



Seven new genera and thirty-four new species of buccinoid gastropods (Neogastropoda: Buccinidae) from the Aleutian Islands, Alaska

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Abstract

Seven new genera and thirty-four new species of gastropods in the family Buccinidae, are described from the Aleutian Islands. The new taxa represent five subfamilies: Parancistrolepidinae Habe, 1972: *Boreancistrolepis excelsus* n. gen. & n. sp. Beringiinae Golikov & Starabogatov, 1975: *Aleutijapelion mirandus* n. gen. & n. sp.; *Beringius nearensis* n. sp., *B. amliensis* n. sp., *B. bisulcatus* n. sp., *B. kiskensis* n. sp., *B. stanchfieldi* n. sp., *B. frausseni* n. sp., *B. aurulentus* n. sp., *B. maristempeustus* n. sp., *B. undataformis* n. sp.; *Exiloberingius exiguus* n. gen. & n. sp. Neptuneinae Stimpson, 1865: *Aulacofusus canaliculatus* n. sp., *A. tanagaensis* n. sp.; *Neptunea aleutica* n. sp., *N. baxteri* n. sp., *N. dominator* n. sp., *N. petrelensis* n. sp., *N. quhmax* n. sp., *N. vesteraalen* n. sp.; *N. harrisoni* n. sp., *N. jewetti* n. sp., *Laevisipho galaxaios* n. gen & n. sp., *L. kessleri* n. sp.; Volutopsiinae: *Volutopsius nanus* n. sp., *Volutopsius gracilis* n. sp.; *Crebrivolutopsius labidentatus* n. gen. & n. sp. Buccininae Rafinesque, 1815: *Aleutibuccinum* n. gen.; *Castaneobuccinum orri* n. gen. & n. sp., *C. lauthi*, n. sp., *C. clinopsis* n. sp., *C. pagodaformis* n. sp.; *Sulcosinus carinatus* n. sp.; *Buccinum lanatum* n. sp.; and *Buccinum katharinae* n. gen. & n. sp. The new genera and species are distinguished by the morphological characters of the shells and radulae.

Key words: Buccinidae, Alaska, Aleutian Islands, New taxa, *Boreancistrolepis*, *Aleutijapelion*, *Exiloberingius*, *Crebrivolutopsius*, *Aleutibuccinum*, *Castaneobuccinum*

Introduction

From the Alaska Peninsula, the Aleutian Islands extend westward a distance of more than 2000 km, from Unimak Island, Krenitzin Ids. to Attu Island, Near Ids. Over 200 Islands form an archipelago that separates the North Pacific Ocean from the Bering Sea. The southern edge of the archipelago is bounded by the strong Alaska current flowing west, with the east flowing Aleutian North Slope Current to the north of the islands. Significant flow from the Alaska Current occurs through 14 passes, providing relatively warm subsurface waters to the Bering Sea (Stebano *et al.* 1999). The greater Aleutian chain (Aleutian-Commander Archipelago) (Fig. 1) extends from the Shumagin Islands, south of the Alaska Peninsula (200 km SE of Unimak Island, Krenitzin Ids.) to the Commander Islands, Russia (250 km west of Attu Island, Near Ids.) (Campbell & Rennick 1980). The region can be divided into three regions: the eastern region (Fig. 2) from the Shumagin Islands to Samalga Pass (between Umnak Island, Fox Ids. and the Islands of Four Mountains), the central region (Fig. 3) extending from the Islands of Four Mountains to Buldir Pass, west of Kiska Island, and the western region (Fig. 4), west of Kiska Island, Rat Ids. to Attu Island, Near Ids. and Stalemate Bank.

Because of the remote location, expense of access and notoriously foul weather, the region has been poorly sampled biologically. The mollusk fauna in particular is poorly known, and most known species were described by William H. Dall in the late 19th and early 20th centuries. Baxter (1987) listed 396 species of shell bearing mollusk from the Aleutians Islands, and Vermeij, *et al.* (1990) reported on the range and dispersal of 109 shallow water species from the Aleutians.

Perhaps this great diversification of species should be expected in such an isolated and extensive region (2500 km east to west), influenced by four major faunal provinces. 1) The Oregonian (temperate eastern Pacific) Province,

2) the Kuril (western Pacific high boreal) Province, 3) the Arctic, circum-boreal Province (sometimes considered two distinct provinces), and 4) the Aleutian Province (Briggs 1974). The Oregonian Province characteristic of the Gulf of Alaska extends westward into the Aleutians to the east side of Samalga Pass (Umnak Island). This pass is a major faunistic break and presents a physical and biogeographical boundary between the eastern and central Aleutian marine ecosystems (Ladd, *et al.*, 2005), and may be due (in part) to water temperature, which tends to be 1-2°C cooler on the west side of the pass than the east side (2006-07 AKMAP survey). The west side of Umnak Island (east side of Samalga Pass) is the end point for many eastern Pacific mollusk species. Conversely the Islands of Four Mountains (West side of the pass) are the end point for several western Pacific mollusk species.

The Aleutian Province is characterized by species extending from the western Gulf of Alaska (vicinity of Kodiak Island) to Kamchatka and the northern Kuril Islands.

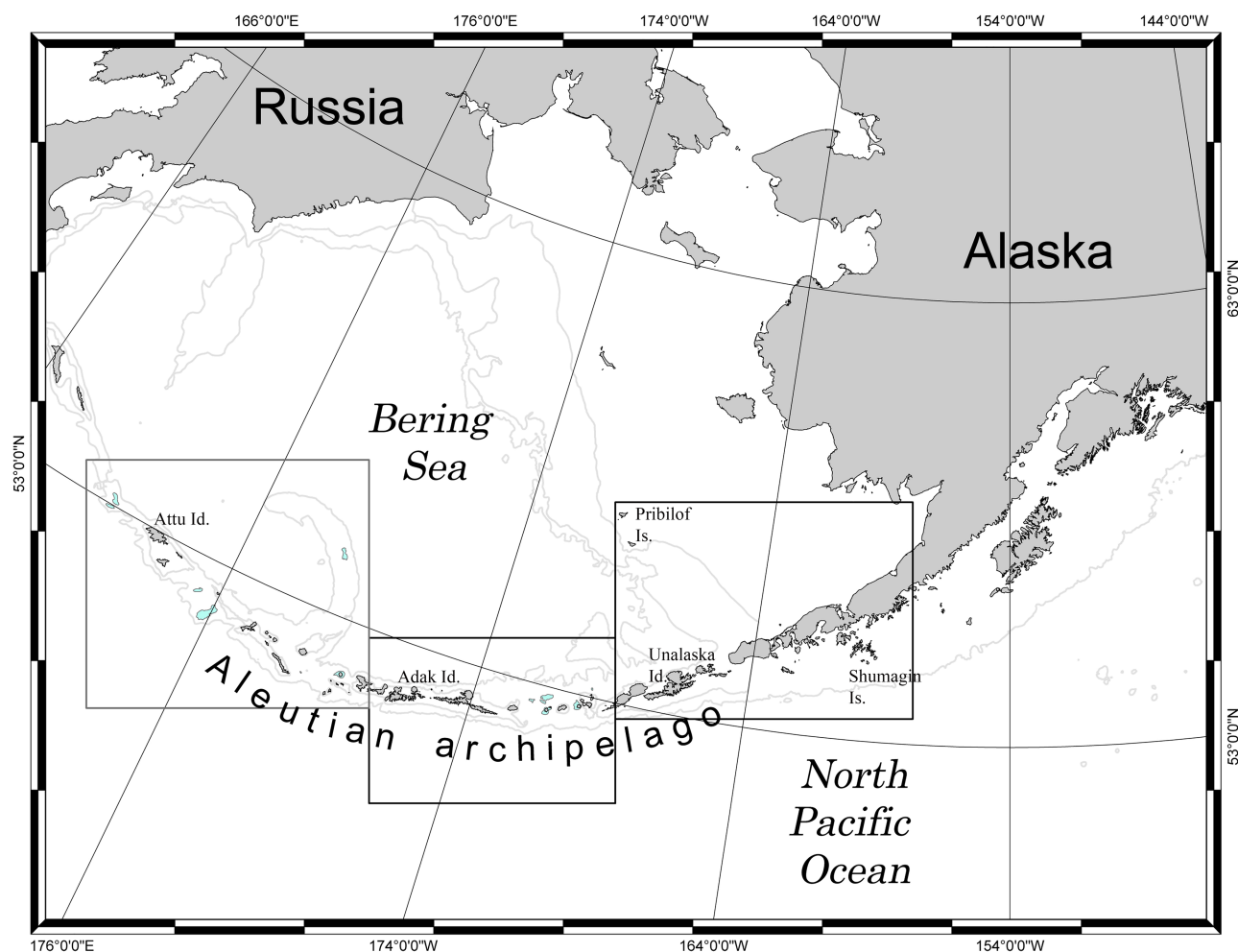


FIGURE 1. Aleutian Islands Archipelago.

The heart of the Aleutian Province, the broad central region between Samalga and Buldir Passes, encompassing the Islands of Four Mountains, Andreanof and Rat Island groups has a rich and diverse mollusk fauna and includes a very high degree of endemism, estimated to be as high as 24% [Valentine, 1966 (although this number is actually much higher based on recent discoveries)], and includes numerous endemic species of *Neptunea*, *Beringius* and *Buccinum*. Numerous sponges (Lehnert, *et al.*, 2006), hydrocorals (Cairns & Lindner, 2011), sea stars (Jewett, *et al.* 2015) and many other invertebrates, fishes (James W. Orr, *pers. com.* Dec. 2019) and algae (Lindeberg & Lindstrom, 2010) are also endemic to this section of the Aleutians.

Another faunistic break occurs at the broad Buldir Pass between Kiska Island and the Near Islands (Attu & Agattu Islands and the Semichi Islands). The region to the west of Buldir Pass contains the end points of many western Pacific mollusk species.

Arctic Provincial elements are found throughout the Aleutian Islands but are most abundant in the eastern and western extremities.

The gastropod family Buccinidae Rafinesque, 1815 is represented by six subfamilies (five of which are treated here) (Buccininae, Parancistrolepidinae, Beringiinae, Neptuneinae, and Volutopsiinae) is particularly abundant in the Aleutian Islands, with more than 40 known species in at least 12 genera. Herein seven new genera and 34 new species are described. These new species include numerous short-range endemics, species that occur only at one, or a few islands.

Research for this paper was started several years ago by Dr. James H. McLean and the junior author, but was postponed due to the priority of other projects and after the untimely death of Dr. McLean in 2016, it is herein completed by the junior author.

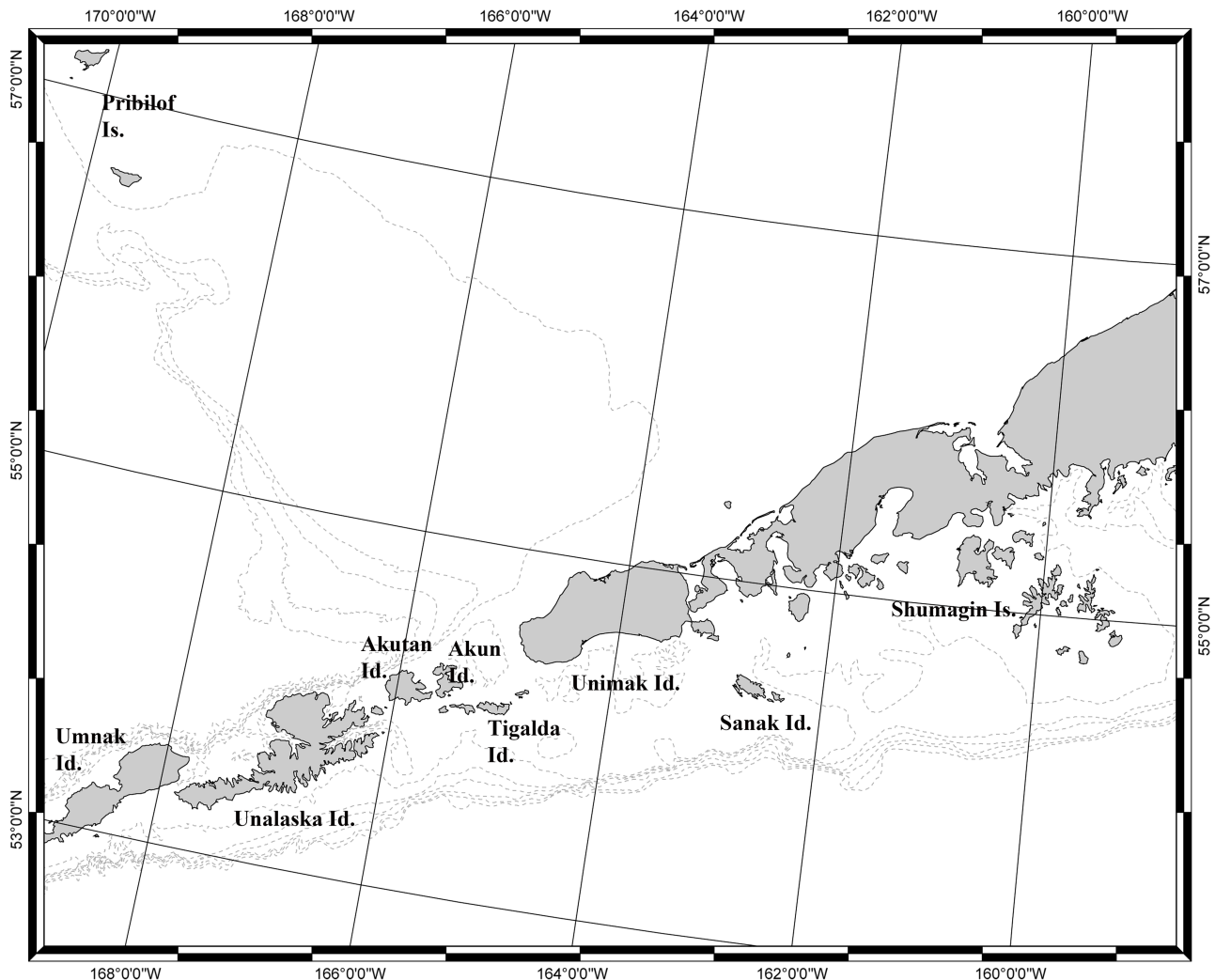


FIGURE 2. Eastern Aleutian Islands.

Materials and methods

From 1993 to 2011 the junior author participated in numerous surveys in the Aleutians with the National Marine Fisheries Service (NMFS), fish and shellfish resource assessment surveys, carried out by the Alaska Fisheries Science Center. In 2006-07 the Alaska Department of Environmental Conservation and The University of Alaska Fairbanks, Alaska Monitoring and Assessment Program (AKMAP) SCUBA survey. In 2011 the United States Department of Energy, Amchitka Island monitoring program (SCUBA), and in 2008 the Boreal Coralline Algae Expedition. From 2006 to present the NMFS has continued to provide material from their biennial surveys. In all, nearly 1000 specimens were recovered. Specimens were collected with a “Nor’Eastern” commercial type bottom trawl, and by hand with SCUBA. Specimens were preserved in 80–99% ethanol, and most were later air dried (although the bodies of many were retained in 70% ethanol). Digital images were taken of the specimens by the authors. The radulae were dissected out by the junior author, cleaned in KOH, rinsed acetone, and then distilled water, and mounted on

SEM viewing stubs. The radulae were then prepared and imaged by Dr. Daniel Geiger, with the scanning electron microscope at the Santa Barbara Museum of Natural History. The collections at the United States National Museum (Smithsonian Institution), The Natural History Museum of Los Angeles County, California, The Santa Barbara Museum of Natural History, the California Academy of Sciences and The Royal British Columbia Museum. The junior author's personal reference collections were also studied.

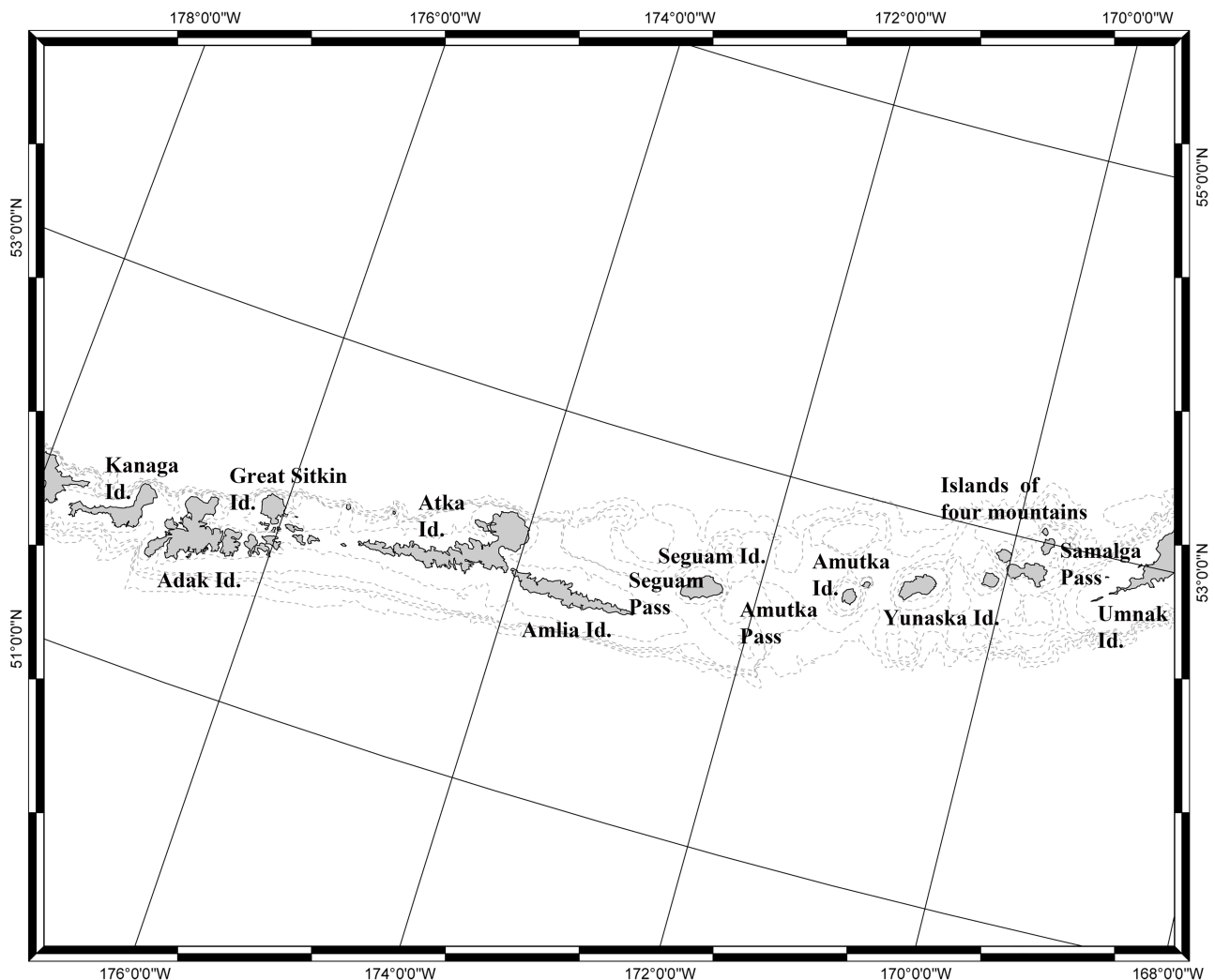


FIGURE 3. Central Aleutian Islands.

Acronyms used in the text:

- AKMAP: Alaska Monitoring and Assessment Program.
- AFSC: Alaska Fisheries Science Center, Seattle, Washington, USA.
- CASIZ: California Academy of Sciences, Invertebrate Zoology, San Francisco, CA, USA.
- LACM: Natural History Museum of Los Angeles County, Malacology Department, Los Angeles, CA, USA.
- NMFS: National Marine Fisheries Service.
- RB: Rae Baxter (collection at Natural History Museum of Los Angeles County, CA, USA.)
- RNC: Roger N. Clark personal research collection.
- RBCM: Royal British Columbia Museum, Victoria, Canada.
- SBMNH: Santa Barbara Museum of Natural History, CA, USA.
- USNM: National Museum of Natural History (Smithsonian Institution), Washington, DC, USA.
- ZIN: Zoological Institute, Russian Academy of Sciences, Saint Petersburg, Russia.
- HD: herein designated.
- OD: original designation.
- TS: type species.

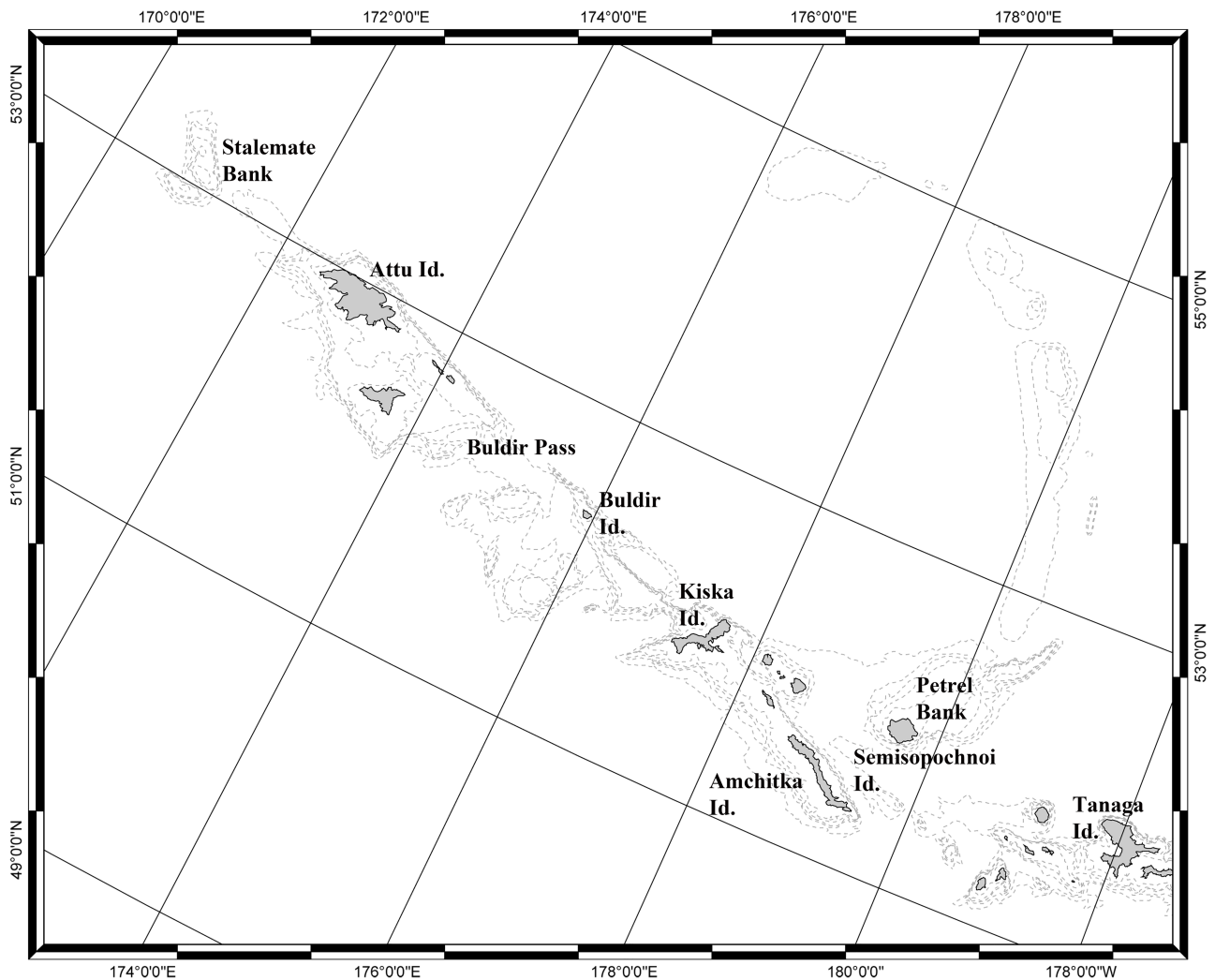


FIGURE 4. Western Aleutian Islands.

Taxonomic Account

Various higher taxonomic schemes have been presented over the years, including Bouchet & Rocroi (2005), Bouchet *et al.* (2017), and Habe & Sato (1973). The present scheme is based upon Kantor *et al.* (2022). This arrangement is based upon genetic analysis, as well as opercular and radular morphology, teleconch whorls, and egg capsule characteristics. Kantor *et al.* demonstrated that Colidae Gray, 1857 is distinct from Buccinidae Rafinesque, 1815, and the genus *Aulacofusus* Dall, 1918 previously placed in Colidae is in fact in the Buccinid subfamily Neptuneinae Stimpson, 1865. In this report, new genera and species in the subfamilies Parancistrolepidinae Habe, 1972 (=Ancistrolepidinae Habe & Sato 1973); Beringiinae Golikov & Starobogatov, 1975; Neptuneinae Stimpson, 1865; Volutopsiinae Habe & Sato, 1973 and Buccininae Rafinesque, 1815 are described.

Subfamily Parancistrolepidinae Habe, 1972

Diagnosis: Shell with suture constricted; sculpture chiefly spiral; aperture short, lacking long anterior canal; siphonal notch U-shaped, base of lip projecting anteriorly in some genera. Early teleconch whorls dome shaped, apex not projecting. Operculum narrow to broad, convex, with terminal nucleus. Radula most species with the rachidian and lateral teeth each with three sharply pointed cusps.

Remarks: Habe, 1972 proposed Parancistrolepidinae (as Parancistrolepisinae) as distinct from Ancistrolepidinae (as Ancistrolepisinae), based on differences in the radula and the operculum between *Parancistrolepis kinoshitai* (Kuroda, 1931) and *Ancistrolepis grammatus* (Dall, 1907), and the type of the genus, *Ancistrolepis eucosmius* (Dall,

1891). Although he used the name *Ancistrolepisinae*, and implied that the two previously mentioned species were included in it, no actual diagnosis of the subfamily was offered, only a distinction between the radula and opercula of the two. Although the use of the name *Ancistrolepisinae* and its type species were implied (before the use of *Parancistrolepidinae*), however no diagnosis for *Ancistrolepidinae* was published until 1973. *Parancistrolepidinae* was selected by Kantor *et al.* (2022) as the subfamily name, as it is uncertain if the rule of strict priority applies in this case and if the implied association is sufficient for validation (Kantor, *personal comm.* September, 2021). The rule of “first reviewer” (Kantor *et al.* 2022) may apply in this case and would render the question mute. This case may need to be reviewed by the Committee on Zoological Nomenclature. Egg capsules solitary, large, elongate-oval with long stalk. Capsule smooth (Kantor 1988).

Genus *Boreancistrolepis* n. gen.

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Diagnosis: Profile tall, whorls rounded, with rounded, narrow shoulder; suture deeply impressed; periostracum thin, shiny, closely adherent, lip extending anterior to base of pillar; sculpture faint or absent; color pattern green, two tone, base lighter; operculum large, filling aperture, outer surface strongly convex, glossy with terminal nucleus. Radula: Rachidian and lateral teeth each with three sharply pointed cusps.

Type species: *Boreancistrolepis excelsus* n. sp. (HD).

Remarks: Differs from other *Parancistrolepidinae*, particularly the rather similar *Neancistrolepis* Habe & Sato, 1973, by its thick, solid, nearly smooth shell with a tenacious, glossy periostracum and large operculum with, glossy, convex exterior, which completely fills the aperture. One Aleutian species.

***Boreancistrolepis excelsus* n. sp.**

Figures 5 B–F

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Type locality: S of Attu, Island, Near Islands, Aleutian Islands, Alaska (52°13.5 N, 173°27.8 E), 169 m, (NMFS 23-1997-01-229) (*leg.* RNC, 6 August, 1997, trawled, R/V *Dominator*).

Type material: Holotype, LACM 3570, 69.0 mm (*leg.* RNC, 6 August, 1997; trawled, R/V *Dominator*); Paratypes: Pt 1, LACM 3608 (type locality), 74.4 mm; Pt 2, LACM 3609, 58.1 mm. Tanadak Pass, E of Segula Island, Rat Ids. (52°03.45 N, 178°18.94), 407 m; Pt 3, USNM 1606663, 68.38 mm. E of Kruloi Point, Agattu Island, Near Ids. (52°27.91 N, 174°13.71 E), 118 m, (NMFS 94-2002-01-161); Pt 4, SBMNH 46499, 64.11 mm. S of Amutka Island (52°29.46 N, 171°06.96 W), 281 m, (NMFS 176-2014-01-40); Pt 5, SBMNH 169000, 64.4 mm. S of Little Sitkin Island, Rat Ids. (51°52.56 N, 178°34.01 E), 407 m, (NMFS 94-2002-01-154); Pt 6, CASIZ 236199, 48.64 mm. Samalga Pass (52°56.1 N, 169°20.38 W), 399 m, (NMFS 143-2004-01-23); Pt 7, RNC 4700 (type locality) 65.17 mm.

Referred material: CASIZ 149895, 1 sp., 30.38 mm, S of Islands of Four Mountains (52°20.45 N, 170°40.08 W), 224 m, (NMFS 94-200001-48); RNC 4522 (type locality), 3 sp., 28.19–80.78 mm; RNC 4623, 1 sp., 69.38 mm. S of Unalaska Island (53°12.0 N, 166°49.82 W), 209 m, (134-2003-01-17); Koen Fraussen Coll., 1 sp., 67.97 mm. S of Yunaska Island (52°29.68 N, 170°41.19 W), 226 m, (NMFS 23-1997-01-48); RNC 4690, 1 sp., 26.86 mm. S of Seguam Island (52°03.51 N, 172°33.12 W), 145 m, (NMFS 23-2000-01-72); RNC 4917, 2 sp., 68.27 & 39.19 mm S of Islands of four Mountains (52°13.7 N, 169°44.7 W), 329 m, (NMFS 143-2010-01-72).

Description: Shell relatively large (largest examined 80.7 mm, RNC 4522), profile tall, moderately slender, whorls six (figs. 5 B–D); shell white, periostracum glossy, thin, adherent, olive green, with slightly lighter zone on the basal region, shiny, not flaking in dry shells; Protoconch one whorl; whorls rounded; irregular, sculpture of oblique, spiral cords (especially near the shoulder) very weak or absent; aperture about 40% of shell height, notch shallow; outer lip extending well below the base of the pillar, parietal callus white, well-marked but not raised; continuous lip thickening extending to the parietal shield and columella of mature shells; canal very short; Operculum (fig. 5E), convex, glossy, with terminal nucleus.

Radula (fig. 2F). Rachidian tooth broad, bearing three relatively long, sharply pointed cusps, the central cusp somewhat larger than the lateral ones. Lateral teeth long, bearing three well-spaced, sharply pointed cusps; outer denticle large, curved; central cusp about half as long as outer one; inner cusp somewhat longer than the central one, strongly curved.

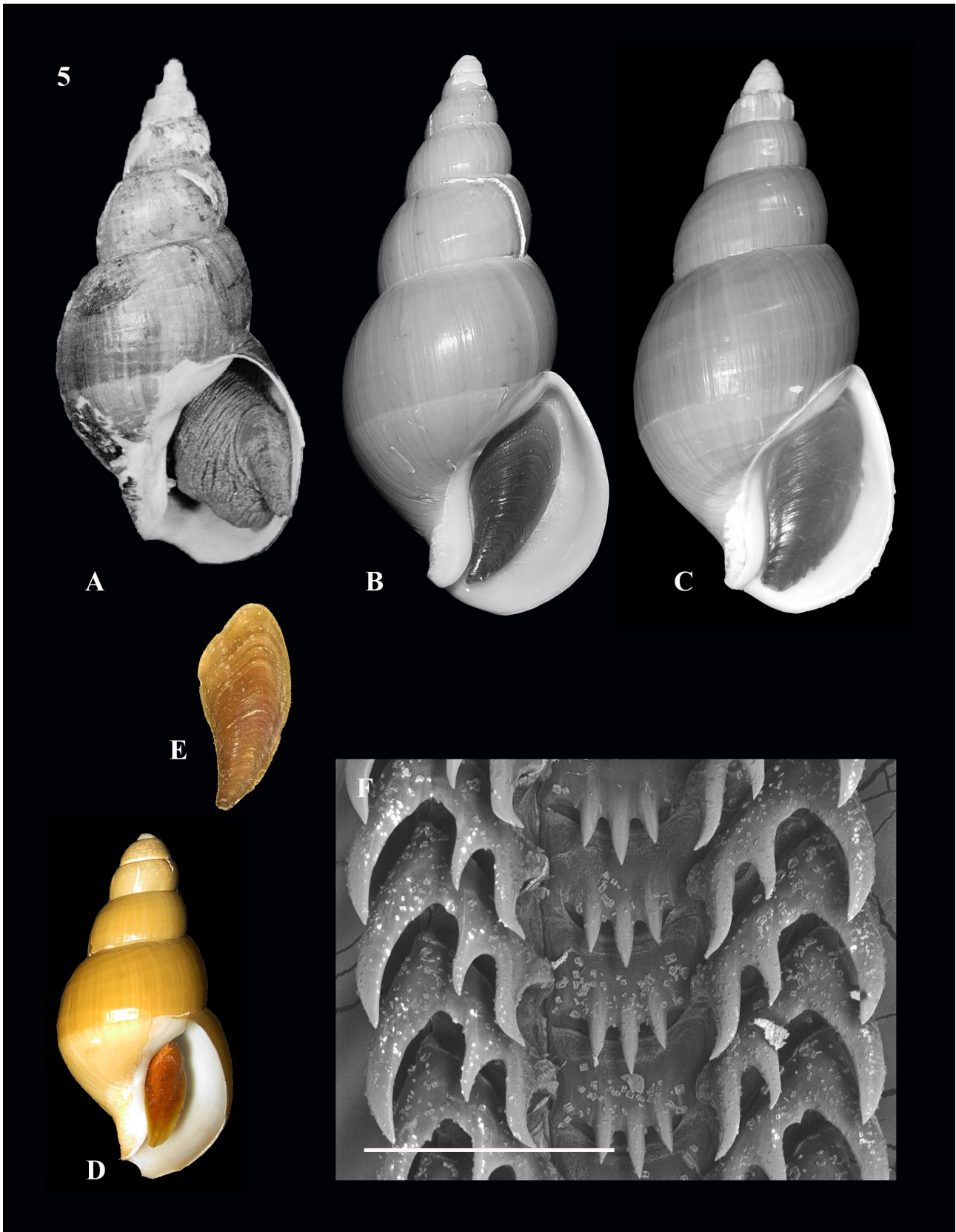


FIGURE 5. **A.** *Neancistrolepis glabra* Habe & Ito, 1973 ZIN 46502/2, Okhotsk Sea, E of Sakhalin Island, 750 m, 110.5 mm (after Kantor & Sysoev, 2006); **B–F.** *Boreancistrolepis excessus*, **B.** Holotype, LACM 3570, S of Attu Island, 169 m, 69.0 mm; **C.** RNC 4917, S of Islands of Four Mountains, 329 m, 68.2 mm; **D.** Paratype, RNC 4690, S of Seguam Island, 145 m, 26.8 mm; **E.** Operculum of RNC 4971, 24.0 mm; **F.** Radula, CASIZ 236199, Samalga Pass, 399 m, bar = 200 µm.

Etymology: From the Latin, meaning exalted.

Distribution: Occurs throughout the Aleutian Islands, from Unalaska Island, Fox Ids. (166°49W), west to the type locality, at Attu Island, Near Ids. (173°27 E), at depths of 145–407 m.

Habitat: Black sand and gravel, with bottom temperatures of 3.4–4.8°C.

Remarks: Paratypes agree with holotype in all characters, and individual variation is very minor, some specimens have erosion at the suture giving channeled appearance.

This genus/species bears a striking resemblance *Aleutijapelion aleuticus* (Dall, 1895) in its profile, and two-toned periostracum, but differs in having a glossier periostracum, convex, glossy operculum, low (not extended), nuclear whorls, and radular teeth typical of members of Parancistrolepidinae (Rachidian tooth bearing three, sharply pointed cusps, as opposed to a simple, acuspate plate in Beringiinae).

The new species also resembles *Neancistrolepis glaber* Habe & Ito, 1973 (fig. 5A), but differs in its smaller size (80 mm versus 130+ mm), heavier, thicker shell, and larger, glossy operculum which fills the aperture. Baxter (1987:120) reported on this species (as *Beringius aleuticus* Dall, 1895), stating that “*Beringius aleuticus* does not belong in the genus *Beringius* based on its nuclear whorls and what is apparently its operculum”.

Subfamily Beringiinae Golikov & Starobogatov, 1975

Diagnosis. Shell large, siphonal canal short; growth determinate, aperture slightly thickened and projecting in mature shell; periostracum thin to relatively thick, flaking, adherent, or laminate. Protoconch, usually large, of several strongly projecting whorls that only slightly increase in diameter. Operculum, large, dull, concave, with terminal nucleus, filling aperture when animal is retracted. Radula: Rachidian tooth reduced to a simple, acuspate plate. Egg capsules (of *Beringius*) large, up to 40 x 47 mm, oval, flap-like, attached to the substrate along the bottom edge, and deposited in rows. Capsules bearing 1–4 juveniles at hatching.

Remarks: In the Aleutian Islands, 18 species four genera are recognized, including 11 species and two genera new to science.

Genus *Aleutijapelion* gen nov.

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Diagnosis: Shell tall, moderately broad in profile; protoconch 2.5 whorls (nearly always eroded); whorls, seven or eight, rounded, without shoulder, suture fine, deeply impressed. Axial sculpture absent, spiral sculpture absent or faint, irregular; pillar deeply concave, base with constriction producing short extension of fasciole, lip projecting only slightly beyond pillar; final lip thickened, callus of anal sinus continuous with parietal callus; inner lip broad, not raised; canal short, broad. Radula, typical for this subfamily, rachidian tooth simple, acuspate.

Type species: *Beringius aleuticus* Dall, 1895 (HD).

Remarks: This genus is similar to *Metajapelion* Chiba and Kosuge, 1980 (TS *Tritonium* (*Buccinum*) *pericochlion* Schrenck, 1862, SD), but differs in 1) lacking the tabled shoulder, 2) lacking spiral sculpturing on the early whorls, and 3) spiral cords on base of body whorl. Goryachev, 1987: 35 subsequently designated *Japelion pericochlion* Schrenck, 1863 as the type species of *Metajapelion* (see Higo, Callomon and Goto 1999: 224).

Two species are recognized, *Aleutijapelion aleuticus* (Dall, 1895), and *Aleutijapelion mirandus* n. sp. This genus is genetically close to *Metajapelion*, but we consider it distinct based on the before mentioned characters.

Aleutijapelion aleuticus (Dall, 1895)

Figures 6 B–E

Beringius aleuticus Dall, 1895:711, pl. 29, fig. 2.

Type locality: Amutka Pass, Aleutian Is., Alaska (52°15.00 N, 171°40.00 W), 454 m (R/V *Albatross* Station # 3481).

Type material: Holotype, USNM 106999, 66 mm.

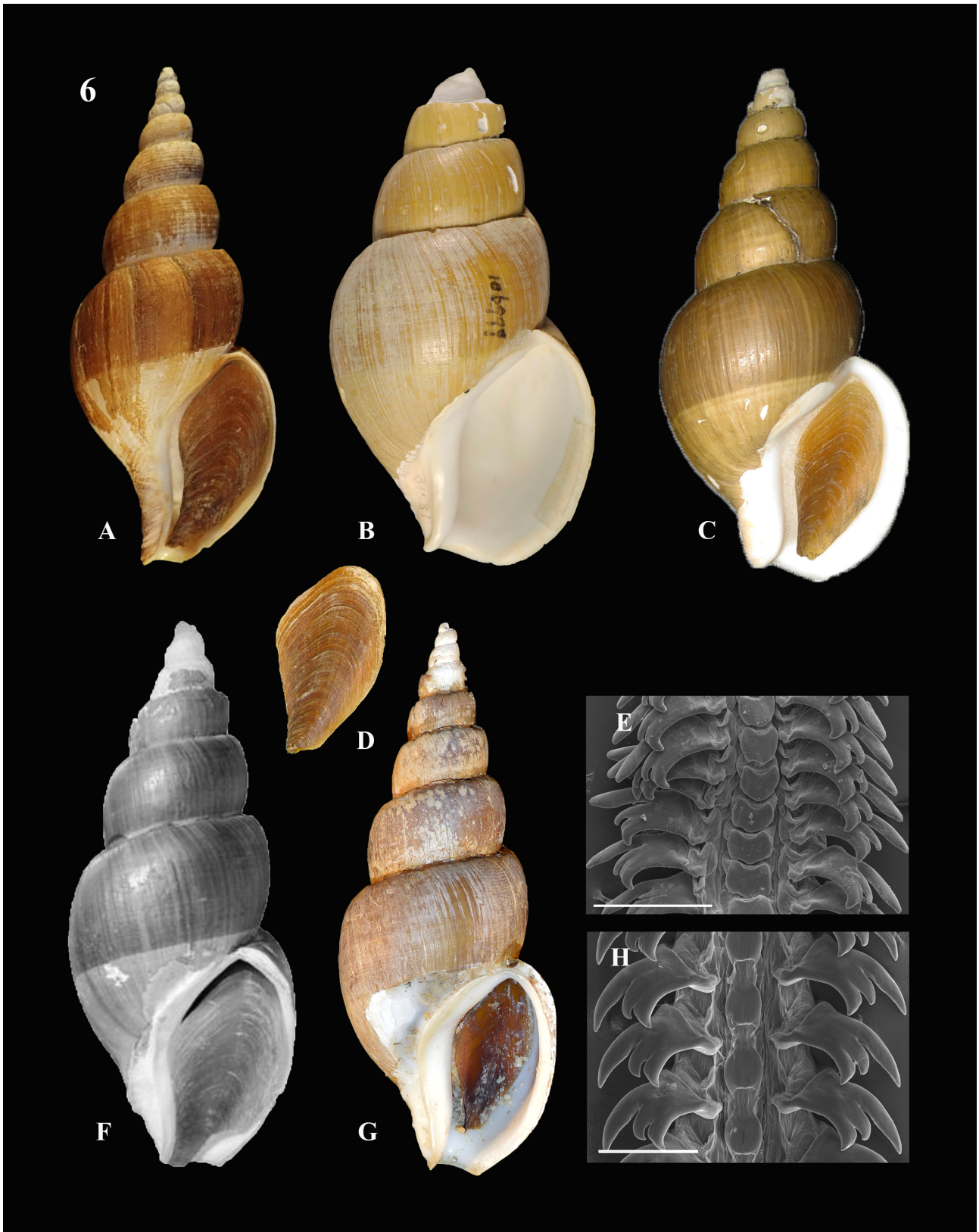


FIGURE 6. A. *Metajapelion adelphicus* (Dall, 1907) RNC 4967, Off Okinoshima Island, Japan, 182 m, 97.4 mm; B–E. *Aleutijapelion aleuticus* (Dall, 1895); B. Holotype, USNM 106999, Amutka Pass, 454 m, 65.0 mm; C. RNC 4772, S of Umnak Island, 86 m, 74.3 mm; D. Operculum of RNC 4772, 28 mm; E. Radula, RNC 4880, W of Carlisle Island, 228 m, bar = 100 µm; F–H. *Aleutijapelion mirandus*; F. Holotype, LACM 3664, N of Amlia Island, 423 m, 74.4 mm; G. RNC 5019, E of Kiska Island, 268 m, 91.7 mm; H. Radula, RNC 4639, S of Atka Island, 207 m, bar = 200 µm.

Referred material: LACM 181446, 1 sp., 73.2 mm. S of Kodiak Island, 118 m; RNC 4631, 1 sp., 72.16 mm. S of Kodiak Island (56°29.85 N, 152°30.06 W), 297 m (NMFS 57-200101-146); LACM 181447, 1 sp., 50.5 mm. ESE of Chirikov Island, SW of Kodiak Id., 122 m; CASIZ 149898, 67.4 mm. Samalga Pass, Islands of Four Mountains (52°55.8 N, 169°20.4 W), 401 m (NMFS 23-200001-33); RNC 4611, 1 sp., 66.4 mm. Shumagin Is., SE of Alaska Peninsula (54°41.13 N, 158°00.15 W), 440 m (NMFS 57-200101-92); RNC 4646, 1 sp., 59.5 mm. Shumagin Is., SE of Alaska Peninsula (54°30.70 N, 158°52.02 W), 361 m (NMFS 159-200901-73); RNC 4705, 1 sp., 81.5 mm. S of Unalaska Island, Fox Ids. (53°06.2 N, 166°58.66 W), 294 m (NMFS 57-200101-8); RNC 4772, 1 sp., 74.34 mm. S of Umnak Id., Fox Ids. (53°27.12 N, 168°29.93 W), 86 m (NMFS 143-200601-23); RNC 4880, 1 sp., 63.25 mm. W of Carlisle Island, Islands of Four Mountains (52°55.86 N, 170°24.58 W), 228 m (NMFS 143-200601-29); RNC 4881, 1 sp., 80.14 mm. S of Yunaska Island, Islands of Four Mountains (52°31.75 N, 170°33.55 W), 220 m (NMFS 143-200601-40); RNC 4689, 1 sp., 78.9 mm. W of Tanaga Island, Andreanof Ids. (51°39.68 N, 178°25.57 W), 373 m (NMFS 143-201201-125).

Description: Relatively large shells (largest examined 81 mm, RNC 4705); whorls rounded; periostracum thin, adherent, olive green to brown, shiny, not flaking in dry shells; color pattern two-tone, lighter on sharply defined basal area. protoconch with 2.5 whorls extended (but not nearly as much as in *Beringius*), scarcely if at all increasing in size; seven or eight teleconch whorls; axial lacking (except for growth lines), spiral sculpture absent, or if present, consisting of a few low, faint, irregular cords, or faint oblique ridges on upper part of whorl; siphonal canal short, base deeply notched near pillar; anterior lip extending below anterior tip of pillar. Lip of mature shell thickened and slightly flaring; lip continuous across anal sinus, connecting to narrow parietal shield in mature shells. Operculum (fig. 6 D) large, nearly filling aperture, narrowing anteriorly, concave on exterior surface.

Radula: (fig. 12 E) Typical of this subfamily. Rachidian tooth reduced to a simple, chevron shaped, acusate plate. Lateral teeth rather narrow, tricuspid, the outer cusp long curved, inner two cusps much smaller.

Distribution: Western Gulf of Alaska, S of Kodiak Island (152°29 W) to central Aleutian Islands, west to Tanaga Pass, Andreanof Ids. (178°25 W), at depths of 86–454 m.

Habitat: Black sand and gravel or muddy sand and gravel with pebbles. Water temperatures of 3.7–5.0°C.

Remarks: This species differs from *Aleutijapelson mirandus* n. sp. in having a broader profile, and in lacking the narrow, channeled shoulder Also resembles *Boreancistrolepis excelsus* (see remarks under that species).

Aleutijapelson mirandus n. sp.

Figures 6 F–H

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Type locality: N of Amlia Island, Andreanof Ids., Aleutian Is., Alaska (52°33.67 N, 173°20.36 W), 423 m (NMFS 94-199401-72).

Type material: Holotype, LACM 3664, 74.4 mm. (NMFS 94-199401-72); Paratypes: Pt 1, RNC 4007, 1 sp., 91.7 mm. E of Kiska Island, Rat Ids. (52°03.27 N, 177°49.83 E), 268 m (NMFS 148-201801-141).

Referred material: RNC 4639, 1 sp., 97.85 mm. N of Atka Island, Andreanof Ids., Alaska (52°13.19 N, 174°55.03 W), 207 m (NMFS 143-200401-91).

Description: Shell relatively large, to 98 mm (RNC 4639) profile tall, slender, whorls rounded, shoulder above the level of suture; suture narrowly channeled (often eroded); periostracum thin, adherent, two-toned olive green to brown, not flaking in dry shells. Protoconch with 2.5 whorls, scarcely increasing in size; seven or eight teleconch whorls with axial sculpture lacking, spiral sculpture absent or consisting of a few weak (almost imperceptible), irregular cords on some whorls; apertural callus complete across anal sinus, parietal and columellar callus raised. Radula (fig. 6 H) Rachidian tooth simple plate-like, ovate. Lateral teeth rather narrow, tricuspid, the outer cusp long curved, inner two cusps much smaller.

Etymology: From the Latin, wonderful or strange.

Distribution: Endemic to the central Aleutian Islands, from Amlia Island, Andreanof Ids. (173°20 W) to near Kiska Island, Rat Ids. (177°50 E) at depths of 207–423 m.

Habitat: Volcanic sand and pebbles, with a bottom temperature of 5°C.

Remarks: Resembles *Aleutijapelson aleuticus* but differs in 1) the taller, more slender profile, 2), narrower canal, and 3) narrow, channeled shoulder. Additionally, the rachidian tooth of the radula is ovate as opposed to

chevron-shaped in *A. aleuticus*. *Aleutijapelion mirandus* also resembles the larger Japanese *Metajapelion adelphicus* (Dall, 1907) (fig. 6 A), but differs in having a shorter broader canal, and lacks the narrow, shelf-like shoulder defined by a raised keel-like margin, and the low, even spiral ribs on the early whorls.

Genus *Beringius* Dall, 1887

Type species. *Chrysodomus crebricostatus* Dall, 1877 (by OD).

Diagnosis. Shells large, robust, usually with tall profile, aperture large; early whorls extended. Axial sculpture (when present) of weak to strong folds; spiral sculpture variable, fine lirae or riblets to coarse flattened cords with deeply channeled interspaces. Periostracum thin, flaking or adherent, lamellar in some species. Egg cases oval, disc shaped, attached along one edge and deposited in linear series to substrate.

Remarks: In the Aleutians 14 species are recognized, including nine new species.

Beringius nearensis n. sp.

Figures 7 A–D

urn:lsid:zoobank.org:act:1AD87361-3122-4D3B-9452-7DC578B193E6

Type locality: Stalemate Bank, W of Attu Island, Near Ids., Aleutian Is., Alaska (54°54.50 N, 170°49.26 E), 219 m (NMFS 23-199701-211).

Type material. Holotype LACM 3571, 103.4 mm. (*leg.* RNC, 3 August, 1997, trawled, R/V *Dominator*) Paratypes: Pt 1, USNM 1606662, 127.19 mm. E of Agattu Island, Near Ids. (52°28.04 N, 174°13.71 E), 118 m (NMFS 94-200201-161); Pt 2, SBMNH 169001, 119.7 mm. S of Shemya Island, Semichi Ids. (52°35.22 N, 174°17.79 E), 96 m (NMFS 148-201001-183); Pt 3, CASIZ 236197, 87.2 mm. E of Agattu Island, Near Ids. (52°10.89 N, 173°40.63 E), 163 m (NMFS 148-201001-188); Pt 4, RNC 4882, E of Agattu Island, Near Ids. (52°30.25 N, 174°13.41 W), 111 m (NMFS 147-200401-201).

Description: Shell of moderate size (to 127 mm, USNM 1606662), pyriform, white or pale pinkish, periostracum thin, brown, adherent; suture deeply impressed. Protoconch with 2.5 whorls; teleconch of 4–4.5 whorls. Axial sculpture of nine or ten projecting, often opisthocline ribs or folds, interspaces broader than ribs, persisting in final whorl. Spiral sculpture of seven to nine cords low, moderately strong, flat-topped or slightly concave cords topped by two to five fine threads; interspaces broader than cords, bearing similar fine threads. Aperture oval, much less than half of shell height, canal short, rather narrow.

Radula (fig. 7 D), rachidian tooth reduced, flat, plate-like, broader than long, lateral edges rounded, excavated anteriorly and posteriorly. Lateral teeth large, tri-cuspid, outer cusp very long, thick, curved, tapering, distally pointed, central and inner cusps much smaller, about ¼ as long as outer one, separated by a deep notch; inner cusp slightly shorter than central one, anteriorly flattened, and slightly curved.

Remarks: This species differs from *Beringius undatus* Dall, 1919 (figs. 7 E–F) by the profuse, spiral micro-striae on the cords and interspaces, the fewer nine to ten opposed to 12–14, less pronounced spiral cords and interspaces, and the lateral teeth of the radula, which in *B. nearensis* are broader and thicker, and have pronounced central and inner cusps separated from the outer cusp by a deep notch. Those of *B. undatus* (figs. 7E–F) are not separated by a deep notch. This might be considered only a variant of *B. undatus*, but for the great distance (1400 km) between distributions of the two species, between which no similar forms have been found. *Beringius crebricostatus* (Dall, 1877) (figs. 7 G–H) is also similar but differs in having strong spiral cords separated by deep, broad channels, and lacks axial sculpture. It might also be confused with some of the forms of *Beringius kennicottii* (Dall, 1871) (figs. 8A–H), but differs in the more prominent and regular spiral sculpture.

Etymology: Name refers to the Near Island group, at the extreme western end of the Aleutian.

Distribution: Western Aleutian Islands, apparently restricted to the vicinity of the Near Islands and Stalemate Bank, between 170°50' E to 174°15 E.

Habitat: Found on combination rock/sand bottoms, at depths of 96–163 m, and a temperature of 3–4°C.

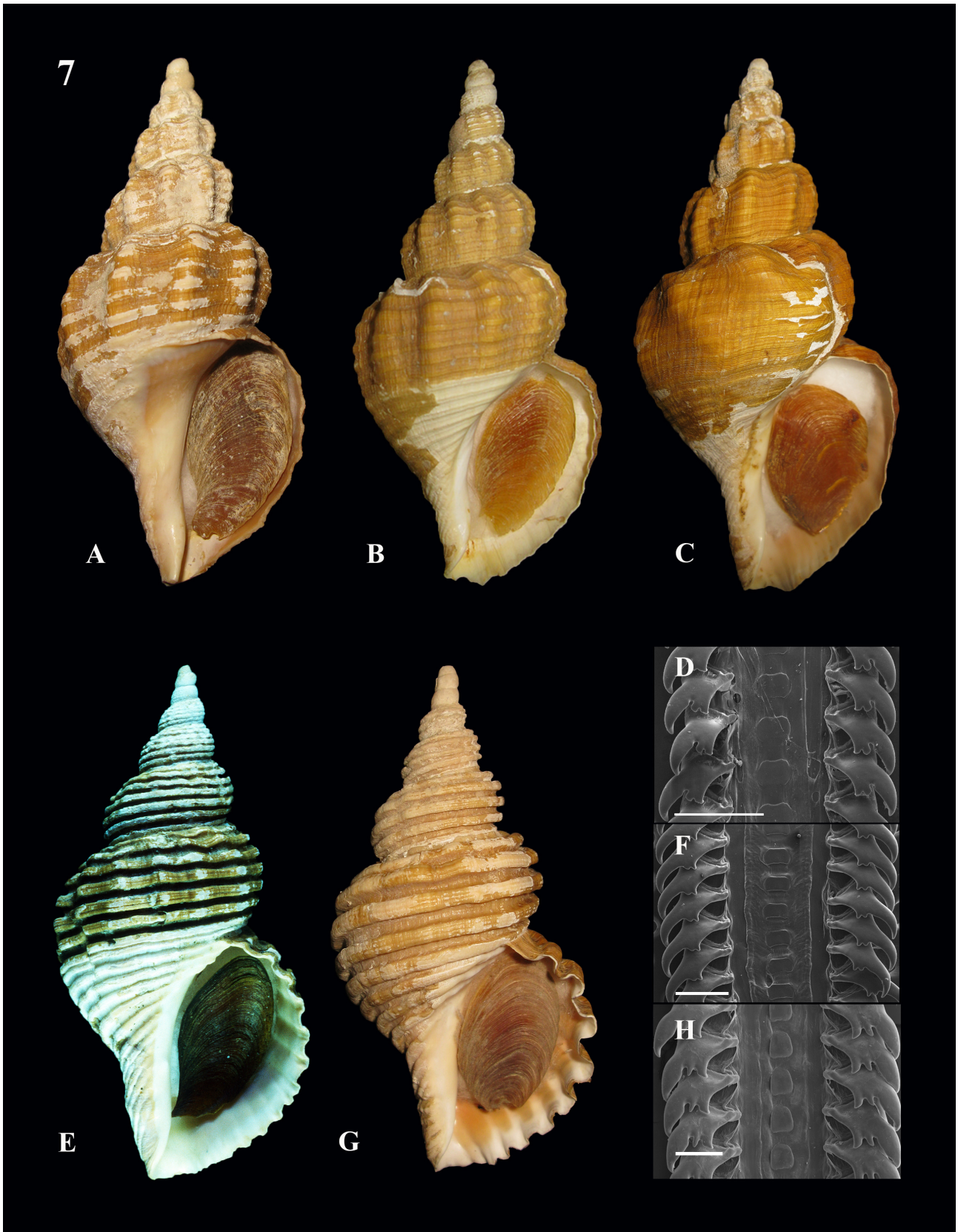


FIGURE 7. A–D. *Beringius nearensis* n. sp.; A. Holotype, LACM 3571, Stalemate Bank, W of Attu, 219 m, 103.4 mm; B. Paratype 4, RNC 4882, E of Agattu Island, 111 m, 85.8 mm; C. Paratype, USNM 1606662, 127.1 mm; D. Radula, Paratype, CASIZ 236197; E–F. *Beringius undatus* Dall, 1919; E. RNC 4745, N of Akutan Island, 92 m, 129.6 mm; F. Radula, RNC 4745, bar = 200 μ m; G–H. *Beringius crebricostatus* (Dall, 1877); G. RNC 4009, Unalaska Island, 5 m, 90.5 mm; H. Radula, RNC 4009, bar = 200 μ m.

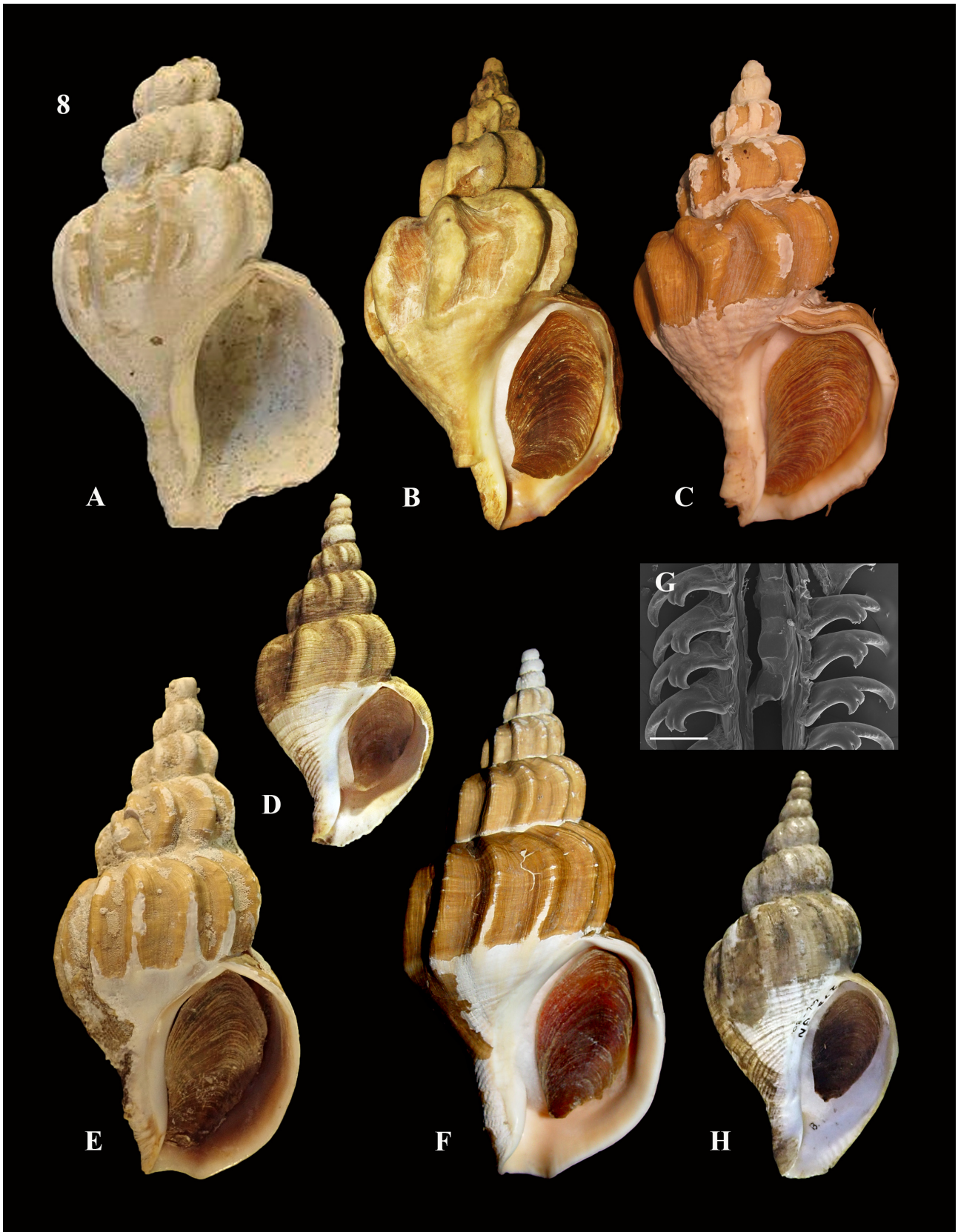


FIGURE 8. *Beringius kennicottii* (Dall, 1871); **A.** Holotype, USNM 220191, Unalaska Island, 114.5 mm; **B.** RNC 4586, Adak Island, 15 m, 92.4 mm; **C.** RNC 4912, SW of Sanak Island, 88 m, 109.3 mm; **D.** RNC 4702, Seldovia, 2 m, 61.5 mm; **E.** SW of Buldir Island, 164 m, 104.7 mm; **F.** RNC 3901, Kodiak Island, 30 m, 126.0 mm; **G.** Radula, RNC 4586, bar = 200 μ m; **H.** *Beringius kennicottii* var. *rotundus* Dall, 1919, RNC 4810, Tuxedni Bay, Alaska, 1 m, 80.6 mm.

***Beringius amliensis* n. sp.**

Figures 9 A–C

urn:lsid:zoobank.org:act:3B012D06-E9A7-4CB7-9B2C-7AC68130F4BF

Type locality: N side of Amlia Island, Andreanof Ids., Aleutian Is., Alaska (52°25.04 N, 173°45.42 W), 149 m (NMFS 148-201001-65).

Type material. Holotype: LACM 3572, 120.7 mm (*leg.* 25 June, 2010, trawled, R/V *Ocean Explorer*); Paratypes: Pt 1 & 2, SBMNH 169002, 72.1 & 56.2mm, S of Atka Island, Andreanof Ids. (51°52.62 N, 174°33.61 W), 147 m. (NMFS 23-199701-95); Pt 3, LACM 3657, 67.5 mm, (94-199401-75) Pt 3, RNC 4502, 116.6 mm, N of Amlia Island, Andreanof Ids. (51°17.05 N, 173°58.18 W), 72 m. (NMFS 94-199401-65).

Description: Shell large Height to 120.7 mm (holotype), pyriform, white to pinkish-tan, periostracum thin, brown, adherent. Protoconch with three whorls; teleconch whorls shouldered, suture deeply impressed. Axial sculpture of rounded, strongly projecting ribs, 10 on the final whorl, interspaces broader than ribs, ribs not extending across base. Spiral sculpture of strong cords (14 on penultimate whorl), each cord sharply bifurcate or trifurcate, interspaces narrower. Aperture broad, less than half of shell height, lip flared and thickened, canal, short, broad.

Radula (Fig. 9 C). Rachidian tooth oval, flattened anteriorly and posteriorly. Lateral teeth large, thick, tricuspid, outer cusp thick, broad, tapering, to a curved tip, central and inner cusps much smaller, about 1/3 as long as the outer one, sub-equal in length, inner one slightly broader and flattened on the anterior edge.

Remarks: This species resembles *Beringius incisus* (Dall, 1907) (Fig. 9 D–G), but differs in being larger, and having coarse, bifurcated and trifurcated spiral cords as opposed to fine spiral lirae. The radula of *B. incisus*, has a smaller, rounder rachidian tooth, and the lateral teeth have a much more pronounced notch, which cuts into the base of the outer cusp (Fig. 9 G).

Etymology: The name is derived from Amlia Island, the type locality.

Distribution: Central Aleutian Islands, known only from the vicinity of Amlia and Atka Islands, Andreanof Ids. (173° to 175° W). at depths of 72–147 m. A short-range endemic.

Habitat: Found on black sand bottoms with temperatures of 3.7–4.4°C.

***Beringius bisulcatus* n. sp.**

Figures 10 A–D

urn:lsid:zoobank.org:act:B8930F25-B8C4-487E-B676-74AEC4611762

Type locality: Tanaga Bay, Tanaga Island, Andreanof Ids., Aleutian Is., Alaska (51°44.5 N, 178°07.68 W), 95 m (NMFS 23-199701-137).

Type material. Holotype: LACM 3573, 100.9 mm. (*leg.* RNC, 14 July, 1997, trawled, R/V *Dominator*); Paratypes: Pt 1, LACM 3610, Tanaga Pass, SW of Tanaga Island, Andreanof Ids. (51°44.31 N, 178°09.16 W), 88 m (NMFS 23-199701-132); Pt 2, SBMNH 169003, S of Tanaga Island, Andreanof Ids. (51°33.91 N, 178°04.93 W), 183m. (143-200401-112); Pt 3, RNC 4475, 115.0 mm, Type locality.

Referred material. RNC 4802, 2 sp., 42.0 & 27.5 mm, (Topotypes).

Description: Shell of moderate size (to 115 mm, RNC 4475), pyriform, whitish, aperture often tinted light brown; periostracum relatively thick, adherent; protoconch with 2.5 whorls, 4.5 teleconch whorls; final whorl with 13–20 prominent axial ribs, interspaces broader than ribs; spiral sculpture of several faint to moderately strong cords, forming low knobs where they intersect the axials; axial ribs interrupted by broad spiral channel above the suture, another of lesser width below the shoulder, and sometimes an even narrower one closer to the sutural channel; base with five to seven cords; spiral micro-sculpture lacking; axial micro-sculpture limited to growth lines. Aperture large, canal short, broad. In paratype three (Fig. 10 B), the spiral cords and sulci are more subdued than in the holotype and paratype one, and there are more numerous axial ribs.

Radula. (Fig. 36). Rachidian tooth broader than long, lateral edges rounded, anterior edge flattened, posterior edge indented. Lateral teeth tricuspid, outer cusp, long, slender, distal half curved, tapering; central cusp small, about 1/5 or less the length of outer cusp, slender, separated from outer cusp by basal notch; inner cusp about twice as thick as central one, thumb-like in form.

Remarks: In paratype three (Fig. 10 B), the spiral cords and sulci are more subdued than in the holotype and paratype one, and there are more numerous axial ribs.

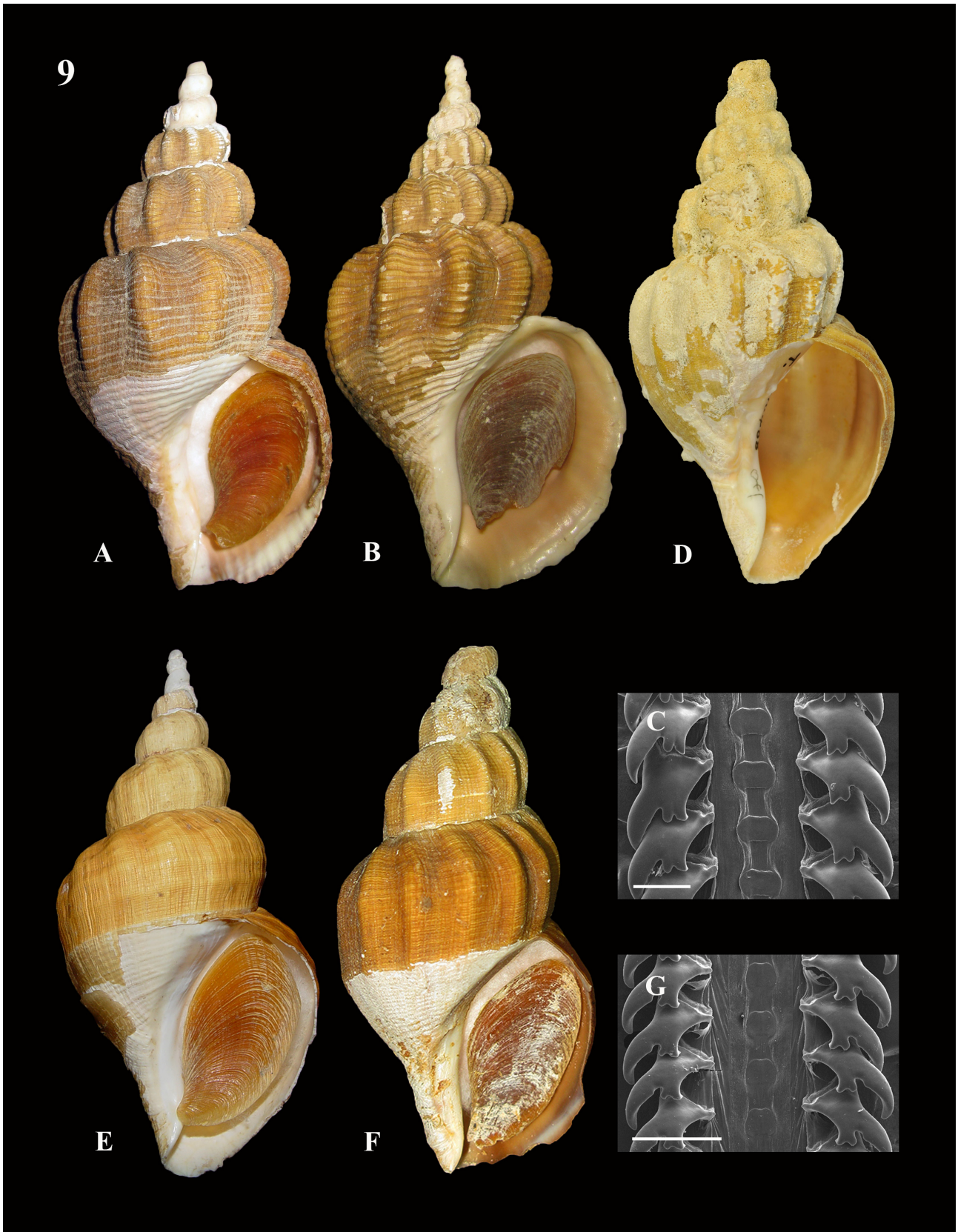


FIGURE 9. A–C. *Beringius amliensis* n. sp.; A. Holotype, LACM 3572, N of Amlia Island, 149 m, 120.7 mm; B. Paratype 4, RNC 4502, N of Amlia Island, 72 m, 116.2 mm; C. Radula, Holotype, bar = 200 μ m; D–G. *Beringius incisus* (Dall, 1907); D. Holotype, USNM 110488, Petrel Bank, 95 m, 75 mm; E. RNC 4463, Atka Island, 73 m, 93.8 mm; F. RNC 4883, Petrel Bank, 81 m, 72.4 mm; G. Radula, RNC 4883, bar = 200 μ m.

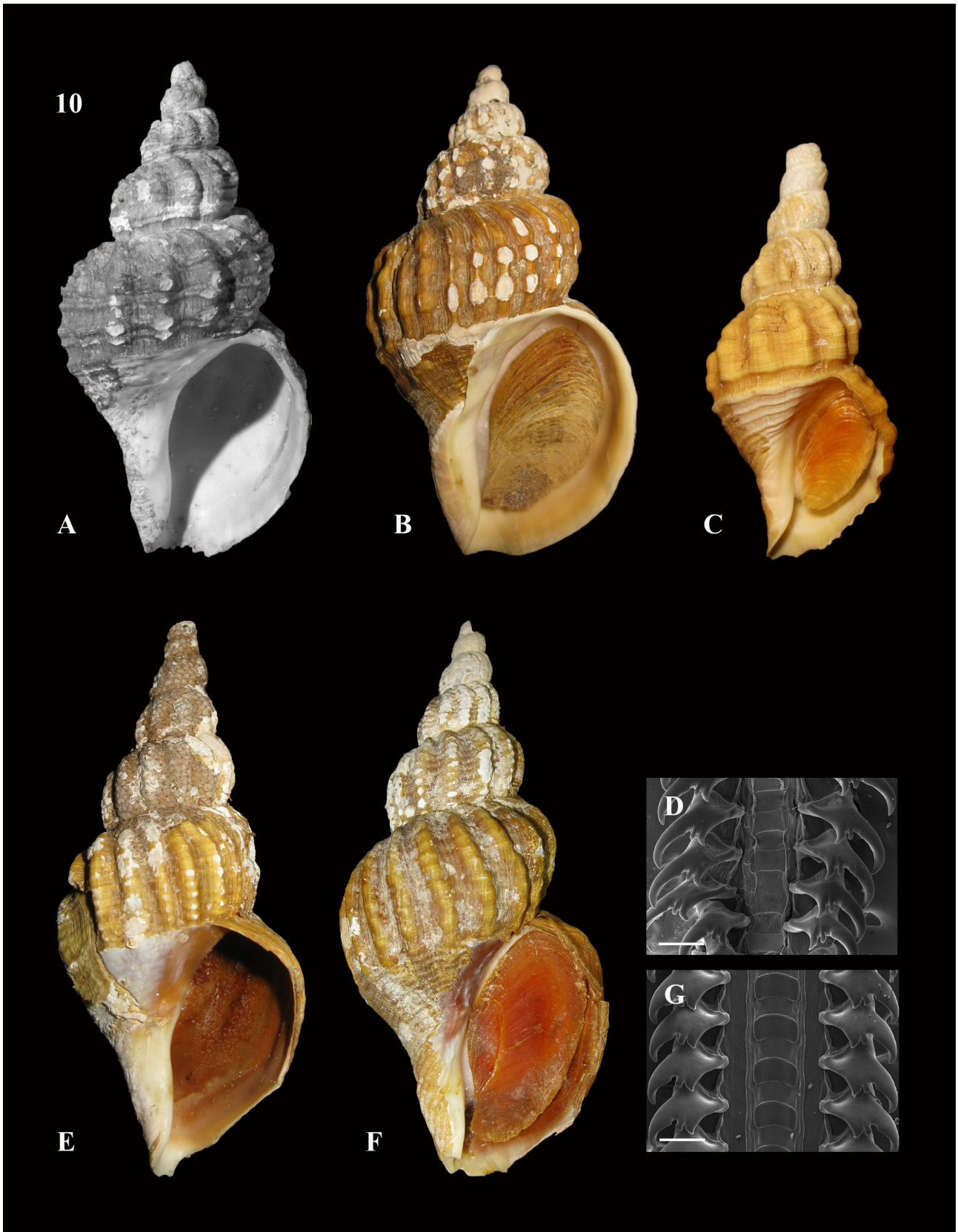


FIGURE 10. A–D. *Beringius bisulcatus* n. sp.; A. Holotype, LACM 3573, Tanaga Island, 95 m, 100.9 mm; B. Paratype 3, RNC 4475, S of Gareloi Island, 182 m, 115.0 mm; C. RNC 4802, Tanaga Island, 95 m, 42.0 mm; D. Radula, RNC 4801, bar = 200 μ m; E–G. *Beringius kiskensis* n. sp. E. Holotype, LACM 3574, Kiska Island, 97 m, 85.4 mm; F. Paratype, RNC 4910, E of Kiska Island, 96 m, 112.7 mm; G. Radula, RNC 4910, bar = 200 μ m.

This species resembles *Beringius undataformis* n. sp. but differs in possessing sulci, and in lacking the lamellar periostracum. The sulci, particularly the more prominent one at the suture sets this species apart from all other known *Beringius*.

Etymology: From the Latin for two sulci.

Distribution: Central Aleutian Islands, known only from the vicinity of Tanaga Island and Amchitka Pass (178°W to 179°10W). A short-range endemic.

Habitat: Found on black sand and gravel bottoms, at depths of 88–182 m, with a bottom temperature of about 4.3°C.

***Beringius kiskensis* n. sp.**

Figure 10 E–G

urn:lsid:zoobank.org:act:817D795B-02F7-48ED-A4A3-FC48D8E2A73D

Type locality: E off Sirius Point, Kiska Island, Rat Ids., Aleutian Is., Alaska (52°06.41 N, 177°42.32 E), 97 m; (NMFS 143-2006-01-203).

Type material. Holotype, LACM 3574, 85.4 mm. (*leg.* 28 July, 2006, trawled, R/V *Sea Storm*); Paratypes: Pt 1, SBMNH 174792, 116.7 mm. S of Segula Island, Rat Ids. (51°51.46 N, 178°16.06 E), 95 m. (NMFS 143-200601-176); Pt 2, RNC 4910, 112.7 mm. E of Kiska Island, Rat Ids. (52°02.99 N, 177°27.23 E), 96 m. (NMFS 143-201001-128).

Description: Shell of moderate size (to 116 mm, SBMNH 174792) nearly fusiform; periostracum thin, adherent, yellowish-brown. Whorls rounded; suture strongly impressed; protoconch with 2.5 whorls; 4.5 teleconch whorls. Axial ribs prosocline, prominently raised, slender, 15–16 on the penultimate whorl, interspaces about as wide as ribs. Spiral sculpture of seven to nine faint, spiral cords, obvious only on axial ribs, interspaces about as broad as cords, giving a faintly knobbed appearance, cords overlaid by three to five fine threads; base of whorl with about 20 usually bifurcated spiral cords. Aperture less than half of shell height, canal short, broad.

Radula (Fig. 10 G). Rachidian tooth roundly chevron shaped, corners rounded. Lateral teeth large, tricuspid, outer cusp thick, strongly curved, tapering, constricted near the base forming a rounded notch; central cusp short, broad; inner cusp about as long, and 1.5 times as broad as central cusp, anterior edge tapered towards the central cusp.

Remarks: This strongly ribbed species might be mistaken for a local, extreme form of *Beringius kennicottii* (Dall, 1871) (Figs. 8A–H), but is quite different from the many forms of *B. kennicottii* from the central Aleutians, the unique corrugated ribs set it apart. The middle and inner cusps of the lateral teeth of the radula are short and blunt, opposed to the longer, strongly curved cusps of *B. kennicottii*.

Etymology: Named after the Island of Kiska, near which the type specimens were found.

Distribution: Known only from vicinity of Kiska, and Segula Islands (177°E to 178°E), at depths of 90–100 m. A short-range endemic.

Habitat: Sand and cobbles, with a bottom temperature of 4.5–4.7°C.

***Beringius stanchfieldi* n. sp.**

Figures 11 A–D

urn:lsid:zoobank.org:act:32D90635-5818-4FCB-877F-04B1D0B4F9BE

Type locality: W of Carlisle Island, Islands of the Four Mountains, Aleutian Is., Alaska (52°55.2 N, 170°23.76 W), 222 m (NMFS 148-201001-33).

Type material. Holotype LACM 3575, 104.8 mm. (*leg.* 17 June, 2010, trawled, R/V *Ocean Explorer*); Paratypes: Pt 1, SBMNH 464994, 88.5 mm. Near type locality, W of Carlisle Island (52°55.2 N, 170°23.82 W), 222 m (NMFS 176-201401-58); Pt 2, RNC 4921, 113.7 mm. Islands of Four Mountains (53°N, 170°W) approx. 200 m (*ex:* David Stanchfield).

Description: Shell of moderate size (to 114 mm, RNC 4921), pyriform, white; periostracum thin, adherent, golden tan to light brown. Whorls rounded, suture moderately impressed; apical whorls eroded, four teleconch whorls. Axial sculpture lacking; spiral sculpture of numerous fine, undulating threads, interspaces about as wide as threads. Aperture less than half of shell height outer lip scarcely flared, slightly thickened; canal very short, broad.

Radula (Fig. 11 D): Rachidian tooth broader than long, lateral edges rounded. Lateral teeth large, tricuspid, outer cusp long, curved, tapering, constricted at the base forming a broad notch; central cusp very small, about 1/6 the length of outer cusp, relatively slender, separated from inner cusp by a relatively broad notch; inner cusp broad, about four times as large as central cusp.

Remarks: Similar to *Beringius aurulentus* n. sp., but distinguished by 1) the fine spiral threads, as opposed to prominent growth lines in the former, and 2) the thin, adherent periostracum, in contrast to the lamellar periostracum in the former species. It also resembles *Beringius incisus* Dall, 1907, but differs in 1) the much finer and more numerous spiral threads, about 70–80 on the penultimate whorl compared to 45–55, and 2), lacks axial sculpture.

Etymology: The name honors David Stanchfield former owner/captain of the F/V *Morning Star*, who collected the first specimen.

Distribution: Central Aleutian Islands (170°W to 172°W) from near Carlisle Island, Islands of Four Mountains, W to Segum Pass, at depths of 180–222 m.

Habitat: Black sand and gravel, with a bottom temperature of 3.7–4.2°C.

Beringius fraussenii n. sp.

Figure 11 E–I

urn:lsid:zoobank.org:act:606C778D-058A-4213-ADBA-3F9B1B5E147A

Type locality: Shumushu Island (Okhotsk Sea, side), Kurile Is., Russia (50°44 N, 156°19 E), 118–120 m.

Type material. Holotype ZIN 62061, 136.0 mm; Paratypes: Pt 1, RBCM 979-01070, 124.2 mm. Russia, Kamchatka, Kronotskiy Cape (54°43 N, 162°11 E), 280 m; Pt 2, RNC 4915, 109.7 mm. “Aleutian Islands” (Stalemate Bank?), 140 m. (ex. Koen Fraussen).

Description: Shell large (height to 136 mm, holotype), pyriform, white, slender to moderately inflated; periostracum thin, adherent, light brown. Protoconch with 2.5 whorls; teleconch with four whorls; whorls rounded to slightly shouldered, suture moderately impressed. Axial ribs (when present) low, rounded, 12–13 on penultimate whorl, interspaces as broad as ribs. Spiral sculpture of low, broad, rounded cords, 14–18 above the suture; base of final whorl with about 15 similar cords, spaced somewhat further apart. Aperture large, less than half of shell height, canal short, broad.

Radula. Rachidian tooth sub-ovate, strongly excavated anteriorly (almost chevron-shaped); Lateral teeth large, about 400 µm long, tri-cuspid, outer cusp large, strongly curved, pointed; inner cusp very small, less than 1/5 as long as outer cusp, inner cusp about 3 times as long as inner cusp, thick, strongly curved.

Remarks: The low, broad spiral cords separate this species from all others in the Aleutians. Kantor & Sysoev, 2006 illustrate the holotype of this species as “*Beringius marshalli*”. True *Beringius marshalli* Dall, 1919 is a slender form of *Beringius behringi* (Middendorff, 1848), with weak to absent axial folds, and a few faint, irregular spiral cords.

Etymology: The name honors Koen Fraussen, Aarschot, Belgium, for his work on the Buccinidae, and for providing a paratype.

Distribution: Southern Kamchatka, Kronotskiy Cape and northern most Kurile Islands, Shumushu Island, east to Stalemate Bank, west of Attu Island, Aleutian Islands (?) (50° to 54° N, 156°20 to 171°15 E), 118–280 m. This is a western Pacific species.

Habitat: Sand and silt.

Beringius aurulentus n. sp.

Figure 12 A–D

urn:lsid:zoobank.org:act:52353F2F-07C7-43FB-9344-14A0E1718D58

Type locality: Tahoma Bank, W of Buldir Island, Aleutian Is., Alaska (52°26.12 N, 175°40.99 E), 147 m. (NMFS 94-200201-167).

Type material: Holotype, LACM 3577, 117 mm. (leg. RNC, 9 July, 2002, trawled, R/V *Vesteraalen*); Paratypes: Pt 1, SBMNH 464996, 92.4 mm; Pt 2, USNM 1606661, 105.4 mm. W of Uliaga Island, Islands of Four Mountains (53°07.07 N, 169°52.12 W), 321 m. (NMFS 57-200201-38); Pt 3, CASIZ 236198, 99.5 mm. SE of Yunaska Island, Islands of Four Mountains (52°44.8 N, 170°39.3 W), 87 m (NMFS 143-201001-78); Pt 4, RNC 4701, 88.6 mm. (type locality).

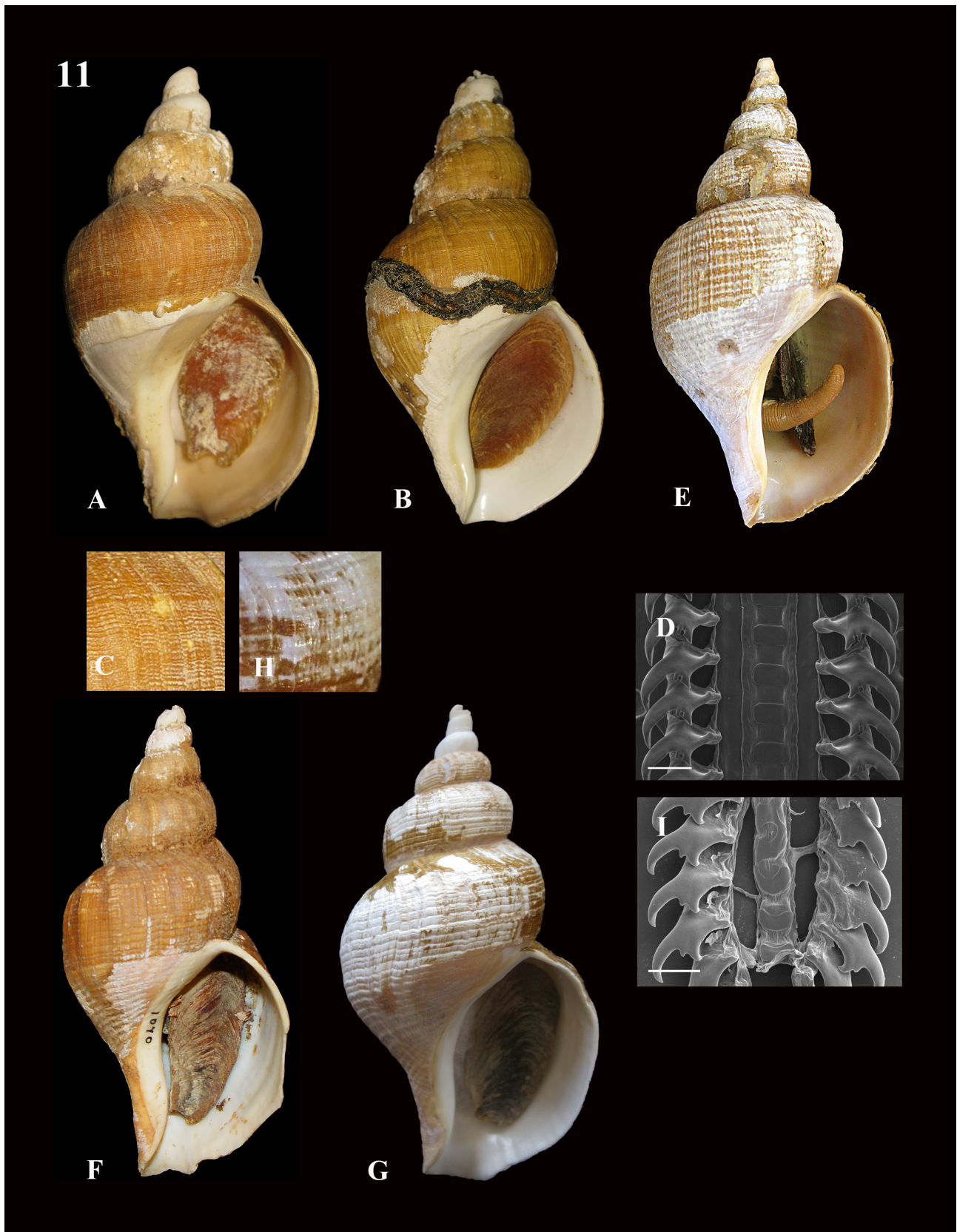


FIGURE 11. A–D. *Beringius stanchfieldi* n. sp.: A. Holotype, LACM 3575, W of Carlisle Island, 222 m, 104.8 mm; B. Paratype 1, RNC 4921, Islands of Four Mountains, 200 m, 113.7 mm; C. RNC 4921, close-up of sculpture; D. Radula, Holotype, bar = 200 μ m; E–I. *Beringius fraussenii* n. sp.: E. Holotype, ZIN 62061, Sumushu Island, 120 m, 136.0 mm; F. Paratype 1, RBCM 979-01070, Kamchatka, 280 m, 124.2 mm; G. Paratype 2, RNC 4915, 109.7 mm. “Aleutian Islands” (Stalemate Bank?), 140 m; H. Paratype 2, close-up of sculpture; I. Radula, holotype, bar = 200 μ m.

Description: Shell moderately large (to 117 mm, Holotype), slender, nearly fusiform, suture impressed; white to pale tan; periostracum golden-tan. Protoconch with 2.5 whorls, with spiral and oblique cords forming diamond-like lattice; teleconch with 4.5–5 whorls. Axial ribs faint or lacking, but bearing very numerous, fine, close-set, raised axial threads. Spiral sculpture (when present), consists of a few barely detectable cords (on old, thick specimens, *i.e.*, paratype three). Aperture short, much less than half of shell height, canal short, broad.

Radula (Fig. 12D): Rachidian tooth broader than long, lateral edges rounded, anterior and posterior edges slightly indented. Lateral teeth large, tricuspid; outer cusp thick, tapering, strongly curved, or distal half, and often bearing a small protrusion near the base on the inside, forming a notch between it and the central cusp; central cusp many times smaller than outer one, and slightly curved outward; inner denticle about twice as large as central one, broad, strongly curved inward.

Remarks: This species resembles *Beringius incisus* (Dall, 1907) (figs. 9D–G) [herein recognized as distinct from the variable *Beringius kennicottii* (Dall, 1871) (figs. 8A–G) on account of its fine, regular, spiral threads], but is distinguished by 1) the lamellar periostracum, and 2) the fine axial threads on the whorls as opposed to spiral threads only in *Beringius incisus*.

Etymology: Latin, *aurulentus*, “golden, or made of gold”, in reference to the color of the periostracum.

Distribution: Central Aleutian Islands, from Kagamil Pass, Islands of Four Mountains (169°50' W) to Tahoma Reef, W of Buldir Island (175°40' E), at depths of 147–321 m.

Habitat: Broken hydrocoral/sponge, and gravel bottoms, with a bottom temperature of 4–4.4°C.

***Beringius maristempestus* n. sp.**

Figure 12 E–G

urn:lsid:zoobank.org:act:20A49029-512D-47D4-B5E0-3A2290FA5C17

Type locality: W of Cape Wrangell, Attu Island, Near Ids., Aleutian Is., Alaska (52°50.68 N, 172°23.74 E). 221 m (NMFS 143-200601-118).

Type material. Holotype LACM 3576. (*leg.* 7 July, 2006, trawled, R/V *Sea Storm*).

Referred Material: RNC 4156, 111 mm; SW of Cape Wrangel, Attu Island, Near Ids. (52°50.91 N, 172°20.3 E), 240 m. (NMFS 143-200201-39).

Description: Shell, moderately large (to 111 mm, RNC 4156) elongated-pyriform; whorls rounded, suture moderately impressed; white to pinkish, with thin, periostracum yellow-tan. Nucleus eroded, teleconch with 4–5 whorls. Axial sculpture of 13 broad, faint undulations on the upper half of the whorls, obsolete on lower half of body whorl, interspaces somewhat narrower than folds. Axial micro-sculpture of fine, raised, close-set growth lines. Spiral sculpture of numerous low, broad, flat-topped cords, with raised edges (often topped with one to four very fine threads) giving a fine lattice-like appearance where they cross the axial ridges; interspaces one to three times as wide as cords. Aperture less than half of shell height, outer lip slightly thickened, canal short, rather narrow.

Radula (Fig. 11 G): Rachidian tooth about one and one half as wide as long, lateral edges rounded, posterior edge slightly excavated. Lateral teeth large, tricuspid, outer cusp strongly curved, tapering, constricted near base; central and inner cusps conjoined for half their length, central cusp small, slender; inner cusp about three times as large as central cusp, curved, tapering, somewhat more than ¼ the length of the outer cusp.

Remarks: This species resembles *Beringius stanchfieldi* n. sp., but differs in the presence of axial undulations on the upper portion of the whorls, as well as the fine, raised axial micro-sculpture. It also resembles “*Neoberingius freilei* Dall, 1895, but differs in 1) the pyriform as opposed to fusiform profile, 2) the presence of axial undulations, 3) lacking the regular bifurcated spiral ribs separated by interspaces of the same width and 4) possessing a lattice-like net-work of raised growth lines, and broad flattened spiral cords with raised edges.

Etymology: Named for the F/V *Sea Storm*, which collected the holotype.

Distribution: Known so far only from the vicinity of Cape Wrangell, Attu Island, at the western end on the Aleutians (172°23–172°20 E), at depths of 220–240 m.

Habitat: Volcanic sand, gravel and rocks, with a bottom temperature of 4.1°C.

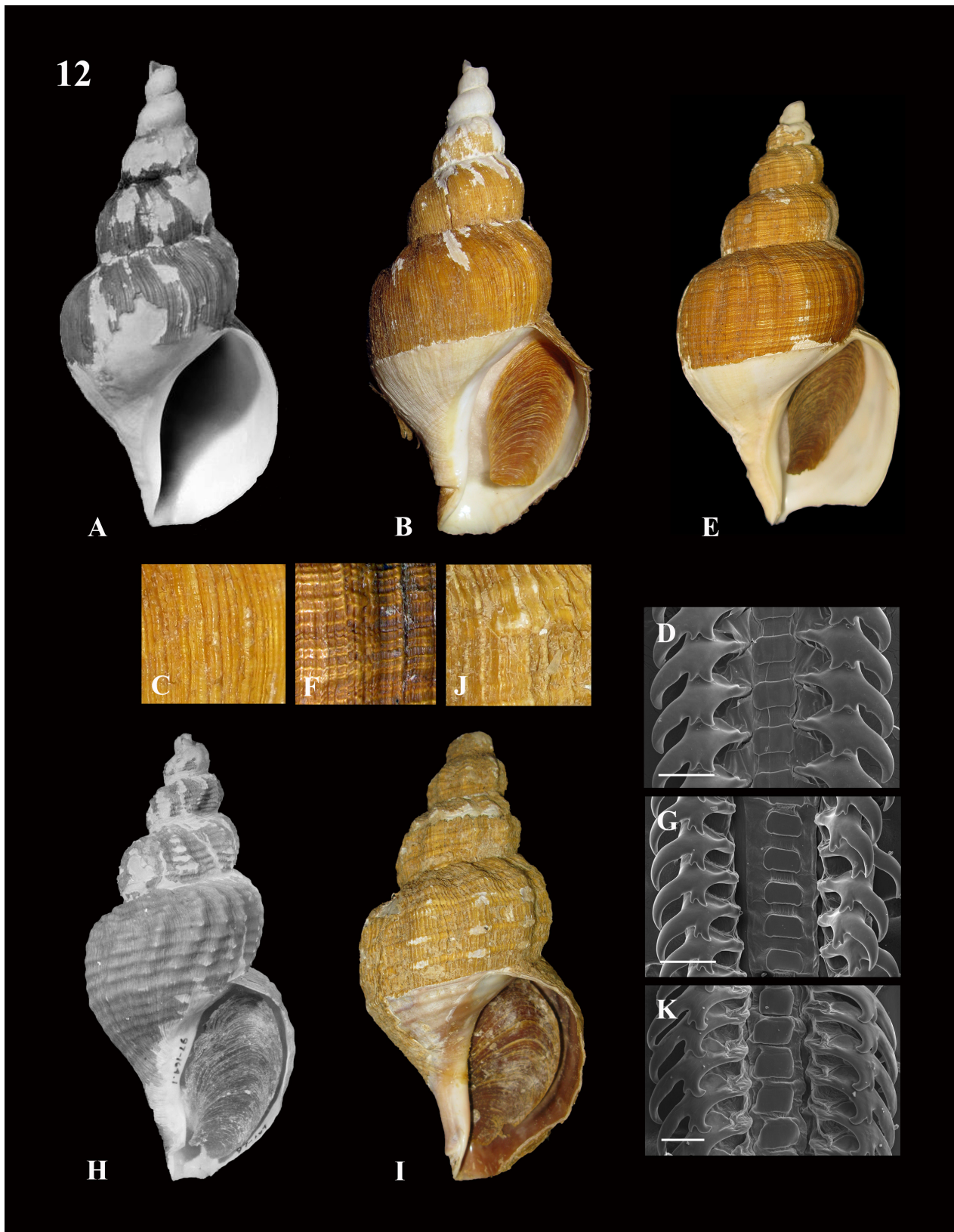


FIGURE 12. **A–D.** *Beringius aurulentus* n. sp.; **A.** Holotype, LACM 3577, W of Buldir Island, 147 m, 117 m; **B.** Paratype, RNC 4701, Type locality, 88.6 mm; **C.** RNC 4701, close-up of periostracum; **D.** Radula, RNC 4701, bar = 200 μ m; **E–G.** *Beringius maristempestus* n. sp.; **E.** Holotype, LACM 3576, W of Attu Island, 221 m, 111.5 mm; **F.** Holotype, close-up of sculpture; **G.** Radula, holotype, bar = 200 μ m; **H–K.** *Beringius undataformis* n. sp.; **H.** Holotype, LACM 3578, Stalemate Bank, 184 m, 143.0 mm; **I.** Paratype, RNC 4893, Stalemate Bank, 184 m, 131.0 mm; **J.** RNC 4893, close-up of periostracum; **K.** Radula, holotype, bar = 200 μ m.

***Beringius undataformis* n. sp.**

Figure 12 H–K

urn:lsid:zoobank.org:act:1B4A5158-0BDF-43A9-8968-6B852DFBD1D0

Type locality: Stalemate Bank, W of Attu Island, Near Ids., Aleutian Is., Alaska (52°56.18 N, 170°59.19 E). 184 m (NMFS 23-199701-212).

Type material: Holotype, LACM 3578, 143 mm. (*leg.* RNC, 3 August, 1997, trawled R/V *Dominator*); Paratypes: Pt 1, RNC 4893, 131 mm. Stalemate Bank (52°54.75 N, 170°49.54 E), 184 m (NMFS 148-2010-201).

Description: Shell large (to 143 mm, holotype), fusiform, suture deeply impressed; whorls rounded; light pink-tan, with golden-brown periostracum. Protoconch with 2.5 whorls; teleconch with 4.5 whorls. Axial ribs broadly spaced, increasing from nine in early whorls to 13 on final whorl of large specimens; ribs sometimes opisthocline (back slanted). Spiral sculpture of five to seven narrow, raised cords; interspaces variable in width, from about the same width as cords (holotype), to two to three times as wide (in paratype one), but not deeply channeled. Axial sculpture of narrow, raised growth lines. Aperture large, oval, much less than half of shell height, canal short, fairly broad.

Radula (Fig 12 K): Rachidian tooth quadrate, corners rounded. Lateral teeth tricuspid, outer cusp long, slender, tapering, constricted at the base, strongly curved distally; central cusp very small, slightly curved; inner cusp about four times as large as central one, broad, thick, strongly curved.

Remarks: *Beringius undataformis* differs from *A. aurulentus* by the prominent axial folds and the raised spiral cords (see remarks under that species).

Etymology: From the Latin *undatus* and *forma*, wavy in form, and also references its similarity to *Beringius undatus* Dall, 1919.

Distribution: Western Aleutian Islands, known only from the Stalemate Bank, west of Attu Island (170°28 E to 171° E), at 185 m.

Habitat: Unknown, bottom temperature 3.8°C.

***Genus Exiloberingius* n. gen.**

urn:lsid:zoobank.org:act:22EAA94C-CE59-4729-86BF-39B49BF46D57

Diagnosis: shell pyriform, canal short, shell extremely thin, fragile, reinforced with thicker interior deposition along the columella and final lip; periostracum fibrous in thick axial ridges below suture; axial and spiral sculpture weak or lacking.

Type species: *Exiloberingius fragilis* McLean & Clark, n. sp. (HD).

Remarks: differs from all other Beringiinae by the excessively thin, poorly calcified shell, and the thick, fibrous periostracum. One Aleutian species.

***Exiloberingius fragilis* n. sp.**

Figure 13 A–D

urn:lsid:zoobank.org:act:012A5FBA-DE93-45A3-A8AD-CC072F43766B

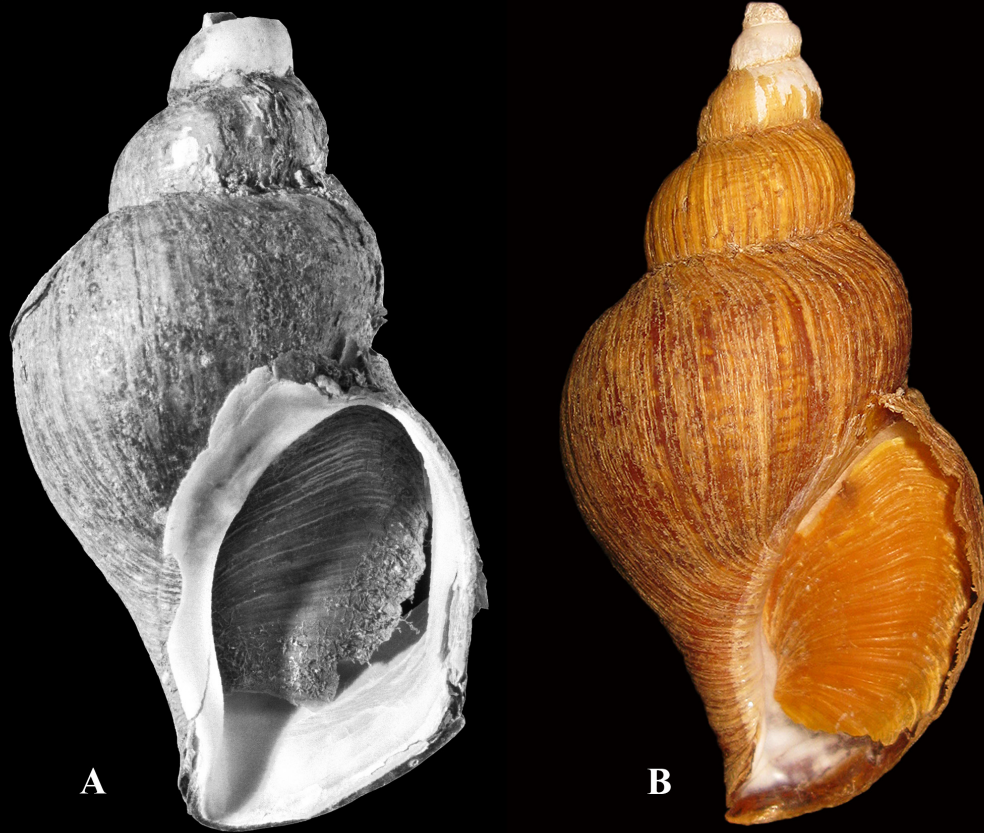
Type locality: SW of Seguam Island, Aleutian Is., Alaska (52°09.22 N, 172°39.6 W). 153 m (NMFS 23-199701-80).

Type material: Holotype, LACM 3579, 106.5 mm. (*leg.* RNC, 27 June, 1997, trawled, R/V *Dominator*); Paratypes: Pt 1, LACM 3611, 109.5 mm (fragmented). S of Seguam Island, Andreanof Ids. (52°01.5 N, 172°08.9 W), 411 m (NMFS 94-200201-194); Pt 2, SBMNH 464983, 85.8 mm. S of Amutka Island, Islands of Four Mountains (52°09.28 N, 172°39.72 W), 332 m (NMFS 143-201201-74); Pt 3, RNC 4877, 78.5 mm (type locality).

Description: Shell moderately large (to 109 mm, LACM 3611), pyriform, whorls rounded; white, with thick, fibrous periostracum. Nuclear whorls eroded, four to five teleconch whorls; shell thin, a fraction of a mm thick, except for strengthening along columella and in the deposition of final, flared lip. Spiral sculpture weak or absent. Axial sculpture absent. Aperture less than half of shell height, oval; canal short, broad.

Radula (fig. 13 D): Rachidian tooth nearly twice as broad as long, lateral edges rounded. Lateral teeth large, tricuspid, outer cusp thick, curved, tapering, constricted at base, forming a notch; central cusp, small, fairly thick, rather blunt; inner cusp thick, triangular, angled inward, twice as long as central one, about ¼ the length of outer cusp.

13

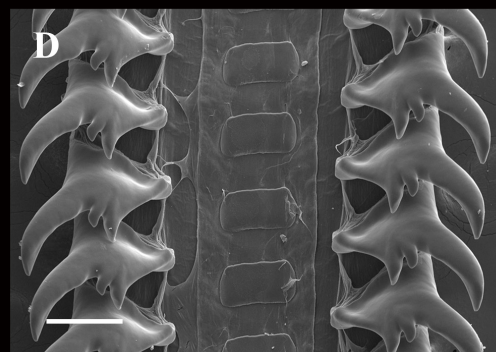


A

B



C



D

FIGURE 13. *Exiloberingius fragilis* n. sp., **A.** Holotype, LACM 3579, SW of Seguam Island, 153 m, 106.6 mm; **B.** Paratype, RNC 4877 (type locality), 78.5 mm; **C.** Paratype, LACM 3611, S of Seguam Island, 411 m, 109.5 mm (fragmented); **D.** Radula, paratype 1, bar = 200 μ m.

Remarks: This species is unique among the Beringiinae, in being very fragile, and the shell cannot be dried, because it begins to unravel at the suture and then fracture into many fragments (Fig. 13C, Paratype 1). Treating the shell with glycerin and keeping it in a sealed bag or container prevents this fragmenting.

Etymology: From the Latin: *exilis* meaning fragile or easily broken, and *fragilis* brittle, in, reference to the fragile, poorly calcified shell.

Distribution: Known only from the vicinity of Seguam and Amutka Passes (171° W to 173° W), at depths of 153–338 m.

Habitat: Volcanic sand bottom, with a bottom temperature of 3.7–4.4°C. Seguam and Amutka Islands are somewhat isolated islands in the central Aleutians, surrounded by deep, swift passes, Seguam Pass to the west, and Amutka pass to the east.

Subfamily Neptuneinae Stimpson, 1865

Diagnosis: Shell large, reaching 240 mm, broadly fusiform, with high spire and short to medium-long siphonal canal, often bent abaxially. Protoconch paucispiral, moderately large. Whorl profile convex to distinctly shouldered. Shell sculpture pronounced in most species, spiral sculpture from microscopic threads to prominent bulging keels; axial sculpture rarely present, then of indistinct axial ribs or sometimes distinct, raised, axial lamellae producing prominent nodules at shoulder. Aperture wide. Shell covered with smooth periostracum. Operculum large, spanning most of aperture, with terminal nucleus. Radula with multicuspid (two to eight cusps) central tooth with rectangular and anteriorly arcuate base lateral teeth broad, with two to seven cusps, outermost longest. (after Kantor *et al.* 2022).

Remarks: Formerly considered part of the tribe Colini Gray, 1857 (Bouchet, *et al.* 2017) but differs genetically from that group. (Kantor *et al.* 2022).

In the Aleutian Islands 24 species in three genera are recognized, including ten new species and one new genus.

Genus *Aulacofusus* Dall, 1918

Type species: *Fusus spitzbergensis*, Reeve, 1855 [= *Fusus brevicauda* Deshayes, 1832] (by OD).

Diagnosis: Small to medium size (to 9 cm); shell fusiform, whorls rounded. Axial sculpture absent. Spiral sculpture pronounced; protoconch and apical whorls projecting, siphonal canal short to relatively long.

Aulacofusus canaliculatus n. sp.

Figures 14 A–B

urn:lsid:zoobank.org:act:813CFA64-9AC0-4A33-900C-B1D7264F6B0A

Type locality: SE of Agattu Island, Near Ids., Aleutian Is., Alaska (51°47.79 N, 174°45.8E), 135 m. (NMFS 94-200201-143).

Type material: Holotype, LACM 3667, 66.6 mm. (*leg.* RNC, 3 July, 2002, trawled, R/V *Vesteraalen*); Paratypes: Pt 1, RNC 4143, 53.3 mm. S of Buldir Island (51°57.82 N, 176°01.72 E), 71 m. (NMFS 23-200001-226).; Pt 2, SBMNH 169005, 56.24 mm. S of Atka Island, Andreanof Ids. (52°06.15 N, 175°53.53 W), 92 m. (NMFS 143-200401-94).

Referred material: 1, RNC 4141, 47.8 mm. N of Atka Island, Andreanof Ids. (52°08.14N, 175°07.59 W), 107 m. (NMFS 23-200001-103); 1, RNC 4099, 63.4 mm. S of Buldir Island (51°58.38 N, 176°05.04 E), 85 m. (NMFS 23-200001-227); 1, RNC 4568, 55.3 mm. Petrel Bank, Andreanof Ids. (52°04.19 N, 179°41.25 E), 75 m. (NMFS 143-201201-134).

Description: Shell of medium size (to 6.7 cm, holotype), elongated fusiform, rather slender, tall spired; cream to orange-brown, cords typically darker; periostracum absent. Protoconch with two whorls; six teleconch whorls, early whorls with five cords; whorls rounded. Spiral cords strong, rounded in cross-section, five to six on penultimate

whorl, and seven similar but smaller cords on the base, channels between cords about as wide or wider than cords. Aperture short, a little more than 1/3 of shell height, oval; canal constricted, relatively long, slender.

Radula: Unknown.

Remarks: This species is similar to *Aulacofusus periscelidus* (Dall, 1891) (figs. 14 C–D), but differs in the more numerous (6–7 opposed to 4–5), lower, spiral cords which are rounded in cross-section. It also resembles *Aulacofusus brevicauda* (Deshayes, 1832) from which it differs in the much fewer spiral cords, 6–7 opposed to 14–16 in *A. brevicauda*.

Etymology: From the Latin, *canaliculata*, channeled, in regards to the deep channels between the spiral ribs

Distribution: Central and western Aleutians, from Buldir Island (176°E) to S of Atka Island, Andreanof Ids. (174°W), at depths of 71–135 m.

Habitat: On black sand and bedrock bottoms with a bottom temperature of 4.4–4.9°C.

Aulacofusus tanagaensis n. sp.

Figures 14 E–G

urn:lsid:zoobank.org:act:E0B6338B-A0F0-4352-B53D-0AD9871C3DFE

Type locality: South end of Kanaga Pass, Andreanof Ids., Aleutian Is., Alaska (51°40.0 N, 177°51.21 W), 53 m. (NMFS 95-199401-117).

Type material: Holotype LACM 3665, 54.9 mm. (*leg.* William C. Flerx, 4 July, 1994, trawled, R/V *Pacific Knight*); Paratypes: Pt 1, LACM 3666, 41.5 mm. W of Tanaga Island, Andreanof Ids. (51°44.5 N, 178°07.68 W), 95 m. (NMFS 23-199701-137); Pt 2 & 3, SBMNH 169004, 43.0–43.5 mm. W of Tanaga Island, Andreanof Ids. (51°44.5 N, 178°07.68 W), 95 m. (NMFS 23-199701-137); Pts 4 & 5 RNC 4585, 44.8–54.0 mm. W of Tanaga Island, Andreanof Ids. (51°44.5 N, 178°07.68 W), 95 m. (NMFS 23-199701-137).

Referred material: 1, RNC 4859, 35.3 mm. S of Amlia Island, Andreanof Ids. (51°55.32N, 173°40.44 W), 117 m. (NMFS 176-201401-62); 1, RNC 4350, 56.7 mm. N of Seguam Island (52°33.99 N, 172°24.25 W), 211 m. (NMFS 148-201001-78).

Description: Shell of medium size (holotype 54.9 mm), elongated fusiform, with rounded whorls; color white; periostracum thin, yellow. Protoconch with 2.5 whorls; teleconch with six to six and a half whorls, early whorls with 11 cords, penultimate whorl with 15–17 low rounded spiral cords; base with 17–20 additional cords. Aperture about 1/3 of shell height, canal constricted, relatively long.

Radula: Typical for genus, Rachidian tooth excavated anteriorly, tri-cuspid, the three cusps set close together; central cusp slightly longer than the outer ones. Lateral teeth tricuspid, outer cusp long, slender, curved, central cusp much smaller, slightly curved, and slenderer, set close to inner one; inner cusp thick, curved, about 2/3 as long as outer one.

Remarks: *Aulacofusus tanagaensis* resembles *Aulacofusus esychus* (Dall, 1907), but differs in 1) Rounded as opposed to rather flattened whorls, and 2) more prominent spiral sculpture. It also resembles *Aulacofusus brevicauda kurilensis* Golikov & Gulbin, 1977, from the Kurile Islands, Russia, but differs in 1) much thinner shell, and 2) finer and more numerous spiral cords 15–17, as opposed to 10–12 in the former species.

Etymology: Named for Tanaga Island, where the first specimens were collected.

Distribution: Occurs in the Andreanof Ids., central Aleutian Is., from Seguam Island (172°24 W) to West of Tanaga Island (178°07 W), at depths of 53–211 m.

Habitat: On volcanic sand and gravel bottoms, at temperatures of 3.7°–4.8°C.

Genus *Neptunea* Röding, 1798

Type species: *Murex antiquus* Linnaeus, 1758, (SD, Sandberger, 1861).

Diagnosis: Shell large, sturdy, pyriform to fusiform; periostracum thin or absent; with short to moderately long, nearly straight to twisted siphonal canal. Sculpture chiefly spiral cords or lirae, axial sculpture (if present) of strong folds, or flaring lamellar extensions in some species. Operculum large, nearly filling aperture, nucleus terminal.

Remarks: The genus (*sensu stricto*) is reviewed by Fraussen & Terryn (2007).

14

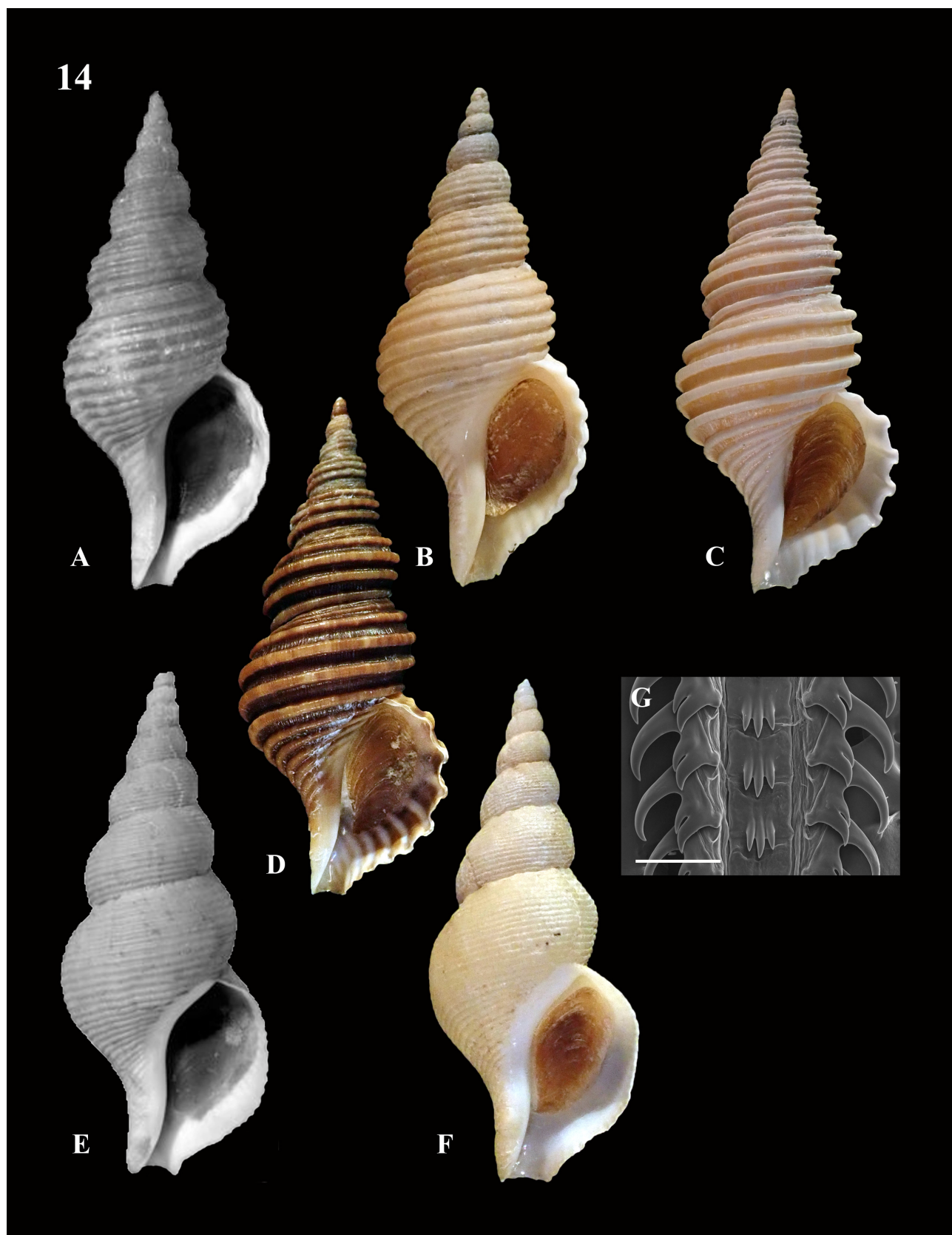


FIGURE 14. A–D. *Aulacofusus canaliculatus* n. sp. **A.** Holotype, LACM 3667, SE of Agattu Island, 135 m, 66.6 mm; **B.** Paratype, RNC 4143, S of Buldir Island, 71 m, 53.3 mm; **C.** *Aulacofusus periscelidus* (Dall, 1891), RNC 4860, W of Hawadax (Rat) Island, 94 m, 77.47 mm; **D.** RNC 4625, Adak Island, 18 m, 69.1 mm; **E–G.** *Aulacofusus tanagaensis* n. sp.; **E.** Holotype, LACM 3665, W of Tanaga Island, 53 m, 54.9 mm; **F.** Paratype, RNC 4585, W of Tanaga Island, 95 m, 54.0 mm; **G.** Radula, paratype, bar = 200 µm.

***Neptunea aleutica* n. sp.**

urn:lsid:zoobank.org:act:18759E3F-4E07-448B-9461-3D0E2A6537A8

Figures 15 A–C

Type locality: S of Oglodak Island, Andreanof Ids., Aleutian Is., Alaska (51°47.93 N, 175°11.74 W), 273 m (NMFS 23-200001-95).

Type material: Holotype: LACM 3580, 108.5 mm (*leg.* 14 June, 2000, trawled, R/V *Dominator*); Paratypes: Pt 1, LACM 3635, 99 mm. SE of Kiska Island, Rat Ids. (51°39.54 N, 178°26.72 W) 369 m (NMFS 143-200401-117); Pt 2, SBMNH 464989, 72.9 mm. E of Kiska Island, Rat Ids. (51°50.22 N, 178°06.35 E), 252 m (NMFS 148-201201-151); Pt 3, SBMNH 464984, 71.0 mm. Amutka Pass (52°12.26 N, 171°38.84 W), 460 m (NMFS 143-201201-52); Pt 4 & 5, USNM 1606668, 89.5 mm & 72.7 mm. E of Kiska Island, Rat Ids. (51°50.22 N, 178°06.35 E), 252 m (NMFS 148-201201-151); Pts 6 & 7, CASIZ 236196, 84.2 mm & 74.8 mm. E of Kiska Island, Rat Ids. (51°50.22 N, 178°06.35 E), 252 m (NMFS 148-201201-151); Pt 7 & 8, RNC 4715, 107.3 mm & 72.5 mm. E of Kiska Island, rat Ids. ((51°50.22 N, 178°06.35 E), 252 m (NMFS 148-201201-151); Pt 9, Koen Fraussen Coll. 95.7 mm. Petrel Bank, NE of Semisopochnoi Island, Rat Ids. (52°02.32 N, 179°19.51 W), 283 m (NMFS143-201201-137).

Description: Shell moderately large (holotype 108.5 mm), pyriform, white with thin brown periostracum. Whorls rounded, suture moderately impressed; protoconch small, 2.2–2.6 mm in diameter, with three whorls; teleconch with four whorls, early whorls with a single carination. Axial sculpture lacking. Mature shell with about five weak primary spiral cords above suture, with one intercalary secondary cord between primary cords and finer tertiary cords between; cords of base similar, but more closely crowded and losing distinction between primary and secondary cords. Mature lip not flared or much thickened; canal short, twisted.

Radula: Typical neptuniid, rachidian tooth broad, quadrate, indented anteriorly, bearing four equal-sized cusps. Lateral teeth tri-cuspid, cups well-spaced, outer cusp long, rather slender, curved, central cusp less than half the length of outer cusp, slightly bent, inner cusp very slightly larger than inner one, only slightly bent.

Remarks: *Neptunea aleutica* differs from the similar *Neptunea quhmax* n. sp. by 1) the thinner shell, 2) broader profile with longer aperture and less impressed suture and 3) less projecting spiral cords. Shells are often partially covered with colonies of the encrusting hydroid, *Hydractinia* spp.

Etymology: Name refers to the Aleutian Islands.

Distribution: Central Aleutians, Amutka Pass (171°38 W) to near Kiska Island, Rat Ids. (178°06 E) at depths of 103–460 m.

Habitat: Found on gravel, pebble and sand/shell hash bottoms, with a temperature of 3.7°–3.9°C.

***Neptunea baxteri* n. sp.**

Figures 15 D–F

urn:lsid:zoobank.org:act:653CFCAF-AD61-4943-8DF1-BF05775C52DF

“*Neptunea insularis convexa*,” Matsukuma, *et. al.*, 1991, pl. 76, fig. 4 *non convexa* Goryachev, 1978.

“*Neptunea* sp.” of Higuchi, 2006, pl. 77, lower left.

Type locality: N of Umnak Island, Fox Ids., Aleutian Is., Alaska (53°24.7 N, 168°41.4 W); 270–296 m (NMFS 95-199401-26).

Type material: Holotype: LACM 3581, (*leg.* 10 June, 1994, trawled, R/V *Pacific Knight*); Paratypes: Pt 1, LACM 3637, 113.1 mm. NE side Unalaska Island, Fox Ids. (54°01 N, 166°18 W), 84 m; Pt 2, LACM 3638, 103.1 mm. S of Adak Island, Andreanof Ids. (51°45 N, 176°45 W), depth unknown; Pt 3, LACM 3639, 88.8 mm. SW of Chernabura Island, Shumagin Islands (54°27 N, 159°45 W), 128 m; Pt 4 & 5, SBMNH 464997, 47 mm, 80.7mm, & 83.1 mm, S of Akutan Island, Fox Ids., (5331.75 N, 16547.92 W), 125 m (100-199601-19); Pt 6 & 7, USNM 1606665, 89.6 & 72.44 mm, S of Amutka Island, Islands of Four Mountains (52°29.46 N, 171°06.93 W), 332 m (NMFS 176-201401-40); Pt 8, CASIZ 236194, 70.8 mm, S of Seguam Island, Andreanof Ids. (51°58.56 N, 172°36.86 W), 167 m (NMFS 94-200201-192); Pt 9, CASIZ 236195, 66.3 mm. S of Seguam Island, Andreanof Ids. (51°58.67 N, 172°35.4 W), 173 m (NMFS 23-199701-78); Pt 10, RNC 4766, 89.5 mm. Seguam Pass, NE of Amlia Island, Andreanof Ids. (52°10.08 N, 173°06.08 W), 92 m (NMFS 23-199701-66); Pt 11, RNC 4614, 133.8 mm. S of Herbert Island, Islands of Four Mountains (52°38.8 N, 170°12.5 W), 233 m (NMFS 57-200201-48).

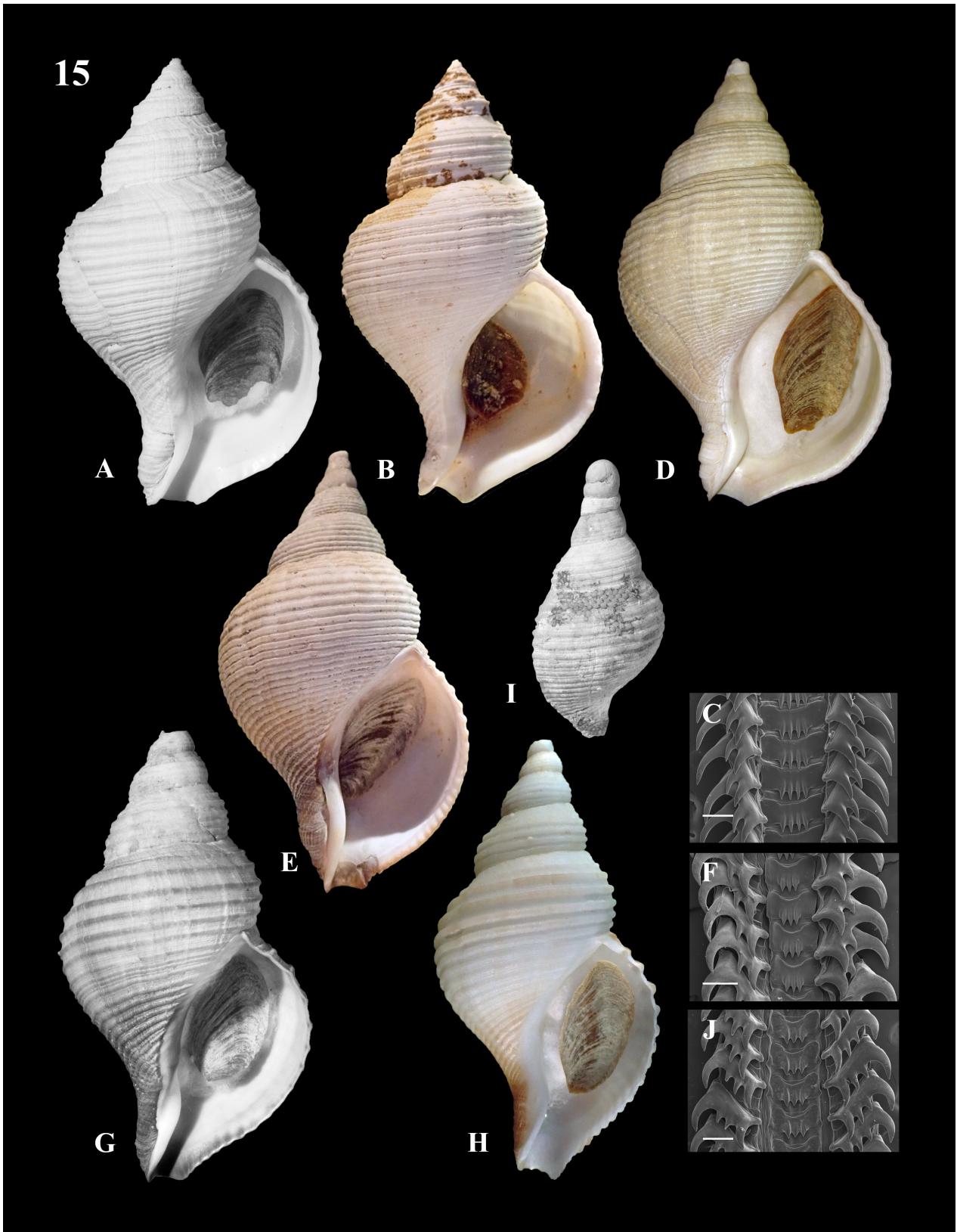


FIGURE 15. A–C. *Neptunea aleutica* n. sp.; A. Holotype, LACM 3580, S of Oglodak, 273 m, 108.5 mm; B. Paratype, RNC 4715, E of Kiska Island, 252 m, 107.3 mm; C. Radula, Paratype, RNC 4715, bar = 200 μ m; D–F. *Neptunea baxteri* n. sp.; D.–Holotype, LACM 3581, N of Umnak Island, 270–296 m, 114 mm; E. Paratype, RNC 4766, NE of Amlia Island, 92 m, 89.5 mm; F. Radula, Paratype, CASIZ 236196, bar = 200 μ m. G–J. *Neptunea dominator* n. sp. G. Holotype, LACM 3582, Petrel Bank, 256 m, 111.6 mm; H. RNC 4673, SW of Tanaga Island, 210 m, 89.0 mm; I. Paratype, RNC 4621, SW of Buldir Island, 325 m, 51.3 mm; J. Radula, holotype, bar = 200 μ m.

Referred material: 1, RNC 4670, 54.7 mm. E of Semidi Islands (56°05.55 N, 156°17.03 W), 215 m (NMFS 143-200301-177).

Description: Shell of moderate size (to 133 mm), pyriform, whorls rounded except for slight subsutural concavity, suture moderately impressed; white to brown, with very thin or absent periostracum. Protoconch large, 3.9–5.4 mm in diameter, bulbous, projecting, with 2 whorls; teleconch with four whorls, early whorls with 9–11 fine spiral cords, adult whorls with 11–20 rounded, even spiral cords above suture, interspaces narrower; cords weaker and more crowded on base; columella somewhat concave. Mature lip slightly thickened, hardly flaring; canal moderately short, twisted; pillar with poorly developed siphonal fasciole; mature lip slightly thickened and flaring.

Radula: Rachidian tooth broad, quadrate, strongly indented anteriorly, bearing two or three sub-equal cusps (central cusp when present, slightly longer than outer ones). Lateral teeth large, tri-cuspid, outer cusp relatively thick, strongly curved, much larger than others; central cusp very short, slightly bent; inner cusp about twice as large as central one, rather thick, curved.

Remarks: *Neptunea baxteri* is similar to *Neptunea dominator* **n. sp.** but differs by 1) it's shorter, broader profile, and 2) more numerous primary spiral cords. *Neptunea baxteri* lays stacked egg capsules, similar to those of *Neptunea lyrata* (Gmelin, 1791) and *Neptunea ventricosa* (Gmelin, 1791). Egg capsules triangular in shape, 20 x 18 mm, stacked in alternating three capsule layers giving a hexagonal cross-section to egg towers immersing hatchlings 5–6 mm in length.

Etymology: The name honors the late Rae Baxter of Seldovia Alaska, a former Alaska Department of Fish and game biologist who spent many years studying the mollusks of Alaska, and who collected some of the first specimens.

Distribution: Semidi Islands, western Gulf of Alaska (156°17 W) (RNC 4616) to Adak Island, central Aleutians (176°45 W) (LACM 3638), at depths of 84–296 m.

Habitat: Found on black sand, gravel and pebble bottoms (sometimes mixed with cobbles) with bottom temperatures of 3.6–5.5°C, but most commonly at temperatures of 4.1–4.5°C.

Neptunea dominator **n. sp.**

Figures 15 G–J

urn:lsid:zoobank.org:act:B167B455-40EA-4FEE-9865-DFBE9DDEC353

Type locality: Petrel Bank, NE of Semisopchnoi Island, Rat Ids., Aleutian Is., Alaska (54°02.8 N, 179°47.4 W); 256 m (NMFS 23-199701-169).

Type material: Holotype: LACM 3582, 111.6 mm. (*leg.* RNC, 11 July, 1997, trawled, R/V *Dominator*). Paratypes: Pt 1, LACM 3630, 120.7 mm. N of Amlia Island, Andreanof Ids. (52°33.74 N, 173°17.97 W), 219 m (94-199401-70); Pt 2, RNC 4621, 51.3 mm. SW of Buldir Island (52°18.5 N, 175°59.0 E), 325 m (NMFS 23-199701-243).

Referred material: 1, RNC 3904, 135.1 mm. N of Amlia Island, Andreanof Ids. (52°31.24 N, 173°28.65 W), 224 m (NMFS 143-201001-47); 1, RNC 4673, 89.0 mm. SW of Tanaga Island, Andreanof Ids. (51°29.3 N, 178°31.5 W), 210 m (176-201601-242).

Description: Shell moderately large (to 135 mm, RNC 3904), fusiform, white, marked with brown on base and ribs; periostracum lacking; Whorls rounded, suture moderately impressed. Protoconch large, 6.4 mm in diameter, bulbous, projecting, with two whorls; five teleconch whorls, first teleconch whorl rounded, smooth, second teleconch whorl vertically compressed, with five or six even spiral cords. Spiral sculpture of five to seven, rounded, even cords interspaces broader than cords, bearing three to five fine lirae; 12–14 cords of lesser strength and more crowded on base. Axial sculpture lacking. Mature lip slightly thickened, scarcely flaring, canal of moderate length, pillar with well-developed siphonal fasciole.

Radula: Somewhat atypical for genus. Rachidian tooth broadly quadrate, strongly indented anteriorly, anterio-lateral edges rounded, bearing three short, stout, equal-sized cusps. Lateral teeth long, thick, bearing four cusps rather than the normal three; cusps well-spaced, outer cusp much longer than others, strongly curved, inner cusp about 2/3 as large as outer one, moderately curved; two central cusps much smaller, about half the size of inner cusp, inner one slightly larger than outer one.

Remarks: Differs from *Neptunea baxteri* **n. sp.**, by 1) a taller, more slender profile and 2) fewer primary spiral cords, with broader interspaces bearing several fine lirae, and 3) in the details of the radular teeth.

Etymology: Named for the NMFS chartered fishing vessel *Dominator* that collected the holotype.

Distribution: Central and western Aleutians from SW of Buldir Island (175°49 E) to near Amlia Island, Andreanof Ids. (173°28 W), at depths of 210–325 m.

Habitat: Found on black sand and cobble bottoms at temperatures of 3.2°C–5.2°C.

***Neptunea petrelensis* n. sp.**

Figures 16 A–C

urn:lsid:zoobank.org:act:56C0C6EC-FF8A-41E1-B4EE-FC35BCB9E5C9

Type locality: Petrel Bank, NW of Semisopchnoi Id., Rat Ids., Aleutian Is., Alaska (51°59.93 N, 179°14.91 E), 143 m (NMFS 143-201201-136).

Type material: Holotype: LACM 3583, 74.5 mm; Paratypes: Pt 1, RNC 4984, 102.8 mm Petrel Bank, NE of Semisopchnoi Island, Rat Ids. (52°16.38 N, 179°54.40 E), 101 m (NMFS 143-200401-122); Pt 2 & 3, SBMNH 464992, 88.0 mm & 85.4 mm. Petrel Bank, NE of Semisopchnoi Island, Rat Ids. (52°10.24 N, 176°36.06 E), 133 m (NMFS 143-201401-123).

Referred material: 1, RNC 4718, 54.4 mm. Milrow, Amchitka Island, Rat Ids. (51°44.3 N, 179°08.2 E), 10 m; 1, RNC 4588, 35.2 mm. Petrel Bank, Rat Ids. (52°10.5 N, 179°36.5 E), 130 m (NMFS 143-2010-1-149); 1, RNC 4589, 103.5 mm, S of Amlia Island, Andreanof Ids. (51°54.48 N, 173°42.4 W), 134 m; 1, RNC 5041, 38.3 mm, N of Carlisle Island, Islands of Four Mountains (52°58.6 N, 170°03.9 W), 123 m.

Description: Shell relatively small for genus (to 102.8 mm, RNC 4984); pyriform, brown with cream overtones; periostracum lacking; whorls rounded, suture moderately impressed. Protoconch large, 4.2–4.6 mm, two whorls; teleconch with four whorls, early whorls with two cords; spiral sculpture of one sharp cord at periphery and one additional cord of similar size and strength on rounded whorl above periphery; two to three cords below periphery often suppressed in development, one to five fine lirae between cords; base of whorl with 10–12 often suppressed cords. Aperture large, about half or less of shell height, oval; canal short, relatively broad.

Radula: Rachidian tooth roughly chevron shaped, strongly indented anteriorly, bearing three subequal cusps, the central cusp only very slightly longer than the others. Lateral teeth tricuspid, outer cusp twice as large as others, strongly curved, central and inner cusps about the same size, but inner cusp often longer.

Remarks: The specimen from south of Amlia Island (RNC 4589) has double cords just above and just below the suture. The three primary cords on the Amchitka Island (RNC 4718) specimen have eight coronations. This species resembles *Neptunea lyrata* (Gmelin, 1791), but is easily distinguished by 1) the two prominent cords on the teleconch whorls, and 2) the much larger nuclear whorls, 4.2–4.6 mm compared to 2.0–2.8 mm in *N. lyrata*.

Etymology: Named for the Petrel Bank, the type locality.

Distribution: Central Aleutian Islands, from Semisopchnoi Island, Rat Ids. (179°36 E) to N of Carlisle Island, Islands of Four Mountains (170°03.9 W), 100–143 m.

Habitat: Lives on sand and cobble bottoms at temperatures of 4.0–4.6°C.

***Neptunea quhmax* n. sp.**

Figures 16 D–F

urn:lsid:zoobank.org:act:F0519719-EBB3-45A0-A626-4E7D3E2E8A57

Type locality: Stalemate Bank, W of Attu Island, Near Ids., Aleutian Is., Alaska (52°54.5 N, 170°49.26 E), 219 m (NMFS 23-199701-211).

Type material: Holotype: LACM 3584, 109.5 mm. (*leg.* RNC, 3 Aug. 1997, trawled R/V *Dominator*); Paratypes: Pt 1, SBMNH 169009, 97.4 mm. Stalemate Bank, W of Attu Island, Near Ids. (52°54.52 N, 170°47.75 E), 222 m (NMFS 143-201001-199); Pt 2, RNC 4599, 114.8 mm. Stalemate Bank, W of Attu Island, Near Ids. (52°56.06 N, 170°58.73 E), 185 m (NMFS 147-200401-221).

Description: Shell fusiform, of medium size (to 114.8 mm, RNS 4599); whorls rounded, concave above the shoulder angulation, suture strongly impressed; solid white, periostracum very thin or absent. Apex missing, about four teleconch whorls, axial sculpture lacking. Spiral sculpture of four strongly projecting cords above suture, with 3–4 lesser cords on shoulder ramp; one secondary cord between main cords, and 2–4 finer tertiary cords; base with 10–12 primary cords, with one or two secondary cords between. Aperture short, about 1/3 of shell height, broadly oval; canal relatively short, narrow.

Radula: Rather unique for genus, rachidian tooth chevron shaped, bearing three slender cusps at center of tooth, central cusp longest, lateral cusps much shorter (in the holotype one of the lateral cusps is deformed and mostly absent). Lateral teeth tri-cuspid, outer cusp much larger than others, strongly curved; inner cusp slightly shorter and about half as broad as inner cusp.

Remarks: Differs from *N. aleutica* in 1) heavier shell, 2) taller, slenderer, profile with shorter aperture, more strongly impressed suture and 3) more strongly projecting spiral cords. This species also resembles *Neptunea alabaster* Alexeyev & Fraussen, 2005 (figs. 16 G–H), in its strongly projecting cords, but has a narrower profile and a shorter aperture.

Etymology: The name is derived from the western Unangan “Aleut” word for white, quhmax, pronounced: Kue-hm-ach.

Distribution: Appears to be restricted to the Stalemate Bank, West of Attu Island, Near Ids. (170°30 E to 171°00 E), at depths of 185–222 m.

Habitat: Lives on sand/gravel and cobble bottoms at a bottom temperature of 3.9°C.

Neptunea vesteraalen n. sp.

Figures 16 I–K

urn:lsid:zoobank.org:act:43C32B8B-2255-4ED0-B805-F6A619C56D04

Type locality: W end of Akutan Island, Fox Ids., Aleutian Is., Alaska (54°10.5 N, 166°07.6 W), 411 m (NMFS 94-199701-29).

Type material: Holotype: LACM 3585, 160 mm. (*leg.* 23 May, 1997, trawled R/V *Vesteraalen*); Paratypes: Pt 1, LACM 3631, 85.0 mm. Kanaga Pass, W of Kanaga Island, Andreanof Ids. (51°45.8 N, 177°21.3 W), 148 m (*leg.* Rae Baxter, 20 Aug. 1986); Pt 2, SBMNH 169008, 119.5 mm. SSE of Yunaska Island, Islands of four Mountains (52°31.33 N, 170°39.41 W), 130 m (NMFS 143-200001-46); Pt 3, USNM 1606669, 127 mm. S of Herbert Island, Islands of four Mountains, (52°32.88 N, 170°06.28 W), 238 m (NMFS 143-200001-32); Pt 4, RNC 4871, 170 mm. SSE of Yunaska Island, Islands of four Mountains (52°32.17 N, 170°37.47 W), 122 m (NMFS 143-201201-41); Pt 5, RNC 4510, 88.1 mm. S of Yunaska Island, Islands of four Mountains (52°31.59 N, 170°41.41 W), 118 m (143-200601-42).

Referred material: 1 sp., David Stanchfield Coll. 192 mm. Islands of four Mountains (52°30 N, 170°0 W) ~100 m; 1 sp. RNC 4749, 100 mm. S of Akutan Island, Fox Ids. (53°15.2 N, 165°24.93 W), 90 m (NMFS 143-201501-2) (white shell).

Description: Mature shell large (to 192 mm David Stanchfield collection), heavy and sturdy; pyriform; tan, usually with darker cords (rarely solid white RNC 4749); periostracum thin, brown. Protoconch with 2.5 whorls, four to five teleconch whorls, first teleconch whorl with two even cords, changing to a strong carination, a subsutural cord and two strong cords below the shoulder carination. Axial sculpture lacking; mature sculpture of three strong primary cords on the shoulder ramp, and three to five strong cords below the shoulder carination (or primary cord), with secondary and tertiary cords between the primary cords; base with about ten primary cords, and secondary cords comparable to those above the suture; columellar and parietal callus broad but sharply delimited. Aperture very large, oval, more than half of shell height; canal relatively long, rather narrow.

Radula: Rachidian tooth broad, roughly quadrate, deeply indented anteriorly, bearing three subequal cusps, the central cusp slightly longer and slenderer than the outer two. Lateral teeth large, heavy, tri-cuspid; outer cusp much larger than inner two, thick, curved; central and inner cusps close together, widely spaced from outer cusp; inner cusp about half the size of the outer one, relatively thick, only slightly bent; central cusp slightly shorter and more slender than inner cusp, also slightly bent.

Remarks: This species is characterized by its large size, large aperture, broad profile and early emergence of two or more additional primary cords below the shoulder cord. It is quite unlike any other north Pacific species.

Etymology: Named for the NMFS chartered fishing vessel *Vesteraalen* that collected the Holotype.

Distribution: Found in the eastern and central Aleutian Islands, from near Akutan Island, Fox Ids. (165°24 W) to Kanaga Island, Andreanof Ids. (177°21 W). Most often taken in the vicinity of the Islands of Four Mountains, at depths of 90–238 m.

Habitat: Sandy or muddy bottoms at temperatures of 4–4.3°C.

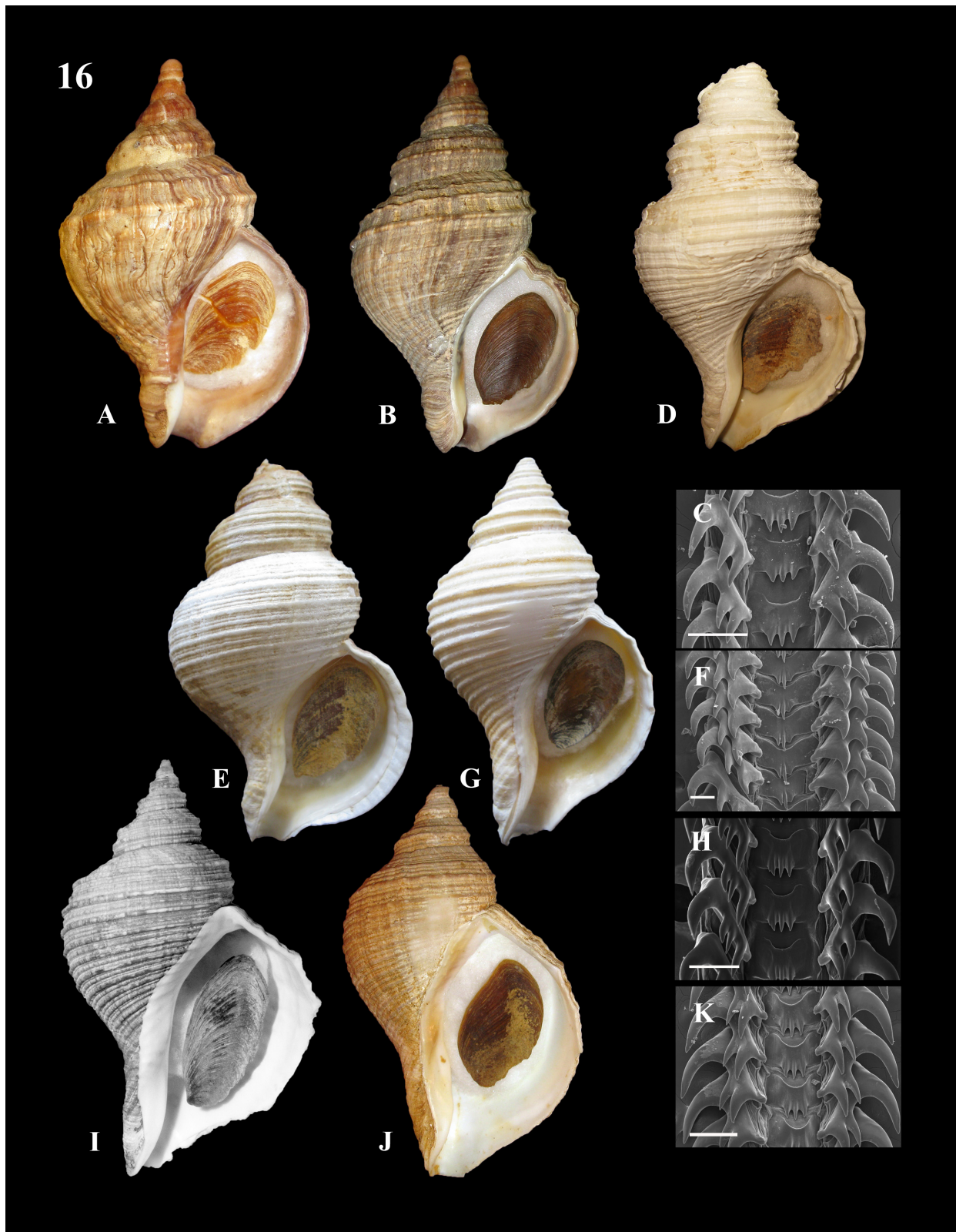


FIGURE 16. A–D. *Neptunea petreleensis* n. sp.; A. Holotype LACM 3583, Petrel Bank, 143 m, 74.5 mm; B. Paratype, RNC 4984, Petrel Bank, 101 m, 102.8 mm; C. Radula, paratype, RNC 4984, bar = 200 μ m; D–F. *Neptunea quhmax* n. sp.; D. Holotype, LACM 3584, Stalemate Bank, 219 m, 109.5 mm; E. Paratype, SBMNH 169009, Stalemate Bank, 222 m, 97.4 mm; F. Radula, Paratype, RNC 4599, Stalemate Bank, bar = 200 μ m; G, H. *Neptunea alabaster* Alexeyev & Fraussen, 2005; G. Paratype, RNC 4069, Bering Sea, W of Cape Olyutor, Russia, 290 m, 113.8 mm; H. Radula, RNC 4464, Bering Sea, Pervenets Canyon, 913 m, bar = 200 μ m; I–K. *Neptunea vesteraalen* n. sp.; I. Holotype, LACM 3585, W of Akutan Island, 411 m, 160 mm; J. Paratype 3, USNM 1606669, S of Herbert Island, 238 m, 127 mm; K. Radula, paratype, RNC 4510, bar = 200 μ m.

***Neptunea harrisoni* n. sp.**

Figure 17 A–E

urn:lsid:zoobank.org:act:42C04905-4531-4338-B116-49C9DFDF666B

Type locality: S of Tanaga, Andreanof Ids., Aleutian Is., Alaska (51°47.52 N, 178°10.2 W), 146 m (NMFS 95-199401-122).

Type material: Holotype, SBMNH 169011, 61.8 mm. (*leg.* William C. Flerx, 6 July, 1994); Paratypes: Pt 1, SBMNH 169012, 75.6 mm. W of Buldir Island (52°19.26 N, 175°48.64 E), 219 m (NMFS 143-200401-163); Pt 2, SBMNH 169013, 67.2 mm. W of Tanaga Island, Andreanof Ids. (51°44.31 N, 178°09.16 W), 88 m (NMFS 23-199701-132); Pt 3, SBMNH 169014, 46.1 mm. Stalemate Bank (52°56.06 N, 170°25.73), 185 m (NMFS 147-200401-221); Pt 4, USNM 122648, 66 mm. S of Unimak Island, Fox Ids. (54°14 N, 164°35 W), 108 m; Pt 5, USNM 1606667, 43.7 mm. S end of Samalga Pass (52°39.68 N, 169°21.15 W), 118 m (NMFS 23-199601-1); Pt 6, LACM 3633, 61.4 mm. Tanaga Bay, Tanaga Island, Andreanof Ids. (51°44.5 N, 178°07.68 W), 95 m (NMFS 23-199701-137); Pt 7, LACM 3668, 42.5 mm. N end, Adak Strait, Andreanof Ids. (51°56.25 N, 176°50.33 W), 95 m (NMFS 23-200001-112); Pt 8, LACM 3636, 72.9 mm. SW of Amlia Island, Andreanof Ids. (51°51.49 N, 174°01.58 W), 150 m (NMFS 94-199401-132); Pt 9, CASIZ 153709, 55.7 mm. Seguam Pass (52°19.8 N, 172°45 W), 444 m (NMFS 94-200001-67); Pt 10, CASIZ 137761, 29 mm. N of Atka Island, Andreanof Ids. (51°52.8 N, 174°33.6 W), 137 m (NMFS 94-200001-90); Pt 11, RNC 4818, 53.6 mm. Seguam Pass (52°49.7 N, 171°29.2 W), 209 m (NMFS 23-200001-80); Pt 12, RNC 4916, 72.3 mm. S of Umnak Island, Fox Ids. (52°39.82 N, 168°56.18 W), 142 m (NMFS 132-200501-2). Pt 13, Koen Fraussen Coll., 52.2 mm. S of Kanaga Island, Andreanof Ids. (51°39.29 N, 177°26.86 W), 133 m (NMFS 143-201001-163); Pt 14, David P. Berschauer Coll. 62.6 mm. S of Herbert Island, Islands of four Mountains (52°29.3 N, 171°06.7 W), 330 m (NMFS 23-1997-1-52).

Referred material: RNC 4616, 1 sp., 70.9 mm. E of Semidi Islands (56°05.55 N, 156°17.03 W), 215 m (NMFS 143-200301-117); RNC 4712, 1 sp., 61.2 mm. W of Trinity Islands (56°35.5 N, 152°29.28 W), 145 m (NMFS 134-200501-132); RNC 4909, 8 sp., 5.1–35.3 mm. Adak Strait, Andreanof Ids. (51°54.68 N, 176°52.4 W) 212 m (NMFS 23-199701-171).

Description: Shell relatively small (Height to 75 mm, SBMNH 169012) fusiform, usually slightly concave on shoulder color white or light reddish brown, with narrow white band at mid-whorl; periostracum extremely thin or absent. Whorls rounded, suture weakly impressed, axial sculpture absent, spiral sculpture absent or only very faintly indicated. Protoconch small, smooth, with 2.5 whorls, teleconch with four whorls; Aperture oval, less than half of shell height; canal short, broadly notched; operculum large, but not filling aperture.

Radula: Rachidian tooth broad, rectangular, anteriorly edge broadly indented and bearing a thickened ridge; posterior edge with four very small, subequal cusps. Lateral teeth tricuspid, outer cusp long, thick, strongly curved, very slightly recurved at tip; central cusp considerably shorter; inner cusp about one third longer and nearly twice as thick as inner cusp.

Remarks: Originally thought to be the enigmatic “*Volutopsius*” *callorhinus* Dall. 1877, based on a broken and badly eroded shell found near the Pribilof Islands. That species is now placed in the genus *Anomalisipho* Dautzenberg & Fischer, 1912 (Merkuljev, 2015; Clark, 2016). “*Volutopsius*” *callorhinus* is presently considered to be a synonym of *Anomalisipho rodgersi* (Gould, 1860), characterized by very fine spiral sculpture, ranges from the Pribilof Islands, Bering Sea, Alaska, north to near Barrow, Alaska, in the Chukchi Sea (Arctic Ocean). It is not present in the Aleutian Islands.

Etymology: The name honors Robin C. Harrison, Fisheries Biologist National Marine Fisheries Service (Alaska Fisheries Science Center) retired.

Distribution: Found all along the Aleutians, from Stalemate Bank, W of Attu Island, Near Ids. (170°58.73 E) East to the Trinity Islands, SW of Kodiak Island (156°35.5 W) in the western Gulf of Alaska, at depths of 87–330 m.

Habitat: Found on bedrock, cobbles, gravel and black sand with bottom temperatures of 3.5°–5.6°C.

***Neptunea jewetti* n. sp.**

Figures 17 F–G

urn:lsid:zoobank.org:act:D8DE791E-FE05-4AE9-9A87-F503B07F7E65

Type locality: SE side of Yunaska Island, Islands of Four Mountains (52°35.6 N, 170°38.24 W), 18 m. (AKMAP 2006 station: AKALE06-0037) (*leg.* Stephen C. Jewett, 17 July, 2006).

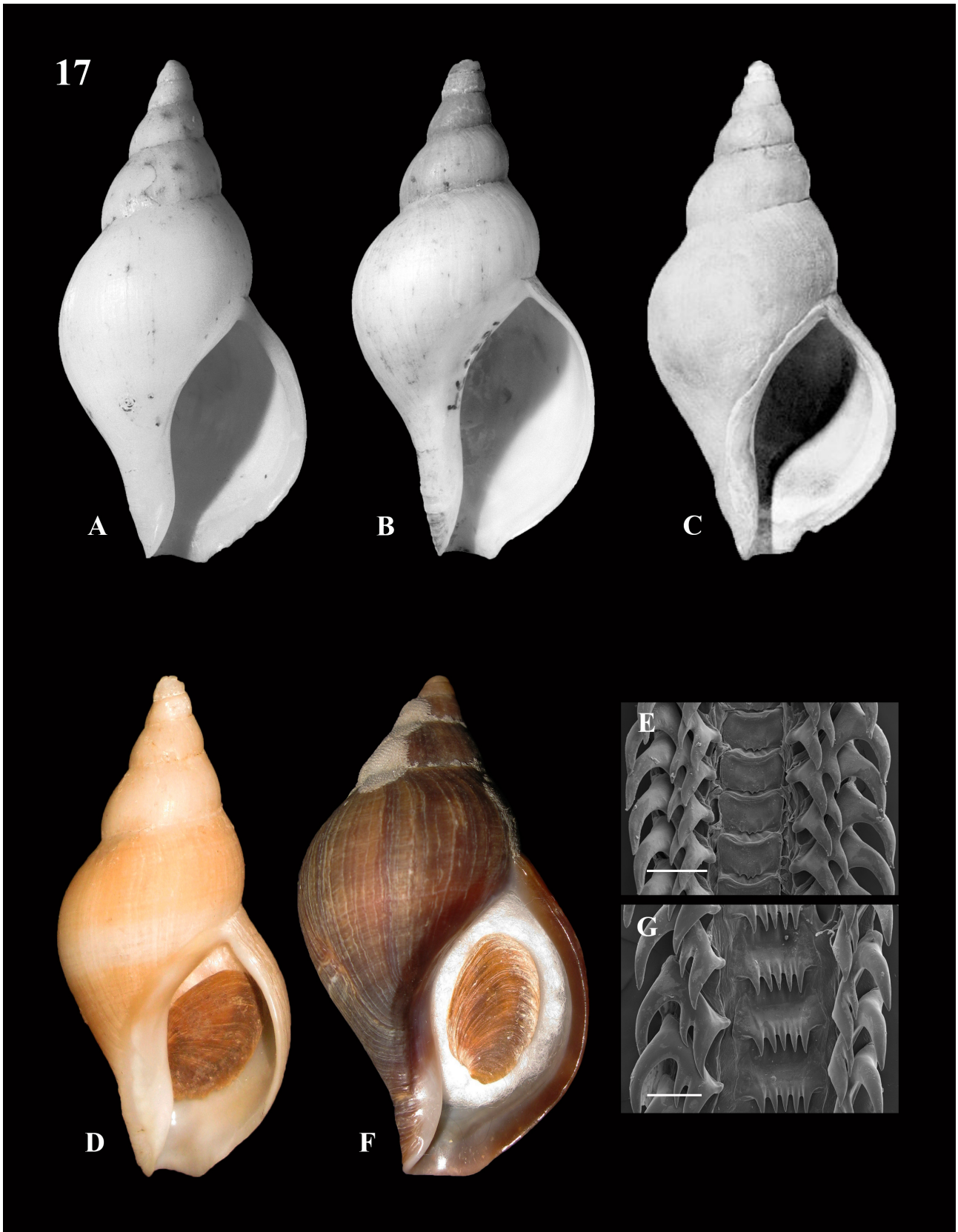


FIGURE 17. A–E. *Neptunea harrisoni* n. sp.; A. Holotype, SBMNH 169011, S of Tanaga Island, 146 m, 61.8 mm; B. Paratype, LACM 3633, Tanaga Island, 95 m, 61.4 mm; C. Paratype, USNM 122648, S of Unimak Island, 108m, 66.0 mm; D. Paratype, RNC 4818, Seguam Pass, 209 m, 53.6 mm; E. Radula, Paratype, SBMNH 169014, bar = 200 μ m; F, G. *Neptunea jewetti* n. sp.; F. Holotype, LACM 3587, Yunaska Island, 18 m, 49.7 mm. G. Radula, holotype, bar = 200 μ m.

Type material: LACM 3587 (49.7 mm).

Description: Shell of moderate size (50 mm), pyriform, rather broad, whorls somewhat flattened above suture; suture weakly impressed; periostracum absent. protoconch small, about 1.4 mm in diameter, smooth, 1.5 whorls (partially obscured by a bryozoan in the holotype), 3.5 teleconch whorls. Axial and spiral sculpture lacking except for faint incremental growth lines; color uniformly dark brown. Aperture slightly more than half of shell height; Aperture large, oval; canal short, broad. Operculum notably smaller than aperture, nucleus terminal.

Radula: Rachidian tooth broadly rectangular, bearing five short, sharply pointed cusps, grading slightly from the outer to the central one. Lateral teeth tricuspid, outer cusp long, relatively thick, curved, central cusp considerably shorter, set close to inner cusp, inner cusp about as thick, but only $\frac{3}{4}$ as long as outer cusp, and only slightly curved at tip.

Remarks: Bears some resemblance *Neptunea ventricosa* (Gmelin, 1790), but is smaller, and has less inflated whorls, and shorter, broader canal. This species also bears some superficial resemblance to *Volutopsius castaneus* (Mörch, 1858), but is immediately distinguished by the proportions of the shell.

Etymology: The name honors biologist Dr. Stephen C. Jewett, University of Alaska, Fairbanks (retired), The AKMAP Survey co-leader, who collected the holotype.

Distribution: known so far only from the holotype, taken at 18 m, at Yunaska Island, Islands of Four Mountains.

Habitat: Holotype found on gravel in area of moderate to strong surge. Bottom temperature 4.4°C.

Genus *Laevisipho* n. gen.

urn:lsid:zoobank.org:act:D15D52C4-367B-4796-B8BA-4DE76B6F18E8

Diagnosis: Size moderate to large, fusiform; light brown to white, periostracum absent. Whorls at all stages rounded, suture deeply impressed. Apex extended by addition of one very extended early teleconch whorl. Axial and, spiral sculpture usually lacking or composed of a few very faint, irregular spiral cords, pillar straight or slightly concave. Canal of moderate length, final lip thickened, but not flaring. Operculum relatively large, but not filling aperture, nucleus terminal.

Type species: *Laevisipho galaxaios* n. sp. (HD).

Remarks: This genus differs from the similar smooth shelled genus *Golikovia* Habe & Sato, 1973, by 1) nuclear whorls, which are extended as in *Beringius*, and 2) lack of spiral cords on early teleconch whorls. The nuclear whorls of *Golikovia* are not extended, and the early teleconch whorls have several spiral cords. Differs from other smooth or nearly smooth *Neptunea* (s. l.) by the extended protoconch which lacks any spiral cords or angulation. Two species are recognized, *Laevisipho galaxaios*, and *L. kessleri*, both endemic to the central Aleutian Islands.

Laevisipho galaxaios n. sp.

Figure 18 A–D

urn:lsid:zoobank.org:act:7FC3F92F-0EBF-4851-B71B-F92A63FC287C

Type locality: Amutka Pass, Aleutian Islands, Alaska (52°14.9 N, 171°41.88 W); 406 m. (NMFS 94-200001-79).

Type material: Holotype CASIZ 141123, 122.4 mm. (*leg.* E. Kools, 11 June, 2000, trawled, R/V *Vesteraalen*); Paratypes: Pt 1, CASIZ 141125, 110.1 mm. Amutka Pass (52°06 N, 171°8 W), 324 m (NMFS 94-200001-78); Pt 2, LACM 3634, 110 mm. Samalga Pass, (52°56.39 N, 169°19.58 W), 401 m (NMFS 57-200201-25); Pt 3, RNC 4627, 115.8 mm. Samalga Pass, (52°53.78 N, 169°27.8 W), 337 m (NMFS 143-200401-28).

Description: Shell large (to 122 mm, holotype), fusiform; pillar straight, whorls rounded, suture impressed; uniformly whites; spiral and axial sculpture absent. Protoconch large, extended, with 2 whorls, diameter 5.4–5.6 mm. Teleconch with 4–5 whorls, first teleconch whorl extended. Mature lip thickened, but not flared, canal of moderately long, narrow.

Radula: Typical for this subfamily, Rachidian tooth broad, excavated anteriorly, bearing three small, equal-sized cusps; Lateral teeth large, tri-cuspid, cusps well-spaced, outer cusp much larger than inner two, strongly curved; central and inner cusps sub-equal, inner cusp very slightly shorter and more strongly curved than inner one.

Remarks: This species differs from *L. kessleri* in 1) larger size, 2) more inflated whorls, 3) uniformly white coloration, and 3) lack of any spiral sculpture.

Etymology: The name is derived from the Greek word for “milky white” rather than a latin root, reflects the solid white color of the shell.

Distribution: Central Aleutian Islands, from Amutka Pass (171°48 W) to the Islands of Four Mountains (169°53 W), at depths of 324–406 m.

Habitat: Sand and gravel bottoms, with bottom temperatures of 3.9–4.2°C.

***Laevisipho kessleri* n. sp.**

Figure 18 E–G

urn:lsid:zoobank.org:act:A213A933-2C42-4A28-9E75-B6DE269A66FB

Type locality: S of Seguam Island, Aleutian Is., Alaska (51°52.62 N, 172°33.61 W); 147 m (NMFS 23-199701-95).

Type material: Holotype LACM 3586, 64.6 mm. (*leg.* RNC 7 July, 1997, trawled, R/V *Dominator*); Paratypes: Pt 1, LACM 3632, 74.4 mm. S of Seguam Island, (51°57.9 N, 172°17.8 W), 104 m (NMFS 95-199401-93); Pt 2, SBMNH 169010, 59.6 mm, N of Atka Island, Andreanof Ids. (52°08.55 N, 175°16.99 W), 212 m (NMFS 94-199401-156); Pt 3, SBMNH 174793, 66.7 mm, Seguam Pass (5158.35 N, 17236.86 W), 167 m. (NMFS 94-200202-192); Pt 4, USNM 1606666, 57.4 mm. S of Amlia Island, Andreanof Ids. (51°57.96 N, 172°37.93 W), 220 m (NMFS 23-199701-79); Pt 5, RNC 4519, 81 mm. N of Atka Island, Andreanof Ids. (52°10.96 N, 174°33.53 W), 116 m (NMFS 23-199701-103).

Referred material: RNC 4940, 96.3 mm. N of Amlia Island, Andreanof Ids. (52°14.89 N, 173°00.11 W), 250 m (NMFS 176-201601-55); RNC 4911, 58.6 mm. S of Yunaska Island, Islands of Four Mountains (52°46.9 N, 170°41.4 W).

Description: Shell of medium size (to 96 mm, RNC 4940), fusiform; light brown, solid; periostracum lacking. Whorls rounded; suture impressed. Protoconch extended, 2.5 whorls, 5.1–5.3 mm in diameter, 4–4.5 teleconch whorls surface usually smooth, axial sculpture lacking, spiral sculpture usually lacking, or rarely with a few, very faint, fine, irregular, spiral cords. Aperture oval, much less than half of shell height; olumella only slightly concave, mature lip thickened, but not flared; canal of moderate length, narrow, nearly straight. Operculum large, but not filling aperture, nucleus terminal.

Radula: Typical for subfamily, rachidian tooth broad, excavated anteriorly, bearing four small cusps, the inner two slightly larger than the outer two. Lateral teeth large, tri-cuspid, cusps well-spaced, outer cusp strongly curved, inner cusp about half as long as outer, only slightly curved; central cusp slightly smaller than inner one, slightly curved.

Remarks: Differs from *Laevisipho galaxaios* in 1) brownish color, 2) smaller size, 3) less inflated whorls, and 4) occasional few, very faint spiral cords.

Etymology: The name honors the late Mr. Doyne W. Kessler, Fisheries biologist, NOAA/NMFS, Alaska Fisheries Science Center (retired). Mr. Kessler was the first to write a field guide to the fish and invertebrates of the Bering Sea and Gulf of Alaska, and was a friend and inspiration to the junior author in the study of Alaskan marine invertebrates.

Distribution: Central Aleutian Islands, from Atka Island, Andreanof Ids. (175°16 W) to near Seguam Island (172°17 W), at depths of 99–220 m.

Habitat: Black sand and gravel bottoms, with bottom temperatures of 4.1–4.6°C.

Subfamily Volutopsiinae Habe & Sato, 1973

Diagnosis: Shell small to large (4–16 cm), periostracum thin or lacking; aperture large. Protoconch usually large, bulbous; aperture 1/2 to 3/4 of shell height; sculpture of spiral cords or lirae, axial sculpture usually absent, if present of, folds or wrinkles, varices rare. Radula: Rachidian tooth with 2–7 cusps, lateral teeth with 2, rarely 3 cusps. Operculum much smaller than aperture. Egg cases dome-like or semi-spherical, with typically two to four juveniles.

Remarks: In the Aleutian Islands, 13 species in four genera are recognized, including three new species and one new genus.

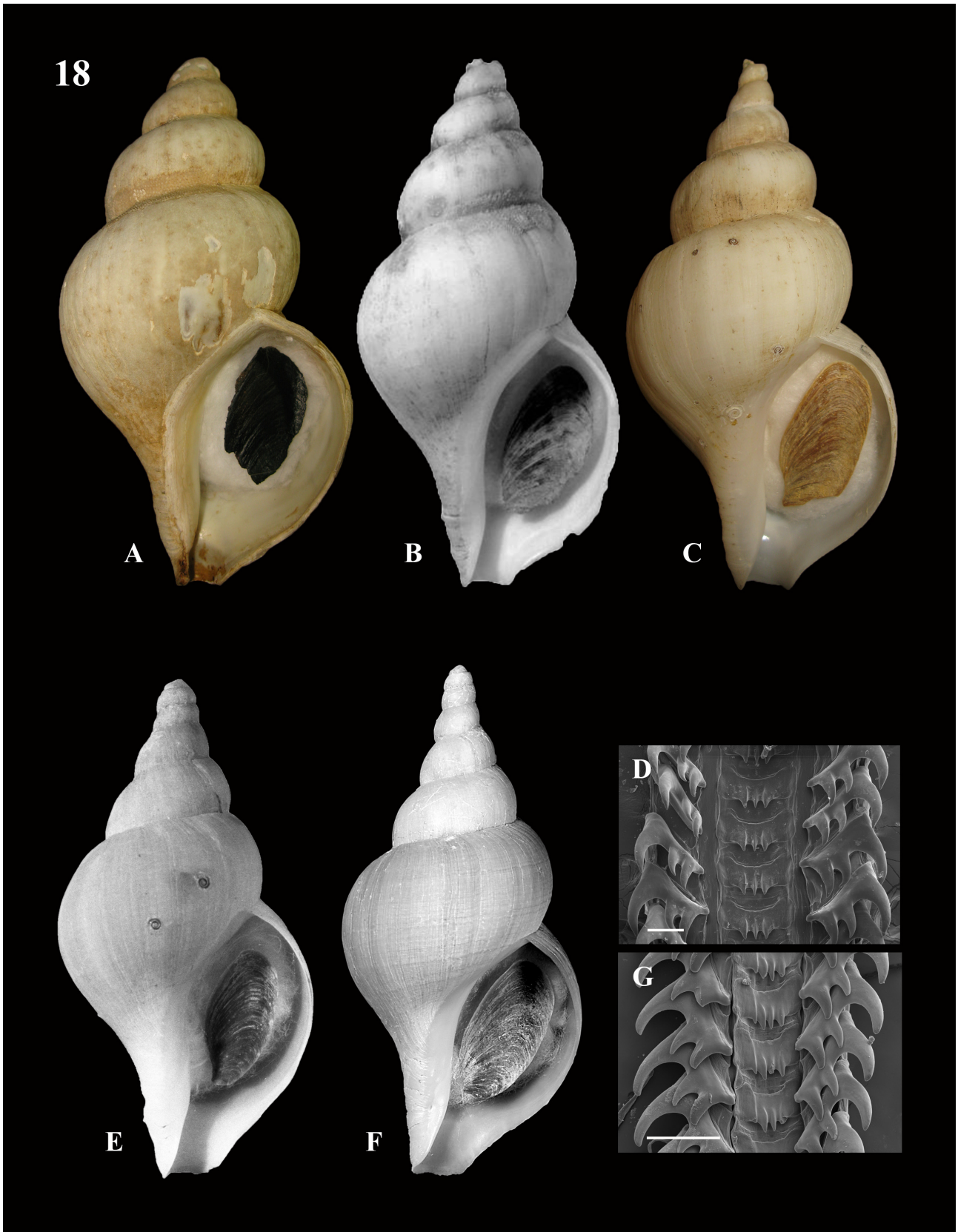


Figure 18. A–D. *Laevisipho galaxaios* n. sp.; A. Holotype, CASIZ 141123, Amutka Pass, 406 m, 122.4 mm; B. Paratype, LACM 3634, Samalga Pass, 401 m, 110 mm; C. Paratype, RNC 4627, Samalga Pass, 327 m, 115.8 mm; D. Radula, RNC 4627, bar = 200 μ m; E–G. *Laevisipho kessleri* n. sp., E. Holotype, LACM 3586, S of Seguam Island, 147 m, 64.6 mm; F. Paratype, RNC 4519, N of Atka, 116 m, 81.0 mm; G. Radula, Paratype, USNM 1606666, bar = 200 μ m.

Genus *Volutopsius* Mörch, 1857

Type species (OD); *Fusus largillierti* Petit de la Saussaye, 1851 [= *Strombus norwegicus* Gmelin, 1791]. Northeast Atlantic.

Diagnosis: Shells small to large (4–14 cm); nucleus relatively large, bulbous; aperture large, $\frac{1}{2}$ – $\frac{3}{4}$ of shell height; periostracum thin or lacking; operculum smaller than aperture. Radula: Rachidian tooth with 3–7 cusps, Lateral teeth typically with 2, rarely 3 cusps.

Volutopsius nanus n. sp.

Figures 19 A–C

urn:lsid:zoobank.org:act:B6C52DEE-CFE6-4858-9013-AE5100D4E120

Type locality: SW of Buldir Island, Aleutian Is., Alaska (52°18.5 N, 175°49.0 E), 325 m (NMFS 23-199701-243).

Type: Holotype, LACM 3588, 35.6 mm (*leg.* RNC 9 Aug. 1997); Paratypes: Pt 1–3, LACM 3669, 20.8–29.5 mm. SW of Agattu Island, Near Ids. (52°13.5 N, 173°27.8 E), 169 m (NMFS 23-199701-229); Pt 4, SBMNH 169015, 33.4 mm. SE of Buldir Island (51°24.6 N, 175°20.0 E), 187 m (NMFS 94-200201-158); Pt 6, USNM 1606664, 35.1 mm. SE of Buldir Island (51°24.6 N, 175°20.0 E), 187 m (NMFS 94-200201-158); Pt 7, RNC 4711, 40.0 mm. (Type locality).

Referred material: RNC 4888, 1 sp., 36.8 mm. SW of Agattu Island, Near Ids. (52°13.5 N, 173°27.8 E), 169 m (NMFS 23-199701-229); RNC 4901, 15.34 mm. ESE of Buldir Island (52°20.61 N, 176°22.79 E), 227 m (23-2000-01-173).

Description: Small for genus, height to 40.0 mm; suture moderately impressed, whorls rounded. Protoconch, one whorl, 3.7–4.1 mm in diameter, with four spiral cords; teleconch with three whorls; spiral sculpture of very fine lirae, with slightly wider interspaces, about 30 on penultimate whorl, and continuing on below the suture. Aperture a little more than half of shell height, outer lip flared; canal short, broad. Operculum small, less than half of aperture height.

Radula: Typical for subfamily, rachidian tooth with four subequal cusps; lateral teeth with two large, heavy cusps, outer cusp strongly curved, inner cusp straight.

Remarks: This is the smallest known species of *Volutopsius*, and probably cannot be confused with any congeners. *Volutopsius middendorffi* (Dall, 1891) is similar but much larger, reaching over 11 cm, and has a pinkish protoconch.

Etymology: Named for its small size, from the Latin *nanus*, dwarf. *Volutopsius nanus* is considerably smaller than all other known Volutopsinae.

Distribution: This small species is restricted to the western-most Aleutians, from the vicinity of Buldir Id. (176°22 E) to Attu Id. (173° E), at depths of 169–325 m.

Habitat: Lives on black sand and gravel, at temperatures of 3.6°–4.1° C.

Volutopsius gracilis n. sp.

Figure 19 D–E

urn:lsid:zoobank.org:act:58A8BD6B-DF20-4AF2-BCB9-5296AA4DEF48

Type locality: E of Shumagin Islands, Aleutian Ids., Alaska (55°42.75 N, 158°52.65W); 97 m. (NMFS 143-2015-1-62).

Type material: Holotype: LACM 3589; Paratypes: Pt 1, LACM 3604, 142.1 mm. N of Unimak Island (56°41.06 N, 165°51 W), 80 m (*ex-Rae Baxter*, LACM 1984-106 105.5 mm); Pt 2, SBMNH 169016, 103 mm. Wide Bay, S side of Alaska Peninsula (57°11.13 N, 156°07.03 W), 91 m (NMFS 147-200301-125); Pt 3, RNC 5031, 86.5 mm. W of Trinity Islands SW of Kodiak Island (56°41.56 N, 152°54.96 W), 71 m (94-200901-183).

Referred material: RNC 4505, 90.2 mm. Unimak Pass, N of Akun Island (54°21.19 N, 165°35.51 W), 146 m (94-199401-9); RNC 4858, 108 mm. W of Trinity Islands SW of Kodiak Island (56°41.56 N, 152°54.96 W), 71 m (94-200901-183).

Description: Shell large for genus (to 142 mm; LACM 84–106.5), elongated; whorls sub-angulate; cream to light brown, with very thin tan periostracum. Protoconch smooth, with 1.5 whorls; teleconch with 3.5 whorls; axial

sculpture variable, smooth or irregularly wrinkled; spiral sculpture usually lacking, but may have 5–8 faint spiral cords at mid-whorl. Aperture slightly more than half of shell height; canal short, narrow. Operculum less than half of aperture height, nucleus terminal.

Radula: Typical for genus, lateral teeth with two large, curved cusps; rachidian tooth with seven cusps, outer cusps much larger than, inner ones, five inner cusps small, slender, of unequal length, equally spaced.

Remarks: Kantor (1990) reviewed the Volutopsiinae, and concluded that *Volutopsius stefanssoni* Dall, 1919 (figs H–J) (along with what appears to be *V. gracilis*) was synonymous with *Volutopsius castaneus* (Mörch, 1857) (figs. 19 F–G), however Kessler (1985) had previously demonstrated that the two were distinct. Kantor also considered *Volutopsius simplex* Dall, 1907 (fig 19 J) to be a variety of *V. castaneus*, but morphologically it appears to be a smooth, round-shouldered form of *V. stefanssoni*. *Volutopsius gracilis* is very similar to *V. castaneus* with which it has long been confused, but from which it differs in 1) larger size 140+ mm compared with 100 mm for *V. castaneus*; 2) shell proportions, slender profile, aperture a little over ½ of shell height, compared with compact profile, aperture about 2/3–3/4 of shell height in *V. castaneus*; 3) Rachidian tooth with seven cusps, opposed to five in *V. castaneus*; 4) Geographic distribution, *V. gracilis* is restricted to the vicinity of the Alaska Peninsula, whereas *V. castaneus* has a much broader range, from Adak Island (177°W) east to the Kenai Peninsula (148°W). Although the type of *V. castaneus* was said to have come from Sitka, Alaska, no specimens have been verified from the eastern Gulf of Alaska (Clark, 2018). It more likely came from the vicinity Kodiak Island, or perhaps Unalaska Island. The range of *V. castaneus* appears to extend around the Bering Sea shelf to Kamchatka. 5) Bathymetric distribution, *V. castaneus* is a shallow, in shore species, commonly found at 1–35 m, and rarely below 50 m, whereas *V. gracilis* is an off-shore species, found below 70 m, and 6) Shell color *V. gracilis* is always cream to light brown, whereas *V. castaneus* may be orange-brown dark brown, tan or white.

Volutopsius gracilis forms a complex with similar (often axially sculptured) species (Clark, 2018): *Volutopsius castaneus* (Mörch, 1857), *Volutopsius stefanssoni* Dall, 1919, *Volutopsius trophonius* Dall, 1902.

Etymology: The name is from the Latin, for slender.

Distribution: Alaska Peninsula, vicinity of Unimak Pass (165°W), from north of Unimak Island, south and east to south of Kodiak Island (152°W), at depths 71–146 m.

Habitat: Mud, muddy-sand and gravel bottoms, at bottom temperatures of 4.6°–6.3°C.

Genus *Crebrivolutopsius* n. gen.

urn:lsid:zoobank.org:act:D76787CE-EE47-4CF2-A8BD-6441C5679776

Description: Profile high, suture moderately impressed; sculpture of strongly projecting spiral cords, with deeply channeled interspaces along upper part of whorl, of broad flattened spiral cords with fine interspaces below periphery, columellar callus narrow; outer lip with numerous prominent teeth along lower margin. Radula with curved rachidian tooth with four subequal cusps; lateral teeth with three cusps.

Type species: *C. labidentatus* n. sp. (HD)

Remarks: *Crebrivolutopsius* shows some anomalous characters that resemble those of the subfamily Neptuneinae, namely the comparatively small nucleus and the tricuspid lateral teeth, but the form and proportions of the shell is Volutopsiinae, so it is provisionally placed in the later subfamily.

Crebrivolutopsius labidentatus n. sp.

Figures 19 K–M

urn:lsid:zoobank.org:act:86583103-5264-45F4-87B3-2E6B7F261130

Type locality: Petrel Bank, NE of Semisopochnoi Island, Rat Ids., Aleutian Is., Alaska (52°27.6 N, 179°49.2 W); 213 m.

Type material: Holotype, CASIZ 137735, 107.6 mm. ♀ (*leg.* E. Kools, 22 June, 2000); Paratypes: PT 1, CASIZ 236192, 95.0 mm. Type locality; Pt 2, CASIZ 149894, 36.8 mm. S of Adak Island, Andreanof Ids. (51°54.6 N, 176°36.0 W), 264 m (NMFS 94-200001-173); Pt 3, SBMNH 464991, 101.3 mm. SSE of Buldir Island (52°07.07 N, 176°15.06 E) (NMFS 143-201401-163); Pt 4, LACM 3660, 72.4mm. S of Adak Island, Andreanof Ids. (51°35.21 N, 176°23.02 W), 382 m (NMFS 95-199701-152); Pt 5, LACM 3658, 69.1 mm. S of Rat Islands (51°38.2 N, 178°09.4

E), 198 m (NMFS 94-200201-129); Pt 6, RNC 4657, 81.2 mm. Petrel Bank, Rat Ids. (52°30.45 N, 179°32.4 W), 141 m (NMFS 94-200201-181); Pt 7, RNC 4658, 72.3 mm. S of Amchitka Island, Rat Ids. (51°27.08N, 178°36.14 E), 388 m (NMFS 147-200401-174); Pt 8, David P. Berschauer coll. 70.8 mm, SE of Buldir Island (52°03.1 N, 177°23.9 E), 130 m (23-1997-1-198).

Referred material: RNC 4622, 1 sp., 95.4 mm. S of Buldir Island (52°19.26 N, 175°48.64 E), 219 m (NMFS 143-200401-163); RNC 4628, 3 sp., 67.9–87.9 mm. S of Kanaga Island (51°46.57 N, 177°28.97 W), 80 m (147-200401-166); RNC 4629, 1 sp., 117.7 mm. WSW of Buldir Island (51°16.57 N, 175°19.05 E), 168 m (NMFS 94-200201-166); 1 sp., Koen Fraussen, 62.1 mm. WSW of Buldir Island (52°17.31 N, 175°20.83 E), 244 m (NMFS 147-200401-194); 1, RNC 4587, 14.18 mm. E of Buldir Island (52°19.77 N, 175°48.56 E).

Description: Shell relatively large, (to 107.5 mm, holotype) profile high, whorls rounded, with moderately impressed suture; uniformly white; periostracum lacking. Protoconch relatively small for this subfamily, 3.7–4.1 mm in diameter, two whorls; teleconch with four whorls; spiral sculpture of raised, angular ridges, with deeply channeled interspaces that are much broader than the ribs, and bearing 1–5 fine spiral lirae above the suture; basal cords with deep bifurcating incisions. Inner lip region sharply delimited, but not producing expansive parietal glaze, mature lip with moderate flare and thickening, base of columella truncate; spiral sculpture producing seven or eight projecting primary prongs or teeth, alternating with similar but smaller teeth between, on the anterior half of outer lip (Fig.19 L); canal short, broad. Operculum large, but not filling aperture; nucleus terminal.

Radula (Fig.19 M). Rachidian tooth broad, crescentic, strongly indented anteriorly, bearing four equal, stout cusps. Lateral teeth with three, well-spaced cusps, outer cusp large, thick, strongly curved; inner cusp only slightly curved, about 2/3 the length of the outer denticle; central cusp about half as long as inner cusp.

Remarks: *Crebrivolutopsius labidentatus* differs from all other known Volutopsiinae by the 1) spiral sculpture showing a peculiar difference between the upper and lower part of the whorls, 2) the relatively small protoconch when compared to the adult size, 3) the presence of apertural denticles, and 4) the narrow columellar callus. The radula also differs from most Volutopsiinae, with a more curved rachidian tooth and lateral teeth that are clearly tricuspid as in Neptuneinae, this is one of only two known species Volutopsiinae [the other is *Pyrulofusus dexius* (Dall, 1907), Clark, *pers. observ.*] with tricuspid lateral teeth. Both species are endemic to the Aleutians. This is the only known species among the northern Buccinidae with denticles on the outer lip. Perhaps this is a modification for feeding on bivalves as in some other groups. A general discussion of labial “serrations” or dentations is given in Vermeji, 2014.

Etymology: Latin, combination of *labium* “lip” and *dentatus* “toothed” in reference to the prong-like denticles at the base of the outer lip.

Distribution: Occurs throughout much of the central and western Aleutians, from S of Little Tanaga Island (176°W) to west of Buldir Island (176°20'E) at depths of 80–383 m.

Habitat: Bedrock, gravel, and cobble sand substrates, with bottom temperatures of 3.7–4.4°C.

Subfamily Buccininae Rafinesque, 1815

Diagnosis: Shell small to large (over 150 mm), oval to broadly fusiform, without siphonal canal and with siphonal notch. Protoconch paucispiral. Whorls convex to (sub)cylindrical, shouldered, sometimes with strong keel at shoulder. Shell sculpture pronounced in most cases, spiral sculpture from microscopic threads to prominent keels; axial sculpture, when present, of distinct, broad, sigmoid or arcuated axial ribs. Shell covered with ciliated periostracum, sometimes thick and forming lamellae. Aperture wide, ovate with simple outer lip. Operculum small to large, with subcentral nucleus. Radula with central tooth with broad rectangular base, notched anteriorly, and with nearly straight posterior margin with three to eight cusps; lateral teeth with three to four cusps, intermediate one much shorter than outer and inner ones (after Kantor *et al.* 2022).

Remarks: This family is only partially treated in this report. Only two very distinctive new genera and a few of the more remarkable new species are described. A more comprehensive study of this subfamily from the Aleutians is in progress.

In The Aleutian Islands 26 species in four genera are recognized, including two new genus and seven new species. Additionally, at least seven more as yet undescribed species are known from the Aleutians, but are the subject of another report.

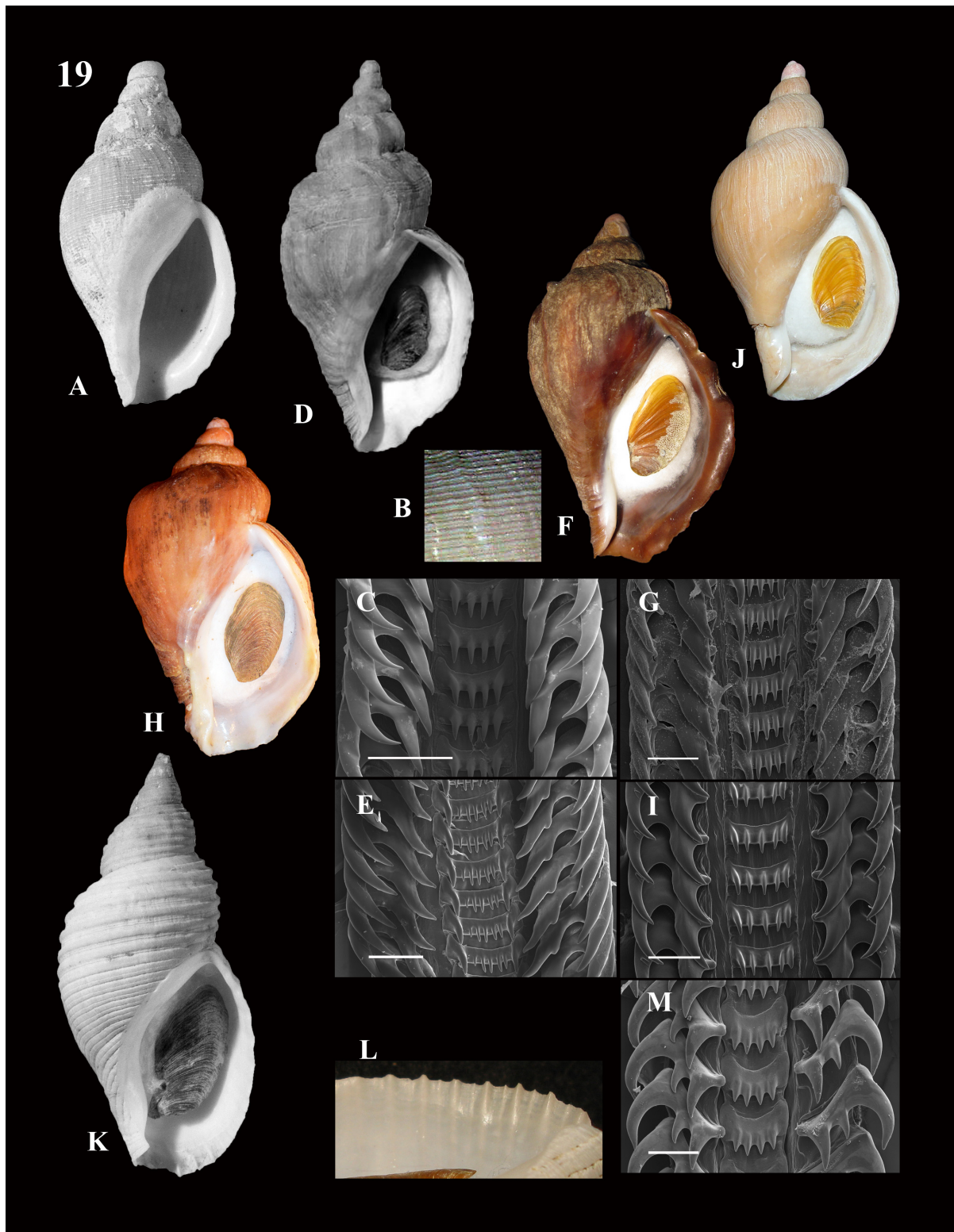


FIGURE 19. A–C. *Volutopsius nanus* n. sp.; A. Holotype, 3588, SW of Buldir Island, 325 m, 35.6 mm; B. Holotype, close-up of sculpture; C. Radula, Paratype, RNC 4711, bar = 200 μ m; D, E. *Volutopsius gracilis* n. sp. D. Holotype, LACM 3589, N of Unimak Island, 80 m, 142.1 mm; E. Radula, Paratype, RNC 5031, bar = 200 μ m; F, G. *Volutopsius castaneum* (Mörch, 1857); F. RNC 4801, Adak Island, 13 m, 76.2 mm; G. Radula, RNC 4801, bar = 200 μ m; H, I. *Volutopsius stefanssoni* Dall, 1919; H. RNC 5038, Chukchi Sea, 42 m, 79.0 mm; I. Radula, RNC 4272, bar = 200 μ m; J. *Volutopsius stefanssoni* var. *simplex*, RNC 4005, N of Shemya Island, 115 m, 99.6 mm; K–M. *Crebrivolutopsius labidentatus* n. sp. K. Holotype, CASIZ 137734, Petrel Bank, 213 m, 107.6 mm; L. RNC 4658, close-up of labial teeth, S of Amchitka Island, 388 m, 72.3 mm; M. Radula, RNC 4658, bar = 200 μ m.

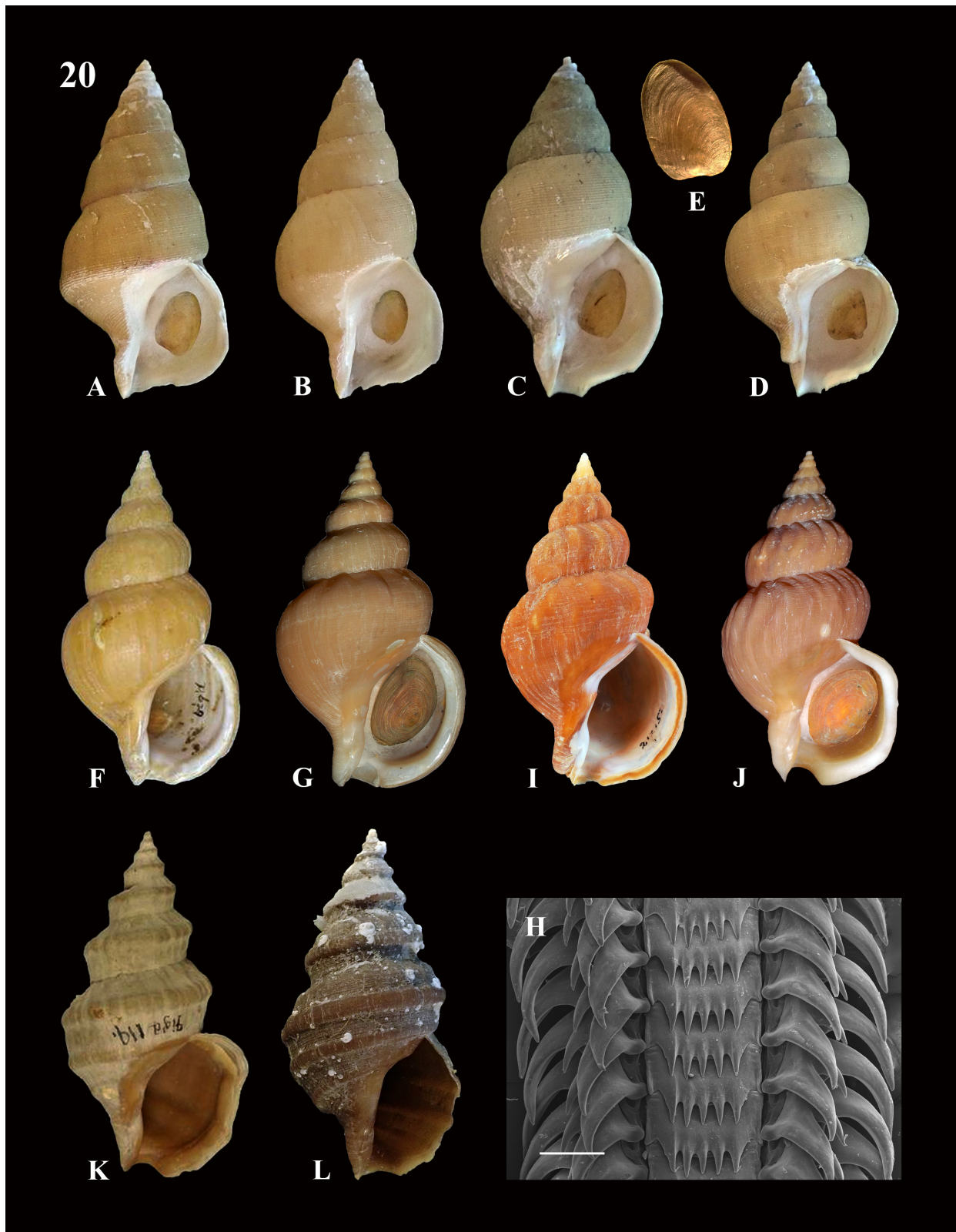


FIGURE 20. A–E. *Aleutibuccinum clarki* (Kantor & Harasewych, 1998); A. Paratype, RNC 3924, S of Attu Island, 169 m, 50.7 mm; B. RNC 3925, S of Attu Island, 169 m, 50.1 mm; C. RNC 4371, E of Segula Island, 336 m, 55.6 mm; D. RNC 3962, Seguam Pass, 235 m, 61.1 mm; E. operculum from RNC 3924 (fig. 20 A); F–H. *Castaneobuccinum castaneum* Dall, 1877; F. Holotype, USNM 108973, Shumagin Islands, 36 m, 65 mm; G. RNC 4722, Tanaga Island, 90 m, 69 mm; H. Radula, RNC 4722, bar = 200 μ m; I, J. *Castaneobuccinum fluctuatum* Dall, 1919; I. Holotype, USNM 205916, Bering Sea, off Saint George Island, 54 m, 90 mm; J. RNC 4731, Petrel Bank, 91 m, 78 mm; K, L. *Castaneobuccinum triplostephanum* Dall, 1919; K. USNM 108974, Kiska Island, 9 m, 75 mm; L. RNC 5054, SE of Buldir Island, 51 m, 63.8 mm.

Genus *Aleutibuccinum* n. gen.

Figures 20 A–E

urn:lsid:zoobank.org:act:4FFF4DE6-E1F3-4DCF-A324-1814FB1C113F

Type species: *Bathybuccinum clarki* Kantor & Harasewych, 1998 (n. comb.)

Description: Medium size (height to 7 cm); Profile high, whorls rounded to angulate; spiral sculpture of fine lirae, axial sculpture absent; mature lip slightly flared; operculum sub-triangular with lateral nucleus.

Remarks: Kantor & Harasewych (1998) Originally placed *Aleutibuccinum clarki* in the genus *Bathybuccinum* (Golikov & Sirenko, 1988) subgenus *Ovulatibuccinum* (Golikov & Sirenko, 1988) but it is clearly distinct from both of these groups. The unique operculum sets this genus apart from all other North Pacific Buccininae. At present, the *Aleutibuccinum clarki* is the only species assigned to this genus.

Genus *Castaneobuccinum* n. gen.

urn:lsid:zoobank.org:act:F667ACB5-7A95-4E0F-AAF4-5FD12D0BA7F5

Type species: *Buccinum castaneum* Dall, 1877 (n. comb.)

Description: Profile tall, moderately broad, whorls rounded, suture deeply impressed, color light to dark chestnut brown (rarely white); shell surface devoid of periostracum, shell thick and heavy, the result of a calcitic exterior layer; with sharply incised, spiral microsculpture, with or without initial carination in early teleconch; final lip inflated, heavily reinforced, with broad anal sinus on shoulder. Operculum with concentric growth, nearly filling aperture.

Remarks: Three previously described varieties of *Buccinum castaneum* are herein regarded as distinct species. Based on morphology and sympatric distribution, and placed in *Castaneobuccinum*. *Buccinum castaneum* (Figs. 20 F–H), which lacks axial sculpture or has only weakly indicated axial folds near the suture, *Buccinum castaneum* var. *triplostephanum* Dall, 1919 (Figs. 20 K–L) lacks axial sculpture, but has three (rarely four) low, broad, strong spiral cords, and *Buccinum castaneum* var. *fluctuatum* Dall, 1919 (Figs. I–J) which has 14–18 relatively strong, often prosocline axial folds. *Buccinum castaneum* var. *incisulum* Dall, 1919 is considered a synonym of this last species. These and four presently described species form a unique complex that is endemic to the Aleutian and Pribilof Islands. They are distinguished from all other *Buccinum* (*s.l.*) by 1) thickly reinforced outer lip of the aperture, 2) lack of periostracum, and 3) typically dark brown coloration. Seven species are recognized, all in the Aleutians.

Castaneobuccinum orri n. sp.

Figures: 21 A–C

urn:lsid:zoobank.org:act:B22E8952-8D0E-4E9B-AF87-EC4A05D62959

Type locality: N of Cape Shaw, NE side of Atka Island, Andreanof Ids., Aleutian Is., Alaska (52°22.55 N, 173°58.60 W), 80 m. (Rae Baxter, sta. 86–317).

Type material: Holotype, LACM 3590 (*leg.* Rae Baxter, 6 August, 1986). 53.8 mm; Paratypes: Pt 1, SBMNH 169017, 56.5 mm, Adak Island, Andreanof Ids. (51°45.35 N, 176°25.43 W), 11 m (AKALE07-A0021); Pt 2, RNC 4554, 61.0 mm, Adak Island, Andreanof Ids. (51°45.35 N, 176°25.43 W), 11 m (AKALE07-A0021).

Referred material: 1, RNC 4219, 43.3 mm. Petrel Bank (52°04.15 N, 179°41.63 E), 74 m (NMFS 143-201001-146); 1, RNC 4072, 10.5 mm. W of Tanaga Island (51°44.5 N, 178°07.68 W), 95 m (NMFS 23-199701-137); 1, RNC 4023, 54.6 mm. S of Atka Island (51°52.62 N, 174°33.61 W), 147 m (NMFS 23-199701-95).

Description: Shell moderately large (to 61 mm, RNC 4554), sturdy, tall spired; chestnut brown. Protoconch with 2.5 whorls; teleconch with five or six whorls, suture well impressed; axial sculpture lacking; spiral sculpture consisting of a single (often nodulose) mid-whorl cord, beginning as a carination, in the early teleconch, and numerous fine spiral incisions. Aperture large, oval, much less than half of shell height. Outer lip inflated, heavily reinforced, forming broad shallow sinus on upper part of whorl; canal very short, broad.

Radula: Rachidian tooth broad, rectangular, bearing five spaced, equal length cusps; Lateral teeth tricuspid, outer cusp large, heavy, strongly curved, inner small, slender, only slightly curved, outer cusp much larger than inner one, slightly curved.

Remarks: The single broad spiral cord separates this species from all of its congeners.

Etymology: The name honors Dr. James W. Orr, Ichthyologist, Alaska Fisheries Science Center (retired) for his many years of assistance in securing mollusk specimens from NOAA/NMFS Alaska trawl surveys.

Distribution: Central Aleutians, Andreanof Ids., where it has been found from Atka Island (174°W) to Tanaga Island (178°W), at depths of 15–147 m.

Habitat: Cobble and sand bottoms, at temperatures of 5.1–6°C.

***Castaneobuccinum lauthi* n. sp.**

Figures: 21 D–F

urn:lsid:zoobank.org:act:10A35EEE-3C55-4146-A37D-54FE5706AD4C

Type locality: Petrel Bank, N of Semisopochnoi Island, Rat Ids., Aleutian Is., Alaska (51°53.53 N, 179°44.6 E) (Rae Baxter 86–235), 121 m.

Type material: Holotype, LACM 3591 (*leg.* Rae Baxter, 30 August, 1986); Height 76.4 mm; Paratypes: Pt 1, SBMNH 169020, 76.7 mm. Petrel Bank, rat Ids. (51°54.57 N, 179°45.58 E), 87 m. (NMFS 148-201001-134); Pt 2, RNC 4011, 71.6 mm. Petrel Bank, Rat Ids. (52°09.58 N, 179°42.62 E), 94 m. (NMFS 94-1994-153).

Referred material: 3, RNC 4024, 58.8–67.1 mm. Petrel Bank, Rat Ids. (52°04.15 N, 179°41.34 E), 74 m. (NMFS143-201001-146); 2, RNC 4157, 42.2–51.8 mm. S of Herbert Island, Islands of Four Mountains (52°32.6 N, 170°05.37 W), 237 m. (NMFS 57-200201-46); 1, RNC 4117, 69.4 mm. S of Buldir Island (51°57.8 N, 176°01.7 E), 71 m. (NMFS 23-200001-226).

Description: Shell relatively large (to 76 mm, SBMNH 169020), sturdy, tall spired; chestnut brown. Protoconch with two whorls; teleconch with six to seven whorls, early teleconch with 2–3 ribs; suture well impressed. Axial sculpture of sinuous, narrow undulations on shoulder, and forming broad nodes on major cords. Spiral sculpture of broad, strongly projecting cords, to three or four above the suture and four to eight on the base of the whorl; entire surface with finely incised spiral striations of slightly irregular spacing and not as deeply incised where positioned on major spiral cords. Aperture large, oval, a little more than 1/3 of shell height; outer lip inflated, forming broad, shallow sinus on upper part of whorl; lip edge strongly reinforced.

Radula: Rachidian tooth broad, subquadrate, excavated anteriorly and bearing six sub-equal cusps arranged in three divergent pairs; Lateral teeth large, tricuspid, outer cusp large, curved, pointed, central cusp much shorter, slender, sharply pointed, inner cusp blade-like, about three times as broad central cusp.

Remarks: The three or four spiral cords on the spire separate this species from its congeners.

Etymology: The name honors Robert R. Lauth, Fisheries Biologist, NOAA/NMFS [Alaska Fisheries Science Center (retired)].

Distribution: Central Aleutians, from Petrel Bank, N of Semisopochnoi Island (179° W) to vicinity of Buldir Island (176°E), at depths of 71–95 m.

Habitat: Found on sand and gravel bottoms, at temperatures of 4.1–5.1°C.

***Castaneobuccinum clinopsis* n. sp.**

Figures 21. G–I

urn:lsid:zoobank.org:act:A2CDD97A-BDB8-4C45-A7EA-F2D4C495429B

Type locality: SE of Agattu Island, Near Ids., Aleutian Is., Alaska (51°52.0 N, 174°55.6 E), 157 m. (NMFS 143-200401-86).

Type material: Holotype, LACM 3592. R/V *Sea Storm* (*leg.* R. N. Clark, 29 June, 2004); Height 79.3 mm; Paratypes: Pt 1, SBMNH 169018, 81.2 mm. Petrel Bank, Rat Ids. (52°09.58 N, 179°42.62 E), 92–94 m. (94-199401-153); Pt 2, SBMNH 169019, 89.3 mm. Adak Island, Kagalaska Strait, Andreanof Ids. (51°45.35 N, 176°25.43 W), 11m. (AKALE07-A0021); Pt 3 & 4, RNC 4624, 73.4 & 83.7 mm. Lucky Point, Kuluk Bay, Adak Island, Andreanof Ids. (51°51.9 N, 176°35.36 W), 13 m.

Referred material: 6, RNC 4693, 18.2–86.0 mm. Adak Island, Kagalaska Strait, Andreanof Ids. (51°46.5 N, 176°25.43 W), 12–15 m; 1, RNC 4567, 57.3 mm. S of Atka Island, Andreanof Ids. (51°52.4 N, 174°31.9 W), 146 m.

Description: Shell relatively large (to 90 mm), sturdy, tall spired; chestnut brown to cream; protoconch with 2 whorls teleconch with 6–7 whorls, suture moderately impressed; axial sculpture lacking or represented by 16–20+ low, folds on shoulder; spiral sculpture of narrow, well-defined shoulder cord, and one lesser subsutural cord; surface

smooth or with finely incised spiral striations of slightly irregular spacing. Aperture large, oval, more than 1/3 of shell height; lip inflated, forming broad shallow sinus on upper part of whorl; lip edge massively reinforced.

Radula: typical for genus, rachidian tooth with 5 sub-equal cusps, the outer two slightly thicker and set back somewhat from the medial three; Lateral teeth large, tricuspid, outer cusp very large, strongly curved; central cusp much smaller, curved, separated from inner cusp by a deep notch; inner cusp shorter and broader than outer cusp, about twice as long and three times as broad as central cusp.

Remarks: This may prove to be two similar but distinct species. Specimens from the Near Islands (type locality) tend to be thinner shelled and have less coarse spiral ribs, and lack the shoulder undulations present in many specimens from the central Aleutians. The two well-spaced spiral ribs separate this species from its congeners.

Etymology: From the Greek *clino*, “slope” in reference to the shoulder.

Distribution: Central and western Aleutian Islands, from Petrel Bank, NE of Semisopchnoi Island, Rat Ids. (178°W) to Near Islands (172°E), at depths of 5–180 m.

Habitat: found on sand gravel and cobble bottoms, with bottom temperatures of 3.3–5.3°C.

***Castaneobuccinum pagodaformis* n. sp.**

Figures: 21 J–L

urn:lsid:zoobank.org:act:33993961-8A73-429B-8992-3D8BB5DA8AB0

Type locality: Amutka Pass, Aleutian Ids., Alaska (52°29.4 N, 171°), 469 m. (23-200001-52).

Type material: Holotype, LACM 3593, 64.0 mm. (*leg.* K. Maslenikov, 31 May, 2000) Paratypes: Pt 1, LACM 3662, 37.5 mm (type locality); Pt 2, SBMNH 183015, 54.5 mm. (type locality); Pt 3, LACM 3661, 50.4 mm. S of Agattu Island, Near Ids. (52°19.15 N, 173°29.8 E), 93 m (RB 86–211); Pt 4, RNC 4231, 79.5 mm. Petrel Bank, Rat Ids. (52°05.67 N, 179°22.78 E), 312 m. (NMFS 94-200201-174).

Referred material: 1, RNC 4671, S of Buldir Island (51°57.82 N, 176°01.82 E). (NMFS 147-200401-188) 72 m, 62.5mm.

Description: Shell relatively large for genus (to 80 mm, RNC 4231), tall spired, strongly keeled; dark brown with lighter tone on spiral cords. Protoconch with two whorls; teleconch with six to seven whorls. Axial sculpture lacking. Spiral sculpture dominated by one strongly projecting shoulder cord beginning as a sharp carination on the first teleconch whorl, becoming T-shaped in cross-section on adult whorls; shoulder ramp convex. A second cord of lesser strength just above the suture; base with one weaker cord; entire surface with incised spiral striae. Aperture large, oval, about 1/3 of shell height; outer lip massively thickened, with indentation reflecting the cords, and broad, shallow sinus on shoulder; canal very short, narrow.

Radula: Typical for genus, rachidian tooth sub-rectangular, posterior edge strongly indented; bearing five uniform, well-spaced cusps. Lateral teeth large tri-cuspid, Outer cusp long, slender, curved; middle cusp about half the length of the outer one, slender; inner cusp about 2/3 as long as outer one, very broad, curved.

Remarks: This species shows strong similarities with *Casteobuccinum triplostephanum* (Dall, 1919), but differs in the much stronger ribs, the primary one (and sometimes the sutural one) of which is T-shaped in section, as well as in the details of the radular teeth.

Etymology: Named for its pagoda-like form.

Distribution: Central and western Aleutians, Seguam Pass, SE of Seguam Id. (170°30 W) to S of Agattu Id., Near Ids. (173°30 E). 72–469 m.

Habitat: Sand, gravel and cobble bottoms with a bottom temperature of 3.7–3.8°C.

Genus *Sulcosinus* Dall, 1895

Type species: *Buccinum taphrium* Dall, 1891 (by OD)

Description: Periostracum relatively thick, light olive, adherent, shiny or with very fine rows of microscopic bristles; shoulder subangulate, whorls rounded below strongly tabulate shoulder, suture deeply impressed. Apical whorls depressed. Axial sculpture lacking; spiral sculpture of early teleconch with sharply incised striations, becoming obsolete in later whorls; mature sculpture of low, somewhat irregular, slanted ridges; siphonal canal lacking, aperture deeply notched at base of pillar; lip thickened and slightly flared; lip may be continuous posteriorly across anal sinus, with continuous, offset parietal shield.

Radula typical of buccininae, rachidian tooth with multiple cusps (3–4), lateral teeth with three cusps. Operculum large, nearly filling aperture, nucleus sub-terminal.

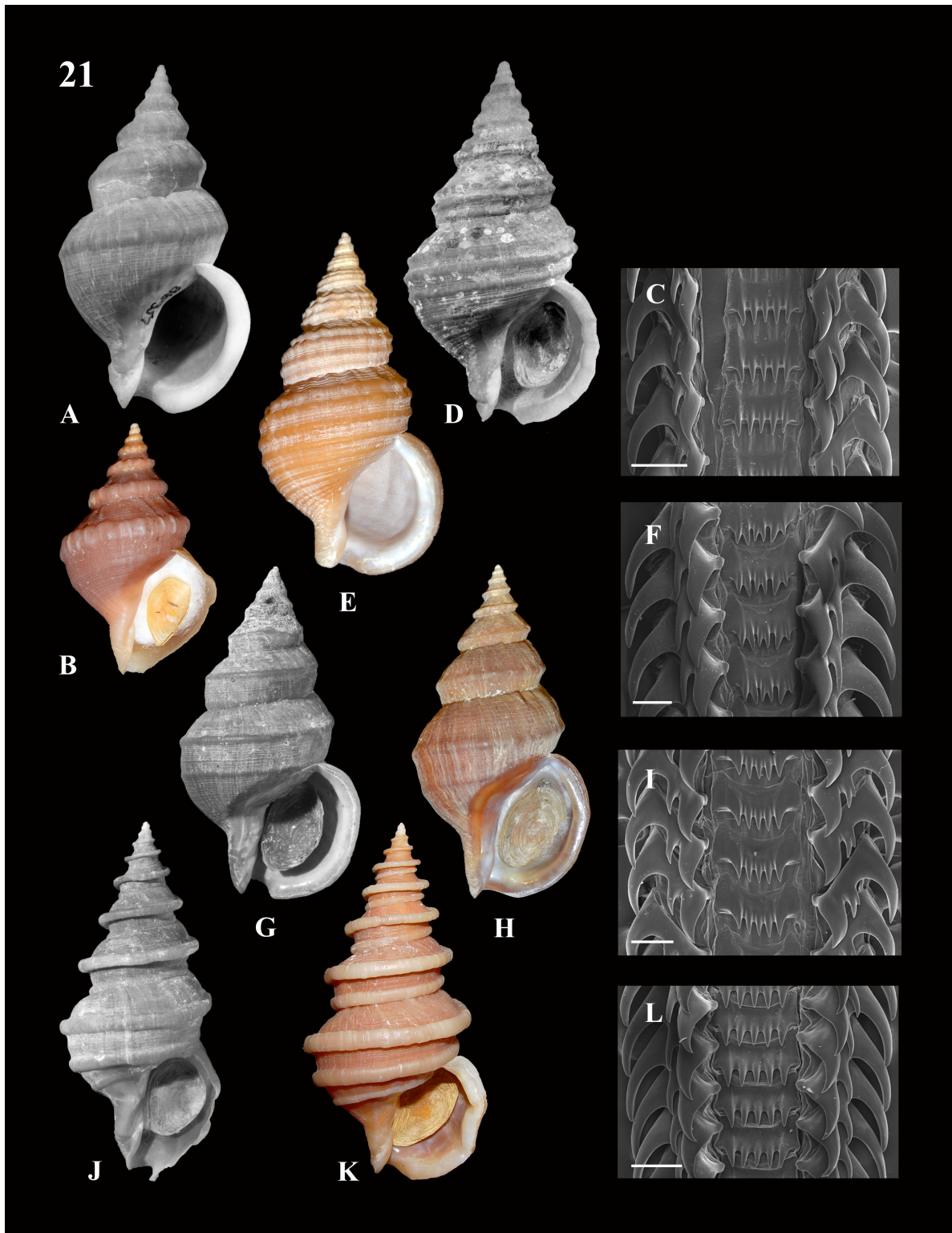


FIGURE 21. A–C. *Castaneobuccinum orri* n. sp.; A. Holotype, LACM 3590, NE of Atka Island, 80 m, 53.8 mm; B. RNC 4219, Petrel Bank, 43.3 mm; C. Radula, Paratype, RNC 4554, bar = 200 μ m; D–F. *Castaneobuccinum lauthi* n. sp.; D. Holotype, LACM 3591, Petrel Bank, 121 m, 76.4 mm; E. Paratype, RNC 4011, Petrel Bank, 94 m, 71.6 mm; F. Radula, Paratype, SBMNH 169020, bar = 200 μ m; G–I. *Castaneobuccinum clinopsis* n. sp.; G. Holotype, LACM 3592, SE of Agattu Island, 157 m, 79.3 mm; H. Paratype, RNC 4624a, Adak Island, 13 m, 73.4 mm; I. Radula, RNC 4624b, bar = 200 μ m. J–L. *Castaneobuccinum pagodaformis* n. sp.; J. Holotype, LACM 3593, Amutka Pass, 469 m, 64.0 mm; K. Paratype, RNC 4231, Petrel Bank, 312 m, 79.5 mm; L. Radula, Paratype, RNC 4671, bar = 200 μ m.

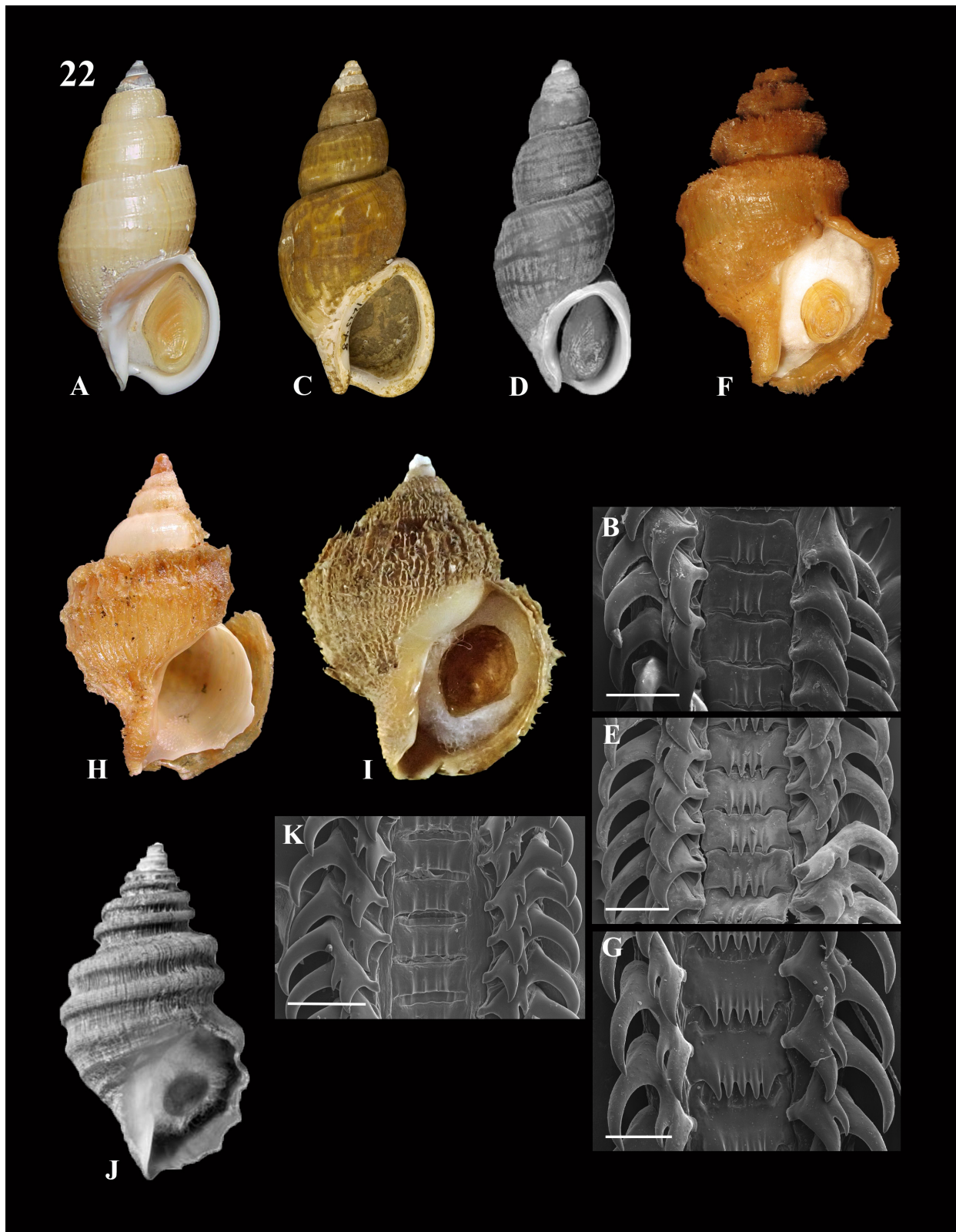


FIGURE 22. **A, B.** *Sulcosinus carinatus* n. sp. **A.** Holotype, LACM 3594, S of Kiska Island, 470 m, 46.8 mm; **B.** Radula, Holotype, bar = 200 μ m; **C–E.** *Sulcosinus taphrium* (Dall, 1891); **C.** Holotype, USNM 122548, N of Akutan Island, 642 m, 42 mm; **D.** RNC 4000, SW of Saint George Island, 485 m, 45.5 mm; **E.** Radula, RNC 4000, bar = 200 μ m; **F, G.** *Buccinum lanatum* n. sp.; **F.** Holotype, SBMNH 169021, SW of Herbert Island, 238 m, 42 mm; **G.** Radula, Holotype, bar = 200 μ m; **H.** *Buccinum tunicatum* Golikov & Gulbin, 1977, Holotype ZIN 26225/1, Urup Island, Kurile Is., Russia, 48 m, 27 mm; **I.** *Buccinum fringillum* Dall, 1877, RNC 4824, Chukchi Sea, 22 m, 23 mm; **J, K.** *Buccinum katharinae* n. sp.; **J.** Holotype, LACM 3595, Amutka Pass, 325 m, 29.2 mm; **K.** Radula, Holotype, bar = 200 μ m.

***Sulcosinus carinatus* n. sp.**

Figures: 22 A–B

urn:lsid:zoobank.org:act:AA00F113-8188-4B1D-A4ED-9D2B17F1A56D

Type locality: S of Kiska Island, Rat Ids., Aleutian Is., Alaska (51°33.71 N, 178°20.98 E) (94-1994-1-165), 470 m, R/V *Vesteraalen* (*leg.* Theresa Turk, 18 July, 1994).

Type: Holotype, LACM 3594 R/V *Vesteraalen* (*leg.* Theresa Turk, 18 July, 1994).

Description: Shell to 46.8 mm, periostracum thin, closely adherent, yellowish green, shiny. Six whorls, protoconch (one whorl), and first two teleconch whorls low; later whorls only slightly inflated; suture moderately deep, channeled by sharp shoulder angulation and narrow shoulder shelf. Early teleconch sculpture of microscopic spiral cords, fading on later whorls. Axial sculpture absent except for growth lines. Spiral sculpture of mature shell of low, mostly slanted, narrow cords, five on penultimate whorl; two or three obsolete cords on base. Aperture a little more than 1/3 of shell height, acutely angled posteriorly, outer lip thickened, inflated, extending below anterior tip of columella; inner lip not projecting, fasciole extending in curve from base of columella to midway across columella; shell surface smooth in advance of aperture.

Radula: Rachidian tooth broad, rectangular, anterior corners rounded, anterior edge indented, posterior edge bearing three short, spaced cusps. Lateral teeth large, tricuspid, outer cusp long, thick, strongly curved; middle cusp short, less than half the length of outer one, slender, set very close to inner cusp; inner cusp thick, about 3/4 length of outer one.

Remarks: This species strongly resembles *Sulcosinus taphrium* (Dall, 1891) (figs 22 C–E), but differs in 1) the sharp angulation of the shoulder, 2) the lack of a raised, thickened inner lip and 3) lack of microscopic bristles on the periostracum. The Rachidian tooth of *S. taphrium* has four long cusps compared to three short cusps in *S. carinatus*.

Etymology: The name emphasizes the precision of the sharply angulate shoulder.

Distribution: Aleutian Islands, S of Kiska Island, 470 m. Known only from the holotype.

Habitat: Unknown, probably volcanic sand and gravel, typical of the area.

Genus *Buccinum* Linnaeus, 1758

Type species: *Buccinum undatum* Linnaeus, 1758 (SD, Monfort, 1810).

Diagnosis: Small to large shells, 15–140+ mm; thin to thick, with rounded to flat-sided whorls, aperture large, canal very short; white to tan; periostracum thin to thick and pilose; operculum small to large, round or oval, concentric, with central or lateral nucleus. Radula: Rachidian tooth with 3–7 cusps, Lateral teeth with three cusps.

***Buccinum lanatum* n. sp.**

Figures: 22 F–G

urn:lsid:zoobank.org:act:220DC21A-C6D3-4EAA-A3F8-B9EE43935367

Type locality: SW of Herbert Island, Islands of Four Mountains, Aleutian Is., Alaska. 238 m (52°38.8 N, 170°12.5 W) (NMFS 176-2016-1-29), R/V Ocean Provider (*leg.* R. Lauth, 13 June, 2016).

Type material: Holotype, SBMNH 169021

Description: Shell of moderate size, to 42 mm, thin, fragile, poorly calcified; profile broad, shoulder subtabulate; pical whorls missing; sculpture apparently lacking, shell surface obscured by periostracum. Periostracum yellowish-brown, very thick, lamellar, bearing short bristles; forming three broad, raised spiral ridges, with axil rows of 6–12 short bristles largest at the shoulder, two similar, smaller rows on the base. Operculum, small, about ¼ as large as the aperture, nucleus lateral.

Remarks: *Buccinum lanatum* is unusual among the “*Buccinum*” group with its very fragile, poorly calcified shell and thick, lamellar periostracum. *B. lanatum* is similar to *B. tunicatum* (Golikov & Gulbin, 1977) (fig 22 H), of the Kurile Islands, but differs in the number and nature of the spiral setal ridges. The two species are separated by about 3000 km. This is yet another of the many rare and unique buccinids from the central Aleutians. Another species, *B. fringillum* (Dall, 1877) (fig 22 I) is known from the Bering and Chukchi Sea’s, but differs in lacking the three pronounced spiral cords. These species make up the subgenus *Thysanobuccinum* Golikov & Gulbin, in Golikov, 1980.

Etymology: The species name *lanatum* is from the Latin for woolly or velvety.

Distribution: Known so far only from the type locality, apparently another short-range endemic of the central Aleutians.

Habitat: Unknown.

***Buccinum katharinae* n. sp.**

Figures 22 J–K

urn:lsid:zoobank.org:act:5A5BB458-A058-4D3E-AE28-42E6FB466638

Type locality: Amutka Pass, SE of Seguam Island, Aleutian Is., Alaska (52°22.5 N, 171°20.26 W) (NMFS 23-2000-1-83), 325 m.

Type material: Holotype, LACM 3595, 29.2 mm; Paratype, Pt 1, RNC 5061, 34.8 mm. N of Carlisle Island, Islands of four Mountains (53°04.73 N, 170°08.43 W), 177 m. (NMFS 148-2022-1-32).

Description: Shell relatively small (to 35 mm, RNC 5061) whorls rounded, suture moderately impressed; shell brown with lamellar, brown periostracum; protoconch with 1.5 whorl, 4.5 teleconch whorls. Axial sculpture lacking, spiral sculpture of two strongly projecting spiral cords on spire; interspaces of equal width, deeply channeled, surfaces of cords and interspaces with microscopic, raised lirae; base with three additional cords of lesser strength, suture laid on uppermost of these. Lip of holotype thin, immature; lip; paratype specimen with a complete, but lip, which is scarcely if at all thickened. Operculum small, filling about 25 % of aperture.

Rachidian tooth rectangular, with four short, weak cusps; Lateral teeth tri-cuspid, Outer cusp very long, curved; widely spaced from central and inner cusps; central cusp very small, less than half as long and broad as inner cusp; inner cusp about half as long as outer one, slightly curved.

Remarks: For many years this unique species was known only from the holotype, but during the review process a second specimen was recovered. *Buccinum katharinae* is similar to *Buccinum eugrammatum* Dall, 1907, but differs in 1) the fewer spiral cords, two on spire, and five total compared with five on spire and eight total in *B. eugrammatum*, and 2) lack of periostracum in *B. eugrammatum*.

Etymology: Named for Katharine Pearson Maslenikov, taxonomist, at the University of Washington, who collected the holotype.

Distribution: Central Aleutian Islands, Amutka Pass (171°20 W), to the Islands of four Mountains (170° W), at depths of 177–325 m.

Habitat: Volcanic sand and mud bottoms.

DISCUSSION

The high degree of endemism in the Aleutians Islands is remarkable. This is particularly evident in the family Buccinidae. From 1994 to 2022, many hundreds specimens were examined. Previously about 47 described species of Buccinidae were known from the Aleutian Islands. The subfamily Parancistrolepidinae: was represented by five species in two genera, *Ancistrolepis eucosmius* Dall, 1891 and *Ancistrolepis bicinctus* Dall, 1919, *Pseudoliomesus canaliculata* (Dall, 1874), *P. nux* (Dall, 1877) [here in considered distinct from *P. ooides* (Middendorff, 1848) on the basis of shell characters], and *P. nassula* (Dall, 1901). The addition of *Boreancistrolepis excelsus* raises the number to six. Seven species in two genera of Beringiinae were known from the Aleutians: “*Beringius*” *aleuticus* Dall, 1895 (herein re-assigned to the genus *Aleutijapelion*), *Beringius crebricostatus* Dall, 1877, *B. kennicottii* Dall, 1871, *B. incisus* Dall, 1907, *B. behringi* (Middendorff, 1848), *B. undatus* Dall, 1919; and “*Neoberingius*” *frielei* (Dall, 1895). To this we add two new genera and 11 new species, bringing the total to 18 species. Neptuneinae was known in the Aleutians by 12 species in two genera: *Aulacofusus brevicauda* (Deshayes, 1832), *A. periscelidus* (Dall, 1891), *A. herendeenii* (Dall, 1899), and *A. calathus* (Dall, 1919); *Neptunea borealis* (Philippe, 1850), *N. lyrata* (Gmelin, 1791), *N. ventricosa* (Gmelin, 1791), *N. pribiloffensis* (Dall, 1919), *N. insularis* (Dall, 1895), *N. meridionalis* Smith, 1971, *N. amianta* (Dall, 1890), and *N. mcleani* Clark, 2020. The addition of 12 species in three genera doubles the total, to 24 species in three genera. Volutopsiinae in the Aleutians was represented by ten species in three genera: *Volutopsius middendorffi* (Dall, 1891), *V. castaneus* (Mörch, 1858), *V. regularis* Dall, 1873, *V. fragilis* (Dall, 1891),

V. pallidus Tiba, 1973, *V. stefanssoni* Dall, 1919; *Lussivolutopsius filus* (Dall, 1919); *Pyrulofusus melonis* (Dall, 1891), *P. harpa* (Mörch, 1858), and *P. dexius* (Dall, 1907). To this we add three new species in two genera (one new). Buccininae is by far the most abundant and species rich subfamily in the Aleutians, with at least 19 species in three genera previously recorded: *Buccinum bearii* (Middendorff, 1858), *B. parallelum* Dall, 1918, *B. rondinum* Dall, 1919, *B. scalariforme* Möller, 1842, *B. ciliatum* (Fabricius, 1780), *B. plectrum* Stimpson, 1865, *B. timetus* (Dall, 1919), *B. sigmatopleura* Dall, 1907, *B. eugrammatum* Dall, 1907, *B. simulatum* Dall, 1907, *B. picturatum* Dall, 1877, *B. cnismatum* Dall, 1907, *B. bulimuloideum* Dall, 1907, *B. aleuticum* Dall, 1895; *Aleutibuccinum clarki* (Kantor & Harasewych, 1998); *Castaneobuccinum castaneum* (Dall, 1877), *C. fluctuatum* (Dall, 1919), *C. triplostephanum* (Dall, 1919); *Sulcosinus taphrium* (Dall, 1891). The addition of seven new species brings the total to 26 species in four genera. The new species brings the total for the five subfamilies in the Aleutian fauna to 81 species. This number is limited to species found above 500 meters, as more and deeper sampling is undertaken, we expect this number to increase. Nearly all of the new species are endemic to the Aleutians, and 31 species are short range endemics, known only from one or a few islands, chiefly in the central Aleutians. Five species, *Beringius maristempestus*, *Neptunea jewetti*, *Sulcosinus carinatus*, *Buccinum lanatum* and *Buccinum katharinae* are presently known from only one or two specimens each. Nearly every year that surveys are undertaken in the Aleutians new species are recovered. The several hundred specimens examined in this study were primarily taken as bycatch in commercial type fish trawls, during resource assessment surveys, and it is clear that a more comprehensive sampling of the region with more efficient benthic sampling gear is needed.

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