

Figure 27. A, *Onoba ? algida* n. sp., holotype, shell, length 2.72 mm. B, E, *Onoba ? lacuniformis* n. sp.; B, holotype, shell, length 2.02 mm; E, paratype, radula. C, *Onoba sulcula* n. sp., holotype, shell, length 2.27 mm. D, *Amphithalamus* cf. *inclusus* Carpenter, Sta. 75-15, shell, length 1.24 mm. F, G, *Barleeia meridionalis* n. sp., holotype; F, shell, length 1.75 mm; G, protoconch microsculpture. Scale bars: A-C, 500 μ m; D, F, 250 μ m; E, 10 μ m; G, 20 μ m.

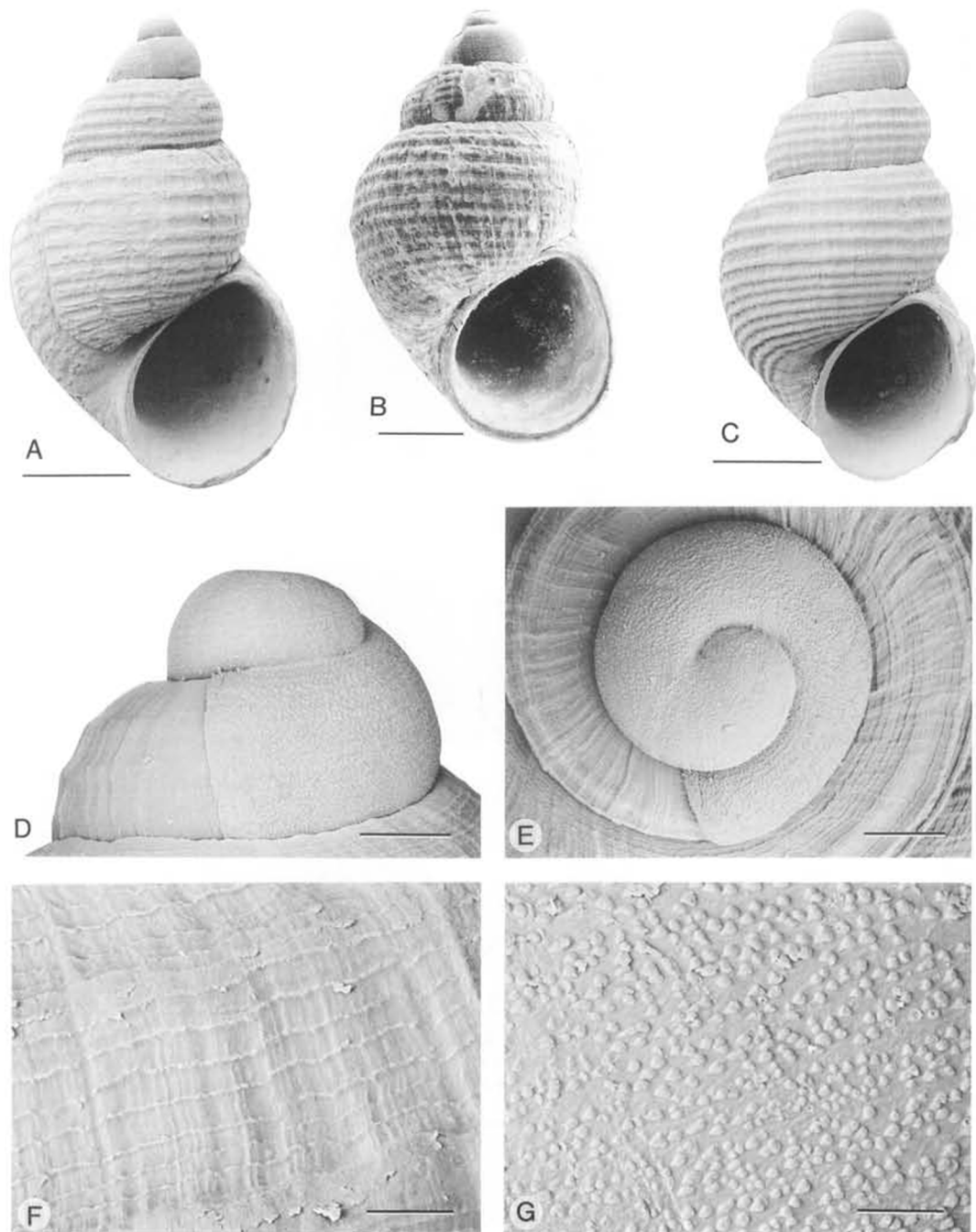


Figure 28. Detail of shells of *Onoba scythei* (Philippi). **A**, Sta. 75-48, shell, length 2.26 mm. **B**, Sta. 75-49, shell, length 2.06 mm. **C**, Sta. 73-69, shell, length 2.26 mm. **D**, Sta. 75-48, lateral view of protoconch. **E**, Sta. 75-48, apical view of protoconch. **F**, Sta. 75-48, teleoconch microsculpture. **G**, Sta. 75-48, protoconch microsculpture. Scale bars: A-C, 500 μ m; D, E, 100 μ m; F, G, 25 μ m.

lip narrow to moderately broad, attached to parietal wall in upper portion; outer lip orthocline, with weak posterior indentation and moderate apertural varix immediately behind lip. Umbilical chink very narrow to moderate. Periostracum well developed, yellowish-brown. Color white or pale yellow.

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD	PS	BS
Sta. 71-267										
Fig. 29C	2.47	1.43	1.73	0.89	2.61	3.2	1.3	0.41	5	8

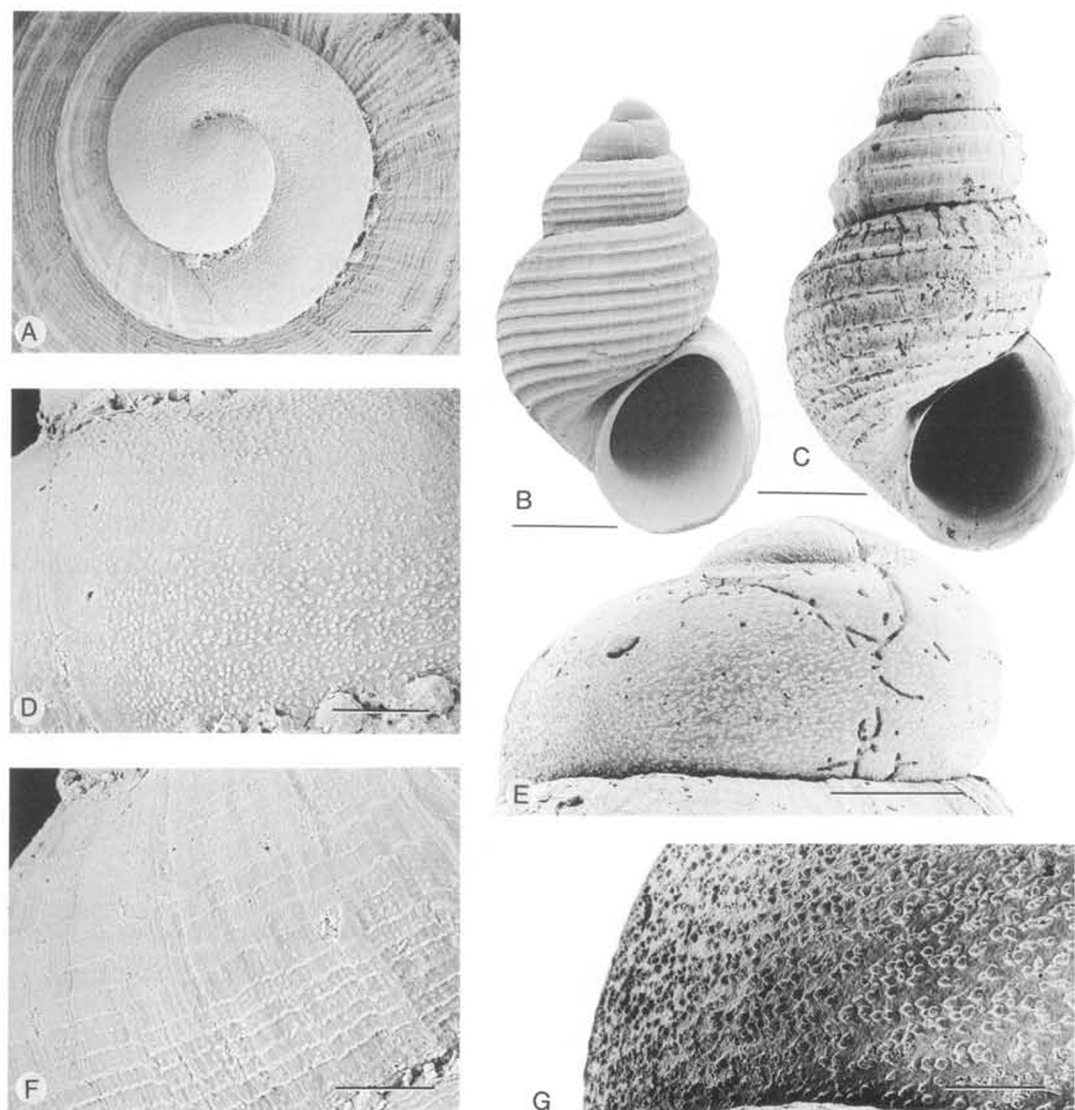


Figure 29. Detail of shells of *Onoba scythei* (Philippi). A, B, D, F, Sta. TW1; A, apical view of protoconch; B, shell, length 2.01 mm; D, protoconch microsculpture; F, teleoconch microsculpture. C, E, G, Sta. 71-267; C, shell, length 2.47 mm; E, lateral view of protoconch; G, protoconch microsculpture. Scale bars: A, E, 100 μ m; B, C, 500 μ m; D, F, 50 μ m; G, 25 μ m.

2.26	1.37	1.65	0.90	2.50	2.9	1.2	0.41	4	8
2.47	1.40	1.77	0.87	2.84	3.2	1.2	0.42	5	9
2.50	1.44	1.74	0.97	2.50	3.4	1.2	0.38	5	9
2.47	1.44	1.69	0.92	2.63	3.3	1.2	0.42	4	9
2.47	1.48	1.67	0.95	2.61	3.3	1.2	0.34	4	8
2.62	1.45	1.81	0.95	2.77	3.3	1.3	0.41	4	9
2.26	1.45	1.80	0.94	2.79	3.5	1.1	0.34	4	8
2.33	1.57	1.71	0.98	2.75	3.5	1.2	0.41	5	9
2.68	1.53	1.75	0.97	2.77	3.5	1.2	0.41	3	7

Sta. 75-48

Fig. 28A

Sta. 73-69

Fig. 28C

Sta. 75-49

Fig. 28B

2.26	1.41	1.60	0.99	2.29	2.8	1.4	0.41	5	13
2.26	1.31	1.72	0.90	2.50	3.0	1.5	0.41	5	14
2.06	1.26	1.62	0.91	2.26	2.8	1.3	0.36	5	14
2.27	1.36	1.66	0.92	2.45	2.9	1.2	0.41	6	12
2.24	1.31	1.70	0.86	2.60	2.9	1.1	0.42	7	12

2.24	1.30	1.72	0.91	2.45	2.7	1.3	0.42	6	12
2.34	1.31	1.79	1.06	2.22	2.8	1.1	0.41	6	13
2.20	1.33	1.65	0.91	2.41	3.0	1.2	0.35	5	12
2.18	1.29	1.69	0.94	2.33	2.8	1.1	0.39	7	13
2.24	1.38	1.62	0.88	2.54	2.8	1.2	0.43	6	12
2.18	1.20	1.81	0.86	2.54	2.8	1.2	0.43	6	12
2.28	1.40	1.63	0.98	2.33	2.9	1.0	0.38	7	13
2.20	1.27	1.74	0.94	2.36	2.8	1.0	0.41	6	12

Sta. TW1

Fig. 29B

2.01	1.28	1.57	0.87	2.32	2.9	1.3	0.37	5	12
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Operculum (Fig. 24D, H). Yellow, thin, horny, paucispiral, oval, with strongly convex outer edge and weakly convex inner edge. Weakly angled posteriorly, rounded anteriorly.

Radula (Fig. 23A, C). Central teeth with cusp formula 3-4+1+3-4, median cusp blunt, short, markedly larger than adjacent cusps; cutting edge almost straight; single pair of basal denticles. Lateral teeth with cusp formula 5-7+1+4-5, primary cusp broadly triangular, pointed. Inner marginal teeth with 8-9 sharp cusps, all near distal end. Outer marginal teeth with about 9 sharp cusps on inner edge, outermost largest, about equal in size with those on inner marginal teeth; outer edge simple (single radula examined).

Animal. Apparently unpigmented (from dry material).

REMARKS. The type material of this species cannot be located, and we assume that it is lost. Philippi's description is sufficiently detailed to identify this species with reasonable confidence, even though it was not figured. This species, as we have interpreted it, is very variable in the shape and sculpture of the shell. There appear to be two main forms, although they sometimes intergrade. One is a shallow water form (Fig. 28A, B), which has a shorter, broader shell with more numerous and more flattened spiral cords than the other, an offshore form (Figs. 28C, 29C). Both forms, and the specimens from the Falkland Islands (Fig. 29A, B, D, F), all have the distinctive granules on the protoconch (Figs. 28D, E, G, 29A, D, E, G), which are also shared with *O. fuegoensis*. We have only been able to examine a radula from a shallow-water specimen, and this is unusual in the central teeth having a simple, almost straight cutting edge rather than the triangular cutting edge seen in most species of *Onoba*.

The shallow-water form is similar in shell characters to *O. foveauxiana* from New Zealand, but that species is larger and more elongate-conic in shape. The shell of another New Zealand species, *O. alpha*, is similar in size but is slightly narrower and has six to eight spiral cords on the penultimate whorl. In addition, there is a stronger posterior apertural sinus in the New Zealand species. The extreme deep water form is similar to *O. delecta* Ponder, 1983, from off South Georgia but has a larger shell with less distinct interstitial axial sculpture.

DISTRIBUTION. Southern Chile, Tierra del Fuego, and Falkland Islands. Fine sculptured form mainly intertidal; common. Coarse sculptured form known only from empty shells found from 15 to 36 m; less common.

Onoba fuegoensis (Strebel, 1908)

Figures 23E, F, 24A-C, 30

Rissoia (*Cingula*?) *fuegoensis* Strebel, 1908: 56, pl. 6, fig. 90a, b (Tierra del Fuego, 36 m).

Rissoia (*Onoba*) *fuegoensis*: Melvill and Standen, 1912: 350.

Cingula fuegoensis: Carcelles, 1950: 55, pl. 2, fig. 22; Carcelles and Williamson, 1951: 271.

Onoba fuegoensis: Ponder, 1983a: 20.

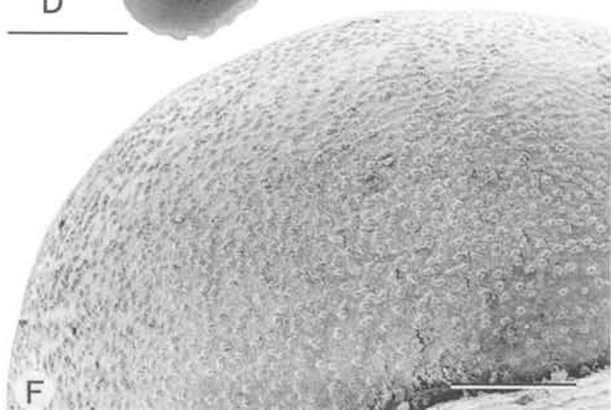
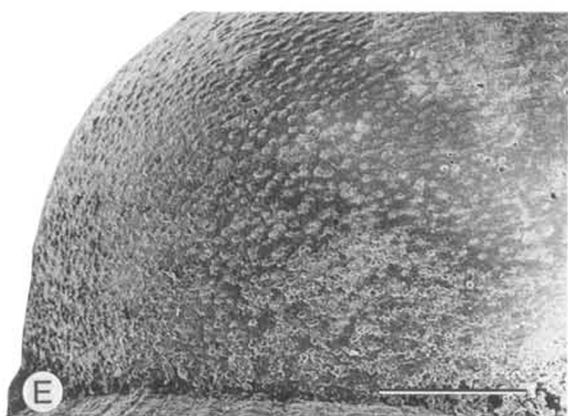
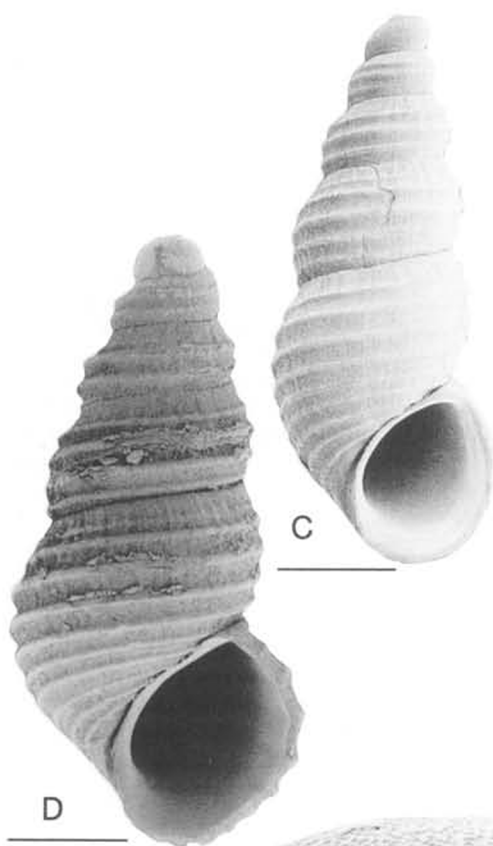
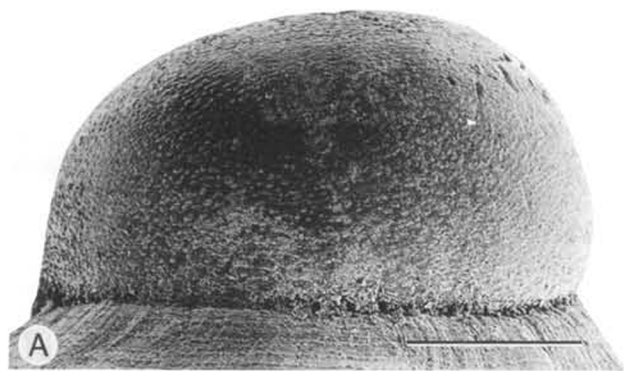
MATERIAL EXAMINED. Types. Lectotype (here chosen) and damaged paralectotype, SMNH SSPE 3, Tierra del Fuego. 54°43'S, 64°08'W, 36 m, 6 Jan. 1902.

Additional Material Examined. *Tierra del Fuego*: 27C USNM E 219 [3(d)]. 27E BMNH DE 388 [27(d)]. 29B 71-305 [2(d)]. 30A 71-342 [2]. 30B 71-346 [9(d)]. 30C 71-344 [many]; USNM H 659 [14(d)]. 30D 71-340 [1(d)]. 30I 71-329 [13]. 33B 71-267 [15]; 71-347 [11(d)]. 33D 71-352 [3(d)]. 33E 71-351 [3]. 33F 71-265 [3(d)]; 71-357 [4]. 33N 71-262 [4(d)]. 33N 71-262 [1]. 33Q 71-327 [2(d)]. 33R 71-328 [3]. 37A BMNH DE 88 [1(d)]. *Burdwood Bank*: 35 NMW, SNAE 346 [2(d)]. (All material LACM unless otherwise indicated.)

DIAGNOSIS. **Shell** (Fig. 30). Small (maximum length 3.1 mm), elongate-conic, solid, opaque, with 3.0-4.3 teleoconch whorls. Spire with lightly convex outlines, whorls moderately convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch with strong, sharp spiral cords with wider interspaces; 4-6 (usually 5) cords on penultimate whorl, 8-12 on last whorl and base; interspaces with rather coarse, distinct axial growth lamellae and very fine spiral striae. Irregular axial sculpture may be present on upper whorls. Protoconch (Fig. 30A, E, F) of 1.1-1.3 whorls, with numerous scattered granules, sometimes aligned more or less spirally. Aperture oval, angled posteriorly. Inner lip narrow to moderately broad, attached to parietal wall; outer lip slightly opisthocline with a moderate posterior notch and prominent apertural varix immediately behind lip. Umbilical chink absent or narrow groove. Periostracum thin, transparent. Color white.

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TWP	PW	PD	PS	BS
Lectotype	2.58	1.21	2.12	0.90	2.88	4.0	1.3	0.38	4	9
Sta. 71-342										
Fig. 30C	2.68	1.19	2.26	0.79	3.40	4.2	1.2	0.36	4	9
Sta. 71-346	2.73	1.19	2.29	0.81	3.39	4.3	1.2	0.37	5	10
	2.96	1.30	2.27	0.89	3.31	4.2	1.1	0.46	6	12
	2.84	1.34	2.11	0.88	3.22	3.9	1.2	0.46	5	10
	2.77	1.34	2.06	0.89	3.11	3.6	1.2	0.46	5	10
	2.88	1.37	2.11	0.92	3.12	3.8	1.2	0.47	5	10
	3.01	1.40	2.15	0.95	3.18	4.0	1.2	0.46	5	10
Sta. 71-262	3.05	1.42	2.15	0.94	3.26	4.1	1.2	0.44	5	10
	2.42	1.27	1.91	0.87	2.78	3.2	1.3	0.47	4	8
	2.99	1.34	2.22	0.91	3.27	4.2	1.2	0.41	5	10
	2.83	1.32	2.14	0.91	3.09	3.8	1.2	0.44	5	11
Sta. 73-344										
Fig. 30B	2.73	1.34	2.00	0.87	3.13	4.2	1.2	0.41	5	9
Fig. 30D	2.73	1.39	1.96	0.95	2.87	4.1	1.3	0.37	4	9
	2.61	1.26	2.08	0.83	3.16	3.7	1.2	0.47	4	10
	3.04	1.45	2.10	0.95	3.22	4.2	1.2	0.45	6	11
	2.92	1.31	2.23	0.88	3.32	4.1	1.2	0.44	5	10
	2.91	1.39	2.10	0.91	3.19	4.1	1.1	0.41	5	10
	3.00	1.38	2.18	0.91	3.29	4.2	1.1	0.41	5	9
	2.69	1.24	2.13	0.87	3.02	3.8	1.2	0.43	5	9
	2.96	1.29	2.29	0.91	3.23	4.2	1.2	0.42	5	9
	2.93	1.38	2.13	0.92	3.17	4.2	1.2	0.44	5	9
	2.96	1.40	2.11	0.97	3.06	4.0	1.2	0.44	5	11
Sta. 71-329										
Fig. 30G	1.97	1.00	1.97	0.69	2.86	3.0	1.2	0.43	5	10
	2.29	1.13	2.03	0.75	3.04	3.9	1.2	0.32	5	8



2.37 1.18 2.01 0.78 3.03 3.6 1.2 0.40 5 10
 1.99 1.00 1.99 0.69 2.89 3.1 1.2 0.42 5 8
 Sta. 71-262 2.77 1.27 2.15 0.96 2.90 3.8 1.2 0.42 5 8

Operculum (Fig. 24A-C). Yellow, thin, horny, paucispiral, oval, with strongly convex outer edge and weakly convex inner edge. Weakly angled posteriorly, rounded anteriorly.

Radula (Fig. 23E, F). Central teeth with cusp formula 4-5+1+4-5, median cusp small, sharp; cutting edge triangular; single pair of well-developed basal denticles. Lateral teeth with cusp formula 6-8+1+6-8, primary cusp triangular, outer cusps larger and less crowded than small, irregular inner cusps. Inner marginal teeth with 16-17 sharp cusps on outer edge, inner edge obscured in mount. Outer marginal teeth with c. 8 cusps on inner side, outer side simple, cusps about equal in size to those on inner marginal teeth (4 radulae from 3 localities examined).

Animal. Unpigmented.

REMARKS. There is some variation in size and shape, particularly with respect to relative width. Extremes of this variation are shown in Figure 30B-D, G. The types are closest to the elongate form shown in Figure 30C. Some specimens from deeper water are much smaller and shorter (Fig. 30G) than the typical form, although intermediates are found (Fig. 30B, D). Some forms of *O. scythei* approach the shorter varieties of *O. fuegoensis*, but this latter species is always narrower. Both species have a similar granulate protoconch microsculpture, but the radula of *O. fuegoensis* has a triangular cutting edge, not almost straight as in *O. scythei*. This latter character needs to be confirmed, however, as only a single radula of *O. scythei* has been examined.

DISTRIBUTION. Tierra del Fuego in 50-900 m; shells found as shallow as 36 m. Common.

Onoba georgiana (Pfeffer, 1886)
 Figures 18D, 19B-D, 21B, D, F, 24G

Rissoa georgiana Pfeffer (in Martens and Pfeffer), 1886: 92, pl. 2, fig. 3 (SMNH 910; Swedish Antarctic Expedition, Sta. 28, South Georgia, 12-15 m); Carcelles and Williamson, 1951: 272.

Onoba georgiana: Ponder, 1983a: 15, figs. 9f-h, 10a-h (gives full synonymy).

MATERIAL EXAMINED. *Southern Chile*: 17 73-75 [7(d)]. 18 73-74 [7(d)]. 19 73-73 [many(d)]. 24 75-48 [22]; 75-49 [7(d)]. *Tierra del Fuego*: 28 71-271 [1(d)]. 29A 71-302 [1(d)] (doubtful identification). 30H USNM H 664 [1(d)]. 39 71-268 [4]. *Falkland Islands*: AMS C.167651,

TW1 [2(d)]. (All material LACM unless otherwise indicated.)

DIAGNOSIS. See Ponder, 1983a.

Shell (Figs. 19B-D, 21B, D, F).

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD
Sta. 75-48								
Fig. 19D	1.86	1.03	1.81	0.75	2.49	2.8	1.5	0.41
	1.89	1.07	1.76	0.78	2.44	2.8	1.3	0.39
	2.30	1.20	1.92	0.87	2.63	2.9	1.4	0.42
	2.33	1.20	1.92	0.89	2.62	2.9	1.4	0.42
Sta. 75-49								
Fig. 19B	1.79	1.15	1.56	0.77	2.32	2.5	1.4	0.41
Fig. 19C	1.86	1.12	1.66	0.78	2.37	2.7	1.3	0.41
	1.69	1.09	1.55	0.75	2.24	2.7	1.2	0.39
	1.83	1.12	1.63	0.76	2.39	2.8	1.1	0.38
Sta. 73-74	2.00	1.20	1.66	0.81	2.48	2.8	1.3	0.43
	1.90	1.19	1.59	0.80	2.39	2.5	1.3	0.47
	1.87	1.17	1.60	0.76	2.45	2.8	1.3	0.42
	1.84	1.12	1.64	0.77	2.37	2.7	1.3	0.42
	2.09	1.25	1.67	0.82	2.55	2.7	1.3	0.46
	1.88	1.09	1.73	0.75	2.50	2.7	1.3	0.43
Sta. 73-73	1.96	1.10	1.78	0.76	2.56	2.9	1.3	0.39
	1.96	1.12	1.75	0.76	2.56	2.9	1.2	0.42
	1.97	1.13	1.74	0.77	2.54	2.8	1.2	0.42
	1.98	1.17	1.63	0.80	2.41	2.5	1.3	0.42
	1.90	1.14	1.67	0.78	2.42	2.8	1.2	0.40
	2.00	1.10	1.81	0.78	2.53	2.8	1.3	0.43
	1.93	1.10	1.76	0.73	2.65	2.8	1.3	0.42
	1.82	1.07	1.69	0.69	2.64	2.6	1.3	0.43
	2.00	1.13	1.79	0.77	2.58	2.8	1.3	0.43
	1.91	1.09	1.76	0.75	2.54	2.7	1.4	0.43

Operculum (Fig. 24G).

Radula (Fig. 18D).

REMARKS. This species is not redescribed here because it is fully described by Ponder (1983a), the South American material being figured here for comparison. Of the other South American species, *O. georgiana* is most similar to *O. erugata* n. sp. in shell and radular characters and is contrasted with that species below. The records from southern Chile, Tierra del Fuego, and the Falkland Islands represent a significant range extension.

DISTRIBUTION. South Georgia, South Orkney Islands, Falkland Islands, Tierra del Fuego, and southern Chile. Intertidal and shallow subtidal. Often common. One specimen, doubtfully this species, from 270 m.

Onoba erugata n. sp.

Figures 18E, 19A, G, 21A, C, E, 24F

ETYMOLOGY. E—Latin. Out of, from. Ru-

←
Figure 30. Detail of shells of *Onoba fuegoensis* (Strebel). **A, E**, Sta. 71-344; **A**, lateral view of protoconch; **E**, protoconch microsculpture. **B, D**, Sta. 71-344, shells, both length 2.73 mm. **C**, Sta. 71-342, shell, length 2.68 mm. **F, G**, Sta. 71-329; **F**, protoconch microsculpture; **G**, shell, length 1.97 mm. Scale bars: **A**, 100 μ m; **B-D, G**, 500 μ m; **E, F**, 50 μ m.

gata—Latin. Crease, wrinkle. Refers to protoconch microsculpture.

MATERIAL EXAMINED. Types. Holotype, LACM 2690, 94 paratypes, LACM 2691; 6 paratypes, AMS C.167425. 28 71-270. W side Bahía Buen Suceso, Tierra del Fuego, Argentina. 54°47.8'S, 65°16'W, intertidal, sand, rocks, and mussels, Sta. 71-2-8, USARP-SOSC-R/V *Hero* Cr.712, 23 Apr. 1971.

Additional Material Examined. *Tierra del Fuego*: 30A USNM H 654 [1]. 32A 71-273 [3]. 32B 71-295 [1(d)]. 32H 71-287 [3]. 33G 73-66 [2(d)]. (All material LACM unless otherwise indicated.)

DIAGNOSIS. Shell (Figs. 19A, G, 21A, C, E). Small to minute (maximum length 1.6 mm), ovate-conic, thin, translucent when fresh, with 2.5–2.7 teleoconch whorls. Spire with straight to lightly convex outlines, whorls moderately to strongly convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch smooth and sometimes glossy but may have moderately strong orthocone growth lines. Protoconch (Fig. 21A, C, E) of 1.1–1.4 whorls, almost smooth but with about 14 faint, spiral rows of short, curved, axial wrinkles separated by narrow, spiral, smooth spaces (Fig. 21E). Aperture oval, weakly angled posteriorly, with sharp peristome. Inner lip narrow, attached to parietal wall in posterior part; outer lip orthocone, with moderate posterior notch and weak apertural varix immediately behind lip. Umbilical chink minute to absent. Periostracum thin, transparent. Color white to pale yellow.

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD
Holotype	1.49	0.85	1.77	0.63	2.35	2.6	1.2	0.37
Paratypes								
Fig. 19A	1.52	0.96	1.69	0.63	2.39	2.6	1.3	0.31
	1.64	0.99	1.66	0.64	2.54	2.7	1.1	0.40
	1.48	0.93	1.59	0.64	2.30	2.6	1.2	0.35
	1.59	0.94	1.70	0.66	2.43	2.6	1.3	0.39
	1.53	0.97	1.58	0.66	2.32	2.6	1.1	0.33
	1.60	0.10	1.60	0.68	2.37	2.5	1.4	0.35
	1.57	0.98	1.60	0.67	2.35	2.7	1.3	0.38
	1.55	0.95	1.64	0.64	2.41	2.5	1.3	0.39
	1.59	1.00	1.59	0.64	2.46	2.6	1.2	0.39
	1.54	0.95	1.54	0.65	2.37	2.6	1.1	0.32
	1.47	0.92	1.59	0.62	2.36	2.6	1.2	0.35

Operculum (Fig. 24F). Thin, horny, paucispiral, oval with strongly convex outer edge and moderately convex inner edge. Moderately angled posteriorly, rounded anteriorly.

Radula (Fig. 18E). Central teeth with cusp formula 4+1+4, median cusp moderately long, narrow, sharp; cutting edge triangular; single pair of well-developed basal denticles. Lateral teeth with cusp formula 4–5+1+6–8, primary cusp triangular, sharp, inner cusps smaller than outer cusps. Inner marginal teeth with about 20 small cusps on outer edge and distal end, inner edge obscured in mounts. Outer marginal teeth with simple outer edge, inner edge obscured in mounts (2 radulae examined).

Animal. Unpigmented.

REMARKS. This species is very similar to *O. georgiana* but has a smaller shell (compare dimensions with those of *O. georgiana* above), typically with a relatively smaller aperture, and more convex whorls. Also, unlike *O. georgiana*, there is no spiral sculpture or obvious periostracum on the teleoconch and the protoconch microsculpture, although somewhat similar, is more weakly developed and a different pattern (compare Figs. 21A, C, E and 21D, F). In addition, fresh (“live-collected”) shells are translucent, whereas those of *O. georgiana* are opaque. *Onoba melvilli* (Hedley, 1916) from Macquarie Island SW of New Zealand is very similar to *O. erugata* in teleoconch shape and the lack of spiral sculpture but resembles *O. georgiana* in other characters, including protoconch microsculpture (Ponder, 1983a).

DISTRIBUTION. Tierra del Fuego. Mainly intertidal. Locally common.

***Onoba amissa* nom. nov.**

Figure 10B

Paludestrina striata Orbigny, 1840: 386, pl. 75, figs. 7–9 (Lectotype, BMNH 1854.12.4.349 (+3 specimens of *Powellisetia* sp.); southern coast of Patagonia, near Puerto San Julián (Argentina) and Falkland Islands); Da Silva and Davis, 1983: 144, fig. 17 (also as *Onoba*). Not *Turbo striatus* J. Adams, 1797 = *Onoba semicostata* (Montagu, 1803).

Hydrobia striata: Carcelles, 1950: 55.

Hydrobia? striata: Carcelles and Williamson, 1951: 270.

ETYMOLOGY. *Amissa*—Latin. Lost. Refers to the unknown locality of this taxon.

DIAGNOSIS. A shell description and dimensions are given by Da Silva and Davis (1983).

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW + PW
Lectotype (from Da Silva and Davis, 1983)	2.18	1.4	1.56	1.04	2.10	4.25

REMARKS. The type of this species was apparently obtained on the southeastern coast of Patagonia or at the Falkland Islands and does not appear to have been recollected. The type is figured for comparison with the fauna described herein. It differs from all of the other South American species of *Onoba* in its ovate shape and in having more numerous, closely spaced spiral cords.

Da Silva and Davis (1983) figured this species and noted that there are two species in the syntype series. The largest specimen was chosen as the lectotype (Fig. 10B) by Da Silva and Davis (1983), and they noted that the three smaller shells (Da Silva and Davis, 1983: figs. 18, 19) are a species of *Powellisetia*. They stated (p. 144) that “[t]he largest specimen is *Onoba striata*, a rissoid species.” Un-

fortunately there is another *Onoba striata* in the literature, *Turbo striatus* J. Adams, 1797, which is a synonym of *Onoba semicostata* (Montagu, 1803) because it is a primary homonym of the prior *Turbo striatus* da Costa, 1778. *Onoba striata* (Orbigny, 1840) is thus invalid (ICZN, Art. 57(c)(i) and a replacement name is proposed above.

***Onoba* (?) *algida* n. sp.**

Figures 20G, 27A

ETYMOLOGY. *Algida*—Latin. Cold. Refers to sub-Antarctic location.

MATERIAL EXAMINED. Types. Holotype, LACM 2692, 14 paratypes, LACM 2693; 3 paratypes, AMS C.167457. **30C** 71-344. Bahía Capitán Cánepa, Isla de los Estados, Tierra del Fuego, Argentina. 54°50.2'S, 64°29.4'W, 67-71 m, Sta. 897, USARP-SOSC-R/V *Hero* Cr.715, 4 Nov. 1971.

Additional Material Examined. Tierra del Fuego: 30B 71-346 [3(d)]. **30J** 71-260 [2(d)]. **33B** 71-267 [many(d)]. **33F** 71-265 [1(d)]; 71-357 [8(d)]. (All material LACM.)

DIAGNOSIS. Shell (Figs. 20G, 27A). Small (maximum length 3.1 mm), ovate-conic, solid, opaque, with 2.8-3.5 teleoconch whorls. Spire with lightly convex to straight outlines, whorls moderately convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch with strong, rounded spiral cords with wider interspaces and 5-9 prominent, broad axial folds that reach suture but not extending onto base. Five to 9 (usually 6 or 7) spiral cords on penultimate whorl, 11-13 on last whorl and base; interspaces with fine axial growth lamellae and very fine spiral striae. Spiral cords generally pass over tops of folds and do not form gemmules. Protoconch (Fig. 20G) of 1.2-1.3 whorls, microsculpture of short to long ridges arranged as somewhat irregular spiral lines. Aperture oval, angled posteriorly. Inner lip narrow to moderately broad, attached to parietal wall in upper portion; outer lip very slightly opisthocline with prominent apertural varix immediately behind lip. Umbilicus very small. Periostracum not observed. Color white.

Dimensions.

	SL/ SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD	PS	BS	PA	BA
Holotype	2.72	1.56	1.74	0.99	2.75	3.2	1.2	0.50	6	11	5	6
Paratypes												
2.87	1.70	1.69	1.04	2.75	3.3	1.2	0.49	9	12	6	8	
2.96	1.66	1.79	1.04	2.84	3.2	1.2	0.54	—	—	—	—	
2.70	1.55	1.77	1.02	2.64	3.1	1.2	0.54	7	13	6	7	
2.68	1.56	1.72	1.02	2.62	3.1	1.2	0.52	6	12	5	7	
3.13	1.78	1.75	1.11	2.83	3.5	1.3	0.55	7	12	5	6	
Sta. 75-357												
2.71	1.37	1.71	0.85	2.77	3.3	1.2	0.50	7	12	5	7	
2.75	1.48	1.86	0.95	2.91	3.4	1.2	0.48	7	11	5	6	
2.39	1.40	1.71	0.97	2.47	2.8	1.2	0.57	5	12	6	7	

Operculum, radula, and animal unknown.

REMARKS. This is the only known species in the area with coarse axial sculpture on the shell, giving it a superficial resemblance to *Rissoa* (*Alvania*) *luscinae* Watson, 1886, from Tristan da Cunha, but is broader, with stronger axials that persist onto the last whorl. *Rissoa luscinae* was placed in *Onoba* (*Subestea*) by Ponder (1985a: 59). The types have about seven spiral ridges on the protoconch, this character being one of the factors influencing the subgeneric placement. *Onoba algida* has weak spiral sculpture on the protoconch made up of roughly aligned, short, rather irregular ridges. Partly because we have not been able to examine *O. luscinae* using the SEM, it is by no means clear whether or not there is any likely relationship between these two species but our interpretation of the gross teleoconch and protoconch characters favors the idea that the resemblance is superficial. Although we tentatively include the new species in *Onoba*, we have no firm basis for doing this. The protoconch microsculpture (Fig. 20G) is not distinctive, somewhat similar microsculpture being seen in species of *Onoba* and *Alvania*. The general shell morphology is also somewhat similar to species included in *Alvania* and *Onoba* and, although the strong axial sculpture on the teleoconch suggests a relationship with *Alvania*, we judge this to be due to convergence. Other eastern Pacific species included in *Onoba* by Ponder (1985a) develop rather strong axial sculpture—for example *O. carpenteri* (Weinkauff, 1885)—although it is more prominently developed in *O. algida* than in other taxa included in *Onoba* s.s. to date. Final determination of the generic position of this species must await anatomical examination.

DISTRIBUTION. Tierra del Fuego; known only from empty shells, moderately common in 35-70 m.

***Onoba* (?) *lacuniformis* n. sp.**

Figures 12F, 20A, C, 27B, E

ETYMOLOGY. Similar in shape to the gastropod genus *Lacuna*.

MATERIAL EXAMINED. Types. Holotype, LACM 2694, 2 paratypes, LACM 2695; 1 paratype, AMS C.167458. **32H** 71-287. Puerto Cook, Isla de los Estados, Tierra del Fuego, Argentina. 54°45.25'S, 64°2.3'W, intertidal, Sta. 71-2-37, USARP-SOSC-R/V *Hero* Cr.712, 17 May 1971.

Additional Material Examined. Southern Chile: 24 75-48 [1(d)]; 75-49 [3(d)]. **Tierra del Fuego: 32G** 71-311 [1(d)]. **Falkland Islands: AMS C.167486, TW1** [2(d)]. (All material LACM unless otherwise indicated.)

DIAGNOSIS. Shell (Figs. 20A, C, 27B). Small (maximum length 2.2 mm), ovoid, moderately thick, opaque, with 1.5-2.2 teleoconch whorls. Spire with moderately convex outlines, whorls strongly convex and slightly shouldered; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch smooth. Protoconch (Fig. 20A, C) of 1.1-1.3 whorls

with fine, irregular reticulation so that surface appears to be covered in small, irregular, shallow pits. Aperture oval, weakly angled posteriorly, with slightly prosocline, simple outer lip. Umbilical chink extremely narrow or absent. Periostracum not observed. Color pale yellowish grey to white.

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD
Holotype	2.02	1.27	1.59	0.93	2.17	2.2	1.3	0.49
Paratype	2.05	1.21	1.69	0.90	2.25	1.8	1.2	0.60
Sta. 75-49	2.13	1.34	1.57	0.97	2.18	1.6	1.2	0.64
	2.15	1.38	1.56	1.03	2.08	1.5	1.1	0.62
Sta. 75-48	2.02	1.38	1.47	1.02	1.98	1.9	1.1	0.53
Sta. 71-311	2.13	1.31	1.62	1.00	2.13	2.0	1.1	0.53

Note: Limits of protoconch difficult to determine.

Operculum (Fig. 12F). Simple, paucispiral with weakly angled posterior end and almost equally convex inner and outer edges.

Radula (Fig. 27E). Central teeth with cusp formula 4-5+1+4-5, median cusp minute, smaller than adjacent cusps; lateral cusps sharp, small, and somewhat irregular; cutting edge convex; single pair of short basal denticles; outer edges of tooth weakly thickened, straight. Lateral teeth with cusp formula 4+1+5, primary cusp long, triangular, sharp, inner cusps smaller than outer. Inner marginal teeth with 15-16 small, sharp cusps on inner side and distal end, outer edge obscured in mount. Outer marginal teeth with simple outer edge, inner side obscured in the single specimen available.

Animal. Unknown.

REMARKS. This species is only tentatively assigned to *Onoba*, and the Rissoidae, because, on the basis of shell and radular characters, it may represent a new genus. The shell has a somewhat larger, differently shaped aperture compared with species of *Onoba*, although the protoconch microsculpture is similar to that seen in *O. georgiana*. The radula (based on the single specimen available) differs considerably in not having the lateral edges of the central teeth strongly thickened and arched and the pair of basal cusps is smaller than in species of *Onoba*. The convex cutting edge of the central teeth bears minute cusps and the median cusp is smaller, not markedly larger as in species of *Onoba* and in all other rissoids. The shell has some similarity to members of the Elachisnidae (Ponder, 1985b), but the radula of that group differs considerably from *O. lacuniformis*. A new genus-group name is not provided pending anatomical information to establish the relationships of this species to other taxa.

DISTRIBUTION. Strait of Magellan, Tierra del Fuego, and Falkland Islands; intertidal to shallow subtidal. Uncommon.

Family BARLEEIDAE

The genera of this family have been reviewed and diagnosed by Ponder (1983b). The family is now

(Ponder, 1988) restricted to what was previously the subfamily Barleeinae (Ponder, 1983b). Barleeid shells closely resemble those of eatoniellids in shape and size and in possessing an inner "chitinous" layer, but barleuids have a straight (not curved) opercular peg and the operculum has a heavy internal ridge. In addition, barleuids are very different anatomically and are phallate.

Genus Barleeia Clark, 1853

This genus has been diagnosed by Ponder (1983b), who also listed many of the named species. A characteristic feature is the dark wine-red operculum and the protoconch having pitted microsculpture. This genus has a wide distribution but is unknown from New Zealand.

Barleeia meridionalis n. sp.

Figure 27F, G

ETYMOLOGY. Meridionalis—Latin. Southern.

MATERIAL EXAMINED. Types. Holotype, LACM 2696, 4 paratypes, LACM 2697. 2B 74-24. Isla San Lorenzo, midway on NE side, rocky point N of naval base, Lima Prov., Peru. 12°5.75'S, 77°12.9'W, 0-4.5 m, J.H. McLean, J.A. Coyer, and J.M. Engle, 29 Jan. 1974. 9 paratypes, LACM 2754; 3, AMS C.167453. 3 72-76. Pucusana (Chilca), Lima Prov., Peru. 12°30'S, 76°49'W, 0-6 m, J.H. McLean, Mar.-Apr. 1972.

Additional Material Examined. Peru: 2A 38-208 [1(d)]. 2C 35-147 [1(d)]. 4 72-78 [many(d)]; 35-159 [8(d)]. 5 35-156 [1(d)]. (All material LACM unless otherwise indicated.)

DIAGNOSIS. Shell (Fig. 27F, G). Small (maximum length 1.75 mm), ovoid-conic, moderately thick, opaque, with 2.5-2.8 teleoconch whorls. Spire with lightly convex outlines, whorls lightly convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch smooth except for very faint axial growth lines and almost imperceptible traces of spirals on base. Protoconch with 12-14 spiral rows of punctures, of 1.2-1.3 whorls. Aperture oval, weakly angled posteriorly, with sharp peristome. Inner lip narrow, outer lip moderately prosocline. Umbilical chink absent. Periostracum not observed. Color uniform reddish-brown, some shells bleached to white.

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD
Holotype	1.75	1.05	1.66	0.68	2.59	2.8	1.2	0.39
Paratypes	1.64	1.01	1.63	0.57	2.89	2.7	1.2	0.35
	1.59	1.11	1.63	0.66	2.75	2.7	1.3	0.42
Sta. 72-78	1.68	0.98	1.71	0.63	2.64	2.5	1.2	0.40
	1.66	0.99	1.67	0.63	2.61	2.6	1.2	0.34
	1.67	1.05	1.58	0.66	2.54	2.6	1.2	0.39
	1.52	1.02	1.59	0.59	2.75	2.5	1.2	0.41
	1.64	1.02	1.61	0.63	2.59	2.5	1.2	0.39
	1.71	1.00	1.71	0.63	2.69	2.7	1.2	0.35
	1.67	1.00	1.67	0.66	2.54	2.7	1.2	0.33

Operculum, radula, and animal unknown.

Subclass HETEROBRANCHIA

Superfamily RISSOELLOIDEA

Family RISSOELLIDAE

The genus-group taxa in this family were reviewed by Ponder and Yoo (1977b), who recognized only one genus and four subgenera. Comments by Haszprunar (1988) suggest that some of these are very distinct anatomically and will ultimately be raised to generic rank. Members of the family are readily distinguished by their simple, thin, translucent shells and distinctive operculum bearing a short, blunt peg in the middle of the columellar edge.

Genus *Rissoella* J.E. Gray, 1847

Subgenus *Rissoella*

Members of this subgenus have a distinctive radula with large central and lateral teeth that bear many small cusps.

Rissoella (Rissoella) peruviana n. sp.

Figure 31

ETYMOLOGY. Named after Peru.

MATERIAL EXAMINED. Types. Holotype, LACM 2698, 21 paratypes, LACM 2699; 4 paratypes, AMS C.167452. 1 74-6. Isla Lobos de Afuera (NW and NE of isthmus), Peru. 6°57.1'S, 80°42.3'W, 2-10 m, rocks and sand, J.H. McLean, J.A. Coyer, and J.M. Engle, 19-20 Jan. 1974.

Additional Material Examined. Peru: 2B 74-24 [1(d)]. Northern Chile: 6A 64-16 [13]; AMS C.167475 [2]. 8A 75-17 [10(d)]. 8B 75-19 [5(d)]. (All material LACM unless otherwise indicated.)

DIAGNOSIS. Shell (Fig. 31A, C, D). Minute (maximum length 1.7 mm), ovate-conic, thin, semi-transparent, with about 3 teleoconch whorls. Spire with straight to lightly convex outlines, whorls moderately to strongly convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch smooth with faint growth lines. Protoconch (Fig. 31D) smooth of about 1.1-1.2 whorls. Aperture oval, angled posteriorly, with sharp, simple peristome. Inner lip thin, outer lip slightly prosocline. Umbilical chink moderate. Colorless when fresh, dead shells white. (Description only based on type series.)

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD
Holotype	1.54	0.97	1.60	0.68	2.29	3.1	1.2	0.21
Paratypes	1.60	0.97	1.66	0.70	2.27	3.1	1.1	0.22
	1.64	0.99	1.65	0.73	2.24	3.1	1.2	0.27
	1.74	1.06	1.64	0.76	2.29	3.3	1.1	0.24
	1.38	0.86	1.61	0.61	2.27	2.8	1.2	0.25
	1.49	0.92	1.61	0.69	2.16	2.9	1.2	0.25
Sta. 64-16								
Fig. 31A	1.17	0.76	1.53	0.54	2.18	2.0	1.2	0.33
	0.95	0.65	1.47	0.48	1.96	2.0	1.2	0.25
	0.98	0.70	1.40	0.48	2.02	1.9	1.3	0.27

REMARKS. Because the shell (including the diagnostic protoconch microsculpture) is typical of the genus, we have no hesitation in placing this species in *Barleeia* despite the lack of confirmatory evidence from the operculum and radula. Compared with other eastern Pacific species, the shell of this species is similar in size and shape to three taxa: *B. alderi* (Carpenter, 1856) differs in its yellow color with narrow color bands; *B. californica* Bartsch, 1920, differs in its subangled periphery and is white with wide pale brown bands; and *B. carpenteri* Bartsch, 1920, is white.

Barleeia rubrooperculata (Castellanos and Fernandez, 1972) from the Golfo de San Matias, Argentina, has a much more elongate shell. This species was described as an *Eatoniella*, but the radula and operculum (Castellanos and Fernandez, 1972b: 231, 233, figs 5, 6) indicate its placement in *Barleeia* (Ponder, 1983b).

DISTRIBUTION. Peru; empty shells from intertidal to 90 m. Uncommon.

Family Anabathridae

This family was separated from the Barleidae by Ponder (1988) on the basis of anatomical differences but, like that family, the shell has an inner "chitinous" layer. The genera it contains were reviewed and diagnosed by Ponder (1983b).

Genus *Amphithalamus*

Carpenter, 1864

This genus has been diagnosed by Ponder (1983b). It has a wide distribution in temperate to tropical waters, although no Recent species are known from the eastern Atlantic/Mediterranean Sea. Species of *Amphithalamus* are distinguished by their small, thick shells that have a deep groove separating the inner lip from the parietal wall.

Amphithalamus cf. *inclusus*

Carpenter, 1864

Figure 27D

MATERIAL EXAMINED. Northern Chile: 8A 75-17 [5(d)]. 8CB 75-15 [2(d)]. 8B 75-19 [1(d)]. (All material LACM.)

DIAGNOSIS. See remarks.

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD
Sta. 75-15								
Fig. 27D	1.24	0.83	1.49	0.54	2.32	1.8	1.4	0.34
	1.35	0.89	1.52	0.62	2.18	2.2	1.4	0.38

REMARKS. The only available material of this species is in rather poor condition. The shells are very similar to the Panamic *A. inclusus* (see Ponder, 1983b, for synonymy) and also to its Caribbean analogue *A. valleii* Aguayo and Jaume, 1947.

DISTRIBUTION. Northern Chile. Intertidal; only empty shells.

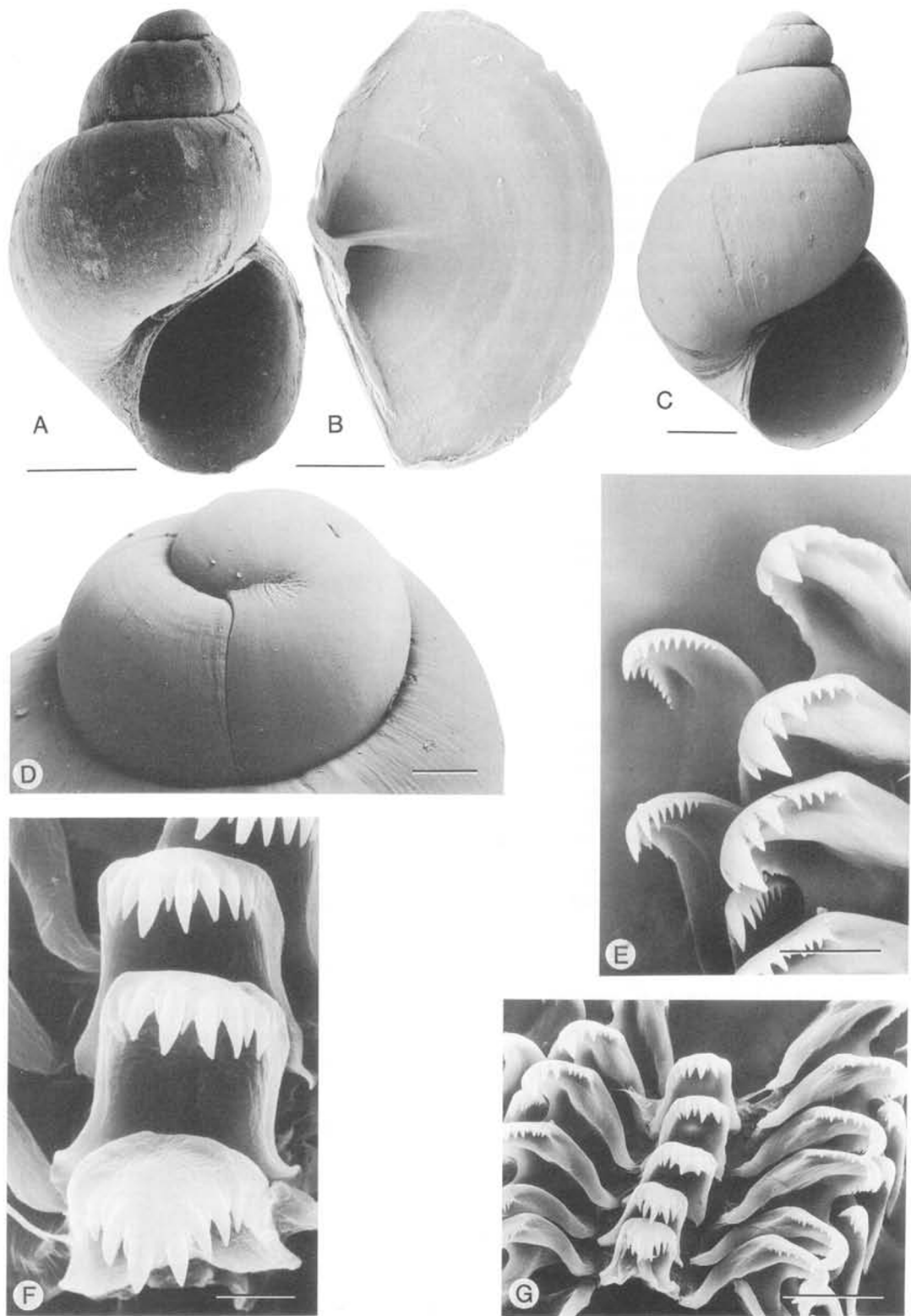


Figure 31. *Rissoella* spp. A, *Rissoella* cf. *peruviana*, Sta. 64-16, shell, length 1.17 mm. B-G, *Rissoella peruviana* n. sp.; B, D-F, paratypes; B, operculum, inner side; D, protoconch; E-G, radula; E, detail of marginal teeth; F, detail of central teeth. C, Holotype, shell, length 1.54 mm. Scale bars: A, C, 250 μ m; B, 100 μ m; D, 50 μ m; E, 10 μ m; F, 5 μ m; G, 20 μ m.

1.13	0.73	1.54	0.53	2.14	2.1	1.0	0.25
1.00	0.69	1.45	0.49	2.02	1.7	1.2	0.32
1.01	0.67	1.52	0.48	2.09	1.7	1.2	0.32
1.12	0.74	1.51	0.55	2.04	2.0	1.2	0.32
1.09	0.72	1.51	0.45	2.40	2.0	1.1	0.30
1.14	0.77	1.47	0.54	2.12	2.0	1.1	0.31
1.06	0.68	1.57	0.49	2.15	1.8	1.2	0.30

Operculum (Fig. 31B). Typical of genus, inner surface with small twisted peg, median transverse ridge and two ridges along inner edge. Nucleus marginal, at middle of inner edge.

Radula (Fig. 31E-G). Symmetrical; central teeth large, subrectangular, with about 7-8 sharp, main cusps alternating with small, sharp cusps about $\frac{1}{2}$ - $\frac{1}{3}$ size of main cusps; no clearly differentiated median cusp. Lateral teeth elongate, with cusp formula, 9-12+1+6-8, primary cusp triangular, sharp, markedly larger than adjacent cusps, with 1-2 cusps on either side larger than other lateral cusps, all cusps sharp. Marginal teeth smaller than lateral teeth (outer marginal teeth absent), 7-9+1+7-8, cusps sharp, primary cusp triangular, markedly larger than adjacent cusps (based on 2 radulae).

Animal. Dried, not obviously pigmented.

REMARKS. The only other rissoellid species recognized from the eastern Atlantic are *Rissoella tumens* (Carpenter, 1856), *R. asteriaphila* (Carpenter, 1864), and *R. bertleini* A.G. Smith and Gordon, 1948. The two former taxa are more ovate, the first having a ridge on the base. The last species is more similar in shape but is larger (length 2.2 mm compared to less than 1.8 mm) and is yellowish-brown rather than colorless. None of the other eastern Pacific species have had their radula examined to enable more detailed comparison of these otherwise rather featureless taxa.

Empty shells, which agree rather well with the type series, have been found well south of the type locality of *Rissoella peruviana* (see additional material examined). One lot (LACM 64-16) contained a specimen with a dried animal, but the radula was not successfully mounted, although the operculum is typical of the family and like that illustrated for *R. peruviana*. Until radulae are examined, the specific status of these specimens must remain in some doubt. They are usually smaller in size than the type series of *R. peruviana* and, consequently, have fewer whorls (see the dimensions section) but they agree well in most other shell characters.

DISTRIBUTION. Peru to northern Chile; intertidal to 15 m. Uncommon.

Part 2

Additional species and records for South Georgia and Falkland Islands

Family Eatoniellidae

Eatoniella (*Eatoniella*) *strebelsi* n. sp.

Eatoniella kerguelenensis forma *contusa* Strebels, 1908: 57 (in part).

Eatoniella aff. *caliginosa* Ponder, 1983a: 6, figs. 4c-e, 5h, i.

ETYMOLOGY. Named for the German malacologist H. Strebels (1834-1915) in recognition of his early work on sub-Antarctic faunas.

MATERIAL EXAMINED. **Types**. Holotype (specimen figured by Ponder, 1983a, fig. 4c) and 50+ paratypes, SMNH 5 paratypes, AMS C. 302328. SSPE 25, South Georgia. 54°22'S, 36°27'W, 24-25 m.

Additional Material Examined. *South Georgia*: SMNH SSPE 28 [2]. *Burdwood Bank*: SMNH SSPE 59 [many].

DIAGNOSIS. **Shell**. Minute (maximum length 1.7 mm), ovate-conic, moderately thick, with 3.1-3.5 teleoconch whorls. Spire with lightly convex outlines, whorls moderately convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch smooth with faint growth lines. Protoconch smooth, of about 1.2-1.4 whorls. Aperture oval to near circular, very weakly angled posteriorly, slightly reflexed, with moderately sharp peristome, lacking external varix. Inner lip moderately broad, detached from parietal wall, outer lip moderately prosocline. Umbilical chink absent or very narrow. Periostracum very thin, transparent. Color white to pale cream.

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD
Holotype	1.54	1.12	1.38	0.74	2.07	3.1	1.3	0.26
Paratypes	1.72	1.13	1.52	0.74	2.31	3.5	1.4	0.30
	1.34	0.92	1.45	0.59	2.26	3.2	—	—
	1.70	1.10	1.54	0.72	2.37	3.3	1.2	0.29
	1.56	1.10	1.41	0.72	2.17	3.2	1.3	0.27
	1.64	1.02	1.61	0.69	2.38	3.2	1.2	0.24

Operculum. Pale yellow, oval. Peg stout, curved.

Radula. Central teeth with cusp formula 3+1+3, median cusp with rounded end, narrow. Lateral teeth with cusp formula 2+1+3, primary cusp triangular. Inner marginals with cusp formula 4+1+1-2, primary cusp triangular. Outer marginals with 6-7 small, sharp cusps (based on 2 radulae).

Animal. Unpigmented or pale yellowish, with distinct orange-brown spot on visceral coil.

REMARKS. This species was recognized as a probable undescribed taxon by Ponder (1983a), who figured the shell, radula, and operculum. Examination of the additional material now available shows that the shell form, radula, and operculum are consistent, and we are now confident in recognizing these specimens as a new species. Of the southern species, *E. strebeli* is similar to *E. caliginosa* from which it differs in its yellowish-white color (not grey or black) and smaller size. It also appears to be similar to *E. argentinensis*, being of similar size and shape, but direct comparison of specimens has not been possible. However, the radula of *E. argentinensis* has two cusps on either side of the median cusp of the central teeth, the opercular peg is straighter, and the shell aperture is not as flared.

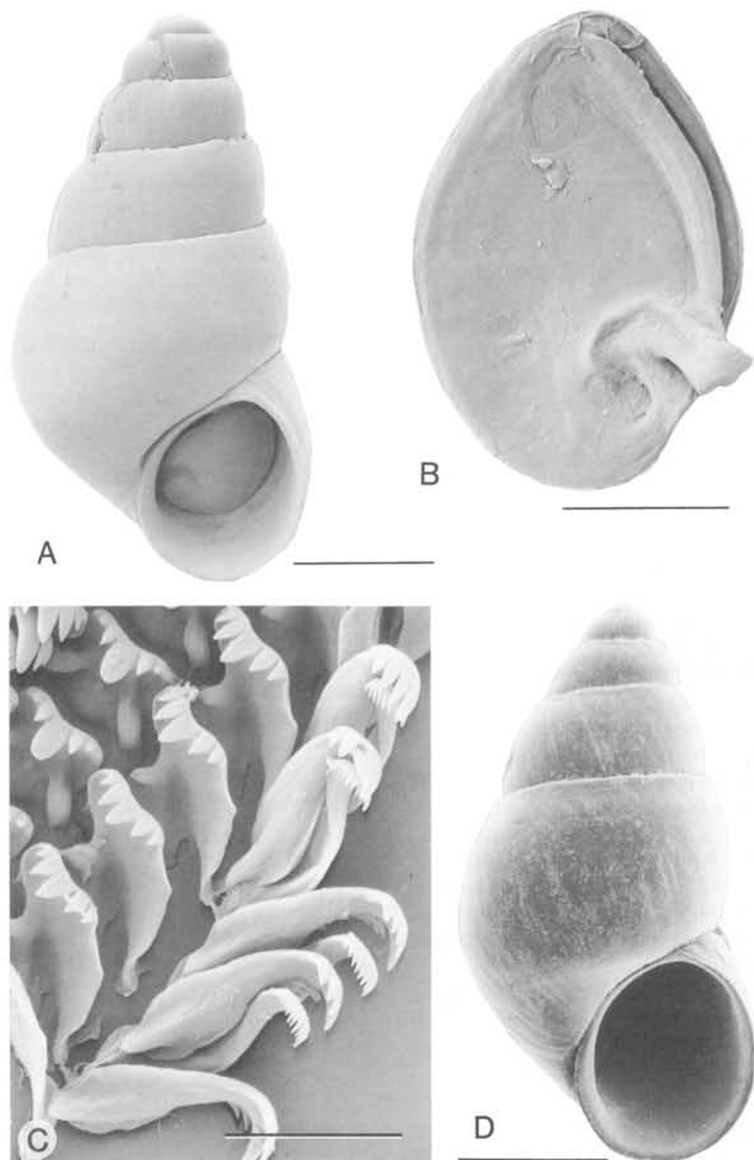


Figure 32. Species of *Eatoniella* from Falkland Islands and Juan Fernández Islands. A–C, *Eatoniella bennetti* (Preston), Sta. TW2; A, shell, length 2.01 mm; B, operculum, inner side; C, radula. D, *Eatoniella zigzag* n. sp., holotype, shell, length 2.14 mm. Scale bars: A, D, 500 μ m; B, 200 μ m; C, 20 μ m.

DISTRIBUTION. South Georgia, Burdwood Bank, and (possibly) South Orkney Islands.

Eatoniella (Eatoniella) cf. cana
Ponder, 1983

See Part 1 for details.

Eatoniella (Eatoniella) occulta
Ponder, 1983

Eatoniella occulta Ponder, 1983a: 12, figs. 2f, 8a–c.

MATERIAL EXAMINED. *Falkland Islands:* SMNH SSPE 43 [7]; SMNH SSPE 46 [many]; AMS C.167492,

TW2 [3]; AMS C.167491, TW3 [2]. *Burdwood Bank:* SMNH SSPE 59 [many].

REMARKS. This species was described from a single sample, but the above records indicate that it is rather common at the Falkland Islands and its range is now extended to the Burdwood Bank.

Eatoniella (Eatoniella) bennetti
(Preston, 1912)
Figures 10D, 32A–C

Laevilitorina bennetti Preston, 1912: 636, pl. 21, fig. 1.

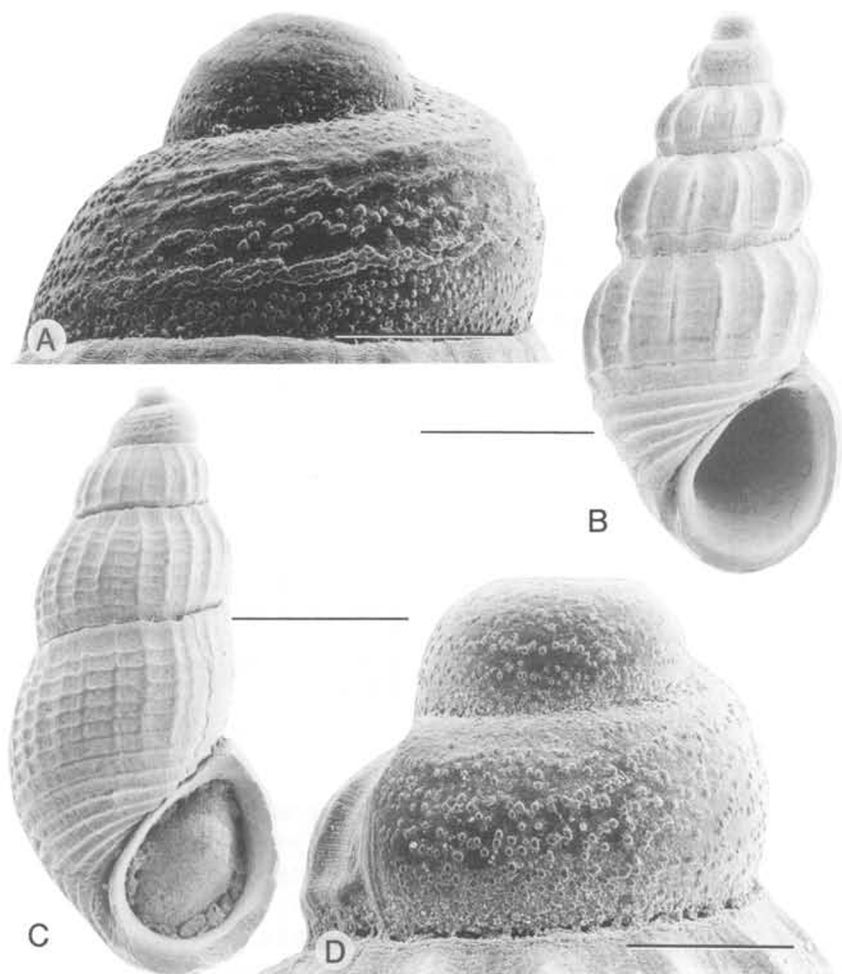


Figure 33. Species of Rissoidae from Juan Fernández Islands. **A, C,** *Onoba ? isolata* n. sp., holotype; **A,** lateral view of protoconch; **C,** shell, length 1.91 mm. **B, D,** *Onoba ? protopustulata* n. sp., holotype; **B,** shell, length 1.77 mm; **D,** lateral view of protoconch. Scale bars: **A, D,** 100 μ m; **B, C,** 500 μ m.

MATERIAL EXAMINED. Type. Holotype, BMNH, 1913.7.31.186. Port Stanley, Falkland Islands, associated with *Tonicia*, A.G. Bennett.

Additional Material Examined. Falkland Islands: AMS, C.167484, C.167485 [many], BMNH [6], LACM [6], all TW2.

DIAGNOSIS. Shell (Figs. 10D, 32A). Small (maximum length 2.1 mm), elongate-conic, rather thick, opaque, with about 4 teleoconch whorls. Spire with straight outlines, whorls very lightly convex; periphery of last whorl rounded or very slightly angled. Sutures impressed, simple. Teleoconch smooth, sometimes glossy, with regular, faint growth lines. Protoconch smooth of 1.3–1.5 whorls. Aperture ovoid to almost circular, weakly angled posteriorly, with sharp peristome, lacking external varix. Inner lip narrow, outer lip moderately to strongly prosocline. Umbilicus absent. Periostracum very thin, transparent. Color uniform dark grey to black, occasionally pale grey.

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD
Lectotype Sta. TW2	1.67	1.05	1.59	0.58	2.88	3.5	1.4	0.30
Fig. 32A	2.01	1.12	1.80	0.69	2.92	3.8	1.4	0.29
	2.14	1.13	1.89	0.76	2.82	4.1	1.4	0.29
	2.03	1.19	1.71	0.68	3.00	4.0	1.5	0.28
	1.96	1.12	1.75	0.69	2.84	4.1	1.4	0.28
	1.99	1.20	1.66	0.69	2.88	3.9	1.3	0.30
	2.10	1.16	1.81	0.72	2.92	4.1	1.5	0.29
	2.04	1.13	1.80	0.70	2.90	4.0	1.4	0.27

Operculum (Fig. 32B). Externally black with yellowish mottling; oval. Peg rather narrow, curved.

Radula (Fig. 32C). Central teeth with cusp formula 3+1+3, median cusp short, spade-like, with truncated to rounded end; cusps very small. Lateral teeth with cusp formula 2+1+2, primary cusp triangular. Inner marginal teeth with cusp 3–4+1+2–

3, primary cusp triangular, outermost cusps very small. Outer marginal teeth with 8–10 small, sharp cusps (based on 2 radulae).

Animal. Unknown.

REMARKS. The lectotype is slightly smaller than our virtually topotypic series but agrees in all other characters. Preston's measurements (2.25×1.25) are slightly larger than any of our specimens. Because of this discrepancy between the specimen labeled "holotype" in the BMNH and the published dimensions, and in the absence of any evidence to suggest that there was only one specimen before Preston when he described the species, we have designated the BMNH specimen as the lectotype.

Specimens of this species with pale-colored shells are somewhat similar to *E. cana* but are smaller, with fewer, slightly more convex whorls. Similarly colored sub-Antarctic species include *E. kerguelensis*, which is much larger, and *E. caliginosa*, which is shorter and broader. Dark-colored South American species are thinner-shelled with the exception of *E. nigra*, which is smaller and relatively shorter.

DISTRIBUTION. Falkland Islands; intertidal. Locally common.

Family Rissoidae

Onoba georgiana (Pfeffer, 1886)

See Part 1 for details.

Onoba subaodonis n. sp.

Described above; see Part 1 for details.

Onoba scythei (Philippi, 1868)

Described above; see Part 1 for details.

Onoba cf. *protofimbriata* n. sp.

Described above; see Part 1 for details.

REMARKS. Small quantities of a species of *Onoba* were examined from beach sand from the Falkland Islands (TW4, TW5). They resemble *O. profimbriata* n. sp. in size and general shell form but were not well enough preserved to allow examination of protoconch microsculpture for confirmation of the specific identity.

Onoba anderssoni (Strebel, 1908)

Rissoia anderssoni Strebel, 1908: 55, pl. 4, fig. 54a–c (South Georgia).

Onoba anderssoni: Ponder, 1983a: 20, fig. 18c.

MATERIAL EXAMINED. *South Georgia*: SMNH, 28 [11].

REMARKS. The additional specimens are from residues from the same station as the holotype, the species being described from a single specimen.

Onoba filostria (Melvill and Standen, 1912)

Rissoia (Onoba) filostria Melvill and Standen, 1912: 349, fig. 9.

Onoba filostria: Ponder, 1983a: 14, figs. 9a–e, 13g.

MATERIAL EXAMINED. *South Georgia*: SMNH SSPE, Grytviken [3] (no other data).

REMARKS. These four specimens agree rather well with typical material and, if identified correctly, represent the only record of this species from outside the South Orkney Islands.

Onoba turqueti (Lamy, 1905)

Onoba turqueti: Ponder, 1983a: 16, figs. 11f, g, 12a–e, 14c–e (gives full synonymy and description).

MATERIAL EXAMINED. *South Georgia*: SMNH SSPE 28 [many].

REMARKS. This is the first record of this species from South Georgia. It was previously known from Burdwood Bank, South Orkney Islands, South Shetland Islands, Antarctic Peninsula, and Terre Adélie.

Onoba cf. *gelida* (E.A. Smith, 1907)

Onoba gelida: Ponder, 1983a: 20, figs. 13a, b, 16a–d (gives full synonymy and description).

MATERIAL EXAMINED. *South Georgia*: SMNH SSPE 34 [1].

REMARKS. A single specimen from the above station represents the second record of this taxon from South Georgia, although well-preserved specimens are needed for examination to confirm the species identification.

Powellisetia australis (Watson, 1886)

Powellisetia australis: Ponder, 1983a: 25–26, figs. 18b, 19d–f (gives full synonymy and description).

MATERIAL EXAMINED. *Falkland Islands*: AMS C.167489, TW4 [1(d)]; AMS C.167490, TW5 [5(d)].

REMARKS. This is the only record from the Falkland Islands, the species being previously known from Kerguelen and Macquarie Islands.

Family Cingulopsidae

Skenella georgiana Pfeffer (in Martens and Pfeffer), 1886

Skenella georgiana Pfeffer (in Martens and Pfeffer), 1886: 97, pl. 2, fig. 6a, b.

Skenella (Skenella) georgiana: Ponder, 1983a: 29, figs. 23a–e, 26a–c (gives full synonymy).

MATERIAL EXAMINED. *Falkland Islands*: SMNH SSPE 40 [3].

REMARKS. This species was described from South Georgia and, previously, only two specimens were recorded from the Falkland Islands by Ponder (1983a).

***Skenella wareni* n. sp.**

Figure 15C, D, G, H

ETYMOLOGY. Named after Dr. Anders Warén, as a small mark of recognition for his contributions to the study of small gastropods.

MATERIAL EXAMINED. Types. Holotype and 4 paratypes (2 damaged), SMNH. SSPE 28. 54°22'S, 36°28'W, South Georgia, 12–15 m, sand and algae, 24 May 1902. 4 Paratypes, SMNH; (1 paratype) AMS C.167673. SSPE 25. 54°22'S, 36°28'W, South Georgia, 24–52 m, algae, 12 May 1902.

DIAGNOSIS. Shell (Fig. 15C, D). Minute (maximum length 1.6 mm), ovate-conic, moderately thick, with 2.2–2.5 teleoconch whorls. Spire with very lightly convex outlines, whorls moderately convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch smooth, with faint, irregular growth lines. Protoconch (Fig. 15D) of about 1.4–1.6 whorls with very fine spiral grooves on last half whorl. Aperture oval to near circular, weakly angled posteriorly, with sharp peristome and lacking varix (1 from SSPE 25 has strong varix on penultimate whorl). Inner lip moderately broad with indistinct swelling on columella; outer lip moderately prosocline. Umbilicus small to moderate. Color pale cream, with reddish tinge; reddish-brown when wet.

Dimensions.

	SL	SW	SL/ SW	AL	SL/ AL	TW	PW	PD
Holotype	1.64	1.27	1.29	0.76	2.16	2.5	1.6	0.42
Paratypes	1.38	1.16	1.19	0.72	1.92	2.3	1.5	0.42
	1.17	0.86	1.05	0.51	2.30	2.5	1.6	0.35
Paratypes								
Sta. SSPE 25	1.16	0.88	1.31	0.51	2.27	2.2	1.5	0.36
	1.16	0.91	1.27	0.55	2.10	2.4	1.4	0.38
	0.98	0.76	1.29	0.44	2.22	2.3	1.4	0.38
	1.17	0.84	1.39	0.57	2.07	2.4	1.4	0.36

Operculum (Fig. 15H). Oval, with posterior end angled; peg slightly curved, narrow, extends beyond edge of operculum.

Radula (Fig. 15G). Central teeth square, with 2 small, square cusps and moderate lateral thickenings. Lateral teeth with cusp formula 3–4+1+3–7, median cusp large, spatulate, lateral cusps slender, sharp. Inner marginal teeth with cusp formula 1+1+1, small pointed outer cusp, and 2 large shovel-shaped to spatulate inner cusps, median cusp being largest. Outer marginal teeth with 2 large, triangular cusps, outermost largest (based on 2 radulae).

Animal. Unknown.

REMARKS. This species is somewhat intermediate between *S. umbilicata* and *S. paludinooides* in shell shape, being more depressed and convex than *S. paludinooides* and narrower than *S. umbilicata*.

The reddish-brown color of *S. wareni* is absent in *S. paludinooides* and is more pronounced in *S. umbilicata*. Both *S. paludinooides* and *S. umbilicata* are larger than *S. wareni* and have broader opercular pegs. *Skenella wareni* is similar to *S. paludinooides* in radular details but more like *S. umbilicata* in shell morphology.

Some of the paratypes from Sta. SSPE 25 have slightly narrower shells but appear to be identical in other respects.

DISTRIBUTION. South Georgia; sublittoral; uncommon.

Family Rissoellidae

Rissoella (*Jeffreysiella*)
cf. *powelli* Ponder, 1983

Rissoella (*Jeffreysiella*) *powelli* Ponder, 1983a: 32, figs. 26i, 28a–d (Signy Island, South Orkney Islands).

MATERIAL EXAMINED. South Georgia: SNMH SSPE 25 [1].

REMARKS. A single specimen of a species of *Rissoella* resembling *R. (J.) powelli* is recorded from South Georgia. There is not enough material for confident identification.

Part 3

Species from Juan Fernández Islands

The opportunity is taken to describe three species from Juan Fernández Islands that were obtained during the Indian Ocean Expedition in 1965.

Family Eatoniellidae

Eatoniella (*Eatoniella*) *zigzag* n. sp.

Figure 32D

ETYMOLOGY. Zigzag—French (and English). Alternatively changing direction by sharp angles. Refers to the color pattern.

MATERIAL EXAMINED. Types. Holotype and 6 paratypes, MCZ 293707, 1 paratype, LACM 2700; 1 paratype, AMS C.167476. Juan Fernández Is., R/V *Anton Bruun*, Cr.12, SE 65 256, 9–12 m. 33°42'S, 78°55'W, S. Earle, 15 Dec. 1965.

DIAGNOSIS. Shell (Fig. 32D). Small (maximum length 2.1 mm), conic, moderately thick, with 2.8–3.4 teleoconch whorls. Spire and whorls lightly convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch smooth and glossy. Protoconch of 1.2–1.5 whorls. Aperture oval; inner lip narrow, outer lip strongly prosocline. Umbilicus absent. Periostracum very thin, transparent. Color white, usually with pink or purple transverse zigzag lines.

Dimensions.

	SL	SW	SL/		SL/		TW	PW	PD
			SW	AL	AL	AL			
Holotype	2.14	1.17	1.83	0.76	2.81	3.4	1.4	0.34	
Paratypes	1.87	1.13	1.65	0.73	2.57	3.3	1.3	0.31	
	1.60	1.07	1.50	0.64	2.50	2.8	1.4	0.34	
	1.73	1.15	1.50	0.67	2.57	3.2	1.3	0.31	
	1.68	1.08	1.55	0.65	2.57	3.0	1.2	0.32	
	1.74	1.10	1.58	0.71	2.47	3.1	1.2	0.31	
	1.59	1.08	1.47	0.66	2.40	2.9	1.2	0.32	

Operculum, radula, and animal unknown.

REMARKS. The zigzag color pattern and the thick, conical shell allow this species to be distinguished from all other described eatoniellids. The only other described species with a somewhat similar color pattern, *E. limbata* (Hutton, 1883) from New Zealand, has a larger, broader shell. The shell characters allow little doubt that this species is a member of the Eatoniellidae, although confirmation with radular and opercular data is necessary before this can be stated with certainty.

DISTRIBUTION. Juan Fernández Islands.

Family Rissoidae

Onoba (?) *isolata* n. sp.

Figure 33A, C

ETYMOLOGY. *Isolata*—Latin. Detached, separate. Refers to the isolated location of this species.

MATERIAL EXAMINED. Holotype, MCZ 293708, R/V *Anton Bruun*, Cr.12, SE 65 256, 9–12 m, 33°42'S, 78°55'W, S. Earle, 15 Dec. 1965.

DIAGNOSIS. Shell (Fig. 33A, C). Minute (length 1.9 mm), elongate-conic to cylindrical, solid, opaque, with 3.5 teleoconch whorls. Spire with lightly convex outlines, whorls lightly convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch with strong, rounded spiral cords with wider interspaces and slightly stronger opisthocline axial ribs; 7 spiral cords on penultimate whorl, 15 on last whorl and base. Interspaces smooth. Eleven axial ribs on penultimate whorl; 13 on last whorl; ribs reach suture but do not extend onto base; bluntly tuberculate at point of intersection with spirals. Protoconch (Fig. 33A) of about 1.3 whorls; microsculpture of small granules, some on upper 2/3 of last whorl run together forming broken, almost zigzag spirals. Aperture oval, rather strongly angled posteriorly. Inner lip moderately broad, attached to parietal wall; outer lip opisthocline with moderately distinct posterior notch and prominent apertural varix immediately behind lip. Umbilical chink absent. Periostracum not observed. Color white.

Dimensions.

	SL	SW	SL/		TW	PW	PD	PS	BS	PA	BA	
			SW	AL								AL
Holotype	1.91	0.95	2.02	0.71	2.7	3.5	1.3	0.38	7	15	11	13

Operculum, radula, and animal unknown.

REMARKS. Although known from a single specimen, this species is readily recognizable by its elongate-conic outline, regularly reticulated sculpture, and unusually sculptured protoconch. This distinctive species is tentatively included in *Onoba* on the basis of shell characters, although confirmation is needed.

DISTRIBUTION. Juan Fernández Islands.

Onoba (?) *protopustulata* n. sp.

Figure 33B, D

ETYMOLOGY. Proto—Latin. First (whorl of shell). Pustulata—Latin. Bubble, pimple. Refers to the protoconch microsculpture.

MATERIAL EXAMINED. Types. Holotype and 1 paratype, MCZ 293707a, R/V *Anton Bruun*, Cr.12, SE 65 256, 9–12 m, 33°42'S, 78°55'W, S. Earle, 15 Dec. 1965.

DIAGNOSIS. Shell (Fig. 33B, D). Small (maximum length 2.0 mm), elongate-conic, solid, opaque, with 3.6–3.8 teleoconch whorls. Spire with lightly convex outlines, whorls convex; periphery of last whorl rounded. Sutures impressed, simple. Teleoconch with sharp spiral cords with wider interspaces and prominent axial ribs, 1 spiral cord on lower part of penultimate whorl, 8 on last whorl and base; interspaces smooth; 8 axial ribs on penultimate whorl, 10 on last whorl; axial ribs reach suture but end abruptly at intersection of spiral cord immediately below periphery of last whorl, below which, on base, spirals most significant sculpture. Axials and spirals bluntly tuberculate at intersections. Protoconch (Fig. 33D) of 1.3–1.5 whorls, with numerous scattered granules loosely arranged in irregular spirals, especially near apex. Aperture oval, angled posteriorly. Inner lip moderately broad, attached to parietal wall; outer lip orthocline with small posterior notch and prominent apertural varix immediately behind lip. Umbilical chink absent. Periostracum not observed. Color white.

Dimensions.

	SL	SW	SL/		TW	PW	PD	PS	BS	PA	BA	
			SW	AL								AL
Holotype	1.77	0.96	1.85	0.61	2.89	3.6	1.3	0.29	1	8	8	10
Paratype	2.00	0.99	2.02	0.67	3.00	3.8	1.5	0.32	1	8	8	10

Operculum, radula, and animal unknown.

REMARKS. This species has a teleoconch sculpture superficially similar to species often included in *Alvania*, with fewer, much stronger axial ribs than *O. isolata* and markedly more convex whorls. The protoconch is similar to the last species except that the granules are not fused into irregular lines. We tentatively include this species in *Onoba*, along with the previous species, because of the likely relationship of these two taxa, judging from the teleoconch and, especially, the protoconch morphology.

DISTRIBUTION. Juan Fernández Islands.

DISCUSSION

The biogeography of the Antarctic and sub-Antarctic fauna has produced considerable interest. The area from which most of the material in this report was obtained is the Magellanic Province, which includes Patagonia (from Isla Chiloé on the west coast and Cabo Blanco on the east coast), Tierra del Fuego and the Falkland Islands, and Burdwood Bank (Powell, 1960). Excluding Tierra del Fuego, Chile comprises the majority of this region, and the South American material dealt with in this report is mainly from that country, although a few samples were available from Peru.

As can be seen from the data in Table 1, the majority of the 30 South American species-group taxa dealt with in this report are, within South America, found only in southern Chile and Tierra del Fuego or only in one of these areas (22 taxa, 73%), most (15 taxa, 55%) with distributions through southern Chile and Tierra del Fuego, with 7 taxa (23%) known only from Tierra del Fuego. Of the other South American species, one taxon (3%) is found in southern and northern Chile and two (7%) (*Eatoniella nigra* and *E. glomerosa*) are found from northern Chile to Tierra del Fuego. Of the southern species-group taxa, only six (20%) are also found at the Falkland Islands and only one (*O. georgiana*) has a wider sub-Antarctic distribution (*E. cf. cana* being regarded as a separate taxon from *E. cana*). Five species-group taxa (17%) are only found in northern Chile and/or Peru, and three of these represent families not found farther south (Barleeidae, Anabathridae, and Rissoellidae), the other two species belonging to genera (*Manzonina* and *Eatonina*) found farther north on the Pacific Coast of the Americas. The Barleeidae is well represented in western Central and North America (Ponder, 1983b) and *A. inclusus* is a Panamic species. The Anabathridae, however, as a group, is not well represented in North and Central America but is primarily a southern family, with numerous taxa in southern Australasia and southern Africa. The virtual absence of this group from South America and its presence in Central and North America, as well as the Mediterranean and eastern Atlantic, suggests that its distribution is not Gondwanan but Pangean.

The most detailed biogeographic analysis of the marine fauna of Chile is that of Brattström and Johanssen (1983). They confirmed the results of earlier investigations in showing that there are two temperate regions along the Chilean coast, a northern warm temperate and southern cold temperate region with the border at about 42°. We have used this same cutoff point to distinguish northern and southern Chile. These authors found that northern species dominate in the littoral and in shallow water and the southern species in deeper water, although they observed that in general the fauna has a "northern stamp" with northern species having wider distributions than southern ones. This is not the case with the families investigated here, the

Table 1. South American species listed according to their geographic distributions. IT = intertidal, shelf = on continental shelf, SL = sublittoral. Northern Chile = N of 42°S; southern Chile = S of 42°S.

Tierra del Fuego only	
	<i>Eatoniella castanea</i> (IT)
	<i>Onoba algida</i> (shelf)
	<i>O. striola</i> (IT)
	<i>O. sulcula</i> (shelf)
	<i>O. erugata</i> (IT-SL)
	<i>O. fuegoensis</i> (shelf)
	<i>O. lacuniformis</i> (IT-SL) (also Falklands)
Southern Chile and Tierra del Fuego	
	<i>Eatoniella turricula</i> (40–900 m)
	<i>E. denticula</i> (IT-SL)
	<i>E. cf. denticula</i> (shelf)
	<i>E. ebenina</i> (IT-SL)
	<i>E. picea</i> (IT-SL)
	<i>E. cf. cana</i> (IT-SL) (also Falklands; typical form from South Georgia and South Orkney Islands)
	<i>Pupatonia magellanica</i> (IT-SL)
	<i>Powellisetia microlirata</i> (IT-shelf)
	<i>Pusillina averni</i> and <i>P. cf. averni</i> (shelf)
	<i>Onoba subincisa</i> (IT-SL)
	<i>O. scythei</i> (IT-SL) (also Falklands)
	<i>O. subaeadonis</i> (SL) (also Falklands?)
	<i>O. profimbriata</i> (IT-SL) (also Falklands?)
	<i>O. georgiana</i> (IT) (also Falklands and sub-Antarctic)
	<i>Skenella hallae</i> (SL)
Southern and northern Chile	
	<i>Eatoniella (Albosabula) mcleani</i> (IT-SL)
Northern Chile to Tierra del Fuego	
	<i>Eatoniella nigra</i> (IT-SL)
	<i>E. glomerosa</i> (IT)
Northern Chile and/or Peru	
	<i>Eatonina fusca</i> (IT-SL)
	<i>Rissoella peruviana</i> (IT-SL)
	<i>Alvinia limensis</i> (shelf)
	<i>Barleeia meridionalis</i> (IT-SL)
	<i>Amphithalamus cf. inclusus</i> (IT-SL?)

southern elements dominating the fauna with the few northern elements being limited to northern Chile and Peru.

The main elements of the southern fauna are the Eatoniellidae and the genus *Onoba* (Rissoidae). The eatoniellids are reasonably diverse in the Antarctic and sub-Antarctic but have their greatest diversity in Australasia (Ponder, 1965a; Ponder and Yoo, 1977a) and southern Africa (Ponder and Yoo, 1977a; Ponder, unpublished). There are fewer eatoniellids in South America (11 species-group taxa) than in the Antarctic-sub-Antarctic and southern Australia (19 and 18 species-group taxa, respectively) and New Zealand (43 species-group taxa). *Onoba*, as at present recognized, is a diverse genus found in cool temperate parts of the northeastern Pacific and north

Atlantic as well as in the temperate parts of the southern continents (Ponder, 1985a) and Antarctica and the sub-Antarctic islands (Ponder, 1983a). There are 10 taxa from South America, half the number known from the Antarctic and sub-Antarctic.

None of the species-group taxa dealt with in this report have protoconchs, suggesting that they possess planktonic larvae, and yet several have considerable distributions. Some sub-Antarctic and Antarctic species-group taxa also exhibit large ranges, possibly maintaining genetic continuity through dispersal on drifting algae. Only six of the South American species appear to be conspecific with Falkland Islands taxa, although available material from the Falklands is very limited. The poor state of the knowledge of the Falklands fauna is evidenced by the collections made by one of us (TMW), just in the vicinity of Stanley, which revealed five new records. As might be expected, the three species from the isolated Juan Fernández Islands are apparently restricted to those islands. The one small sample available does not, however, enable a more definitive comment about this fauna.

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LITERATURE CITED

Brattström, H., and A. Johanssen. 1983. Ecological and regional zoogeography of the marine benthic fauna of Chile. Report no. 49 of the Lund University Chile Expedition 1948-49. *Sarsia* 68:233-339.

Carcelles, A.R. 1950. Catalogo de los Moluscos Marinos de Patagonia. *Anales del Museo Nahuel Huapi Perito Dr. Francisco P. Moreno* 2:41-100.

Carcelles, A.R., and S.I. Williamson. 1951. Catalogo de los Moluscos marinos de la Provincia Magellanica. *Revista del Instituto Nacional de investigacion de las ciencias naturales. Ciencias Zoológicas* 2:225-383.

Castellanos, Z.J.A., and D. Fernandez. 1972a. Una nueva especie de *Eatoniella* (Mollusca, Rissoacea). *Neotropica* 18:6-8.

———. 1972b. Resultados de la Campana Exploratoria S.A.O.I.—1971. Nuevos Moluscos para Golfo San Matias. *Anales de la Sociedad Científica Argentina CXIII*:225-235.

———. 1974. Nuevas *Rissoa* Freminuille (sic.) 1813 del Atlantico suboccidental (Moll. Rissoacea). *Neotropica* 20:153-155.

Dall, W.H. 1909. Report on a collection of shells from Peru, with a summary of the littoral marine Mollusca of the Peruvian zoological province. *Proceedings of the United States National Museum* 37:147-294, pls. 20-28.

Da Silva, M.C.P., and G.M. Davis. 1983. d'Orbigny's type specimens of *Paludestrina* (Gastropoda: Prosobranchia) from southern South America. *Proceedings of the Academy of Natural Sciences of Philadelphia* 135:128-146.

Dell, R.K. 1971. The marine Mollusca of the Royal Society Expedition to southern Chile, 1958-59. *Records of the Dominion Museum* 7:155-233.

———. 1990. Antarctic Mollusca with special reference to the fauna of the Ross Sea. *Bulletin of the Royal Society of New Zealand* 27:1-311.

Haszprunar, G. 1988. On the origin and evolution of the major gastropod groups, with special reference to the Streptoneura. *Journal of Molluscan Studies* 54:367-441.

Krauss, F. 1848. *Die südafrikanischen Mollusken. Ein Beitrag zur Kenntniss des Kap- und Natalandes und zur geographischen Verbreitung derselben, mit Beschreibung und Adding der neuen Arten.* Stuttgart: Ebner and Seubert, 140 pp.

Lamy, E. 1905. Gastropodes prosobranches recueillis par l'expédition antarctique française du Dr Charcot. *Bulletin du Muséum National d'Histoire Naturelle, Paris* 11:475-483.

Marincovich, L. 1973. Intertidal molluscs from Iquique, Chile. *Science Bulletin, Natural History Museum, Los Angeles County* 16:1-49.

Martens, E.v., and G. Pfeffer. 1886. Die mollusken von Süd Georgien nach der Ausbeute der Deutschen station 1882-83. *Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten* 3:65-135, pls. 1-4.

Melville, J.C., and R. Standen. 1912. The marine Mollusca of the Scottish National Antarctic Expedition. Part II. *Transactions of the Royal Society of Edinburgh* 48:33-366.

Orbigny, A.d' 1835-1846. *Voyage dans L'Amérique Méridionale. Tome Cinquième. 3rd part: Mollusques.* Paris, 377-408 (1840).

———. 1854. *List of the shells of South America in the collection of the British Museum.* London: British Museum, 89 pp.

Philippi, R.A. 1868. Conchylia nova potissimum magellanica. *Malakozoologische Blätter* 1868:222-226.

Ponder, W.F. 1965a. The family Eatoniellidae in New Zealand. *Records of the Auckland Institute and Museum* 6:47-99.

———. 1965b. A revision of the New Zealand Recent species previously known as *Notosetia* Iredale, 1915 (Rissoidae, Gastropoda). *Records of the Auckland Institute and Museum* 6:101-131.

———. 1983a. Rissoiform gastropods from the Antarctic and sub-Antarctic. The Eatoniellidae, Rissoidae, Barleeidae, Cingulopsidae, Orbitestellidae and Rissoellidae (Mollusca: Gastropoda) of Signy Island,

- South Orkney Islands, with a review of the Antarctic and sub-Antarctic (excluding southern South America and the New Zealand sub-Antarctic islands) species. *British Antarctic Survey. Scientific Reports* 108: 1-96.
- . 1983b. Review of the Genera of the Barleeidae (Mollusca: Gastropoda: Rissoacea). *Records of the Australian Museum* 35:231-281.
- . 1985a. A review of the genera of the Rissoidae (Mollusca: Mesogastropoda: Rissoacea). *Records of the Australian Museum, Supplement* 4:1-221.
- . 1985b. The anatomy and relationships of *Elachisina* Dall (Gastropoda: Rissoacea). *Journal of Molluscan Studies* 51:23-34.
- . 1988. The truncatelloidean (=Rissocean) radiation—A preliminary phylogeny. *Malacological Review, Supplement* 4:129-166.
- . 1990. The anatomy and relationships of the Orbitestellidae (Gastropoda; Heterobranchia). *Journal of Molluscan Studies* 56:515-532.
- Ponder, W.F., and E.K. Yoo. 1977a. A revision of the Eatoniellidae of Australia (Mollusca, Gastropoda, Littorinacea). *Records of the Australian Museum* 31: 606-658.
- . 1977b. A revision of the Australian species of the Rissoellidae (Mollusca: Gastropoda). *Records of the Australian Museum* 31:133-185.
- . 1980. A review of the genera of the Cingulopsidae with a revision of the Australian and tropical Indo-Pacific species (Mollusca: Gastropoda: Prosobranchia). *Records of the Australian Museum* 33:1-88.
- Powell, A.W.B. 1960. Antarctic and Subantarctic Mollusca. *Records of the Auckland Institute and Museum* 5:117-193.
- . 1979. *New Zealand Mollusca. Marine, land and freshwater shells*. Auckland: Collins, xiv + 500 pp.
- Preston, H.B. 1912. Characters of six new pelecypods and two new gastropods from the Falkland Islands. *Annals and Magazine of Natural History, series 8*, 11:218-223.
- Smith, E.A. 1907. Mollusca and Brachiopoda. *National Antarctic Expedition (S.S. Discovery) 1901-04, Natural History*, 2:1-12.
- Strebel, H. 1908. Die Gastropoden. *Wissenschaftliche Ergebnisse der schwedischen Südpolar Expedition. 1901-1903* 6:1-112.
- Watson, R.B. 1886. Report on Scaphopoda and Gastropoda collected by H.M.S. 'Challenger' during the years 1873-76. *Challenger Report* 15:1-756.
- Prov., Chile. 20°13'S, 70°10'W, intertidal rocks, L. Marincovich, July 1970.
- 71-258 (33A). Bahía Crossley, Isla de los Estados, Tierra del Fuego, Argentina. 54°47.1'S, 64°42.1'W, 13-37 m, Sta. 658 and 5257, USARP, R/V *Hero* Cr.712, 28-29 Apr. 1971.
- 71-259 (30G). Puerto Vancouver, Isla de los Estados, Tierra del Fuego, Argentina. 54°46.8'S, 64°04'W, 31 m, Sta. 663, USARP, R/V *Hero* Cr.712, 9 May 1971.
- 71-260 (30J). Puerto San Juan del Salvo, Isla de los Estados, Tierra del Fuego, Argentina. 54°44.85'S, 63°52.9'W, 44 m, Sta. 665, USARP, R/V *Hero* Cr.712, 11 May 1971.
- 71-262 (33N). W side Puerto Año Nuevo, Isla de los Estados, Tierra del Fuego, Argentina. 54°45.1'S, 64°7.3'W, 50 m, Sta. 672, USARP, R/V *Hero* Cr.712, 19 May 1971.
- 71-263 (33M). Puerto Basil Hall, Isla de los Estados, Tierra del Fuego, Argentina. 54°45.5'S, 64°9.8'W, Sta. 673,674, USARP, R/V *Hero* Cr.712, 20 May 1971.
- 71-264 (33J). 6.6 km E Cabo Colnett, Isla de los Estados, Tierra del Fuego, Argentina. 54°43.7'S, 64°14.2'W, 18 m, Sta. 676, USARP, R/V *Hero* Cr.712, 22 May 1971.
- 71-265 (33F). E arm Bahía San Antonio, Isla de los Estados, Tierra del Fuego, Argentina. 54°46.5'S, 64°23.5'W, 51 m, Sta. 677, USARP, R/V *Hero* Cr.712, 24 May 1971.
- 71-266 (33G). 1.5 km E Cabo Colnett, Isla de los Estados, Tierra del Fuego, Argentina. 54°43.3'S, 64°19.8'W, 14 m, Sta. 678, USARP, R/V *Hero* Cr.712, 25 May 1971.
- 71-267 (33B). W arm Bahía San Antonio, Isla de los Estados, Tierra del Fuego, Argentina. 54°46.1'S, 64°25.1'W, 36 m, Sta. 679, USARP, R/V *Hero* Cr.712, 26 May 1971.
- 71-268 (39). Punta Arenas, Bahía de San Sebastián, Tierra del Fuego, Argentina. 53°9.2'S, 68°14.6'W, intertidal, rocks and mussel beds, Sta. 71-2-3, USARP, R/V *Hero* Cr.712, 20 Apr. 1971.
- 71-270 (28). W side Bahía Buen Suceso, Tierra del Fuego, Argentina. 54°47.8'S, 65°16'W, intertidal, sand, rock, and mussels, Sta. 71-2-8, USARP, R/V *Hero* Cr.712, 23 Apr. 1971.
- 71-271 (28). N side Bahía Buen Suceso, Tierra del Fuego, Argentina. 54°48.2'S, 65°14.7'W, intertidal rocks, Sta. 71-2-14, USARP, R/V *Hero* Cr.712, 25 Apr. 1971.
- 71-273 (32A). Bahía Crossley, Isla de los Estados, Tierra del Fuego, Argentina. 54°46.2'S, 64°42.7'W, intertidal, rocks and mussel beds, Sta. 71-2-16, USARP, R/V *Hero* Cr.712, 27 Apr. 1971.
- 71-274 (31A). E arm Bahía Capitán Cánepa, Isla de los Estados, Tierra del Fuego, Argentina. 54°50'S, 64°26.8'W, intertidal rocks and mussel beds, Sta. 71-2-19, USARP, R/V *Hero* Cr.712, 3 May 1971.
- 71-275 (31A). N arm Bahía Capitán Cánepa, Isla de los Estados, Tierra del Fuego, Argentina. 54°49.2'S, 64°27.8'W, intertidal rocks and mussel beds, Sta. 71-2-19, USARP, R/V *Hero* Cr.712, 3 May 1971.
- 71-276 (31B). NW arm Bahía York, Isla de los Estados, Tierra del Fuego, Argentina. 54°47.3'S, 64°18.7'W, intertidal, mussels and rocks. Sta. 71-2-21,71-2-25, USARP, R/V *Hero* Cr.712, 4,6 May 1971.
- 71-277 (31B). NW arm Bahía York, Isla de los Estados, Tierra del Fuego, Argentina. 54°47.15'S, 64°17.9'W, intertidal rocks, Sta. 71-2-22, USARP, R/V *Hero* Cr.712, 5 May 1971.
- 71-281 (31C). N end Bahía Blossom Isla de los Estados, Tierra del Fuego, Argentina. 54°46.4'S, 63°57.7'W, intertidal rocks, Sta. 71-2-30, USARP, R/V *Hero* Cr.712, 10 May 1971.
- 71-283 (31D). NE part Puerto San Juan del Salvo, Isla de los Estados, Tierra del Fuego, Argentina. 54°44.25'S,

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APPENDIX: LIST OF LOCALITIES

NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY (LACM) LOCALITIES

The localities are listed in order according to station number. The number in parentheses following the station number are the locality reference points used in Figures 1-4.

64-16 (6A). Iquique, near end of Ave Baquedana, Tarapacá Prov., Chile. 20°13'S, 70°10'W, intertidal, L. Marincovich, June-Aug. 1964.

70-66 (6A). end of Ave Baquedana, Iquique, Tarapaca

63°51.25'W, intertidal rocks, Sta. 71-2-32, USARP, R/V *Hero* Cr.712, 12 May 1971.

71-286 (32H). Puerto Cook, Isla de los Estados, Tierra del Fuego, Argentina. 54°45.4'S, 64°2.5'W, intertidal rocks and mussel beds, Sta. 71-2-36, USARP, R/V *Hero* Cr.712, 16 May 1971.

71-287 (32H). Puerto Cook, Isla de los Estados, Tierra del Fuego, Argentina. 54°45.25'S, 64°2.3'W, intertidal, Sta. 71-2-37, USARP, R/V *Hero* Cr.712, 17 May 1971.

71-289 (32E). Puerto Basil Hall, Isla de los Estados, Tierra del Fuego, Argentina. 54°45.45'S, 64°10.1'W, intertidal rocks, Sta. 71-2-39, USARP, R/V *Hero* Cr.712, 20 May 1971.

71-290 (32E). Puerto Basil Hall, Isla de los Estados, Tierra del Fuego, Argentina. 54°45.45'S, 64°9.55'W, intertidal rocks, Sta. 71-2-40, USARP, R/V *Hero* Cr.712, 21 May 1971.

71-291 (32D). 3.3 km W Puerto Basil Hall, Isla de los Estados, Tierra del Fuego, Argentina. 54°43.85'S, 64°13.6'W, intertidal rocks, Sta. 71-2-41, USARP, R/V *Hero* Cr.712, 22 May 1971.

71-293 (32D). 3.3 km W Puerto Basil Hall, Isla de los Estados, Tierra del Fuego, Argentina. 54°43.3'S, 64°14'W, intertidal rocks, Sta. 71-2-43, USARP, R/V *Hero* Cr.712, 23 May 1971.

71-294 (32C). S end of E arm Bahía San Antonio, Isla de los Estados, Tierra del Fuego, Argentina. 54°47.6'S, 64°22.35'W, intertidal rocks, Sta. 71-2-44, USARP, R/V *Hero* Cr.712, 24 May 1971.

71-295 (32B). SW arm Bahía San Antonio, Isla de los Estados, Tierra del Fuego, Argentina. 54°46.2'S, 64°24.7'W, intertidal rocks, Sta. 71-2-46, USARP, R/V *Hero* Cr.712, 26 May 1971.

71-296 (28). Bahía Buen Suceso, Tierra del Fuego, Argentina. 54°47.9'S, 65°14.7'W, 10 m, Sta. 680, USARP, R/V *Hero* Cr.715, 13 Oct. 1971.

71-302 (29A). 8 km E Caleta San Mauricio, Tierra del Fuego, Argentina. 54°45'S, 65°4.6'W, 75 m, Sta. 687, USARP, R/V *Hero* Cr.715, 14 Oct. 1971.

71-305 (29B). 12.5 km E Ensenada Patagones, Tierra del Fuego, Argentina. 54°52'S, 65°05'W, 144 m, Sta. 690, USARP, R/V *Hero* Cr.715, 16 Oct. 1971.

71-308 (33A). Bahía Crossley, Isla de los Estados, Tierra del Fuego, Argentina. 54°46.6'S, 64°41.4'W, 9 m, Sta. 694, USARP, R/V *Hero* Cr.715, 17 Oct. 1971.

71-309 (32A). Bahía Crossley, Isla de los Estados, Tierra del Fuego, Argentina. 54°47.6'S, 64°40.7'W, intertidal, mussels and rocks. Sta. 695, USARP, R/V *Hero* Cr.715, 17 Oct. 1971.

71-310 (33O). Isla Observatorio, Isla de los Estados, Tierra del Fuego, Argentina. 54°39.5'S, 64°7.1'W, subtidal, Sta. 698, USARP, R/V *Hero* Cr.715, 19 Oct. 1971.

71-311 (32G). Observatorio, Isla de los Estados, Tierra del Fuego, Argentina. 54°39.5'S, 64°08'W, intertidal rocks, Sta. 699, USARP, R/V *Hero* Cr.715, 19 Oct. 1971.

71-312 (33G). 6.4 km N Cabo Colnett, Isla de los Estados, Tierra del Fuego, Argentina. 54°39'S, 64°20'W, 48 m, Sta. 852, USARP, R/V *Hero* Cr.715, 20 Oct. 1971.

71-313 (33H). 14.4 km N Cabo Colnett, Isla de los Estados, Tierra del Fuego, Argentina. 54°34'S, 64°20'W, 91 m, Sta. 853, USARP, R/V *Hero* Cr.715, 20 Oct. 1971.

71-315 (33K). 16 km N Isla Observatorio, Isla de los Estados, Tierra del Fuego, Argentina. 54°29'S, 64°10'W, 110 m, Sta. 855, USARP, R/V *Hero* Cr.715, 20 Oct. 1971.

71-316 (33L). 8 km N Isla Observatorio, Isla de los Estados, Tierra del Fuego, Argentina. 54°34'S, 64°10'W, 73 m, Sta. 856, USARP, R/V *Hero* Cr.715, 20 Oct. 1971.

71-317 (33I). 3.3 km W Puerto Basil Hall, Isla de los

Estados, Tierra del Fuego, Argentina. 54°43.9'S, 64°14.1'W, 10 m, Sta. 861, USARP, R/V *Hero* Cr.715, 21 Oct. 1971.

71-319 (33P). 9.6 km NE Isla Observatorio, Isla de los Estados, Tierra del Fuego, Argentina. 54°35.5'S, 63°58.7'W, 87 m, Sta. 864, USARP, R/V *Hero* Cr.715, 22 Oct. 1971.

71-323 (32H). Puerto Cook, Isla de los Estados, Tierra del Fuego, Argentina. 54°45.6'S, 64°2.6'W, intertidal rocks and mussel beds, Sta. 869, USARP, R/V *Hero* Cr.715, 23 Oct. 1971.

71-326 (32F). Puerto Año Nuevo, Isla de los Estados, Tierra del Fuego, Argentina. 54°44.9'S, 64°6.6'W, intertidal rocks and mussel beds, Sta. 872, USARP, R/V *Hero* Cr.715, 25 Oct. 1971.

71-327 (33Q). 14.4 km N Cabo San Juan, E end Isla de los Estados, Tierra del Fuego, Argentina. 54°34'S, 63°50'W, 118 m, Sta. 873, USARP, R/V *Hero* Cr.715, 26 Oct. 1971.

71-328 (33R). 6.4 km N C. San Juan, Isla de los Estados, Tierra del Fuego, Argentina. 54°39.1'S, 63°50.1'W, 135-137 m, Sta. 874, USARP, R/V *Hero* Cr.715, 26 Oct. 1971.

71-329 (30I). 8 km S Pta. Ventana, S side Isla de los Estados, Tierra del Fuego, Argentina. 54°54.5'S, 63°56'W, 771-903 m, Sta. 875, USARP, R/V *Hero* Cr.715, 27 Oct. 1971.

71-332 (30H). 3.3 km S Bahía Blossom, Isla de los Estados, Tierra del Fuego, Argentina. 54°50'S, 63°59.7'W, 205-208 m, Sta. 880, USARP, R/V *Hero* Cr.715, 28 Oct. 1971.

71-334 (30F). 3.3 km W Cabo Kendall, Isla de los Estados, Tierra del Fuego, Argentina. 54°50'S, 64°10'W, 76 m, Sta. 882, USARP, R/V *Hero* Cr.715, 29 Oct. 1971.

71-339 (30E). NW arm Bahía York, Isla de los Estados, Tierra del Fuego, Argentina. 54°47.2'S, 64°18.4'W, 38 m, Sta. 891, USARP, R/V *Hero* Cr.715, 1 Nov. 1971.

71-340 (30D). 8 km SE Cabo Kempe, Isla de los Estados, Tierra del Fuego, Argentina. 54°55.2'S, 64°20.4'W, 303-358 m, Sta. 893, USARP, R/V *Hero* Cr.715, 2 Nov. 1971.

71-342 (30A). 11.2 km SW Cabo San Bartolome, Isla de los Estados, Tierra del Fuego, Argentina. 55°00'S, 64°48.7'W, 438-548 m, Sta. 895, USARP, R/V *Hero* Cr.715, 3 Nov. 1971.

71-344 (30C). Bahía Capitán Cánepa, Isla de los Estados, Tierra del Fuego, Argentina. 54°50.2'S, 64°29.4'W, 67-71 m, Sta. 897, USARP, R/V *Hero* Cr.715, 4 Nov. 1971.

71-345 (31A). S side Bahía Capitán Cánepa, Isla de los Estados, Tierra del Fuego, Argentina. 54°50.8'S, 64°29'W, intertidal rocks and mussel beds, Sta. 898, USARP, R/V *Hero* Cr.715, 4 Nov. 1971.

71-346 (30B). 2.4 km E Cabo San Bartolomé, Isla de los Estados, Tierra del Fuego, Argentina. 54°55'S, 64°40'W, Grab smpl, Sta. 899, USARP, R/V *Hero* Cr.715, 5 Nov. 1971.

71-347 (33B). 28.8 km N Bahía Crossley, Isla de los Estados, Tierra del Fuego, Argentina. 54°29.3'S, 64°40.4'W, 116-120 m, Sta. 902, USARP, R/V *Hero* Cr.715, 6 Nov. 1971.

71-348 (33C). 20.8 km N Bahía Crossley, Isla de los Estados, Tierra del Fuego, Argentina. 54°34.3'S, 64°40'W, 84-85 m, Sta. 903, USARP, R/V *Hero* Cr.715, 6 Nov. 1971.

71-351 (33E). 22.6 km N Cabo San Antonio, Isla de los Estados, Tierra del Fuego, Argentina. 54°29'S, 64°29.2'W, 122-124 m, Sta. 906, USARP, R/V *Hero* Cr.715, 7 Nov. 1971.

71-352 (33D). 14.4 km N Cabo San Antonio, Isla de los Estados, Tierra del Fuego, Argentina. 54°34'S, 64°30'W,

73-76 m, Sta. 907, USARP, R/V *Hero* Cr.715, 7 Nov. 1971.

71-357 (33F). E arm Bahía San Antonio, Isla de los Estados, Tierra del Fuego, Argentina. 54°46.5'S, 64°23.3'W, Grab smpl, Sta. 916, USARP, R/V *Hero* Cr.715, 10 Nov. 1971.

72-76 (3). Pucusana (Chilca), Lima Prov., Peru. 12°30'S, 76°49'W, 0-6 m, J.H. McLean, 30 Mar. and 10 Apr. 1972.

72-78 (4). Isla Chíncha Norte, Ica Prov., Peru. 13°38'S, 76°25'W, 6-12 m, on exposed side, J.H. McLean, V. Alamo, 1 Apr. 1972.

73-66 (33G). Isla Colnett, off N side Isla de los Estados, Tierra del Fuego, Argentina. 54°43.45'S, 64°14.3'W, 15 m, black sand, P. Dayton, (R/V *Hero*), 4 May 1973.

73-68 (26). Beagle Canal, Caleta Awaikirrh, Tierra del Fuego, Chile. 55°00'S, 69°2.2'W, 17 m, P. Dayton, (R/V *Hero*), 16 May 1973.

73-69 (25). Punta Valparaíso, Canal Cockburn, Magallanes Prov., Chile. 54°22.2'S, 71°21.7'W, 15 m, P. Dayton, (R/V *Hero*), 17 May 1973.

73-70 (23). Isla Carlos III, Strait of Magellan, Magallanes Prov., Chile. 53°39.4'S, 72°14.8'W, 11-12 m, P. Dayton, (R/V *Hero*), 18 May 1973.

73-71 (21). Punta Dashwood, Canal Smyth, Magallanes Prov., Chile. 52°24'S, 73°39.7'W, 12 m, P. Dayton, (R/V *Hero*), 19 May 1973.

73-72 (20). Bahía Tom, Magallanes Prov., Chile. 50°11.3'S, 74°47.9'W, 14 m, P. Dayton, (R/V *Hero*) 21 May 1973.

73-73 (19). Bahía San Andrés, N of Golfo de Peñas, Aisén Prov., Chile. 46°35.3'S, 75°30.6'W, subtidal, P. Dayton, (R/V *Hero*), 23 May 1973.

73-74 (18). Canal Darwin, Aisén Prov., Chile. 45°27.8'S, 74°24.8'W, 8 m, P. Dayton, (R/V *Hero*), 24 May 1973.

73-75 (17). Isla Westhoff, Chiloé Prov., Chile. 43°54'S, 73°43.5'W, 23 m, P. Dayton, (R/V *Hero*), 25 May 1973.

74-6 (1). Isla Lobos de Afuera (NW and NE of isthmus), Peru. 6°57.1'S, 80°42.3'W, 2-10 m, rocks and sand, J.H. McLean, J.A. Coyer, and J.M. Engle, 19-20 Jan. 1974.

74-24 (2B). Isla San Lorenzo, midway on NE side, rocky point N of naval base, Lima Prov., Peru. 12°5.75'S, 77°12.9'W, 0-4.5 m, J.H. McLean, J.A. Coyer, and J.M. Engle, 29 Jan. 1974.

75-10 (6B). Pozo Toyo, S of Iquique, Tarapacá Prov., Chile. 20°25'S, 70°10.5'W, intertidal, Sta. 1, J.H. McLean, 29 Sept. and 1 Oct. 1975.

75-12 (6A). Iquique, marine lab. of Universidad del Norte, Tarapacá Prov., Chile. 20°15.5'S, 70°08'W, intertidal, Sta. 3, J.H. McLean, 30 Sept. and 2 Oct. 1975.

75-15 (8C). S end of Antofagasta, Antofagasta Prov., Chile. 23°42'S, 70°27'W, intertidal *Piura* beds, Sta. 6, J.H. McLean, J. Tomicic, 5,6 Oct. 1975.

75-17 (8A). Mainland E of Isla Santa María, N of Antofagasta, Antofagasta Prov., Chile. 23°25'S, 70°36'W, intertidal, Sta. 8, J.H. McLean and J. Tomicic, 7 Oct. 1975.

75-19 (8B). Los Colorados, rocky headland N of Bahía Antofagasta, Antofagasta Prov., Chile. 23°29'S, 70°22'W, 0-6 m, Sta. 10, J.H. McLean, 9 Oct. 1975.

75-20 (8C). Antofagasta, S end of city, Antofagasta Prov., Chile. 23°42'S, 70°27'W, 2-3 m, out from *Piura* beds, Sta. 11, J.H. McLean, 10 Oct. 1975. LACM.

75-21 (7). NW of Mejillones, N of Antofagasta, Antofagasta Prov., Chile. 23°02'S, 70°31'W, 8-23 m, Sta. 12, in *Aulacomya* beds, J.H. McLean et al., 11 Oct. 1975.

75-25 (9). S side of Bahía Herradura, S of Coquimbo, Coquimbo Prov., Chile. 29°59'S, 71°22'W, 6-17 m, Sta. 16, J.H. McLean, 14 Oct. 1975.

75-28 (10). Los Molles, Aconcagua Prov., Chile. 32°14'S,

71°32'W, intertidal, Sta. 19, J.H. McLean, 16-18 Oct. 1975.

75-30 (11). Estación de Biol. Marina, Montemar, Valparaíso Prov., Chile. 32°57'S, 71°32'W, intertidal, Sta. 20, J.H. McLean, 19,20 Oct. 1975.

75-33 (12). Algarrobo, Valparaíso Prov., Chile. 33°22'S, 71°42'W, 3-8 m, Sta. 23, T. Suchanek, K. Sebens, 23 Oct. 1975.

75-37 (13). Mehuin, small offshore island out from Río Lingue, Valdivia Prov., Chile. 39°26'S, 73°16'W, intertidal, Sta. 27, J.H. McLean, 1 Nov. 1975.

75-41 (15). Pumalín, W of Isla Talcán, Golfo de Corcovado, Chiloé Prov., Chile. 42°42'S, 72°52'W, intertidal, Sta. 31, J.H. McLean, 4-6 Nov. 1975.

75-43 (14). Islote Nihuel, Golfo de Corcovado, Chiloé Prov., Chile. 42°38'S, 72°57'W, 3-14 m, Sta. 33, J.H. McLean, 7 Nov. 1975.

75-46 (16). E side Isla Laitec, off SE end of Isla de Chiloé, Chiloé Prov., Chile. 43°14'S, 73°36'W, 3-6 m, Sta. 36, J.H. McLean, 9 Nov. 1975.

75-48 (24). Punta Santa Ana, Fuerte Bulnes, Peninsula Brunswick, Strait of Magellan, Chile. 53°38'S, 70°54.5'W, intertidal, Sta. 38, J.H. McLean, 16 Nov. 1975.

75-49 (24). Puerto el Hambre, cove S of Punta Askew, Penin. Brunswick, Strait of Magellan, Chile, 53°37'S, 70°56'W, intertidal, J.H. McLean, 16,19 Nov. 1975.

75-51 (38). S of Río Grande, Atlantic Coast, Tierra del Fuego, Argentina. 53°02'S, 70°49'W, intertidal, Sta. 41, J.H. McLean, 22 Nov. 1975.

35-147 (2C). Near rocks off Isla San Lorenzo, Calloa, Lima Prov., Peru. 12°09'S, 77°15'W, 46 m, R/V *Velero* III, Sta. BS-522, 11 Jan. 1935.

35-156 (5). E of Isla Viejas, Bahía Independencia, Ica Prov., Peru. 14°16'S, 76°10'W, 37 m, R/V *Velero* III, Sta. BS-531, 13 Jan. 1935.

35-159 (4). N of Isla Medio, Islas de Chíncha, Ica Prov., Peru. 13°39'S, 76°22'W, 33 m, R/V *Velero* III, Sta. BS-534, 15 Jan. 1935.

38-208 (2A). Off Hormigas de Afuera, Lima Prov., Peru. 11°57'S, 77°47'W, 82 m, R/V *Velero* III, Sta. BS-569, 12 Feb. 1938.

NATIONAL MUSEUM OF NATURAL HISTORY, WASHINGTON, D.C. (USNM) MATERIAL

The localities are listed in order according to station number. The number in parentheses following the station number are the locality reference points used in Figures 1-4. E = *Eltain* station, H = *Hero* cr 712 station, V = *Vema* station.

E 219 (27C). 55°47'S, 66°17'W, 115 m, off Cape Horn.

E 363 (34). 57°09'S, 58°58'W, east of Tierra del Fuego.

E 740 (27D). 56°06'S, 66°19'W, 384-494 m, off Cape Horn.

E 958 (22B). 52°56'S, 75°00'W, 92-101 m, west of Tierra del Fuego.

E 960 (22A). 52°40'S, 74°58'W, 64 m, west of Tierra del Fuego.

E 967 (37B). 53°42'S, 66°19'W, 81 m, east of Tierra del Fuego.

E 974 (36). 53°42'S, 64°57'W, 119-124 m, east of Tierra del Fuego.

E 1596 (35). 54°39'S, 57°09'W, 124 m, Burdwood Bank.

V 17-48 (27B). 55°10'S, 66°23'W, 42 m, off eastern Tierra del Fuego.

H 654 (30A). 54°40'S, 65°14'W, 12 m, off eastern Tierra del Fuego.

H 656 (33A). 54°48'S, 64°42'W, 18 m, off eastern Tierra del Fuego.

H 659 (30C). 54°51.5'S, 64°27.1'W, ? m, off eastern Tierra del Fuego.

H 664 (30H). 54°46.1'S, 63°57.9'W, 29 m, off eastern Tierra del Fuego.

Sta. 2778 (24), 212271, Strait of Magellan, 53°01.00'S, 70°42.25'W, 111 m, 23 Jan. 1887.

368419, Above battle monument, Port Stanley, Falkland Islands, boat dredge through kelp, W.L. Schmitt. 23 Feb. 1927.

NATURAL HISTORY MUSEUM (LONDON) (BMNH) MATERIAL

The localities are listed in order according to station number. The number in parentheses following each station number is the locality reference point used in Figures 1–4. DE = Discovery Expedition.

DE 88 (37A). 54°00'S, 65°00'W, east of Tierra del Fuego, 118 m.

DE Sta. 388 (27E). 56°19.3'S, 67°09.45'W, off Cape Horn, 121 m, 16 Apr. 1930.

DE Sta. 399. 1 mi southeast of southwest point of Gough I., Tristan da Cunha, 141–102 m, 18 Apr. 1930.

NATIONAL MUSEUM OF WALES (NMW) MATERIAL

Scottish National Antarctic Expedition (SNAE) Station. SNAE Sta. 346 (35). 54°25'S, 57°32'W, Burdwood Bank, 102 m, 1 Dec. 1903.

SWEDISH MUSEUM OF NATURAL HISTORY (SMNH) MATERIAL

Swedish Southpolar Expedition (SSPE) 1901–1903 Stations. Full list in Strebel, 1908: 1–6.

SSPE 3, 54°43'S, 64°08'W, Tierra del Fuego, 36 m, 6 Jan. 1902.

SSPE 25, 54°22'S, 36°27'W, South Georgia, 24–52 m, some algae, 12 May 1902.

SSPE 28, 54°22'S, 36°28'W, South Georgia, 12–15 m, sand and algae, 24 May 1902.

SSPE 34, 54°11'S, 36°18'W, center of Cumberland Bay, South Georgia, 252–310 m, a few stones, 5 June 1902.

SSPE 39, Port William, Falkland Islands, 51°40'S, 57°41'W, 40 m, sand, stones, algae, 4 July 1902.

SSPE 40, 51°33'S, 58°W, Berkeley Sound, Falkland Islands, 16 m, gravel and shells with algae, 19 July 1902.

SSPE 43, 51°33'S, 58°09'W, Greenpatch, Port Louis, near bridge, Falkland Islands, shallow subtidal, stony bottom with algae amongst *Macrocystis*, 28 July 1902.

SSPE 46, 51°32'S, 58°07'W, Carenage Creek, Port Louis, Falkland Islands, 1 m, sand with *Codium*, 9 Aug. 1902.

SSPE 48, 51°34'S, 57°55'W, Berkely Sound, Falkland Islands, 25 m, sand and stones, 10 Aug. 1902.

SSPE 59, 53°45'S, 61°10'W, Burdwood Bank, 137–150 m, broken shells and stones, 12 Sep. 1902.

T. WORSFOLD STATIONS

The localities are listed in order according to station number. Voucher material is lodged in the AMS.

TW1: Off Sparrow Pt., Port William, East Falkland, 51°39.95'S, 57°48.04'W, 3 m, coarse sand, moderately sheltered, 24 June, 1990.

TW2: 2 km east of Stanley, East Falkland, 51°41.73'S, 57°48.83'W, intertidal, filamentous algae, sheltered inlet, 24 Feb. 1990.

TW3: 1 km west of Stanley, East Falkland, 51°41.43'S, 57°52.52'W, intertidal, filamentous algae, sheltered inlet, 25 Feb. 1990.

TW4: Gypsy Cove, East Falkland, 51°40.57'S, 57°48.22'W, intertidal shell sand, sheltered bay, 8 Apr. 1990.

TW5: Surf Bay, East Falkland, 51°41.90'S, 57°46.35'W, intertidal shell sand, exposed coast, 24 Feb. 1990.

LOCALITY NUMBERS

Numbers 1 see Figure 2A; 2–8, see Figure 2B; 9–17, see Figure 2C; 18–27, 36–39, see Figure 3; 28–33, see Figure 4; 34–35, see Figure 1.

Peru (Fig. 2A, B)

- | | |
|----------------------|---------------------|
| 1. 74-6. | 3. 72-76. |
| 2A. AHF 569. 38-208. | 4. 72-78, AHF 534. |
| 2B. 74-24. | 35-159. |
| 2C. AHF 522. 35-147. | 5. AHF 531. 35-156. |

Northern Chile (Fig. 2B, C)

- | | |
|-------------------|-------------------|
| 6A. 64-16, 70-66, | 8C. 75-15, 75-20. |
| 75-12. | 9. 75-25. |
| 6B. 75-10. | 10. 75-28. |
| 7. 75-21. | 11. 75-30. |
| 8A. 75-17. | 12. 75-33. |
| 8B. 75-19. | 13. 75-37. |

Southern Chile (Figs. 2C, 3)

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|------------|-------------------|
| 14. 75-43. | 21. 73-71. |
| 15. 75-41. | 22A. E 960. |
| 16. 75-46. | 22B. E 958. |
| 17. 73-75. | 23. 73-70. |
| 18. 73-74. | 24. 75-48, 75-49, |
| 19. 73-73. | USNM Sta. 2778. |
| 20. 73-72. | |

Tierra del Fuego (Figs. 1, 3, 4)

- | | |
|----------------------|----------------------|
| 25. 73-69. | 31A. 71-274, 71-275, |
| 26. 73-68. | 71-345. |
| 27A. "Baie Orange," | 31B. 71-276, 71-277. |
| Mission du Cape | 31C. 71-281. |
| Horn (NMNHP). | 31D. 71-283. |
| 27B. V 17-48. | 32A. 71-273, 71-309. |
| 27C. E 219. | 32B. 71-267, 71-295. |
| 27D. E 740. | 32C. 71-294. |
| 27E. DE 388. | 32D. 71-291, 71-293. |
| 28. 71-270, 71-271, | 32E. 71-289, 71-290. |
| 71-296. | 32F. 71-326. |
| 29A. 71-302. | 32G. 71-311. |
| 29B. 71-305. | 32H. 71-286, 71-287, |
| 30A. 71-342, H 654. | 71-323. |
| 30B. 71-346. | 33A. 71-258, 71-308, |
| 30C. 71-344, H 659. | H 656. |
| 30D. 71-340. | 33B. 71-267, 71-347. |
| 30E. 71-339, 71-359. | 33C. 71-348. |
| 30F. 71-334. | 33D. 71-352. |
| 30G. 71-259. | 33E. 71-351. |
| 30H. 71-332, H 664. | 33F. 71-265, 71-357. |
| 30I. 71-329. | 33G. 71-266, 71-312, |
| 30J. 71-260. | 73-66. |

33H. 71-313. 33Q. 71-327.
33I. 71-317. 33R. 71-328.
33J. 71-264. 34. E 363.
33K. 71-315. 35. E 1596, SNAE 346.
33L. 71-316. 36. E 974.
33M. 71-263. 37A. DE 88.
33N. 71-262. 37B. E 967.
33O. 71-310. 38. 75-51.
33P. 71-319. 39. 71-268.