REPORT ON A COLLECTION OF SHELLS FROM PERU, WITH A SUMMARY OF THE LITTORAL MARINE MOLLUSCA OF THE PERUVIAN ZOOLOGICAL PROVINCE.

By William Healey Dall,
Curator, Division of Mollusks, U. S. National Museum.

INTRODUCTION.

Under the auspices of the Ministerio de Fomento of Peru, Mr. R. E. Coker was engaged in making studies and collections of animals of the Peruvian coast with the intention of contributing to the knowledge of the aquatic resources of the country. In the course of this work numerous economic notes were made in relation to the animals obtained.

On the portion of the collection consisting of Mollusca, the authorities of Peru, through the intervention of Mr. Coker, have requested the writer to prepare a report.

It was found on looking into the matter that no systematic list of the shore mollusks of the Peruvian province had been published for more than half a century. It was thought that the value of this report to the naturalists of Peru and elsewhere would be considerably enhanced, after discussing the collection in question, if to it was added a list of the species reported as occurring on the shores of the Peruvian zoological province. The present report therefore contains both, together with illustrations of the chief economic mollusks of the Peruvian coast and islands contained in the collection.

It should be said that specimens of this collection have been returned with identifications, to the Peruvian authorities, and another series retained in the U. S. National Museum for reference. The notes in small type were prepared by Mr. Coker, who also collected the local names by which the more conspicuous species are known to the fishermen and local salesmen. It will be observed that these "common" names are no more precise or descriptive than those of our own fishermen, the same name being often applied to extremely distinct animals.
Annotations List of the Mollusca Collected.

**Anomia Peruviana** Orbigny.

Plate 28, fig. 4.


Concha perla. Not "Concha de la Perla Viuda," which is applied to *Pteria*, the pearl oyster. Common, sessile on oysters, etc., near Capon and Matapalo.

**Distribution.**—From San Pedro, California, to Paita, Peru.

Shell very thin, pearly; white or coppery brown on the upper valve, bluish green internally and on the central part of the lower valve; sessile on other shells or smooth objects adhering by a prominent byssus which passes through a large hole in the lower valve. The scars of the muscles in an area on the inside of the upper valve form a nearly even straight row radiating from the direction of the hinge. The species can be distinguished from the other local species, *Anomia adamas* Gray, by the fact that the latter has the two distal scars on the area side by side and about equidistant from the hinge.

These shells have no economic relation unless it is that, when present in large numbers, they are injurious to the oysters upon which they perch, by consuming food the latter might otherwise get, or by overloading the oysters with their weight.

The *A. adamas* Gray, has been collected in Sechura Bay, at Matacaballa, but seems to be less common than *A. peruviana*.

**Ostrea Megodon** Hanley.


Taken in dredge, Bay of Sechura, about halfway between Bayovar and Matacaballa.

**Distribution.**—From Scannmon Lagoon, Lower California, and the Gulf of California, south to Peru. Fossil in the Antilles.

This species is very thin, narrow, and ribbon like; the margin fluted by four or five broad rounded waves, the color pale brownish when fresh, bleaching to white when beach worn. It has no economic value.

**Ostrea Chilensis** Philippi.

Plate 26, fig. 1.


Ostra of the fishermen. From the roots of mangroves, near the mouth of the Tumbes River.

**Distribution.**—From the island of Chiloë northward to the coast of Ecuador.

Shell ovate trigonal, irregular, moderately heavy; externally grayish white, internally white, sometimes faintly tinged with green;
the muscular scars white; the lower valve deep, rugose-scaly, the upper valve nearly flat.

This species is reported by Hupé to have as good a flavor as the edible oyster of Europe, yet the natives of South America will eat it only when cooked. It seems from an economic standpoint to be the most important species of the genus in the region where it occurs. It is easily distinguished from the following species in any of its mutations by the white or pale green margin of the valves.

OSTREA COLUMBIENSIS Hanley.

Plate 26, fig. 2.


From the roots of the mangroves near the mouth of the Rio Tumbes; on the beach near the Estero Bendito; and bought in Callao, where they had been brought from the Tumbes region. _Ostra_ of the fishermen.

_Distribution._—From the Gulf of California south to Coquimbo, Chile.

Shell smaller than that of the preceding species, streaked with purple externally, the margins of the valves and the muscular scars purple or tinged with purple; ligamentary area broad, the beak of the lower valve strongly laterally recurved; form irregularly rounded trigonal, externally more or less lamellose and somewhat obscurely radiately ridged.

This species, distinguished by its purple scars and margins, is gathered for sale in the markets, but never attains the size of _O. chilensis_.

PECTEN PURPURATUS Lamarck.

Plate 26, figs. 5, 6.

_Pecten purpuratus_ Lamarck, Anim. s. Vert., vol. 6, pt. 1, 1819, p. 166.—Sowerby, Thesaurus Conch., vol. 1, 1843, p. 53, pl. 15, fig. 113; pl. 16, figs. 123–125.

Concha abanico or conchitas. Taken near San Lorenzo Island, in Callao Bay, in about 15 feet of water, and in Sechura Bay, half-way between Bayovar and Matacaballa.

_Distribution._—From Coquimbo, Chile, northward to Ecuador.

Shell orbicular, moderately convex, subequivalve, rather thin, with about 26 flat-topped ribs, laterally fringed, and separated by channeled interspaces; colors white, rose color, and different shades of purple distributed in an irregular manner; the interior zoned with blackish purple.

The large adductor muscle of this species is a delicious morsel when delicately cooked. The Chilean name for the species is _Ostion._
PTERIA PERUVIANA Reeve.

Plate 28, fig. 1.

Avicula peruviana Reeve, Conchologia Iconica, vol. 10, Avicula, 1857, pl. 14, fig. 53.

Concha perla viuda, purchased in Paita.

Distribution.—Gulf of California to Peru.

Shell large, inequivalve, very inequilateral, thin, purple or reddish with radiating yellowish rays externally, internally pearly with a dull margin, hinge line produced into auricles or "wings," the posterior usually longer and more broad, the anterior smaller and separated from the body of the valve by a conspicuous sinus in the flat valve, surface smooth or slightly laminated, the body of the shell plump, the extremities compressed. Byssiferous and potentially migratory.

This is the species originally abundant on this coast which supplied the pearl fisheries of Paita and Sechura bays, and at present the pearl industry of the Gulf of California. For the most part these fisheries have been destroyed by overfishing, and the mollusks no longer occur in sufficient profusion to afford a commerce of real importance.

THE PEARL FISHERY IN PERU IN MODERN TIMES.

It seems that on the finding of pearls two companies were formed, one of which held a concession from the Government to take pearls from Tallara on the north to the Rio Piura on the south, while the latter fished from this river south to the Punta Aguja. The southern company employed divers in Panama, and made a promising start. Something like 300 pearls were taken at the outset, yielding about $2,000 and repaying expenses. After this practically nothing was obtained. They then began exploring with dredges, the two companies finally working in conjunction in this investigation. They worked in water of from 2 to 12 fathoms and up to a distance of 7 miles from the shore, but failed to locate any bank of pearl oysters. It is believed, however, that there is somewhere in the bay a considerable bank of these shellfish, since when the wind blows stillly from the north the beach is often strewn with the concha perlas. The conchas so found contain few pearls, and these of little value. The rastras which were used for exploring the bay were much like those used in Callao for concha abanices, but with sharper teeth. No attempts have been made since 1901. The most valuable pearl was black and small, and worth $400. For most of the above information I am indebted to Sr. Manuel Perez, who was the representative of the company which held the southern concession.

Getting such directions as were practicable regarding the location where the conchas were formerly encountered, I made several efforts with rastras to find them, but without success in this direction. Other forms of especial interest were taken, however. Later, at Paita, having obtained a dredge formerly used for the concha perlas, and a guide who had worked with one of the companies, we made other attempts a little south of Paita, but again with no success beyond the finding of a few dead shells. It is evident from this and from the repeated failures of the pearl companies that the locating of these banks would be accomplished only by long and thorough survey.
MYTILUS CHORUS Molina.

Plate 25, fig. 1.

_Mytilus chorus_ Molina, Hist. de Chile, 1782, p. 202, ed. 1787, p. 177; Conchologia Iconica, _Mytilus_, pl. 2, fig. 4.

Choro. From Windy Bay, in the southeast part of Independencia Bay.

_Distribution._—From Coquimbo, Chile, northward to Peru. Known in Chile as Almeja, or Choro de Concepcion, after Conception Bay, where it abounds.

Shell large, ovate oblong, bluish with a thick black periostracum, smooth or concentrically subrugose; anterior end pointed, recurved; distal end rounded, produced; a single denticle at the hinge; the interior white with a bluish margin; byssus strong.

This is the largest of the mussels on the coast, and is regarded as the best of the edible shellfish. It is collected for the market where plentiful and transported to the principal towns as a standard article of sea food.

MYTILUS MAGELLANICUS Lamarck.

Plate 25, fig. 4.


Choro. Ancon and Callao Bays.

_Distribution._—From Magellan Straits northward to Chile and Peru; the northern specimens smaller and less rugose than the more southern variety.

Shell of moderate size, straight, ovate-elongate, ventricose, anteriorly attenuated, subpyriform, blackish brown, varying to chestnut, with a thick periostracum; inside with a bluish nacre somewhat distributed in zones; the exterior feebly concentrically sculptured, the anterior half of the shell with more or less distinct radiating grooves and ridges.

Distinguishable from the young of _M. chorus_ by the anterior radial sculpture.

MYTILUS ATER Molina.

_Mytilus ater_ Molina, Hist. de Chile, 1782, p. 203.

_Mytilus orbignyanus_ Hupe, in Gay, Hist. de Chile, vol. 8, 1854, p. 211, pl. 5, fig. 5.

Choro. From rocks along the shore on the northeast side of San Lorenzo Island, Callao Bay. Also taken from the bottom of a small vessel after a voyage from Callao to the island Lobos de Afuera.

_Distribution._—From Talcahuano, Chile, northward to Ecuador and the Galapágos Islands.

This species differs from the preceding in being quite smooth, without radiating sculpture, and when full grown does not exceed 3 inches in length. It takes the place of _Mytilus edulis_ in the northern
hemisphere, and is chiefly found near tide limits on rocky shores. The specimens collected by Mr. Coker were very young, but seem to be referable to this species.

**Mytilus Granulatus** Hanley.


Abundant on the rocky shores of the island Lobos de Afuera.

**Distribution.**—From Chiloé Island north to the Peruvian coast and islands.

Shell small, trigonal, inflated, thick, yellowish-brown, radiately conspicuously and closely costate, the costae diverging and bifurcating; anterior end high, obtuse; posterior end dilated, obliquely truncated; interior whitish, with a crenulate margin; the costae are more or less distinctly granulate, and the form of the shell variable.

This species has no economic importance.

**Modiolus Guyanensis** Lamarck.

Plate 27, fig. 2.


Mejillones. From the flats at Capon and at the mouth of the Tumbes River, embedded in soft mud. They are usually quite buried or covered with mud, but their presence can be recognized by slits in the mud, such as would be made by thrusting in a broad knife blade. They occur in the mud floor of mangrove swamps and are commonly used for food.

**Distribution.**—Peru to the Gulf of California on the west, Guiana on the north, and south to Rio on the east coast of South America.

This is one of the few species which occur on both the eastern, northern, and western shores of South America. It was described by Lamarck from Guiana; there is a specimen from Rio Janeiro, obtained by Anthony, in the National Collection, and we now have it from Guayaquil and Peru.

Shell oblong, wedge shaped, externally green behind and above; the green area concentrically minutely wrinkled and separated from the rufous brown anterior part by a narrow lighter ray; ventral edge nearly straight, the interior pearly white, purple behind; the anterior end attenuated and the beaks adjacent.

This is one of the most attractive species of the genus when in good condition.

**Modiolus Arciformis**, new species.

Plate 28, fig. 2.

Huaquilla on the Ecuador border; apparently from a shellheap.

Two fragments of a slender arenaceous *Modiolus* were gathered with the other dead shells from the shore at this locality and appear to belong to an undescribed species.
Shell slender, arcuate, of a pale brownish-white color (more or less bleached?) with some purple undertones dorsally; moderately tumid, with nearly terminal, very inconspicuous adjacent beaks; dorsal margin arcuate, very slightly subangulate at the end of the hinge line; posterior end rounded; anterior attenuated and rounded; base flattish and excavated or subconcave; bounded above by an obscure ridge; interior very pearly, of a lurid brown color, especially near the hinder edge, paler in the anterior region; shell margins simple; anterior adductor scar triangular, small, and deep; posterior scar larger, less impressed and near the posterior end of the shell. The type (Cat. No. 207756, U.S.N.M.) measured: Length of shell, 65; height at middle, 21; diameter at middle, 18 mm.

The nearest species to this is Carpenter's *Modiolus mutabilis*, which, however, is not arcuate to any conspicuous extent and has a different basal profile. It is also in all probability when adult a much larger shell.

**MODIOLUS PURPURATUS** Lamarck.


Choro. Callao Bay, island of San Lorenzo, on rocks; also at Estero Zarumilla on the Ecuador border, near Capon.

**Distribution.**—From Punta Arenas, Chile, north to Ecuador, on the rocky shores of the whole Peruvian province.

Shell small, oval, coarsely radiately grooved, black or blackish purple with a thick periostracum, solid, angular anteriorly; interior purple, the margin crenate, not denticulate near the hinge; the concentric incremental lines sometimes crenulate the radial ridges.

This small shell has no economic value, but is abundant on the rocky beaches. The beaks are often badly eroded.

**LITHOPHAGA (MYOFORCEPS) ARISTATA** Dillwyn.


Taken in dredge about halfway between Bayovar and Matacaballa, Sechura Bay.

**Distribution.**—Red Sea, West Africa, West Indies, the west coast of America from the Gulf of California south to Chile, boring in coral, limestone rock, and nullipores.

Shell small, slender, thin, nearly cylindrical, rounded and blunt in front, pointed behind; the surface is covered with a thin brown periostracum beneath which the shell is white; it deposits the calcareous matter from its boring on the exterior of the posterior end of the shell, forming a smooth coating which is extended on each valve beyond the end of the valve into a point; these points pass by each other like the blades of a pair of scissors.
This shell is of no economic importance, but is interesting on account of its boring habit and the singular form of the incrustation from which its subgeneric name was derived. The allied *L. attenuata* Deshayes, which also occurs on this coast, is distinguished by having the prolongations of its incrustation proximally flat and opposite like a duck's bill, instead of alternate.

**ARCA (ANADARA) GRANDIS** Broderip and Sowerby.

Plate 25, figs. 9, 10.


Pata de Burro. From the oyster banks of Matapalo, near Capon, and at Huaquilla, on the northern border of Peru. A large coarse form eaten by fishermen.

**Distribution.**—From Magdalena Bay, Lower California, south to Peru. Common in the mud about mangrove roots.

Shell large, heavy, white, covered with a strong smooth dark olivaceous periostracum; obliquely subquadrangular, with strong radiating rounded ribs crenulated only near the anterior end of the shell.

The name applied by the Tumbes fishermen to this heavy coarse bivalve is the same which in the south they give to the univalve *Concholepas*.

**ARCA (SCAPHARCA) TUBERCULOSA** Sowerby.

Plate 27, fig. 4.


Concha prieta. Mouth of the river Tumbes, and near Capon, from the muddy floor of mangrove swamps. Among the first phenomena to catch one's attention on entering the mangrove swamps is a sound, heard repeatedly on every side, as of nuts falling into the water or the soft mud. Tracing the sound with some care, it is found to come from the watery hollows in the mud occupied by the concha prieta, and is presumably made by the sudden closing of its valves under water by the mollusk. This species, though inferior to some other shellfish of the region, is the one most commonly eaten.

**Distribution.**—From Cedros Island, west coast of Lower California, in mangrove swamps and muddy places, south to Peru.

Shell oval, turgid, oblique, the hinge line subauriculate, with numerous radiating ribs, armed, especially in front, with scattered tubercles; surface covered with a dense, pilose periostracum in life, the shell beneath white and porcellaneous; ligamental area narrow, umbones adjacent.

This very common shell somewhat resembles *A. secticostata* Reeve, of the Florida coast.
ARCA (SCAPHARCA) LABIATA Sowerby.


From the flats at Capon.

**Distribution.**—From San Diego, California, south to Peru.

Shell very small, but having the aspect of *Arca grandis* in miniature. Without close inspection it would be taken for the young of that species. It has no economic importance.

**GLYCIMERIS INÆQUALIS** Sowerby.

*Pectunculus inæqualis* Sowerby, Proc. Zool. Soc. of London for 1832, p. 196 (not of Zool. of Beechey’s Voy., 1839, pl. 32, fig. 3).—Reeve, Conch. Icon., *Pectunculus*, pl. 4, fig. 16.

Dredged in 5 fathoms, Sechura Bay, west of Matacaballa.

**Distribution.**—Gulf of California to Sechura Bay, Peru.

Shell subcordate, solid, heavy, with obtuse radial ridges; lilac gray or white with four or five broad rusty or blackish transverse bands, irregularly disposed; interspaces of the ribs striated; ligament short and a very small part of it behind the umbones.

This species is rare and too small to have any economic value.

**GLYCIMERIS OVATA** Broderip.


Dredged in Callao Bay, near San Lorenzo Island.

**Distribution.**—Coquimbo, Chile, northward to the Lobos Islands, Peru, in 17 fathoms.

Shell obovate, convex, smooth, white, with fine transverse lines; the umbones pale chestnut, the interior white with a crenate margin. Periostracum thin, velvety, olive brown.

This species has no economic value and is rather uncommon.

**ALIGENA COKERI**, new species.

Plate 28, figs. 5, 6.

Attached to worm tubes thrown upon the beach of the lagoon at Capon, Peru. The worms live in the beach. The tubes resembled those of *Chætoperus*.

Shell small, white, thin, very fragile, tumid, more or less medially constricted; beaks full, high, closely adjacent, slightly anteriorly twisted and somewhat in advance of the middle of the shell; valves rounded quadrate, with a wide shallow furrow or constriction extending from the vicinity of the beaks to the middle of the base; ends rounded, base mesially excavated; sculpture consisting of concentric incremental lines and sparser, little-elevated, concentric threads;
the surface seems very liable to injury with resulting irregularities and depressions not normal to the shell; ligament strong, internal, its surface with a slight limy coat not consolidated into a lithodesma; hinge line edentulous, with a small callosity immediately in front of the ligament; pallial line entire, faint; interior of the valves white and smooth.

The type (Cat. No. 207759, U.S.N.M.) measures: Length, 7.5; height, 6.5; diameter, 6.5 mm.

Species of this genus exist on the east coast of the United States, and in the southern Tertiaries from the Eocene up; but this is the first time it has been recognized from the Pacific coast of the Americas. The present species is very similar to the A. aquata Conrad, of the Virginia Miocene. It is named for Mr. R. E. Coker.

**Diplodonta (Felaniella) Artemidis, new species.**

Plate 28, fig. 8.

On the "inside" or lagoon beach at Capon, in the sand.

Shell small, rather compressed, suborbicular, slightly inequivalve, the posterior side shorter; white with a polished yellowish periostracum and concentric sculpture, recalling in miniature that of Dosinia dunkeri; beaks small, pointed, slightly prosocoelous, adjacent; anterior end evenly rounded; posterior end slightly subtruncated, straighter, a little produced near the base, which is evenly arcuate; ligament strong, somewhat sunken; hinge-plate excavated; teeth two in each valve, the anterior in the left and the posterior in the right valve larger and bifid; pallial line entire, margin simple, muscular scars small. Length, 12.0; height, 11.5: diameter, 6.0 mm.

This form has a rather unusual sculpture and polish for a Diplodonta, the yellowish periostracum is slightly zoned with pale gray. It has, like other shells of its size, no economic relations.

**Type-specimen.**—Cat. No. 207758, U.S.N.M.

**Chama Pellucida** Broderip.


On the shore rocks at the island of Lobos de Afuera, and at Matacaballa, Sechura Bay, Peru.

**Distribution.**—From California south to Chile and Juan Fernandez Island.

Shell coarse, irregular, variable in form, adherent by the whole of one valve to rocks or other objects; rounded, the valves more or less subspiral; white with occasional reddish streaks on a subtranslucent ground; white within, with a crenulated margin; the exterior rude or rough, often much eroded, sometimes lamellose under favorable conditions of growth, reaching 2 inches in diameter, but having no economic value.
CARDIUM PROCERUM Sowerby.


A fragment was collected at the island Lobos de Afuera.

Distribution.—Cedros Island, Lower California, south to Paita, Peru.

Only a fragment was collected, and it is probably rare on the Peruvian coast.

DOSINIA DUNKERI Philippi.

Cytherea dunkeri Philippi, Abb. und Beschr. neue Conch., vol. 1, 1844, p. 4, pl. 2, fig. 9.—Sowerby, Thes. Conch., Artemis, pl. 140, fig. 5.

From a tidal lagoon at La Boca Grande, Tumbes.

Distribution.—Head of the Gulf of California and southward to Tumbes, Peru, and the Galapagos Islands.

Shell suborbicular, rather tumid, strong, and glossy, of a yellowish-white color, with moderately distant concentric sulci, the inter-spaces almost lamellar at the extremities of the shell; a few radiating very feeble striae near the ends of the shell; lunule sunken, cordate; beaks not prominent; the greatest length is on a vertical line from the beaks.

The soft parts are small for the size of the shell and, though eaten by the natives of the Gulf of California, the shell is not sufficiently common to have an economic value.

TIVELA PLANULATA Broderip and Sowerby.

Plate 28, fig. 9.


Matacaballa, Sechura Bay.

Distribution.—Gulf of California and southward to Coquimbo, Chile.

MACROCALLISTA (PARADIONE) PANNOSA Sowerby.


Dredged in Sechura Bay, west of Matacaballa, in about 5 fathoms.

Distribution.—Cape St. Lucas, Lower California, southward to Valparaíso, Chile.

Shell small, polished, compressed, obovate, solid, smooth, yellowish, variously painted with brown lines, spots, or streaks; beaks rather prominent; the interior of the shell white, the margins entire.

This little shell in some localities is quite common; in the Gulf of California the dead valves occur in heaps on the beaches, but it is too small to have any economic value, averaging only about an inch in length. It is attractive on account of its pretty and varied colors.
CHIONE ASPERRIMA Sowerby.


From the shell heaps at Huaquilla and Matapalo. Common in some localities, especially shelly beaches. "Concha tabaco" of the fishermen, who do not like it, saying it has the flavor of tobacco.

Found associated with the *Anomalocardia*.

**Distribution.**—Gulf of California southward to the Lobos Islands, Peru.

Shell rounded triangular, moderately tumid, whitish or grayish, with fine, rough, reticulate sculpture; in favorable localities with brown or livid varied painting on a lighter ground; lunule ovate, depressed, whitish.

This shell is recognizable by its rasp-like surface and long anterior cardinal tooth.

CHIONE COMPTA Broderip.


Beach of Sechura Bay, near Matacaballa.

**Distribution.**—Gulf of California and southward to the Galapagos Islands and Sechura Bay, Peru.

Shell closely resembling *Chione cancellata* of the Atlantic coast, but flatter, more spread at the sides where the radiating threads are divergent, and the concentric sculpture is more laminar and less reflected; the latter is apt to be crowded, ventrally, in senile examples. The shell is white, rounded trigonal, solid, and heavy, with radiating rounded threads and concentric more or less distant lamellae. The internal margins are crenulate, and the shell rarely exceeds 30 mm. in length. It is too small and not sufficiently abundant to have an economic value.

ANOMALOCARDIA SUBRUGOSA Sowerby.

Plate 26, fig. 3.

*Venus subrugosa* Sowerby, Genera of Shells, 1834, fig. 2.

Conchas de los bajos. Near Capon, at the oyster beds of Matapalo, there is along the border of the mangrove swamp a shelly bank about 25 meters wide. From this thousands of these shells may be taken in a short time. They are esteemed as food by the fishermen. They were also taken at Lancha de Fierro, at the mouth of the Tumbes River, and in the tidal lagoon La Boca Grande, at Tumbes; and the dead shells occur in the shell heaps at Huaquilla, on the Ecuador border.

**Distribution.**—From the Gulf of California to Valparaiso, Chile.

Shell ovate, subcordate, very tumid, thick and solid, the ventral edge much arcuated; color pale, with three or four dark rays; a few large, coarse, smooth, rounded and concentric ribs which become obsolete on the anterior slope and toward the ventral edge; lunule cordate, limited by an impressed line; inner margins crenated; length about 35 mm.
CYRENA ISOCARDIOIDES Deshayes.

Plate 26, fig. 4.


Llurona. Tumbes region, from the Estero Bendito. West Colombia, Deshayes.

These shells were found in some numbers barely covered by the muddy sand and rather high above low-water mark. The animal contains such a quantity of salt water as to be very unpalatable, even if the flesh be repeatedly punctured while roasting.

Shell much inflated, rounded trigonal, cordate, thin; anterior end evenly rounded; posterior side obliquely declining, subtruncated at the extremity; surface smooth except for incremental lines; periostracum thin, velvety, of an olivaceous brown; beaks large, swollen, incurved; shell white with faint violet streaks; hinge plate very narrow, teeth small, nearly equidistant from the cardinals; valves white inside, with sometimes a little violet near the margins, which are entire. Pallial line entire, without the sinus found in other American Cyrenas.

DONAX ASPERA Hanley.

Plate 28, fig. 7.


Almejas. Found at the sand beach of Santa Lucia, mouth of the Tumbes River. A small but esteemed comestible, abundant on many beaches.

Distribution.—Central America and southward to Tumbes, Peru. Shell triangular, wedge shaped, small, solid, white or purple; radiately striate in front; on the short posterior side granulated near the angle of the truncation; behind the angle striated; posterior ventral margin denticulate; posterior area convex below, concave above; beaks elevated, the anterior dorsal slope steep.

The color, as in most donaces, is very variable. On the Lower Californian coast shells of this genus, even smaller than D. aspera, are washed, thrown, shells and all, into hot water, boiled until the juice is extracted and then strained out, leaving a clear broth of which the flavor is highly praised.

IPHIGENIA ALTIOR Sowerby.

Plate 25, fig. 8.


Playeras. From the flats at Capon, 4 to 6 inches deep in the sand, and from a tidal lagoon at La Boca Grande, Tumbes.

Distribution.—Gulf of California and southward to Tumbes, Peru. Shell subtriangular, oblong, arcuate, pale green or rosy under an olive periostracum, internally violet; posterior dorsal margin sloping,
rounded at the end; in front subtruncated; ventral edge rounded behind, in front somewhat flexuous; umbones blackish; the internal margins not crenate.

There is no record as to the edibility of this species.

**TELLINA (ANGULUS) EBURNEA Hanley.**

Plate 28, fig. 3.


From the flats at Capon.

**Distribution.**—Gulf of California and southward to Paita, Peru.

Shell small, oblong, compressed, opaque white, glossy, inequilateral, with strong concentric sulci which usually are more feeble in one of the valves; and which become closer and the interspaces sublamellose on passing the flattened area at the upper edge of the more convex valve; posterior end shorter, subcuneiform, anterior edge straight, then rounded down to the base; ligament short and prominent; fold almost obsolete; inside pure white.

An inconspicuous species, not known to have any economic value.

**TAGELUS (MESOPLEURA) DOMBEYI Lamarck.**

Plate 27, fig. 3.


Navaja. Taken in sand, under 3 or 4 feet of water, at Chilca Bay, Peru. Used as food, but apparently does not occur abundantly.

**Distribution.**—From the island of Chiloé northward to Tumbes, Peru.

Shell elongate, parallel-sided, the ends rounded; covered with a dull olivaceous periostracum, white or purplish with an obsolete white ray; beaks subcentral, the ends of the shell gaping slightly; the base with its margin in the middle somewhat concave. Hinge with two inconspicuous cardinal teeth.

**SEMELE SOLIDA** Gray.

Plate 28, fig. 10.

*Amphidesma solidum* Gray, Spicilegia Zoologica, 1828, pl. 6, fig. 6.—HuFé, in Gay, Hist. de Chile, vol. 8, 1854, p. 359, pl. 7, fig. 1.

Concha blanca. Bay of Chilca, 30 miles south of Callao.

**Distribution.**—Chonos Archipelago and northward to Callao, Peru. Shell thick, solid, suborbicular, compressed, with concentric grooves and delicate radiating striae; somewhat wrinkled distally; a touch of purple on the hinge margin; ligament internal; lunule minute, lanceolate; cardinal teeth very slender. Not of economic importance.
MESODESMA DONACIUM Lamarck.

Plate 27, fig. 1.


Almejas. Ancon. Used for food and bait. Seen not infrequently but irregularly in the market. Also obtained at Mollendo and Sechura Bay.

_Distribution._—Whole Peruvian province, from Valparaiso north to Sechura Bay.

Shell white, solid, covered with a straw-colored periostracum; smooth or concentrically obscurely striated; wedge shaped, very inequilateral; shorter end subtruncate, longer end compressed, rounded, much produced.

This is the type of the genus _Mesodesma._

SAXICAVA SOLIDA Sowerby.


Taken from the rocks at north end of the water front at Callao, and from nullipores dredged in 5 fathoms, in Sechura Bay, west of Matacaballa.

_Distribution._—From Guayaquil to the Straits of Magellan, boring in soft material.

Shell small, irregular, mostly subcylindrical, distally blunt or subtruncate, chalky, covered with a straw-colored periostracum.

MARTESIA CURTA Sowerby.


Boring in driftwood on the mud flats of La Pampa, mouth of the Tumbes River, Peru.

_Distribution._—Almost world-wide in the tropics; boring in floating timber; West Indies, Panama, Ecuador, and Peru.

Shell oval, pointed behind, rounded in front; valves divided by a transversely grooved band; the anterior area obliquely divided in the adult, the dorsal portion with radiating wrinkles and transverse striae, the ventral thinner and inflated, only filling the anterior wide gape when the shell is mature; posterior part of the valves concentrically striated; an accessory piece over the beaks on the back of the shell, pointed distally and contracted in the middle; posterior gape covered with a horny cuticle.

These small borers, except as helping to disintegrate sunken driftwood or wrecks, seem to have no economic importance.
XYLOTRYA DRYAS, new species.

Plate 25, figs. 2, 3, 5, 6, 7.

From the stem of a living mangrove at Estero del Palo Santo, Tumbes, Peru.

As a rule, animals belonging to this family excavate their burrows in dead wood, not living trees, though the African mangrove of Senegal is bored in the living state by a true Teredo, which received the name of T. senegalensis from Blainville. The present species so far as noted is the first to be reported from living trees in America, and the first of the genus Xylotrya known to have this habit.

The external surface of the valves, beginning in front, is divided into five areas, of which the first might perhaps be regarded as internal rather than external, though when the muscles are removed it faces outward. It is in reality a myophoric surface, free from periostracum and in life supports very powerful muscles, which hold the two valves together; the surface of this area is rather irregular, the dorsal extremes of the area in the two valves project in blunt points; this area is separated from what is generally called the anterior area of the valves by a deep sulcus, the posterior slope of which terminates in a rounded bounding ridge; the anterior area proper is concentrically sculptured by regular, low, sharp, equally spaced, fine lamellae with slightly wider interspaces; these are crossed by extremely sharp, fine, close, microscopic, radial striae; the vertical width of this area is a little more than the width of the premedian area; the sculpture changes abruptly at the junction of the two areas and the angle at the junction of their ventral margins, as of the sculpture, is about 97°. The premedian area is similarly sculptured, but the lamellae are rather smaller and more close set than in the anterior area, while the radial striae are coarser and deeper, showing distinctly on the tops of the lamellae. The postmedian area is feebly concentrically striated, covered with a thin glossy periostracum and more or less brown stained by the mangrove sap; it is separated from the posterior lobe by an angle; the posterior lobe or area is similar in surface and forms somewhat less than a semicircle, low and evenly rounded. The two valves are held together by strong muscles, chiefly attached to three myophoric areas. The first of these, anterior and looking outward and forward, has been described; the second forms an irregular concavely excavated rough surface extending from the anterior sulcus to the angle between the postmedian and posterior lobes of the shell. This surface includes much of the dorsal edges of the original valves, and when the muscles are removed the appearance is as if the valves have been badly eroded, but the condition is the same in the youngest valves I have been able to examine, and if, as seems evident, a considerable portion of the umbonal surface is missing, it has unquestionably been removed by absorption, and not by external erosion. The stylloid processes are broad and long, extending nearly to the
nODULES ON THE INSIDE OF THE VENTRAL POINTS OF THE VALVES. They spring from a thick reinforcement of the hinge line, simulating a hinge plate, and they have nothing to do with the muscular system, but, as in the Pholads, are buried within the mass of the body and are probably of use in supporting the internal organs against the violent shocks resulting from its boring operations. From the posterior end of the "hinge plate" to a point on the margin of the valves corresponding to the angle between the postmedian and posterior areas, extends in the adult a broad septum in each valve, continuous on its inner edge with the margin of the valves and on the opposite edge free, with a recess behind it equal in depth to about half the whole width of the septum. The surfaces of these two plates form the third myophoric area above referred to and carry a relatively immense mass of muscular fibers uniting and holding closed the two valves and counteracting the action of the muscles massed on the exterior myophores. In other words, these muscles correspond to adductors of ordinary bivalves as regards their function, while the external muscles operate like a ligament. The nodules on the inside of the distal or ventral ends of the valves are of a rather unusual shape, subcylindrical and blunt at the opposed ends, rapidly cuneate at the proximal ends. The type, an adult shell, (Cat. No. 207695 U.S.N.M.), measures dorsoventrally 20, in length 19, and transverse diameter 19 mm. The soft parts, in alcohol, of this specimen were about 8 inches (20 cm.) in length. The pallets, set rather far back from the siphonal ends, measured about 45 mm. in length, of which 25 mm. is smooth cylindrical stalk, the remainder being vane, of which the mass is set on the stalk inequilaterally, the segments being closely crowded with a serrate profile, and pretty well covered by a thin brownish periostracum which passes over the segments on the back without interruption for the interspaces. The width of the vane is about 5 mm. near the base, gradually narrowing to a point at the tip.

It is somewhat odd that, in comparing the shell of this species with that of other Teredinidae, the most similar shell found was not that of any *Xylotrya*, but a shell belonging to another genus, the *Teredo norvegica* of Spengler. From this the valves of *X. dryas* differ in having the posterior area axially longer, the postmedian shorter, the premedian wider, and the anterior about the same proportion. The styloid processes are longer; between the root of the process and the anterior end of the thickening I have for convenience called a "hinge plate," there is a small but prominent denticle which I have not found in any other species.

It is not improbable that this species may be confined to the mangroves and not attack dry wood; if so this would account for the form not being reported before.
BULLARIA PUNCTULATA A. Adams.


**Distribution.**—From Cape St. Lucas, Lower California, and the Gulf of California, southward to Pacasmayo, Peru, and the Galapagos Islands.

Shell oval, involute, solid, with a marbling and punctate painting of reddish brown; surface smooth, length about 25 mm.

SIPHONARIA (LIRIOLA) LESSONI Blainville.


**Distribution.**—Straits of Magellan northward to Callao, Peru.

Shell patelliform, erect, the apex rather sharp, recurved; surface feebly radially striate; of a brownish-olive color. Margin entire. Interior brown, polished, the muscular scar interrupted for the passage of the siphon.

This is a very common species, of no economic value, frequently found among true marine limpets on rocks between tide marks. It has been frequently confounded with the *S. tristensis* of Sowerby from Tristan d’Acunha Island in the Atlantic Ocean.

BULIMULUS HENNAHI Gray.

*Bulimulus hennahi* Gray, *Spicilegia Zool.*, vol. 1, 1828, p. 5, pl. 5, fig. 5.

Snails from the hills of San Gallan Island, near Pisco, Peru; 1,200 to 1,368 feet above the sea. The lower parts of the island are arid, but the higher parts derive sufficient moisture from the clouds to support a good deal of vegetation and these snails.

**Distribution.**—Arica, Tacna, and San Gallan Island, Peru.

Shell oval, subacuminate, solid, rather rude, with irregular feeble axial rugosities; color pinkish white, with pink apex, and about seven whorls, the last about equal to the spire, moderately rounded. Aperture ovate, purplish inside, pillar straight; peristome simple, acute; a small umbilical perforation behind the expanded posterior part of the pillar. Length about 27 mm.

These snails have no economic value.

BULIMULUS COKERIANUS, new species.

Plate 23, fig. 3.

Snails from the peaks of Vieja Island, Independencia Bay, at about 1,200 feet elevation.

Shell small, thin, conical, with about eight whorls separated by a distinct but not channeled suture; nucleus smooth, brownish, with
an apical dimple and about a whorl and a half; spire above the last whorl about one-third of the total length or even less; color lilac-gray, with retractive axial streaks, more or less irregular, of purplish brown; aperture ovate, with a sharp simple peristome, a wash of enamel on the body, and a straight, thin, hardly reflected pillar; interior with the coloration shining through the shell and a faint grayish enamel; umbilicus small, deep; sculpture of incremental lines and feeble irregular rugosities. The type (Cat. No. 207700, U.S.N.M.) measures: Height of shell 27; of last whorl 19; of aperture 13.5; maximum diameter of last whorl 15 mm.

This species is most nearly approached by *B. apodematus* Orbigny, but differs constantly in its depressed spire with deep sutures, the very slight masking of the umbilicus by the expansion of the pillar, the aperture slightly more angular at the base, and the deeper and more intense coloration. It is named for the collector of the specimens.

**CONUS XIMENES** Gray.


Dredged in Sechura Bay, halfway between Bayovar and Matacaballa. One dead specimen.

This is the original *interruptus* of Broderip and Sowerby, as figured in Beechey's voyage. The normal *C. Ximenes*, as described, has additional brown flammules, this variety only the spiral rows of brown dots on a greenish-white ground. The spire has a very shallow channel behind the suture, but is not spirally striated like *C. purpurascens*, or granulated anteriorly as in that species. The shell is covered with a velvety periostracum, while that of *C. purpurascens* is smooth and almost polished.

**OLIVA PERUVIANA** Lamarck.

Plate 23, fig. 4.


Dredged, living, in Sechura Bay, between Bayovar and Matacaballa.

**Distribution.**—From Valparaiso, Chile, northward to Guayaquil and the Galapagos Islands.

Shell ovate, solid, polished, whitish with irregular brown stripes, sometimes angular, sometimes axially directed. The epipodia behind, from the preserved specimens, seem to form a sort of pocket, which in life should fit over the spire of the shell.
OLIVELLA COLUMELLARIS Sowerby.


Beach of Sechura Bay, near Matacaballa.

**Distribution.**—Central American coast, Panama and southward to Paita and Sechura Bay.

Shell small, polished, spire acute, short, last whorl expanded in front, feebly axially striated; pale grayish or lead color, with a heavy whitish body callus, and usually a yellowish spiral band at the middle of the whorl and behind the suture. There is a single strong plait on the anterior edge of the pillar; interior of the aperture purple; showing one paler band. The animal, unlike that of *Olivella*, possesses a small horny operculum. These shells in prehistoric times were used as beads.

OLIVELLA SEMISTRIATA Gray.

*Olivella semistriata* Gray, Zool. Beechey's Voy., 1839, p. 130, pl. 36, fig. 10.

Dredged in Sechura Bay, in about 5 fathoms, west of Matacaballa.

**Distribution.**—Gulf of California and southward to Sechura Bay.

This species is very similar to the last, but has a proportionately longer spire and is less compressed in front. Neither of the species has any present economic value.

MARGINELLA CURTA Sowerby.


Dredged in Sechura Bay, between Bayovar and Matacaballa; found also at the Chincha Islands and Lobos de Afuera Island.

**Distribution.**—From Panama southward to Iquique, Chile.

Shell small, polished, of a purplish brown, the spire very short, the aperture narrow, nearly as long as the spire, the pillar with four well-marked plaits; the surface without sculpture except faint incremental lines.

This species has no present economic value, but the prehistoric tribes ground off the apex of the spire, strung the shells on a cord, and used them for beads.

MITRA ORIENTALIS Gray.

*Mitra orientalis* Gray, in Griffith's Cuvier, 1834, pl. 40, fig. 5.

Taken on rocks of beach at Ancon; one dilapidated specimen.

**Distribution.**—Valparaiso, north to Ancon.

Shell elongate, turrited, covered with a thick black periostracum which in drying peels off, coarsely feebly spirally striated; the last whorl longer than the spire; aperture about half as long as the shell,
interior livid purple brown or whitish; pillar with three prominent plaits; no operculum. Species of no economic importance.

This species is one of a group of black *Mitras* characteristic of the west coast of the two Americas from California to Valparaiso. These shells have been generally confounded together on account of their general similarity, and the fact that specimens obtained are usually in poor condition, the periostracum at least being almost invariably defective.

**Solenosteira fusiformis** Blainville.

*Plate 22, fig. 3.*


Dredged in Sechura Bay, west of Matacaballa, in about 5 fathoms. Also found at the Chincha Islands on the shores.

**Distribution.**—From Panama southward to the Chincha Islands.

Shell ovate, turrited, ventricose, white, covered with a thick lamellose dark olive periostracum; whorls convex, carinated, tuberculous above; the tubercles elevated and compressed; aperture ovate, white; columella smooth; base narrowly umbilicated; canal short, flaring. Operculum elongate with an apical nucleus.

This shell has much similarity to the *Thais kiosquiforrnis*, with which it has very generally been associated. It can be distinguished by the absence of the lamellose sutural band of the *Thais* and the entirely distinct operculum.

**Columbella paytensis** Lesson.


Dredged in Sechura Bay west of Matacaballa, in about 5 fathoms. Also obtained at Lobos de Afera Island.

**Distribution.**—Central American coast southward to Sechura Bay, and at the Galapagos Islands.

Shell small, stout, with a short spire and narrow aperture; whorls broadly channeled below the sutures; chestnut brown, more or less dotted with white; outer lip internally denticulated, a few tubercles on the pillar; aperture within whitish or purple; length about 25 mm.

**Anachis rugosa** Sowerby.


On oysters, at Matapalo, near Capon.

**Distribution.**—Gulf of California southward to Paita, Peru.

Shell small, ovate, tuberculate, plicate or rudely ribbed axially, the ribs only developed on the upper half of the body whorl; whole
surface with revolving striae; spire acute, shorter than the body whorl; color white, gray, or olivaceous, with chocolate clouding especially on the back of the body whorl, which is sometimes nearly all chocolate colored; length 18 mm.

These small shells have no economic value in themselves; but they drill the very young oysters when about 10 mm. in diameter, pierce the thin shell, and suck the juices of the animal. If very numerous they might be a serious detriment to the maintenance of growing oysters.

**ASTYRIS UNICOLOR** Sowerby.


Dredged in Callao harbor, in 2½ fathoms, near San Lorenzo Island.

*Distribution.*—From Chiloë Island northward through Chile, Peru, and the Galapagos Islands.

Shell very small, ovate, smooth with revolving striae near the canal; color chocolate or chestnut brown, with or without a lighter band revolving on the periphery; aperture brownish within; outer lip and pillar with a few obscure denticles in the adult; length about 12 mm.

This small shell, remarkable for its wide geographic range, has no economic relations.

**ALECTRION (HIMA) DENTIFERUS** Powys.


Dredged in about 9 fathoms, muddy bottom, in Ancon Bay.

*Distribution.*—Coasts of Chile and Peru, from Valparaiso northward to Panama.

Shell small, turrited, rather thin, obscurely reticulately sculptured, chocolate brown, inside and out, with occasionally a paler peripheral spiral band; outer lip sharp, thin, in the adult having an obscure varix behind it; the sculpture variable in strength; length 20 mm.

This small and unattractive species has no economic importance.

**CONCHOLEPAS CONCHOLEPAS** Bruguière.

*Plate 22, fig. 1.*


Pata de burro, of the southern region. Common on some of the rocks some yards from shore and at or below low-water line.

*Distribution.*—Chincha Islands. Mollendo, and south to the Magellanic region. Also northward, according to E. von Martens, to the west coast of Mexico.
Shell large, rude, with spiral imbricated sculpture, the spire so reduced that the last whorl appears like a large rounded limpet; the color brownish. Inside white, polished, the margin more or less crenulated, and produced toward the anterior edge into two or more projecting denticulations. There is an operculum, but too small to close the aperture, into which the animal can barely withdraw. The shell may reach a length of 80 mm. or even more. It lives seated on rocks like a limpet, though closely related to the genus *Thaïs*.

Mr. Coker in his notes mentions that this species is sometimes eaten, but not esteemed.

**THAIS CHOCOLATA** Duclos.

Plate 22, fig. 2.


Caracoles. Callao Bay, shore to 2½ fathoms, and on the shore of San Lorenzo Island. This form is commonly sold in the markets, after being removed from the shell.

**Distribution.**—From Valparaiso, Chile, northward to Paita, Peru. Shell large, solid, with a short spire and very large body whorl often carinated and more or less tuberculate at the shoulder of the whorl; exterior chocolate color, the aperture within bluish or yellowish, the pillar orange colored; the shell when weathered, as many specimens are, becomes of a grayish color and is frequently more or less eroded. Operculum large with a lateral nucleus; the length of the shell sometimes reaching 3½ inches.

The word "caracoles" seems to be applied by the fishermen to any species of *Thaïs* or *Solenosteira*, and the general remarks as to edibility, etc., are probably referable to all the Peruvian species of these groups.

**THAIS CRASSA** Blainville.


*Purpura melo* Reeve, Conch. Icon., *Purpura*, 1846, pl. 4, fig. 17.

Callao, taken in fish-net near San Lorenzo Island.

**Distribution.**—Panama south to Callao and the Galapagos Islands. Shell resembling that of the last species, but destitute of tubercles and only half as large; chestnut variegated with white, especially anteriorly; the pillar tinged with pink, the inner edge of the outer lip frequently margined with black.

**THAIS CALLAOÉNSIS** Gray.

*Purpura callaoénsis* Gray, Spicilegia Zool., vol. 1, 1828, p. 4, pl. 6, fig. 11.—Reeve, Conch. Icon., *Purpura*, 1846, fig. 79.

Lobos de Aftura Island, among stones at low water.

**Distribution.**—Panama and southward to Callao, Peru, and the Galapagos Islands.
Shell small, white or pale brownish inside and out, of the same general form as the last species; smooth, or faintly striated; length about 25 mm.

This is not the *P. callaoënsis* of Blainville, 1832. It is too small a shell to have much economic importance and does not seem to be abundant. Tryon referred it wrongly to the genus *Coralliophila*, probably from figures or worn specimens; but it is quite destitute of the peculiar sculpture of *Coralliophila*.

**THAIS DELESSERTIANA** Orbigny.


Caracolitos. Callao Bay, on the shores of San Lorenzo Island; on the Callao waterfront; and common on the shore rocks at the Chincha Islands.

**Distribution.**—Cedros Island, west coast of Lower California, and southward to the Chincha Islands.

Shell of the same general shape as *T. chocolata* Duclos, but smaller, thinner, with a smoother and more polished surface, the shoulder of the whorls more sloping and less prominently tuberculous, or without tubercules; general color brownish, usually with one or two paler, narrow, spiral bands on the last whorl; length about 50 mm.

This is *Purpura callaoënsis* Blainville, 1832, not of Gray, 1828.

**THAIS KIOSQUIFORMIS** Duclos.

*Purpura kiosquiformis* Duclos, Ann. d'Hist. Nat., May, 1832, pl. 1, fig. 5.—Keener, Icon.*Purpura*, p. 59, pl. 15, fig. 40.

Caracoles. Mouth of the Tumbes River. Also from the oysters of Matapalo, growing on the mangrove shoots. Near Capon, from the Estero Zarumilla, opposite Estero Casejal.

These oyster drills are of importance economically as being a serious enemy to the young oysters. Also as of use in making a purple dye which is considered permanent. It is said that this forms a small industry in Ecuador. The purpuriferous gland is extracted and mixed with lemon juice to prepare the dye. The flesh of the animal is also preserved for food.

It is said to be customary to take thread from the region of Sechura and Piura to Guayaquil, to be dyed and returned, when it is used in fancy alforjas and other hand-woven articles. The dyed thread is called "hilo de caracoles" by the natives.

I saw a neat alforja hand-woven chiefly from hand-spun thread. It was in four colors: Natural white cotton and natural brown cotton, the purple hilo de caracoles, and an imported thread.

These drills were commonly found (Jan. 23) in pairs, breeding. Their destructive work on the young oysters is erroneously attributed by the local fishermen to an isopod, which is found boring into the mangrove roots.

**Distribution.**—From Magdalena Bay, Lower California, south to Tumbes, Peru.

Shell turrited, whorls more or less tabulate above the shoulder, in front of which there are one or two strong, more or less tuberculous
or angulate keels; the whole shell spirally threaded, with an axially lamellose band appressed at the suture; shell white with an olivaceous periostracum, the threads sometimes brownish, and the interior of the aperture sometimes spirally brown threaded; pillar without plaits, the operculum with a lateral nucleus. Length about 36 mm.

Specimens prepared for market by breaking off the greater part of the last whorl were also sent in by Mr. Coker. This species has been widely confused with Cymia (or Cuma) and Solenosteira. From the first it may be known by the absence of the strong plait or keel in the middle of the pillar, and from the second by its laterally nucleated operculum and the lamelllose sutural band.

Several other species of Thais have been used since prehistoric times by the natives of Central America as a source of purple dye. The most commonly used species there is Thais (Patellipurpura) patula Linnaeus. Many years ago the writer, at San Juan del Sur, Nicaragua, stained a handkerchief with the unmixed purple from one of these shells. Perhaps because lemon juice or other mordant was lacking the color faded considerably during three years that the handkerchief was kept, and the color was not at any time brilliant, resembling the water color known as "neutral tint." Señora Zelia Nuttall, of Mexico City, well known for her profound ethnological researches, has recently read a paper before the American Association for the Advancement of Science on the prehistoric use of these Molluscan purples in Mexico and Central America.

BURSA VENTRICOSA Broderip.


*Ranella tenus* Potiez and Michaud, Galerie de Douai, Moll., vol. 1, 1837, p. 426, pl. 34, figs. 1, 2.

Dredged in Callao Bay, in about 2½ fathoms, near the northeast side of San Lorenzo Island. Also sold in Callao market, among other gastropods, under the name of Caracoles.

*Distribution.*—Nicaraguan coast and south to Callao, Peru.

Shell thin, whitish, obscurely rugosely sculptured or smooth, with lateral varices, a large aperture, with thickened and varicose outer lip, with a wide and deep canal near the junction of the lip and the body whorl.

CYMATIUM VESTITUM Hinds.

*Triton vestitus* Hinds, Zool. Sulphur's Voy., Moll., p. 11, pl. 4, fig. 1, 1844.

Chincha Islands, among the rocks.

*Distribution.*—West coast of Central America and southward to the Chincha Islands, Peru.

Shell rather large, thin, with a moderately elevated spire and strong spiral ribs; surface covered with a dense lamellose periostracum
more or less produced in thread-like filaments; aperture large, lirate on the body callus and denticulate on the varicose outer lip, the denticles more or less painted with black streaks and associated in separate pairs.

This species is rare and without economic importance.

**CYPREEA ANNETTE** Dall.

*Cyprea annette* Dall, Nautilus, April, 1909, p. 125.

*Cyprea sowerbyi* Kiener, Icon., *Cyprea*, 1845, p. 38, pl. 7, fig. 3. Not *C. sowerbyi* of Gray, 1832; or Anton, 1839.

Beach of Sechura Bay, near Matacaballa, one badly worn specimen.

**Distribution.**—Gulf of California and southward to Paita and Sechura Bay, Peru.

This species has no economic relations.

**CERITHIUM STERCUSMUSCARUM** Valenciennes.

*Cerithium stercusmuscarum* Valenciennes, Humboldt Voy., vol. 2, 1833, p. 278.—Sowerby, Thes. Conch., 1855 (as *C. ocellatum*), p. 865, pl. 179, figs. 59, 73.

From the shell bank at Matapalo near Capon. Occurs in great abundance on shelly ground, but is of no economic importance.

**Distribution.**—From Cedros Island, Lower California, and the Gulf of California, southward to Panama, Tumbes, and the Galapagos Islands.

**TURRITELLA GONIOSTOMA** Valenciennes.


Island of Lobos de Tierra, one young shell.

**Distribution.**—Gulf of California and southward to Paita, Peru, and the Lobos Islands.

Shell slender, elongated, with many flat-sided, spirally threaded, purple and brownish whorls. Aperture subcircular. Length of a full-grown specimen about 75 mm.

This shell, though common, has no economic importance.

**LITTORENA PERUVIANA** Lamarck.

Plate 23, fig. 7.

*Phasianella peruviana* Lamarck, Anim. s. Vert., vol. 7, 1822, p. 53.—Wood, Index Test. suppl., 1828, pl. 6, fig. 33 (as *Turbo zebra*).

From rocks on the shores of Callao Bay and San Lorenzo Island. Also on the Chincha Islands in similar places, and along shore at Mollendo. Here some of these snails were taken far above the water line.

**Distribution.**—From Panama and the Galapagos Islands south to Valparaiso.

Shell small, conical, turbinate, with a corneous operculum of few whorls; the color black with large oblique blotches or streaks of
pure white; aperture simple, semilunate without denticulation, and the base without umbilicus.

These pretty little black and white snails are phytophagous, and too small to be of use for food, yet they form one of the most widely and commonly distributed and characteristic species of the Peruvian province.

**Littorina varia** Sowerby.

*Littorina varia* Sowerby, Genera of Shells, fascic. 37, 1832, fig. 3.—Philippi, Abb. und Beschr., vol. 2, Littorina, pl. 1, figs. 2, 3.

Near Capon, oyster beds of Matapalo; found crawling high on the branches of the mangroves, where they are extremely common in the mangrove swamps.

**Distribution.**—Gulf of California and southward to Peru.

Shell larger and proportionately thinner than the preceding species, spirally threaded, of a pale purple, grayish, or brownish color more or less articulated, streaked, or dotted with darker shades.

This species is large enough to be eaten like the English "peri-winkle," but no data to the effect that it is actually so used have come to hand.

**Crucibulum imbricatum** Sowerby.

*Calyptsea imbricata* Sowerby, Gen. Shells, fascic. 23, 1824, *Calyptsea*, fig. 5.

Dredged in about 5 fathoms, west of Matacaballa, in Sechura Bay, Peru.

**Distribution.**—Gulf of California, and southward to the Galapagos Islands and Valparaiso, Chile.

Shell conical, irregularly marginate, according to the object upon which it is seated, of a brownish color, with emphatic radial appressed imbrications and deep interstices, the interior purplish brown or yellow, with a thin internal cup-like process attached on one side to the dome of the shell. It sometimes reaches a diameter of 70 mm.

A singular and characteristic limpet, of no economic importance.

**Crucibulum spinosum** Sowerby.


From the flats at Capon, and near Matacaballa, Sechura Bay, Peru.

**Distribution.**—California, and southward to Valparaiso, Chile, and the Galapagos Islands.

Shell resembling the preceding species in a general way, but less heavy, lighter in color, and with the upper surface faintly concentrically striated, and with more or less developed subtubular spines varying in different specimens from mere low tubercles to long elevated spines. It reaches only about 30 mm. in diameter, as a rule, and is of no economic importance.
CREPIDULA DILATATA Lamarck.


On oysters and other objects in about 5 fathoms, near Matacaballa, Sechura Bay; also on the beaches. Also from rocks at the north end of Callao water front, and on the north shore of San Lorenzo Island; called by the fishermen "piques." Found breeding in February.

Distribution.—From the Straits of Magellan northward to Mazatlan, Mexico, and at the Galapagos Islands.

Shell slipper shaped, rounded, brownish with a white septum internally; upper surface convex, varying from nearly smooth to lamellose, the general form irregular, conforming to the individual situs. Length about 30 mm.

CREPIDULA CREPIDULA Linnaeus.

Patella crepidula Linnaeus, Mus. Lud. Ulricte, 1764, p. 689.—Favanne, Conch., pl. 4, fig. D.

Crepidula unguiformis Lamarck, Anim. s. Vert., vol. 6, 1822, pt. 2, p. 25.—Gualteri, Test., pl. 69, fig. H.

In dead shells on the flats at Capon.

Distribution.—The whole Peruvian province, in dead shells, and northward to the Gulf of California.

Shell oval, flattened or dorsally concave, white, corresponding to the curve of the shell in which it is found; of irregular outline, conforming to its situs; length about 35 mm. It has no economic value.

CREPIDULA ONYX Sowerby.

Plate 23, figs. 2, 5.

Crepidula onyx Sowerby, Gen. Shells, fascic. 23, 1824, Crepidula, fig. 2.

In various parts of Sechura Bay, adhering to oyster shells and other objects; and dredged off Matacaballa in about 5 fathoms.

Distribution.—From San Pedro, California, southward to Chile.

Shell slipper shaped, oval, with a smooth convex upper surface, a short, hardly prominent apex, and the internal septum white, with a nearly straight margin, and covering nearly half of the cavity of the shell; the exterior is more or less painted with brown spots, streaks or markings on a lighter ground; the interior usually dark brown, the septum white. It reaches a length of 45 mm.

The flesh of the analogous C. fornicata Lamarck, of the Atlantic coast of North America is regarded as a dainty in the raw state by epicures, but there is no information as to the economic use of the present species. The other species of the genus found in Peru are too small to be of much importance.
TROCHITA TROCHIFORMIS Gmelin.

Calyptraea dilatata Sowerby, Gen. Shells, fascic. 23, 1824, fig. 9.

Picachos. From the beach at Pisco.

Distribution.—From Panama southward to Chile.

Shell conical, flattened on the slopes, with a spiral suture giving the effect of a spire; the surface radiately ribbed with rounded riblets, the color yellowish; below rounded with a more or less spiral septum of a white color; the dome of the shell brownish or whitish, the margin suborbicular when not disturbed by its situs. The elevation of the shell is very variable, and the diameter will average about 30 mm.

This is a very characteristic species of the Peruvian province, but of no particular economic significance.

SINUM CONCAVUM Lamarck.


From muddy sand on the inside beach at Capon (one young specimen). Caracol tapadera of the fishermen.

Distribution.—Between the equator and lat. 25° 30' S., and at the Galapagos Islands.

Shell flattened, paucispiral, the last whorl much the largest; spirally closely sulcate, with a wide aperture and gyrate pillar; color livid flesh color to pale brownish.

The shell in the adult is nearly covered by the fleshy parts. The animal plows its way under the sand, drills holes in the shells it encounters and sucks the juices of its prey. It is economically injurious through its destruction, especially in their younger stages, of edible bivalves.

TURBO MAGNIFICUS Jonas.


Dead shells and an operculum on the beach at Lobos de Afuera Island.

Distribution.—From Manta, Ecuador, south to Callao, Peru, and the Lobos Islands.

Shell turbinated, ovate conic, turgid, imperforate, spotted or marbled with violet and white on an olivaceous or dark-greenish ground; whorls rounded, delicately axially striated; obscurely angulated above, on the spire; suture distinct, not channeled; aperture large, circular, internally pearly with an opaque margin; columella simple, callous above; operculum nearly smooth externally. A rare shell, probably without economic importance.
TURBO (PRISOGASTER) NIGER Wood.

Turbo niger Wood, Index Test., suppl., 1828, pl. 6, No. 1.—Sowerby, Gen. Shells, fasc. 37, 1832, Turbo, fig. 7.—Gray, in Beechey’s Voy., Zool., 1839, p. 143, pl. 36, fig. 1.

From rocks at west end of Callao water front; from tidal pool on shingle beach at La Punta, Callao; dredged in 2 fathoms on the northeast side of San Lorenzo Island; and common on the rocks along shore at the Chincha Islands.

Distribution.—From the Straits of Magellan northward to Pacasmayo, Peru.

Shell small, turbinate, smooth or spirally striated (especially in southern specimens), black, with a white aperture and smooth nearly hemispherical white shelly operculum; base imperforate, interior of aperture pearly; diameter about 20 mm.

TEGULA ATRA Lesson.

Plate 24, fig. 4.

Trochus atrarius Lesson, Voy. Coq., 1830, p. 344, pl. 16, fig. 2.

With the last species.

Distribution.—From the Straits of Magellan northward to Pacasmayo, Peru.

Shell imperforate, conical, more or less depressed; heavy, solid, lusterless black; with about six moderately convex, nearly smooth whorls; suture impressed; last whorl obtusely rounded at the periphery, base flattened, concave in the center, eroded and light purple in front of the aperture; outer lip with a black margin, pearly within; a white callus, bearing a spiral rib and somewhat excavated, in the umbilical region; an obscure tubercle at the end of the pillar. Operculum horny, multispiral; diameter of shell about 40 mm.

This is the largest of the black trochoid species for which the coast is noted.

TEGULA PATAGONICA Orbigny.


Taken on the shore rocks at Lobos de Afuera Island.

Distribution.—San Blas, Patagonia, northward to the Lobos Islands, Peru.

Shell orbiculate conic, thick, umbilicate, axially granulose-sulcate, uniform brownish or purplish, spire obtuse; whorls five, subcarinate; sutures excavated, aperture rounded, columella bidentate; diameter about 14 mm.

TEGULA TRIDENTATA Potiez and Michaud.

Trochus tridentatus Potiez and Michaud, Gal. de Donai, vol. 1, 1838, p. 321, pl. 29, figs. 16–17.—Kiener, Icon., Trochus, pl. 57, fig. 2.

Dredged in Sechura Bay, in 5 fathoms, also taken on the rocks in various places about the harbor of Callao.

Distribution.—From Talcahuano, Chile, northward to Sechura Bay, Peru.
Shell conoidal, heavy, solid, elevated, minutely perforate, black or purplish; whorls five or six, slightly convex, smooth; last whorl rounded at the periphery; base flattish, deeply eroded in front of the aperture; outer lip thick, lirate within, aperture small, oblique; umbilicus circular, minute; the pillar small, oblique, distinctly tridentate at the anterior end; diameter about 16 mm.

**FISSURELLA CRASSA** Lamarck.

Plate 24, figs. 5, 6.


Lapa. Sometimes called "pata de burro," though this name is more generally applied to another form. Taken on rocky shores of the Pescadores Islands near Ancon; also at the Chincha Islands in similar places abundantly; also at Mollendo. Used for food and bait.

**Distribution.**—Coast of Chile and Peru, and the Galapagos Islands, and southward to the Straits of Magellan.

Shell oblong, depressed, with a subcentral foramen, sculptured only with faint concentric and radiate undulations, especially in front; color brownish; inside within the muscular scar pinkish, outside of it yellowish white with a narrow brown margin. Length about 85 mm.

**FISSURELLA COSTATA** Lesson.


Lapa. Taken at Mollendo, July 23. These are probably utilized like the preceding species.

**Distribution.**—From the island of Chiloé northward to Mollendo, Peru.

Shell rounded oval, depressed, with the apex a little in front of the center; with radiating riblets. Perforation small, contracted in the middle by two small projections from each side; color grayish, rayed with brownish olive. Length about 40 mm.

**FISSURELLA NIGRA** Lesson.


Lapa. One young specimen from the rocks at the north end of the Callao water front.

**Distribution.**—Straits of Magellan and northward to Peru and the Galapagos Islands.

Shell large, oval, conical, the summit in front of the middle; color black or purplish black, not rayed; surface, except for faint radial striation, smooth; foramen oblong, in young specimens tridentate; inside the shell is white with a black margin. Length up to 100 mm.
FISSURELLA PERUVIANA Lamarck.


Lapa. Dredged in Callao Harbor on the northeast side of San Lorenzo Island, in 2½ fathoms.

Distribution.—The whole Peruvian province.

Shell rounded oval, elevated, conical, the foramen small, a little in advance of the middle; radiately finely striated; inside, white, the margin alternately red and gray; outside red toward the summit, becoming more purple and darker toward the base; the margin is smooth, with a dark border inside, the exterior rayed with dark purple. Length about 30 mm.

This is the F. occidens of Gould.

MEGATEBENNUS COKERI, new species.

Plate 24, figs. 3, 7.

Lobos de Afuera Island, on beach.

Shell ovate, narrower in front, solid, heavy, steep sided, anterior slope shorter, sharply radially sulcate, the interspaces flattish, feebly rounded, not uniform in width; lines of growth looped toward the apex over the interspaces; color greenish white toward the base, reddish purple toward the apex, with sparse rays of the latter color; foramen large, keyhole shaped, with a greenish margin; length of foramen at the outer margin nearly one-third of the total length of the shell; interior greenish white, with a polished, greenish, radiately striate margin to the foramen; margin of the base smooth, entire, extended for a narrow space over the exterior edge. The type (Cat. No. 207744, U.S.N.M.) measures: Length of shell 27.5; of outer edge of foramen 9.0; of inner edge of same 6.0; of foraminal inside margin 11.0; maximum width of shell at the posterior edge of the above margin 16.5; at the anterior edge of the above margin 14.0; height of the shell 10.0 mm.

This species unquestionably belongs to Pilsbry’s section Amblychilepas, which was supposed to be wholly old world in its distribution. It much resembles M. scutellum (Gmelin) Pilsbry, but is darker toward the summit and lighter toward the base, while in the Cape of Good Hope species the reverse coloration obtains.

Named for Mr. R. E. Coker.

ACMÆA VIRIDULA Lamarck.

Plate 24, figs. 1, 2.


Patela. From rocky shore on the northeast side of San Lorenzo Island, Callao Bay; similar stations on Lobos de Afuera Island; the Pescadores Islands; Sechura.
Bay, and Mollendo. These shells, like other limpets, are also called "señoritas," or ladies (probably from a fancied resemblance to one of the flounced petticoats favored by Spanish señoritas), and are used for food and bait.

**Distribution.**—Whole Peruvian province from Valparaiso to Paita. Shell conical, with entire apex, solid, strong; rounded ovate, variable in height, the apex slightly in front of the middle of the shell; sculpture of low, rather wide radial ribs and obscure concentric and radial feeble striation; color whitish, with reticulated green markings, the interspaces of the ribs with larger greenish blotches; old shells may appear wholly gray outside and white inside, with a greenish inner border to the shell; young ones have a brownish or greenish blotch in the center.

These shells sometimes exceed 2 inches in length.

**ACMÆA ORBIGNYI** Dall, new name.

*Lottia punctata* Gray, 1835, according to Orbigny; not *P. punctata* Lamarck (Acmea), 1822.  
Patela. On rocky shores of the northeast part of San Lorenzo Island, Callao Bay. Confused by the fishermen with the other species.

**Distribution.**—Whole Peruvian province from Chonos archipelago to Callao, Peru, and the Galapagos Islands. All these limpets seem to be called Patelas or Señoritas by the fishermen.

Shell rounded oval, conical, the apex a little anterior and directed forward; surface finely radiately striate; the striae sometimes obsolete; color blackish, more or less flecked or dotted with white, with a broad dark margin and dark-brown central tract which, in old shells, may be obscured by a white shelly deposit. Length about 35 mm.

**SCURRIA PARASITICA** Orbigny.

Among other limpets collected at Mollendo. Of no economic importance.

**Distribution.**—From Valparaiso, Chile, north to Mollendo, Peru.  
Shell rounded, conical, dome shaped, solid, the apex at the anterior third, with the anterior slope straight, the posterior arched; surface finely radially striated; whitish or gray, with radiating blackish rays of varying width; inside white, brown in the central area, border yellowish white, mottled by the external rays. Length about 20 mm.

**CHITON CUMINGSII** Frembly.  
Barquillo. From rocks on the north side of the Callao water front and from tidal pool at La Punta, Callao; also from rocks on the shore at the Chincha Islands. Of no economic importance.

**Distribution.**—From Chiloë Island north to Tumbes, Peru.
Shell ovate oblong, with eight overlapping valves within a narrow border covered with flat pavement-like scales; whitish or olive, very closely and regularly striped with brown or lavender-colored concentric lines, which converge forward on the middle of the valves. Interior pale blue. Length about 50 mm., when full grown.

This is one of the most elegant and characteristic of the numerous chitons for which this province is noted.

**CHITON GRANOSUS** Frembly.


Barquillo. Collected at Mollendo.

*Distribution.*—From Magellan Straits north to Tumbes, Peru.

Shell black, having a white stripe on each side of the central line, between the stripes clouded with whitish; surface sculptured with radiating lines of bead-like pustules; inside whitish, more or less clouded with olive gray. Length about 40 mm.

This species like the other chitons is of no economic importance.

**CHATOPLEURA HENNAH** Gray.


Barquillo. Callao, 5 to 7 fathoms, and from rocks at the north end of Callao water front.

*Distribution.*—Callao, Peru.

Shell brownish, smooth, sometimes marked with red or greenish white; girdle or border leathery, with short hairs easily rubbed off; inside white, brown under the beaks of the valves. Length about 40 mm.

**ACANTHOPLEURA (COREPHIUM) ECHINATA** Barnes.

Plate 23, fig. 6.


Barquillo. From rocks along shore on the northeast side of San Lorenzo Island, Callao Bay.

*Distribution.*—From Valparaiso, Chile, northward to Paita, Peru, and the Galapagos Islands.

Shell elongate, solid, carinated along the dorsal ridge, the sides of the central areas engraved with fine flexuous grooves; color dark brown; lateral areas with several radiating lines of pustules; girdle broad, leathery, with strong projecting spines. Length 100 mm. or less, according to age.

This and the following species are particularly characteristic of this zoological province.

The name "*barquillo*," used for these animals by the fishermen, is probably derived from the resemblance, when the animal is placed on its back, to a little boat.
ENOPLOCHITON NIGER Barnes.

Plate 23, fig. 8.


Barquillo. Collected at Mollendo.

**Distribution.**—Valparaiso, Chile, and northward to Mollendo, Peru. Shell oblong, with rather elongate, strongly beaked, polished valves of a dark brown inside and out, which are usually badly eroded; girdle broad, fleshy, bearing numerous elongated, more or less widely separated narrow scales, the interspaces having a velvety surface. Length about 75 mm.

This species is said to live on the rocks between tides, exposed to the full force of the surf. The peculiar separated scales on the girdle will always enable it to be identified.

POLYPUS FONTAINEANUS Orbigny.

Plate 20, fig. 1.

*Octopus fontaineanus* Orbigny, *Voy. Am. Mér.*, vol. 5, 1835, p. 28, pl. 2, fig. 5.

Pulpo. Taken on the shore rocks, Lobos de Afuera Island, in March; and taken in a trammel net at the Chincha Islands. Common and used as food.

**Distribution.**—Coasts of Chile and Peru.

Animal with eight arms, of a rich purple color, but the tint variable, the surface obscurely granulose. Extreme length of specimens examined about 25 centimeters.

The details of its appearance will be very clearly recognized from the figure above referred to. It has no internal shell or endostyle.

LOLIGO GAHI Orbigny.

Plate 21, figs. 1, 2.


This species was not collected by Mr. Coker, who is, however, familiar with it, and since it forms one of the economic species of Peru, I have copied Orbigny’s figure to make the report more complete. Mr. Coker notes in regard to the names for the cuttlefish (*Octopus, Polypus*) that it is called *pulpo*, or *jibia*. A large pulpo is called *chancharro*.

The squid (*Loligo*) is called *calamar*, a word doubtless derived from the Latin *calamarius*, a pen bearer, in allusion to the internal endostyle of the ten-armed cephalopods. To the larger specimens, those 2 feet or more in length, the name *pota* is given. Calamar, pulpo, and jibia are proper Spanish names, pota and chancharro probably of local origin.
**Distribution.**—In the Patagonian and Peruvian zoological provinces and the West Indian region.

The animal is normally of a pinkish white dotted with dark red, especially on the dorsal region. It has ten arms and an internal "pen" or endostyle, which is plume-shaped with symmetrical vanes, as represented in figure 2. This endostyle is of a cartilaginous material and not shelly, as in some other genera, such as *Sepia*, etc. The details of form are well represented by the figure.

Beside the mollusks enumerated in the above report, Mr. Coker collected the following species belonging to the Brachiopoda.

**DISCINISCA LAMELLOSA** Broderip.


On *Mytilus* (Choro) at Ancon Bay. Of no economic importance.

**Distribution.**—From the Island of Chiloé northward to the Gulf of Panama, adhering like limpets to mussels, the timbers of old wrecks, and even to the bottoms of vessels which remain at anchor for some months. They occur from low-water mark to a depth of 9 or 10 fathoms.

The shell is horny, rounded, and nearly flat, with a more or less profusely lamellose surface; the upper valve is slightly convex, the apex a little eccentric, the lower valve is flat, radially striate, very thin, and pierced by a narrow foramen through which a fleshy pedicel extends by which the animal adheres to solid objects. The color is yellowish brown, and the diameter of these shells when normally developed rarely much exceeds 25 mm.

**LIST OF THE PRINCIPAL WORKS RELATING TO THE MOLLUSCAN FAUNA OF THE PERUVIAN ZOOLOGICAL PROVINCE.**

The following works are those most necessary for a study of this fauna, though many others have been consulted for incidental references. The abbreviations used in the faunal list to designate some of the more frequently cited works follows the title in parentheses.


This is supplemental Bd. 4, pl. 1, 1898, pp. 481-582, 8°, pl. 6. (Fauna Chilenis).


**Boas, J. E. V.** Spolia Atlantica, 1886, 248 pp. 4°, 8 pls. (see pp. 160-161).


Gray, John Edward, and Sowerby, George Brettingham. Zoology of Captain Beechey's Voyage, 1839, pp. xii, 155, 4°, pls. 33-44. (Beech. Voy.)

The Mollusca were treated by Gray, pages 103-142, and continued by Sowerby, pages 143-155.


The figures in the Atlas are numbered continuously without reference to the plates. The collections, field notes, and many of the descriptions were prepared by Joseph Pitty Couthouy, naturalist of the expedition. Many of the preliminary diagnoses were published in the Proceedings of the Boston Society of Natural History, 1846-47, and afterwards collected with other reprints, in 1862, by Doctor Gould, in a small volume entitled "Oita Conchologica," (Boston, 1862, Gould and Lincoln, 8°, 256 pp.)

Hidalgo, Joaquin Gonzalez. Molluscos del Viaje al Pacífico verificado de 1862 a 1865, por una comision de naturalistas enviada por el Gobierno Español, vol. 3, Unívalvos marinadas, Madrid, 1879. 4°, pp. 1-44 (all issued).

Descripción de los moluscos recogidos por la Comisión científica enviada por el Gobierno Español a la America Meridional, Madrid, 1893, 4°, pt. 3, pp. 332-432 (1893), 433-608, 1898.


— Usually catalogued under the name of Duperrey, commander of the vessel.


PROCEEDINGS OF THE NATIONAL MUSEUM.


—— Reise durch die Wüste Atacama auf befehl der Chilenischen regierung in sommer 1853-54. Halle, Eduard Anton, 1860. 4°, pp. 192+62, pl. 27, 1 karte. (Atac.)


REEVE, LOVELL AUGUSTUS. Conchologia Iconica or Illustrations of the shells of Molluscos animals. 20 vols., 4°, 1843-1878.

These monographs contain a large number of figures of West South American species from the collection of Hugh Cuming, now in the British Museum. The work is cited by monographs, each of which is supposed to be complete in itself, the numbers assigned to figures running continuously from the beginning to the end of each monograph without reference to the separate plates. After the death of Mr. Reeve, in 1865, the remaining volumes were edited by Mr. G. B. Sowerby.

SOWERBY, GEORGE BRETTINGHAM. Genera of recent and fossil shells. 8°, 42 parts, 264 colored plates, not numbered or paginated. 1820-1834. (Gen. Sh.)


—— The Conchological Illustrations. London, 1832-1841. 8°, 2 vols. (C. Ill.)

Contains monographic lists of 19 genera and figures many of the species first collected by Hugh Cuming.

—— Thesaurus Conchylorum, or figures and descriptions of shells. 5 vols., 4°, 1842-1884. (Thes. Con.)


TROSCHEL, F. H. Verzeichniss der durch Herrn Dr. v. Tschudi in Peru, gesammelten Conchylia. Arch. für Naturg., vol. 18, pt. 1, 1852, pp. 151-208, pls. 5-7 (Arch. Nat.)

After the death of Mr. Tryon, in 1888, this work was continued by Doctor Pilsbry. The above title refers to the series containing the Marine Gastropods only. In particular monographs the authors were assisted by W. B. Marshall, Benjamin Sharp, and S. Raymond Roberts.


Includes descriptions of species collected on the west coast of South America by Hugh Cuming, and diagnosed by Broderip, Sowerby, Powys, Swainson, and others.

These descriptions, as a rule, have no titles assigned to them. (Proc. Zool. Soc.)

THE PERUVIAN PROVINCE.

The littoral marine molluscan faunas of the west coast of the two Americas, excluding the Arctic and Antarctic faunas properly so called, were recognized more than half a century ago in their main outlines by Woodward.a

They comprise, beginning at the north:
1. The Oregonian Province, extending from the limit of floating ice in Bering Sea south to Point Conception, California;
2. The Californian Province, ranging from Point Conception south to Lower California;
3. The Panamic Province, from Lower California, including the Gulf of California, south to the Bay of Guayaquil, Ecuador;
4. The Peruvian Province, extending from Guayaquil south to the vicinity of the island of Chiloë in southern Chile; and
5. The Magellanic Province, from Chiloë to the Fuegian Archipelago, and for a short but undetermined distance north on the Argentine coast, on the Atlantic side.

These provinces will eventually be recognized as containing minor divisions, with which, on this occasion, we are not concerned.

The distribution recognized in the term "Province" appears to be directly dependent on the temperature of the surface stratum of the sea which, in its turn, is distributed by ocean currents. In the case of the Peruvian Province a branch of the eastward-flowing south Pacific current diverges from the main stream and impinges upon the coast of South America in the vicinity of Chiloë Island. Thence it follows the coast northward, until by the northwesterly trend of the Peruvian shores it is diverted, in the vicinity of Point Aguja and Cape Blanco, to the westward, where it continues in the direction of the Galapagos group of islands. This current, known as the "Peruvian" or "Humboldt" current, throughout its entire extent maintains a temperature varying with the season of from 65° to 70° F. The temperature of the surface off Aguja Point, Peru, in November was 65° F. The temperature of the water in the Magellanic

---
Province in midsummer varies from 50° F. in the straits themselves to 55° on the Chilean coast in the vicinity of Valdivia.

The surface temperatures of the Peruvian current, as related to those of the Magellanic water, are therefore warmer; and, as compared with the Panamic waters, measurably colder.

Precisely such a relation to the coast of North America is held by the southerly branch of the North Pacific current, which reaches the coast near Sitka with a summer temperature of 65° to 68°. This has diminished in the latitude of San Francisco Bay to 54° F., but the current continues until, in the vicinity of Point Conception, California, it is diverted off shore in a manner entirely analogous to the fate of the Peruvian current at Point Aguja.

The water of the Panamic Province is less disturbed by currents, receives the full heat of the tropical sun, and, as shown by Dr. Alexander Agassiz, emerges from the Gulf of Panama, follows the coast toward Cape San Lorenzo, and is there diverted offshore toward the Galapagos Islands. Trees from the mainland with leaves still adhering to them are occasionally cast upon the shores of the Galapagos, as observed by Dr. Agassiz, showing clearly that the current is not only present, but has no inconsiderable motion. The temperature of this water near the coast of Ecuador and only a few miles from the limit of the Peruvian current, in November, varied from 70° to 83° F., and, in March and April from 78° to 85° F. Among the Galapagos Islands the range in April was 81° to 83° F.

It will be noticed therefore that the currents fully account for the peculiarities of the Galapagos mollusk fauna, which exhibits large contributions from the Panamic and Peruvian faunas with only a very unimportant tincture of the Indo-Pacific in its make up.

A series of surface temperatures measured in November at right angles to the Peruvian current off Point Aguja, by the United States Bureau of Fisheries steamer Albatross, began with a temperature of 65° F. close in shore, rose quickly to 69° and later to 70° in the middle of the current, and declined again to 69° F. on its western edge.

The first exploration of the molluscan fauna of the Peruvian Province which was systematically carried on was that of Hugh Cuming. He was resident for some years at Valparaiso, later dredged and collected vigorously at various points of the Bay of Guayaquil. Tradition has handed down the account that a severe earthquake (referred to by Darwin in the Voyage of the Beagle) laid bare a long stretch of coast where the shore mollusks, elevated above their natural situs, were accessible to the collector by the thousand. Mr. Cuming collected largely, and on his return to England these collections gave an opportunity to the systematic naturalists to describe many new Peruvian and Chilean shells. This lasted for a good many years. Broderip, Sowerby, Swainson, Gaskoin, Powys, Deshayes, and Reeve worked on
these collections during the first half of the nineteenth century, and, according to Woodward, Mr. Cuming’s collection embraced 222 species from the coast of Peru south of Paita, and 172 species from the coast then politically included in Chile. Of these probably half were common to the northern and southern portions of the province. A little later the explorations of Humboldt and Bonpland added a few species; the majority of their collection it would seem were not worked up.

M. Alcide D’Orbigny’s South American investigations seem to have been, so far as this province is concerned, largely restricted to the Chilean portion of it. He collected 160 species, one-half of which were common to Chile and Peru, while only one species was common to Callao and Paita. The inference naturally drawn from this last fact by Woodward and others was that the northern border of the province lay between those two ports. But this conclusion was due to imperfect knowledge, and is completely refuted by later information. At present more than 200 species are known to be common to Paita and Callao.

Orbigny’s report with its atlas of fine illustrations is a classic source for information, relating, however, to South America as a whole, rather than to the Peruvian Province.\(^a\)

Collections made by Gay and others, worked up in his monographic Historia de Chile, by Hupé, form the third large and well-illustrated contribution to the malacology of the province, chiefly restricted of course to the southern, or Chilean, portion.

The last important contributor to a knowledge of this fauna, in these earlier days, was the German naturalist Philippi, who added numerous species and useful illustrations in the Zeitschrift für Malako- zoologie, his Abbildungen, and his Atacama Reise.

Of course many minor contributors to the work, such as Lesson, Jonas, etc., might be mentioned, but I propose in this hasty sketch to touch only on the most important. The list of Tschudi’s collection, ostensibly from Peru, as described by Troschel, unfortunately contains numerous exotic Indo-Pacific and Panamic species, so that its authority is seriously impaired.

More recently the researches of Ludwig Plate, the Princess of Bavaria, and others mentioned in the bibliography have added essentially to our knowledge.

In considering the distribution of species along the coast of the province it should not be forgotten that the collections have not been made in an equal manner on different parts of the coast. The

---

\(^a\) Manual, p. 376.

\(^b\) In my references to this work, for simplicity and convenience, I have omitted the article, since there seems to be no particular reason why we should reserve for D’Orbigny what custom has denied to De la Mareck and De la Cépède.
ports of Guayaquil, Paita, Callao, and Valparaiso have naturally been much more thoroughly explored than others. The careful collecting which would obtain the smaller species is not recorded to have been done anywhere at all.

Dredging also is practicable with difficulty, except in the sheltered harbors, which occur so rarely on this coast, or by the aid of a large steamer, which could be had only under government auspices on account of the great expense involved.

The small lots of material derived from the mud which came up on the anchor of the U. S. Bureau of Fisheries steamer Albatross at one or two points, show that proper exploration will certainly reveal the presence of many small species, new or extra limital, which are at present unknown.

In the preparation of this list I have endeavored to give a reference to the original description and to the best available figure or figures. In determining what species should be included I have depended somewhat upon the known characteristics, as regards distribution, of the groups to which the species belong. For instance, if I found a species reported from Guayaquil and belonging to a widely distributed group, such as the Pholadidae, though not actually reported from a Peruvian locality, I have not hesitated to include it, knowing that in all probability it will be found on more thorough search in Peruvian territory. There can be little doubt that a large number of the more mobile of the Panamic species reaching the Bay of Guayaquil will be found to have extended their range more or less within the northern border of the Peruvian Province, just as a certain number of the characteristic Magellanic species have traveled beyond their strict limits and mingle with the southern members of the Peruvian fauna. Species properly belonging to the Panamic Province and not reported as far south as Guayaquil or the Galapagos Islands have been omitted from the list.

It will be observed that the list contains only a few minute species. Doubtless many of these exist, and will be found when carefully sought for, but, as previously indicated, the majority of collectors seem to have confined their attention to the more conspicuous species.

I have included a certain number of pelagic forms, Cephalopods, Pteropods, and Nudibranchs, which are not strictly littoral, but are found occasionally thrown on the beaches or are captured within a short distance of the shore. And since collectors are certain to obtain them in their search for mollusks, I have added at the end of the list of Mollusca a list of the littoral Brachiopoda, some of which are so common on these shores.

In any first census of this kind some species will be included which later investigation will exclude. I have rejected a number of Tschudi's
species as obviously exotic, but a small number remain which are
doubtful and which are indicated by the name (Tschudi) as needing
confirmation. I have also omitted a few names which seemed to be
almost certainly due to misidentification or to a confusion between
such localities as Arica and Africa. "Lumping" closely related
species, such as some of the Siphonarias, has led certain authors to
include purely Atlantic forms with their Pacific analogues under one
name. So far as time and the access to specimens permitted, I have
tried to disentangle such cases and use only the name belonging to
the Pacific form. In making her dredgings the U. S. Bureau of
Fisheries steamer Albatross seems to have avoided shallow water;
and in the case of Dentalium, which has a wide range in depth, I have
included a few species actually dredged beyond the 100-fathom line,
but which will in all probability be found within it when sought for.
No other deep-water species, however, have been admitted. An
account of them will be found in my Albatross report of 1908. In
scanning the list those unfamiliar with the repetition of names so
prevalent in Spanish geographical nomenclature will need to remem-
ber that there is a Tumbes in Chile as well as in Peru, and be on the
lookout for analogous cases. Species of Auriculidse which are
exclusively littoral although pulmonate have been included, also the
salt-water Cyrenas, my aim being to include all species which are
to be found along the shores of the province, on the beaches, and in
the adjacent waters of the sea. Whatever deductions from the list
may be necessary hereafter, I am convinced that they will be more
than made up for by future additions from the ranks of the minute
species.

It is probable, though not by any means certain, that when we
eliminate the overflow from the Panamic and Magellanic provinces
the remaining fauna on this long stretch of coast may be susceptible
of division into subfaunas, but it is too early to speculate about this
possible feature of the distribution.

I have indicated in the preceding remarks the nature of the reserva-
tions which must be made in discussing the statistics of our present
census of the Peruvian fauna, and subject to those reservations we
may now proceed to consider the figures.

The total number of species appears to be 869, of which 64 are
pelagie and may be omitted from consideration in the matter of
distribution, leaving 805. Taking the present political limits of the
two countries as a starting point, we find 71 species reported from
Peru exclusively, and 103 restricted to Chile. But as political and
biological boundaries rarely have anything in common, these data
are not especially significant. We have 174 species restricted to
Peru or Chile, and 141 common to Peru and Chile, making 315
species proper to the province itself. In addition to these we have
253 species common to the Panamic Province and to Peru, and 239 species of the Panamic Province which are known to reach the northern border of the Peruvian Province at or near Cape Blanco, many of which will doubtless be found to have a more extended southerly range. In addition to these there are 25 species whose range extends from Upper California south to Peru or even to Valparaiso.

At the southern extreme of the Peruvian Province it receives 41 recruits from the Magellanic Province, few of which range north of Valparaiso. Of the whole 805 species enumerated, which are not pelagic, only 24 are known from the West Indies or Atlantic Ocean, most of which are Pholads, borers, or limpets, forms peculiarly liable to transportation long distances on ships or floating timber. The only species which can be regarded as also Indo-Pacific are even fewer in number and to be included in the same category.

Eliminating all the pelagic species and all the Panamic species not shown to be now actually domiciled within the limits of the Peruvian Province, we have a population for the province of 566 species of littoral marine mollusks.

In Bulletin 84 of the U. S. Geological Survey, pages 25–28, 1892, I have shown that the average population for a warm-temperate area (where the temperature ranges from 60° to 70° F.) is about 500 species of shell-bearing mollusks. Adding the species of Nudibranchs, naked Tectibranchs, and littoral cephalopods enumerated in our list, it would seem that the average is pretty well maintained in the case of the Peruvian Province.

Dismissing the minuter species from consideration as insufficiently known, the more striking characteristics of the Peruvian fauna may be summed up as follows:

1. There is an unusual proportion of the species which are black or blackish or of a lurid tint. This feature of the fauna has attracted attention from all who have studied it and has been discussed by von Martens. It is particularly marked among the phytophagous groups.

2. The fauna is notable for its Fissurellidae and Acmaeidae, its Trochids of the genus Tegula, its numerous and peculiar chitons, its numerous Cancellarias, the development of Calyptraeidae, of species of Arecidae, and of the genus Thais, Chione, Semele, Petricola, Muliniia, all represented by numerous species.

3. The deficiencies in the fauna are as marked as the redundancies. There are notably few Pectens or Lucinas, and the Tellinidae are poorly represented. Acteon, the smaller Tectibranchs, Conus, the Turritidae especially, the Marginellidae, Fusinus and its allies, Epitonium (Scala) and the Pyramidellidae are all very poorly represented. Calliostoma and Margarita, Haliotis and Pleurotomaria are absent or barely represented.
The notion that the mournful colors of so many of the species might be correlated with the huge beds of kelp characteristic of these shores seems to be negatived by the fact that in California similar kelp beds afford a shelter to some of the most brightly colored Trochidae, etc., and that, as I am informed by Mr. Coker, red and green seaweeds are abundant on the rocks below low-water mark, on a large part of the coast of Peru, and presumably also of Chile. This and a number of other problems await the investigations of the future.

Lastly, a survey of the characteristic groups of which the fauna is largely made up leads to the conclusion that the fauna is chiefly of southern origin. In spite of the fact that many species are common to the Panamic fauna and a relatively small number to the Magellanic fauna, the more conspicuous types, like the blackish species of Tegula, have a Magellanic rather than a tropical character. This particular group has extended its range to Alaska on the north and Japan on the northwest, but its metropolis is in southern Chile. The type represented by the various species of Thais and Acanthina has traveled the same road, and so has the Protothaca group of Veneridae.

If we may accept as the original metropolis of a special type of mollusks that region where it is developed in the greatest number and variety of species, and perhaps also with the most extreme limits of size and ornamentation, we shall have for example Buceinum and Chrysodomus focused in the boreal Pacific region; certain types of Thais and Acanthina in the region of southern Chile.

Cook has called attention to the relation between Thais lapillus and the Oregonian T. lamellosa, and other species in the Tropics of the Panamic and Antillean region; but, viewed from an Eastern Pacific standpoint, the relatively few Atlantic forms may easily have originated in the Pacific, where their existing representatives show a much more luxuriant development.

There is only one Thais of the Nucella type in the North Atlantic, but the North Pacific has five or six. It is very remarkable that in the Peruvian Province we have not a single distinctively old world type of mollusk. Those which seem to be such are really cosmopolitan types, more familiar to us from old world localities, perhaps, but not necessarily of old world origin.
### APPROXIMATE LATITUDES OF PLACES MENTIONED IN THIS CATALOGUE.

<table>
<thead>
<tr>
<th>Place</th>
<th>Approximate Latitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego, California</td>
<td>33° 12' N</td>
</tr>
<tr>
<td>Cerros (Cedros) Island, Lower California</td>
<td>28° 00' N</td>
</tr>
<tr>
<td>Mazatlan, Gulf of California</td>
<td>23° 20' N</td>
</tr>
<tr>
<td>Acapulco, Mexico</td>
<td>16° 00' N</td>
</tr>
<tr>
<td>Gulf of Nicoya, Central America</td>
<td>9° 40' N</td>
</tr>
<tr>
<td>Panama</td>
<td>8° 29' N</td>
</tr>
<tr>
<td>Chiriqui, Central America</td>
<td>8° 00' S</td>
</tr>
<tr>
<td>Montijo Bay, Central America</td>
<td>7° 40' N</td>
</tr>
<tr>
<td>Bahia (Panguapi), Ecuador</td>
<td>3° 00' N</td>
</tr>
<tr>
<td>Atacames, Ecuador</td>
<td>0° 50' N</td>
</tr>
<tr>
<td>Bahia de Caracas (Caracas)</td>
<td>0° 35' S</td>
</tr>
<tr>
<td>Chatham Island, Galapagos Islands</td>
<td>1° 00' S</td>
</tr>
<tr>
<td>Manta, Ecuador</td>
<td>1° 00' S</td>
</tr>
<tr>
<td>Monte Cristi, Ecuador</td>
<td>1° 00' S</td>
</tr>
<tr>
<td>Jipijapa (Xipixapi), Ecuador</td>
<td>1° 15' S</td>
</tr>
<tr>
<td>Isla la Plata, Ecuador</td>
<td>1° 20' S</td>
</tr>
<tr>
<td>Salango, Ecuador</td>
<td>1° 30' S</td>
</tr>
<tr>
<td>Bahia Santa Elena, Ecuador</td>
<td>2° 10' S</td>
</tr>
<tr>
<td>Guayaquil, Ecuador</td>
<td>2° 11' S</td>
</tr>
<tr>
<td>Punta Island, Bay of Guayaquil, Ecuador</td>
<td>3° 00' S</td>
</tr>
<tr>
<td>Capon, Huaquilla, and Matapalo</td>
<td>3° 10' S</td>
</tr>
<tr>
<td>Tumbes (Tumbez), Peru</td>
<td>3° 30' S</td>
</tr>
<tr>
<td>Paita (Payta), Peru</td>
<td>5° 00' S</td>
</tr>
<tr>
<td>Lobos Islands (northern), Peru (Lobos de Tierra)</td>
<td>5° 20' S</td>
</tr>
<tr>
<td>Lobos Islands (southern), Peru (Lobos de Afuera)</td>
<td>6° 27' S</td>
</tr>
<tr>
<td>Sechura Bay, Peru (and Matacaballa)</td>
<td>5° 40' S</td>
</tr>
<tr>
<td>Lambayeque, Peru</td>
<td>6° 30' S</td>
</tr>
<tr>
<td>Pacasmayo, Peru</td>
<td>7° 25' S</td>
</tr>
<tr>
<td>Salaverri, Peru</td>
<td>8° 10' S</td>
</tr>
<tr>
<td>Guañape Islands, Peru</td>
<td>8° 30' S</td>
</tr>
<tr>
<td>Isla Blanca, Chimbote Bay, Peru</td>
<td>9° 08' S</td>
</tr>
<tr>
<td>Casma, Peru</td>
<td>9° 30' S</td>
</tr>
<tr>
<td>Ancon, Peru (and Pescadores Islands)</td>
<td>11° 47' S</td>
</tr>
<tr>
<td>Callao, Peru (with La Punta, S. Lorenzo Island, etc.)</td>
<td>12° 00' S</td>
</tr>
<tr>
<td>Chica, Peru</td>
<td>12° 30' S</td>
</tr>
<tr>
<td>Asia Islands, Peru</td>
<td>12° 50' S</td>
</tr>
<tr>
<td>Pisco (Chincha and Ballestas Islands, San Gallan Island)</td>
<td>13° 45' S</td>
</tr>
<tr>
<td>Paracas Bay, Peru</td>
<td>13° 50' S</td>
</tr>
<tr>
<td>Bay of Independencia, Peru (and Windy Bay)</td>
<td>14° 15' S</td>
</tr>
<tr>
<td>Ica, Peru</td>
<td>14° 30' S</td>
</tr>
<tr>
<td>Islay, Peru</td>
<td>17° 00' S</td>
</tr>
<tr>
<td>Mollendo, Peru</td>
<td>17° 00' S</td>
</tr>
<tr>
<td>Arica, Chile</td>
<td>18° 30' S</td>
</tr>
<tr>
<td>Mejillones del Norte, Chile</td>
<td>19° 50' S</td>
</tr>
<tr>
<td>Iquique, Chile</td>
<td>20° 15' S</td>
</tr>
<tr>
<td>Cobija, Chile</td>
<td>22° 30' S</td>
</tr>
<tr>
<td>Antofagasta, Chile</td>
<td>22° 40' S</td>
</tr>
<tr>
<td>Mejillones (Mexillones) del Sur, Chile</td>
<td>23° 00' S</td>
</tr>
<tr>
<td>Isla Blanca (del Chimba) of Philippi, Chile</td>
<td>23° 37' S</td>
</tr>
<tr>
<td>Paposo, Chile</td>
<td>25° 07' S</td>
</tr>
<tr>
<td>Caldera, Chile</td>
<td>27° 00' S</td>
</tr>
</tbody>
</table>
A COLLECTION OF SHELLS FROM PERU—DALL.

Copiapó, Chile................................................. 27 10 S.
Coquíumbo, Chile............................................... 30 00 S.
Quintero, Chile................................................ 32 45 S.
Valparaíso, Chile............................................ 33 00 S.
Juan Fernández Island, Chile............................ 33 40 S.
Talcahuano, Quiriquina, and Tumbes, Chile......... 36 40 S.
Lota and Concepcion, Chile............................... 37 10 S.
Valdivia, Chile................................................ 39 50 S.
Puerto Montt, Chile.......................................... 41 30 S.
Island of Chiloé, Chile.................................... 42 30 S.
Chonos Archipelago, Chile................................. 45 00 S.
Magellan Straits, western entrance.................... 52 35 S.

LIST OF SPECIES COMPOSING THE FAUNA.

SUBKINGDOM MOLLUSCA.

Class CEPHALOPODA.

Order DIBRANCHIATA.

Suborder OCTOPoda.

Family ARGONAUTID.E.

Genus ARGONAUTA Linnaeus.

ARGONAUTA CORNUTA Conrad.

ARGONAUTA NOURYI Loris.
1852. Rev. et Mag. de Zool., ser. 2, vol. 4, p. 9, pl. 1, fig. 5. Marquesas Islands; coast from Peru to Mexico.

ARGONAUTA PACIFICA Dall.

ARGONAUTA NODOSA Solander.

ARGONAUTA HIANS Solander.

Family PHILONEXID.E.

Genus TREMOCTOPUS Della Chiaje.

TREMOCTOPUS MINIMUS Orbigny.

Proc.N.M.vol.37—09—13
Family ALLOPOSIDÆ.

Genus BOLITÆNA Steenstrup.

BOLITÆNA MICROTYLA Steenstrup.

Family POLYPODIDÆ.

Genus POLYPUS Schneider, 1784. (Octopus Lamarck, 1799.)

POLYPUS GRANULATUS Lamarck.

POLYPUS FONTAINÉANUS Orbigny.

POLYPUS OCCIDENTALIS Hoyle.

POLYPUS CHIERCHIÆ Jatta.

POLYPUS OULIFER Hoyle.

POLYPUS PUSILLUS Gould.

POLYPUS JANUARIJ Hoyle.

POLYPUS SAPHENIA Gray.

POLYPUS MIMUS Gould.

Genus MOSCHITES Schneider, 1784. (Eledone Leach, 1817.)

MOSCHITES ROTUNDA Hoyle.
1886. Challenger Ceph., p. 104, pl. 8, figs. 4–6. Gulf of Panama.

MOSCHITES VERRUcosa Verrill.

Genus ELEDONELLA Verrill.

ELEDONELLA DIAPHANA Hoyle.
Genus *JAPETELLA* Hoyle.

**JAPETELLA PRISMATICA* Hoyle.


Suborder DECAPODA.

**Superfamily MYOPSIDA.**

**Family LOLIGINIDÆ.**

Genus *LOLIGO* Lamarck.

**LOLIGO GAHI** Orbigny.


**Superfamily OEGOPSIDA.**

**Family OMMATOSTREPHIDÆ.**

Genus *OMMASTREPHES* Orbigny.

**OMMASTREPHES GIGAS** Orbigny.


Genus *SYMPLECTOTEUTHIS* Pfeffer.

**SYMPLECTOTEUTHIS OUALANIENSIS** Lesson.

1829. Voy. Coquille, Moll., vol. 2, p. 240, pl. 1, fig. 1. Indo-Pacific region; Cocos Island; Gulf of Panama.

Genus *STEENSTRUPIOLA* Pfeffer.

**STEENSTRUPIOLA CHILENSIS** Pfeffer.


Genus *CUCIOTEUTHIS* Steenstrup.

**CUCIOTEUTHIS UNGUICULATUS** Molina.


**Family BATHYTEUTHIDÆ.**

Genus *BATHYTEUTHIS* Hoyle.

**BATHYTEUTHIS ABYSSICOLA** Hoyle.


**Family MASTIGOTEUTHIDÆ.**

Genus *MASTIGOTEUTHIS* Verrill.

**MASTIGOTEUTHIS DENTATA** Hoyle.

Family ONYCHOTEUTHIDÆ.

Genus ONYCHOTEUTHIS Lichtenstein.

ONYCHOTEUTHIS BRACHYPTERA Pfeffer.

Genus TELEOTHEUTHIS Verrill. (*Onychia* Lesueur.)

TELEOTHEUTHIS PLATYPTERA Orbigny.

TELEOTHEUTHIS PERATOPTERA Orbigny.

Family ENOPLOTEUTHIDÆ.

Genus ABRALIOPSIS Joubin.

APRALIOPSIS HOYLEI Pfeffer.
1884. Ceph. Hamburg Mus., p. 17, fig. 22. Gulf of Panama to Acapulco, Mexico.

Genus PTERYGIOTEUTHIS H. Fischer.

PTERYGIOTEUTHIS GIARDI Fischer.

Family HISTIOTEUTHIDÆ.

Genus CALLITEUTHIDÆ.

Genus CALLISOEUTHIS Verrill.

CALLISOEUTHIS REVERSA Verrill.

Family CRANCHIIDÆ.

Genus TAONIUS Steenstrup.

TAONIUS SCHNEEHEGENI Pfeffer.
Class GASTROPODA.

Subclass ANISOPLEURA.

Superorder OPISTHOBRANCHIATA.

Order PTEROPODA.

Suborder GYMNOSOMATA.

Family PNEUMODERMATIDÆ.

Genus PNEUMODERMON Cuvier.

PNEUMODERMON BOASI Pelseneer.
1888. Challenger Pterop., p. 30, pl. 2, fig. 3. Off Caldera, Chile, S. lat. 27°.

Genus DEXIOBRANCHÆA Boas.

DEXIOBRANCHÆA POLYCOTYLA Boas.
1886. Spolia Atlantica, vol. 4, p. 161. Challenger Pterop., p. 17, pl. 1, figs. 4, 5, 1888. Off Chile, S. lat. 27° to 37° 30'.

DEXIOBRANCHÆA SIMPLEX Boas.

Suborder THECOSOMATA.

Family CAVOLINIIDÆ.

Genus CAVOLINA Abildgaard.

CAVOLINA GIBBOSA Rang.

CAVOLINA INFLEXA Lesueur.

CAVOLINA LONGIROSTRIS Lesueur.

CAVOLINA TELEMUS Linnaeus, var. OCCIDENTALIS Dall.
1758. Monoculus telemus LINNÆUS, Syst. Nat., 10th ed., p. 1059. Hyaldea tridentata (FORSKAL) Boas, Spolia Atlantica, p. 115, pl. 1, figs. 8, 9; pl. 2, fig. 19; pl. 4, fig. 66; pl. 6, fig. 100, 1886. Off the west coast of South America and the Galapagos Islands. Also North Pacific.
CAVOLINA UNCINATA Rang.

Genus CLIO Linnaeus.

CLIO ANTARCTICA Dall.

CLIO PYRAMIDATA Linnaeus.

CLIO SULCATA Pfeffer.

CLIO (HYALOCYLIX) STRIATA Rang.

Genus CRESEIS (Rang) Sowerby.

CRESEIS SUBULA Quoy and Gaimard.
1827. Ann. Sci. Nat., ser. 1, vol. 10, p. 233, pl. 8D, figs. 1, 2, 3 (as *Cleoedora*). Eastern Pacific. Also Atlantic, etc.

Genus STYLIOLA (Lesueur) Gray.

STYLIOLA ACICULA Rang.

STYLIOLA CONICA Eschscholtz.

STYLIOLA VIRGULA Rang.

STYLIOLA (BOASIA) CHIERCHIAE Boas.

Genus CUVIERINA Boas.

CUVIERINA COLUMELLA Rang.
Family LIMACINIDÆ.

Genus LIMACINA Lamarck.

LIMACINA BULIMOIDES Orbigny.

LIMACINA LESUEURI Orbigny.

LIMACINA TROCHIFORMIS Orbigny.

Genus EMBOLUS Jeffreys.

EMBOLUS INFLATUS Orbigny.

Genus PERACLE Forbes.

PERACLE RETICULATA Orbigny.

Order TECTIBRANCHIATA.

(CEPHALASPIDEA.)

Family ACTEONIDÆ.

Genus ACTEON Montfort.

ACTEON VENUSTUS Orbigny.

Family BULLARIIDÆ.

Genus BULLARIA Rafinesque.

BULLARIA ASPERSA A. Adams.

BULLARIA GOULDIANA Pilsbry.

BULLARIA PUNCTULATA A. Adams.
1850. *Bulla punctulata* Adams, Thes. Con., p. 604, pl. 123, fig. 77. Gulf of California to the Lobos Islands, Peru.
Family AKERATIDÆ.

Genus HAMINEA Leach.

HAMINEA PERUVIANA Orbigny.

(ANASPIDEA.)

Family AGLAJIDÆ.

Genus AGLAJA Renier.

AGLAJA MACULATA Orbigny.

Family APLYSIIDÆ.

Genus TETHYS Linnaeus.

TETHYS CHIERCHIANA Mazzarelli and Zuccard.

TETHYS INCA Orbigny.

TETHYS LESSONI Rang.

TETHYS NIGRA Orbigny.

TETHYS RANGIANA Orbigny.

Genus APLYSIOPSIS Bergh.

APLYSIOPSIS JUANINA Bergh.

Genus DOLABELLA Lamarck.

DOLABELLA GUAYAQUILENSIS Petit.
1868. Sowerby, Con. Icon., vol. 16, pl. 2, figs. 6 a–b. Guayaquil.
(NOTASPIDEA.)

Family PLEUROBRANCHIDÆ.

Genus PLEUROBRANCHUS Cuvier.

PLEUROBRANCHUS PLATEI Bergh.

PLEUROBRANCHUS PATAGONICUS Orbigny.

Genus PLEUROBRANCHÆA Leue.

PLEUROBRANCHÆA MACULATA Quoy and Gaimard.

Order NUDIBRANCHIATA.

(CLADOHEPATICA.)

Family AEOLIDIIDÆ.

Genus AEOLIDIA Cuvier.

AEOLIDIA LOTTINI Lesson.

AEOLIDIA PAPILLOSA (Linnaeus) Bergh.

AEOLIDIA SEROTINA (Linnaeus) Bergh.
1898. Plate, Fauna Chilensis, vol. 1, p. 541, pl. 31, figs. 26-31. Talcahuano and Tumbes, Chile.

Genus CRATENA Bergh.

CRATENA CAVANCA Bergh.
1898. Plate, Fauna Chilensis, vol. 1, p. 545, pl. 31, figs. 32-34. Cavancha, Chile.

CRATENA PUSILLA Bergh.

Genus PHIDIANA Gray.

PHIDIANA EXIGUA Bergh.
1898. Plate, Fauna Chilensis, vol. 1, p. 559, pl. 32, figs. 16-18. Coquimbo, Chile.

PHIDIANA INCA Orbigny.
PHIDIANA NATANS Orbigny.

Genus FIONA Hancock and Embleton.

FIONA PINNATA Eschscholtz.

FIONA MARINA Forskål, var. PACIFICA Bergh.

Genus GLAUCILLA Bergh.

GLAUCILLA DISTichoICA Orbigny.

Family PHYLLIRHOIDÆ.

Genus PHYLLIRHOË Peron and Lesueur.

PHYLLIRHOÆ ROSEA Orbigny.

Family PLEUROPHYLLIDIDÆ.

Genus PLEUROPHYLLIDIA Meckel.

PLEUROPHYLLLIDIA CUVIERI Orbigny.

Family TRITONIIDÆ.

Genus TRITONIA Cuvier.

TRITONIA (CANDIELLA) AUSTRALIS Bergh.

*(HOLOHEPATICA.)*

Family DORIDIDÆ.

*(CRYPTOBRANCHIATA.)*

Genus ARCHIDORIS Bergh.

ARCHIDORIS? FONTAINEI Orbigny.
ARCHIDORIS? INCERTA Bergh.
1898. Plate, Fauna Chilensis, vol. 1, p. 504, pl. 29, figs. 21-25. Tumbes, Chile.

Genus ANISODORIS Bergh.

ANISODORIS MARMORATA Bergh.
1898. Plate, Fauna Chilensis, vol. 1, p. 515, pl. 30, figs. 5-7. Coquimbo, Chile.

ANISODORIS PUNCTUOLATA Orbigny.
1837. Doris punctuolata Orbigny, Voy. Am. Mér., p. 187, pl. 16, figs. 4-6.—Bergh, Fauna Chilensis, vol. 1, p. 509, pl. 29, figs. 31-34; pl. 30, figs. 1-2, 1898. Callao, Peru, south to Talcahuano, Chile.

ANISODORIS TESSELLATA Bergh.

ANISODORIS VARIOLATA Orbigny.

Genus TRIPPA Bergh.

TRIPPA? HISPIDA Orbigny.
1837. Doris hispida Orbigny, Vol. Am. Mér., p. 188, pl. 15, figs. 4-6. Calbuco, Valparaiso, and Tumbes, Chile.

Genus TYRINNA Bergh.

TYRINNA NOBILIS Bergh.
1898. Plate, Fauna Chilensis, vol. 1, p. 524, pl. 30, figs. 21-29; pl. 32, figs. 21-24. Calbuco, Chile.

Genus PLATYDORIS Bergh.

PLATYDORIS PUNCTATELLA Bergh.
1898. Plate, Fauna Chilensis, vol. 1, p. 521, pl. 30, figs. 12-20. Isla de Pajargo, Chile.

Genus CHROMODORIS Alden and Hancock.

CHROMODORIS JUVENA Bergh.
1898. Plate, Fauna Chilensis, vol. 1, p. 531, pl. 31, figs. 4-11. Isla de Pajargo, Chile, and Juan Fernandez Island.

(POROSTOMATA.)

Family DORIOPSIDIDÆ.

Genus DORIOPSIS Pease.

DORIOPSIS PERUVIANA Orbigny.
1837. Doris peruviana Orbigny, Voy. Am. Mér., p. 188, pl. 15, figs. 7-9. Galapagos Islands and Callao, Peru, and south to Valparaiso, Chile.
Family POLYCYERATIDÆ.

Genus EUPLOCAMUS Philippi.

EUPLOCAMUS MACULATUS Bergh.


Order PULMONATA.

Suborder BASOMMATOPHORA.

Superfamily AKTEOPHILA.

Family AURICULIDÆ.

Genus AURICULA Lamarck.

AURICULA STAGNALS Orbigny.


Genus MELAMPUS Montfort.

MELAMPUS ACROMELAS Troschel.

1852. Cononulus acromelas Troschel, Arch. f. Nat., vol. 18, pt. 1, p. 197, pl. 6, fig. 2. Peru (Tschudi).

MELAMPUS LUTEUS Quoy and Gaimard.


MELAMPUS PIRIFORMIS Petit.


MELAMPUS (SIONA) FRUMENTUM Petit.


MELAMPUS (SIONA) AVENA Petit.


MELAMPUS (DETRACIA) GLOBULUS Ferussac.


Genus TRALIA Gray.

TRALIA (ALEXIA) REFLEXILABRIS Orbigny.

Genus MARINULA King.

MARINULA ACUTA Orbigny.
1835. Auricula acuta Orbigny, in Guerin, Mag. de Zoöl., 1835, p. 23, no. 2; Voy. Am. Mér., p. 326, pl. 42, figs. 4–6, 1837. Panama to Guayaquil.

MARINULA MARINELLA Küster.

MARINULA PEPITA King.

Superfamily PETROPHILA.
Family SIPHONARIIDÆ.

Genus SIPHONARIA Sowerby.

SIPHONARIA COSTATA Sowerby.

SIPHONARIA GIGAS Sowerby.
1825. Tankerville Cat., App., p. vi.—Reeve, Con. Icon., pl. 1, fig. 3, 1856. Acapulco, Mexico, to Peru. Cocos and Galapagos Islands.

SIPHONARIA LÆVIUSCULA Sowerby.

SIPHONARIA LESSONI Blainville.

SIPHONARIA LINEOLATA Sowerby.

SIPHONARIA MAURA Sowerby.

SIPHONARIA TENUS Philippi.
1860. Atacama Reise, p. 181, Zoöl., pl. 7, figs. 5a–c. Paita, Peru, to Valparaiso, Chile.

Genus WILLIAMIA Monterosato.

WILLIAMIA GALAPAGANA Dall.
Family GADINIIDÆ.
Genus GADINIA Gray.

GADINIA PERUVIANA Sowerby.

Suborder STYLOMMATOPHORA.

Superfamily DITREMATA.

Family ONCHIDIIDÆ.
Genus ONCHIDIUM Buchanan.

ONCHIDIUM CHILENSE Hupé.
1854. Gay, Hist. Chile, p. 120. San Carlos de Chiloé.

ONCHIDIUM JUANFERNANDEZIANA Wissel.

ONCHIDIUM LANUGINOSUM Hupé.

Superorder CTENOBANCHIA.

(STRÉPTONEURA.)

Order ORTHODONTA.

Superfamily TOXOGLOSSA.

Family TEREBRIDÆ.
Genus TEREBRA Bruguière.

TEREBRA GUAYAQUILENSIS E. A. Smith.

TEREBRA STRIGATA Sowerby.
1825. Tankerville Cat., App., p. xxv: Thes. Con., p. 151, pl. 41, fig. 10, 1847. Cape St. Lucas and Gulf of California south to Paita, Peru, and the Galapagos Islands.

TEREBRA ASPERA Hinds.

TEREBRA GEMMULATA Kiener.
1839. Kiener, Icon., Terebra, p. 15, pl. 5, figs. 11, 11a. Chile.

TEREBRA LARVÆFORMIS Hinds.

TEREBRA PLICATA Gray.
Family CONIDÆ.
Genus CONUS Linnaeus.

CONUS BRUNNEUS Mawe.
1828. Wood, Ind. Test., suppl. pl. 3, fig. 1.—Sowerby, Con. Ill., Conus, pl. 57, fig. 88; var. fig. 63. Central America and southward to Manta, Ecuador, and the Galapagos Islands.

CONUS FERGUSONI Sowerby.

CONUS LUCIDUS Mawe.
1828. Wood, Index Test. suppl. pl. 3, fig. 4. Gulf of Panama; Paita, Peru; and Galapagos Islands.

CONUS MONILIFER Sowerby.

CONUS PRINCEPS Linnaeus.
1758. Syst. Nat., 10th ed., p. 713.—Sowerby, Con. Ill., figs. 30a-30b, 1833. Panama, south to Paita, Peru.

CONUS PURPURASCENS Broderip.

CONUS RECURVUS Broderip.

CONUS TORNATUS Broderip.

CONUS XIMENES Gray.

Family TURRITIDÆ.
Genus SURCULA H. and A. Adams.

SURCULA MACULOSA Sowerby.

SURCULA MAURA Sowerby.

SURCULA OLIVACEA Sowerby.
Genus DRILLIA Gray.

DRILLIA ADUSTA Sowerby.

DRILLIA ATERRIMA Sowerby.

DRILLIA BOTTÆ Valenciennes.

DRILLIA CLAVATA Sowerby.

DRILLIA COLLARIS Sowerby.

DRILLIA DISCORS Sowerby.

DRILLIA LUCTUOSA Hinds.

DRILLIA NIGERRIMA Sowerby.

DRILLIA ROSEA Sowerby.

DRILLIA RUDIS Sowerby.

DRILLIA RUSTICA Sowerby.

DRILLIA SOWERBYI Reeve.
1833. *Pleurotoma sowerbyi* Reeve, Con. Icon., errata, and fig. 49. Ecuador coast.

DRILLIA ZONULATA Reeve.
Genus CLATHURELLA Carpenter.

CLATHURELLA ASPERA Hinds.

Genus MANGILIA (Leach) Risso.

MANGILIA FORMICARIA Sowerby.

MANGILIA ORDINARIA E. A. Smith.

MANGILIA RUFOCINCTA E. A. Smith.

Family CANCELLARIIDÆ.

Genus CANCELLARIA Lamarck.

CANCELLARIA ALBIDA Hinds.

CANCELLARIA BREVIS Sowerby.

CANCELLARIA BUCCINOIDES Sowerby.
1832. Proc. Zool. Soc., p. 54; Con. Ill., vol. 2, fig. 11, 1832. Coast of Nicaragua and southward to Mejillones, Chile.

CANCELLARIA BULLATA Sowerby.

CANCELLARIA CASSIDIFORMIS Sowerby.

CANCELLARIA CHRYSOSTOMA Sowerby.

CANCELLARIA CLAVATULA Sowerby.
1832. Proc. Zool. Soc., p. 52; Con. Ill., fig. 12, 1832. Panama to Paita, Peru.

CANCELLARIA CORRUGATA Hinds.

CANCELLARIA EXOPLEURA Dall.

Proc. N. M. vol. 37—09—14
CANCELLARIA MITRIFORMIS Sowerby.
1832. Proc. Zool., Soc. p. 51; Con. Ill., fig. 15, 1832. Panama to Pacasumayo, Peru.

CANCELLARIA OBESA Sowerby.

CANCELLARIA PARVA Philippi.
1860. Atacama Reise, p. 187, pl. 7, fig. 18. Paposo, Chile.

CANCELLARIA TESSELATA Sowerby.

CANCELLARIA TUBERCULOSA Sowerby.

CANCELLARIA UNIPLICATA Sowerby.
1848. Thes. Con., vol. 2, pl. 93, fig. 35. Panama to Valparaiso.

Superfamily RHACHIGLOSSA.

Family OLIVID.E.

Genus OLIVA Martyn.

OLIVA ANGULATA Lamarck.

OLIVA KALEONTINA Duclos.
1836. Mon. Oliva, pl. 8, figs. 7, 8.—Sowerby, Thes. Con., p. 10, pl. 333, figs. 92, 93, 1871. Cape St. Lucas and southward to Paita, Peru, and the Galapagos Islands.

OLIVA PERUVIANA Lamarck.

OLIVA TESTACEA Lamarck.
1810. Ann. du Mus., vol. 16, p. 324.—Martens, Arch. Nat., vol. 63, p. 165, pl. 15, figs. 13, 14, 1897; and var. philippi; Idem, pl. 16, figs. 7, 12, 1897. Mazatlan, Mexico, and southward to Cobija, Chile.

Genus OLIVELLA Swainson.

OLIVELLA COLUMNELLARIS Sowerby.
1825. Tankerville Cat., App., p. xxxiv.—Reeve, Con. Icon., Oliva, fig. 62, 1850. Central American coast and southward to Sechura Bay, Peru.

OLIVELLA SEMISTRIATA Gray.
OLIVELLA TERGINA Duclos.
1835. Mon. *Oliva*, pl. 2, figs. 13–16.—Reeve, Con. Icon., *Oliva*, fig. 80, 1850. Acapulco, Mexico, and southward to Paita, Peru.

OLIVELLA VOLUTELLA Lamarck.

OLIVELLA ZONALIS Lamarck.

Family MARGINELLIDÆ

Genus MARGINELLA Lamarck.

MARGINELLA CURTA Sowerby.

MARGINELLA FRUMENTUM Sowerby.

MARGINELLA SAPOTILLA Hinds.

Family VOLUTIDÆ.

Genus ADELOMELON Dall.

ADELOMELON MAGELLANICUS Lamarck.

ADELOMELON ANCILLA Solander.

Family TURBINELLIDÆ.

Genus VASUM Bolten.

VASUM CÆSTUS Broderip.
Family MITRIDÆ.

Genus MITRA Martyn.

MITRA EFFUSA Swainson.

MITRA LENS Mawe.
1828. Wood, Ind. Test., suppl. pl. 3, fig. 25. Mazatlan, Mexico, south to Paita, Peru, and the Galapagos Islands.

MITRA ORIENTALIS Gray.
1834. Griffith’s Cuvier, pl. 40, fig. 5. Ancon, Peru, south to Iquique, Chile.

MITRA SEMIGRANOSA Von Martens.

MITRA SULCATA Swainson.
1825. Tankerville Cat., App., p. xxvi.—Reeve, Con. Icon., Mitra, pl. 22, fig. 176, 1844. West coast Central America and southward to Ecuador.

MITRA TRISTIS Swainson.

Family FASCIOLARIIDÆ.

Genus FASCIOLARIA Lamarck.

FASCIOLARIA GRANOSA Broderip.
1832. Proc. Zool. Soc., p. 32.—Reeve, Con. Icon., Fasciolaria, fig. 6, 1847. West Mexico, Panama; Peru (Tschudi).

FASCIOLARIA PRINCEPS Sowerby.
1825. Tankerville Cat., App., p. xvi.—Kiener, Icon., Fasciolaria, p. 6, pls. 12, 13. Gulf of California to Peru and the Galapagos Islands.

Genus LATIRUS Montfort.

LATIRUS CERATUS Gray.

LATIRUS CONCENTRICUS Reeve.
1847. Con. Icon., Turbinella, figs. 2, 44. Acapulco, to Panama and Guayaquil.
Family **BUCCINIDÆ**.

**Genus AUSTROFUSUS** Kobelt.

**AUSTROFUSUS FONTAINEI** Orbigny.

**Genus ATRACTODON** Charlesworth.

**ATRACTODON PLUMBEUS** Philippi.
1844. *Fusus plumbeus* Philippi, Abb., vol. 1, p. 108, pl. 1, fig. 3. Southern Chile and the Magellanic region; Puerto Montt; Chiloé.

**Genus GALEODES** Bolten.

**GALEODES PATULUS** Broderip.

**Genus SOLENOSTEIRA** Dall.

**SOLENOSTEIRA FUSIFORMIS** Blainville.
1832. *Purpura fusiformis* Blainville, Nouv. Ann. du Mus., vol. 1, pl. 11, fig. 7.—Reeve, Con. Icon., *Buccinum*, pl. 7, fig. 50, 1846. Gulf of Panama and southward to the Chincha Islands, Peru.

**Family COLUBRARIIDÆ**.

**Genus COLUBRARIA** Schumacher.

**COLUBRARIA SOWERBYI** Reeve.

**Genus CANTHARUS** Bolten.

**CANTHARUS BOLIVIANUS** Eydoux and Souleyet.

**CANTHARUS DISTORTUS** Gray.
1828. *Buccinum distortum* Gray, in Wood, Ind. Test., suppl. pl. 4, fig. 7. Panama to Guayaquil.

**CANTHARUS ELEGANS** Gray.
1833. *Triton (Pusio) elegans* Gray, in Griffith’s Cuvier, vol. 12, p. 600, pl. 25, fig. 2; not of Orbigny, 1852. Mazatlan, Mexico, to Paita, Peru.
CANTHARUS GEMMATUS Reeve.
1846. *Buccinum gemmatum* Reeve, Con. Icon., fig. 49. Mazatlan, Mexico, to Guayaquil.

CANTHARUS INCA Orbigny.

CANTHARUS JANELLI Kiener.

CANTHARUS RINGENS Reeve.
1846. *Buccinum ringens* Reeve, Con. Icon., fig. 45. Panama to Guayaquil.

CANTHARUS SANGUINOLENTUS Duclos.

CANTHARUS VIBEX Broderip.

Genus *ENGINA* Gray.

ENGINA CONTRACTA Reeve.

ENGINA CARBONARIA Reeve.

Family ALECTRIONIDÆ.

Genus *ARCULARIA* Link.

ARCULARIA LUTEOSTOMA Broderip and Sowerby.

ARCULARIA PAPOSANA Philippi.
1860. *Buccinum paposanum* Philippi, Atac. Reise, p. 188. Paposo, Chile.

Genus *ALECTRION* Montfort.

ALECTRION (HIMA) COMPLANATUS Powys.

ALECTRION (HIMA) DENTIFERUS Powys.
ALECTRION (HIMA) ESCALVE Philippi.
1860. Buccinum escalve Philippi, Atac. Reise, p. 188, pl. 7, fig. 19. Mejillones, Chile, S lat. 23°.

ALECTRION (HIMA) EXILIS Powys.

ALECTRION (HIMA) FESTIVUS Powys.

ALECTRION (HIMA) GAYII Kiener.
1835. Buccinum gayii Kiener, Icon., Buccinum, p. 71, pl. 21, fig. 79. Callao, Peru, southward to Magellan Straits.

ALECTRION INSULAPTUS Carpenter, var.?
Sechura Bay, Peru.

ALECTRION (HIMA) PANAMENSIS Philippi.

ALECTRION (HIMA) PLANICOSTATUS A. Adams.

ALECTRION (HIMA) SPARTA Marrat.
1897. Nassa sparta Marrat, New forms of Nassa, p. 11, pl. 1, fig. 22. "West coast of South America."

ALECTRION (HIMA) VERSCOLOR C. B. Adams.
1852. Nassa versicolor Adams, Panama Shells, p. 66.—Reeve, Con. Icon., Nassa, fig. 110. Mazatlan, Mexico, to Paita, Peru.

ALECTRION (TRITIA) TAENIOLOTUS Philippi.

ALECTRION (TRITIA) TSCHUDII Troschel.
1852. Nassa tschudii Troschel, Arch. f. Naturg., p. 173, pl. 5, fig. 4. Peru.

Genus NORTHIA Gray.

NORTHIA NORTHIE Gray.
1833. Nassa northie Gray, in Griffith’s Cuvier, pl. 30, fig. 2.—Kiener, Icon., Buccinum, p. 23, pl. 9, fig. 28, 1834. Gulf of Panama and south to Guayaquil.

Genus BUCCINANOPS Orbigny.

BUCCINANOPS PAYTENSIS Valenciennes.
1834. Buccinum paytensis Valenciennes, Kiener, Icon., p. 17, pl. 6, fig. 16. Paita, Peru.
Family COLUMBELLIDÆ.

Genus COLUMBELLA Lamarck.

COLUMBELLA FUSCATA Sowerby.

COLUMBELLA HÆMASTOMA Sowerby.

COLUMBELLA LABIOSA Sowerby.
1822. Gen. Sh., Columbella, fig. 2. Santa Elena, Guayaquil.

COLUMBELLA MAJOR Sowerby.

COLUMBELLA PAYTENSIS Lesson.

COLUMBELLA STROMBIFORMIS Lamarck.

COLUMBELLA UNCINATA Sowerby.

Genus ANACHIS H. and A. Adams.

ANACHIS FLUCTUATA Sowerby.

ANACHIS GUATEMALENSIS Reeve.

ANACHIS PYGMÆA Sowerby.

ANACHIS RUGOSA Sowerby.
ANACHIS RUGULOSA Sowerby.

ANACHIS VARICOSA Gaskoin.

Genus ASTYRIS H. and A. Adams.

ASTYRIS ELECTROIDES Reeve.

ASTYRIS UNICOLOR Sowerby.

ASTYRIS UNIFASCIATA Sowerby.

Genus NITIDELLA Swainson.

NITIDELLA BUCCINOIDES Sowerby.

NITIDELLA OCELLATA Gmelin.

NITIDELLA OBLITA Reeve.
1859. *Columbella oblita* Reeve, Con. Icon., vol. 11, pl. 31, fig. 22. Peru.

Genus STROMBINA Morch.

STROMBINA DORSATA Sowerby.

STROMBINA GIBBERULA Sowerby.
STROMBINA LANCEOLATA Sowerby.

STROMBINA RECURVA Sowerby.

STROMBINA TURRITA Sowerby.

Family MURICID.E.

Genus TROPHONID.E.

Subgenus XANTHOCORUS Fischer.

TROPHON CASSIDIFORMIS Blainville.

TROPHON HORRIDUS Broderip.

Subgenus TROPHON s. s.

TROPHON LACINIATUS Martyn.
1784. Buccinum laciniatum Martyn, Univ. Conch., vol. 2, pl. 42. Magellan Straits and northward to Puerto Montt, Chile.

Genus MUREX Linnaeus.

MUREX ELENENSIS Dall, new name.

MUREX NIGRESCENS Sowerby.

Genus PHYLLONOTUS Swainson.

PHYLLOMOTUS BICOLOR Valenciennes.
PHYLLONOTUS BRASSICA Lamarck.

PHYLLONOTUS EXIGUUS Broderip.

PHYLLONOTUS HUMILIS Broderip.

PHYLLONOTUS INCISUS Broderip.

PHYLLONOTUS LUPPA Broderip.

PHYLLONOTUS RADIX Lamarck.

PHYLLONOTUS REGIUS Wood.

PHYLLONOTUS SQUAMOSUS Broderip.

PHYLLONOTUS TORTUOUS Sowerby.
1841. *Murex tortuosus* Sowerby, Con. Ill., *Murex*, fig. 8; new name for *M. crispus* (Broderip not of Lamarck). Pacasmayo, Peru.

PHYLLONOTUS VARICOSUS Sowerby.

Genus TRITONALIA Fleming.

TRITONALIA BUXEA Broderip.

TRITONALIA CRASSILABRUM Gray.
TRITONALIA HAMATA Hinds.

Genus PURPURA Martyn.

PURPURA FONTAINELI Tryon.

PURPURA PINNiGERA Broderip.

Genus TYPHIS Montfort.

TYPHIS CORONATUS Broderip.

TYPHIS CUMINGII Broderip.

TYPHIS QUADRATUS Hinds.

Genus MURICIDEA Swainson.

MURICIDEA VITTATA Broderip.

Genus EUPLEURA Adams.

EUPLEURA MURICIFORMIS Broderip.

EUPLEURA NITIDA Broderip.

Genus THAIS Bolten.

THAIS BISERIALIS Blainville.
1832.  *Purpura biserialis* Blainville, Mon. *Purpura*, p. 50, pl. 11, fig. 11.  Cedros Island, west coast of Lower California, and southward to Callao, Peru.

THAIS CALLAOENSIS Gray.
1828.  *Purpura callaöensis* Gray, Spicil. Zoöl., p. 4, pl. 6, fig. 11.—Reeve, Con. Icon., *Purpura*, fig. 79, 1846.  Gulf of Panama, and southward to Callao, Peru.
THAIS CHOCOLATA Duclos.

THAIS COLUMELLARIS Lamarck.

THAIS COSTATA Blainville.

THAIS CRASSA Blainville.

THAIS DELESSERTIANA Orbigny.
1841. Voy. Am. Mérs., p. 439, pl. 77, fig. 7. Cedros Island, Lower California, south to the Chincha Islands, Peru.

THAIS KIOSQUIFORMIS Duclos.

THAIS PATULA Linnaeus.

THAIS PERUVENSIS Dall, new name.

THAIS PLANOSPIRA Lamarck.

THAIS TRIANGULARIS Blainville.
Genus CYMIA Morch.

CYMIA TECTUM Wood.

Genus CONCHOLEPAS Lamarck.

CONCHOLEPAS CONCHOLEPAS Bruguière.

Genus ACANTHINA Fischer.

ACANTHINA BREVIDENTATA Mawe.
1828. Buccinum brevidentatum Mawe, in Wood, Index Test., suppl. pl. 4, fig. 10. Gulf of Panama to Paita, Peru.

ACANTHINA CALCAR-LONGUM Martyn.

ACANTHINA MURICATA Broderip.

ACANTHINA TUBERCUŁATA Gray.
1835. Sowerby, Con. Ill., Monoceros, pl. 82, fig. 9. Mazatlan, Mexico, to Paita, Peru, and the Galapagos Islands.

Genus CHORUS Gray.

CHORUS GIGANTEUS Lesson.
1829. Monoceros giganteus Lesson, Voy. Coq., Moll., p. 405, pl. 11, fig. 4. Concepcion, Chile.

Family CORALLIOPHILIDÆ.

Genus CORALLIOPHILA H. and A. Adams.

CORALLIOPHILA CARDUUS Broderip.

CORALLIOPHILA SCALARIFORMIS Lamarck.
Suborder STREPTODONTA.

Superfamily PTENOGLOSSA.

Family SCALIDÆ.

Genus EPITONIUM Bolten.

EPITONIUM DUCALE Mösch.

EPITONIUM ELENENSE Sowerby.

EPITONIUM OBTUSUM Sowerby.

EPITONIUM ORBIGNYI Nyst.
1873. *Scalaria orbignyi* Nyst, Tabl., p. 48; *S. elegans* Orbigny, Voy. Am. Mér., p. 389, pl. 54, figs. 1, 2, 1840; not of Risso, 1826. Southern Chile.

EPITONIUM POLITUM Sowerby.

EPITONIUM STATUMINATUM Sowerby.

Family JANTHINIDÆ.

Genus JANTHINA Bolten.

JANTHINA EXIGUA Lamarck.

JANTHINA JANTHINA Linnaeus.

JANTHINA PALLIDA Harvey.
Superfamily GYMNOGLOSSA.

Family EULIMIDÆ.

Genus EULIMA Risso.

EULIMA HASTATA Sowerby.

EULIMA PUSILLA Sowerby.

EULIMA VARIANS Sowerby.

Genus NISO Risso.

NISO IMBRICATA Sowerby.

NISO SPLENDIDULA Sowerby.

Genus ENTOCOLAX Voight.

ENTOCOLAX SCHIEMENZII Voight.

Family PYRAMIDELLIDÆ.

Genus TURBONILLA Risso.

TURBONILLA (PYRGISCUS) ANNETTÆ Dall and Bartsch.
Off Manta, Ecuador.

TURBONILLA (PYRGISCUS) CORA Orbigny.

Genus ODOSTOMIA Fleming.

ODOSTOMIA (MENESTHO) CHILENSIS Dall and Bartsch.
Tome, Chile, in 14 fathoms.
Superfamily NUCLEOBRANCHIATA.

Family ATLANTIDÆ.

Genus ATLANTA Lesueur.

ATLANTA PERONII Lesueur.

ATLANTA TURRICULATA Orbigny.

Genus OXYGYRUS Benson.

OXYGYRUS RANGII Eydoux and Souleyet.

Family PTEROTRACHEIDÆ.

Genus PTEROTRACHEA Forskål.

PTEROTRACHEA PERONII Orbigny.

Genus FIROLOIDA Lesueur.

FIROLOIDA LESUEURI Orbigny.
1836. Firola (Cerophora) lesueurî Orbigny, Voy. Am. Mér., p. 151, pl. 10, figs. 11-12. Eastern Pacific, lat. 30° S. Pelagic.

Genus CARINARIA Lamarck.

CARINARIA PUNCTATA Orbigny.

Superfamily TÆNIOGLOSSA.

Family SEPTIDÆ.

Genus DISTORTIO Bolten.

DISTORTIO CONSTRICTUS Broderip.

Genus CYMATIUM Bolten.

CYMATIUM GIBBOSUM Broderip.

Proc. N. M. Vol. 37—09—15
CYMATIUM LIGNARIUM Broderip.

CYMATIUM PILEARE Linnaeus.

CYMATIUM COSTATUM Born.

CYMATIUM PILEARE Linnaeus.

Genus ARGOBUCINUM Mörch.

ARGOBUCINUM RUDE Broderip.

ARGOBUCINUM SCABRUM King.

ARGOBUCINUM VEXILLUM Sowerby.

Family RANELLIDÆ.
Genus BURSA Bolten.

BURSA CÆLATA Broderip.

BURSA VENTRICOSA Broderip.
Family CASSIDIDÆ.
Genus CASSIDEA Bruguière.

CASSIDEA (BEZOARDICA) ABBREVIATA Lamarck.
REEVE, Con. Icon., Cassis, fig. 18, 1848. Central American
cost and south to Guayaquil.

Family DOLIIDÆ.
Genus MALEA Valenciennes.

MALEA RINGENS Swainson.
1822. Dolium ringens SWAINSON, Bligh Cat. app., p. 4.—REEVE,
Con. Icon., Dolium, pl. 4, fig. 5, 1848. Acapulco, Mexico,
and south to Paita, Peru, and the Galapagos Islands.

Family AMPHIPERASIDÆ.
Genus SIMNIA Risso.

SIMNIA RUFA Sowerby.
fig. 58, 1836. Bahia de Caraques, Ecuador.

Genus CYPHOMA Bolten.

CYPHOMA EMARGINATA Sowerby.
1830. Ovula emarginata SOWERBY, Species Con., pt. 1, p. 7,
figs. 54, 55; Thes. Con., Ovulum, figs. 11, 12. Panama to
Guayaquil.

Family CYPRÆIDÆ.
Genus CYPRÆA Linnaeus.

CYPRÆA ALBUGINOSA Gray.
1824. Zoöl. Journ., vol. 1, p. 510, pl. 7, fig. 2, p. 12, fig. 2.—
SOWERBY, Con. Ill., Cypræa, p. 6, no. 45, 1832. Gulf of
California to the Galapagos Islands.

CYPRÆA ANNETTÆ Dall.
1909. Dall, Nautilus, vol. 22, no. 12, p. 125.—C. sowerbyi
KIENER, 1845, Icon., Cypræa, p. 38, pl. 7, fig. 3; not of
GRAY, 1832. Gulf of California and southward to Sechura
Bay, Peru.

CYPRÆA ARABICULA Lamarck.
1810. An. du Mus., vol. 16, p. 100, no. 54; An. s. Vert., vol. 7,
fig. 399.—SOWERBY, Thes. Con., Cypræa, p. 16, pl. 7, figs. 38,
39, 1859. Gulf of California to Paita, Peru.

CYPRÆA EXANTHEMA Linnaeus.
Cypræa, p. 5, pl. 22, fig. 181, 1859. Gulf of California to
Paita, Peru, and the Galapagos Islands.
CYPREÆA NIGROPUNCTATA Gray.
1828. Zoöl. Journ., vol. 4, p. 81.—Sowerby, Con. Ill., Cyprea, fig. 22, 1832. Manta, Ecuador, south to Paita, Peru (Chile, Hidalgo), and the Galapagos Islands.

CYPREÆA ROBERTSI Hidalgo.

Family TRIVIIDÆ.

Genus TRIVIA Gray.

TRIVIA ACUTIDENTATA Gaskoin.

TRIVIA PUSCA Gray.
1832. In Sowerby, Con. Ill., fig. 37. Mazatlan to Guayaquil and the Galapagos Islands.

TRIVIA PACIFICA Gray.

TRIVIA PULLA Gaskoin.

TRIVIA RADIANS Lamarck.

TRIVIA RUBESCENS Gray.

TRIVIA SANGUINEA Gray.
1832. In Sowerby, Con. Ill., p. 13, fig. 32. Gulf of California to Guayaquil, Ecuador.

TRIVIA SOLANDRI Gray.
1832. In Sowerby, Con. Ill., p. 15, pl. 7, fig. 43. Santa Barbara Islands, California, and south to Panama and Peru.

Genus ERATO Risso.

ERATO (ERATOPSIS) SCABRIUSCULA Gray.
1832. In Sowerby, Con. Ill., Cyprea, fig. 45; Thes. Con., Erato, p. 81, pl. 210, figs. 14-16, 1859. Cape St. Lucas, Lower California, and southward to Peru.
Family STROMBIDÆ.

Genus STROMBUS Linnaeus.

STROMBUS GRACILIOR Gray.
1828. Wood, Index Test., suppl. pl. 4, fig. 1. Gulf of California to Manta, Ecuador.

STROMBUS GRANULATUS Gray.
1828. Wood, Index Test., suppl. pl. 4, fig. 21.—Sowerby, Thes. Con., Strombus, p. 33, pl. 9, fig. 100, 1847. Mazatlan, Mexico, and southeast to Guayaquil.

STROMBUS PERUVIANUS Swainson.

Family CERITHIIDÆ.

Genus CERITHIUM Bruguière.

CERITHIUM ADUSTUM Kiener.
1841. Icon., Cerithium, p. 37, pl. 13, fig. 2. Mazatlan to Panama and the Galapagos Islands.

CERITHIUM INTERRUPTUM Menke.

CERITHIUM MACULOSUM Kiener.
1841. Icon., Cerithium, p. 36, pl. 13, fig. 3. Panama to Guayaquil and the Galapagos Islands.

CERITHIUM OCELLATUM Bruguère.
1792. Encycl. Méth., p. 499, no. 43.—Tryon, Man., vol. 9, p. 13, pl. 24, fig. 19, 1887. Mazatlan, Mexico, to Panama and the Galapagos Islands.

CERITHIUM PACIFICUM Sowerby.
1833. Sowerby, Gen. Shells, Cerithium, part xlii, fig. 9. Panama and south to Valparaiso, Chile.

CERITHIUM STERCUSMUSCARUM Valenciennes.

Genus BITTIUM (Leach) Gray.

BITTIUM PERUVIANUM Orbigny.
1841. Cerithium peruvianum Orbigny, Voy. Am. Mér., p. 443, pl. 77, figs. 9, 10. Arica, Chile.

BITTIUM (STYLIUM) SULCIFERUM Troschel.
Genus CERITHIDEA Swainson.

CERITHIDEA MONTAGNEI Orbigny.

Family CERITHIOPSIDÆ.
Genus SEILA A. Adams.

SEILA ASSIMILATA C. B. Adams.

Family MODULIDÆ.
Genus MODULUS Gray.

MODULUS PERLATUS Dillwyn.

Family PLANAXIDÆ.
Genus PLANAXIS Lamarck.

PLANAXIS PLANICOSTATUS Sowerby.
1825. Tankerville Cat., app., p. xiii; Con. Icon., *Planaxis*, fig. 26. Mazatlan, Mexico, south to Panama and the Galapagos Islands, Peru (Tschudi).

Family VERMETIDÆ.
Genus BIVONIA Gray.

BIVONIA COMPACTA Carpenter.

Genus SERPULORBIS Sacco.

SERPULORBIS SQUAMIGERUS Carpenter.
Family TURRITELLID.E.

Genus TURRITELLA Lamarck.

TURRITELLA CINGULATA Sowerby.
1825. Tankerville Cat., app., p. xiii.—Reeve, Con. Icon., Turritella, fig. 23, 1849. Manta, Ecuador, south to the island of Chiloé, Chile.

TURRITELLA GONIOSTOMA Valenciennes.

TURRITELLA RADULA Kiener.
1840. Icon., Turritella, p. 13, pl. 2, fig. 1. Bay of Guayaquil.

TURRITELLA RUBESCENS Reeve.
1849. Con. Icon., Turritella, fig. 63. Gulf of Panama.

Family LITTORINID.E.

Genus LITTORINA Ferussac.

LITTORINA ARAUCANA Orbigny.

LITTORINA PERUVIANA Lamarck.

LITTORINA PULCHRA Sowerby.
1832. Gen. Sh., Littorina, figs. 2, 3.—Reeve, Con. Icon., Littorina, fig. 17. Panama to Guayaquil.

LITTORINA THERSITES Reeve.
1857. Conch. Icon., Littorina, fig. 78. “Chile and Peru” (Reeve).

LITTORINA UMBILICATA Orbigny.
1840. Voy. Am. Mér., p. 394, pl. 76, fig. 1–3. Coast of Ecuador and Peru, south to Cobija, Chile.

LITTORINA VARIA Sowerby.
1832. Gen. Sh., Littorina, vol. 38, fig. 3.—Philippi, Abb., vol. 2, Littorina, pl. 1, figs. 2–3. Gulf of California to Casma, Peru. (Chiloé?).

LITTORINA ZICZAC Gmelin.
Genus TECTARIUS Valenciennes.

TECTARIUS GALAPAGIENSIS Stearns.

Family SOLARIIDÆ.

Genus ARCHITECTONICA Bolten.

ARCHITECTONICA GRANULATA Lamarck.
1822. Solarium granulatum Lamarck, An. s. Vert., vol. 7, p. 3. Encycl. Méth., pl. 446, fig. 5a-b.—Kiener. Icon., Solarium, p. 4, pl. 2; fig. 2. Lower California to Panama and Peru (Tschudi).

ARCHITECTONICA KOCHII Dall, new name.
1909. Solarium nanum (Koch ms.) Philippi, Conch. Cab., 2d ed., Mon. Solarium, 1853, p. 27, pl. 4, fig. 5; not Solarium nanum Grateloup, 1838. Chile.

Family RISSOIDEÆ.

Genus RISSOA Fréminville.

RISSOA (ALVANIA) CARPENTERI Weinkauff.

Genus RISSOINA Orbigny.

RISSOINA CANCELLATA Philippi.

RISSOINA COSTATA A. Adams.

RISSOINA INCA Orbigny.

Family CALYPTRÆIDÆ.

Genus CHEILEA Modeer.

CHEILEA EQUESTRIS Linnaeus.
A COLLECTION OF SHELLS FROM PERU—DALL.

CHEILEA CORRUGATA Broderip.

Genus CALYPTRAEA Lamarck.

CALYPTREA LICHEN Broderip.

CALYPTREA MAMILLARIS Broderip.

Genus TROCHITA Schumacher.

TROCHITA INTERMEDIA Orbigny.

TROCHITA TROCHIFORMIS Gmelin.
1791. Patella trochiformis Gmelin, Syst. Nat., vol. 8, p. 3693.—Sowerby, Gen. Sh., Calyptra, fig. 9, 1824. Panama to Valparaiso, Chile.

Genus CRUCIBULUM Schumacher.

CRUCIBULUM IMBRICATUM Sowerby.

CRUCIBULUM QUIRIQUINE Lesson.

CRUCIBULUM SPINOSUM Sowerby.

Genus CREPIDULA Lamarck.

CREPIDULA ACULEATA Gmelin.

CREPIDULA CREPIDULA Linnaeus.
1764. Patella crepidula Linnaeus, Mus. Lud. Ulricæ, p. 689.—Favanne, Conch., pl. 4, fig. lower D. Mazatlan, Mexico, to Callao, Peru. West Indies. Cosmopolitan.
CREPIDULA DILATATA Sowerby.
1824. *C. dilatata* (Lamarck Ms.) Sowerby, Gen. Sh., *Crepidula*, fig. 5.—Delessert, Rec. de Coq. pl. 24, fig. 4c-c. California, and southward to Magellan straits.

CREPIDULA DORSATA Broderip.

CREPIDULA EXCAVATA Broderip.

CREPIDULA INCURVA Broderip.

CREPIDULA ONYX Sowerby.
1824. Gen. Shells, *Crepidula*, fig. 2. San Pedro, California, south to Arica, Chile.

CREPIDULA SQUAMA Broderip.

Family CAPULIDÆ.

Genus CAPULUS Montfort.

CAPULUS UNGARICOIDES Orbigny.

Family HIPPONICIDÆ.

Genus HIPPONIX Defrance.

HIPPONIX ANTIQUATA Linnaeus.
1767. *Patella antennata* LINNÆUS, Syst. Nat., 12th ed., p. 1259.—Sowerby, Thes., vol. 1, p. 369, pl. 73, figs. 18–20, 1847. Santa Barbara, California, and south to Peru and the Galapagos Islands. Also West Indies.

HIPPONIX BARBATA Sowerby.

HIPPONIX GRAYANA Menke.

HIPPONIX SUBRUFA Lamarck.
Family NATICIDÆ.

Genus NATICA Scopoli.

NATICA BRODERIPIANA Recluz.

NATICA ELENÆ Recluz.

NATICA UNDATA Philippi.

NATICA UNIFASCIATA Lamarck.

Genus POLINICES Montfort.

POLINICES ALVEATUS Troschel.
1852. Natica alveata Troschel, Arch. f. Naturg., p. 159, pl. 5, fig. 3. Peru (Tschudi).

POLINICES CORA Orbigny.

POLINICES DUBIUS Recluz.

POLINICES OTIS Broderip.

POLINICES PHILIPPINIANUS Nyst.

POLINICES RAVIDUS Eydoux and Souleyet.

POLINICES UBER Valenciennes.
POLINICES (EUSPIRA) AGUJANUS Dall.

POLINICES (EUSPIRA) PISIFORMIS Recluz.

POLINICES (NEVERITA) GLAUCA Humboldt.

POLINICES (NEVERITA) RECLUZIANA Deshayes.

Genus SINUM Bolten.

SINUM CONCAVUM Lamarck.
1822. Sigaretus concavus Lamarck, An. s. Vert., vol. 6, pt 2, p. 208.—Sowerby, Gen. Sh., Sigaretus, fig. 1, 1823.—Philippi, Abb., vol. 1, pl. 1, fig. 1, 1844. Capon, Peru, the Galapagos Islands, and south on the mainland to S. lat. 25° 30', at Taltal, Chile.

Family MARSENIIDÆ.

Genus MARSENIOPSIS Bergh.

MARSENIOPSIS PACIFICA Bergh.

Superfamily DOCOGLOSSA.

Family PATELLIDÆ.

Genus PATELLA Linnaeus.

PATELLA MAGELLANICA Gmelin.

PATELLA MEXICANA Broderip and Sowerby.

Genus NACELLA Schumacher.

NACELLA CLYPEATER Lesson.
Genus HELCIONISCUS Dall.

HELCIONISCUS NIGRISQUAMATUS Reeve.
1854. *Patella nigrisquamata* Reeve, Con. Icon., *Patella*, fig. 3. Concepcion, Chile.

Family ACMÆIDÆ.

Genus SCURRIA Gray.

SCURRIA MESOLEUCA Menke.

SCURRIA PARASITICA Orbigny.
1841. *Patella parasitica* Orbigny, Voy. Am. Mér., p. 481, pl. 81, figs. 1–3; not of Reeves. Mollendo, Peru, and south to Valparaiso, Chile.

SCURRIA SCURRA Lesson.

SCURRIA ZEBRINA Lesson.

Genus ACMÆA Eschscholtz.

ACMÆA ALBESCENS Philippi.

ACMÆA ARAUCANA Orbigny.
1841. Voy. Am. Mér., p. 482, pl. 65, figs. 4–6; not of Reeves. Paita, Peru, and south to Valparaiso, Chile.

ACMÆA CECILIANA Orbigny.
1841. *Patella ceciliana* Orbigny, Voy. Am. Mér., p. 482, pl. 81, figs. 4–6. Antofagasta to Valparaiso, Chile.

ACMÆA COFFEA Reeve.

ACMÆA ORBIGNYI Dall, new name.

ACMÆA VARIABILIS Sowerby.
1839. Zoöl. Beechey’s Voy., p. 147, pl. 39, fig. 5 (only). Whole Peruvian Province, and the Galapagos Islands.
ACMAEA VIRIDULA Lamarck.


Superfamily RHIPIDOGLOSSA.

Family PHASIANELLIDÆ.

Genus PHASIANELLA Lamarck.

PHASIANELLA (*TRICOLIA*) PERFORATA Philippi.


PHASIANELLA (*EULITHIDIUM*) MINIMA Philippi.

1860. Reise Atacama, p. 186, pl. 7, fig. 17; Paita, Peru, south to Chimba Bay, Chile, in S. lat. 23° 37'.

Family TURBINIDÆ.

Genus LEPTOTHYRA (Carpenter MS.) Dall.

LEPTOTHYRA CUNNINGHAMI Smith.


Genus TURBO Linnaeus.

TURBO MAGNIFICUS Jonas.


TURBO (*PRISOGASTER*) NIGER Wood.

1828. Wood, Index Test., suppl. pl. 6, no. 1.—Sowerby, Beechey’s Voy., p. 143, pl. 36, fig. 1, 1839; Gen. Shells, *Turbo*, fig. 7, 1832. Pacasmayo, Peru, south to the Magellan straits.

TURBO (*PRISOGASTER*) ELEVATUS Eydoux and Souleyet.


TURBO (*SENECTUS*) SQUAMIGER Reeve.


TURBO (*CALLOPOMA*) FLUCTUOSUS Wood.

1828. Index Test., suppl. pl. 6, fig. 44. Gulf of California, and Cedros Island, south to Paita, Peru.

TURBO (*CALLOPOMA*) SAXOSUS Wood.

1828. Index Test., suppl. pl. 6, fig. 45. Mazatlan, Mexico, and south to Paita, Peru, and the Galapagos Islands.
Genus ASTRÆA Bolten.

ASTRÆA (CYCLOCANTHA) BABELIS Fischer.


ASTRÆA (UVANILLA) BUSCHII Philippi.


Family LIOTIIDÆ.

Genus LIOTIA Gray.

LIOTIA CANCELLATA Gray.


Family TROCHIDÆ.

Genus TEGULA Lesson.

TEGULA ATRA Lesson.


TEGULA EURYOMPHALUS Jonas.

1844. *Trochus euryomphalus* Jonas, Zeitschr. f. Mal., p. 113.—Philippi, Abb., vol. 2, p. 27, pl. 6, fig. 4, 1847. Peru (Tschudi) south to Tacleahuano, Chile.

TEGULA FUSCESCENS Philippi.

1844. *Trochus fuscescens* Philippi, Abb., vol. 1, p. 92, pl. 3, fig. 8 (not of Carpenter). Chile and Peru.

TEGULA GAUDICHAUDI Hupe.

1854. Hist. de Chile, vol. 8, p. 146, pl. 4, fig. 4. Valparaiso.

TEGULA LUCTUOSA Orbigny.


TEGULA LUGUBRIS Philippi.

1844. *Trochus lugubris* Philippi, Abb., vol. 1, p. 91, pl. 3, fig. 7. Chile.

TEGULA MELALEUCA Jonas.


TEGULA MOESTA Jonas.

1844. *Trochus moestus* Jonas, Zeitschr. f. Mal., p. 113.—Hupe, Hist. de Chile, Zool., pl. 4, fig. 6, 1854. Pacasmayo, Peru, south to Antofagasta, Chile.
TEGULA PANAMENSIS Philippi.

TEGULA PATAGONICA Orbigny.

TEGULA QUADRICOSTATA Gray.
1828. Wood, Index Test., suppl. pl. 5, fig. 16.—Orbigny, Voy. Am. Mér., p. 408. 1840. Peru and south to Valparaiso, Chile.

TEGULA SMITHII Tapparone-Canefri.

TEGULA TRIDENTATA Potiez and Michaud.
1838. Trochus tridentatus Potiez and Michaud, Gal. de Donai, vol. 1, p. 321, pl. 29, figs. 16, 17.—Kiener, Icon., Trochus, pl. 57, fig. 2. Sechura Bay, Peru, and southward to the Chonos archipelago, southern Chile.

Genus MONODONTA Lamarck.
MONODONTA (DILOMA) CRUSOEANA Pilsbry.

MONODONTA (DILOMA) NIGERRIMA Gmelin.

Genus CALLIOSTOMA Swainson.
CALLIOSTOMA FONKII Philippi.
1860. Trochus fonkii Philippi, Atacama Reise, p. 185, pl. 7, fig. 22.—Pilsbry, Man. Conch., vol. 11, p. 371, pl. 57, fig. 48, 1889. Peru, and south to the island of Chiloe.

Family VITRINELLIDÆ.
Genus CIRCULUS Jeffreys.

CIRCULUS COSMIUS Bartsch.
Family NERITIDÆ.

Genus NERITA (Linnaeus) Lamarck.

NERITA BERNHARDI Recluz.
1850. Journ. de Conchyl., vol. 1, p. 285 (name only).—REEVE, Con. Icon., NERITA, pl. 12, fig. 27, 1855. Panama to Peru.

NERITA CEROSTOMA Troschel.

NERITA SCABRICOSTA Lamarck.

Genus NERITINA Lamarck.

NERITINA OWENII Mawe.
1828. Wood, Index Test., suppl. pl. 8, fig. 16. Costa Rica, and south to Paita, Peru.

NERITINA SOBRINA Recluz.
1849. In SOWERBY, Thes. Con., NERITINA, p. 536, pl. 112, fig. 100. Chile.

Superfamily ZYGObRANCHIA.

Family FISSURELLIDÆ.

Genus FISSURELLA Bruguière

FISSURELLA BRIDGESII Reeve.
1849. Conch. Iconica, Fissurella, fig. 15. Paposo to Valparaiso, Chile.

FISSURELLA CLYPEUS Sowerby.

FISSURELLA COSTATA Lesson.

FISSURELLA CRASSA Lamarck.
1822. An. s. Vert., vol. 6, pt. 2, p. 11.—SOWERBY, Con. Ill., Fissurella, fig. 11, 1834; not fig. 2, nor figure in SOWERBY, Genera Sh., 1823. Galapagos and Pescadores Islands, Peru, and southward to the Magellanic region.

FISSURELLA FULVESCENS Sowerby.

FISSURELLA LATA Sowerby.

Proc. N. M. vol. 37-09-16
FISSURELLA LATIMARGINATA Sowerby.
1834. Proc. Zool. Soc., p. 126; Con. Ill., Fissurella, fig. 69. Peru, and south to Valparaiso, Chile.

FISSURELLA LIMBATA Sowerby.

FISSURELLA MAXIMA Sowerby.

FISSURELLA NIGRA Lesson.

FISSURELLA OBOVALIS Lesson.

FISSURELLA ORIENS Sowerby.

FISSURELLA PERUVIANA Lamarck.

FISSURELLA PHILIPPIANA Reeve.
1849. Con. Icon., Fissurella, fig. 37; errata. Concepcion, Chile.

FISSURELLA PICTA Gmelin.

FISSURELLA PULCHRA Sowerby.

FISSURELLA PUNCTATISSIMA Pilsbry.

FISSURELLA RUGOSA Sowerby.
1835. Con. Ill., Fissurella, fig. 51. Mazatlan, Mexico, and south to Paita, Peru, and the Galapagos Islands.

FISSURELLA STELLATA Reeve.
1850. Con. Icon., Fissurella, fig. 80. Valparaiso.

FISSURELLA (CREMIDES) ASPERELLA Sowerby.

FISSURELLA (CREMIDES) MACROTREMA Sowerby.
FISSURELLA (CREMIDES) OBSCURA Sowerby.

FISSURELLA (CREMIDES) VIRESCENS Sowerby.

Genus MEGATEBENNUS Pilsbry.

MEGATEBENNUS COKERI Dall.

Genus FISSURIDEA Swainson.

FISSURIDEA ALTA C. B. Adams.

FISSURIDEA ASPERIOR Dall, new name.

FISSURIDEA FONTAINEANA Orbigny.
1841. Fissurella fontaineana Orbigny, Voy. Am. Mér., p. 477, pl. 78, figs. 12, 13, Islay, Peru.

FISSURIDEA INEQUALIS Sowerby.

FISSURIDEA SATURNALIS Carpenter.

Genus LUCAPINELLA Pilsbry.

LUCAPINELLA EQUALIS Sowerby.

LUCAPINELLA CALLOMARGINATA Carpenter.
1872. Clypidella callomarginata (Carpenter Ms.) Dall, Am. Journ. Conch., vol. 7, p. 133, pl. 15, fig. 8.—Pilsbry, Man. Con., vol. 12, p. 196, pl. 44, figs. 3, 4, 5; pl. 61, figs. 1-5, 1890. Lobitas, California, and southward to Paita, Peru, and Valparaiso, Chile.
Genus **PUNCTURELLA** Lowe.

**PUNCTURELLA FALKLANDICA** A. Adams.


Family **STOMATELLIDÆ**

Genus **GENA** Gray.

**GENA**, species.


Subclass **ISOPLEURA**.

Order **POLYPLACOPHORA**

Superfamily **MESOPLACOPHORA**

Family **ISCHNOCHITONIDÆ**

Genus **TONICELLA** Carpenter.

**TONICELLA (MOPALIELLA) STIGMATA** Dall, new name.


Genus **CHÆTOPLEURA** Shuttleworth.

**CHÆTOPLEURA BENEVENTEII** Plate.


**CHÆTOPLEURA FERNANDENSIS** Plate.


**CHÆTOPLEURA HENNAHI** Gray.


**CHÆTOPLEURA LURIDA** Sowerby.


**CHÆTOPLEURA PERUVIANA** Lamarck.

1819. *Chiton peruvianus* Lamarck, An. s. Vert., vol. 6, pt. 1, p. 321; Encycl. Méth., pl. 163, figs. 7, 8.—Sowerby, Con. Ill., *Chiton*, fig. 44. Tumbes, Peru, to Valparaiso, Chile.
Genus **VARIOLEPIS** Plate.

**VARIOLEPIS IQUIQUENSIS** Plate.


Genus **ISCHNOCHITON** Gray.

**ISCHNOCHITON CATENULATUS** Sowerby.


**ISCHNOCHITON FIMBRIATUS** Sowerby.


**ISCHNOCHITON IMITATOR** Smith.


**ISCHNOCHITON INCA** Orbigny.


**ISCHNOCHITON KEILI** Plate.


**ISCHNOCHITON (STENOPLAX) LIMACIFORMIS** Sowerby.

1832. *Chiton limaciformis* Sowerby, Proc. Zool. Soc., p. 26; Con. Ill., *Chiton*, fig. 38, 1833. Mazatlan, Mexico, to the Lobos Islands, Peru; also in the West Indies, and perhaps Japan.

**ISCHNOCHITON PUNCTULATISSIMUS** Sowerby.


**ISCHNOCHITON PUSILLUS** Sowerby.


**ISCHNOCHITON BOOGI** Haddon.


**ISCHNOCHITON RUGULATUS** Sowerby.


**ISCHNOCHITON STRAMINEUS** Sowerby.

ISCHNOCHITON VARIANS Plate.
1899. Fauna Chilensis, p. 113, fig. Tumbes, Chile, to Chiloé Island and Juan Fernandez.

Genus CALLISTOCHITON Carpenter.

CALLISTOCHITON ELENENSIS Sowerby.

CALLISTOCHITON INFORTUNATUS Pilsby.

CALLISTOCHITON PULCHELLUS Gray.

Family MOPALIIDÆ.

Genus PLACIPHORELLA Carpenter.

PLACIPHORELLA BLAINVILLEI Broderip.

Genus PLAXIPHORA Gray.

PLAXIPHORA SETIGER, var. FREMBLII Broderip.

PLAXIPHORA FERNANDEZI Thiele.

Family ACANTHOCHITIDÆ.

Genus ACANTHOCHITES Risso.

ACANTHOCHITES HIRUDINIFORMIS Sowerby.

Superfamily TELEOPLACOPHORA.

Family CHITONIDÆ.

Genus CHITON Linnaeus.

CHITON BRODERIPI Potiez and Michaud.
CHITON CUMINGSII Frembly.

CHITON GLAUCOCINCTUS Frembly.

CHITON GRANOSUS Frembly.

CHITON GRANULOSUS Frembly.
1827. Zool. Journ., vol. 3, p. 201; suppl. pl. 17, fig. 3. Isla Blanca, Peru, to Concepcion, Chile.

CHITON LATUS Sowerby.
1825. (Jan.) Tankerville Cat., app. p. v; not of Lowe (April, 1825) or Guilding, 1829.—Reeve, Con. Icon., Chiton, pl. 1, fig. 3 (as *C. magnificus*). Valparaiso and Coquimbo, Chile.

CHITON PUSIO Sowerby.
1832. Proc. Zool. Soc., p. 105.—*C. murrayi* Haddon, Challenger Chitons, p. 21, pl. 1, fig. 7, pl. 3, fig. 7a–7c, 1886. Callao, Peru, to Valparaiso, Chile.

CHITON STOKESII Broderip.

CHITON SUBFUSCUS Sowerby.
1832. Proc. Zool. Soc., p. 26; Con. Ill., Chiton, figs. 3, 41, 1833 (as *C. striatus*, Barnes). Southern Chile; Puerto Montt; Chiloé Island.

**Section RADSIA Gray.**

CHITON BARNESII Gray.
1828. Spieil. Zool., vol. 1, p. 3, pl. 6, fig. 22.—Sowerby, Con. Ill., Chiton, fig. 2, 1833. Coquimbo, Chile.

CHITON GOODALLI Broderip.

CHITON SULCATUS Wood.

**Genus TONICIA Gray.**

TONICIA ARGYROSTICTA Philippi.
1845. *Chiton argyrosticta* Philippi, Arch. f. Naturg., p. 49; Atacama Reise, p. 179, pl. 7, fig. 4, 1860. Isla Blanca, Peru, to Magellan Straits.
TONICIA CALBUCENSIS Plate.
1897. Fauna Chilensis, p. 205, fig. Calbuco, Chile, S. lat. 41°.

TONICIA CHILENSIS Frembly.

TONICIA DISJUNCTA Frembly.

TONICIA ELEGANS Frembly.

TONICIA FONTAINEI Rochebrune.

TONICIA GAUDICHAUDI Rochebrune.

TONICIA GRANIFERA Sowerby.

TONICIA GRAYI Sowerby.

TONICIA LINEOLATA Frembly.

TONICIA RUBIDENS Pilsbry.

TONICIA SWAINSONI Sowerby.

Genus ACANTHOPLEURA Guilding.

**ACANTHOPLEURA ECHINATA** Barnes.
1823. *Chiton echinatus* Barnes, Am. Journ. Sci., vol. 7, p. 71, pl. 3, figs. 4, 4a.—Sowerby, Con. Ill., *Chiton*, fig. 47 (as *C. spiniferus*). Paita, Peru, and south to Valparaiso, and the Galapagos Islands.

Genus ENOPLOCHITON Gray.

**ENOPLOCHITON NIGER** Barnes.
Class SCAPHOPODA.
Order SOLENOCONCHA.
Family DENTALIIDÆ.
Genus DENTALIUM Linnaeus.

DENTALIUM AÉQUATORIUM Pilsbry and Sharp.

DENTALIUM INNUMERABILE Pilsbry and Sharp.

DENTALIUM NUMEROSUM Dall.
1897. Man. Con., vol. 17, p. 25, pl. 10, figs. 70–73. Todos Santos Bay, Lower California, and southward to Panama and the Galapagos Islands.

DENTALIUM QUADRANGULARE Sowerby.

DENTALIUM TESSARAGONUM Sowerby.

Genus CADULUS Philippi.

CADULUS ALBICOMATUS Dall.

CADULUS PERPUSILLUS Sowerby.

CADULUS PLATYSTOMA Pilsbry and Sharp.
Class PELECYPoda.

Order PRIONODESMACEA.

(FOLIOBRANCHIATA.)

Superfamily NUCULACEA.

Family NUCULIDÆ.

Genus NUCULA Lamarck.

NUCULA COLOMBIANA Dall.

NUCULA DECLIVIS Hinds.

NUCULA EXIGUA Sowerby.

NUCULA GRAYI Orbigny.

NUCULA PAYTENSIS A. Adams.

NUCULA PISUM Sowerby.

Family LEDIDÆ.

Genus LEDA Schumacher.

LEDA ACUTA Conrad.
1831. Nucula acuta Conrad, Am. Mar. Con., p. 32, pl. 6, fig. 3 (not of Sowerby, 1839).—Sowerby, Con. Ill., Nucula, fig. 15 (as N. cuneata). California, the Gulf of Panama, and south to Valparaiso, Chile. Also Atlantic.

LEDA CALLIMENE Dall.
1908. Leda (Jupiteria) callimene Dall, Albatross Rep., p. 342, pl. 17, figs. 3, 4. Gulf of Panama to Tomé, Chile.

LEDA EBURNEA Sowerby.
LEDA ELENSIS Sowerby.

LEDA GIBBOSA Sowerby.

LEDA ORNATA Orbigny.
1846. Voy. Am. Mér., p. 546, pl. 82, figs. 4-6. Paita, Peru.

Genus YOLDIA Mörch.

YOLDIA (ADRANA) SOWERBYANA Orbigny.

YOLDIA (ADRANA) CRENIFERA Sowerby.

YOLDIA (ADRANA) ELONGATA Sowerby.

Genus MALLETIA Desmoulins.

MALLETIA CHILENSIS Desmoulins.

Genus TINDARIA Bellardi.

TINDARIA SULCULATA Couthouy.
1852. *Nucula sulculata* Couthouy, Wilkes Exp. Sh., p. 424, pl. 37, figs. 539 a-e. Talcahuano, Chile, south to the Magellanic region.

( *FILIBRANCHIATA.* )

Superfamily ARCAEAE.

Genus ARCA Linnaeus.

ARCA ANGULATA King.

ARCA MUTABILIS Sowerby.

ARCA PACIFICA Sowerby.
ARCA ALTERNATA Sowerby.

ARCA GRADATA Broderip and Sowerby.

ARCA PUSILLA Sowerby.

ARCA SOLIDA Sowerby.

ARCA (BARBATIA) BIANGULATA Sowerby.

ARCA (BARBATIA) DECUSSATA Sowerby.

ARCA (BARBATIA) LITHODOMUS Sowerby.

ARCA (BARBATIA) LURIDA Sowerby.

ARCA (BARBATIA) REEVIANA Orbigny.

ARCA (BARBATIA) VELATA Sowerby.

ARCA (CUCULLARIA) PLATEI Stempell.

ARCA (SCAPHARCA) AVICULOIDES Reeve.
1844. Arca aviculoides Reeve, Con. Icon., Arca, pl. 10, fig. 63 (and pl. 6, fig. 53 as A. aviculoata Sowerby, not Lamarck). Panama to Guayaquil.
ARCA (SCAPHARCA) BREVIFRONS Sowerby.

ARCA (SCAPHARCA) CEPOIDES Reeve.
1844. Con. Icon., Arca, pl. 10, fig. 66. San Miguel, Ecuador.

ARCA (SCAPHARCA) EMARGINATA Sowerby.

ARCA (SCAPHARCA) FORMOSA Sowerby.

ARCA (SCAPHARCA) LABIATA Sowerby.

ARCA (SCAPHARCA) LABIOSA Sowerby.

ARCA (SCAPHARCA) NUX Sowerby.

ARCA (SCAPHARCA) OBESA Sowerby.

ARCA (SCAPHARCA) TUBERCULOSA Sowerby.

ARCA (CUNEARCA) AQUATORIALIS Orbigny.

ARCA (CUNEARCA) CARDIFORMIS Sowerby.

ARCA (ANADARA) GRANIDES Broderip and Sowerby.

ARCA (NOETIA) REVERSA Sowerby.

Genus GLYCIMERIS Da Costa.

GLYCIMERIS CHEMNITZII Dall, new name.
GLYCYMERIS INÆQUALIS Sowerby.

GLYCYMERIS MULTICOSTATA Sowerby.

GLYCYMERIS OVATA Broderip.

GLYCYMERIS STRIGILATA Sowerby.

GLYCYMERIS TESSELLATA Sowerby.

Superfamily PTERIAEAE.

Family PINNIDÆ.

Genus PINNA Linnaeus.

PINNA LANCEOLATA Sowerby.

PINNA MAURA Sowerby.

Family MELINIDÆ.

Genus MELINA Retzius.

MELINA LEGUMEN Gmelin.

MELINA QUADRANGULARIS Reeve.
Family PTERIIDÆ.

Genus PTERIA Scopoli.

PTERIA PERUVIANA Reeve.

Genus MARGARITIPHORA Megerle.

MARGARITIPHORA CUMINGI Reeve.

Superfamily OSTRACEA.

Family OSTREIDÆ.

Genus OSTREA Linnaeus.

OSTREA AQUATORIALIS Orbigny.

OSTREA CALICHRÖA Hanley.

OSTREA CHILENSIS Philippi.

OSTREA COLOMBIENSIS Hanley.

OSTREA LONGISSULA Hupé.
1854. Hist. de Chile, Zoöl., Mol., p. 282, pl. 5, fig. 3. Coquimbo, Chile.

OSTREA MEGODON Hanley.

OSTREA VINOLENTA Hupé.
1854. Hist. de Chile, Zoöl., Mol., p. 282, pl. 5, fig. 2. Coquimbo, Chile.

Superfamily PECTINACEA.

Family PECTINIDÆ.

Genus PECTEN Müller.

PECTEN DENTATUS Sowerby.
PECTEN DIGITATUS Hinds.

PECTEN PATAGONICUS King.

PECTEN PURPURATUS Lamarck.
1819. An. s. Vert., vol. 6, pt. 1, p. 166.—Sowerby, Thes. Con., vol. 1, p. 53, pl. 15, fig. 113; pl. 16, figs. 123–125, 1843. Panama and south to Coquimbo, Chile.

PECTEN ROSACEUS Stempell.

PECTEN SUBNODOSUS Sowerby.

PECTEN TUMBEZENSIS Orbigny.

PECTEN VENTRICOSUS Sowerby.
1842. Thes. Con., Pecten, p. 51, pl. 12, figs. 18, 19, 26. Gulf of Panama, south to Paita, Peru.

Family SPONDYLIDÆ.

Genus SPONDYLUS Linnaeus.

SPONDYLUS CRASSISQUAMA Lamarck.
1819. An. s. Vert., vol. 6, p. 191.—Sowerby, Thes. Con., Spondylus (as S. pictorum Chemnitz), p. 422, pl. 85, fig. 17; pl. 86, fig. 28; pl. 88, fig. 45, 1847. Panama to Guayaquil.

Genus PLICATULA Lamarck.

PLICATULA DUBIA Hanley.

Family LIMIDÆ.

Genus LIMA Cuvier.

LIMA ANGULATA Sowerby.
LIMA GALAPAGENSIS Pilsbry and Vanatta.

LIMA PACIFICA Orbigny.

Superfamily ANOMIACEA.
Family ANOMIIDÆ.

Genus ANOMIA LINNÆUS.

ANOMIA ADAMAS Gray.

ANOMIA PACIFICA Gray.

ANOMIA PERUVIANA Orbigny.

Genus MONIA Gray.

MONIA FOLIATA Broderip.

Superfamily MYTILACEA.
Family MYTILIDÆ.

Genus MYTILUS LINNÆUS.

MYTILUS ADAMSIANUS Dunker.

MYTILUS ATER Molina.
1782. Stor. Nat. Chile, p. 202.—M. orbignyanus Hupé, Hist. de Chile, Mol., p. 211, pl. 5, fig. 5, 1854. Manta, Ecuador, and south to Talcahuano, Chile, with the Galapagos Islands.

MYTILUS CHILENSIS Hupé.
1854. Hist. de Chile, Mol., p. 309, pl. 5, fig. 4. Valparaíso, Chile, and southward to the Magellanic region.

MYTILUS CHORUS Molina.
MYTILUS DACTYLIFORMIS Hupe.
1854. Hist. de Chile, Mol., p. 310, pl. 5, fig. 6. Isla Blanca del Chimba, Chile, to Corral.

MYTILUS GRANULATUS Hanley.

MYTILUS MAGELLANICUS Lamarck.
1819. An. s. Vert., vol. 6, pt. 1, p. 119; Encycl. Méth. pl. 217, fig. 2. Callao, Peru, south to the Magellanic region.

MYTILUS PATAGONICUS Orbigny.
1889. In Clessin, Conch. Cab., 2d ed. Mytilacea, p. 82, pl. 18, figs. 5, 6. Chile and southward.

MYTILUS PILOSUS Reeve.
1858. (Recluz, ms. in) Reeve, Con. Icon., Mytilus, pl. 8, fig. 35. Iquique to Coquimbo, Chile, and Juan Fernandez Island.

MYTILUS SPLENDENS Dunker.

MYTILUS STEARNSII Pilsby and Raymond.
1898. Nautilus, vol. 12, no. 6, p. 70, pl. 4, figs. 1, 2, 3. San Diego, California, and southward. (Chile, Dautzenberg, Oahu, Conrad.)

Genus MODIOLUS Lamarck.

MODIOLUS ARCIIFORMIS Dall.

MODIOLUS GUYANENSIS Lamarck.
1819. Modiola guyanensis LAMARCK, An. s. Vert., vol. 6, pt. 1, p. 112.—Reeve, Con. Icon., Modiola, pl. 4, fig. 17, 1857. Lower California to Tumbes, Peru. Also Guiana, and Brazil at Rio Janeiro.

MODIOLUS MUTABILIS Carpenter.
1856. Modiola (brazilensis var. ?) mutabilis Carpenter, Mazatlan Cat., p. 122. Mazathan to Ecuador.

MODIOLUS PURPURATUS Lamarck.
1819. An. s. Vert., vol. 6, p. 113.—Clessin, Conch. Cab., 2d ed., p. 128, (oralis) pl. 33, figs. 4, 5, 1889. Ecuador, south to Concepcion, Chile.

MODIOLUS SPECIOSUS Dunker.

Genus ADULA H. and A. Adams.

ADULA SOLENOFORMIS Orbigny.
Genus LITHOPHAGA Bolten.

**LITHOPHAGA ARISTATA** Dillwyn.


**LITHOPHAGA ATTENUATA** Deshayes.


**LITHOPHAGA INCA** Orbigny.


**LITHOPHAGA PERUVIANA** Orbigny.


**Order ANOMALODESMACEA.**

**Superfamily ANATINACEA.**

**Family PERIPLOMATID.E.**

Genus PERIPLOMA Schumacher.

**PERIPLOMA LENTICULARIS** Sowerby.


**PERIPLOMA PLANUSCULA** Sowerby.


**Family PANDORID.E.**

Genus PANDORA Schumacher.

**PANDORA RADIATA** Sowerby.


Genus CLIDIOPHORA Carpenter.

**CLIDIOPHORA ARCUATA** Sowerby.


**Family LYONSIID.E.**

Genus ENTODESMA Philippi.

**ENTODESMA CUNEATA** Gray.

(SEPTIBRANCHIATA.)

Superfamily POROMYACEA.

FamilyCUSPIDARIID.E.

GenusCUSPIDARIA Nardo.

CUSPIDARIA COSTATA Sowerby.

Order TELEODESMAEACEA.

(NASSIBRANCHIATA.)

SuperfamilyASTARTACEA.

FamilyCRASSATELLITID.E.

GenusCRASSATELLITES Krüger.

CRASSATELLITES GIBBOSUS Sowerby.

Superfamily CYRENACEA.

Family CYRENID.E.

Genus CYRENA Lamarck.

CYRENA ANOMALA Deshayes.

CYRENA CHILINA Prime.

CYRENA CORDIFORMIS Recluz.

CYRENA FONTAINNEI Orbigny.

CYRENA FORTIS Prime.

CYRENA ISOCARDIOIDES Deshayes.
NO. 1704.  

A COLLECTION OF SHELLS FROM PERU—DALL.  

261

CYRENA MERIDIONALIS Prime.

CYRENA NOTABILIS Deshayes.
1854.  Proc. Zool. Soc., p. 21.—SOWERBY, Con. Icon., Cyrena, pl. 18, fig. 107, 1876, Paita, Peru.

Superfamily CARDITACEA.

Family CARDITIDÆ.

Genus CARDITA Bruguière.

CARDITA GRAYI Dall.

CARDITA LATICOSTATA Sowerby.

CARDITA (GLANS) NAVIFORMIS Reeve.
1843.  Cardita naviformis Reeve, Con. Icon., Cardita, pl. 9, fig. 45.  Arica to Valparaiso, Chile.

Genus CARDITAMERA Conrad.

CARDITAMERA RADIATA Sowerby.

Genus VENERICARDIA Lamarck.

VENERICARDIA COMPRESSA Reeve.
1843.  Cardita compressa Reeve, Con. Icon., Cardita, pl. 9, fig. 46.  Valparaiso, Chile, and southward.

VENERICARDIA CRASSICOSTATA Sowerby.
1825.  Cardita crassicostata Sowerby, Tankerville Cat., app. p. iv.—REEVE, Con. Icon., Cardita, pl. 5, figs. 25-26; pl. 8, fig. 38, 1843.  Gulf of California, and southward to Ecuador and the Galapagos Isds.

VENERICARDIA PÆTELIANA Clessin.
1888.  Cardita pæteliana Clessin, Con. Cab., 2d ed., Cardita, p. 20, pl. 6, figs 7-8.  Iquique, Chile.

VENERICARDIA SPURCA Sowerby.

VENERICARDIA VELUTINA E. A. Smith.
Family CONDYLOCARDIIDÆ.

Genus CARDITELLA Smith.

CARDITELLA PYGMEÆ Philippi.
1860. Cardium pygmeum Philippi, Atacama Reise, p. 176, Zoöl., pl. 7, figs. 3a–c. Isla Blanca, Chile. S. lat. 23° 30'.

CARDITELLA SEMEN Reeve.
1843. Cardita semen Reeve. Con. Icon., Cardita, pl. 9, fig. 43, 1843. Cobija, Chile, south to Isla Blanca.

CARDITELLA TEGULATA Reeve.
1843. Cardita tegulata Reeve, Con. Icon., Cardita, pl. 9, fig. 48. Callao, Peru, to Valparaiso, Chile.

Genus CARDITOPSIS Smith.

CARDITOPSIS FLABELLUM Reeve.
1843. Cardita flabellum Reeve, Con. Icon., Cardita, pl. 9, fig. 47. Callao, Peru, to Valparaiso, and southward to Magellan Straits.

Superfamily CHAMACEA.

Family CHAMIŒÆ.

Genus CHAMA Bruguière.

CHAMA ECHINATA Broderip.

CHAMA FRONDOSA Broderip.

CHAMA PELLUCIDA Broderip.

Superfamily LUCINACEA.

Family LUCINIDÆ.

Genus PHACOIDES Blainville.

PHACOIDES FENESTRATUS Hinds.
1844. Lucina fenestrata Hinds, Zoöl. Sulph. Voy., Moll., p. 66, pl. 19, fig. 2. Lower California to Panama and to Tumbes, Peru.

–PHACOIDES TELLINOIDES Reeve.
1850. Lucina tellinoides Reeve. Con. Icon., Lucina, pl. 9, fig. 56. Magdalena Bay, Lower California, to Guayaquil, Ecuador.
Family DIPLODONTIDÆ.

Genus DIPLODONTA Bronn.

DIPLODONTA ARTEMIDIS Dall.

DIPLODONTA CÆLATA Reeve.
1850. Lucina cælata REeve, Con. Icon., Lucina, pl. 6, fig. 27. Bay of Guayaquil.

DIPLODONTA INCONSPICUA Philippi.
1842. Arch. f. Naturg., p. 74.—Hupé, Hist. de Chile, Zoöl., p. 357, pl. 8, fig. 4, 1854. Mejillones, Chile, south to Chiloé Island.

DIPLODONTA PUNCTATA Say.

DIPLODONTA SERICATA Reeve.
1850. Lucina sericata REeva, Con. Icon., Lucina, pl. 9, fig. 25, 1850. Gulf of California to Guayaquil, Ecuador.

Family THYASIRIDÆ.

Genus THYASIRA Leach.

THYASIRA TOMEANA Dall.

Family LEPTONIDÆ.

Genus ERYCINA (Lamarck) Recluz.

ERYCINA? DUBIA Deshayes.

Genus BORNIA Philippi.

BORNIA? PAPYRACEA Deshayes.

BORNIA PLATEI Stempell.

Genus KELLIA Turton.

KELLIA BULLATA Philippi.
1845. Arch. f. Naturg., vol. 11, p. 51; Reise Atacama, p. 175, Zoöl., pl. 7, figs. 1a–c, 1860. Cobija, Chile, and south to Punta Arenas.
KELLLA SUBORBICULARIS Montagu.
1804. *Mya suborbicularis* Montagu, Test. Brit., pp. 39, 564, pl. 2, fig. 6.—Turton, Dithyra Brit., p. 56, pl. 11, figs. 5, 6, 1822. Straits of Fuca, British Columbia, south to Panama, Ecuador, and Peru. Also Antilles.

KELLLA TUMBESIANA Stempell.

Genus ROCHEFORTIA Vélahin.

ROCHEFORTIA COQUIMBENSIS Hanley.

Genus LASÆA Leach.

ALIGENA COKERI Dall.

Superfamily CARDIACEA.

Family CARDIIDÆ.

Genus CARDIUM (Linnæus) Lamarck.

CARDIUM (TRACHYCARDIUM) CONSORS Broderip and Sowerby.

CARDIUM (TRACHYCARDIUM) MACULOSUM Wood.
1815. Gen. Conch., p. 218, pl. 52, fig. 3; not of Sowerby, 1833? Con. Ill., vol. 1, p. 4, pl. 182, fig. 63, 1840. Gulf of Panama to Guayaquil.

CARDIUM (TRACHYCARDIUM) SENTICOSUM Sowerby.
CARDIUM (RINGICARDIUM) PROCERUM Sowerby.

CARDIUM (TRIGONIOCARDIUM) GRANIFERUM Broderip and Sowerby.

CARDIUM (TRIGONIOCARDIUM) OBOVALE Sowerby.
1833. Cardium obovale Sowerby, Proc. Zool. Soc., p. 84; Con. Ill., Cardium, pl. 46, fig. 4, 1833. Magdalena Bay, Lower California, and south to the coast of Ecuador.

CARDIUM (FRAGUM) BIANGULATUM Sowerby.

CARDIUM (FRAGUM) MAGNIFICUM Deshayes.

CARDIUM (PAPYRIDEA) ASPERSUM Sowerby.

CARDIUM (LEVICARDIUM) ELENENSE Sowerby.

Superfamily VENERACEA:

Family VENERID.E.

Genus DOSINIA Scopoli.

DOSINIA DUNKERI Philippi.
1844. Cytherea dunkeri Philippi, Abb., vol. 1, p. 4, pl. 2, fig. 9.—Sowerby, Thes. Con., Artemis, pl. 140, fig. 5. Gulf of California, south to Tumbes, Peru, and the Galapagos Islands.

DOSINIA PONDEROSA Gray.

Genus TIVELA Link.

TIVELA BYRONENSIS Gray.
TIVELA HIANS Philippi.
1851. Donax hiens Philippi, Zeitschr. f. Mal., vol. 8, p. 74.—
Roemer, Mon. Venus, p. 9, pl. 3, fig. 3, 1869. Magdalena Bay, Lower California, south to Valparaiso, Chile.

TIVELA PLANULATA Broderip and Sowerby.

Genus MACROCALLISTA Meek.

MACROCALLISTA AURANTIACA Sowerby.
1831. Cytherea aurantiaca Sowerby, Gen. Sh., vol. 33, fig. 6; Thes. Con., Cytherea, pl. 132, fig. 97 bis, 1853. Gulf of California to Guayaquil.

MACROCALLISTA PANNOSA Sowerby.

MACROCALLISTA SQUALIDA Sowerby.

Genus PITARIA Roemer.

PITARIA INCONSPICUA Sowerby.

PITARIA POLLICARIS Carpenter.

PITARIA TOMEANA Dall.

PITARIA (LAMELLICONCHA) CIRCINATA Born.

PITARIA (LAMELLICONCHA) CONCINNA Sowerby.

PITARIA (LAMELLICONCHA) CUMINGI Orbigny.
PITARIA (HYSTEROCONCHA) LUPANARIA Lesson.

PITARIA (HYSTEROCONCHA) MULTISPINOSA Sowerby.
1851. Cytherea multispinosa Sowerby, Thes. Con., Cytherea, p. 632, pl. 132, fig. 112. Gulf of Panama, south to Paita, Peru.

Genus CYTHEREA Bolten.

CYTHEREA MULTICOSTATA Sowerby.

CYTHEREA (VENTRICOLA) MACTRACEA Broderip.

Genus CYCLINELLA Dall.

CYCLINELLA KROYERI Philippi.
1848. Venus kroyeri Philippi, Abb., vol. 3, p. 78, pl. 7, fig. 9. Gulf of California to Valparaiso, Chile.

CYCLINELLA SUBQUADRATA Hanley.

Genus CHIONE Megerle.

CHIONE ALVAREZII Orbigny.

CHIONE ANTIQUA King.

CHIONE COMPTA Broderip.

CHIONE CRENIFERA Sowerby.

CHIONE ELLIPTICA Lamarck.
CHIONE GNIDIA Broderip and Sowerby.


CHIONE SPURCA Sowerby.


CHIONE SUBROSTRATA Lamarck.


CHIONE UNDATELLA Sowerby.


CHIONE (TIMOCLEA) ASPERRIMA Sowerby.


CHIONE (TIMOCLEA) COLUMBIENSIS Sowerby.


CHIONE (TIMOCLEA) TUMIDA Sowerby.


CHIONE (LIROPHORA) DISCREPANS Sowerby.


CHIONE (LIROPHORA) MARLE Orbigny.


CHIONE (LIROPHORA) PERUVIANA Sowerby.


CHIONE (CLAUSINELLA) GAYI Hupé.

1854. *Venus gayi* Hupé, Hist. de Chile, Zool., Mol., vol. 8, p. 337, pl. 6, fig. 5. Valparaiso, south to Chiloé Island.

Genus ANOMALOCARDIA Schumacher.

ANOMALOCARDIA SUBIMBRICATA Sowerby.


---

*ANOMALOCARDIA SUBIMBRICATA Sowerby.*

ANOMALOCARDIA SUBRUGOSA Sowerby.
1834. *Venus subrugosa* Sowerby, Gen., *Venus*, fig. 2; Thes. Con., *Venus*, pl. 155, fig. 63, 1853. Magdalena Bay, Lower California, to Valparaiso, Chile.

Genus MARCIA (Adams) Fischer.

MARCIA LENTICULARIS Sowerby.

MARCIA RUF A Lamarck.

Genus PAPHIA Bolten.

PAPHIA (PROTOTHACA) CINERACEA Hupé.
1854. *Venus cineracea* Hupé, Hist. de Chile, Zool., Mol., p. 334, pl. 6, fig. 2. Callao, Peru, to northern Chile.

PAPHIA (PROTOTHACA) GRATA Say.

PAPHIA (PROTOTHACA) THACA Molina.
1782. *Chama thaca* Molina, Saggio Hist. de Chile, p. 178.—Philippi, Abb., vol. 1, p. 127, pl. 2, fig. 1; pl. 3, fig. 3, 1844. Ancon, Peru, and south to the Chonos Archipelago, Chile.

Genus VENERUPIS Lamarck.

VENERUPIS OBLONGA Lamarck.

VENERUPIS FERNANDEZIANA Stempell.

Family PETRICOLIDÆ.

Genus PETRICOLA Lamarck.

PETRICOLA CONCINNA Sowerby.

PETRICOLA DENTICULATA Sowerby.

PETRICOLA DISCORS Sowerby.
PETRICOLA ELLIPTICA Sowerby.


PETRICOLA ROBUSTA Sowerby.


PETRICOLA RUGOSA Sowerby.


Superfamily TELLINACEA.

Family TELLINIDÆ.

Genus TELLINA Linnaeus.

TELLINA COLUMBIENSIS Hanley.


TELLINA CRYSTALLINA Wood.

1815. Gen. Con., p. 149; Index Test., pl. 3, fig. 10, 1825. Panama, Guayaquil; also West Indies.

TELLINA EBURNEA Hanley.


TELLINA HIBERNA Hanley.


TELLINA INÆQUISTRIATA Donovan.


TELLINA LYRA Hanley.


TELLINA PRINCEPS Hanley.


TELLINA PRORA Hanley.


TELLINA RUBESCUENS Hanley.


Genus TELLIDORA Mörch.

TELLIDORA BURNETI Broderip and Sowerby.

Genus METIS H. and A. Adams.

META DOMBEMY Hanley.

META EXCAVATA Sowerby.
1867. Tellina excavata Sowerby, Con. Icon., Tellina, pl. 26, fig. 138. Gulf of California, to Paita, Peru, and the Galapagos Islands.

Genus MACOMA Leach.

MACOMA GRANDIS Hanley.

MACOMA HUEPEANA Dall.

MACOMA INORNATA Hanley.

MACOMA PUMILA Hanley.

MACOMA UNDULATA Hanley.

Family SEMELIDÆ.

Genus SEMELE Schumacher.

SEMELE CORRUGATA Sowerby.

SEMELE ELLIPTICA Sowerby.

SEMELE FORMOSA Sowerby.

SEMELE LAEVIS Sowerby.
SEMELE LENTICULARIS Sowerby.

SEMELE PALLIDA Sowerby.

SEMELE PULCHRA Sowerby.

SEMELE PURPURASCENS Sowerby.

SEMELE ROSEA Sowerby.

SEMELE RUPIUM Sowerby.

SEMELE SOLIDA Gray.
1828. *Amphidesma solidum* Gray, Spicil. Zool., pl. 6, fig. 6.—Huép., Hist. de Chile, Mol., pl. 7, fig. 1. Callao, Peru, south to the Chonos Archipelago.

SEMELE VARIEGATA Lamarck.

Genus CUMINGIA Sowerby.

CUMINGIA LAMELLOSA Sowerby.
1833. Proc. Zool. Soc., p. 34; Con. Icon., *Cumingia*, pl. 1, fig. 5, 1873. Gulf of Panama to Paita, Peru, and to northern Chile.

CUMINGIA MUTICA Sowerby.
1833. Proc. Zool. Soc., p. 34; Con. Icon., *Cumingia*, pl. 1, fig. 3, 1873. Bay of Guayaquil to Paita, Peru, and south to Concepcion, Chile.

Family PSAMMOBIIDÆ.

Genus PSAMMOBIA Lamarck.

PSAMMOBIA LATA Deshayes.
NO. 1704. A COLLECTION OF SHELLS FROM PERU—DALL. 273


Genus SANGUINOLARIA Lamarck.


Genus TAGELUS Gray.


Family DONACID.E.

Genus DONAX Linnaeus.


Proc. N. M. vol. 37—09—18
Genus IPHIGENIA Schumacher.

IPHIGENIA ALTIOR Sowerby.

Superfamily SOLENACEA.

Family SOLENIDÆ.

Genus SOLEN Linnaeus.

Solen gaudichaudi Chenu.
1843. Illustr. Con., Solen, pl. 2, fig. 7. Valparaiso and Coquimbo, Chile.

Solen macha Molina.
1782. Hist. Nat. de Chile, p. 178.—Hupe, Hist. de Chile, vol. 8, Mol., p. 369, pl. 8, fig. 6, 1854. Valparaiso to Chiloé, and Puerto Montt, Chile.

Superfamily MACTRACEA.

Family MACTRIDÆ.

Genus MACTRA (Linnaeus) Lamarck.

Mactra (Mactroderma) velata Philippi.

Genus MULINIA Gray.

Mulinia bicolor Gray.

Mulinia byronensis Gray.
1838. Loudon’s Mag. N. Hist., new ser., vol. 1, p. 376, fig. 33; Zool. Beechey’s Voy., p. 154, pl. 44, fig. 11, 1839. Salaverri, Peru, and south to Talcahuano, Chile.

Mulinia edulis King.

Mulinia pallida Broderip and Sowerby.
1829. Mactra pallida Broderip and Sowerby, Zool. Journ., vol. 4, p. 360.—Reeve, Con. Icon., Mactra, pl. 9, fig. 34, 1854. Gulf of California and south to Panama and Manta, Ecuador.
Family MESODESMATIDE.
Genus MESODESMA Deshayes.

MESODESMA DONACIUM Lamarck.

Superfamily MYACEA.

Family CORBULIDÆ.
Genus CORBULA Bruguière.

CORBULA BICARINATA Sowerby.

CORBULA BIRADIATA Sowerby.

CORBULA NASUTA Sowerby.

CORBULA OVULATA Sowerby.

Family SAXICAVIDÆ.
Genus SAXICAVA F. de Bellevue.

SAXICAVA PURPURASCENS Sowerby.

SAXICAVA SOLIDA Sowerby.

Family GASTROCHÆNIDÆ.
Genus GASTROCHÆNA Spengler.

GASTROCHÆNA DENTICULATA Deshayes.

GASTROCHÆNA OVATA Sowerby.
GASTROCHÆNA RUGULOSA Sowerby.  

Genus SPENGLERIA Tryon.

SPENGLERIA TRUNCATA Sowerby.  

Superfamily ADESMACEA.

Family PHOLADIDÆ.

Genus PHOLAS Linnaeus.

PHOLAS CHILÖÆSIS Molina.

Genus BARNEA Leach.

BARNEA CRUCIGERA Sowerby.  

BARNEA SUBTRUNCATA Sowerby.  

BARNEA PACIFICA Stearns.  

Genus PHOLADIDEA Turton.

PHOLADIDEA (NETTASTOMELLA) DARWINI Sowerby.  

PHOLADIDEA (HATASIA) MELANURA Sowerby.  

PHOLADIDEA PENITA Conrad.  
PHOLADIDEA QUADRA Sowerby.


PHOLADIDEA TRIDENS Gray.


PHOLADIDEA TUBIFERA Sowerby.


Genus JOUANNetTIA Desmoulins.

JOUANNetTIA PECTINATA Conrad.


Genus MARTESIA Leach.

MARTESIA CURTA Sowerby.


Genus XYLOTOMEA Dall.

XYLOTOMEA GLOBOSA Sowerby.


Family TEREDINIDÆ.

Genus TEREDO Linnaeus.

? TEREDO NAVALIS Linnaeus.


Genus XYLOTRYA Leach.

XYLOTRYA DRYAS Dall.

XYLOTRYA MARTENSI Stempell.
1899. Teredo (X.) martensi Stempell. Fauna Chilensis, Suppl. Bd. 4, fasc. 1, p. 240, pl. 12, figs. 24-27. Punta Arenas, Chile.

XYLOTRYA SAULII Wright.

SUBKINGDOM MOLLUSCOIDEA.

Class BRACHIOPODA.

Order ATREIMATA.

Superfamily LINGULACEA.

Family LINGULIDÆ.

Genus GLOTTIDIA Dall.

GLOTTIDIA AUDEBARDI Broderip.

GLOTTIDIA SEMEN Broderip.

Order NEOTREMATA.

Superfamily DISCINACEA.

Family DISCINIDÆ.

Genus DISCINISCA Dall.

DISCINISCA CUMINGI Broderip.

DISCINISCA LÆVIS Sowerby.

DISCINISCA LAMELLOSA Broderip.
Order TELOTREMATA.

Superfamily TEREBRATULACEA.

Family TEREBRATULIDÆ.

Genus LIOTHYRINA Oehlert.

LIOTHYRINA UVA Broderip.


Genus TEREBRATELLA Orbigny.

TEREBRATELLA DORSATA Gmelin.


Genus MAGELLANIA Bayle.

MAGELLANIA VENOSA Solander.

SYNONYMOUS NAMES.

The student of the preceding list, familiar with the names contained in Orbigny’s “Voyage,” will miss a number of names which he would naturally have expected to find. It would have broken up the unity and conciseness of the faunal list to have it include any synonymy not necessary to the references given, i.e., the name used at the time of the description of the species and that used in connection with one or more good figures of the species. In order that the student may be able to identify synonyms with the name adopted in the list, an alphabetical summary of the chief synonyms is here given. The summary does not claim to contain all synonyms, for the work of bringing them together would have amounted to a monograph of the Peruvian provincial mollusk fauna, for which at present time could not be spared. Nor is the accuracy of this summary more exact than it could be made during the search of the literature and the comparison of the species in the collection of the U. S. National Museum. A thorough and complete study of the fauna would doubtless reveal the necessity for a certain number of changes. The present summary may be regarded as a step toward a future monograph. I have profited much in preparing it by the data given in Tryon’s Manual, especially the volumes due to Dr. H. A. Pilsbry, without invariably accepting the decisions in that work. The works cited in the bibliography preceding the Faunal List have been carefully examined, together with many others which will be found cited in the List, and it is believed that nearly all the conspicuous synonyms will be found in the following summary. In adopting generic names the International Code of Rules for Zoological Nomenclature has been rigidly adhered to, and, while it would be too much to expect that absolute accuracy has been attained, the author has done his best in that direction. Eight hundred and sixty-nine species are cited in the Faunal List, and for the whole about 650 synonyms have been noted. This would indicate that the nomenclature is in a tolerably satisfactory state.

SUMMARY OF THE CHIEF SYNONYMS.

Acmaea cyprinula Hupé = Scuvria scurra Lesson.
Acmaea nisoria Philippi = A. viridula Lamarck.
Acmaea plana Philippi, not Reeve = A. viridula Lamarck.
Acmaea pretrei Orbigny = A. viridula Lamarck.
Acmaea punctatissima Philippi = Scuvria parasitica Orbigny.
Acmaea spectrum Wimmer = A. variabilis Sowerby.
Acolis auctorum, cf. Acolidia Cuvier.
Amalthea Schumacher, not Amaltheus Montfort = Hipponix Defrance.
Amphidesma crenuum Gould = Semelae solida Gray.
Amphidesma orbiculare Hupé = Semelae solida Gray.
Anaphe Troschel = Prisogaster Mösch.
Anomia electus Gray = A. peruviana Orbigny.
Anomia hamiltonis Gray = A. peruviana Orbigny.
Anomia hampe Gray = A. peruviana Orbigny.
Anomia barbas Gray = A. peruviana Orbigny.
Aplysia Linneus, 1767 = Tethys Linneus, 1758.
Arca brasiliensis Reeve, not Lamarck = A. cardiformis Sowerby.
Arca hemiecardium Koch = A. reversa Sowerby.
Arca inequivalis Reeve, not Bruguière = A. cardiformis Sowerby.
Arca sowerbyi Orbigny = A. biangulata Sowerby, not A. biangulata Lamarck.
Artemia marielata Reeve = Cyelinella kroyeri Philippi.
Artemia tenmis Sowerby, 1852, not Reduz = Cyclinella subquadrate Hanley.
Artistic saccata Gould = Cyclinella subquadrate Hanley.
Astraea, see Astraea.
Auricula nigra Philippi = Marinula marinella Küster.
Auricula Lamarck, see Pteria Scopoli.
Bornea truncata Tryon, not Say = B. pacifica Stearns.
Buccinum bolivianum Souleeyet, see Cantharid bolivianus.
Buccinum coehlidium Kiener, cf. B. pygtenis Kiener.
Buccinum cribrarium Lamarck, see Nudithel ocellata, Gmelin.
Buccinum fusiforme Souleeyet = Solenostea fusiformis Blainville.
Buccinum insigines Reeve, 1846 = Cantharus elegans Gray.
Buccinum pagodas Reeve = Solenostea fusiformis Blainville.
Buccinum parvulum Dunker = Nudithel ocellata Carpenter.
Buccinum pristis Deshayes, 1844 = Northia northi Gray.
Buccinum serratum DuFresne, 1834, not of Brocchi, 1814, see Northia.
Bulla ampulla Trochichel, not Linneus = B. gouldiana?
Bulla nebulosa Gould, 1852, not Schröter, 1804 = B. gouldiana?
Bulla panamensis Philippi, 1848 = B. aspersa?
Bulla punctata A. Adams, 1850 = B. punctulata Adams.
Bulla striata Orbigny, 1837 = B. punctulata?
Candius panamensis Pilsbry and Sharp, cf. C. perpusillus Sowerby.
Calista longispina Mörch = Pitaria multispinosa.
Calyptrae, see also Crucibulum and Crepidula.
Calyptrae amygdata Valenciennes = Crapidula omnis Sowerby.
Calyptrae araucana Lesson = Trochita trochiformis Gmelin.
Calyptrae cornua Broderip = Chele a equestris Linneus.
Calyptrae dilatata Sowerby, 1824 = Trochita trochiformis Gmelin.
Calyptrae echinus Broderip = Crepidula acaulea Gmelin.
Calyptrae foliacea Broderip = Crepidula dilatata Sowerby.
Calyptrae hystrix Broderip = Crepidula acaulea Gmelin.
Calyptrae radiis Broderip = Chelea equestris Linneus.
Calyptrae rugosa Deshayes, not Lesson = Crucibulum quinquina Lesson.
Calyptrae sordida Broderip = Trochita trochiformis Gmelin.
Calyptrae striata Broderip = Crepidula dilatata Sowerby.
Calyptrae tubifera Lesson = Cricodium spinosum Sowerby.
Calyptrae umbrellae Deshayes = Chelea equestris Linneus.
Calyptrae umbretia Deshayes (part) = Crucibulum imbricatum Sowerby.
Calyptrae unguis Broderip = Trochita, testa juvenis.
Calyptrae varia Broderip = Chelea equestris Linneus.
Conchilaria orata Sowerby, 1832 = C. obesa Sowerby.
Conchilaria unijugata Orbigny, cf. C. milipecta Sowerby.
Cardita arcella Valenciennes = C. radiata Sowerby.
Cardita flammae Michaud = Venericardia crassicostata Sowerby.
Cardita tricolor Sowerby, 1832 = C. laticostata Sowerby var.
Cardita tumida Broderip = Venericardia crassicostata Sowerby.
Cardita turgida Valenciennes, 1846 = C. laticostata Sowerby.
Cardita varia Broderip = Venericardia crassicostata Sowerby.
Cardium laticostatum Sowerby = C. procerum Sowerby.
Cardium panamense Sowerby = C. procerum Sowerby.
Cardium planicostatum Sowerby, 1833, not of Sedgwick and Murchison, 1829 = C. magnificum Deshayes.
Cardium restrum Reeve = C. septicum Sowerby.
Cardium rotundatum Carpenter = C. procerum junior.
Cardium subelongatum Valenciennes, 1846, not of Sowerby, 1840.
Cassis lactea Kiener = Phalium abbreviatum Lamarck.
Cerithidea forula Bayle = C. montagnei Orbigny.
Cerithidea valida C. B. Adams = C. montagnei Orbigny.
Cerithidea variosa Sowerby, not DeFrance = C. montagnei Orbigny.
Cerithium galapaginis Adams = C. interruptum Menke.
Cerithium lamboldtii Valenciennes = C. parvicum Sowerby.
Cerithium incurvatum Gould = C. stenomuscarum Valenciennes.
Cerithium sebacum Sowerby, not Philippi = C. maculosum.
Chatopleura halimi Rochebrune = Chiton fremblyi Broderip.
Chama thaca Molina, see Papidea thaca Dall.
Chione antiqua King, cf. Chione alearezzii Orbigny.
Chione biradiata Gray = Macrocallista squalida Sowerby.
Chione tenuis Verrill = Anomalocardia subimbricata Sowerby.
Chionella, see Paradione.
Chiton aculeatus Sowerby, in Beechey's Voyage, not of Linnaeus.
Chiton bicostatus Orbigny = C. palebellus Gray.
Chiton coquimbensis Frembly = Euplochiton major Barnes.
Chiton glaber Clessin, cf. Tonicia elegans Frembly.
Chiton magnificus Deshayes = C. latus Sowerby.
Chiton olineagens Frembly = C. latus Sowerby.
Chiton pallatus Sowerby = C. stakensii Broderip.
Chiton seabricatus Sowerby = Chatopleura baurida Sowerby.
Chiton spiniferus Frembly = C. echinatus Barnes.
Chiton striatus Barnes, 1823, not of Lamarck, 1819, nor of Fischer, 1809.
Chiton tuberculiferus Sowerby = C. echinatus Barnes.
Chlorostoma, cf. Tegula.
Chlorostoma tropidophorum Adams = Tegula lactuosa Orbigny.
Columbella argus Orbigny = Nithidella ocellata Gmelin.
Columbella castanea Gould = C. unicolor Sowerby.
Columbella costata Dculos = Anachis fluctuata Sowerby.
Columbella fusiformis Hill = Strombina lanceolata.
Columbella gibbosa Broderip = Strombina gibberula Sowerby.
Columbella meleagris Dculos = C. fuscata Sowerby.
Columbella nodalina Dculos = C. fuscata Sowerby.
Columbella paytalida Dculos = C. paytenensis Lesson.
Columbella recurva Sowerby, cf. Strombina lanceolata.
Columbella sordida Orbigny = C. unicolor Sowerby.
Columbella spencer Sowerby, 1832 = C. paytenensis Lesson.
Columbella tenuis Gray = Anachis fluctuata Sowerby.
Columbella tessellata C. B. Adams, not of Gaskoin = C. guatemalensis Reeve.
Columbella triumphalida Dculos = Cantharus distortus.
Columbella unizonalis Gray = C. unifasciata Sowerby.
Columbella venilia Duclos=C. labiosa Sowerby.
Concholepas inbricatus Küster=C. concholepas Bruguière.
Concholepas oblongus Reeve=C. concholepas, var.
Concholepas peruvianus Lamarck=C. concholepas Bruguière.
Cononarid columbiaeis Anton, 1839=M. lutes Quoy.
Conus diadema Sowerby=C. brunnneus Maue.
Conus incurvus Sowerby, 1841=C. recurvus Broderip.
Conus interruptus Broderip and Sowerby, 1829, not of Maue, 1828.
Conus reticulatus Sowerby, 1841=C. lucidus Maue.
Crepidulida adolphei Lesson=C. dilatata Sowerby.
Crepidulida arenata Orbigny=C. dilatata Sowerby.
Crepidulida arenata Broderip=C. onyx Sowerby.
Crepidulida cancellata C. B. Adams=C. onyx Sowerby.
Crepidulida costata Menke=C. aculeata Menke.
Crepidulida finbriata Reeve=C. squama Broderip.
Crepidulida hepatica C. B. Adams=C. onyx Sowerby.
Crepidulida hepatica Menke=C. incurvus Broderip.
Crepidulida lessoni Broderip=C. squama Broderip.
Crepidulida nixa C. B. Adams=C. squama Broderip.
Crepidulida pallida Broderip=C. dilatata Sowerby.
Crepidulida patula Deshayes=C. dilatata Sowerby.
Crepidulida peruviana Lamarck=C. dilatata Sowerby.
Crepidulida plana Say=C. crepidula Linnaeus.
Crepidulida stroictera Menke=C. squama Broderip.
Crepidulida unguiculata Broderip=C. squama Broderip.
Crep. unguiculata Lamarck=C. crepidula Linnaeus.
Cricubulam auritum Reeve=C. quiriquinse Lesson.
Cricubulam cinereum Gray=C. tubiferum Lesson.
Cricubulam dentatum Carpenter=C. imbricatum Sowerby.
Cricubulam ferruginosum Reeve=C. quiriquinse Lesson.
Cricubulam hispidum Broderip=C. tubiferum Lamarck.
Cricubulam lignarium Broderip=C. quiriquinse Lesson.
Cricubulam maculatum Broderip, not Quoy=C. quiriquinse Lesson.
Cricubulam pectinatum Carpenter=C. imbricatum Sowerby.
Cricubulam pevida Gray=C. tubiferum Lesson.
Cricubulam rude Broderip=C. imbricatum Sowerby.
Cricubulam rugosum Lesson=C. imbricatum Sowerby.
Cricubulam serratum Broderip, cf. C. imbricatum Sowerby.
Cricubulam striatum Broderip, not Say=C. quiriquinse Lesson.
Cricubulam tene Broderip=C. quiriquinse Lesson.
Ctenocondia nuculoides Valenciennes=Malletia diilensis Desmoulins.
Cumia, Cumia, Fasciolina=Cymia Mörch.
Cumingia clerii Adams=C. mutica Sowerby.
Cumingia grandis Deshayes=C. mutica Sowerby.
Cumingia striata A. Adams=C. mutica Sowerby.
Cumingia trigonularis Sowerby=C. lamellosa Sowerby.
Cumingia ventricosa Sowerby=C. mutica Sowerby.
Cyprca cervinetta Kiener=C. exanthema Linnaeus, var.
Cyprca ferruginosa Kiener, not Gmelin=C. anettæ Dall.
Cyprca irina Kiener=C. nigropunctata Gray.
Cyprca lahyreus Kiener=Tricia sanguinea Gray.
Cyprca punctulata Gray=C. robertsi Hidalgo.
Cyprca rutila Weinkauff=Tricia radicans Lamarck.
Cyprca zonata Sowerby, Con. Ill., not Lamarck=C. anettæ Dall.
Cyrena cardiformis Sowerby = C. cardiformis Recluz.
Cyrena peruviana Deshayes = C. anomala Deshayes.
Cytherea, see Macrocallista and Pitaria.
Cytherea affinis Broderip = Pitaria concinna Sowerby.
Cytherea aurantiaca Hanley = C. aurantiaca Sowerby.
Cytherea brevispinosa Sowerby = C. multiispinosa Sowerby, var.
Cytherea chionea Menke = Macrocallista squidida Sowerby.
Cytherea corbicula Menke, not Lamarck = Terebra byronensis.
Cytherea doniana Gray = Pitaria lupanaria Lesson.
Cytherea gigantea Sowerby, not Gmelin = Dosinia ponderosa Gray.
Cytherea lutea Philippi = Macrocallista pannosa Sowerby.
Cytherea martroides Lamarck, not Born = Terebra planata.
Cytherea obliquata Roemer = Pitaria pollicaris Carpenter.
Cytherea pacifica Troschel = Dosinia dankeri Philippi.
Cytherea pallida Philippi = Terebra planata Broderip.
Cytherea pulla Philippi = Terebra byronensis Gray.
Cytherea semihemisphaerica Gaudichaud = Pitaria lupanaria Lesson.
Cytherea stellata Hanley, not Mawe = Terebra planata.
Cytherea subscuoda Menke = Anomalocardia subrugosa Sowerby.
Cytherea suppositrix Menke = Pitaria concinna Broderip.
Cytherea tortuosa Broderip = Pitaria concinna, var.
Cytherea undulata Sowerby = Terebra byronensis Broderip and Sowerby.
Delphinula, see Liolia.
Dione brevispinata Deshayes = Pitaria multiispinosa Sowerby.
Dione crenata Reeve = Pitaria lupanaria Lesson.
Dione prora Reeve, not Conrad = Pitaria pollicaris Carpenter.
Diplodonta tellinoides Reeve = Phorcides tellinoides Reeve.
Diplomactia, see Kellia.
Discina, see Discinisca.
Dolium latilabre Valenciennes = Dosinia ringens Swainson.
Donacilla chilensis Orbigny = Mesodesma donacia Lamarck.
Donax assimilis Hanley = D. aspera Hanley.
Donax eugeniae (part) Roemer = D. obesula Deshayes.
Donax lessonii Deshayes = Terebra planulata Broderip and Sowerby.
Donax pannosus Philippi = D. pagulensis Orbigny.
Dosinia antiqua Gray = Chione antiqua King.
Dosinia simplex Hanley, 1845 = D. dunkeri Philippi, 1844.
Drillia duplicata Weinkauff, not Sowerby = Sarcula maura.
Entodesma chilenensis Philippi = E. canaeta Gray.
Entodesma (saxicola Baird) Carpenter = Lycodesma Dall, 1909, new name.
Euthria Gray, 1850 = Atracodona Charlesworth, 1837.
Fissurella affinis Gray = F. peruviana Lamarck.
Fissurella atrata Reeve = F. philippiana Reeve.
Fissurella biradiata Fremlay = F. latimarginata Sowerby, var.
Fissurella chilenensis Sowerby = F. costata Lesson.
Fissurella chilostoma Menke = F. rugosa Sowerby.
Fissurella concinna Philippi = F. maxima Sowerby.
Fissurella cunningii Reeve = F. latimarginata var.
Fissurella elegans "Phil." (inedit?) Peru (Tschudi).
Fissurella evelinae Reeve = Fissuridea alta Adams.
Fissurella galericulum Reeve = F. latimarginata Sowerby, var.
Fissurella grandis Sowerby = F. nigra Lesson.
Fissurella humilis Menke = F. rugosa Sowerby.
Fissurella macrocrema Sowerby, cf. F. longifissa Sowerby.
Fissurella mus Reeve = Fissuridea inaequalis Sowerby var.
Fissurella nigra Philippi = F. philippiana Reeve.
Fissurella nigropunctata Sowerby = F. virens Sowerby var.
Fissurella occidens Gould = F. peruviana Lamarck.
Fissurella oriens Sowerby, cf. F. mexicana Lamarck.
Fissurella pica Sowerby = F. inaequalis Sowerby, var.
Fissurella radis Deshayes = F. costata Lesson.
Fissurella subrotunda Deshayes = F. peruviana Lamarck.
Fissurella virina Menke, not Reeve, cf. F. rugosa Sowerby.
Fissurella virina Sowerby = F. antiquata Linnaeus.
Fissurella virina Defrance = H. antiquata Linnaeus.
Fissurella radiata Gray, not Quoy and Gray = H. grayana Menke.
Hyalea natalensis Sowerby, not Person = Chio antarctica Dall.
Hyalea planata Sowerby, 1836 = Carolina gibbosa Rang.
Hyalea quadrata Pfeffer, 1880 = Carolina gibbosa Rang.
Hyalea tridentata Forskal, 1775 = Carolina telma Linnaeus.
Infralittoral, cf. Trochita.
Kellia miliaria Philippi = Lasva, cf. pettiana Recluz.
Lamellaria kerguelensis Studer = Marseniopsis parvica Bergh.
Littorina missatula Schubert and Wagner. Indo-Pacific.
Littorina spadicea Reeve, 1847 = L. concentrica Reeve.
Littorina tuberculata Broderip, 1833 = L. cerasus Gray.
Letricia coerulea Orbigny = Cumingia lanellosa Sowerby.
Leda inornata A. Adams = L. acuta Conrad.
Leda lugubris Adams = Tindaria selenulata Coupin.
Leda angular Mabille = Tindaria selenulata Coupin.
Leon orientalis Adams = L. angulata Sowerby.
Liotia obataiis Reeve = L. cancellata Gray, not Kiener.
Lithodomus, see Lithophaga.
Littorina costulata Souleyet = L. varia Sowerby.
Littorina fasciata Gray = L. varia Sowerby.
Littorina pagetensis Philippi = L. arauana Orbigny.
Littorina striata King, cf. L. peruviana Lamarck.
Littorina variegata Souleyet = L. varia Sowerby.
Littorina zebra Philippi = L. peruviana Lamarck.
Litoria Montfort = Cyphoma Bolten.
Lottia cornic Gould = Scorria scurra Lesson.
Lottia eburnea Gould = Scorria parasitica Orbigny.
Lottia pallida Sowerby = Scorria scurra Lesson.
Lottia punctata (Gray) Orbigny, 1835, not of Lamarck, 1822.
Lucina brasiliensis Mitté = Diplodonta punctata Say.
Lucina cornic Reeve = Diplodonta sericensis Reeve.
Lucina guaraiana Orbigny = Diplodonta punctata Say.
Lucina junceiriosis Reeve = Diplodonta punctata Say.
Lucina nitens Reeve = Diplodonta scribata Reeve.
Lucina venericulosa Dunker = Diplodonta punctata Say.
Lucinopsis kroyeri Poulsen is not Cyclinella kroyeri Philippi.
Lamia Gray cf. Ensis Agassiz.
Lyonia brevifrons Sowerby = Enodessa canecata Gray.
Lyonia canecata Orbigny = Enodessa canecata Gray.
Lyonia palagonica Orbigny = Enodessa canecata Gray.
Lyonia picta Sowerby = Enodessa canecata Gray.
Macoma occidentalis Dall = M. undulata Hanley.
Mactra calbucana Philippi, 1893 = Mulinia hyperoanias Gray.
Mactra cibaria Philippi, 1893 = Mytilina edulis King.
Mactra cuneola Philippi, 1893 = Mulinia edulis King.
Mactra edulis Philippi, 1893 = Mytilina edulis King.
Mactra lotensis Philippi, 1893 = Mulinia edulis King.
Mactra paitensis Philippi, 1893 = M. veluta Philippi, 1848.
Marginella cippricola Sowerby = Erato scabriuscula Gray.
Marginella graenau Kiener, 1835 not of Philippi 1850 = Erato scabriuscula Gray.
Marinula vividensis Petit, 1854 = M. marinella Küster.
Melangea Lamarck, see Margaritiphora Megerie.
Melongena Schumacher, 1817 = Galeodes Bolten, 1798.
Mesodessa chilensis Orbigny = M. donacium Lamarck.
Mitra chilensis Kiener, 1836 = M. orientalis Gray.
Mitra foraminata Swainson, 1835 = M. lens Mawe.
Mitra juniculata Reeve, 1844 = M. sulcata Swainson.
Mitra inca Orbigny, 1841 = M. lens Mawe.
Mitra lignaria Reeve, 1844 = M. lens Mawe.
Mitra lucensata Swainson, not Gmelin = Z. salcata Swainson.
Mitra lucensata Swainson, not Gmelin = Z. salcata Swainson.
Mitra marginata Swainson, 1835 = M. orientalis Gray.
Mitra rupicola Reeve, 1844 = M. lens Mawe.
Mitralaria, cf. Cheilea.
Mitralaria ceca Broderip = Cheilea equestris Linnaeus.
Modiola candida Lamarck = Lithophaga aristata Dillwyn.
Modiola oritis Cleesin = Modiola purpurata Lamarck.
Modulus trochiformis Eydoux and Souleyet = M. perlatus Dillwyn.
Monoceros Lamarck, not Bloch = Acanthina Fischer.
Monoceros crinitum Sowerby = Acanthina calcicostata Martyn.
Monoceros costatam Sowerby = Acanthina calcicostata Martyn.
Monoceros cossidobrem Sowerby = Acanthina calcicostata Martyn.
Monoceros eymatata Sowerby = Acanthina lugubris Sowerby.
Monoceros fusaioces King = Charos gigantes Gray.
Monoceros gubratin Deshayes = Acanthina calcicostata Martyn.
Monoceros globularis Sowerby = Acanthina calcicostata Martyn.
Monoceros nubriculum Sowerby = Acanthina calcicostata Martyn.
Monoceros maculatum Gray = Acanthina brevirenata Mawe.
Monoceros muricatum Reeve = Acanthina muricata Broderip.
Monoceros unicorn Gray = Acanthina calcicostata Martyn.
Monodonta carbidonies Lamarck, cf. Modulus perlatus Dillwyn.
Monodonta catenifera Potiez and Michaud, 1838, not of Kiener, 1836 = Tegula quadricostata Gray.
Monoreia reticulata Sowerby, 1835 = Gadinia peruviana Sowerby.
Mulina angulata Carpenter, 1855 = Mulina pallida Broderip and Sowerby.
Mulina ostriroga Mösch, 1862 = M. pallida Broderip and Sowerby.
Mulina carinata (Deshayes) Reeve = M. pallida Broderip and Sowerby.
Mulina conchilurum Philippi, 1893 = M. byronensis Gray.
Mulina donaciformis Gray, not Reeve = M. pallida Broderip and Sowerby.
Mulina exulbida Gray = M. byronensis Gray.
Mulina typica Gray = M. edulis King.
Murex borealinus Kiener = Trophon horridus Broderip and Sowerby.
Murex crispus Broderip, 1832 = M. tortuosus Sowerby.
Murex ducalis Broderip, 1833 = M. brassicu Lamarck.
Murex cranicaulis Valenciennes, 1846 = M. hama tus Hinds.
Murex erythrostomus Swainson = Phyllonotus bicolor Valenciennes.
Murex exiguis Kiener, Reeve, Garrett, not of Broderip.
Murex hippocastanum Philippi = Phyllonotus bicolor Valenciennes.
Murex incurvus Carpenter, not Broderip = M. gemma Sowerby.
Murex labiosus see Tritonalia crassabrunum Gray.
Murex labiosus Orbigny = M. crassabrunum Gray.
Murex tepidus Reeve, 1845 = M. vittatus Broderip.
Murex lugubris Tryon, 1880, not of Broderip.
Murex monoceros Orbigny, 1841, not Sowerby = M. fontainei Tryon.
Murex multicostatus Dunker, 1869 = M. tortuosus Sowerby.
Murex multiserpatus Dunker = M. tortuosus Sowerby.
Murex parthenopus v. Salis = Cymatium costatum Sowerby.
Murex pervierius Sowerby, 1840 = M. dyssecus Broderip.
Murex pleiferus Sowerby, 1840. West Africa, not Chile.
Murex radicatus Hinds, 1844 = M. lappa Broderip.
Murex rhodorcheilus King, 1831 = M. brassica Lamarck.
Murex tortuosus Catlow, 1845 = M. tortuosus Sowerby.
Murex tricolor Valenciennes, 1833 = M. regius Wood, 1828.
Murex vitellus Sowerby, 1870 = M. vittatus Broderip.
Mytilus americanus Orbigny = M. ater Molina.
Mytilus bifurcatus Conrad, part = M. stevensi Pilsbry.
Mytilus bifurcatus Dautzenberg, 1896, Valparaso. (=?)
Mytilus cordatus Gould = M. granulatus Hanley.
Mytilus canciformis Reeve = M. ater Molina.
Mytilus carratits Stempell = M. magellanicus var.
Mytilus dactylolides Philippi, 1860 = M. dactyliformis Hupé.
Mytilus hupéanus Mabille = M. chilensis Hupé.
Mytilus orbignyanus Hupé = M. ater Molina.
Mytilus ovalis Lamarck = Modiolus purpuratus Lamarck.
Mytilus pyrififormis Gould = M. magellanicus Lamarck.
Mytilus ungulatus Valenciennes, not Lamarck = M. chor us Molina.
Nassa Lamarck, 1799, not Bolten, 1798 = Alectrion Montfort.
Nassa plana Valentula, Preston, 1900, cf. Alectrion, species.
Nassa fontainei Orbigny = Nassa exilis Powys.
Nassa gemma Philippi = Alectrion complanatus.
Nassa panamensis Adams = N. exilis Powys.
Nassa panamensis C. B. Adams = N. exilis Powys.
Nassa rubricata Gould = Alectrion goyiu Kiener.
Nassa scabrinuclea Adams, 1852 = Alectrion complanatus.
Nassa tenuidii Troschel, cf. N. dentifer Powys.
Nassa unidentata Powys = N. dentifer junior.
Nassa xanthostoma Gray, n. n. for N. telostoma Broderip and Sowerby.
Natica atacamensis Philippi = Polinices daban Recluz.
Natica bouplandi Valenciennes = Polinices glauces Humboldt.
Natica chevronii Pfeiffer = N. unifasciata junior.
Natica elongata Troschel = Polinices corni Orbigny.
Natica excavata Carpenter = N. elonx Recluz.
Natica g占领aga Recluz = Polinices otis Broderip.
Natica honeti Recluz = N. elonx Recluz.
Natica istoma Menke = N. broderipiana Recluz.
Natica patula Sowerby = Polinices glauces Humboldt.
Natica perspicua Recluz = Polinices otis Broderip.
Natica prihardi Forbes = N. unifasciata junior.
Natica rapulum Reeve = Polinices daban Recluz.
Natica salangoensis Recluz = Polinices otis Broderip.
Natica teleri Recluz = N. broderipiana Recluz.
Nerita deshayesii Recluz = N. scabricosta Lamarck.
Nerita fuscata Menke = N. scabricosta Lamarck.
Nerita multispis Menke = N. scabricosta Lamarck.
Nerita oranda Sowerby, 1823 = N. scabricosta Lamarck.
Nerita peruiana Philippi = N. goldi Recluz. China.
Nerita spicata Recluz, cf. N. fulgurans Gmelin.
Naticula spicata Recluz = N. ocellata Gmelin.
Nucula conula Sowerby = Leda acuta Conrad.
Nucula lyrata Hind = Leda chrysea Sowerby.
Nucula oblina Gray, Sowerby, not of Lamarck = N. grayi.
Nucula seminovata Orbigny = N. pisum Sowerby.
Ocinebra (Leach) Gray, 1847 = Tritonalia Fleming, 1828.
Oliva vazoula Duclos, 1835 = Olifella volutella Lamarck.
Ochridina lamellata Troschel = Discussica lamellosa Broderip.
Ochridina striata Broderip = Discussica cumingi Broderip.
Ostrea chilensis Sowerby = O. chilensis Philippi.
Ostrea chilensis Hupé = O. chilensis Philippi.
Ovula Bruguière, cf. Simnia Risso.
Patella atroventosa Reeve = P. magellanica Gmelin.
Patella chilensis Reeve = P. magellanica Gmelin.
Patella concepcionis Lesson = Scucrria zebra Orbigny.
Patella duphiana Reeve = Scutaria mesoleuca Menke.
Patella grammatica Philippi = Acmaea variabilis Sowerby.
Patella koyats Gmelin = Concholepas concholepas Bruguier.
Patella leucophila Philippi = Scutaria parasitica Orbigny.
Patella lineata Philippi = Acmaea variabilis Sowerby.
Patella maximus Orbigny = P. mericana Broderip and Sowerby.
Patella meridionalis Rochebrune = P. magellanica Gmelin.
Patella metallica Rochebrune = P. magellanica Gmelin.
Patella penicillata Reeve = Acmaea variabilis Sowerby.
Patella plana Reeve, not Philippi = Acmaea aranea Orbigny.
Patella pupillata Rochebrune = P. magellanica Gmelin.
Patella scutellata Gray, Wood = Crucibulum imbricatum Sowerby.
Patella striata Reeve = Scruria mesoleuca Menke.
Patella venosa Reeve = P. magellanica Gmelin.
Patella vesperiina Reeve = Scruria mesoleuca Menke.

Patella
- metallica Rochebrune
- penicillata Reeve
- plana Reeve, not Philippi
- pupillata Rochebrune
- scutellata Gray, Wood
- striata Reeve
- venosa Reeve, not Philippi
- vesperiina Reeve

Pecten
- aspersus Sowerby = P. tumbezensis Orbigny.
- inca Orbigny = P. ventricosus Sowerby.
- magnificus Sowerby = P. subnodosus var.
- pomatia Philippi, not 1832 = P. bicolor Reeve.
- tumidus Sowerby, 1835 = P. ventricosus Sowerby.

Pectunculus
- Lamarck = Glycymeris Da Costa.
- assimilis Sowerby = Glycymeris inequalis Sowerby.
- intermedius Broderip = P. ovatus Broderip.
- pectiniformis Wood, not Lamarck = P. bicolor Reeve.

Penitella
- conradi Valenciennes = P. penita Conrad.
- wilsoni Conrad = Pholadidea melanura Sowerby.
- bispinosa Pelseneer, 1888 = P. reticulata Orbigny.

Perna Lamarck, see Melina Retzius.

Petricola
- chilensis Philippi = P. rugosa Sowerby.
- nivea Gmelin, Indo-Pacific—Nicobar Islands.
- ovata Troschel = P. rugosa Sowerby.
- solidai Sowerby = P. elliptica Sowerby.
- tenuis Sowerby = P. rugosa Sowerby.
- ventricosa Deshayes = P. denticulata Sowerby.

Philippina Dall, 1901 = Entodesma Philippi, 1845.

Philodopsis, see Jouannetia.

Pholas
- beauiana Recluz = Martesia curia Sowerby.
- concamerata Deshayes = Pholadidea penita Conrad.
- crucifera Sowerby, Thes., see Barnea crucigera Sowerby.
- cucullata Gray = Pholadidea penita Conrad.
- gibbosa Orbigny = Xylotoema globosa Sowerby.
- lenticula Orbigny = Barnea subtruncata Sowerby.
- laqueata Sowerby, 1849 = P. chilensis Molina.
- parva Sowerby, 1834 = P. chilensis Molina, var.
- pulcherrima Sowerby = Jouannetia pectinata Conrad.

Pileopsis
- pilosus Lamarck, see Hipponix.
- subrufa Lamarck, see Hipponix.

Pleurotoma, Lamarck, 1799 = Turris Bolten, 1798.

Pleurotoma
cincta Sowerby, not Lamarck = P. zonulata Reeve

cornuta Sowerby, 1833 = P. nigerrima Sowerby.

corrugata Sowerby, not Kiener = P. soerbyi Reeve.

ingressata Sowerby, 1833 = Dralli botte Valenciennes.

turricula Sowerby, 1833 = P. soerbyi Reeve.

Pneumodermon violaceum Bons, part = P. boasi Pelseneer.

Pollia hamastoma Gray = Cantharus sanguinolentos Duclos.

Psammobia
crassa Hupé = P. solida (Gray) Philippi.

Psammodes Hupé, see Tagelus Gray.
Purpura Lamarck, 1799, not of Martyn, 1784 = Thais Bolten, 1798.
Purpura Martyn, 1784, not Lamarck, 1799 = Cerostoma Conrad, 1837.
Purpura angulifera Duclos = Cyma tectum Wood.
Purpura bicostatais Reeve, 1846 = P. biceriialis Blainville, 1832.
Purpura blainvillei Deshayes, 1846 = Thais delessertiana Orbigny.
Purpura callaoisisis Blainville = Thais delessertiana Orbigny.
Purpura calloaisisis Kiener = P. biceriialis Blainville.
Purpura carolicsisis Reeve, 1846 = Thais triangularis Blainville.
Purpura concholepas Orbigny = Concholepas Bruguière.
Purpura cornigerca Blainville = Acanthina brevidentata Mawe.
Purpura diadema Reeve, 1846 = Thais costata Blainville.
Purpura fasciolaris Lamarck, Mediterranean, not Peru.
Purpura hamastoma Tryon, Peru = Thais peruvians Dall, n. n.
Purpura janelli Valenciennes = Contharus sanguinolentus Duclos.
Purpura lepas v. Martens = Concholepas concholepas Bruguière.
Purpura leno Duclos = Thais crossa Blainville.
Purpura ocellata Kiener = Acanthina brevidentata Mawe.
Purpura orbignyi Reeve, 1846 = Solenostea fusiformis Blainville.
Purpura peruciana Blainville = Concholepas concholepas Bruguière.
Purpura peruciana Lesson, cf. = Trophon cassidiformis Blainville.
Purpura peruciana Souleyet = Thais delessertiana Orbigny.
Purpura truncata Duclos = Acanthina muricata Broderip.
Purpura xanthostoma Broderip, 1833 = Trophon cassidiformis Blainville, 1832.
Pyrupa ochroleuca Philippi = Trophon cassidiformis Blainville.
Ranella kingi Orbigny = Argobuccinum vexillum Sowerby.
Ranella tenais Potiez and Michaud = Bursa ventricosa Broderip.
Ranella trioqueta Reeve = Euplectura muriciformis Broderip.
Saxicava antarctica Philippi = S. solidis Sowerby.
Saxicava chilensis Hupé = S. solidus Sowerby.
Saxicava leonis Sowerby, 1854 = S. solidis Sowerby.
Saxicava equalidis Deshayes, not Carpenter = Marcia rufa Lamarck.
Scala (anonymous) = Epitonium Bolten.
Scalaria similisima Tapparone-Canevri, 1876 = S. ducalis Mörch.
Sigaretus Lamarck, 1799, cf. Sinum Bolten, 1798.
Sigaretus cymba Menke = Sinum concavum Lamarck.
Sigaretus grayii Deshayes = Sinum concavum Lamarck.
Sigaretus maximus Philippi = Sinum concavum Lamarck.
Siphonaria equilivata Carpenter, 1856 = S. maura Sowerby.
Siphonaria caracteristica Reeve, 1842 = S. gigas Sowerby.
Siphonaria concum Sowerby. Gambia and Mauritius.
Siphonaria lecanium Philippi, 1846 = S. maura Sowerby.
Siphonaria palpata Carpenter, 1856 = S. maura Sowerby.
Siphonaria seculatum Deshayes, 1841. New Zealand.
Solecestus equinibensis Sowerby = Tagelus dombeyi Lamarck.
Solen gladiolus Gray, 1839 = S. macta Molina, 1782.
Solenella norvisii Sowerby = Malletia chilensis Desmoulins.
Spondylus dubius Broderip = S. crassisquama Lamarck.
Spondylus ducalis Lamarck. Philippines, not Peru.
Spondylus leucaenanta Broderip = S. crassisquama Lamarck.
Spondylus pictorum Sowerby = S. crassisquama Lamarck.
Spondylus princeps Broderip = S. crassisquama Lamarck.
Strombus giberulus Linneus, is Indo-Pacific (Peru, Tschudi).
Strombus bahamae Linnaeus, is Indo-Pacific (Peru, Tschudi).

Stylola recta Gray, 1850=S. acicula Rang.

Tulipa Gray, see Pholadidea.

Tectarius alatus Stearns=T. galapagensis Stearns.

Tegula atrata Lesson, var., cf. T. maca Jonas.

Tellina coarctata Philippi=T. lucuosa Hanley. West Africa.

Tellina sanguinea Wood=T. inaequistrata Donovan.

Teredra brevicauda Smith, 1873, not of Philippi, 1851.

Teredra chilensis Deshayes, 1859=T. gemmulata Kiener.

Teredra elongata Wood, 1828=T. striata Sowerby.

Teredra flavicollis Lesson, 1830=T. striata Sowerby.

Teredra patagonica Orbigny, 1841; cf. T. gemmata Kiener.

Teredra zebra Kiener=T. striata Sowerby.

Teredratula chilensis Orbigny, not Broderip=Magellania venosa Solander.

Teredratula dilatata Lamarck=Magellania venosa Solander.

Teredratula eximia Philippi=Magellania venosa Solander.

Teredratula fontanaeinae Orbigny=Magellania venosa Solander.

Teredratula grandifusca Blainville=Magellania venosa Solander.

Teredratula globosa Lamarck=Magellania venosa Solander.

Teredratula kochii Kuster=Magellania venosa Solander.

Teredratula physa Valenciennes=Magellania venosa Solander.

Tivela radiata Sowerby, not Megerle=T. byromensis Gray.

Tivela sejuncta Sowerby=T. planulata Broderip and Sowerby.

Trigona hindsii Hanley=Tivela byromensis Gray.

Trigona semilunata Menke=Tivela byromensis Gray.

Triomphalia Sowerby=Jouannetia Desmoulins.

Triton, auctorum, cf. Cymatium Bolten.

Triton chemnitzii Gray=Cymatium wiegmanni Anton.

Triton ranelliformis King, not Sismonda=Argobuccinum rexillum Sowerby.

Triton succiniformis Lamarck=Magellania costatum Born.

Tritonium cancellatum Valenciennes=Distorsio constrietus Broderip.

Trivia contaminata Gaskoin=Trivia radians Lamarck?

Trochus avanaeus Orbigny=Monodonta nigerrima Gmelin.

Trochus bicarinatus Potiez and Michaud=T. lactucaeus Orbigny.

Trochus brasilianus Menke=Tegula reticulata Gray.

Trochus buschii Philippi=Astrea buschii Philippi.

Trochus carinatus Koch=T. lactucaeus Orbigny.

Trochus kieneri Hupé=T. curvophalus Jonas.

Trochus microstomus Orbigny=T. tridentatus Potiez and Michaud.

Trochus perlatus Dillwyn=T. teatm Gmelin, part.

Trochus radians Lamarck=Trochita trochiformis Gmelin.

Trochus stemophalus Jonas=T. tridentatus Potiez and Michaud.

Trochus turcosus Philippi=T. quadricostatus Gray.

Trochus tridens Menke=T. tridentatus Potiez and Michaud.

Trochus unilobus Chemnitz=T. teatm Gmelin, part.

Turbonilla arctica Valenciennes, 1833=Vasum cestus Broderip.

Turbonilla maculata Born, 1780=Vasum cestus Broderip.

Turbo assimilis Kiener=T. fluctuosus Wood.

Turbo atrum Kiener=Tegula atrata Lesson.

Turbo brevispinosus Sowerby=Astraea buschii Philippi.

Turbo depressus Carpenter=T. fluctuosus Wood.

Turbo fluctuosus Reeve=T. fluctuosus Wood.

Turbo inermis Lamarck, not Kiener=Astraea buschii Philippi.

Turbo lugubris King=T. niger Wood.
Turbo lugubris Philippi, not King, cf. Tegula atria junior.
Turbo multicanus Reeve, not Gimelin = T. fluctuosus Wood.
Turbo nigerrimus Philippi = Monodonta araucana Orbigny.
Turbo propinquus Hupé = T. elevatus Eydoux and Souleyet.
Turbo quoyi Kiener = Monodonta araucana Orbigny.
Turbo tessellatus Kiener = T. fluctuosus Wood.
Turritella banksii Reeve = T. goniostoma Valenciennes.
Turritella broderipiana Reeve = T. goniostoma Valenciennes.
Turritella longisquama Reeve = T. goniostoma Valenciennes.
Turritella marmorata Kiener = T. goniostoma Valenciennes.
Turritella punctata Kiener = T. goniostoma Valenciennes.
Turritella trivinata King = T. cingulata Born.
Venerupis fernandeziana Stempell, cf. V. oblonga Sowerby.
Venerupis fimbriata Sowerby, cf. V. oblonga Sowerby.
Venus alternata Broderip = Paphia theca Molina.
Venus bayi Recluz = Chione subrostrata Lamarck.
Venus californica Carpenter = Chione completa Broderip.
Venus chilensis Sowerby = Paphia theca Molina.
Venus costellata Sowerby = Chione antiqua King.
Venus crevifera Sowerby = Chione subrostrata Lamarck.
Venus cyclorhiza Orbigny = Dosinia ponderosa Gray.
Venus cupria Sowerby, 1835, not Brocchi, 1814 = V. marie Orbigny.
Venus discors Sowerby = Paphia grata Say.
Venus discrepans Philippi, not Sowerby, cf. Chione antiqua King.
Venus dombeyi Lamarck = Paphia theca Molina.
Venus elongata Jonas = Chione undatella Sowerby.
Venus exarata Carpenter = Chione undatella Sowerby.
Venus explectus Philippi = Marcia rufa Lamarck.
Venus histriomica Sowerby = Paphia grata Say.
Venus ignobilis Philippi = Paphia theca Molina.
Venus lithoida Jonas = Marcia rufa Lamarck.
Venus modesta Sowerby = Pitaria cumingi Orbigny.
Venus neglecta Sowerby = Chione subrostrata Lamarck.
Venus nutalli Conrad = Chione undatella Sowerby.
Venus opaca Sowerby = Marcia rufa Lamarck.
Venus paeuensis Orbigny = Pitaria concinna Sowerby.
Venus pedunculoides Valenciennes = Chione aspersa Sowerby.
Venus perdivia Valenciennes = Chione undatella Sowerby.
Venus portesiana Orbigny = Chione subrostrata Lamarck.
Venus simulium Sowerby = Chione undatella Sowerby.
Venus solangensis Orbigny = Tivela byronensis Gray.
Venus subrostrata Reeve, not Lamarck = Chione undatella Sowerby.
Venus thomarsii Valenciennes = Cytherea multistrita Sowerby.
Venus triradiata Anton = Anomalocardia subrugosa Sowerby.
Voluta oculus Hanley's Index Test. = Olivella volutella Lamarck.
Waldheimia, see Magellania.
Xylophaga Turton, not Xylophagus Menschens = Xylotomea Dall.
Xylophaga dorsalis Stempell = Xylotomea globosa Sowerby.
EXPLANATION OF PLATES.

Plate 20.

Fig. 1. *Polypus fontaineanus* Orbigny, length 25 cm., see ........................................ 181

Plate 21.

Fig. 1. *Loligo gahi* Orbigny, length 30 cm. ................................................................. 181

2. Endostyle of the same.

Plate 22.

Fig. 1. *Concholepas concholepas* Bruguère, natural size .............................................. 168

2. *Thais chocolata* Duclos, natural size ................................................................. 169

3. *Solenostérea fusiformis* Blainville, natural size .................................................. 167

4. *Thais kiosquiformis* Duclos, natural size ............................................................. 170

Plate 23.

Fig. 1. *Trochita trochiformis* Gmelin, natural size, from above .................................... 175

2, 5. *Crepidula onyx* Sowerby, natural size ...................................................................... 174

3. *Batisimus cokerianus* Dall; height 27 mm ................................................................. 164

4. *Oliva peruviana* Lamarck, showing animal as contracted by alcohol, with the "pocket" at the posterior end of the foot turned inside out ........................................ 165

6. *Acanthopleura echinata* Barnes, natural size, from above ..................................... 180

7. *Littorina peruviana* Lamarck, \( \frac{1}{2} \) natural size ......................................................... 172

8. *Enoplochiton niger* Barnes, natural size, from above ......................................... 181

Plate 24.

Fig. 1, 2. *Acmia viridula* Lamarck, natural size ............................................................. 178

3, 7. *Megatehennus cokeri* Dall, length 27.5 mm ......................................................... 176

4. *Tegula atra* Lesson, natural size .............................................................................. 176

5, 6. *Fissurella crassa* Lamarck, interior and profile; length 30 mm ..................................... 177

Plate 25.

Fig. 1. *Mytilus chorus* Molina, \( \frac{1}{2} \) natural size ........................................................... 151

2. Palette of *Xylotrya dryas*, inside view; \( \frac{7}{7} \) .......................................................... 162

3. Palette of *Xylotrya dryas*, outside view; \( \frac{7}{7} \) ......................................................... 162

4. *Mytilus magellanicus* Lamarck, \( \frac{1}{2} \) natural size ..................................................... 151

5, 6, 7. *Xylotrya dryas* Dall; 6, outside of left valve; 5, interior of the two valves conjoined; 7, interior of left valve, natural size ......................................................... 162

8. *Ipohigenia altior* Sowerby, natural size .................................................................... 159

9. *Area (Anadara) grandis* Broderip and Sowerby, umbonal view, natural size, of an adolescent specimen .............................................................. 154

10. The same, in profile .................................................................................................. 154

Plate 26.

Fig. 1. *Ostrea chilensis* Philippi, interior of attached valve, \( \frac{1}{2} \) natural size .... 148

2. *Ostrea colombienisis* Hanley, interior of attached valve, natural size ............... 149

3. *Anomalocardia subrugosa* Sowerby, natural size ..................................................... 158

4. *Cyrena isocardioides* Deshayes, natural size ............................................................. 150

5. *Pecten purpuratus* Lamarck, \( \frac{1}{2} \) natural size .............................................................. 149

6. *Pecten purpuratus*, part of the external sculpture, much enlarged ...................... 149
FIG. 1. *Mesodesma donacium* Lamarck, natural size .......................... 161
2. *Modiolus guyanensis* Lamarck, natural size ............................... 152
3. *Tagelus* (*Mesopleura*) *dombeyi* Lamarck, natural size ................ 160
4. *Arca* (*Scapharca*) *tuberculosa* Sowerby, in profile, natural size .... 154

**PLATE 28.**

FIG. 1. *Pteria peruviana* Reeve, ½ natural size .................................. 150
2. *Modiolus arciformis* Dall, restored from fragments, length 65 mm .... 152
3. *Tellina* (*Angulus*) *eburnea* Hanley, natural size, view of interior of
   left valve ....................................................................................... 160
4. *Anomia peruviana* Orbigny, natural size. Shell viewed from the base
   of attached valve ......................................................................... 148
5, 6. *Aligena cokeri* Dall, umbonal view and profile, enlarged from 7.5 mm.
     long .......................................................................................... 155
7. *Donax aspera* Hanley, natural size ............................................. 159
8. *Diplodonta* (*Felaniella*) *artemis* Dall, ½ natural size, length 12 mm . 156
9. *Tirela planulata* Broderip and Sowerby, natural size ..................... 157
10. *Semele solida* Gray, interior of left valve, natural size ................. 160