

FIGURES 74-82. 74, *Aesopus aliciae* sp. nov., Holotype, height 4 mm; 75, *Mitrella unifasciata*, height 9 mm; 76, *Cilara secalina*, height 6.4 mm; 77, *Salitra radwini* sp. nov., Holotype, height 6 mm; 78, same specimen, enlargement of protoconch; 79, *Nassarius dentifer*, height 19.5 mm; 80, *N. gayi*, height 14 mm; 81, *N. gayi*, height 12 mm; 82, *Oliva (Oliva) peruviana*, height 37 mm.

Salitra, new genus

Diagnosis: Shell elongate, fusiform, with predominant sculpture of closely spaced spiral cords and more subdued axial ribs; characterized by diagonally cancellate sinusigerid protoconch, typically columbellid radula with tricuspid lateral tooth, and low columellar fold near anterior end of aperture.

Type species: *Salitra radwini*, new species.

Discussion: The diagonally cancellate sinusigerid protoconch of *Salitra* is reminiscent of the turritid subfamily Daphnellinae, and unlike that of any other eastern Pacific columbellid, although the radular morphology unmistakably places this new genus in the Columbellidae. The small columellar fold suggests an affinity with *Zafrona* Iredale, 1916. Superficially, *Salitra* is close to *Nassarina* Dall, 1889, but differs in having its spiral ribs equal to or wider than the interspaces, having less deeply impressed sutures, and possessing a sinusigerid protoconch. An Atlantic species, *Amphissa haliaeti* Jeffreys, 1867, has protoconch ornamentation similar to *Salitra radwini*, but different shell and radular morphology (G. E. Radwin, personal communication).

The generic name is derived from the Chilean word "salitre," which refers to the widespread

nitrate deposits in northern Chile that extend to the shore in places.

Salitra radwini, new species

Figures 77, 78 and 86

Diagnosis: This rather small shell is characterized by combination of its diagonally sinusigerid protoconch, fusiform shape, dominant axial sculpture of closely spaced ribs, and single low columellar fold.

Description of holotype: Shell small for family, nuclear whorls four and one-half, rounded, slightly inflated, of diagonally cancellate sinusigerid type; postnuclear whorls three, moderately rounded. Spiral sculpture of strong, closely spaced ribs; five ribs on earliest postnuclear whorl, increasing to seven ribs by bifurcation of posteriormost rib and gradual addition of another rib anteriorly; interspaces between ribs equal to or slightly less than width of rib; undulations on ribs produce rounded nodes aligned from whorl to whorl to form closely spaced axial ribs, these being very weak on earliest postnuclear whorl and on last quarter of body whorl. Suture simple, slightly undulating; shoulder slightly tabulate. Color of spiral ribs medium to dark maroon-brown; color of spiral interspaces same as ribs for most of their length, becoming

flesh colored as they approach outer lip, to form spiral banding at outer lip margin that is also visible on inside of aperture. Aperture simple; outer lip thin but body wall prominently thickened just behind it; inner lip with single low columellar fold about one-third of length of aperture from anterior shell extremity; inner lip with thin, narrow callus. Dimensions (in mm): height 6.0, diameter 2.5.

Radula (Fig. 86): The radula is typically columbellid, with each transverse row of teeth comprised of a single rachidian plate and one lateral tooth on each side. The rachidian is simple, subrhomboidal, slightly concave on its longest side, and lacking any cusps. The lateral teeth are roughly sickle-shaped, with three strong curved cusps, the most proximal of these being dorsoventrally flared and somewhat cuplike in appearance.

Type locality: Iquique, Chile, 20° 13'S, 70° 10'W; lower intertidal zone, beneath rocks on gravel substrate, August, 1964, 5 specimens.

Type material: Holotype, LACM 1595; 3 paratypes, LACM 1596; 1 paratype, USNM.

Discussion: Two of the paratypes show a somewhat irregular placement of the suture on the protoconch, so that the apex appears to tilt slightly to the left. Immature specimens lack the thickening of the shell wall behind the outer lip and the lip margin is slightly crenulated by the ends of the spiral cords. The columellar fold is indistinct on juvenile specimens.

This species is named for Dr. George E. Radwin, who has done extensive research on Columbellidae. The radular drawing of *S. radwini* was done by Anthony D'Attilio.

Family Nassariidae

Nassarius Dumèril, 1805

Nassarius dentifer (Powys, 1835)

Figure 79

Nassa dentifera Powys, in Sowerby and Powys, 1835:95; Reeve, 1853, vol. 8, *Nassa*, pl. 19, fig. 130; Tryon, 1882, vol. 4:46-47, pl. 14, figs. 243-245.

Buccinum dentiferum, Orbigny, 1841, vol. 5:432; vol. 9, pl. 61, figs. 22, 23.

Alectrion (Hima) dentiferus, Dall, 1909:214.

Nassarius dentifer, Keen, 1971:906.

Nassa tschudii Troschel, 1852:173, pl. 5, figs. 4a-c.

Occurrence: LACM specimens from Peru and Chile were found in depths from intertidal to 38 m, on sand, gravel, and shell debris. Iquique specimens: 2.

Distribution: LACM collections contain specimens from Pucusana, Peru (12° 30'S), to Iquique, Chile. Dall (1909) reported this species ranging

from Panama (probably in error) south to Valparaíso, Chile. Type locality: Arica, Chile (Powys, 1835).

Remarks: The thin periostracum is medium to dark brown. Coarse spiral and axial sculpture forms spirally elongate nodes. The aperture is medium to chocolate brown in color and there are denticles within the outer lip. Heights of the two Iquique specimens are 19.5 and 22.4 mm.

Nassarius gayi (Kiener, 1835)

Figures 80 and 81

Buccinum gayi Kiener, 1835, *Buccinum*:71-72, pl. 21, fig. 79.

Nassa gayi, Orbigny, 1841, vol. 5:432; Reeve, 1855, vol. 8, *Nassa*, pl. 13, sp. 87; Tryon, 1882, vol. 4:56, pl. 17, figs. 324-325.

Alectrion gayii, Dall, 1909:215.

Alectryon gayi, Carcelles and Williamson, 1951:300.

Nassarius gayi, Herm, 1969:141, pl. 14, figs. 5-9.

Occurrence: On undersides of rocks in gravel, middle and lower intertidal zone. Iquique specimens: 129.

Distribution: Lobos de Afuera Islands, Peru (LACM collections), to the Straits of Magellan (Dall, 1909). Type locality: Chile (Kiener, 1835).

Remarks: Specimens collected at low tide (Fig. 80) have flattened spiral cords on the final whorl. Those from offshore on sandy bottoms tend to have more pustulose cording, according to material in the LACM collection from Peru and Chile. The specimen in Figure 81 was collected at Iquique by Brian Williams in 1966 and probably represents an offshore specimen.

Family Olividae

Oliva Bruguière, 1789

Subgenus *Oliva*, s.s.

Oliva (Oliva) peruviana Lamarck, 1811

Figure 82

Oliva peruviana Lamarck, 1811, vol. 16:317-318; Orbigny, 1840, vol. 5:419-420; Reeve, 1850, vol. 6, *Oliva*, pl. 9, figs. 14a-e; Tryon, 1883, vol. 5:74, pl. 18, figs. 55-58; Dall, 1909:165, 210, pl. 23, fig. 4.

Agaronia peruviana, Carcelles and Williamson, 1951:300.

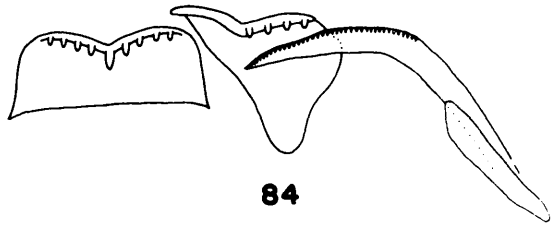
Oliva (Oliva) peruviana, Ziegler and Porreca, 1969:31, pl. 6, fig. 3.

Occurrence: Dead specimens on exposed sandy beach. Iquique specimens: 5.

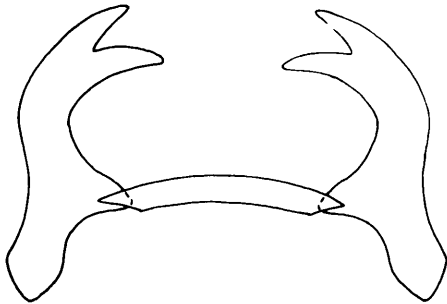
Distribution: LACM collections contain this species from localities ranging from Sechura Bay,



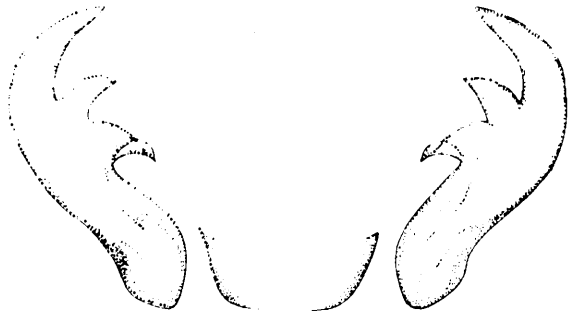
83



84



85



86

FIGURES 83-86. 83, *Rissoina (Rissoina) inca*, radular dentition; 84, *Cyclostremiscus (Cyclostremiscus) trigonatus*, radular dentition; 85, *Aesopus aliciae* sp. nov., radular dentition; 86, *Salitra radwini* sp. nov., radular dentition.

Peru, to Valparaíso, Chile. Dall (1909) includes the Galápagos Islands and Lota (near Concepción), Chile, in the range limits. Type locality: Peru (Lamarck, 1811).

Family Mitridae

Mitra Röding, 1798

Subgenus *Atrimitra* Swainson, 1840

Mitra (Atrimitra) orientalis

Griffith and Pidgeon, 1834

Figure 87

Mitra orientalis Griffith and Pidgeon, in Griffith, 1834, vol. 12, pl. 40, fig. 5; Reeve, 1844, *Mitra*, vol. 2, pl. 5, fig. 34; Tryon, 1882, vol. 4:121, pl. 36, fig. 67; Dall, 1909:212; Keen, 1971:907.

Mitra maura Swainson, 1836:193; Orbigny, 1841, vol. 5:427.

"*Mitra mauva* Sowerby," Orbigny, 1841, vol. 9, Moll, pl. 60, figs. 9, 10.

Occurrence: Dead specimens from intertidal gravel. Iquique specimens: 3.

Distribution: Lobos Islands, Peru (LACM), to Iquique, Chile (Dall, 1909). Type locality: unknown.

Family Turridae

Agathotoma Cossmann, 1899

Agathotoma ordinaria (E. A. Smith, 1882)

Figures 88 and 93

Pleurotoma (Mangilia) ordinaria E. A. Smith, 1882:216.

Mangilia ordinaria, Tryon, 1884, vol. 6:250, pl. 34, fig. 97; Dall, 1909:209.

Occurrence: Beneath rocks on gravel substrate, lower intertidal zone. Iquique specimens: 6.

Distribution: Pucusana, Peru (12°30'S) to Iquique (LACM). Type locality: Peru and Chile (Smith, 1882).

Discussion: This is the first report of this species since the original description. The shell is of average size for the genus, color orange-brown to buff. Nuclear whorls two and one-half, the first one smooth and the following one and one-half whorls with reticulate sculpture made up of two raised spiral threads, one at the shoulder and the other one below, and numerous axial riblets.; postnuclear whorls four and one-half. Axial sculpture of 12 slightly sinuous, evenly rounded ribs, somewhat continuous from whorl to whorl; spiral sculpture of numerous very fine, raised threads, becoming indistinct where they crest the axial ribs. Suture undulating; axial ribs becoming weaker as they approach the suture. Aperture with prominent posterior sulcus; anterior canal broad; callus narrow, only slightly thickened; outer lip smooth within, nearly parallel to the columella, somewhat thickened anteriorly by the final axial rib. Dimensions of figured specimen (in mm): height 8.3, diameter 2.8.

The radula (Fig. 93) was dissected from one specimen. The radular bundle contains 14 teeth, although additional teeth may have been lost during dissection. Each tooth is dagger-shaped and has a projecting hook at one-third of the length from the base to the tip. The tip is sharply pointed and is slightly expanded just behind its termination in

some views. There is a row of 8-10 of what appear to be shallow pits along opposite sides of each tooth. Some of the pits may have raised rims around them, because they commonly produce a perceptible bump on the tooth surface. It is possible that these pits are actually cavities completely enclosed within the tooth.

This species is placed in *Agathotoma* on the basis of shell form, close but not exact alignment of the axial ribs from whorl to whorl, and the fine spiral sculpture without a prominent keel at the shoulder.

Subclass Opisthobranchia
Order Entomotaeniata
Family Pyramidellidae
Iselica Dall, 1918

Iselica chilensis, new species
Figure 89

Diagnosis: A small shell, nearly devoid of sculpture except for single low spiral cord below suture, and with somewhat inflated aperture.

Description of holotype: Shell small for genus, turbanate, with thin yellowish brown periostracum; nuclear whorls one, eroded. Postnuclear whorls one and one-half, broadly rounded, separated by impressed suture. Spiral sculpture of one weakly incised line immediately below suture, producing low spiral cord between incised line and suture; second incised line present below first one; remainder of shell with very low, broad, obsolete spiral

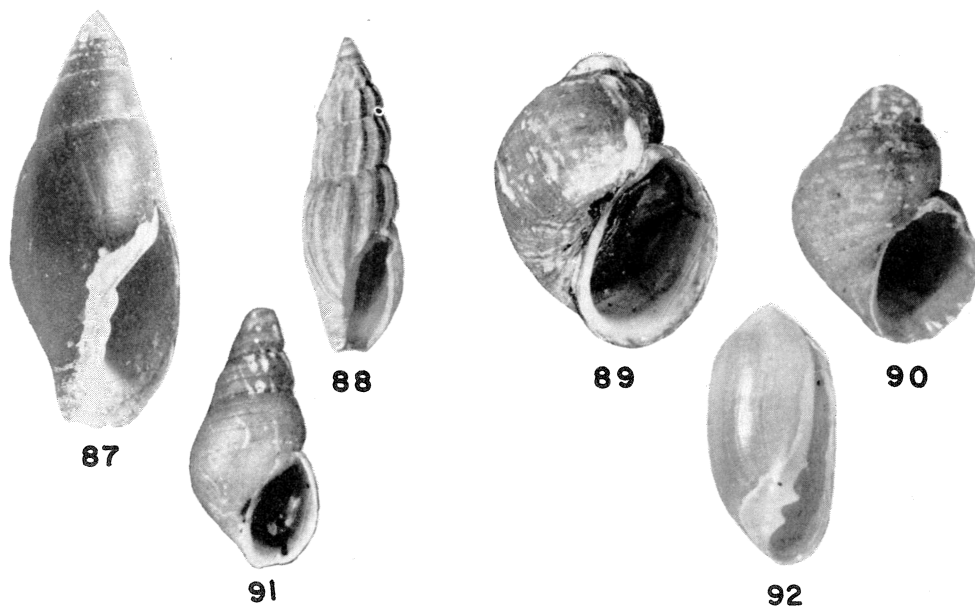
undulations, except for three indistinct incised spiral lines extending from umbilical area to anterior outer lip. Axial sculpture consists only of incremental growth lines. Aperture large for genus, somewhat inflated, and about two-thirds height of shell; outer lip indented by strongest spiral cord near posterior angle; columella with very broad swelling at its midpoint; callus thin; umbilicus open, small. Dimensions (in mm): height 4.8, diameter 3.7.

Operculum: Chitinous, brown, with an anterior origin.

Type locality: Punta Morro, Iquique, Chile, 20° 13'S, 70° 10' 25"W; lower intertidal zone, on undersides of cobbles and boulders in black sandy silt of a protected beach, July, 1964, 22 specimens.

Type material: Holotype, LACM 1597; 17 paratypes, LACM 1598; 2 paratypes, USNM; 1 paratype, ANSP.

Discussion: *Iselica chilensis* differs from other *Iselica* species by being nearly devoid of sculpture, except for a single incised spiral line near the suture, and in having a somewhat inflated aperture. The nucleus is partially heterostrophic, smooth. The second spiral line on the shoulder is often absent, while the one nearest the suture is always present, although indistinct in some paratypes. Irregularly and widely spaced, shallow incised lines may occur over the body whorl. Spiral lines in the umbilical area are indistinct to absent in most specimens, especially the juveniles.



FIGURES 87-92. 87, *Mitra (Atrimitra) orientalis*, height 30 mm; 88, *Agathotoma ordinaria*, height 8.3 mm; 89, *Iselica chilensis* sp. nov., Holotype, height 4.8 mm; 90, *I. carotica* sp. nov., Holotype, height 3.3 mm; 91, *Odostomia (Menestho) chilensis*, height 3.4 mm; 92, *Sarnia frumentum*, height 3.3 mm.

Iselica carotica, new species

Figure 90

Diagnosis: A small shell, characterized by prominent spiral cords and weak, protractive axial riblets.

Description of holotype: Shell small for genus, turbinate, light yellowish white, of one nuclear and two postnuclear whorls; nucleus partially heterostrophic, eroded. Postnuclear whorls well rounded and separated by impressed suture; spire moderately elevated; spiral sculpture of seven to nine strong, equal cords, narrower interspaces contain fine, irregularly spaced, protractive axial riblets varying from distinct to obsolete. Aperture oval, about one-half height of shell; outer lip scalloped by ends of spiral cords; inner lip with single low fold in middle of columella, not visible in ventral view of shell; callus thin; umbilicus small, open and bounded on one side by lowermost spiral cord. Dimensions (in mm): height 3.3, diameter 2.4.

Operculum: Chitinous, brown, with an anterior origin.

Type locality: Punta Morro, Iquique, Chile, 20° 13'S, 70° 10'25"W; lower intertidal zone, on undersides of cobbles and boulders in black sandy silt of a protected beach, July, 1964, 9 specimens.

Type material: Holotype, LACM 1599; 5 paratypes, LACM 1600; 2 paratypes, USNM; 1 paratype, CAS.

Discussion: The common western North American species *I. fenestrata* (Carpenter, 1864) is larger and has axial riblets that are retractive and more distinct and widely spaced than *I. carotica*. *Iselica obtusa* (Carpenter, 1864), an intertidal and shallow-water species of western North America, is larger than *I. carotica*, with a proportionately higher shell and less distinct and even spiral cords; the type of *I. obtusa* has a height of 5.5 mm and diameter of 4.0 mm. *Iselica kochi* Strong and Hertlein, 1939, dredged from 3-9 fms in Panama, is smaller than *I. carotica* (height 1.5 mm, diameter 1.2 mm), has retractive axial riblets, and stronger spiral cords. *Iselica ovoidea* (Gould, 1853), from Mazatlán, Mexico, has a shell proportionately higher and much larger (height 8 mm, diameter 5 mm) than *I. carotica*. The specific name is a Latin adjective meaning soporific.

Odostomia Fleming, 1813
Subgenus *Menestho* Möller, 1842
Odostomia (Menestho) chilensis
Dall and Bartsch, 1909

Figure 91

Odostomia chilensis Dall and Bartsch, 1909:189, pl. 21, fig. 6; Dall, 1909:224.

Occurrence: On undersides of rocks in black sandy silt of a protected beach, lower intertidal zone. Iquique specimens: 55.

Distribution: Tomé and Iquique, Chile. Type locality: Tomé, Chile (Dall and Bartsch, 1909).

Remarks: This species was described from a single broken specimen of three whorls taken from the anchor of the American oceanographic vessel *Albatross*. Several of the Iquique specimens have their nuclear whorls intact, and the largest specimen, of four and one-half postnuclear whorls and a heterostrophic nucleus, is 3.4 mm in height and 1.6 mm in diameter, with several other individuals nearly as large. Some of the present shells are relatively more slender than the figure given by Dall and Bartsch. The nuclear whorls are smooth, with an evenly frosted appearance.

Subclass Pulmonata

Order Gymnophila

Family Onchidiidae

Onchidella Gray, 1850*Onchidella marginata* (Gould, 1852)

Peronia marginata Gould, 1852:292-293, Atlas (1856), pl. 22, figs. 386, 386a-e.

Onchidella marginata, Marcus, 1959:16-20, figs. 17-20.

Occurrence: On rock walls bordering tide pools, middle and lower intertidal zone. Iquique specimens: 90.

Distribution: Iquique (present specimens) and Coquimbo to Hoste Island, Orange Harbor, Tierra del Fuego, Chile (Marcus, 1959). Type locality: Orange Harbor, Tierra del Fuego (Gould, 1852).

Remarks: This species was identified by Mrs. Eveline Marcus from a dissection of one of the specimens.

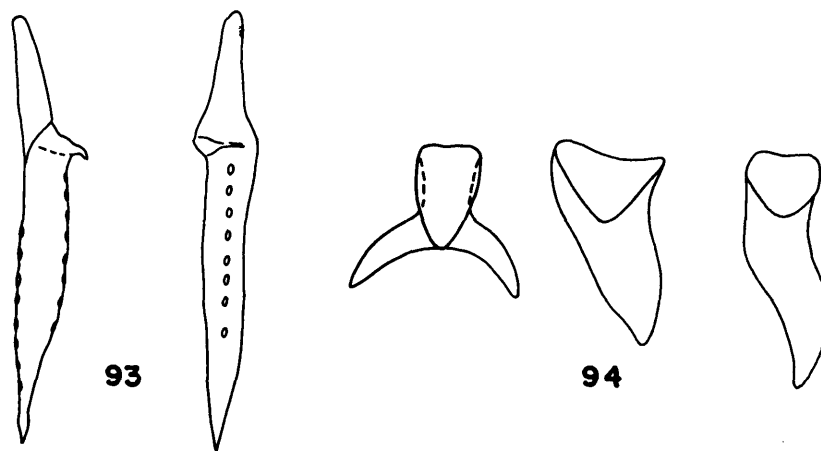
Order Basommatophora

Family Melampidae

Subfamily Pedipedinae

Marinula King, 1831*Marinula* sp. A

This and the following species of *Marinula* seem to be undescribed and will be discussed at a later date by Dr. Joseph P. E. Morrison of the U.S. National Museum. Both species were found in crevices of rock surfaces and on undersides of rocks intertidally. Species A is about 3 mm in height and represented by 409 specimens from Patillos and Iquique.



FIGURES 93-94. *Agathotoma ordinaria*, radular dentition, two views of one tooth; 94, *Sarnia frumentum*, radular dentition, showing representative lateral and marginal teeth.

Marinula sp. B

This species measures less than 2 mm in height and is represented by 216 specimens from Punta Gruessa and Iquique.

Subfamily Ellobiinae

Sarnia H. and A. Adams, 1855

Sarnia frumentum (Petit, 1842)

Figures 92 and 94

Auricula frumentum Petit, 1842:105-106; Reeve, 1878, vol. 20, *Auricula*, pl. 4, fig. 23.

Melampus frumentum, Dall, 1909:204.

Auricula avena Petit, 1842:106; Reeve, 1878, vol. 20, *Auricula*, pl. 4, fig. 24.

Melampus avena, Dall, 1909:204.

Sarnia frumentum, Keen, 1971:850, fig. 2418.

Occurrence: On cobbles and boulders in black sandy silt of a protected beach, lower intertidal zone. Iquique specimens: 10.

Distribution: Callao, Peru, to Chañaral, Chile (J. P. E. Morrison, written communication). Type locality: Callao, Peru (Petit, 1842).

Remarks: The figured specimen of *Sarnia frumentum* is 3.3 mm in height and 1.6 mm in diameter. The shell is pale orange-brown in color and ornamented with minute, slightly wavy, closely spaced incised lines. The nuclear whorls are heterostrophic and slightly elevated. The Iquique specimens are the dwarfed form of *S. frumentum* that was described by Petit, 1842, as *Auricula avena*. Normal specimens are about 8 mm in height and 4 mm in diameter. The dwarfed form is known from Iquique (20° 13'S) to just south of Chañaral, Chile (26° 20'S).

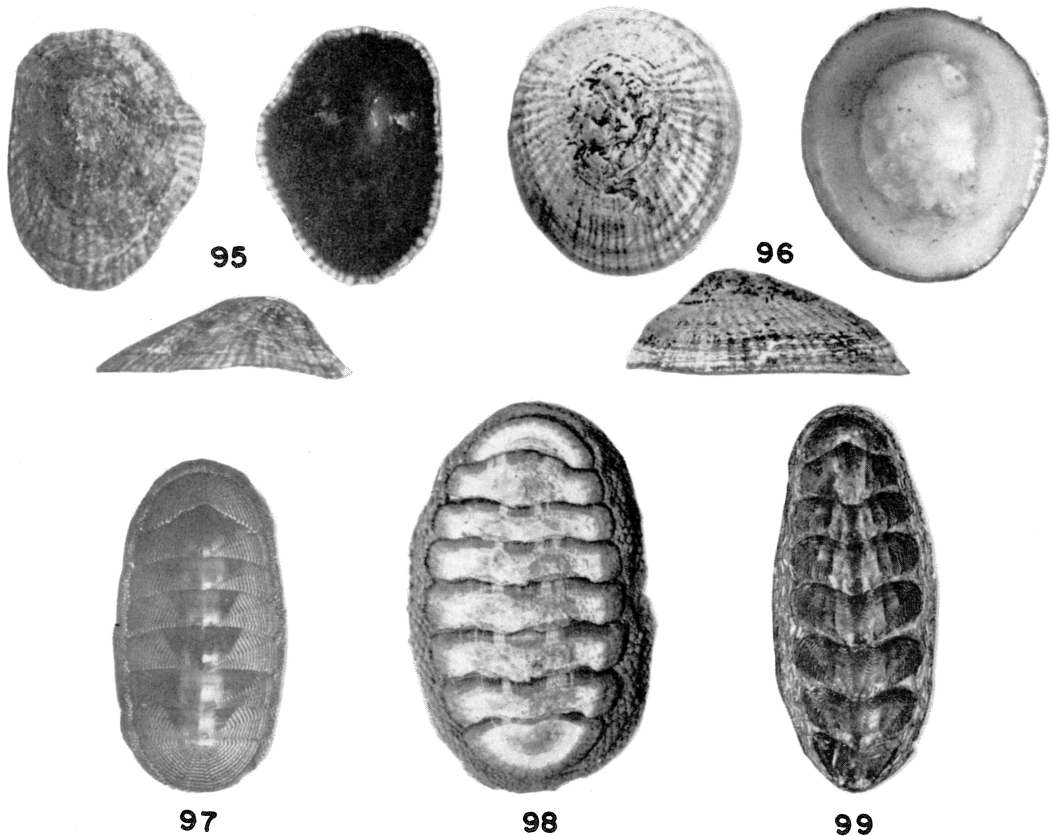
One row of teeth in the radula of *S. frumentum* (Fig. 94) is made up of the rachidian flanked on

each side by 23 similar, but not identical, lateral and marginal teeth. The rachidian is trihedral, with two elongate, curved and sharply pointed basal projections, and a broader and strongly arched anterior process. The lateral and marginal teeth are not differentiated and are all unicuspid.

The radular dentition of *S. frumentum* is distinctly different from that of species in the subfamilies Melampinae and Pedipedinae. The Melampinae radulae figured by Marcus and Marcus, (1965a:34-35, pl. 3, fig. 9, 46, pl. 6, fig. 25), have bicuspid rachidians with strong anterior processes and differentiated lateral and marginal teeth. The marginals are strongly denticulate, with one large basal cusp and several smaller ones. In addition, the anterior processes of the rachidian and lateral teeth are more ornate than those of *S. frumentum*.

Radulae of Pedipedinae species illustrated by Odhner (1925, pl. 2, figs. 11-15) do not show whether the rachidians have bicuspid bases, although presumably they do not. All of the lateral teeth shown have sharply tricuspid anterior processes, plus marginal teeth bearing numerous cusps. The lateral and marginal teeth are well differentiated.

The radula of *S. frumentum* is more similar to those of the *Ellobium* species shown by Marcus and Marcus, (1965b:433, pl. 2, fig. 8), and Odhner, (1925, pl. 2, figs. 26-28), than to the radulae of the species mentioned above. The various *Ellobium* species have rachidians with bicuspid bases and simple anterior processes. The laterals grade almost imperceptibly into the marginals, unlike the Melampinae and Pedipedinae noted above. In addition, the lateral and marginal teeth of the *Ellobium* species have relatively simple basal cusps without elaborate dentition. Radular morphology of *Sarnia*



FIGURES 95-99. 95, *Siphonaria (Talisiphon) lessoni*, length 17 mm; 96, *Trimusculus peruvianus*, length 13.6 mm; 97, *Chiton cumingsii*, length 44 mm; 98, *Chiton granosus*, length 50 mm; 99, *Enoplochiton niger*, length 72 mm.

frumentum thus indicates placement of *Sarnia* in the subfamily Ellobiinae.

Information on the size and distribution of *S. frumentum* and its dwarfed form, and suggestions for the discussion of comparative radular morphology were provided by Dr. Joseph P. E. Morrison.

Family Siphonariidae

Siphonaria Sowerby, 1824

Subgenus *Talisiphon* Iredale, 1940

Siphonaria (Talisiphon) lessoni Blainville, 1824

Figure 95

Siphonaria lessoni Blainville, 1827, vol. 49:269, Atlas, Pls., vol. 8, pl. 61, figs. 2, 2a.; Potiez and Michaud, 1838, vol. 1:55, Atlas, pl. 10, figs. 15-17; Orbigny, 1841, vol. 5:469, vol. 9, Moll., pl. 56, figs. 12-14; Dall, 1909:164, 205; Carcelles, 1950:72, pl. 3, fig. 60.

Siphonaria (Talisiphon) lessoni, Morrison, 1964:7.

Siphonaria (Pachysiphonaria) lessoni, Hubendick, 1946:21-22, pl. 1, figs. 1-3; Dell, 1971:214-215.

Occurrence: On rock outcrops and along tide pool walls throughout intertidal zone, abundant. Iquique specimens: 581.

Distribution: Paita, Peru, south to Orange Harbor, Tierra del Fuego, Chile, the Falkland Islands, and north on the Atlantic coast to Punta del Este, Uruguay (Morrison, 1964). Type locality: Falkland Islands (Blainville, 1827).

Family Trimusculidae

Trimusculus Schmidt, 1818

Trimusculus peruvianus (Sowerby, 1835)

Figure 96

Mouretia peruviana Sowerby, I, 1835b:6.

Gadinia peruviana, Dall, 1909:206; Carcelles and Williamson, 1951:319; Dell, 1971:214.

Trimusculus peruvianus, Keen, 1958:510, fig. 1034; 1971:853, fig. 2426.

Occurrence: In deep rock crevices, middle intertidal zone. Iquique specimens: 110.

Distribution: Central America (Keen, 1971) to

42°S in southern Chile (Dell, 1971). Records from north of Iquique need confirmation. Type locality: Cobija, Chile (Sowerby, 1835).

Remarks: As noted by Keen (1971), the sculpture of *T. peruvianus* is fainter than that of either *T. reticulatus* (Sowerby, 1835) or *T. stellatus* (Sowerby, 1835).

Class Polyplacophora
Order Chitonida
Family Chitonidae
Chiton Linnaeus, 1758
Chiton cumingsii Frembly, 1827
Figure 97

Chiton cumingsii Frembly, 1827:198-199, suppl. pl. 16, fig. 3; Dall, 1909:247.

Chiton cumingii, Sowerby, I, 1833, "Chitones":3, fig. 40; Reeve, 1847, vol. 4, pl. 1, figs. 2a, b.

Chiton cumingi, Pilsbry, 1892, vol. 14:164-165, pl. 30, figs. 29-31.

Chiton cumingsi, Plate, 1902:46-55, pl. 3, figs. 179-184, pl. 4, figs. 185-189; Leloup, 1956:47-48; Dell, 1971:220.

Occurrence: On undersides of rocks, lower intertidal zone. Iquique specimens: 54.

Distribution: Paita, Peru (LACM), to Puerto Montt, Chile (LeLoup, 1956). Type locality: Valparaíso, Chile (Frembly, 1827).

Chiton granosus Frembly, 1827
Figure 98

Chiton granosus Frembly, 1827:200, suppl. pl. 17, fig. 1 [plate not seen]; Reeve, 1847, vol. 4, pl. 5, fig. 27; Plate, 1902:56-59, pl. 4, fig. 190; Dall, 1909:247; Carcelles and Williamson, 1951:248; Leloup, 1956:48-49, figs. 24, 25; Dell, 1971:220.

Occurrence: On undersides of rocks, lower intertidal zone. Iquique specimens: 61.

Distribution: Paita, Peru (LACM), to 42°S in southern Chile (Dell, 1971). Type locality: Valparaíso, Chile (Frembly, 1827).

Enoplochiton Gray, 1847
Enoplochiton niger (Barnes, 1823)
Figure 99

Chiton niger Barnes, 1823:71, pl. 3, fig. 3.

Chiton coquimbensis Frembly, 1827:197-198, suppl. pl. 16, fig. 2.

Enoplochiton niger, Dall, 1909:181, 248, pl. 23, fig. 8; Leloup, 1956:54-55.

Occurrence: On rock outcrops exposed to heavy

surf, especially around the bases of holdfasts of *Lessonia nigrescens* Bory. Iquique specimens: 39.

Distribution: Peru (northern limit unknown) to Valparaíso, Chile (Leloup, 1956). Type locality: Peru (Barnes, 1823).

Remarks: Individuals of *E. niger* usually have one or two specimens of the *coffea* form of *Scurria parasitica* (Reeve) living in shallow excavations on their massive valves. *Enoplochiton niger* and *Acanthopleura echinata* (Barnes) are commonly found together and are especially abundant at Punta Gruessa, 17 kms south of Iquique.

Acanthopleura Guilding, 1829
Acanthopleura echinata (Barnes, 1823)
Figure 100

Chiton echinatus Barnes, 1823:71, pl. 3, figs. 4a, b.

Chiton spiniferus Frembly, 1827:196-197, suppl. pl. 16, fig. 6; Sowerby, I, 1833, "Chitones," pl. 1, fig. 47.

Acanthopleura echinata, Dall, 1909:180, 248, pl. 23, fig. 6; Leloup, 1956:55-57, figs. 28, 29.

Occurrence: On rock outcrops exposed to heavy surf, especially around the bases of holdfasts of *Lessonia nigrescens* Bory. Iquique specimens: 32.

Distribution: Paita, Peru (LACM), to San Vicente, Chile (Leloup, 1956). This species is also recorded from the Galápagos Islands by Leloup (1956), but not by Keen (1971). Type locality: Peru (Barnes, 1823).

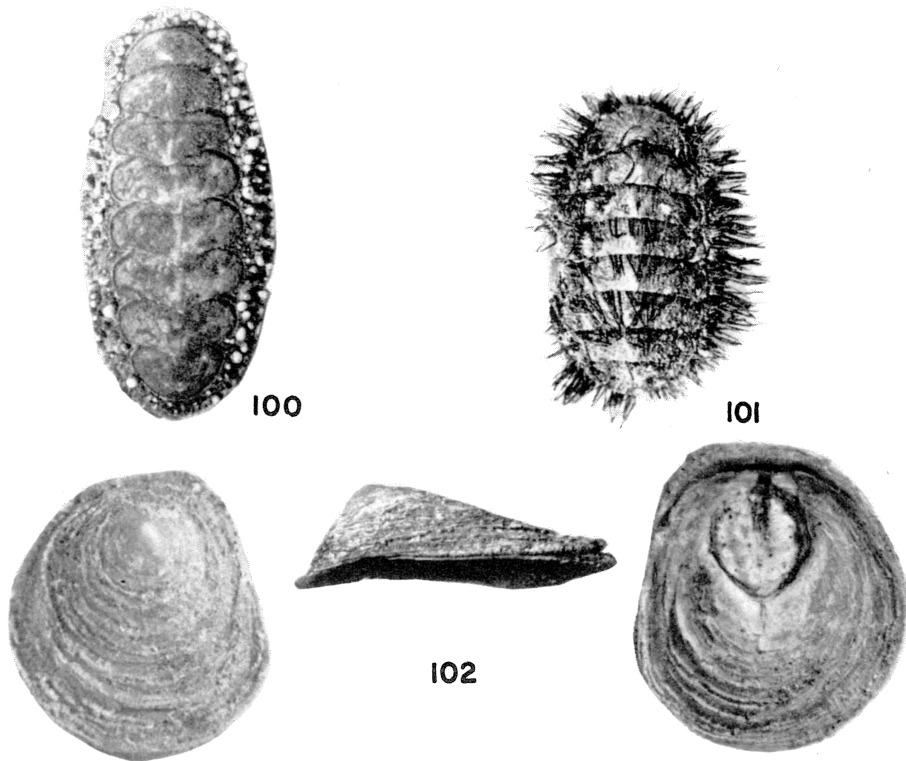
Remarks: As with *Enoplochiton niger* (Barnes), individuals of *A. echinata* often bear one or more specimens of the *coffea* form of *Scurria parasitica* (Reeve) on their valves. *A. echinata* is also common at Punta Gruessa, south of Iquique.

Family Ischnochitonidae
Chaetopleura Shuttleworth, 1853
Chaetopleura peruviana (Lamarck, 1819)
Figure 101

Chiton peruvianus Lamarck, 1819, vol. 6, pt. 1:321; Barnes, 1823:70-71, pl. 3, fig. 2; Sowerby, I, 1833, "Chitones":7, fig. 44.

Chaetopleura peruviana, Plate, 1902:182-194, pl. 2, figs. 141-142, pl. 10, figs. 294-301, pl. 11, figs. 302-303; Dall, 1909:244; Carcelles and Williamson, 1951:246; Leloup, 1956:37-40, figs. 18-20; Dell, 1971:218.

Occurrence: On undersides of rocks, lower intertidal zone. Iquique specimens: 2.



FIGURES 100-102. 100, *Acanthopleura echinata*, length 95 mm; 101, *Chaetopleura peruviana*, length 19 mm; 102, *Discinisca lamellosa*, length 25 mm.

Distribution: Iquique to the Straits of Magellan (Leloup, 1956). Type locality: Peru (Lamarck, 1819).

Phylum Brachiopoda
Class Inarticulata
Order Acrotretida
Family Discinidae

Discinisca Dall, 1871

Discinisca lamellosa (Broderip, 1833)

Figure 102

Orbicula lamellosa Broderip, 1833b:124; 1834: 142, pl. 23, figs. 2-13.

Discinisca lamellosa, Dall, 1909:182, 278; 1920: 275-276.

Occurrence: Attached to undersides of boulders, and in crevices, especially along seaward edges of rocky reefs, common. Iquique specimens: 46.

Distribution: Guayaquil, Ecuador (Dall, 1909), to Valparaíso, Chile (Dall, 1920). Type locality: Iquique, Chile (Broderip, 1833).

RESUMEN

Colecciones de moluscos litorales realizadas en las cercanías de Iquique, norte de Chile, en 1964 y 1970, revelaron la existencia de numerosos moluscos poco conocidos además de algunas especies nuevas. En vista de la escasez de trabajos sobre moluscos chilenos, el presente estudio incluye para cada especie sinonimias, datos de distribución y habitat, e ilustraciones originales, junto a observaciones adicionales en ciertos casos.

Se describe un nuevo género, *Salitra*, y las siguientes 10 nuevas especies: *Nucula interflucta*, *Lyonsia delicata*, *Tricolia macleani*, *Eatoniella* (*Eatoniella*) *latina*, *Eatonina* (*Saginofusca*) *atacamae*, *Fartulum moorei*, *Aesopus aliciae*, *Salitra radwini*, *Iselica chilensis*, y *Iselica carotica*. Otras especies de los géneros *Bittium*, *Triphora* y *Cerithiopsis*, que también parecen ser nuevas, se observaron, pero debido a la falta de buenos especímenes, sólo se describieron brevemente. Dos especies nuevas de *Marinula* serán discutidas por otro investigador.

LITERATURE CITED

- ADAMS, C. B. 1852. Catalogue of shells collected at Panama. R. Craighead, New York. 334 pp.
- BARNES, D. W. 1823. Description of five species of *Chiton*. Amer. J. Sci. 7:69-72, pl. 3.
- BARTSCH, P. 1915. The Recent and fossil mollusks of the genus *Rissoina* from the west coast of America. Proc. U.S. Nat. Mus. 49:33-62, pls. 28-33.
- . 1946. A remarkable new genus and species of West American marine mollusks. J. Wash. Acad. Sci. 36(8):281-282, figs. 1-3.
- BEU, A. G. 1970. Taxonomic position of *Lippistes pehuensis* Marwick, with a review of the genus *Concholepas* (Gastropoda: Muricidae). J. Malacol. Soc. Australia. 2(1):39-46, pl. 4.
- BLAINVILLE, H. M., DUCROTAY DE. 1816-1830. Vers et Zoophytes, in Dictionnaire des sciences naturelles. Part 2, Règne organisé, 60 vols., Atlas. Paris.
- . 1832. Disposition méthodique des espèces récentes et fossiles des genres Pourpre, Rincule, Licorne et Concholépas. Nouv. Ann. Mus. Hist. Nat. Paris 1:189-263, pls. 9-12.
- BORN, I. 1778. Index rerum naturalium Musei Caesarei Vindobonensis. Part I. Testacea. Vienna. 1-458, 1 pl.
- BRAND, L. 1945. List of shells collected at Arica, Chile. Minutes Conch. Club So. Calif. 50:29.
- BRANN, D. C. 1966. Illustrations to "Catalogue of the collection of Mazatlan shells" by Philip P. Carpenter. Paleontol. Res. Inst., Ithaca, N.Y. Pp. 1-111, pls. 1-60.
- BRODERIP, W. J. 1833a. Descriptions of shells collected by Hugh Cuming from the west coast of South America and the South Pacific islands. Proc. Zool. Soc. London for 1833, pp. 4-8.
- . 1833b. Descriptions of some new species of Cuvier's family of Brachiopoda. Proc. Zool. Soc. London for 1833, pp. 124-125.
- . 1834. Description of some new species of Cuvier's family of Brachiopoda. Trans. Zool. Soc. London. 1:141-144, pls. 22-23.
- . 1835a. Descriptions of some new species of Calyptraeidae. Trans. Zool. Soc. London 1:195-206, pls. 27-29.
- . 1835b. On the genus *Chama*, Brug., with descriptions of some species apparently not hitherto characterized. Trans. Zool. Soc. London 1:301-306, pls. 38-39.
- . 1836. Descriptions of some species of *Chama*. Proc. Zool. Soc. London for 1835, pp. 148-151.
- BRODERIP, W. J., AND G. B. SOWERBY, I. 1833. Descriptions of shells collected by Hugh Cuming from the west coast of South America and the South Pacific islands. Proc. Comm. Sci. and Corres., Zool. Soc. London for 1832, pp. 194-202.
- BRUGUIÈRE, J. 1789-1792. Histoire naturelle des vers. Encyclopédie méthodique 1(1):1-134 (1789); 1(2):345-757 (1792).
- BULLOCK, R. C. 1969. *Omalogyra atomus* (Philippi) from Maine. Nautilus 83(2):70-71.
- CARCELLES, A. R. 1944. Catálogo de los moluscos marinos de Puerto Quequén (Republica Argentina). Rev. Mus. de la Plata, Zoología (n.s.) 3:233-309, pls. 1-15.
- . 1950. Catálogo de los moluscos marinos de la Patagonia. Anales Mus. Nahuel Huapi (n.s.) 8:41-99, pl. 1-6.
- CARCELLES, A. R., AND S. I. WILLIAMSON. 1951. Catálogo de los moluscos marinos de la provincia magallánica. Rev. Inst. Nac. de Inves. Cien. Nat. (Argentina). Cien. Zool. 2(5):225-383.
- CARPENTER, P. P. 1857. Catalogue of the collection of Mazatlan shells in the British Museum. Brit. Mus., London, 552 pp.
- . 1864. Supplementary report on the present state of our knowledge with regard to the Mollusca of the west coast of North America. Rept. Brit. Assoc. Adv. Sci. for 1863, pp. 517-686.
- . 1865. Diagnosis of new species and a new genus of mollusks from the Reigen Mazatlan collection, with an account of additional specimens presented to the British Museum. Proc. Zool. Soc. London for 1865, pp. 268-273.
- CLENCH, W. J. 1947. The genera *Purpura* and *Thais* in the western Atlantic. Johnsonia 2(23):61-91, pls. 32-40.
- DALL, W. J. 1871. On the limpets; with special reference to the west coast of America, and to a more natural classification of the group. Amer. J. Conchol. 6:227-282, pls. 14-17.
- . 1909. Report on a collection of shells from Peru, with a summary of the littoral marine Mollusca of the Peruvian zoological province. Proc. U.S. Nat. Mus. 37:147-294, pls. 20-28.
- . 1915. A review of some bivalve shells of the group Anatinacea from the west coast of America. Proc. U.S. Nat. Mus. 49:441-456.
- . 1920. Annotated list of the Recent Brachiopoda in the collection of the United States National Museum, with descriptions of thirty-three new forms. Proc. U.S. Nat. Mus. 57:261-377.
- . 1921. Summary of the marine shellbearing mollusks of the northwest coast of America, from San Diego, California, to the Polar Sea, mostly contained in the collection of the United States National Museum, with illustrations of hitherto unfigured species. U.S. Nat. Mus. Bull. 112:1-217, pls. 1-22.
- . 1923. Additions and emendations to United States National Museum Bulletin no. 112. Proc. U.S. Nat. Mus. 65(10):1-4.
- DALL, W. H., AND P. BARTSCH. 1909. A monograph of West American pyramidellid mollusks. U.S. Nat. Mus. Bull. 68:1-258, pls. 1-30.
- DAUTZENBERG, P. 1896. Liste du mollusques du Chili. Soc. Sci. du Chili, Actes, vol. 6, Communications 64-67.
- DELL, R. K. 1964. Antarctic and subantarctic Mollusca: Amphineura, Scaphopoda and Bivalvia.

- Discovery Repts. (Cambridge Univ. Press, Cambridge) 33:93-250, pls. 2-7, text-figs. 1-4.
- _____. 1971. The marine Mollusca of the Royal Society expedition to southern Chile, 1958-59. Rec. Dominion Mus. (Wellington) 7(17):155-233, pls. 1-5.
- _____. 1972. Notes on nomenclature of some Mollusca from Antarctica and southern South America. Rec. Dominion Mus. (Wellington) 8(3):21-42, figs. 1-34.
- DUCLOS, P. L. 1832. Description de quelques espèces de pourpres, servant de type à six sections établies dans ce genre. Ann. Sci. Nat. Paris 26:103-112, pls. 1-2.
- ESCHSCHOLTZ, J. F. 1829-1833. Zoologischer Atlas enthaltend Abbildungen und Beschreibungen neuer tierarten. Berlin. Parts. 1-5.
- EYERDAM, W. J. 1954. List of shells collected at Arica, Chile. Minutes Conchol. Club So. Calif. 50:29-30.
- FABRICIUS, J. C. 1793. Entomologia systematica emendata et aucta secundum classes, ordines, genera, species, adjectis synonymis, locis, observationibus, descriptionibus. Hafniae 2:1-519.
- FISCHER, P. 1970. Sur la repartition de *Trochata radians* Lk. (Calypttraeidae). J. de Conchiol. 108 (1):19-26, figs. 1-2.
- FREMBLY, J. 1827. A description of several new species of Chitones, found on the coast of Chili, 1825; with a few remarks on the method of taking and preserving them. Zool. J. 3:193-205, suppl. pl. 16-17 [pl. 17 not seen].
- GARTH, J. S. 1957. The Crustacea Decapoda Brachyura of Chile. Repts. Lund Univ. Chile Exped. 1948-49, 49:1-130, pls. 1-4, text figs. 1-11.
- GMELIN, J. F. 1791. Caroli Linné systema naturae per regna tria naturae. London. Ed. 13, vols. 1-3.
- GOULD, A. A. 1846. Descriptions of the shells collected by the United States Exploring Expedition. Proc. Boston Soc. Nat. Hist. 2:148-152.
- _____. 1850. Descriptions of shells from the United States Exploring Expedition. Proc. Boston Soc. Nat. Hist. 3:343-348.
- _____. 1852-1856. United States Exploring Expedition. Mollusca and Shells 12:1-509 (1852); Atlas, pp. 1-16, pls. 1-52 (1856).
- GRANT, U. S., IV, AND H. R. GALE. 1931. Catalogue of the marine Pliocene and Pleistocene Mollusca of California and adjacent regions. Mem. San Diego Soc. Nat. Hist. 1:1-1036, pls. 1-32, text figs. 1-15.
- GRAU, G. 1959. Pectinidae of the eastern Pacific. Allan Hancock Pacific Exped. (Univ. So. Calif. Press, Los Angeles) 23:1-308, pls. 1-57.
- GRAY, J. E. 1828. Spicilegia Zoologica, or original figures and short descriptions of new and unfigured animals. London. Vol. 1:1-8, pls. 1-6.
- _____. 1839. The zoology of Capt. Beechey's voyage ... to the Pacific and Behring's Straits. London. Pp. 103-155, pls. 33-34.
- GRIFFITH, E. 1827-1835. The animal kingdom arranged in conformity with its organization by the Baron Cuvier. Vol. 12:1-601, 40 pls. (Mollusca), 20 pls. (Zoophytes).
- GUILER, E. R. 1959. Intertidal belt-forming species on the rocky coasts of northern Chile. Royal Soc. Tasmania, Papers and Proc. 93:33-38, pls. 1-2, text figs. 1-22.
- HANLEY, S. 1842-1856. An illustrated and descriptive catalogue of recent bivalve shells. Pp. 1-392, suppl. pls. 9-24, pp. 1-24.
- HERM, D. 1969. Marines Pliozän und Pleistozän in Nord- und Mittel-Chile unter besonderer Berücksichtigung der Entwicklung der Mollusken-Faunen. Zitteliana 2:1-158, pls. 1-18.
- HERTLEIN, L. G., AND A. M. STRONG. 1940. Eastern Pacific expeditions of the New York Zoological Society. 22. Mollusks from the west coast of Mexico and Central America, part 1. Zoologica 25:369-430, pls. 1-2.
- _____. 1946. Eastern Pacific expeditions of the New York Zoological Society. 34. Mollusks from the west coast of Mexico and Central America, part 3. Zoologica, vol. 31, part. 2(5):53-76, pl. 1.
- _____. 1947. Eastern Pacific expeditions of the New York Zoological Society. 36. Mollusks from the west coast of Mexico and Central America, part 5. Zoologica, vol. 31, part 4(10):129-150, pl. 1.
- HUBENDICK, B. 1946. Systematic monograph of the Patelliformia. Svenska Vetens. Akad. Handl., series 3, 23(5):1-93, pls. 1-6.
- HUPÉ, L. H. 1854. Fauna Chilena, Moluscos, in C. Gay, Historia física y política de Chile. Santiago. Zoologia 8:1-499, Atlas, vol. 2, Malacologia, pls. 1-8.
- JOHNSON, C. W. 1934. List of marine Mollusca of the Atlantic coast from Labrador to Texas. Proc. Boston Soc. Nat. Hist. 40(1):1-203.
- JOHNSON, R. I. 1964. The Recent Mollusca of Augustus Addison Gould. U.S. Nat. Mus. Bull. 239:1-182, 45 pls.
- JOUSSEAUME, F. P. 1880. Division méthodique de la famille des Purpuridés. Le Naturaliste 2:335-336.
- KEEN, A. M. 1938. New pelecypod species of the genera *Lasaea* and *Crassinella*. Proc. Malacol. Soc. London 23(1):18-32, pl. 2., 1 text fig.
- _____. 1951. Outline of a proposed classification of the pelecypod family Veneridae. Minutes Conchol. Club So. Calif. 113:2-10.
- _____. 1954. Nomenclatural notes on the pelecypod family Veneridae. Minutes Conchol. Club So. Calif. 139:50-55.
- _____. 1958. Sea Shells of Tropical West America. Stanford Univ. Press, Stanford, California. 624 pp. 1709 figs., pls. 1-10.
- _____. 1966. West American mollusk types at the British Museum (Natural History). III. Alcide d'Orbigny's South American collection. Veliger 9(1):1-7, pl. 1.
- _____. 1971. Sea Shells of Tropical West America. Second edition. Stanford Univ. Press, Stanford, California. 1064 pp., 3325 figs., pls. 1-22.

- KEEP, J. 1888. West Coast Shells. Carson and Co., San Francisco. 230 pp., figs. 1-182.
- KIENER, L. C. 1834-1879. *Spécies général et iconographique des coquilles vivantes*. Paris. Vol. 1-11, livr. 1-165.
- KING, P. P., AND W. J. BRODERIP. 1832. Description of the Cirrhipeda, Conchifera and Mollusca... of H.M.S. Adventure and Beagle... surveying the southern coasts of South America. *Zool. J.* 5:332-349.
- LAMARCK, J. B. P. A. DE M. DE. 1801. *Système des Animaux sans Vertèbres*. Paris. Vol. 8, 432 pp. [Not seen].
- . 1811. Détermination des espèces de mollusques testacés; continuation du genre Porcelaine et des genres Ovule, Tarrière, Ancillaire, et Olive. *Ann. Mus. Hist. Nat. Paris*. Vol. 16 for 1810, pp. 89-114, and pp. 300-328.
- . 1815-1822. *Histoire naturelle des animaux sans vertèbres*. Paris. Vols. 1-7.
- . 1835-1845. *Histoire naturelle des animaux sans vertèbres*, ed. 2, revised by G. P. Deshayes and H. Milne-Edwards. Paris. Vols. 1-11.
- LELOUP, E. 1956. Polyplacophora. *Repts. Lund Univ. Chile Exped.* (1948-49) 27:1-94, figs. 1-53.
- LESSON, R. P. 1830. Voyage autour du monde... sur... la Coquille pendant... 1822-25. *Zoologie* 2(1):1-471, Atlas, pls. 1-157 (Mollusques pls. 1-16).
- LINNAEUS, C. 1766-1767. *Systema naturae per regna tria naturae*. Stockholm. Ed. 12, vol. 1, *Regnum animale*, part 1, pp. 1-532 (1766); part 2, pp. 533-1327 (1767).
- MARCUS, E. 1959. Lamellariacea und Opisthobranchia. *Repts. Lund Univ. Chile Exped.* (1948-49). 36:1-133, figs. 1-196.
- MARCUS, E., AND E. MARCUS. 1963. On Brazilian supralittoral and brackish water snails. *Univ. São Paulo Bol. Inst. Ocean.* 13(2):41-52, figs. 1-9.
- . 1965a. On Brazilian supratidal and estuarine snails. *Fac. Fil. Cien. et Letras de Univ. São Paulo. Bol.* 287. *Zool.* 25:19-103, pls. 1-10.
- . 1965b. On two Ellobiidae from southern Brazil. *Fac. Fil. Cien. et Letras de Univ. São Paulo. Bol.* 287. *Zool.* 25:425-465, pls. 1-5.
- MARTINI, F. H. W., AND J. H. CHEMNITZ. 1769-1795. *Neues systematisches Conchylien-Cabinet*. Nürnberg. Vols. 1-11.
- MCLEAN, J. H. 1967. West American Scissurellidae. *Veliger* 9(4):404-410, pl. 36.
- . 1969. Marine shells of southern California. *Los Angeles Co. Mus. Nat. Hist., Sci. Ser.* 24, *Zool.* 11:1-104, figs. 1-54.
- MELVILL, J. C., AND R. STANDEN. 1912. The marine Mollusca of the Scottish National Antarctic Expedition. *Trans. Roy. Soc. Edinburgh* 48(2): 333-366, 1 pl.
- MOLINA, J. I. 1782. *Saggio sulla storia naturale del Chile*. Bologna. 367 pp.
- MONTAGU, G. 1803-1808. *Testacea Britannica*, or an account of all the shells hitherto discovered in Britain. London. Vols. 1-2. 1-606, pls. 1-16 (1803); suppl. 1-183, pls. 17-30 (1808).
- MORRISON, J. P. E. 1964. Notes on American *Siphonaria*. *Ann. Repts. Amer. Malacol. Union*, 1963: 7-9.
- NODA, H. 1966. The Cenozoic Arcidae of Japan. *Sci. Repts. Tohoku Univ.*, ser. 2, 38(1):1-161, pls. 1-14.
- ODHNER, N. H. 1925. *Marinula juanensis* n. sp., nebst Bemerkungen über die Systematik der Ellobiiden. *Arkiv for Zool.* 17A(6):1-15, pls. 1-2.
- OLSSON, A. A. 1961. Mollusks of the tropical eastern Pacific. *Paleontol. Res. Inst. Ithaca, New York.* 574 pp., pls. 1-86.
- ORBIGNY, ALCIDE D'. 1834-1847. *Voyage dans l'Amerique méridionale*. Paris. Vol. 5(3):1-758; Vol. 9 (Atlas) Moll., pls. 1-85.
- . 1842-1853. *Mollusques*, vols. 1-2, Atlas, in R. Sagra. 1839-1857. *Histoire physique, politique et naturelle de l'île de Cuba*. Paris. Vols. 1-12, Atlases.
- . 1854. List of the shells of South America in the collection of the British Museum. London. 89 pp.
- OSORIO, C. AND N. BAHAMONDE. 1970. Lista preliminar de lamelibranquios de Chile. *Mus. Nac. Hist. Nat., Chile, Bol.* 31:185-256.
- PALMER, K. V. W. 1963a. *Trochus conchyliophorus* Born, 1780, a junior synonym of *Turbo trochiformis* Born, 1778. *Bull. Zool. Nomen.* 20:1-9, figs. 1-5.
- . 1963b. Proposed designation of neotype for *Turbo trochiformis* Born, 1778 — *Trochus conchyliophorus* Born, 1780. *Bull. Zool. Nomen.* 20:10-11.
- PEAVOT, H. 1937. List of dates of publication of the early parts of the Society's 'Transactions.' *Proc. Zool. Soc. London* 107, series A:83-84.
- PEÑA, G. M. 1970. Zonas de distribución de los gasterópodos marinos del Perú. *Anales Cien. Univ. Nac. Agraria* 8(3-4):153-170.
- PETIT, S. 1842. Description de deux auricules nouvelles (section de Conuvules). *Rev. Zool. Soc. Cuvier.* 5:105-106.
- PHILIPPI, R. A. 1841. *Zoologische Bemerkungen*. *Archiv für Naturges.* 7:42-59.
- . 1842-1850. *Abbildungen und Beschreibungen neuer oder wenig bekannter Conchylien*. Kassel. Vols. 1-3, 144 pls.
- . 1845. Diagnosen einiger neuen Conchylien. *Archiv für Naturges.* 11(1):50-71.
- . 1846. Diagnosen einiger neuen Conchylien-Arten. *Zeit. für Malak.* 3:19-24, 49-55.
- . 1860. *Reise durch die Wüste Atacama auf Befehl der chilenischen Regierung im Sommer 1853-54 unternommen und beschrieben*. Edward Anton, Halle. 192 pp., and 162 pp., 27 pls.
- PILSBRY, H. A. 1888-1898. *Manual of conchology*. Philadelphia. Vols. 10 (p. 161 onward)-17.
- . 1903. *Schismope rimuloides* (Cpr.) at San Diego. *Nautilus* 17(7):84.

- _____. 1934. Notes on the gastropod genus *Liotia* and its allies. Proc. Acad. Nat. Sci. Phila. 85:375-381, text figs. 1-3.
- PILSBRY, H. A., AND A. A. OLSSON. 1945. Vitrinellidae and similar gastropods of the Panamic province. I. Proc. Acad. Nat. Sci. Phila. 97:249-278, pls. 22-30.
- PLATE, L. H. 1894. Mittheilungen über zoologische Studien an der chilenischen Küste. Sitzungs. König. Preuss. Akad. Wissen. 1:217-225.
- _____. 1902. Die Anatomie und Phylogenie der Chitonen. Zool. Jahr. suppl. 5:15-216, pls. 2-11.
- PONDER, W. F. 1965a. The family Eatoniellidae in New Zealand. Rec. Auckland Inst. Mus. 6(2): 47-99, pls. 4-11, text figs. 1-3.
- _____. 1965b. A revision of the New Zealand Recent species previously known as *Notosetia* Iredale, 1915 (Rissoidea, Gastropoda). Rec. Auckland Inst. Mus. 6(2):101-130, pls. 12-16.
- POTIEZ, V., AND A. MICHAUD. 1835-1844. Galerie des mollusques, ou catalogue méthodique, descriptif et raisonné des mollusques et coquilles du muséum de Douai. Vol. 1:1-560 (1838); Vol. 2:1-307 (1844); Vol. 3 (atlas):1-56 and pls. 1-70 (1835-1839).
- RAMORINO, L. 1968. Pelecypoda del fondo de la bahía de Valparaíso. Rev. Biol. Mar. 13(3):175-285, pls. 1-10.
- RÉCLUZ, C. A. 1843. Monographie du genre *Pornie*. Rev. Zool. Soc. Cuvier. Juin. Pp. 166-176.
- REEVE, L. 1843-1878. Conchologia iconica. London. Vols. 1-20.
- _____. 1843. Descriptions of new species of shells figured in the "Conchologia Iconica." Proc. Zool. Soc. London 11:168-197.
- REHDER, H. A. 1943. The molluscan genus *Trochita* Schumacher with a note on *Bicatillus* Swainson. Proc. Biol. Soc. Washington 56:41-46, pl. 3.
- REINHART, P. W. 1939. The holotype of *Barbatia* (*Acar*) *gradata* (Broderip and Sowerby). Trans. San Diego Soc. Nat. Hist. 9:39-46, pl. 3.
- RIVEROS-ZUÑIGA, F. 1951. Catálogo descriptivo de fisurélidos chilenos. Rev. Biol. Mar. (Univ. Chile) 3(1-2):89-148, text figs. 15-54.
- RIVEROS-ZUÑIGA, F., AND J. GONZALEZ. 1950. Catálogo descriptivo de veneridos chilenos. Rev. Biol. Mar. (Univ. Chile) 2(2-3):117-160, text figs. 22-44.
- ROBERTSON, R. 1962. Comment on the proposal to preserve the family-group name Xenophoridae Deshayes, 1864 (Gastropoda). Bull. Zool. Nomen. 19:231.
- ROSEWATER, J., 1970. The Family Littorinidae in the Indo-Pacific. Part I. The Subfamily Littorininae. Indo-Pac. Moll. 2(11):417-506, pls. 325-387.
- ROST, H. 1955. A report on the family Arcidae. Allan Hancock Pacific Exped. Univ. So. Calif. Press, Los Angeles 20(2):177-249, pls. 11-16, text figs. 79-95.
- SCHRÖDER, O. 1916. Beiträge zur Anatomie von *Amphidesma solidum*. Jenaische Zeit. Naturwissen. 54(1):101-132, figs. 1-13.
- SMITH, E. A. 1882. Diagnosis of new species of Pleurotomidae in the British Museum. Ann. Mag. Nat. Hist., series 5, 10:206-218.
- SMITH, J. T. 1970. Taxonomy, distribution and phylogeny of the cymatiid gastropods *Argobuccinum*, *Fusitriton*, *Mediargo* and *Priene*. Bull. Amer. Paleontol. 56(254):441-573, pls. 39-49, text figs. 1-17.
- SOOT-RYEN, T. 1955. A report on the family Mytilidae. Allan Hancock Pacific Exped. Univ. So. Calif. Press, Los Angeles 20(1):1-175, pls. 1-10, text figs. 1-78.
- _____. 1957. On a small collection of pelecypods from Peru to Panama. Repts. Lund Univ. Chile Exped. (1948-49) 32:1-12, text figs. 1-2.
- _____. 1959. Pelecypoda. Repts. Lund Univ. Chile Exped. (1948-49) 35:1-86, pls. 1-4, text figs. 1-6.
- SOWERBY, G. B., I. 1821-1834. The genera of Recent and fossil shells, for the use of students in conchology and geology. London. Vols. 1-3.
- _____. 1825. A catalogue of the shells contained in the collection of the late Earl of Tankerville. i-vii, 92 pp., appendix i-xxxiv, pls. 1-9.
- _____. 1832. Reports of mollusks collected in western South America and the South Pacific Islands. Proc. Comm. Sci. Corres., Zool. Soc. London 2:113-120.
- _____. 1833-1834. Descriptions of shells collected by Hugh Cuming from the west coast of South America and the South Pacific islands. Proc. Zool. Soc. London for 1833, 16-22 (1833), 134-139 (1834).
- _____. 1834. Descriptions of shells collected by Hugh Cuming from the west coast of South America and the South Pacific islands. Proc. Zool. Soc. London for 1834, 46-47, 87-89.
- _____. 1835a. Descriptions of shells collected by Hugh Cuming from the west coast of South America and the South Pacific islands. Proc. Zool. Soc. London for 1834, 123-28.
- _____. 1835b. Descriptions of shells collected by Hugh Cuming from the west coast of South America and the South Pacific islands. Proc. Zool. Soc. London for 1835, 4-7.
- _____. 1839. Molluscuos animals and their shells, by J. E. Gray, continued by G. B. Sowerby, in F.W. Beechey, The zoology of Capt. Beechey's voyage . . . to the Pacific and Behring's Straits. London. Pp. 103-155, pls. 33-34.
- SOWERBY, G. B., I, AND W. L. POWYS. 1835. Descriptions of shells collected by Hugh Cuming. Proc. Zool. Soc. London for 1835, 93-96.
- SOWERBY, G. B., II. 1832-1841. The conchological illustrations. London. Parts 1-200, pls. 1-200.
- _____. (1842) 1847-1887. Thesaurus conchyliorum, or monographs of general of shells. London. Vols. 1-5, pls. 1-517.

- STEMPELL, W. 1899. Die Muscheln der Sammlung Plate. Zool. Jahrb. suppl. 5(Fauna Chilensis, 2), 1:217-250, pl. 12.
- STREBEL, H. 1908. Wissenschaftliche Ergebnisse der schwedische Südpolar-Expedition, 1901-1903. Stockholm. Vol. 6, Zool. 2, Gastropoden, 111 pp., pls. 1-6.
- STRONG, A. M. 1928. West American Mollusca of the genus *Phasianella*. Proc. Calif. Acad. Sci. (ser. 4) 17(6):187-203, pl. 10.
- STRONG, A. M., AND L. G. HERTLEIN. 1939. Marine mollusks from Panama collected by the Allan Hancock Expedition to the Galapagos Islands. 1931-32. Allan Hancock Pacific Exped., Univ. So. Calif. Press, Los Angeles 2(12):177-245, pls. 18-23.
- STUARDO, J. 1959. Ensayo de una clave para familias y géneros chilenos de Polyplacophora, con generalidades del grupo e inclusión de algunas especies comunes. Inves. Zool. Chilenas 5:139-148, text figs. 1-2.
- . 1962. *Caecum chilense*, nuevo molusco para Chile. Gayana. Zoologia 5:1-9, photos 1-2.
- . 1964. Distribucion de los moluscos marinos litorales en latinoamerica. Bull. Inst. Biol. Mar. 7:79-91, 1 fig.
- SUTER, H. 1908. Additions to the marine molluscan fauna of New Zealand, with descriptions of new species. Proc. Malacol. Soc. London 8(1):22-42, pl. 3.
- SWAINSON, W. 1836. Descriptions of species of *Mitra* and *Conoelix* collected by Hugh Cumming. Proc. Zool. Soc. London for 1835, 192-198.
- THIELE, J. (1929) 1931-1935. Handbuch der systematischen Weichtierkunde. Jena. 1:1-778, figs. 1-783 (1929); 2:779-1154, figs. 784-897 (1935).
- THIEM, H. 1917. Anatomie und Phylogenie der Monobranchen (Akmäiden und Scurriden nach der Sammlung Plates). Jena. Zeit. Naturwissen. 54 (3-4):405-628, pls. 24-26.
- THORE, S. 1959. Cephalopoda. Repts. Lund Univ. Chile Exped. (1948-49) 33:1-19, figs. 1-9.
- TROSCHER, F. H. 1852. Verzeichniss der durch Herrn Dr. V. Tschudi in Peru gesammelten Conchylien. Archiv für Naturg. 18(1):151-208, pls. 5-7.
- TRYON, G. W. 1872. Catalogue of the family Chamidae. Proc. Acad. Nat. Sci. Phila. 24:116-120.
- . 1879-1913. Manual of conchology. Philadelphia. Vols. 1-10 (to p. 160). Philadelphia. Continued by H. A. Pilsbry.
- TURNER, R. D. 1956. The eastern Pacific marine mollusks described by C. B. Adams. Occ. Papers on Mollusks, Mus. Comp. Zool., Harvard Univ. 21-135, pls. 5-21.
- VOKES, E. H. 1971. Catalogue of the genus *Murex* Linné (Mollusca: Gastropoda); Muricinae, Ocenebrinae. Bull. Amer. Paleontol. 61(268):1-141.
- WALLER, T. R. 1969. The evolution of the *Argopecten gibbus* stock (Mollusca:Bivalvia), with emphasis on the Tertiary and Quaternary species of eastern North America. Paleontol. 43(5) suppl.:1-125, pls. 1-8, text figs. 1-9.
- WATERHOUSE, F. H. 1937. List of the dates of delivery of the sheets of the 'Proceedings' of the Zoological Society of London, from the commencement in 1830 to 1859 inclusive. Proc. Zool. Soc. London 107, series A:78-83.
- WISSEL, K. 1894. Beiträge zur Anatomie der Gattung *Onchidiella*. Zool. Jahrb. suppl. 4:583-587, pls. 34-36.
- WOOD, W. 1828. Supplement to the Index Testaceologicus, or a catalogue of shells, British and foreign. London. 59 pp., pls. 1-8.
- ZIEGLER, R. F., AND H. C. PORRECA. 1969. Olive shells of the world. Rochester Polychrome Press, Rochester, New York. 96 pp., pls. 1-13.

Accepted for publication April 4, 1972