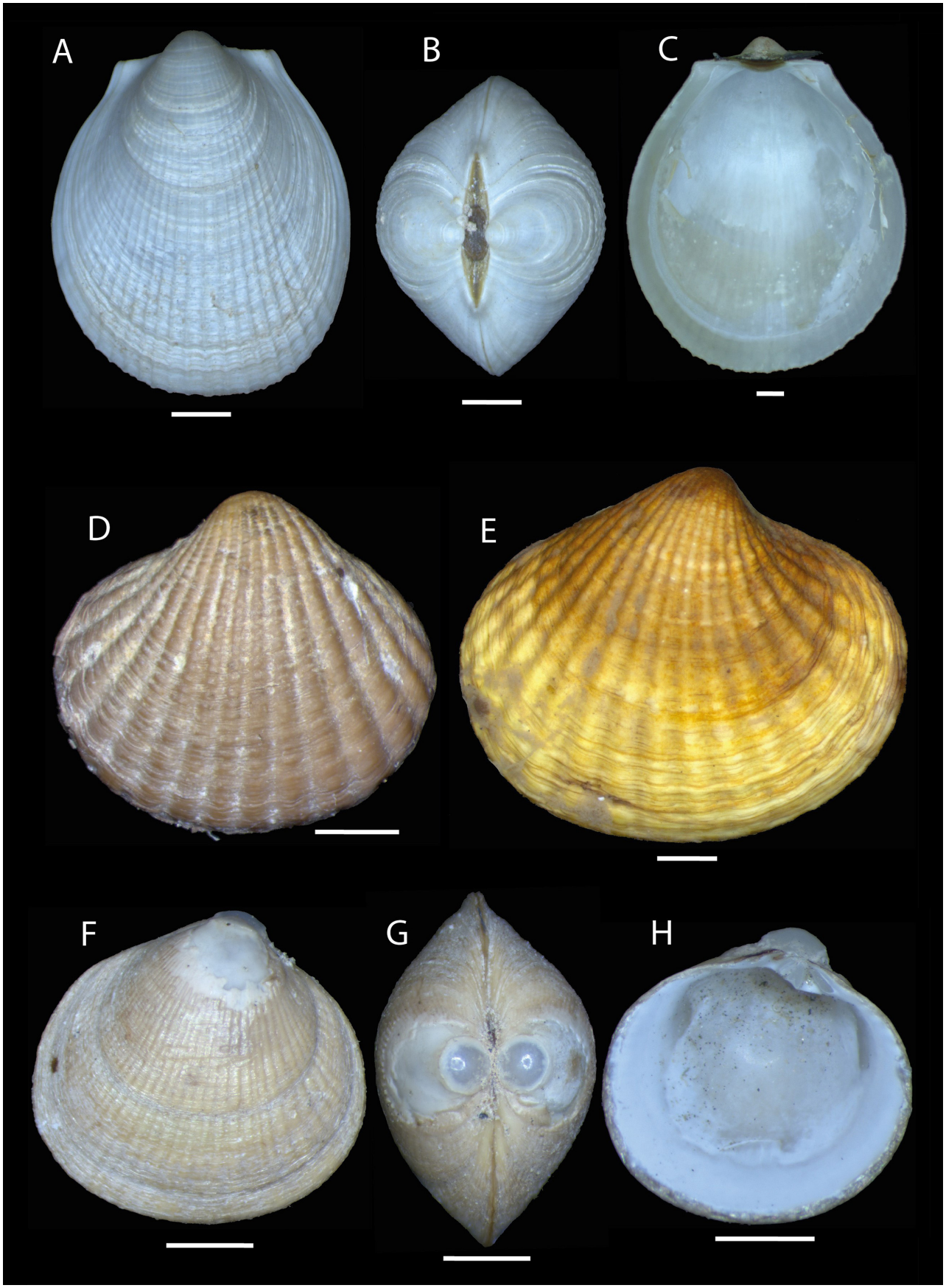

FIGURE 7. A–C: *Limea pygmaea* (R. A. Philippi, 1845); D–E: *Cyclocardia antarctica* (E. A. Smith, 1907); F–H: *Cyamiocardium denticulatum* (E. A. Smith, 1907). Unless otherwise indicated, the scale is always 1 mm.

Bathymetric distribution. 5–507 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Georgia, South Shetland Islands. South America: -.

Remarks. In both Fildes Strait and Ardley Cove, the species was very common in depths between 35 and 100 m. The species is already known from the Maxwell and Admiralty Bays.

References. Nicol (1966), Arnaud *et al.* (1986), Rauschert (1991), Absher & Feijó (1998), Narchi *et al.* (2002), Engl (2012), Urcola & Zelaya (2018).

15. ***Cyamiomactra laminifera* (E. Lamy, 1906) [Figs 8A–D]**

Mactra (*Heteromactra*) *laminifera* E. Lamy, 1906: 45, fig. 1

Material examined. • 1 spm, Stn. 2.

Type locality. Island of Petermann in the Bellingshausen Sea.

Bathymetric distribution. 15–1281 m, but usually in shallower waters.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Antarctic Peninsula, Ross Sea, Bellingshausen Sea, Weddell See. Subantarctica: -. Scotia Arc: South Georgia, South Sandwich Islands, South Shetland Islands. South America: Malvinas/Falkland Islands.

Remarks. This species can reach shell lengths of 10 to 19 mm. We found only a single specimen of 7.2 mm in length in a depth of 70 m. The species is already known from the Maxwell and Admiralty Bays.

References. Nicol (1966), Arnaud *et al.* (1986), Dell (1990), Rauschert (1991), Absher & Feijó (1998), Narchi *et al.* (2002), Aldea & Troncoso (2010a), Engl (2012), Huber (2015), Aldea *et al.* (2016).

Family Gaimardiidae Hedley, 1916 (1 species)

16. ***Kidderia subquadrata* (Pelseneer, 1903) [Figs 8E–J]**

Cyamium subquadratum Pelseneer, 1903: 15, fig. 124

Material examined. • 233 spms, Stn. 4; • 3 spms, Stn. 9.

Type locality. Two Hummock Island (Antarctic Peninsula), intertidally.

Bathymetric distribution. Rocky intertidal.

Substrate. Hard bottom, attached to stones.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. The taxonomic classification of this species proved to be difficult. The specimen illustrated in Engl (2012, pl. 10, fig. 3) as *Lasaea consanguinea* (E. A. Smith, 1877) with the same place of origin as our study area proved to be identical. However, Huber (2010, fig. on p. 263; 2015, p. 503) revised the identification and named the specimen illustrated in Engl (2012) as *K. subquadrata*. Engl himself revised his *L. consanguinea* in 2016 and identified it as *Kidderia bicolor* (E. von Martens, 1885). By revising the taxonomic questions and the genetic delimitation of the species, it was possible to determine that the Antarctic species is *Kidderia subquadrata* and the species found on the sub-Antarctic islands of Diego Ramirez, South Georgia and the Kerguelen Archipelago is *Kidderia minuta* Dall, 1876 (Levicoy *et al.* 2021a, b). The presence of other species of the genus (e.g. *K. bicolor*) could not be confirmed so far and requires a greater sampling effort (Levicoy *et al.* 2021a). *Kidderia subquadrata* is a valid species of Gaimardiidae, with family-typical dentition. We have found it frequently and exclusively in rock pools in subtidal depths. The species is already known from the Maxwell and Admiralty Bays.

References. Arnaud *et al.* (1986), Huber (2010, 2015), Engl (2012), Bick & Arlt (2013), Aghmich *et al.* (2016), Levicoy *et al.* (2021a, b).

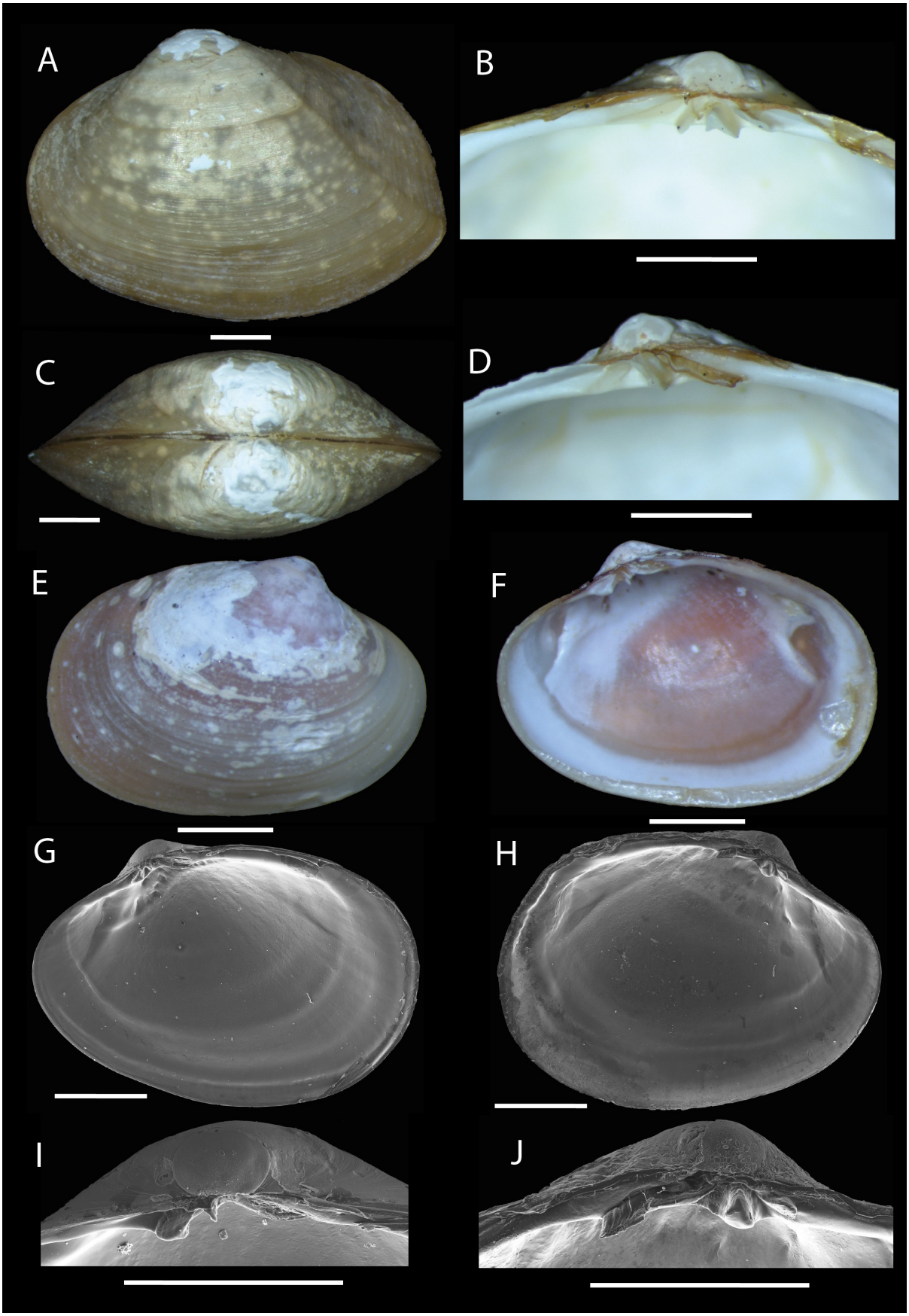

FIGURE 8. A–D: *Cyamiomactra laminifera* (E. Lamy, 1906); E–J: *Kidderia subquadrata* (Pelseneer, 1903). Unless otherwise indicated, the scale is always 1 mm.

Superfamily Galeommatoidea J. E. Gray, 1840 (5 species)

Family Lasaeidae J. E. Gray, 1842 (5 species)

17. ***Altenaeum charcoti*** **(E. Lamy, 1906) [Figs 9A–E]**
Montaguia charcoti E. Lamy, 1906: 46, fig. 2
Material examined. • 7 spms, Stn. 2; • 2 spms, Stn. 3; • 5 spms, Stn. 6; • 61 spms, Stn. 7; • 200 spms, Stn. 8; • 22 spms, Stn. 10; • 126 spms, Stn. 11; • 32 spms, Stn. 12; • 25 spms, Stn. 13; • 8 spms, Stn. 14; • 34 spms, Stn. 15.

Type locality. Anvers Island (Antarctic Peninsula).

Bathymetric distribution. 5–113 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Antarctic Peninsula, Bellingshausen Sea. Subantarctica: Kerguelen Islands, Macquarie Islands. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. In contrast to the following species, *A. charcoti* was never found in the intertidal, but occupied depths between 15 and 100 m. This common species was regularly colonised by polyps of the hydrozoan *Monobrachium* Mereschkowsky, 1877. *Altenaeum charcoti* is easily confused with *A. narchii*, with which it often occurs sympatrically. The somewhat more bulbous shape, the shorter main teeth of the left valve, and the absence of the ligament plate clearly distinguish this species from the following species. The species is already known from the Maxwell and Admiralty Bays. The species is a free-living, shallow-burrower, with a predominantly deposit-feeding habit (Passos *et al.* 2005).

References. Arnaud *et al.* (1986), Dell (1990), Rauschert (1991), Absher & Feijó (1998), Narchi *et al.* (2002), Passos *et al.* (2005), Passos & Domaneschi (2006), Engl (2012), Aldea *et al.* (2016).

18. ***Altenaeum narchii*** **(Passos & Domaneschi, 2006) [Figs 9F–J]**
Mysella narchii Passos & Domaneschi, 2006: 390, figs 1–5
Material examined. • 28 spms, Stn. 2; • 43 spms, Stn. 4; • 4 spms, Stn. 5; • 26 spms, Stn. 7; • 115 spms, Stn. 8; • 2 spms, Stn. 9; • 2 spms, Stn. 10; • 45 spms, Stn. 11; • 20 spms, Stn. 13; • 9 spms, Stn. 14; • 12 spms, Stn. 15.

Type locality. In front of the Brazilian Antarctic Station, Admiralty Bay on King George Island, South Shetland Islands, 5–25 m.

Bathymetric distribution. 0–100 m.

Substrate. Hard and soft bottom.

Geographical distribution. Antarctica: Antarctic Peninsula? Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. The main morphological differences to *A. charcoti* have already been mentioned in the previous species and have been worked out by Passos & Domaneschi (2006). There also seem to be ecological differences. *Altenaeum narchii* can be found very frequently in the intertidal, but also colonises deeper areas, often together with *A. charcoti*. We found *A. narchii* in a depth between 0 and 90 m. It was the fifth most common species in the intertidal. The species is already known from the Maxwell and Admiralty Bays.

References. Passos & Domaneschi (2006), Bick & Arlt (2013).

19. ***Altenaeum gibbosum*** **(Thiele, 1912) [Figs 9K–M]**
Tellimya gibbosa Thiele, 1912: 230, pl. 18, fig. 12
Material examined. • 4 spms, Stn. 2.

Type locality. Gauss station (Davis Sea) at a depth of 385 m.

Bathymetric distribution. 1–752 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

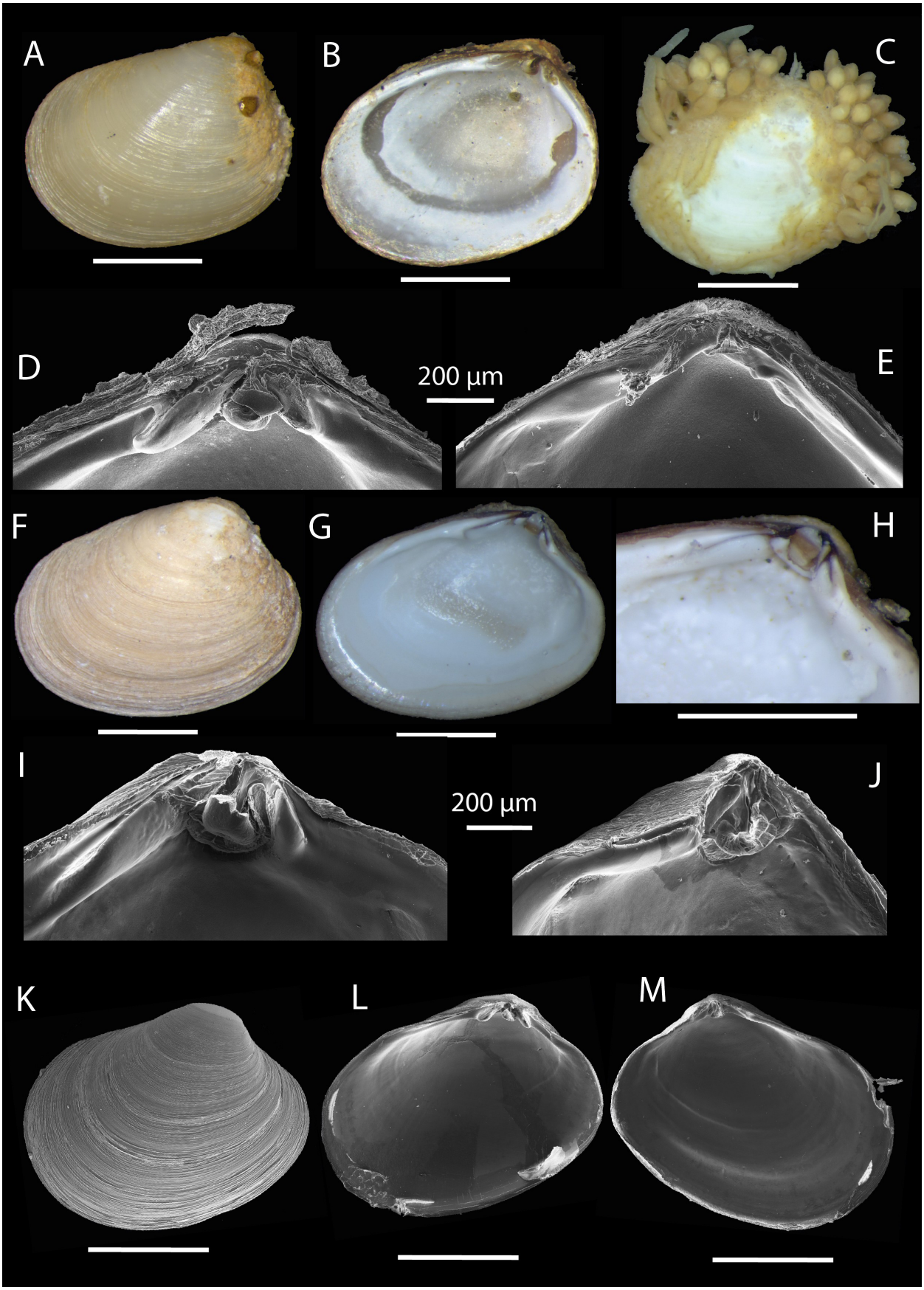

FIGURE 9. A–E: *Altenaeum charcoti* (E. Lamy, 1906); F–J: *Altenaeum narchii* (Passos & Domaneschi, 2006); K–M: *Altenaeum gibbosum* (Thiele, 1912). Unless otherwise indicated, the scale is always 1 mm.

Remarks. The identification of this species was difficult. *Mysella minuscula* (Pfeffer, 1886), a species with *nomen dubium* status in MolluscaBase, which has been observed loosely in some previous studies for King George Island (e.g. Narchi *et al.* 2002, Passos & Domaneschi 2006), may belong to this species. However, we came to the conclusion that our species belongs to *Altenaeum gibbosum*. It has a more backward-orientated umbo, which is also somewhat raised. The shape is more ovoid than roundish. The main teeth of the right valve are very short but prominent. Ultimately, however, a certain uncertainty remains in terms of identification. We found a few specimens in the Fildes Strait at a depth of 70 m.

References. Dell (1990), Narchi *et al.* (2002), Passos & Domaneschi (2006), Aldea & Troncoso (2010a), Huber (2015), Steger *et al.* (2023).

20. ***Mysella antarctica* (E. A. Smith, 1907) [Figs 10A–C]**

Tellimya antarctica E. A. Smith, 1907: 3, pl. 2, figs 16–16b

Material examined. • 1 spm, Stn. 3.

Type locality. Winter Quarters, McMurdo Sound (Ross Sea), 23 m depth.

Bathymetric distribution. 23–1449 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Bransfield Strait, Weddell Sea, Ross Sea. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. This species has a roundish trapezoidal shape and can reach a shell length of up to 7 mm. Our specimen has a length of 4.3 mm and stands out from the *Altenaeum* species mentioned above by its shape and size alone. We found it at a station in Ardley Cove at a depth of 100 m.

References. Dell (1964, 1990), Mühlenhardt-Siegel (1989), Engl (2012), Huber (2015).

21. ***Pseudokellya franki* Zelaya & Ituarte, 2009 [Figs 10D–F]**

Pseudokellya franki Zelaya & Ituarte, 2009: 2, figs 2–15

Material examined. • 1 spm, Stn. 2; • 8 spms, Stn. 3; • 2 spms, Stn. 10.

Type locality. Maxwell Bay, King George Island, South Shetland Islands in 50 to 100 m.

Bathymetric distribution. 50–100 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: -. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. We found this species in depths between 60 and 100 m. The absence of any radial sculpture on the outer shell surface separates this species from all other Antarctic *Pseudokellya* species.

References. Zelaya & Ituarte (2009), Engl (2012).

Superfamily Thyasiroidea Dall, 1900 (1895) (2 species)

Family Thyasiridae Dall, 1900 (1895) (2 species)

22. ***Thyasira debilis* (Thiele, 1912) [Figs 10G–H]**

Axinopsis debilis Thiele, 1912: 232, pl. 18, fig. 25

Material examined. • 62 spms, Stn. 3; • 7 spms, Stn. 7; • 9 spms, Stn. 8; • 1 spm, Stn. 10; • 3 spms, Stn. 14.

Type locality. Gauss station (Davis Sea) at a depth of 385 m.

Bathymetric distribution. 15–850 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: Strait of Magellan, Falkland/Malvinas Islands.

Remarks. In contrast to the following species, it is significantly smaller (maximum shell height 2.3 mm) and the posterior end is angulated. Anterior and posterior ends are frequently incrusted with ferruginous material. We found it in depth between 35 and 100 m. The species is already known from the Maxwell and Admiralty Bays.

References. Dell (1964, 1990), Egorova (1982), Arnaud *et al.* (1986), Zelaya (2009), Engl (2012), Steger *et al.* (2023).

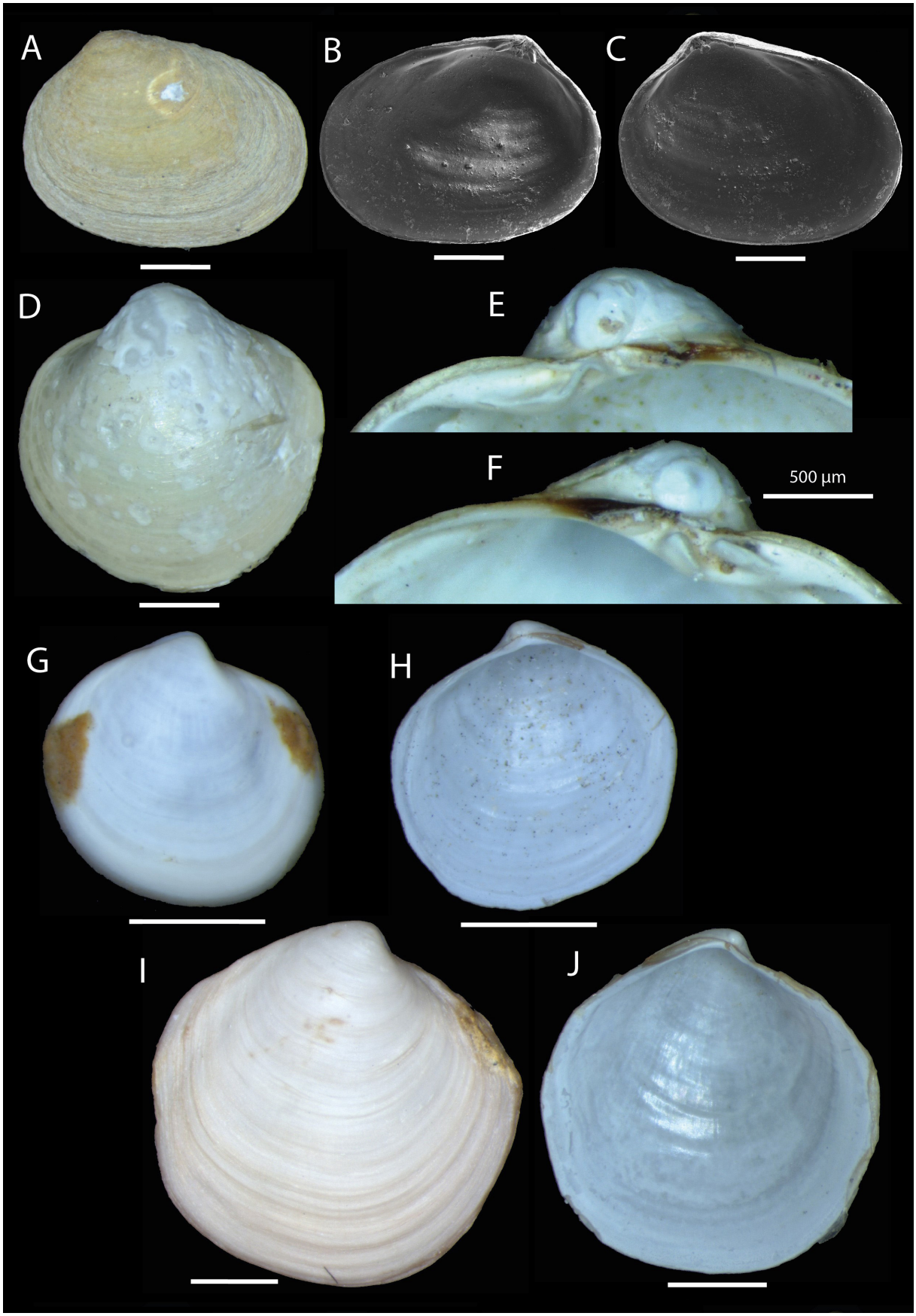

FIGURE 10. A–C: *Mysella antarctica* (E. A. Smith, 1907); D–F: *Pseudokellya franki* Zelaya & Ituarte, 2009; G–H: *Thyasira debilis* (Thiele, 1912); I–J: *Thyasira scotiana* Zelaya, 2009. Unless otherwise indicated, the scale is always 1 mm.

23. ***Thyasira scotiana* Zelaya, 2009 [Figs 10I–J]**
Thyasira scotiana Zelaya, 2009: 275, figs 12–20
Material examined. • 1 spm, Stn. 2; • 15 spms, Stn. 3; • 5 spms, Stn. 6; • 8 spms, Stn. 7; • 101 spms, Stn. 8; • 16 spms, Stn. 11; • 57 spms, Stn. 13; • 1 spm, Stn. 14; • 4 spms, Stn. 15.

Type locality. South Orkney Islands.

Bathymetric distribution. 15–850 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Antarctic Peninsula (?). Subantarctica: -. Scotia Arc: South Orkney Islands, South Shetland Islands. South America-.

Remarks. Surprisingly, the species was quite common in the Ardley Cove area in depths between 50 and 100 m. The maximum shell height of our material was about 5.5 mm. Although the maximum dimensions are smaller, both the shell shape and the dimensions of the prodissoconch are consistent with the description by Zelaya (2009). The most similar species is *T. falklandica*, which is more robust, much heavier and has an inflated shell (Zelaya 2009). The latter was occasionally found on King George Island by Arnaud *et al.* (1986), Rauschert (1991) and Passos *et al.* (2007) and must most probably also be assigned to *T. scotiana*.

References. Arnaud *et al.* (1986), Rauschert (1991), Passos *et al.* (2007), Zelaya (2009), Engl (2012).

Superfamily Thracioidea Stoliczka, 1870 (1839) (1 species)

Family Thraciidae Stoliczka, 1870 (1839) (1 species)

24. ***Thracia meridionalis* E. A. Smith, 1885 [Figs 11A–B]**
Thracia meridionalis E. A. Smith, 1885: 68, pl. 6, figs 4–4b
Material examined. • 85 spms, Stn. 3; • 6 spms, Stn. 6; • 11 spms, Stn. 7; • 16 spms, Stn. 8; • 9 spms, Stn. 11; • 35 spms, Stn. 13; • 1 spm, Stn. 14.

Type locality. Kerguelen Islands.

Bathymetric distribution. 4–836 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: Prince Edward Islands, Kerguelen Islands. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: Strait of Magellan, Malvinas/Falkland Islands.

Remarks. The species was frequently found in depths between 35 and 100 m. The species is already known from the Maxwell and Admiralty Bays.

References. Thiele (1912), Egorova (1982), Arnaud *et al.* (1986), Dell (1990), Rauschert (1991), Linse (1997), Troncoso *et al.* (2001), Aldea & Troncoso (2008, 2010a), Engl (2012), Huber (2015).

Superfamily not described (1 species)

Family Laternulidae Hedley, 1918 (1840) (1 species)

25. ***Laternula elliptica* (P. P. King, 1832) [Figs 11C–D]**
Anatina elliptica P. P. King, 1832: 335
Material examined. • 1 empty double valve, Stn. 4; • 1 spm, Stn. 7; • 5 spms, Stn. 8; • 11 spms, Stn. 12; • 1 spm, Stn. 14.

Type locality. South Shetland Islands.

Bathymetric distribution. 1–508 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: Kerguelen Islands. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. It is probably the largest species found in Antarctic waters. The species grows to over 80 mm and burrows deep into the soft bottom. Our largest specimen measured 55 mm. We found *L. elliptica* in depths between

15 and 70 m, but our method (dredge) was only partially suitable for scraping animals out of the sediment. The species is already known from the Maxwell and Admiralty Bays. The species reached an abundance of up to 30 individuals per square metre in depths deeper than 10 m in the neighbouring Admiralty Bay (Nonato *et al.* 2000). This species is always deeply buried, and only their siphons are detectable (Passos *et al.* 2022).

References. Rauschert (1991), Nonato *et al.* (2000), Troncoso *et al.* (2001), Engl (2012), Huber (2015), Aldea *et al.* (2016), Egorova (2019), Passos *et al.* (2022).

Superfamily Cuspidarioidea Dall, 1886 (2 species)

Family Cuspidariidae Dall, 1886 (2 species)

26. *Cuspidaria minima* (Egorova, 1993) [Figs 11E–F]

Subcuspidaria minima Egorova, 1993: 164, pl. 3, figs 2–3

Material examined. • 1 spm, Stn. 3; • 2 spms, Stn. 6; • 1 spm, Stn. 10.

Type locality. East of Southern Orkney Islands, 430-450 m depth.

Bathymetric distribution. 15–450 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Bellingshausen Sea, Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. The species differentiation between *C. minima* and *C. concentrica* Thiele, 1912 is not clear. The characteristics listed by Zelaya & Ituarte (2006) are partly blurred. In our opinion, the present material most closely resembles *C. minima*, whose type locality is not far (800 km) from King George Island and only 200 km from the Elephants Islands, from where Zelaya & Ituarte (2026) re-described this species. Although the posterior tooth of the left valve is somewhat weak, the right valve has a clearly posterior tooth similar to that shown in Egorova (1993) and Zelaya & Ituarte (2006). We found it in depths of 60 m. The species is already known from King George Island.

References. Egorova (1993), Engl (2012), Zelaya & Ituarte (2006), Steger *et al.* (2023).

27. *Cuspidaria infelix* Thiele, 1912 [Figs 11G–I]

Cuspidaria infelix Thiele, 1912: 233, pl. 18, fig. 28

Material examined. • 2 spms, Stn. 3.

Type locality. Gauss Station (Davis Sea) at a depth of 385 m.

Bathymetric distribution. 60–1400 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: Argentina (?).

Remarks. The differentiation between *C. infirma* Pacheco, Teso & Pastorino, 2022 and *C. infelix* is, in our opinion, very difficult. Our material shows a prodissoconch length of 190 µm compared to about 200 µm in *C. infirma*. The dissoconch is covered with tiny microscopic pits; while the prodissoconch is smooth but has pits in *C. infirma*. The rostrum is relatively long and the rostral depression is visible. We tend to favour *C. infelix* rather than *C. infirma*. We found it in a depth of 100 m. The species is already known from Maxwell and Admiralty Bays. The record from the Mar del Plata Submarine Canyon off Argentina by Pacheco *et al.* (2022) is far away from all other localities and would have to be genetically verified.

References. Egorova (1982), Arnaud *et al.* (1986), Hain (1990), Rauschert (1991), Absher & Feijó (1998), Aldea & Troncoso (2008, 2010a), Engl (2012), Pacheco *et al.* (2022), Steger *et al.* (2023).

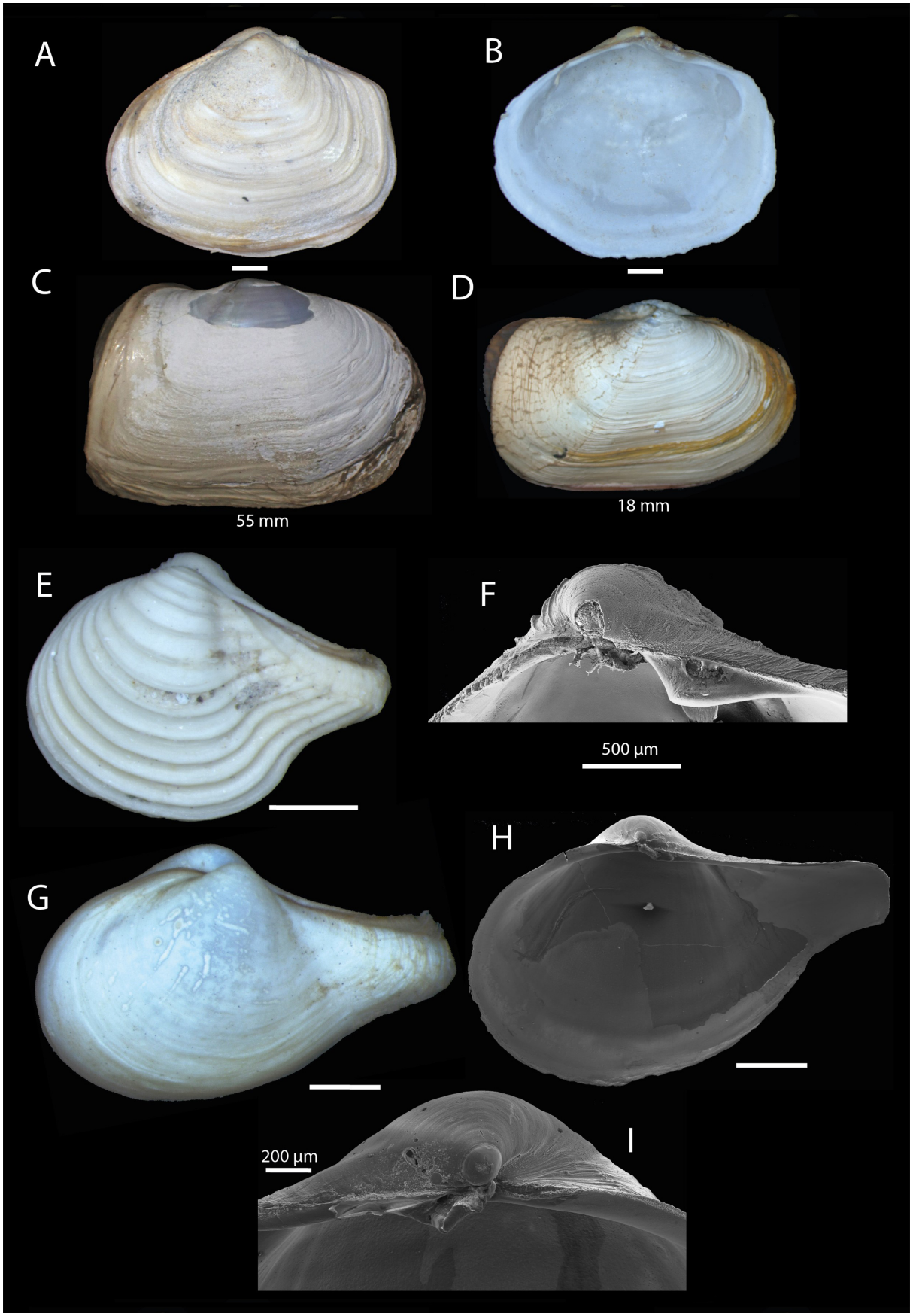

FIGURE 11. A–B: *Thracia meridionalis* E. A. Smith, 1885; C–D: *Laternula elliptica* (P. P. King, 1832); E–F: *Cuspidaria minima* (Egorova, 1993); G–I: *Cuspidaria infelix* Thiele, 1912. Unless otherwise indicated, the scale is always 1 mm.

Class Gastropoda Cuvier, 1795

Subclass Patellogastropoda Lindberg, 1986 (1 species)

Superfamily Patelloidea Rafinesque, 1815 (1 species)

Family Nacellidae Thiele, 1891 (1 species)

28. ***Nacella concinna* (Strebel, 1908) [Figs 12A–D]**
Patinella polaris var. *concinna* Strebel, 1908: 81, pl. 5 figs 76–82
Material examined. • 2 spms, Stn. 4; • 1 spm, Stn. 5; • 2 spms, Stn. 6; • 7 spms, Stn. 7; • 1 spm, Stn. 10; • 11 spms, Stn. 13; • 2 spms, Stn. 14; • 3 spms, Stn. 15.

Type locality. South Georgia.

Bathymetric distribution. 0–150 m.

Substrate. Hard bottom.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found it at several stations between intertidal and 100 m. The species is already known from Maxwell and Admiralty Bays. Gonzáles-Wevar *et al.* (2019) present new molecular analyses and a comprehensive morphological revision of *Nacella*, which confirms the validity of all currently recognised species (and one new one), but also includes important changes to the published distributions of some species.

References. Arnaud *et al.* (1986), Rauschert (1991), Aldea & Troncoso (2008, 2010a), Engl (2012), Bick & Arlt (2013), Aghmich *et al.* (2016), Gonzáles-Wevar *et al.* (2019).

Subclass Vetigastropoda Salvini-Plawen, 1980 (2 species)

Superfamily Trochoidea Rafinesque, 1815 (2 species)

Family Margaritidae Thiele, 1924 (1 species)

29. ***Antimargarita dulcis* (E. A. Smith, 1907) [Figs 12E–G]**
Valvatella dulcis E. A. Smith, 1907: 10, pl. 2, fig. 8
Material examined. • 2 spms, Stn. 2.

Type locality. McMurdo Sound (Ross Sea), 238 m depth.

Bathymetric distribution. 22–731 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. Please note the distinction to the similar species *Antimargarita bentarti* Aldea, Zelaya & Troncoso, 2009 and *Antimargarita powelli* Aldea, Zelaya & Troncoso, 2009, which were identified by Aldea *et al.* (2009). *Antimargarita dulcis* has characteristic strong spiral cords and a fine dense axial sculpture. Our specimens come from the Fildes Strait with a depth of 70 m. It was not previously known from Maxwell Bay, but has been observed in neighbouring Admiralty Bay.

References. Egorova (1982), Arnaud *et al.* (1986), Dell (1990), Hain (1990), Numanami (1996), Engl (2012).

Family Calliostomatidae Thiele, 1924 (1847) (1 species)

30. ***Margarella antarctica* (E. Lamy, 1906) [Figs 12H–L]**
Margarita antarctica E. Lamy, 1906: 481, fig. 5
Material examined. • 1 spm, Stn. 2; • 4 spms, Stn. 3; • 1 spm, Stn. 5; • 7 spms, Stn. 7; • 3 spms, Stn. 8; • 7 spms, Stn. 9; • 7 spms, Stn. 10; • 8 spms, Stn. 13; • 16 spms, Stn. 15.

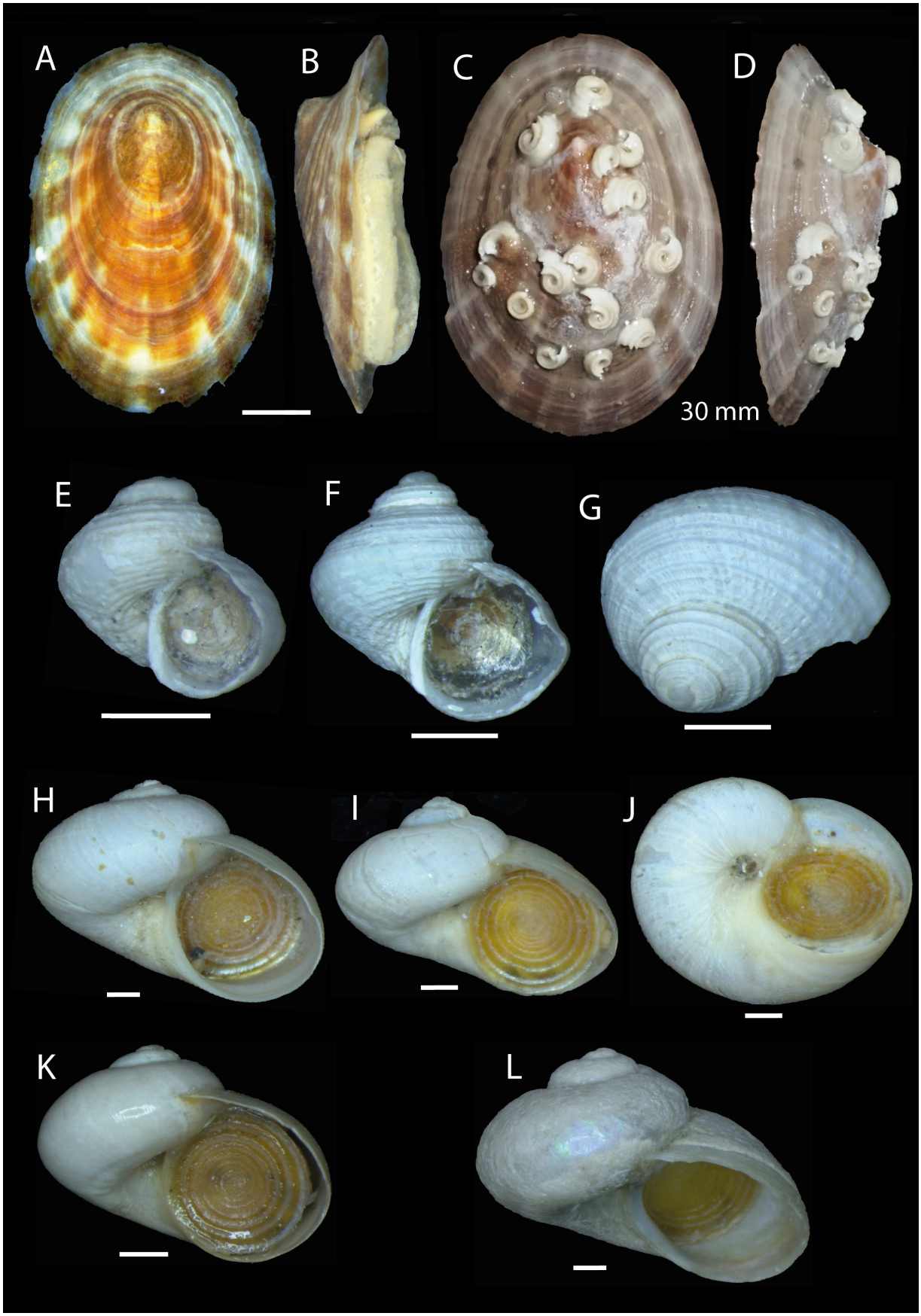

FIGURE 12. A–D: *Nacella concinna* (Strebel, 1908); E–G: *Antimargarita dulcis* (E. A. Smith, 1907); H–L: *Margarella antarctica* (E. Lamy, 1906). Unless otherwise indicated, the scale is always 1 mm.

Type locality. Wandel (or Booth) Island and Flanders Bay (Antarctic Peninsula).

Bathymetric distribution. 0–460 m.

Substrate. Hard bottom and macroalgae but also soft bottom.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found it at several stations between the intertidal zone and 100 m depth. *Margarella antarctica* is associated to spots with macroalgae and rocks. The species is already known from Maxwell and Admiralty Bays. It seems to be quite common in the waters around King George Island (see also Engl 2012).

References. Arnaud *et al.* (1986), Rauschert (1991), Aldea & Troncoso (2010a), Engl (2012), Aldea *et al.* (2016), Amsler *et al.* (2022).

Subclass Caenogastropoda L. R. Cox, 1960 (23 species)

Superfamily Cingulopsoidea Fretter & Patil, 1958 (4 species)

Family Cingulopsidae Fretter & Patil, 1958 (2 species)

31. ***Skenella paludinoides*** **(E. A. Smith, 1902) [Figs 13A–D]**

Eatoniella paludinoides E. A. Smith, 1902: 205, pl. 24, fig. 18

Material examined. • 8 spms, Stn. 4; • 1 spm, Stn. 7; • 8 spms, Stn. 10.

Type locality. Cape Adare (Ross Sea), 15 m depth.

Bathymetric distribution. 0–60 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. We have found this species in depths between the intertidal zone and 60 m. The species is already known from Maxwell and Admiralty Bays.

References. Thiele (1912), Ponder (1983), Arnaud *et al.* (1986), Dell (1990), Rauschert (1991), Engl (2012), Bick & Arlt (2013).

32. ***Skenella umbilicata*** **Ponder, 1983 [Figs 13E–G]**

Skenella umbilicata Ponder, 1983: 28, figs 22a–d, 26e

Material examined. • 13 spms, Stn. 12.

Type locality. Borge Bay, Signy Island (South Orkney Islands), 4-10 m.

Bathymetric distribution. 4–20 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Ross Sea to Adelie Land, Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

Remarks. Our observation comes from a depth of 15 m. The maximum shell height of our material was 1.65 mm. The species is already known from Maxwell Bay. It can reach very high abundances on macroalgae as described by Amsler *et al.* (2022) from Lichfield Island (Palmer Archipelago).

References. Ponder (1983), Engl (2012), Amsler *et al.* (2022).

Family Eatoniellidae Ponder, 1965 (2 species)

33. ***Eatoniella caliginosa*** **(E. A. Smith, 1875) [Figs 13H–K]**

Eatonia caliginosa E. A. Smith, 1875: 71

Material examined. • 1 spm, Stn. 3; • 20 spms, Stn. 4; • 2 spms, Stn. 7; • 11 spms, Stn. 9.

Type locality. Swain's Bay (Kerguelen Islands).

Bathymetric distribution. 0–100 m.

Substrate. Hard and soft bottoms.

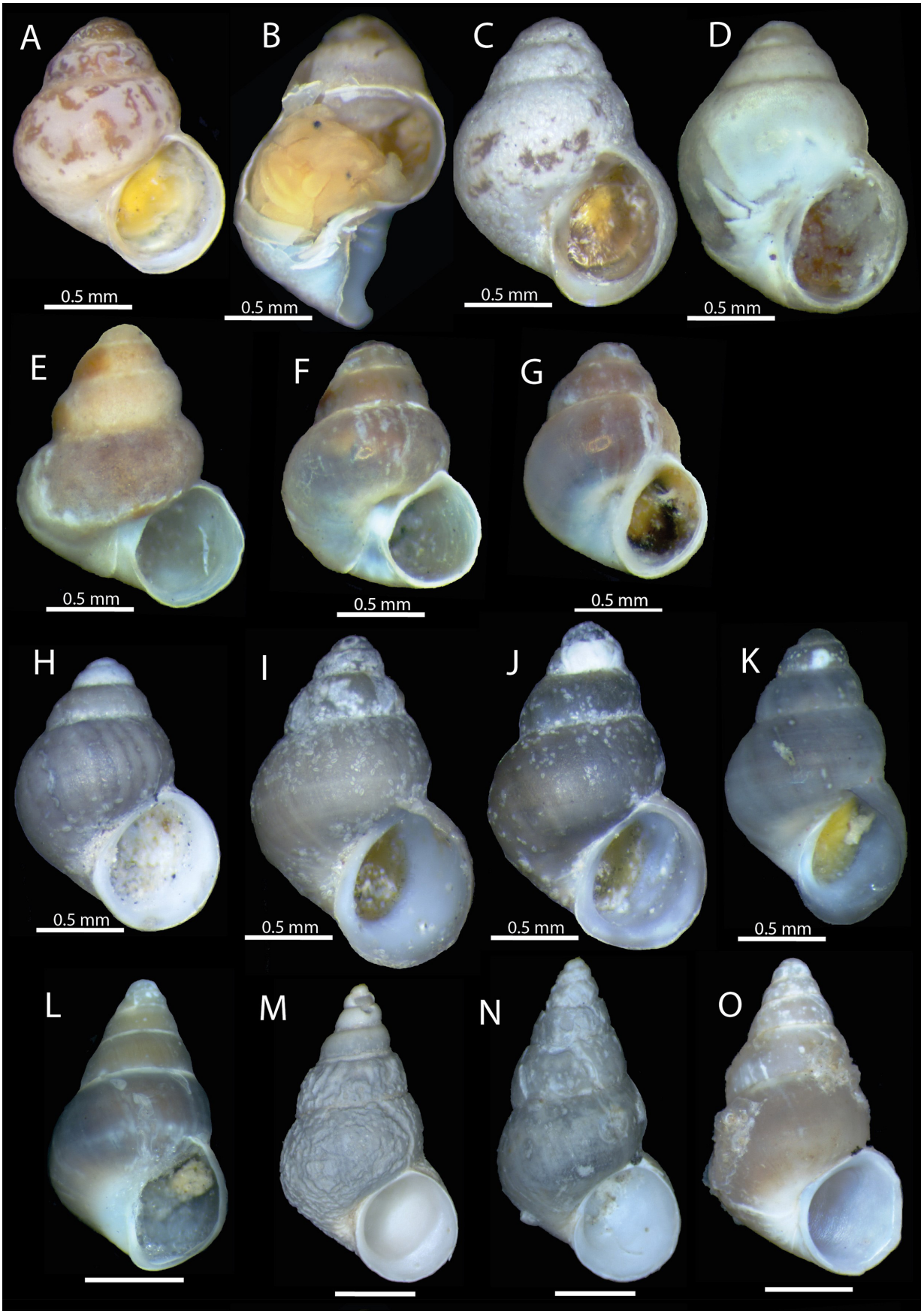

FIGURE 13. A–D: *Skenella paludinoides* (E. A. Smith, 1902); E–G: *Skenella umbilicata* Ponder, 1983; H–K: *Eatoniella caliginosa* (E. A. Smith, 1875); L–O: *Eatoniella kerguelenensis* (E. A. Smith, 1875). Unless otherwise indicated, the scale is always 1 mm.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: Kerguelen Islands, Macquarie Islands. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found this species in depths between the intertidal zone and 100 m. The species is already known from Maxwell and Admiralty Bays.

References. Ponder (1983), Engl (2012), Aghmich *et al.* (2016).

34. ***Eatoniella kerguelenensis*** **(E. A. Smith, 1875) [Figs 13L–O]**
Eatonia kerguelenensis E. A. Smith, 1875: 70

Material examined. • 6 spms, Stn. 2; • 3 spms, Stn. 3; • 4 spms, Stn. 7; • 5 spms, Stn. 10; • 4 spms, Stn. 13.

Type locality. Kerguelen Islands, on a sponge.

Bathymetric distribution. 0–457 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: Kerguelen Islands. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. Ponder (1983) distinguished two subspecies, *E. k. kerguelensis* (E. A. Smith, 1875) and *E. k. regularis* (E. A. Smith, 1915). The first, somewhat smaller subspecies (up to 3 mm) is restricted to the Kerguelen Islands. The second (up to 4.5 mm) is occurring around the Antarctic continent and the islands of Scotia Arc (see also Engel 2012). Since we do not differentiate at the subspecies level in this paper and also have too little material available to provide clarity in this regard, we will refer only to *E. kerguelensis*. If only the size is taken into account (our material was 3 to 4 mm high) then *E. kerguelensis regularis* can be assumed. The depth covered was intertidal up to 100 m. The species is already known from Maxwell and Admiralty Bays.

References. Arnaud *et al.* (1986), Ponder (1983), Aldea & Troncoso (2010a), Engl (2012), Aghmich *et al.* (2016).

Superfamily Littorinoidea Children, 1834 (4 species)

Family Littorinidae Children, 1834 (4 species)

35. ***Laevilacunaria antarctica*** **(E. von Martens, 1885) [Figs 14A–C]**
Lacuna antarctica E. von Martens, 1885: 92

Material examined. • 4 spms, Stn. 2; • 2 spms, Stn. 4; • 3 spms, Stn. 14.

Type locality. South Georgia.

Bathymetric distribution. 0–100 m.

Substrate. Hard and soft bottoms, often grazing on macroalgae.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found this species from the intertidal zone down to 70 m. The species is already known from Maxwell and Admiralty Bays. For Antarctic Peninsula beds it is one of the most common epibenthic species on the red algae *Gigartina* (Rosenfeld *et al.* 2017). *Laevilacunaria bennetti* (Preston, 1916) is a similar species that also has a similar distribution pattern and is also found at King George Island. *Laevilacunaria antarctica* has a broad umbilicus, which is much more pronounced than those in *L. bennetti*.

References. Arnaud *et al.* (1986), Rauschert (1991), Engl (2012), Aghmich *et al.* (2016), Aldea *et al.* (2016), Rosenfeld *et al.* (2017), Schmider-Martínez *et al.* (2023), Gonzáles-Wevar *et al.* (2024).

36. ***Laevilitorina venusta*** **Pfeffer, 1886 [Figs 14D–G]**
Laevilitorina venusta Pfeffer, 1886: 85, pl. 1, figs 9a, b [in Martens & Pfeffer 1986]

Material examined. • 38 spms, Stn. 2; • 16 spms, Stn. 9.

Type locality. South Georgia.

Bathymetric distribution. 0–30 m.

Substrate. Hard bottom, grazing on macroalgae or stones.

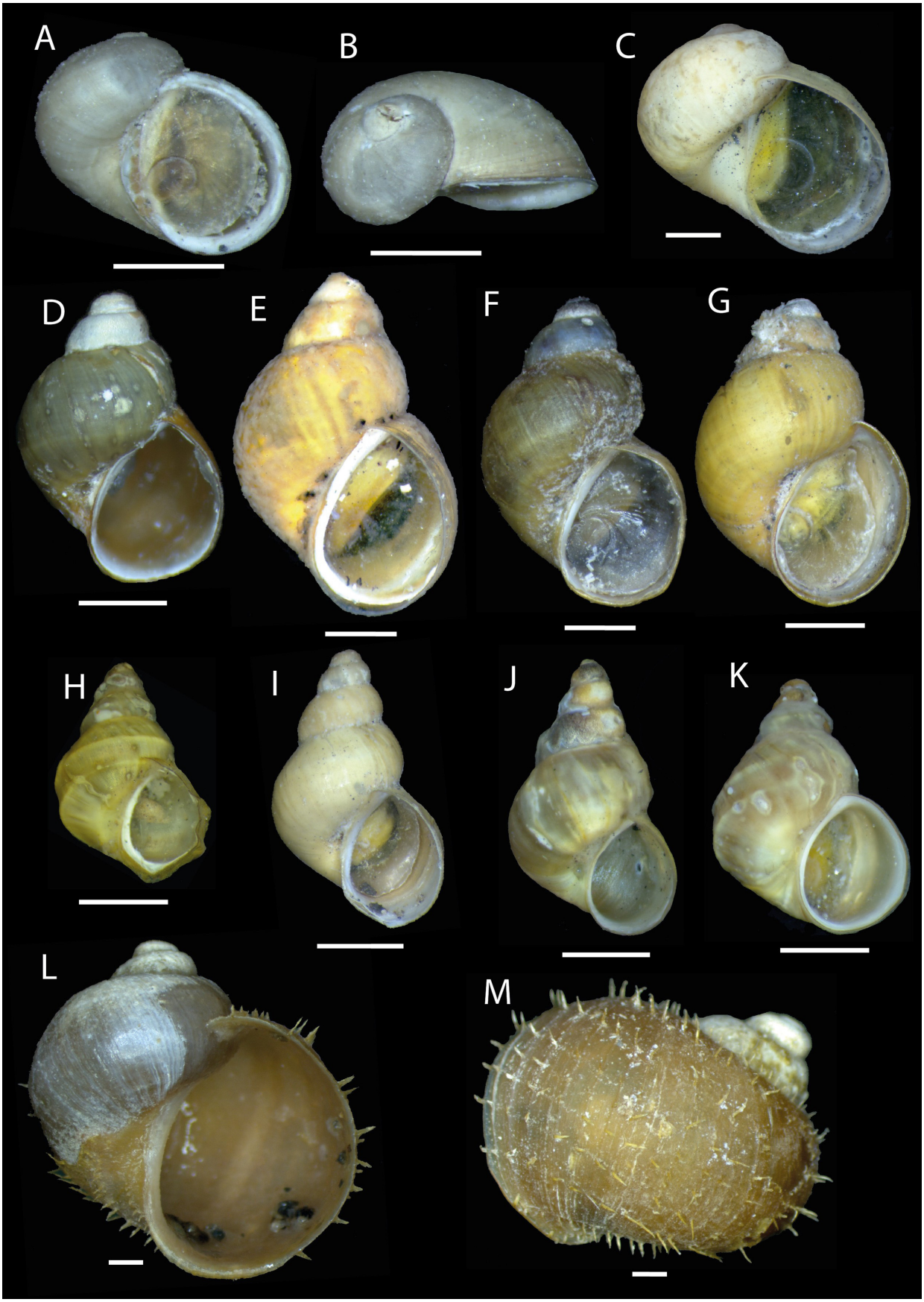

FIGURE 14. A–C: *Laevilacunaria antarctica* (E. von Martens, 1885); D–G: *Laevilitorina venusta* Pfeffer, 1886; H–K: *Laevilitorina umbilicata* Pfeffer, 1886; L–M: *Pellilitorina pellita* (E. von Martens, 1885). Unless otherwise indicated, the scale is always 1 mm.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: Kerguelen Islands, Crozet Islands, Marion Islands, Macquarie Islands. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. Engl (2012, p. 102) has made detailed comments on the unclear status of the species *L. caliginosa* (Gould, 1848), a name which was very often used for records on the South Shetland Islands (and elsewhere). Due to the revision of the higher latitude periwinkle species *Laevilitorina caliginosa sensu lato* by Rosenfeld *et al.* (2024) we know, that the records at King George Island refer to *L. venusta*. During our study, we found *L. venusta* exclusively in the intertidal zone. The species is already known (as *L. caliginosa*) from Maxwell and Admiralty Bays.

References. Arnaud *et al.* (1986), Rauschert (1991), Engl (2012), Aghmich *et al.* (2016), Aldea *et al.* (2016), Rosenfeld *et al.* (2022, 2024).

37. ***Laevilitorina umbilicata*** **Pfeffer, 1886 [Figs 14H–K]**

Laevilitorina umbilicata Pfeffer, 1886: 88, pl. 1, fig. 12 [in Martens & Pfeffer 1986]

Material examined. • 557 spms, Stn. 2; • 7 spms, Stn. 9; • 1 spm, Stn. 12.

Type locality. South Georgia.

Bathymetric distribution. 0–40 m.

Substrate. Hard bottom, grazing on macroalgae or stones.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. Similar to Engl (2012), the material we found consisted of both smooth and spiral-banded specimens. *Laevilitorina umbilicata* was by far the most common species in our study area and was found almost exclusively in the intertidal zone. There was only one single finding from a depth of 15 m. *Laevilitorina umbilicata* can be confused with *L. antarctica* (E. A. Smith, 1902). However, it is slender and the whorls are not as distinct. *Laevilitorina antarctica* is more restricted to the Antarctic proper and *L. umbilicata* to the Antarctic Peninsula and the islands of the Scotia Arc, however, both overlap in their distribution area in South Shetland Islands and Antarctic Peninsula (Rosenfeld *et al.* 2022). While *L. umbilicata* is found in masses under stones in the immediate intertidal zone of King George Island (Aldea *et al.* 2016; this study), *L. antarctica* obviously prefers to colonise macroalgae in greater depths (9 to 20 m) (Martín *et al.* 2016; Amsler *et al.* 2022). There are a number of literature records of *L. antarctica* from very shallow South Shetland Islands, but it can be assumed that at least some of them are misidentifications. On the other hand, phylogenetic reconstructions of the Antarctic species *L. antarctica*, *L. claviformis* Preston, 1916, and *L. umbilicata* failed to discriminate them as different evolutionary units (Rosenfeld *et al.* 2024). If it is confirmed that they cannot be separated genetically, both *L. antarctica* and *L. claviformis* would have to be placed in the synonymy of *L. umbilicata*. However, a review is not the subject of this investigation. The species is already known from Maxwell and Admiralty Bays.

References. Arnaud *et al.* (1986), Engl (2012), Aghmich *et al.* (2016), Aldea *et al.* (2016), Martín *et al.* (2016), Amsler *et al.* (2022), Rosenfeld *et al.* (2022, 2024).

38. ***Pellilitorina pellita*** **(E. von Martens, 1885) [Figs 14L–M]**

Litorina pellita E. von Martens, 1885: 92

Material examined. • 1 spm, Stn. 9.

Type locality. South Georgia.

Bathymetric distribution. 0–30 m.

Substrate. Hard bottom, grazing on macroalgae or stones.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: Kerguelen Islands. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found only one single individual in the intertidal zone. The species is already known from Maxwell and Admiralty Bays.

References. Arnaud *et al.* (1986), Engl (2012), Aghmich *et al.* (2016), Aldea *et al.* (2016), Amsler *et al.* (2022).

Superfamily Naticoidea Guilding, 1834 (1 species)

Family Littorinidae Children, 1834 (1 species)

39. ***Amauropsis bransfieldensis* (Preston, 1916) [Figs 15A–C]**
Lunatia bransfieldensis Preston, 1916: 270, pl. 13, fig. 2

Material examined. • 7 spms, Stn. 2; • 1 spm, Stn. 3; • 1 spm, Stn. 6; • 7 spms, Stn. 12; • 1 spm, Stn. 14.

Type locality. Bransfield Straits near the South Shetland Islands at a depth of 27 m (from a fish stomach).

Bathymetric distribution. 15–100 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: -. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. We found a few specimens in depths between 15 and 100 m. The largest specimen has a height of 8.8 mm. The species is already known from the Maxwell Bay.

References. Engl (2012).

Superfamily Rissooidea Gray, 1847 (5 species)

Family Rissoidae Gray, 1847 (5 species)

40. ***Onoba kergueleni* (E. A. Smith, 1875) [Figs 15D–G]**
Rissoa kergueleni E. A. Smith, 1875: 69

Material examined. • 4 spms, Stn. 2; • 3 spms, Stn. 3; • 1 spm, Stn. 9; • 1 spm, Stn. 10.

Type locality. Swain's Bay (Kerguelen Islands) on a sponge.

Bathymetric distribution. 0–870 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: Crozet Islands, Kerguelen Islands. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found 9 individuals in depths between intertidal and 100 m. The species is already known from Maxwell and Admiralty Bays. Not yet fully grown specimens have very faintly visible spiral lines on the last coil in transmitted light (see also Ponder 1983, p. 18 and fig. 18g).

References. Ponder (1983), Arnaud *et al.* (1986), Engl (2012), Aldea & Troncoso (2010a), Amsler *et al.* (2022).

41. ***Onoba filostria* (Melvill & Standen, 1912) [Figs 15H–K]**
Rissoa (*Onoba*) *filostria* Melvill & Standen, 1912: 349, fig. 9

Material examined. • 27 spms, Stn. 2; • 44 spms, Stn. 7; • 41 spms, Stn. 8; • 11 spms, Stn. 10; • 18 spms, Stn. 11; • 32 spms, Stn. 13; • 2 spms, Stn. 14.

Type locality. Scotia Bay (South Orkney Islands), 16 to 18 m depth.

Bathymetric distribution. 16–75 m.

Substrate. Hard and soft bottom.

Geographical distribution. Antarctica: -. Subantarctica: -. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found this species in depths between 35 and 70 m. Compared with the holotype, well-illustrated in Ponder (1983) in addition to the descriptions in Melvill & Standen (1912) and held in the National Museum Scotland, Edinburgh, we are confident in presenting here the first record of this species outside South Georgia and the South Orkney Islands. In our opinion, it is very likely that *Onoba subantarctica wilkesiana* (Hedley, 1916) from the same locality as the present study and shown by Engl (2012) on plate 37, fig. 6, is also *O. filostria*. *Onoba wilkesiana* described by Hedley (1916) from Commonwealth Bay and illustrated in fig. 77 is by far not as strikingly thick-shelled as *O. filostria* and is in fact more reminiscent of a bulbous *Onoba subantarctica* (Thiele, 1912) known from the Kerguelen Islands.

References. Ponder (1983), Ponder & Worsfold (1994), Engl (2012).

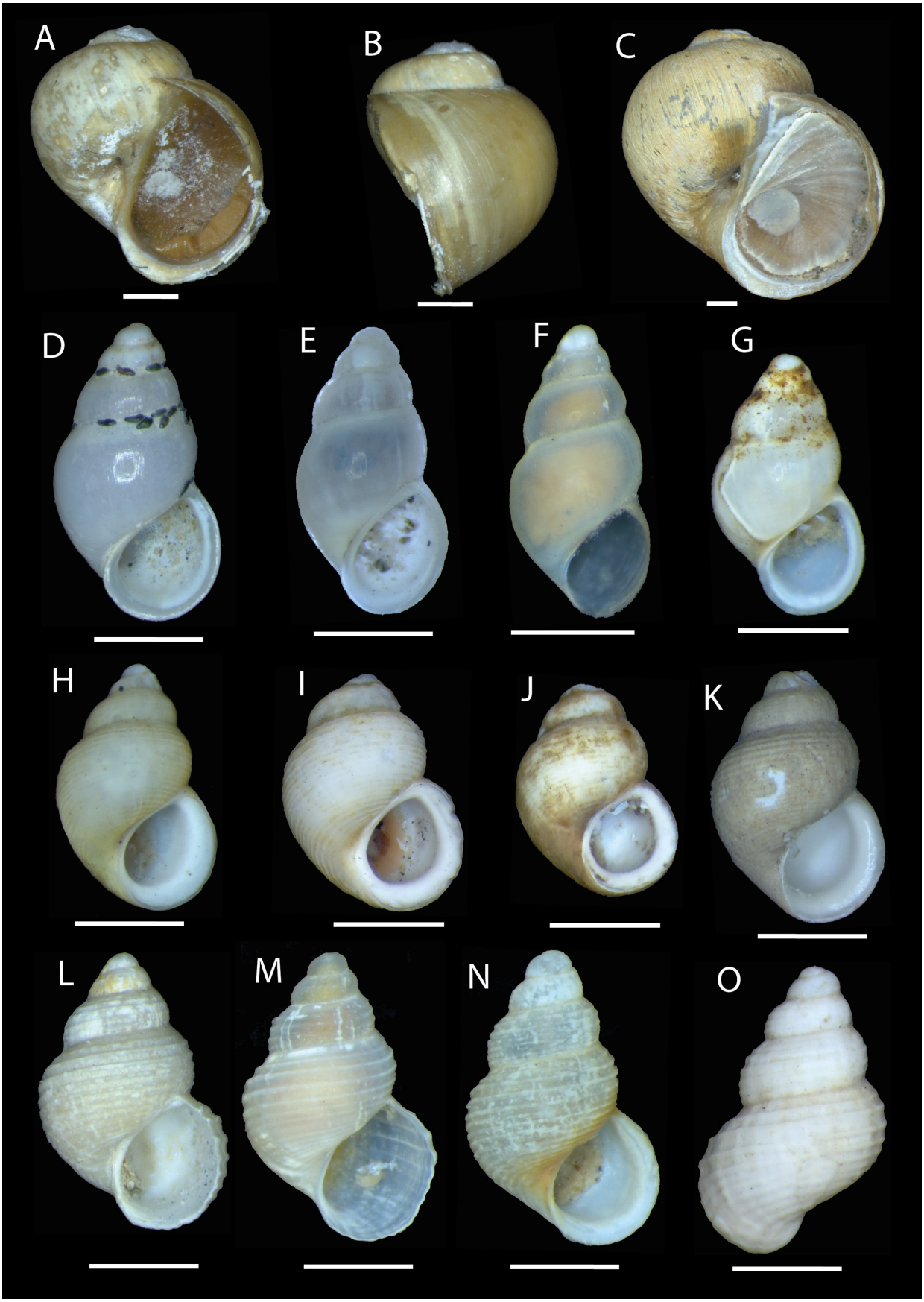

FIGURE 15. A–C: *Amauropsis bransfieldensis* (Preston, 1916); D–G: *Onoba kergueleni* (E. A. Smith, 1875); H–K: *Onoba filostria* (Melvill & Standen, 1912); L–O: *Subonoba gelida* (E. A. Smith, 1907). Unless otherwise indicated, the scale is always 1 mm.

42. ***Subonoba gelida*** **(E. A. Smith, 1907) [Figs 15L–O]**
Rissoia gelida E. A. Smith, 1907: 9, pl. 2, fig. 5

Material examined. • 6 spms, Stn. 2; • 31 spms, Stn. 3; • 2 spms, Stn. 8; • 4 spms, Stn. 10.

Type locality. McMurdo Sound (Ross Sea), 23–75 m depth.

Bathymetric distribution. 4–870 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Georgia, South Shetland Islands. South America: -.

Remarks. We found several dozen individuals in depths between 35 and 100 m in both Fildes Strait and Ardley Cove. The species is already known from Maxwell and Admiralty Bays.

References. Ponder (1983), Arnaud *et al.* (1986), Dell (1990), Numanami (1996), Zelaya (2005a), Aldea & Troncoso (2010a), Engl (2012).

43. ***Subonoba turqueti*** **(E. Lamy, 1906) [Figs 16A–D]**
Rissoia (*Ceratia*) *turqueti* E. Lamy, 1906: 479, fig. 3

Material examined. • 155 spms, Stn. 2; • 10 spms, Stn. 3; • 1 spm, Stn. 6; • 12 spms, Stn. 7; • 6 spms, Stn. 8; • 5 spms, Stn. 10; • 100 spms, Stn. 12; • 1 spm, Stn. 13; • 4 spms, Stn. 14; • 15 spms, Stn. 14.

Type locality. Wandel (or Booth) Island at the Antarctic Peninsula.

Bathymetric distribution. 2–385 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Georgia, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. In Maxwell Bay and also in Admiralty Bay, this species was found in large numbers in depths of 5 to 90 metres during previous expeditions. In both Fildes Strait and Ardley Cove, we found several hundred specimens in depths of between 15 and 100 m. The shell height was between 2.29 and 2.55 mm. The width was between 1.26 and 1.32 mm. The ratio of height to width was approximately 1.84 to 1.89, which is in the range given by Ponder (1983).

References. Ponder (1983), Arnaud *et al.* (1986), Dell (1990), Rauschert (1991), Ponder & Worsfold (1994), Aldea & Troncoso (2010a), Engl (2012).

44. **Rissoidae indet. [Figs 16E–F]**

Material examined. • 1 spm, Stn. 2; • 1 spm, Stn. 10.

Remarks. This slender rissoid gastropod is very similar to *Subonoba turqueti* (E. Lamy, 1906). It also shows the typical spiral-like surface structure. However, in the more than 300 specimens of *S. turqueti* found, we were never able to detect strong variability. We found one of these slender specimens in Fildes Strait and one in Ardley Cove in depths of between 60 and 70 m. These two slender specimens were listed separately here for the time being. The shell height was between 2.34 and 2.37 mm. The width was between 1.07 and 1.12 mm. The ratio of height to width was approximately 2.12 to 2.19, which is out of the range of *S. turqueti* given by us (see previous species) and Ponder (1983). However, if it is the same species as the previous one, it can be described as *S. turqueti* var. *gracilis*.

45. ***Powellisetia deserta*** **(E. A. Smith, 1907) [Fig. 16G]**
Rissoia deserta E. A. Smith, 1907: 9, pl. 2, fig. 1

Material examined. • 4 spms, Stn. 14.

Type locality. McMurdo Sound (Ross Sea), 18 m depth.

Bathymetric distribution. 4–870 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found only very few individuals in a depth of 70 m. This species was already known from the study area from previous Soviet Antarctic expeditions in depths between 25 and 30 m.

References. Ponder (1983), Dell (1990), Aldea & Troncoso (2010a), Engl (2012).

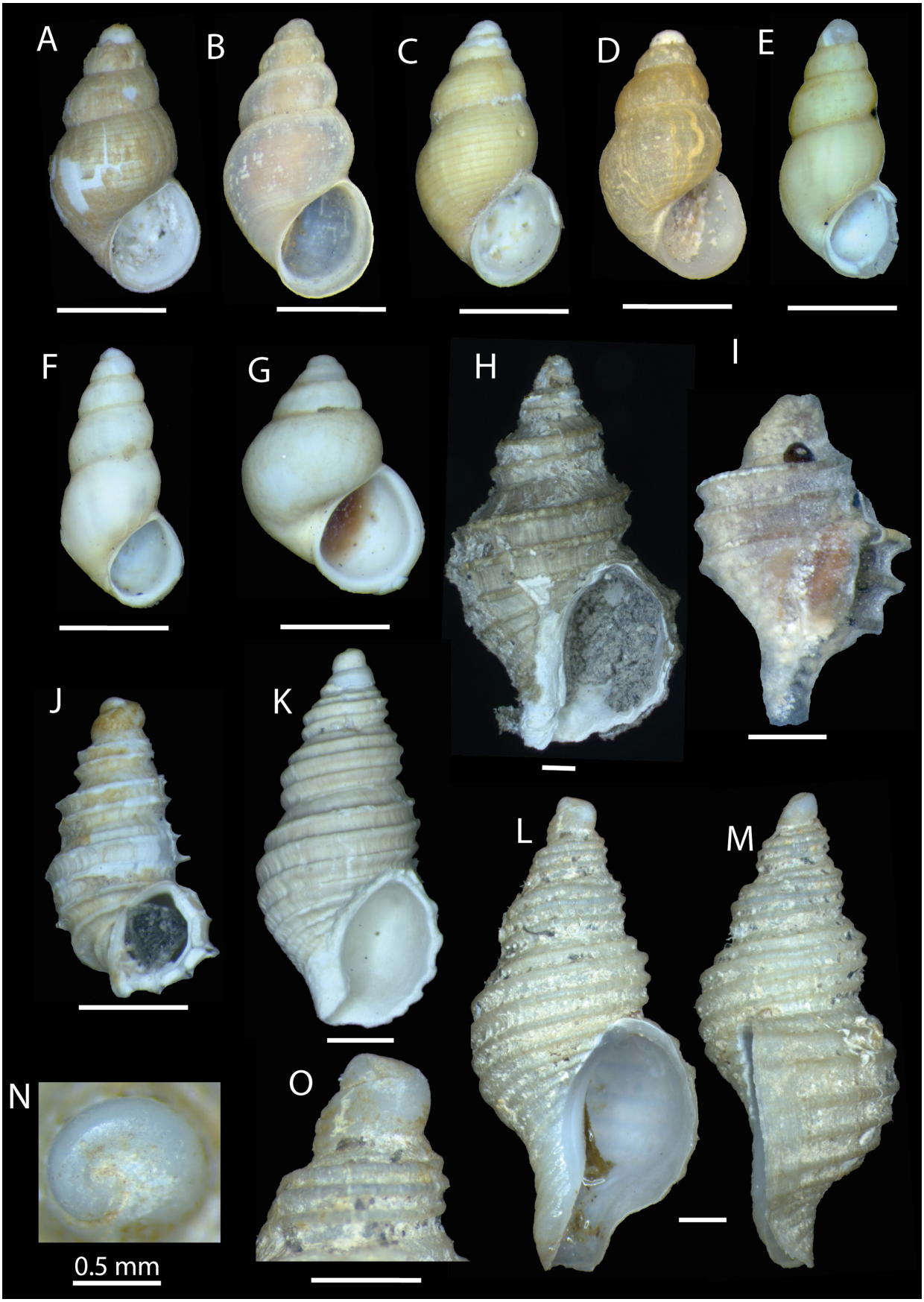

FIGURE 16. A–D: *Subonoba turqueti* (E. Lamy, 1906); E–F: Rissoidae indet.; G: *Powellisetia deserta* (E. A. Smith, 1907); H–I: *Proneptunea rufa* P. G. Oliver & Picken, 1984; J: *Prosipho glacialis* Thiele, 1912; K: *Prosipho crassicostatus* (Melvill & Standen, 1907); L–O: *Prosipho spiralis* Thiele, 1912. Unless otherwise indicated, the scale is always 1 mm.

Superfamily Buccinoidea Rafinesque, 1815 (4 species)

Family Prosiphonidae A. W. B. Powell, 1951 (4 species)

46. ***Proneptunea rufa* P. G. Oliver & Picken, 1984 [Figs 16H–I]**
Proneptunea rufa P. G. Oliver & Picken, 1984: 104, figs 18a, b, 20a, b, 21c
Material examined. • 1 spm, Stn. 2; • 1 spm, Stn. 15.

Type locality. Borge Bay of Signy Island (Southern Orkney Islands), 5–13 m depth.

Bathymetric distribution. 5–90 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: -. Subantarctica: -. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found this species in depths of 70 to 90 metres. It was already known from the study area from previous Soviet Antarctic expedition in depth of 15 m.

References. Engl (2012).

47. ***Prosipho glacialis* Thiele, 1912 [Fig. 16J]**
Prosipho glacialis Thiele, 1912: 208, pl. 12, fig. 34
Material examined. • 1 spm, Stn. 2.

Type locality. Gauss station (Davis Sea), 385 m depth.

Bathymetric distribution. 15–870 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. We found a single specimen in the Fildes Strait at a depth of 70 m. This species was already known from the study area from previous Soviet Antarctic expedition in depth of 30 m.

References. Egorova (1982), Dell (1990), Engl (2012).

48. ***Prosipho crassicostatus* (Melvill & Standen, 1907) [Fig. 16K]**
Chrysodomus (*Sipho*) *crassicostatus* Melvill & Standen, 1907: 138, figs 10, 10a
Material examined. • 1 spm, Stn. 2; • 1 spm, Stn. 14.

Type locality. Scotia Bay (South Orkney Islands), 16 to 18 m depth.

Bathymetric distribution. 2–97 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

Remarks. We found it both in Fildes Strait and Ardley Cove in a depth of 70 m. This species was already known from the study area from previous Soviet Antarctic expeditions in depths between 5 and 50 m.

References. Oliver & Picken (1984), Dell (1990), Engl (2012).

49. ***Prosipho spiralis* Thiele, 1912 [Figs 16L–O]**
Prosipho spiralis Thiele, 1912: 209, pl. 13, fig. 2
Material examined. • 2 spms, Stn. 3.

Type locality. Gauss station (Davis Sea), 385 m depth.

Bathymetric distribution. 94–987 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. We found it in Ardley Cove in a depth of 100 m. This is probably the first record from King George Island, but it is already known from the neighbouring Bransfield Strait.

References. Dell (1990), Numanami (1996), Engl (2012), Kantor *et al.* (2023).

Superfamily Muricoidea Rafinesque, 1815 (3 species)

Family Muricidae Rafinesque, 1815 (3 species)

50. ***Trophon leptocharteres* P. G. Oliver & Picken, 1984 [Figs 17A–C]**
Trophon leptocharteres P. G. Oliver & Picken, 1984: 109, figs 28, 31a, b
Material examined. • 1 spm, Stn. 14.

Type locality. Borge Bay on Signy Island (South Orkney Islands), 15 to 30 m depth.

Bathymetric distribution. 10–130 m.

Substrate. Hard bottom.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

Remarks. The maximum height is 26.2 mm. During our study we found one single specimen (height 15 mm) in Ardley Cove in a depth of 70 m. This species was already known from the study area from previous Soviet Antarctic expeditions in depths between 10 and 30 m.

References. Oliver & Picken (1984), Aldea & Troncoso (2010b), Engl (2012), Aldea *et al.* (2016).

51. ***Trophon minutus* Melvill & Standen, 1907 [Figs 17D–F]**
Trophon minutus Melvill & Standen, 1907: 137, figs 7, 7a
Material examined. • 1 spm, Stn. 2; • 3 spms, Stn. 10.

Type locality. Scotia Bay (South Orkney Islands), 17 to 28 m depth.

Bathymetric distribution. 2–305 m.

Substrate. Hard bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: Kerguelen Islands. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: Magellan Strait.

Remarks. The maximum height of this species is about 9 mm. We found it in Fildes Strait and Ardley Cove in depths between 60 and 70 m. The maximum shell height of our material was 6 mm. This species was already known from the study area from previous Soviet Antarctic expeditions in depths between 15 and 60 m.

References. Oliver & Picken (1984), Dell (1990), Aldea & Troncoso (2008, 2010b), Engl (2012).

52. ***Trophon nucelliformis* P. G. Oliver & Picken, 1984 [Figs 17G–H]**
Trophon nucelliformis P. G. Oliver & Picken, 1984: 106, figs 27a, b, 30a, b
Material examined. 25 spms, Stn. 9.

Type locality. Borge Bay on Signy Island (South Orkney Islands), 2 to 20 m depth.

Bathymetric distribution. 0–44 m.

Substrate. Hard bottom.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Orkney Islands, South Shetland Islands. South America: -.

Remarks. It can reach a maximum height of 23.4 mm. During our study it was quite common on the intertidal station 9 at the Lapidary Point. In contrast to the other *Trophon* species in the area, which were found exclusively in the sublittoral, *T. nucelliformis* occurred only in the intertidal and was relatively common there. The maximum shell height was 19 mm. This species was already known from the study area from previous Soviet Antarctic expeditions in depths between 3 and 10 m.

References. Oliver & Picken (1984), Aldea & Troncoso (2010b), Engl (2012), Aldea *et al.* (2016).

Superfamily Conoidea J. Fleming, 1822 (1 species)

Family Mangeliidae P. Fischer, 1883 (1 species)

53. ***Belalora striatula* (Thiele, 1912) [Figs 17I–J]**
Bela striatula Thiele, 1912: 215, pl. 14, fig. 3

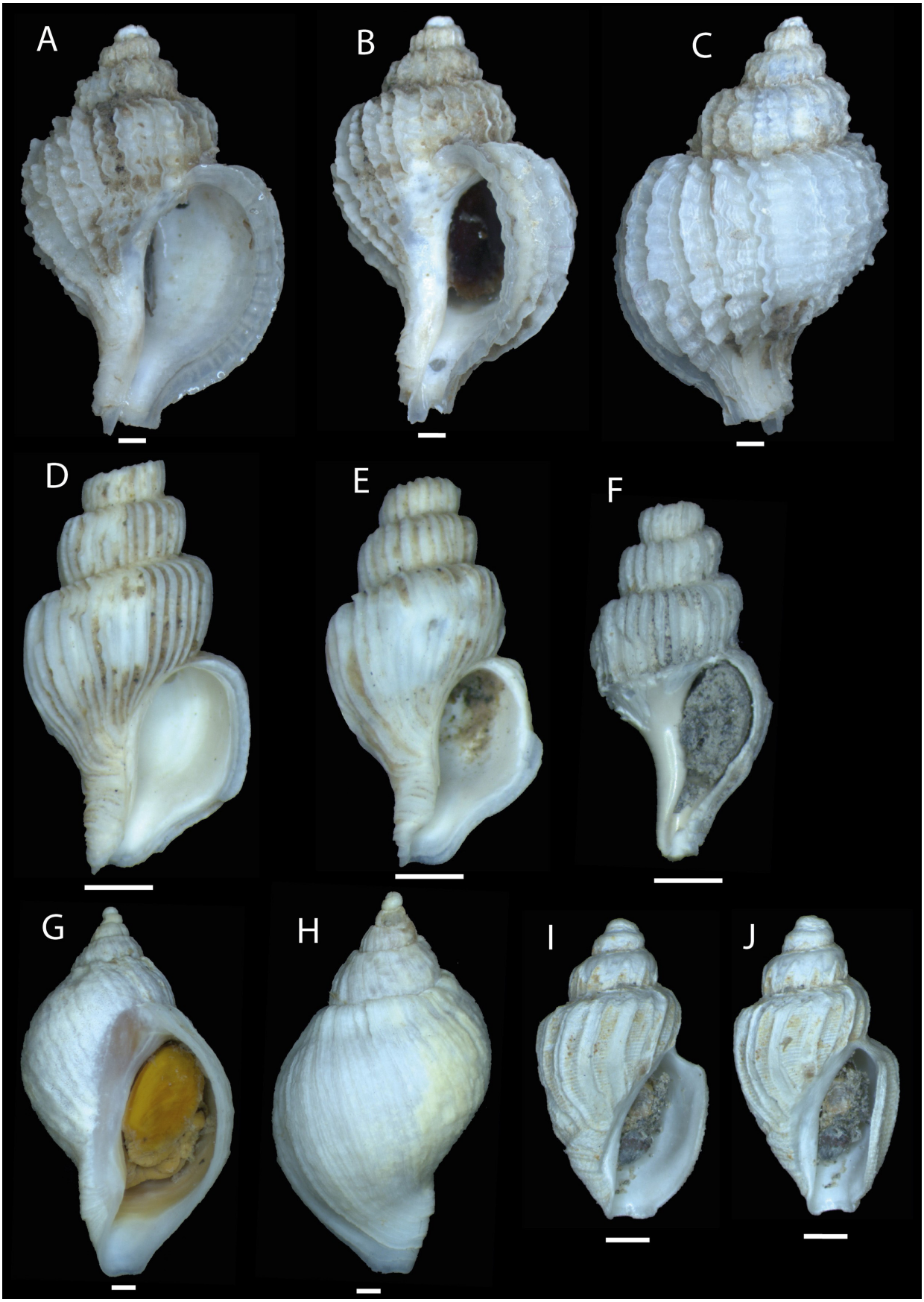

FIGURE 17. A–C: *Trophon leptocharteres* P. G. Oliver & Picken, 1984; D–F: *Trophon minutus* Melvill & Standen, 1907; G–H: *Trophon nucelliformis* P. G. Oliver & Picken, 1984; I–J: *Belalora striatula* (Thiele, 1912). Unless otherwise indicated, the scale is always 1 mm.

Material examined. • 1 spm, Stn. 2.

Type locality. Gauss station (Davis Sea), 385 m depth.

Bathymetric distribution. 70–752 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Shetland Islands. South America: -.

Remarks. We found a single individual in 70 m depth. The shell was somewhat abraded and 6.7 mm high, which is slightly larger than the specimens described so far. This finding is probably the first record for King George Island.

References. Dell (1990), Hain (1990), Engl (2012), Kantor *et al.* (2016).

Subclass Heterobranchia Burmeister, 1837 (3 species)

Superfamily Cylichnoidea H. Adams & A. Adams, 1854 (1 species)

Family Cylichnidae H. Adams & A. Adams, 1854 (1 species)

54. ***Toledonia* sp. [Figs 18A–B]**

Toledonia Dall, 1902: 512

Material examined. • 1 spm, Stn. 10.

Remarks. Several species of the genus *Toledonia* are quite common in Antarctica (Engl 2012). Although we can somewhat narrow down the potential number of species due to the punctate structure of the embryonic shell (e.g. *T. punctata* Thiele, 1912 or *T. striata* Thiele, 1912 are possible), we stick to the generic name of our material. We only found one specimen from 60 m depth. Both Arnaud *et al.* (1986) and Engl (2012) have already reported the genus from King George Island.

Superfamily Philinoidea J. E. Gray, 1850 (1815) (1 species)

Family Philinidae J. E. Gray, 1850 (1815) (1 species)

55. ***Antarctophiline alata* (Thiele, 1912) [Figs 18C–D]**

Philine alata Thiele, 1912: 220, pl. 14 figs 19–20

Material examined. • 1 spm, Stn. 11.

Type locality. Gauss station (Davis Sea), 385 m depth.

Bathymetric distribution. 4–640 m.

Substrate. Soft bottom.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: -. Scotia Arc: South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: -.

Remarks. Although our specimen is badly damaged, the typical features of the species, a wing-shaped mouth opening is clearly visible. We found one specimen in 40 m depth. *Antarctophiline alata* has already been observed in previous studies in Maxwell Bay in depths between 5 and 20 m.

References. Hain (1990), Rauschert (1991), Engl (2012), Aldea & Troncoso (2008, 2010a), Moles *et al.* (2019).

Superfamily Aeolidioidea Gray, 1827 (1 species)

Family Notaeolidiidae Eliot, 1910 (1 species)

56. ***Notaeolidia* sp. [Figs 18E–H]**

Notaeolidia Eliot, 1905: 520

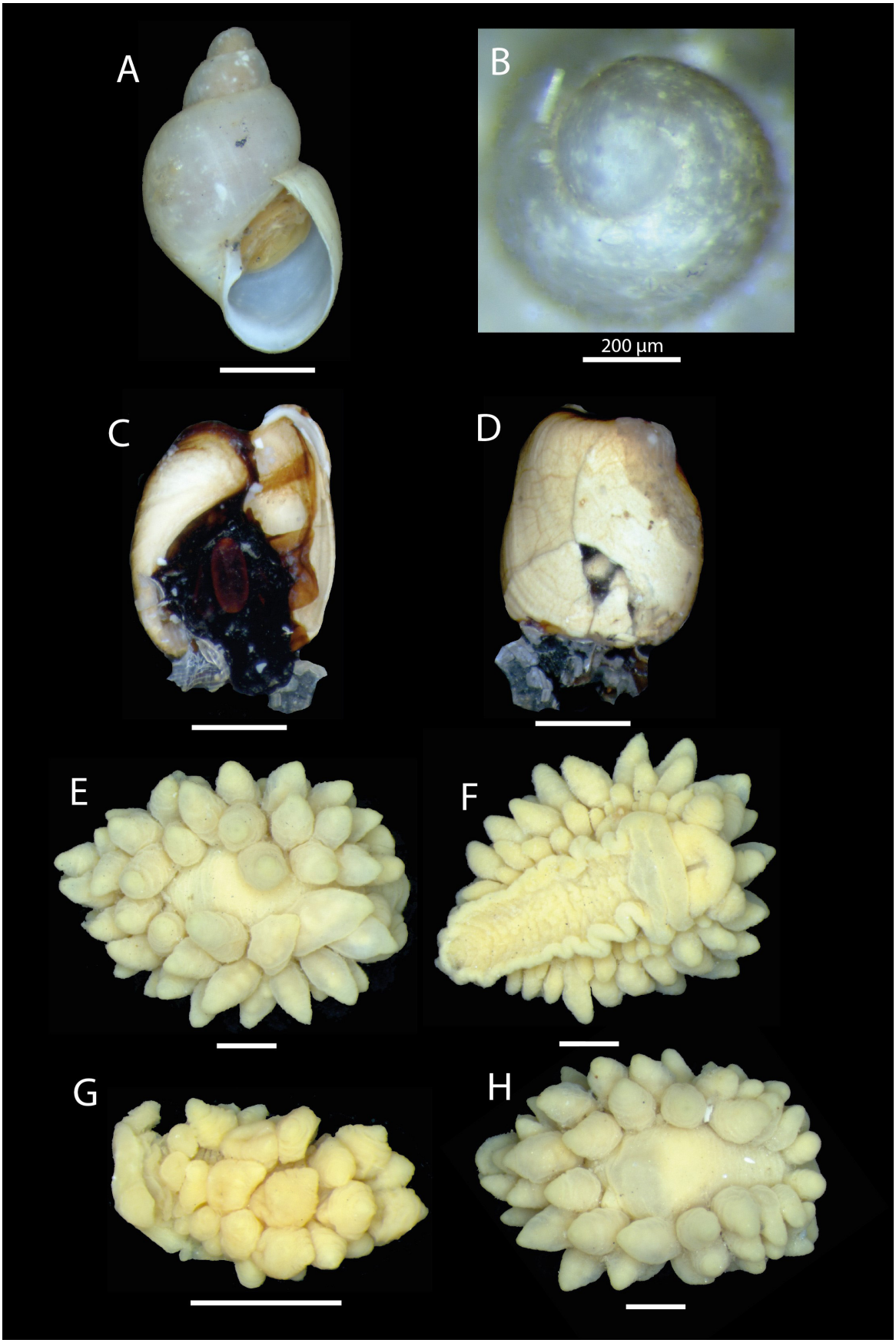

FIGURE 18. A–B: *Toledonia* sp; C–D: *Antarctophiline alata* (Thiele, 1912); E–H: *Notaeolidia* sp. Unless otherwise indicated, the scale is always 1 mm.

Material examined. • 6 spms, Stn. 9; • 1 spm, Stn. 12.

Remarks. Lack of experience with nudibranchs and the limited material did not allow identification to species level. However, we are relatively certain that the specimens we found belong to the genus *Notaeolidia*. We found it mainly in the intertidal zone and one specimen also in 15 m depth. A comprehensive revision of the genus was published by Wägele (1990). *Notaeolidia depressa* Eliot, 1905 was found by Rauschert (1991) in the Fildes Strait in 40 m depth on rocks and is deposited in the Zoological Museum Hamburg (ZMH-MOL-0019164).

Class Polyplacophora

Subclass Neoloricata Bergenhayn, 1955 (3 species)

Superfamily not described (1 species)

Family Callochitonidae Plate, 1901 (1 species)

57. ***Callochiton bouveti*** **Thiele, 1906 [Figs 19A–C]**

Callochiton bouveti Thiele, 1906: 330, pl. 29, figs 9–10

Material examined. • 1 spm, Stn. 1; • 21 spms, Stn. 2; • 1 spm, Stn. 7.

Type locality. East off Bouvet Island, 567 m depth.

Bathymetric distribution. 9–567 m.

Substrate. Hard and soft bottoms.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: Bouvet Island. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: Magellan Strait, Malvinas/Falkland Islands.

Remarks. We found this species in Fildes Strait and Ardley Cove in depths between 50 and 70 m. It was already known from Fildes Strait by previous studies.

References. Bergenheyn (1937), Kaas & van Belle (1985b), Götting (1993), Forcelli (2000), Aldea *et al.* (2016, 2020).

Superfamily Cryptoplacoidea H. Adams & A. Adams, 1858 (1 species)

Family Hemiarthridae Sirenko, 1997 (1 species)

58. ***Hemiarthrum setulosum*** **P. P. Carpenter, 1876 [Figs 19D–F]**

Hemiarthrum setulosum P. P. Carpenter, 1876: 44 [in Dall 1876]

Material examined. • 4 spms, Stn. 5; • 4 spms, Stn. 6; • 2 spms, Stn. 9; • 1 spm, Stn. 15.

Type locality. Kerguelen Islands, on stones at low water.

Bathymetric distribution. 0–380 m.

Substrate. Hard bottom and macro algae.

Geographical distribution. Antarctica: Circum-Antarctic. Subantarctica: Crozet Islands, Kerguelen Islands, Macquarie Islands. Scotia Arc: South Georgia, South Sandwich Islands, South Orkney Islands, South Shetland Islands. South America: Magellan Strait, Tierra del Fuego, Malvinas/Falkland Islands.

Remarks. We found it in Ardley Cove in depths between 0 and 100 m. It was already known from Fildes Strait and Admiralty Bay by previous studies in depths between 0 and 30 m.

References. Thiele (1906), Bergenheyn (1937), Kaas & van Belle (1985a), Arnaud *et al.* (1986), Forcelli (2000), Sirenko (2006), Aldea *et al.* (2016, 2020).

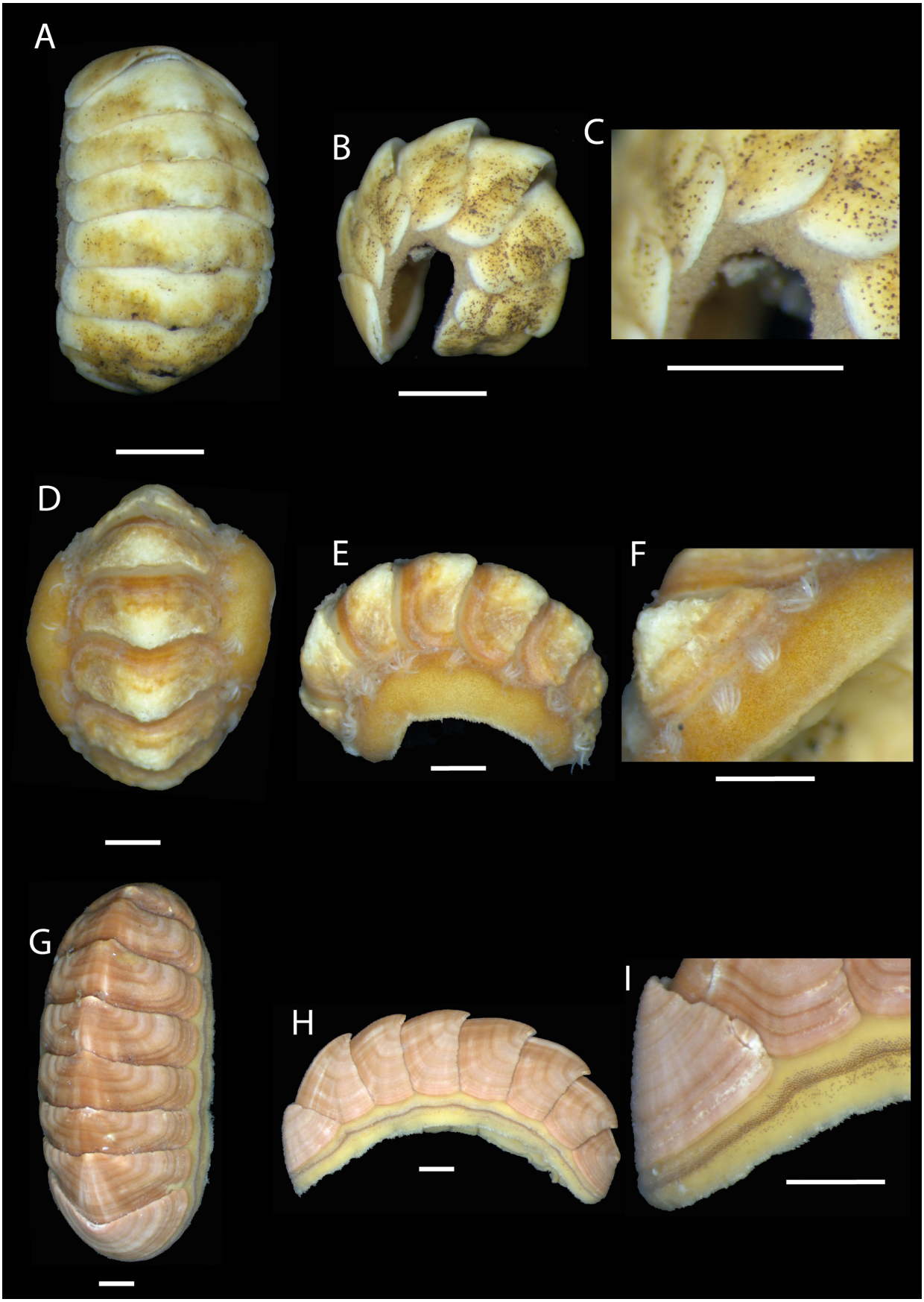

FIGURE 19. A–C: *Callochiton bouveti* Thiele, 1906; D–F: *Hemiarthrum setulosum* P. P. Carpenter, 1876; G–I: *Tonicina zschaui* (Pfeffer, 1886). Unless otherwise indicated, the scale is always 1 mm.

Superfamily Chitonoidea Rafinesque, 1815 (1 species)

Family Ischnochitonidae Dall, 1889 (1 species)

59. ***Tonicina zschaui* (Pfeffer, 1886) [Figs 19G–I]**
Chiton zschaui Pfeffer, 1886: 105, pl. 3, fig. 2 [in Martens & Pfeffer 1886]
Material examined. • 1 spm, Stn. 6; • 2 spms, Stn. 7; • 22 spms, Stn. 9; • 1 spm, Stn. 13.

Type locality. South Georgia.

Bathymetric distribution. 0–100 m.

Substrate. Hard bottom.

Geographical distribution. Antarctica: Antarctic Peninsula. Subantarctica: -. Scotia Arc: South Georgia, South Shetland Islands. South America: -.

Remarks. We found it in Ardley Cove in depths between 0 and 100 m. It was already known from Fildes Strait and Ardley Cove by previous studies in depths between 3 and 30 m.

References. Thiele (1906), Bergenheyn (1937), Kaas & van Belle (1985b), Götting (1993), Aldea *et al.* (2016).

Discussion

Some species records from King George Island are based on misidentifications or are at least implausible. Nevertheless, the list of recorded species is longer than the one in this study. For example, Siciński *et al.* (2011) list 39 species of Bivalvia and 48 Gastropoda for Admiralty Bay, but without resolving the list taxonomically. A key reference for their list is the work of Arnaud *et al.* (1986). They list 27 Bivalvia, 42 Gastropoda and 2 Polyplacophora taxa, but 12 of these are listed only as genera and 3 as undetermined Opisthobranchia. It is difficult to make a direct comparison due to significant changes in taxonomic classification since this time. 58% of the 59 taxa detected by us were also recorded from the neighbouring Admiralty Bay by Arnaud *et al.* (1985). The comprehensive and up-to-date overview by Engl (2012), which for King George Island is mainly based on the material of Rauschert (1991) preserved in the Zoological Museum Hamburg (ZMH), allows a detailed comparison, especially as the author has studied and often presented the material of some earlier Soviet Antarctic expeditions preserved in the ZMH, which originate from the same study area as ours. There is a 75% agreement with the present study. The material from Maxwell Bay in the ZMH also contained 31 species (29 gastropods and 2 polyplacophoran) that we did not have in our samples (Tab. 3). The information given by Arnaud *et al.* (1986), Narchi *et al.* (2002) and Aldea *et al.* (2016) adds another 6 bivalve species for King George Island that were not included in our samples. The study by Aldea *et al.* (2016) from King George Island also revealed four other nudibranch species. This means that a total of about 33 Bivalvia, 62 Gastropoda and 6 Polyplacophora are known from the shelf area (up to a depth of about 200 metres) of King George Island.

Due to the strong influence of ice in the Antarctic coastal zone, it has been suggested that species diversity in the littoral zone is low in shallow areas and increases with depth (e.g. Arntz *et al.* 1994). In the intertidal zone, the ice foot can be several metres thick and persist for much of the year (Barnes & Conlan 2007). In other words, this extreme physical stress on the littoral caused by ice cover and freshwater runoff from melting snow and ice allows or has allowed only a number of specialists to colonise this habitat. Interestingly, however, they are much stronger than previously assumed (Waller 2008; Bick & Arlt 2013; this study). Several species are well adapted to this harsh environment and find shelter under rocks, boulders and pebbles. However, climate change is leading to dramatic changes in the Antarctic. The decline in ice associated with the warming of the near-surface water layers means that more and more regions are becoming temporarily or even permanently ice-free. These ice-free regions will be colonized in the future (Sutherland *et al.* 2015; Chelchowski *et al.* 2022). An interesting question in this context is whether species from the sublittoral will migrate into the eulittoral or whether species from northern areas of the Scotia Arc or South America will spread to more southern areas. To be able to answer these and similar questions with certainty, a precise taxonomic analysis of the species and their exact distribution is absolutely essential. A second probably increasing vector for changing the benthic life along shores of the Antarctic continent and its offshore islands like the South Shetland Islands are visiting vessels and floating marine debris (e.g. Lee & Chown

2007; McCarthy *et al.* 2022). Maxwell Bay, for example, is one of the most visited areas for tourist boats, which serve as hitchhiking platforms for a number of species that attach themselves to their hulls (McCarthy *et al.* 2022). Preventing the introduction of species from other parts of the world, both on land and in the sea, is one of the greatest challenges of increasing tourism (and research). The now vacant and changing habitats due to the retreat of the ice offer a number of species the opportunity to establish themselves in an ecosystem that was unique for many hundreds of thousands of years. In order to recognise these changes and to be able to take possible measures, the taxonomic inventory (status quo) is just as important as the exact recording/monitoring of changes. The present study aims to contribute to the inventory of the mollusc fauna at various depths of Maxwell Bay on King George Island.

TABLE 3. Additional species, not found by us, which were discovered by Rauschert during the 26th and 30th Soviet Antarctic expedition in Maxwell Bay and published by Engl (2012) or are kept in the Zoological Museum Hamburg (ZMH).

Taxon	Class	Engl (2012	ZMH
Amauropsis rossiana E. A. Smith, 1907	Gastropoda	x	x
Austrodoris kerguelenensis (Bergh, 1884)	Gastropoda		x
Cerithiella astrolabiensis (Strebel, 1908)	Gastropoda	x (30 m)	
Chitonina Thiele, 1909	Polyplacophora		x
Chlanidota signeyana A. W. B. Powell, 1951	Gastropoda		x
Curnon granulosa (Vayssière, 1906)	Gastropoda		x
Diaphana paessleri (Strebel, 1905)	Gastropoda		x
Eatoniella cana Ponder, 1983	Gastropoda	x (10 m)	x
Falsimohnia innocens (E. A. Smith, 1907)	Gastropoda	x	x
Harpovoluta charcoti (E. Lamy, 1910)	Gastropoda		x
Laevilacunaria bennetti (Preston, 1916)	Gastropoda	x	x
Laevilitorina antarctica (E. A. Smith, 1902)	Gastropoda		x
Laevilitorina wandelensis (E. Lamy, 1906)	Gastropoda	x	x
Leptochiton kerguelensis Haddon, 1886	Polyplacophora		x
Lissotesta strebeli (Thiele, 1912)	Gastropoda		x
Microdiscula vanhoeffeni Thiele, 1912	Gastropoda		x
Munditia meridionalis (Melvill & Standen, 1912)	Gastropoda	x (5 m)	x
Neobuccinum eatoni (E. A. Smith, 1875)	Gastropoda		x
Omalogyra antarctica Egorova, 1991	Gastropoda	x (15-20 m)	x
Onoba grisea (E. von Martens, 1885)	Gastropoda	x	x
Pellilitorina setosa (E. A. Smith, 1875)	Gastropoda	x	x
Pickenia signyensis Ponder, 1983	Gastropoda	x (5-10 m)	x
Prosipho astrolabiensis (Strebel, 1908)	Gastropoda	x	x
Prosipho enricoi Engl, 2004	Gastropoda	x (type) (15-50 m)	x
Prosipho harrietae Engl & Schwabe, 2003	Gastropoda	x (type) (30 m)	x
Puncturella spirigera Thiele, 1912	Gastropoda	x	
Rissoella powelli Ponder, 1983	Gastropoda	x (10-30 m)	x
Scissurella petermannensis E. Lamy, 1910	Gastropoda	x (3 m)	x
Toledonia globosa Hedley, 1916	Gastropoda	x	
Trilirata macmurdensis (Hedley, 1911)	Gastropoda		x
Volvarina hyalina (Thiele, 1912)	Gastropoda	x	

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First and foremost, we would like to thank Winfried Engl, who took the time to go through all the species taxonomically with us. We would also like to thank Leonel Pacheco for his advice on the genus *Cuspidaria* and Flavio Dias Passos, from whom we learnt the differentiation of *Altenaeum narchii* and *A. charcoti*. The latter also drew our attention to *Kidderia subtruncata*, which we had initially misclassified. The Zoological Museum in Hamburg provided us with the catalogue entries of the 26th and 30th Soviet Antarctic expedition by Martin Rauschert, for which we are grateful to the curator Bernhard Hausdorf. The two reviewers Winfried Engl and Yuri Kantor contributed to the improvement of the manuscript, for which we would like to express our sincere thanks.

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