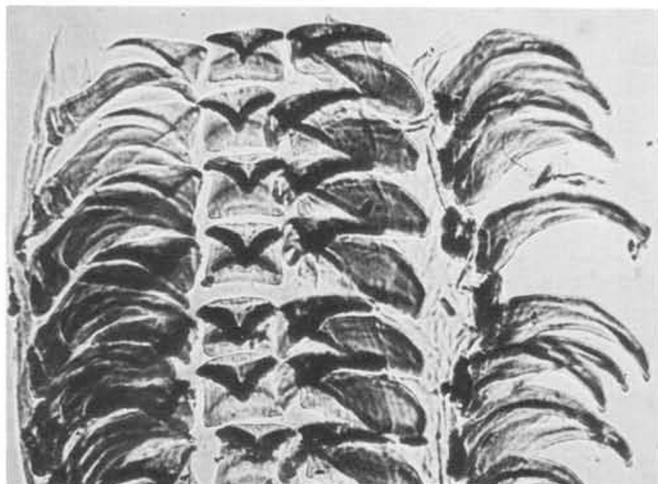
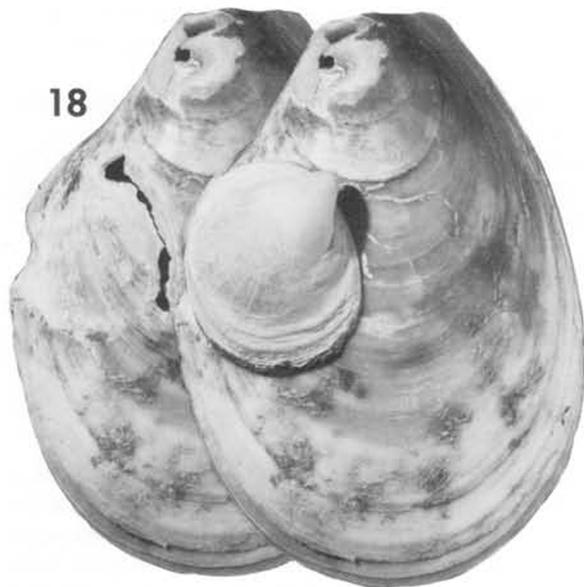




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17



18



19



20

Figures 16 through 20, *Capulus ungaricoides* and *C. chilensis*.

Figures 16 through 19, *C. ungaricoides*. Figure 16, preserved but retracted animal attached to shell, LACM 72487, 300-400 m off Los Vilos, Chile, diameter 24.4 mm. Figure 17, radular ribbon, LACM 72487, 300-400 m off Los Vilos, Chile, both pairs of marginal teeth on right side of ribbon folded to the right, width of field 0.9 mm. Figure 18, two views, LACM 72488, attached to left valve of *Acesta patagonica*, right view with *Capulus* in place, left view showing attachment scar and indentation in host shell corresponding to position of pseudoproboscis, 450 m off Coquimbo, Chile, length of *Acesta* 107.3 mm, diameter of *Capulus* 39.6 mm. Figure 19, body of specimen in Fig. 18, showing the folded edge of the brood sac. Figure 20, *C. chilensis*, paratype, USNM 96926, "Albatross" station 2781, 636 m "off the Chilean coast," diameter 8.4 mm.

terial at length; her synonymy is not repeated here. Although two names for the Chilean species, *F. magellanicus* and *F. cancellatus*, have been used inconsistently by subsequent authors, Cernohorsky (1977) has recently shown that *F. magellanicus*, credited to Roeding, 1798, has priority over *F. cancellatus*, credited to Lamarck, 1816.

Fusitriton magellanicus (Roeding, 1798)
Figures 21-23

Neptunea magellanica Roeding, 1798:116.

Fusitriton magellanicus, Cernohorsky, 1977:107, fig. 3.

Triton cancellatus Lamarck, 1816:4.

Fusitriton cancellatus, Smith, 1970:475, pl. 42, figs. 4-10.

DESCRIPTION. Shell large, whorls six, rounded. Periostracum thick and bearing projecting hairs. Varices irregular, more frequent in juvenile stages, the mature lip marked by a final varix. Axial sculpture strongest on early whorls, nearly lacking on final whorl. Spiral cords low, with broad, shallow interspaces.

Dimensions: height 94.0 mm, diameter 47.3 mm (Fig. 21); height 85.1 mm, diameter 43.6 mm (Fig. 22).

Animal: Smith (1970, text fig. 2c) gave a sketch of the mantle cavity.

Radula (Fig. 23): typically taenioglossate, rachidian and lat-

eral finely denticulate. See also Smith (1970, text fig. 3d).

MATERIAL. Chile: Los Vilos (LACM), Punta Salinas (LACM), Caleta Molles (LACM, Fig. 21), Pupudo, Zapallar, Algarrobo, Punta Penablanca (LACM), Punta Topocalma (LACM). Specimens examined: 32.

TYPE MATERIAL AND TYPE LOCALITY. Type material unknown, type locality presumed to be the Strait of Magellan.

DISTRIBUTION. Los Vilos, Chile (31°56'S), to Tierra del Fuego; north in the Atlantic to Sarita, Rio Grande do Sul, Brazil (Smith, 1970). Depth range in central Chile: 180–960 m.

REMARKS. *Fusitriton magellanicus* is the only member of the present assemblage of large gastropods also to occur in relatively shallow water in southern Chile. McLean has collected specimens at several localities in the Gulf of Corcovado east of Chiloe Island by diving in depths as shallow as 5 m (Fig. 22).

Superfamily Muricacea

Family Muricidae

Subfamily Trophoninae

Genus *Trophon* Montfort, 1810

Type species (original designation): *Murex magellanicus* Gmelin, 1791 (= *Buccinum geversianum* Pallas, 1774). Recent, Magellanic.

The muricid subfamily Trophoninae, of which *Trophon* is the type genus, comprises white-shelled forms with axial lamellae rather than varices, open canals, and simple apertures. It is the least known group in the Muricidae; only the type species of recognized genera were treated by Radwin and D'Attilio (1976).

Trophon is primarily an austral genus with numerous species in the Antarctic and subantarctic region. The type species, which is relatively large, has both axial and spiral sculpture and is common in the intertidal zone in the Fuegian and Patagonian regions. An illustration given by Radwin and D'Attilio (1976, fig. 130), though identified as *Stramonitrophon laciniatus*, is actually *T. geversianus*.

Trophon bahamondei new species

Figures 24–25

DESCRIPTION. Shell moderately large, thin but sturdy, white, spire high, canal long, recurved, open; length of aperture and canal slightly greater than height of spire, aperture shape quadrate, canal constricted. Protoconch eroded, teleoconch whorls six, early whorls bulging at midwhorl, having about 12 thick axial ribs. Mature sculpture of 10 to 13 axial lamellae, suppressed on the shoulder, at the periphery producing open, raised spines that rise above the level of the suture; lamellae sharply raised on the body whorl but suppressed on the siphonal canal; siphonal fasciole with overlapping lamellae; axial sculpture lacking. Aperture simple, lacking denticles or columellar callus.

Dimensions: height 49.4 mm, diameter 26.1 mm (holotype, Fig. 25).

Radula (Fig. 24): typical for the genus, rachidian plate broad and shallow, having five cusps, a strong central cusp and two on either side, the outermost the larger; lateral teeth sickle-shaped.

MATERIAL. Chile: Coquimbo (LACM), Los Vilos (LACM), Papudo, Zapallar, Quintero, Algarrobo, Pichilemu (LACM, holotype, Fig. 25). Specimens examined: 73.

TYPE MATERIAL. Twenty-four specimens from the type locality, collected 25 May 1976, by Andrade, unidentified shrimp trawler. Holotype, LACM 1982; paratypes, LACM 1983, paratypes, MNHN 200490; paratypes, MZICB 15.529; paratypes, USNM 784739.

TYPE LOCALITY. 340 m off Pichilemu, Chile (34°27'S).

DISTRIBUTION. Coquimbo (29°58'S) to Pichilemu (34°27'S), Chile. Depth range: 200–450 m.

DIAGNOSIS. A species of *Trophon* characterized by its quadrate aperture, and sculpture of axial lamellae, which are spinose at the periphery. It most resembles *Trophon (Stramonitrophon) plicatus* (Solander in Lightfoot, 1786),⁵ a common shallow-water species from southern Chile in which spiral sculpture is lacking, but is smaller with the aperture more quadrate and the canal more constricted. The two species are not closely related, for *Trophon plicatus* has a unique radula in which there are accessory cusps (the feature upon which the subgenus *Stramonitrophon* is based).

REMARKS. There is virtually no variation in *Trophon bahamondei*; all specimens examined are very similar.

ETYMOLOGY. We are pleased to dedicate this species to Dr. Nivaldo Bahamonde N., of the Museo Nacional de Historia Natural, Santiago.

Family Columbariidae

Genus *Columbarium* Martens, 1881

Type species (original designation): *Pleurotoma (Columbarium) spinicincta* Martens, 1881. Recent, Queensland, Australia.

Columbarium is one of several genera in the Columbariidae, a family restricted to moderately deep water. Shell form and structure of the protoconch resembles that of *Fusinus* Rafinesque, 1815, in the Fasciolaridae, but the radula relates the genus to the Muricacea. Living and fossil Columbariidae of the world were reviewed by Darragh (1969). Japanese species were recently reviewed by Habe (1979).

Although the family is represented in the western Atlantic (Clench, 1944; Bayer, 1971), no species until now has been reported from the eastern Pacific.

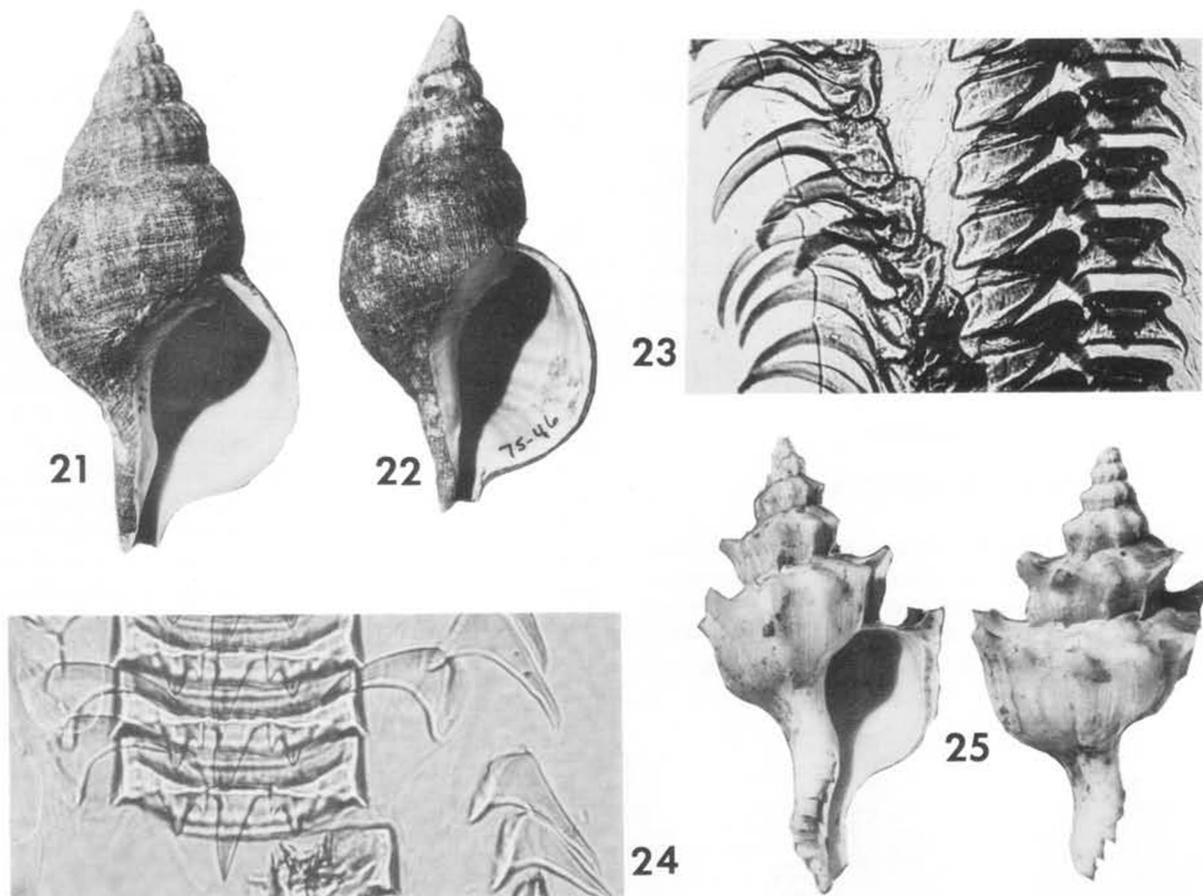
Authors are not agreed as to whether the available taxa should be genera or subgenera, but the new species that follows is clearly a member of *Columbarium*, *sensu stricto*, a genus well represented in the Tertiary and Recent of New Zealand, Australia, and Japan.

Columbarium tomicici new species

Figures 26–30

DESCRIPTION. Shell fusiform, length of aperture and canal about two-thirds the total length, white under a thin brown periostracum. Protoconch eroded, teleoconch whorls six, early

5. *Trophon plicatus* is better known as *T. laciniatus* (Gmelin, 1791) as used by Dell (1971). However, Cernohorsky (1977) showed that *T. plicatus*, credited to Solander in Lightfoot, 1786, is the prior name.



Figures 21 through 25, *Fusitriton magellanicus* and *Trophon bahamondei* new species.

Figures 21 through 23, *Fusitriton magellanicus*. Figure 21, LACM 66-156, 580 m off Caleta Molles, Chile, height 94.0 m. Figure 22, LACM 75-46, 5 m, Isla Laitec, Chiloe Province, Chile, height 85.1 mm. Figure 23, radula ribbon, LACM 66-156, 580 m off Caleta Molles, Chile, width of field 1.2 mm.

Figures 24 and 25, *Trophon bahamondei* new species. Figure 24, radular ribbon, LACM 72491, 240-400 m off Los Vilos, Chile, width of field 0.35 mm. Figure 25, holotype, LACM 1982, 340 m off Pichilemu, Chile, height 49.4 mm.

whorls with a sharp median carina, at first with weak projections, but changing to thin, triangular, posteriorly directed spines, 9 to 16 on the final whorl. Shoulder and spire whorls smooth or finely striate; suture laid upon, or just anterior to, a stout cord (the anterior carina of Darragh, 1969). Base and canal with prominent, rounded, nonscabrous spiral cords, with interspaces of nearly equal or lesser width, about five across the base and ten more on the canal. Columellar callus thin, not raised to form a columellar lip; aperture subquadrate, lip thin.

Dimensions: height 46.8 mm, diameter 22.8 mm (holotype, Fig. 26); height 78.4 mm, diameter 33.2 mm (Fig. 29).

Radula (Fig. 30): rachidian plate with curved base and three cusps that project over the basal plate of the next row, the middle cusp the longest; lateral tooth with large base and curved tip. The radula is similar to that of other species in the family (see Bayer, 1971:172).

MATERIAL. Peru: S of Lobos de Afuera (LACM, Fig. 29), N of Isla Macabi (LACM). Chile: Junquillar (LACM, holotype, Fig. 26), Coquimbo (LACM, Fig. 27), Los Vilos (LACM), Punta Salinas (LACM), Papudo, Algarrobo. Four other specimens are in the LACM collection from depths of 520-1,200 m in northern Peru (Banco de Mancora, Fig. 28; Chilca, Fig. 30; Mollendo),

received from Dr. Enrique del Solar of Lima, Peru. Specimens examined: 30.

TYPE MATERIAL. Thirteen specimens from the type locality, collected by R/V ANTON BRUUN, station 714, 16 August 1966. Holotype, LACM 1984; paratypes, LACM 1985; paratype, MNHN 200491; paratypes, MZICB 15.530; paratypes, USNM 784740. Although there are single larger specimens from other localities in the material at hand, this lot was selected as the type lot because it contains 13 specimens (only 2 live-collected) of about the same size as the holotype, enabling distribution of paratypes from the type locality.

TYPE LOCALITY. 950 m, W of Junquillar, Chile (25°0'S, 70°40'W).

DISTRIBUTION. Banco de Mancora, Peru (3°25'S), to Algarrobo, Chile (33°22'S). Depth range: 240-1,200 m.

DIAGNOSIS. A species of *Columbarium* characterized by its sculpture of triangular spines at the periphery and regular, nonscabrous cords on the base and canal. *C. tomicici* most resembles *C. veridicum* Dell, 1963, from New Zealand (see Powell, 1979:169, pl. 37, fig. 1), which entirely lacks spiral sculpture on the base and canal. General proportions are similar to those of the Japanese *C. pagoda* (Lesson, 1840), which has a projecting

columellar lip and may have spinose sculpture on the canal, as figured by Habe (1979).

REMARKS. *Columbarium tomicici* has the essential features of *Columbarium*, *sensu stricto*, as diagnosed by Darragh (1969), except that the parietal or inner lip callus is not raised, the spiral cords of the base and canal are nonscabrous, and there is no tooth on the outer lip at the position of the anterior (basal) carination.

ETYMOLOGY. This species is dedicated to Prof. Jorge Tomiic K., of the Universidad de Antofagasta, Antofagasta, Chile.

Superfamily Buccinoidea

Family Buccinidae

Subfamily Buccinulinae

Powell (1929, 1951, 1979) has discussed the higher classification of buccinid whelks with particular reference to southern genera. In early publications, he advocated the use of several families based on radular characters, but, more recently (Powell, 1979), he placed genera with a tricuspid rachidian and a tricuspid lat-

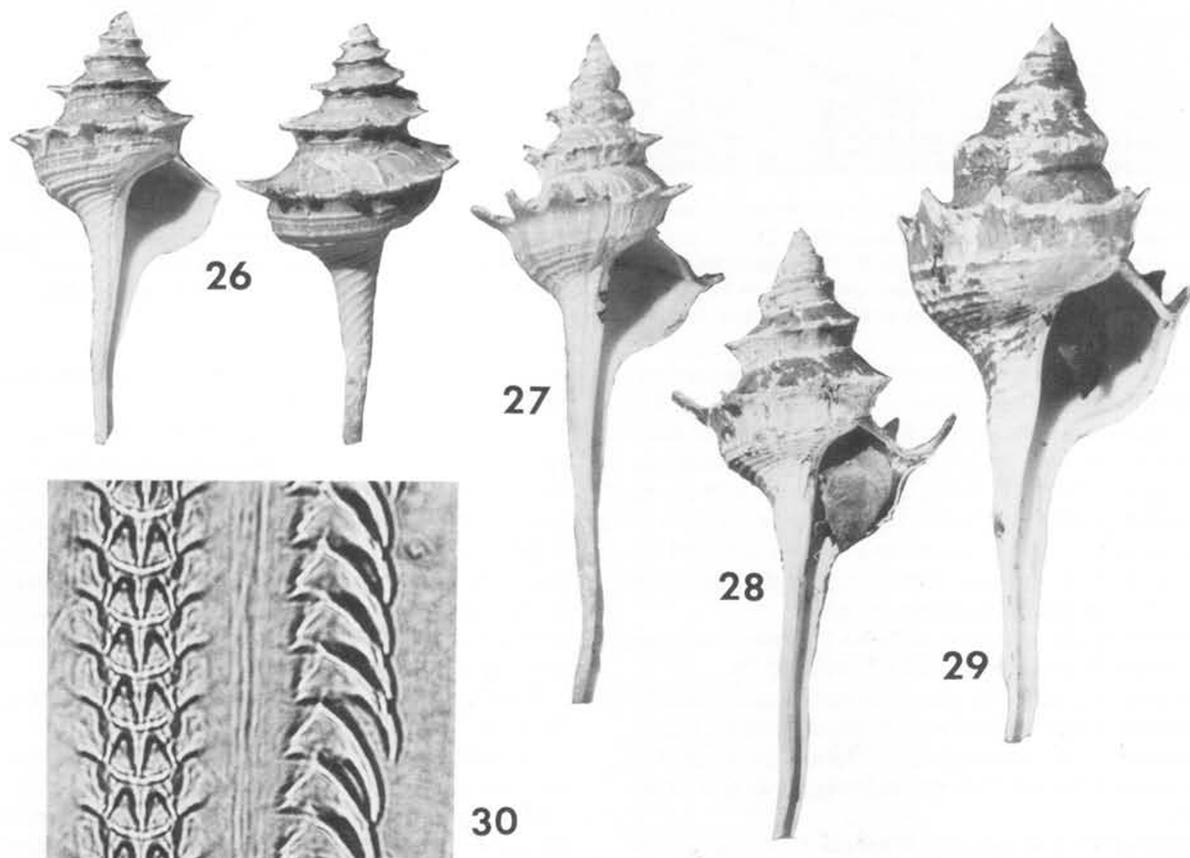
eral in the subfamily Buccinulinae, of which *Aeneator* is a member.

Genus *Aeneator* Finlay, 1927

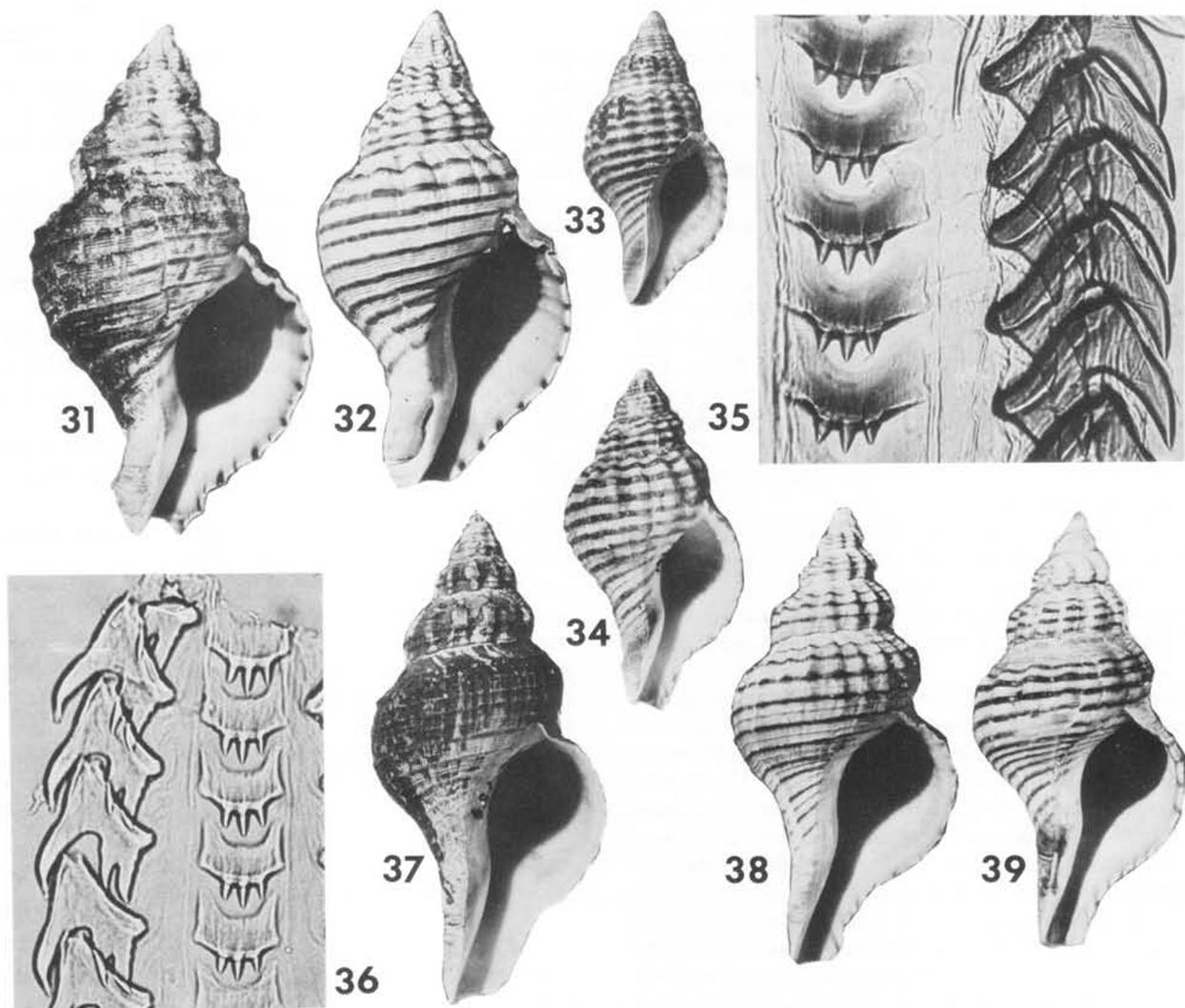
Type species (original designation): *Verconella marshalli* Murdoch, 1924. Pleistocene, New Zealand.

Rehder (1971) introduced the New Zealand genus *Aeneator* to the Chilean fauna with his description of *Aeneator (Ellicea) loisae*, although he did not mention the most common Chilean species of the group, *A. fontainei* (Orbigny, 1841). The latter species was assigned by Dall (1909) and Keen (1966) to *Austrofusus* Kobelt, 1879. *Austrofusus*, however, pertains to a New Zealand group with broad apertures and short, twisted canals.

New Zealand species of *Aeneator* have been discussed by Dell (1956, 1963), Beu (1979), and Powell (1979). The occurrence of the genus in Chile has not been mentioned by these authors. The Chilean species seem to differ in having a thickened or expanded final lip. However, the living representative of the Pleistocene type species, *Aeneator marshalli separabilis* Dell, 1956, from



Figures 26 through 30, *Columbarium tomicici* new species. Figure 26, 2 views of holotype, LACM 1984, 950 m off Junquillar, Chile, height 46.8 mm. Figure 27, LACM 75-88, depth unknown off Coquimbo, Chile, height 73.7 mm. Figure 28, LACM 71-234, 520 m, Banco de Mancora, Peru, height 65.6 mm. Figure 29, LACM 74-9, 1,200 m S of Isla Lobos de Afuera, Peru, height 78.4 mm. Figure 30, radular ribbon, LACM 72-187, 800 m S of Chilca, Peru, width of field 0.2 mm.



Figures 31 through 39, *Aeneator fontainei*. Figure 31, LACM 75-21, 20 m off Mejillones, Chile, height 70.0 mm. Figure 32, LACM 75-21, same locality, height 66.3 mm. Figure 33, LACM 54737, 40 m off Montemar, Chile, height 39.5 mm. Figure 34, LACM 66-161, 56-95 m off Punta Mar Brava, Chile, height 46.6 mm. Figure 35, radular ribbon, LACM 75-21, 20 m off Mejillones, Chile, width of field 0.5 mm. Figure 36, radular ribbon, LACM 66-150, 260-280 m off Punta Penablanca, Chile, width of field 0.35 mm. Figure 37, LACM 66-159, 110 m off Punta Hornos, Chile, height 67.0 mm. Figure 38, LACM 66-159, same locality, height 64.9 mm. Figure 39, LACM 72493, 270 m off Punta Toro, Chile, height 58.9 mm.

New Zealand, has an expanded outer lip. The allocation of the Chilean species to *Aeneator* is therefore followed here.

Ellicea Finlay, 1927 (type species: *Siphonalia orbita* Hutton, 1855), used by Dell (1956) and Rehder (1971) as a subgenus to distinguish species with strong spiral sculpture, was reduced to synonymy by Powell (1979), who found no clear separation of species on that character.

The following diagnosis of *Aeneator* is offered: fusiform buccinids of moderate size, canal plus aperture more than half the length of the shell, whorls rounded but for a subsutural concavity; lip with a broad shallow sinus below the suture; sculpture of strong axial ribs overridden by spiral cords, rachidian and laterals tricuspid.

Aeneator fontainei (Orbigny, 1841)

Figures 31-39

Fusus fontainei Orbigny, 1841:447, pl. 63, fig. 2.

Austrofusus fontainei, Dall, 1909:213; Keen, 1966:4.

Fusus alternatus Philippi, 1847, pl. 4, fig. 6; Reeve, 1847, pl. 2, fig. 6.

Siphonalia alternata, Tryon, 1881:137.

DESCRIPTION. Shell large, covered by periostracum, length of aperture and canal more than half the length of the shell. Whorls six, convex except for a concave subsutural area, suture not deeply impressed. Axial sculpture on penultimate whorl of 15-17 rounded ribs, interspaces slightly narrower; axial sculp-

ture usually lacking altogether on the final half whorl. Spiral sculpture of major and minor cords; major cords four on early whorls, raised, dark brown, the interspaces twice as broad as these cords, cords overriding the axial ribs. Minor cords between each brown cord about five, separated by incised grooves. Lip lirate within, edge sharp, thick behind the edge, edge marked with brown at the termination of the cords.

Dimensions: height 70.0 mm, diameter 38.0 mm (Fig. 31); height 67.0 mm, diameter 32.0 mm (Fig. 37).

Radula (Figs. 35, 36): typical for the genus, rachidian and laterals tricuspid.

MATERIAL. Chile: Punta Mar Brava (LACM, Fig. 34), Punta Hornos (LACM, Figs. 37, 38), Coquimbo (LACM), Los Vilos (LACM), Papudo (LACM), Quintero (LACM), Punta Penablanca (LACM), Punta Panulcillo (LACM), Punta Toro (LACM, Fig. 39). Other records: Bahía Independencia and Bahía San Juan, Peru, 20–50 m, collected by the Hancock Expeditions in 1938; Mejillones, Chile (LACM, Figs. 31, 32), collected by McLean in 1975 in 20 m by scuba diving. Specimens examined: more than 100.

TYPE MATERIAL AND TYPE LOCALITY. Five specimens, BM(NH) 54.2.4.517 (Keen, 1966). Type locality: Callao, Peru. Type locality for *F. alternatus*: Mejillones, Chile.

DISTRIBUTION. Independencia Bay, Peru (LACM) (14°13'S), to Punta Toro, Chile (33°1'S). Depth range: 20–350 m.

REMARKS. *Aeneator fontainei* is the only offshore species treated here to occur also in relatively shallow water (at depths of 20 m or more) in central Chile. Three extremes in shell form are noted. Most specimens from shallow water (Figs. 31, 32) have relatively thick shells with pronounced development of siphonal fasciole; the darkly marked cords are prominent. Specimens from archibenthal depths (Figs. 37–39) have a thinner shell and a straighter canal, and the dark cords are less prominent than those of the shallow-water form. A fine, dark intercalary cord may appear in the interspace between major cords, as in Figure 38. At first glance, especially with periostracum intact as in Figure 37, these specimens appear very different from the shallow-water form. However, specimens such as that in Figure 39 seem to be intermediate between the shallow- and deep-water forms. Finally, there is a dwarf form occurring at intermediate depths (Fig. 33), in which there is little subsutural concavity, a more crowded condition of the axials, and more numerous, more closely spaced dark cords. This form shows complete intergradation (Fig. 34) with the usual shallow-water form.

Aeneator loisae Rehder, 1971

Figures 40–44

Aeneator (Ellicae) loisae Rehder, 1971:593, figs. 7, 8.

DESCRIPTION. Shell large for the genus, fusiform, surface chalky white, covered by periostracum, length of aperture and canal more than half the length of the shell. Whorls seven, convex, except for a concave subsutural area; suture not deeply impressed. Axial sculpture on early whorls of about 14 low ribs running from suture to suture, interspaces narrower than the ribs; ribs lacking altogether on body whorl, somewhat indistinct on penultimate whorl but prominent on earlier whorls. Spiral

sculpture of major cords alternating with secondary cords, finer tertiary cords may appear in the interspaces and may be superimposed on the major cords. Major cords about nine to ten on the penultimate whorl, continuing with regular spacing across the body whorl and canal. Lip sinuate on upper part, weakly lirate within, scalloped to correspond with the spiral cords; final lip flared. Canal long, parietal and columellar area well defined, glazed.

Dimensions: height 91.8 mm, diameter 43.7 mm (Fig. 40); height 88.5 mm, diameter 37.9 mm (Fig. 43); height 74.7 mm, diameter 37.3 mm (holotype, Fig. 42).

Radula (Fig. 44): central and lateral teeth tricuspid; see also Rehder, 1971, fig. 8.

MATERIAL. Chile: Coquimbo (LACM), Los Vilos (LACM), Caleta Molles (LACM, Fig. 43), Papudo, Zapallar, Quintero (LACM), Algarrobo, Cabo Carranza (LACM, Figs. 40–41). Specimens examined: more than 100.

TYPE MATERIAL AND TYPE LOCALITY. Holotype, USNM 701667. Type locality: 200 m, 17–18 km NW of Valparaíso, Chile.

DISTRIBUTION. Coquimbo (29°58'S), to Cabo Carranza, Chile (35°27'S). Depth range: 200–450 m.

REMARKS. *Aeneator loisae* differs from both *A. fontainei* and *A. castillai* new species in lacking any brown coloration to the shell. It also has more numerous primary cords than does *A. fontainei*. Its closest relative, as noted by Rehder (1971), is the New Zealand species *A. benthicola* Dell, 1973 (see Powell, 1979:202, pl. 41, fig. 3).

Aeneator loisae is highly variable in proportions. The holotype (Fig. 42) is relatively broad; specimens from Cabo Carranza (Figs. 40, 41) are more slender, and a single specimen from Caleta Molles (Fig. 43) is still more slender.

Aeneator castillai new species

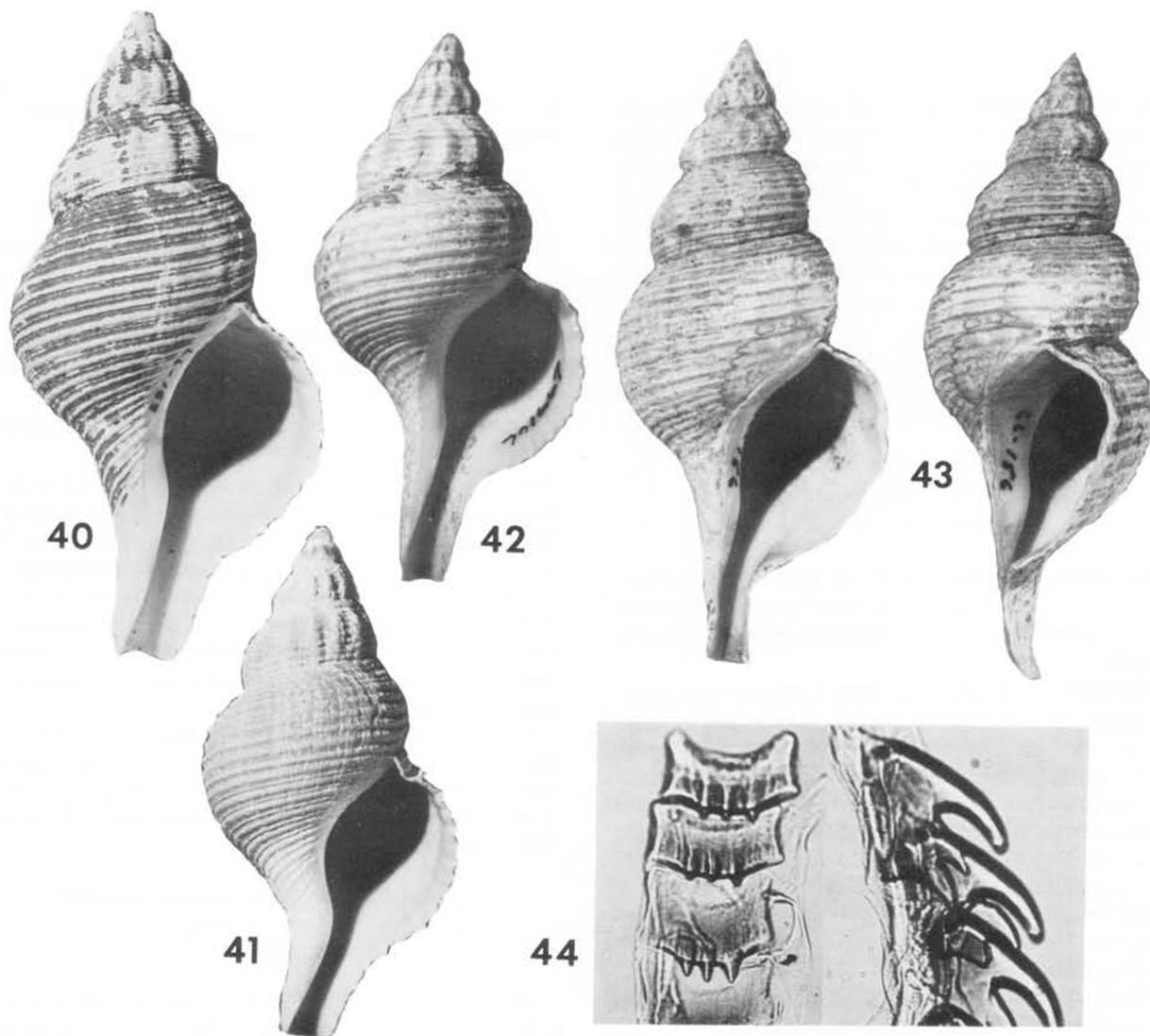
Figures 45–50

DESCRIPTION. Shell large, fusiform, length of aperture and canal more than half the length of the shell; canal relatively short, twisted. Shell light brown under a thin periostracum, often with a lighter colored band coinciding with the periphery. Whorls six, protoconch and early whorls eroded; whorls convex but for a concave subsutural area; suture not deeply impressed. Axial sculpture on penultimate whorl of about 16 low ribs, strong across the periphery but faint in the subsutural area; final whorl with weak sculpture; axial sculpture lacking altogether on the final half whorl. Spiral sculpture of fine cords alternating in strength, all cords in the concave subsutural area fine; those of the periphery and base coarser, frequently darker in color. Lip faintly lirate within, sinuate on upper part, final lip not expanded. Parietal and columellar area well defined, glazed.

Dimensions: height 78.7 mm, diameter 39.8 mm (holotype, Fig. 45); height 75.7 mm, diameter 37.8 mm (Fig. 47).

Radula (Fig. 50): typical for the genus, central and lateral teeth tricuspid.

MATERIAL. Chile: Coquimbo (LACM, Fig. 49), Los Vilos (LACM, Figs. 46–48), Papudo (LACM, type lot, Fig. 45), Zapallar (LACM), Quintero (LACM), Punta Penablanca (LACM). Specimens examined: 23.



Figures 40 through 44, *Aeneator loisae*. Figure 40, LACM 66-153, 290-450 m off Cabo Carranza, Chile, height 91.8 mm. Figure 41, LACM 66-153, same locality, height 70.0 mm. Figure 42, holotype, USNM 701667, 200 m off Valparaíso, Chile, height 74.7 mm. Figure 43, two views, LACM 66-156, 580 m off Caleta Molles, Chile, height 88.5 mm. Figure 44, radular ribbon, LACM 66-153, 290-450 m off Cabo Carranza, Chile, width of field 0.5 mm.

TYPE MATERIAL. Nine specimens from the type locality, collected 29 March 1977, by Andrade, shrimp trawler GODEN WIND. Holotype, LACM 1986; paratypes, LACM 1987; paratypes, MNHN 200492; paratypes, MZICB 15.532; paratypes, USNM 784741.

TYPE LOCALITY. 300 m off Papudo, Chile (32°31'S; 71°54'N).

DISTRIBUTION. Coquimbo (29°55'S), to Punta Penablanca, Chile (33°22'S). Depth range: 200–450 m.

DIAGNOSIS. A species of *Aeneator* characterized by its rather short, twisted canal and the absence of axial ribs in the concave subsutural area. It differs from both *A. fontainei* and *A. loisae* in these features. Additionally it differs from the offshore form of *A. fontainei* in having more numerous spiral cords and a flesh colored surface. From *A. loisae*, it also differs in having a brown rather than white shell coloration.

REMARKS. The surface layers of the shell of *A. castillai* are particularly prone to erosion, leaving an unsculptured, chalky shell surface upon loss of the sculptured layer. A number of the specimens are partially or completely eroded (Fig. 49).

ETYMOLOGY. We are pleased to name this species after Dr. Juan Carlos Castilla, of the Universidad Católica, Santiago.

Superfamily Volutacea

Family Volutidae

Subfamily Odontocymbiolinae

Genus *Miomelon* Dall, 1907

Type species (original designation): *Volutilithes philippiana* Dall, 1890. Recent, central Chile.

Miomelon is known from three species occurring in the region from central Chile to the vicinity of the Falkland Islands. The species in the present collection was identified by Weaver and Dupont (1970) and Rehder (1971) as *M. philippiana* (Dall, 1890). Stuardo and Villarroel (1974) showed that Dall's species, which is known only from the single holotype from abyssal depths off central Chile (1,238 m, 38°8'S), differs from the more common archibenthal species, which they described as *M. alarconi*.

Stuardo and Villarroel treated the radula and anatomy of *Miomelon alarconi*, confirming that the genus should be assigned to the volutid subfamily Odontocymbiolinae.

Miomelon alarconi
Stuardo and Villarroel, 1974
Figures 51, 52

Miomelon philippiana (Dall, 1890), of Weaver and DuPont, 1970:132, pl. 56, figs. C, D; Rehder, 1971:594. Not Dall, 1890. *Miomelon alarconi* Stuardo and Villarroel, 1974:140, figs. 4a, 4b, 5a, 5b.

DESCRIPTION. Shell moderately large, aperture length equal to spire height; shoulder concave, siphonal canal broad, outer lip thin. Sculpture of fine axial ribs and less prominent spiral cords, interspaces broad. Columella with three or four plaits, the anteriormost the strongest. Color light brown under a thin brown periostracum; parietal glaze light brown; surface often chalky in specimens that have lost the periostracum.

Dimensions: height 74.9 mm, diameter 32.0 mm (Fig. 52); height 89.7 mm, diameter 39.4 mm (holotype).

Radula (Fig. 51): base of rachidian elongate, strongly tricuspidate. See also Stuardo and Villarroel (1974, fig. 2).

MATERIAL. Chile: Coquimbo (LACM), Los Vilos (LACM), Papudo, Zapallar, Algarrobo, Pichilemu (LACM), Cabo Caranza (LACM, Fig. 52). Specimens examined: more than 100.

TYPE MATERIAL AND TYPE LOCALITY. Holotype, MZICB 5553; paratypes, MZICB 5554, 5555, 5556. Type locality: 125 m, Chanco Bay, Chile (35°45'S).

DISTRIBUTION. Coquimbo (29°58'S), to 37°51'S (Stuardo and Villarroel, 1974), Chile. Depth range: 125–450 m.

REMARKS. *Miomelon alarconi* is larger, heavier, and more broadly inflated and has coarser spiral sculpture than *M. philippiana*.

Superfamily Cancellariacea

Family Cancellariidae

The large new species of *Cancellaria* in the present material was unexpected, for the previously known austral representatives of the family include such genera as *Admete* Kroyer, 1842, and related small-shelled genera (see Carcelles and Williamson, 1951; Powell, 1960, 1979).

The cancellariid radula is unlike that of stenoglossate neogastropods (Olsson, 1970; Keen, 1971), yet other features of can-

cellariid anatomy are typical of those of higher neogastropods (Graham, 1966; Harasewych and Petit, 1982).

Genus *Cancellaria* Lamarck, 1799

Type species (monotypy): *Voluta reticulata* Linnaeus, 1767. Recent, Florida.

Subgenus *Crawfordina* Dall, 1919 [= *Crawfordia* Dall, 1918, not Pierce, 1908]

Type species (original designation): *Cancellaria crawfordiana* Dall, 1891. Recent, California.

The subgenus *Cancellaria*, *sensu stricto*, comprises moderately large shelled forms with reticulate sculpture and prominent columellar plaits. *Cancellaria stuardoi* new species is most closely related to the type species of the subgenus *Crawfordina*. Grant and Gale (1931:614) diagnosed *Crawfordina* as follows: "This section differs from *Cancellaria*, *s. s.*, in the more elongate shape, lighter weight, smaller, more oblique plaits, and shorter columella." Another feature to be mentioned is the minimal development of the parietal callus.

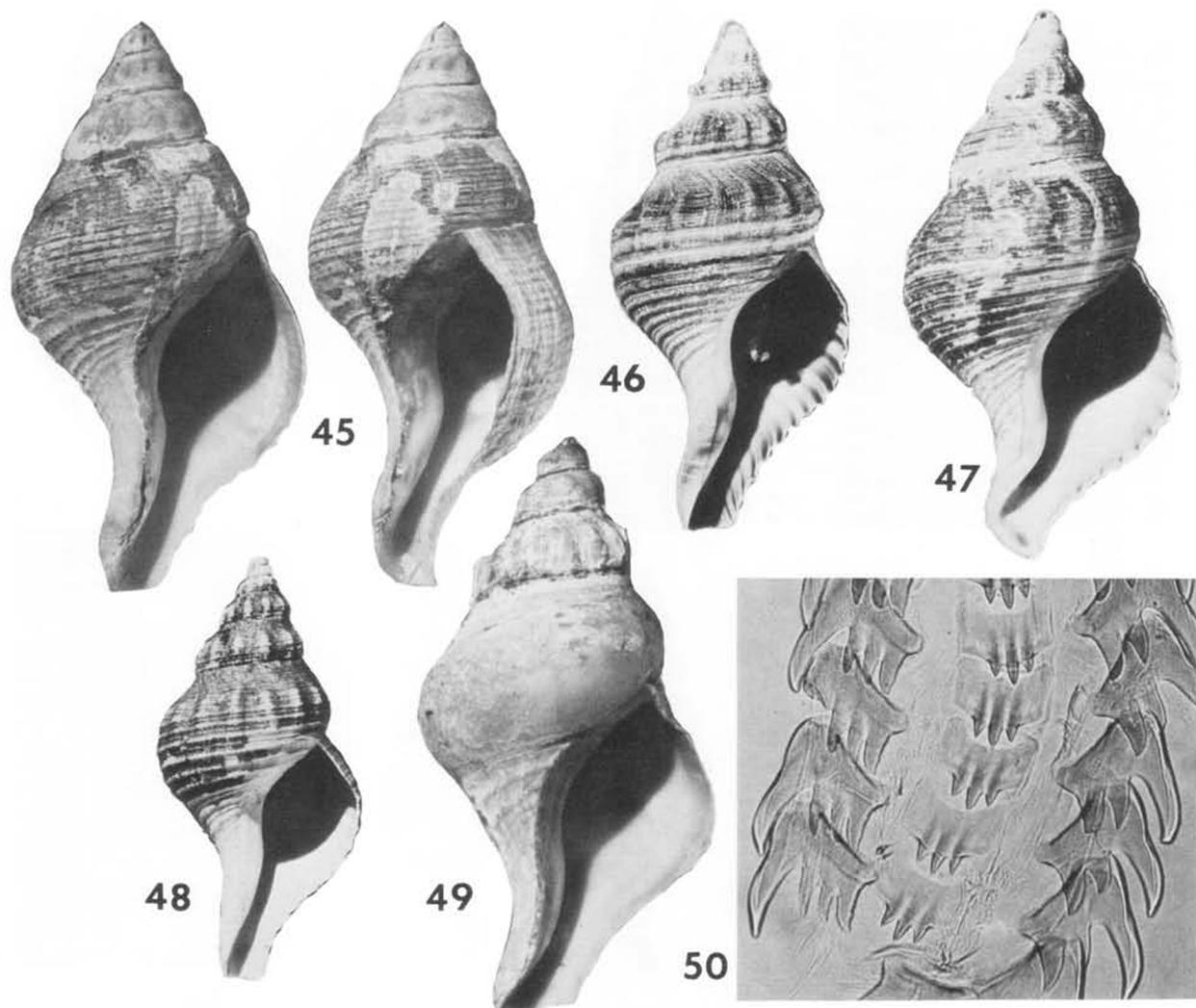
There are three members of the subgenus *Crawfordina*: the offshore Californian type species, the new Chilean species described here, and the connecting link, the deep-water Panamic species, *Cancellaria io* Dall, 1896 (see Keen, 1971:654, fig. 1477), from 589 m, Panama Bay.

Cancellaria (Crawfordina) stuardoi new species Figure 53

DESCRIPTION. Shell large, thin but sturdy, light brown under a thin but persistent light brown periostracum; whorls six, convex and slightly shouldered, suture deeply impressed. Protoconch lost; sculpture eroded on first two whorls. Axial ribs 18 to 20 per whorl, except on the final half whorl, where the ribs become more irregular and tend to be more broadly spaced from growth pauses; ribs crossing the whorls completely; ribs narrower than the interspaces; ribs posteriorly flexed near the suture. Spiral sculpture of broad, low ribs with more or less equal interspaces, 9 on the penultimate whorl and about 20 on the body whorl; spiral cords somewhat indistinct on the shoulder and narrower near the columella. Aperture ovate, columella incurved, columellar callus thin, parietal callus not thick enough to obliterate the sculpture, the anterior end of the columella consisting of a curved fold; two oblique folds higher on the columella, the posteriormost the largest, the folds hardly showing on apertural view, but much stronger within (shell viewed obliquely). Outer lip thin, lirate within. Operculum lacking.

Dimensions: height 61.3 mm, diameter 31.5 mm (holotype, Fig. 53); height 62.9 mm, diameter 31.0 mm (paratype); height 57.5 mm, diameter 30.8 mm (paratype).

MATERIAL. Chile: Coquimbo, Papudo, Pichilemu (LACM, type lot, Fig. 53).



Figures 45 through 50, *Aeneator castillai* new species. Figure 45, two views of holotype, LACM 1986, 300 m off Papudo, Chile, height 78.7 mm. Figure 46, LACM 72499a, 400 m off Los Vilos, Chile, height 69.3 mm. Figure 47, LACM 72499b, same locality, height 75.7 mm. Figure 48, LACM 72499c, same locality, height 56.6 mm. Figure 49, LACM 61-12, 110 m off Coquimbo, Chile, height 79.8 mm. Figure 50, radula ribbon, LACM 72499, 400 m off Los Vilos, Chile, width of field 0.5 mm.

TYPE MATERIAL. Three specimens from the type locality collected by Andrade, 25 May 1976, unidentified shrimp trawler. Holotype, LACM 1988; paratype, MNHN 200493; paratype, MZICB 15.532. Each specimen has the soft parts separately preserved.

TYPE LOCALITY. 240–350 m off Pichilemu, Chile (34°27'S, 72°24'W).

DISTRIBUTION. Coquimbo (29°58'S), to Pichilemu (34°27'S), Chile. Depth range: 200–350 m.

DIAGNOSIS. A species of the subgenus *Crawfordina* characterized by its large size, high spire, convex whorls, and sharp clathrate sculpture. It is remarkably similar to the type species of *Crawfordina*, *C. crawfordiana* from California (Fig. 54). The latter species has a more fibrous periostracum, is somewhat more slender and smaller (attaining a length of about 50 mm), has a slightly more constricted tip to the canal, and has fine pustules on the anterior region of the columellar callus. Despite these dif-

ferences, the two species are clearly related, having similar proportions, sculpture, and the columellar plications visible in oblique view. *Cancellaria io*, the third member of the subgenus, differs from both *C. stuardoi* and *C. crawfordiana* in having subdued spiral sculpture.

ETYMOLOGY. We are pleased to name this species in honor of Dr. Jose Stuardo of the Universidad de Concepción, Concepción, Chile.

Superfamily Conacea

Family Turridae

Subfamily Turrinae

Genus *Ptychosyrinx* Thiele, 1925

Type species (original designation): *Pleurotoma (Subulata) bisinuata* Martens, 1901. Recent, East Africa.