

ON RARE OR LITTLE KNOWN MOLLUSKS FROM THE WEST
COAST OF NORTH AND SOUTH AMERICA, WITH DESCRIPTIONS
OF NEW SPECIES.

BY

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(With Plate I.)

The forms included in this paper are all in the collection of the U. S. National Museum. Eight of the fourteen were collected by Mr. W. J. Fisher in the Gulf of California region several years ago. The others were collected by various persons: Dr. W. H. Jones, U. S. Navy; Dr. Edward Palmer, Capt. George D. Porter, and others. A part of the species have already been described. In some cases these descriptions required revision and information relating to the species not before available has been added.

The number of forms heretofore associated in the monographs and by the principal authors with an Indo-Pacific habitat will attract attention. A comparison of the marine portion of the mollusk fauna of the Gulf region, with that of the Galapagos, as exhibited in the collection made by the U. S. Fish Commission steamer *Albatross*, a catalogue of which is nearly ready for publication, gives a much larger representation of distinctly Indo-Pacific or Polynesian species to the former. In connection with the Polynesian species, attention is called to the beautiful embroidered cone described by me in 1873,* *Conus Dalli*, in its general aspect, color, markings, etc., approaching very closely to some of the species in the group represented by *C. textile*. The original examples were obtained by vessels in the Gulf trade and brought to San Francisco. Subsequently, in 1876, Mr. Fisher collected numerous specimens, living and beach shells, at the island of Maria Madre, of the Tres Marias Group, in the mouth of the Gulf, and I have since seen several adolescent examples from the Gulf region, which sustain the validity of the species and indicate that it is found not infrequently within the Gulf area or upon its shores.

Family APLYSIIDÆ.

Genus **DOLABELLA** Lamarck.

Dolabella californica Stearns.

Proc. Acad. Nat. Sciences, Philadelphia, 1878, p. 395, Pl. VII, Figs. 1, 2.

Several examples (Mus. No. 75001), Mulege Bay, Gulf of California. This form was first detected by Mr. W. J. Fisher in 1876. I have

* Proc. Cal. Acad. Sciences, April 7, 1873, Pl. I, Fig. 1.

not heard of its being collected since. In Mr. Fisher's notes he says that the *Aplysia*-like animal prefers "dark places in pools left by the tide."

The shell is internal, triangular, hatchet-shaped, with a curved and callous nucleus or apex; entire shell hard and calcareous *when adult*; when young more or less membranaceous and flexible. Though several examples of the above, soft parts and all, were obtained, I was unable to get an entire specimen for investigation. Mr. Fisher, who made no drawings at the time of collecting, informed me that the animal was of the same general form that authors have given of *Aplysia*,* the color of the Fisher individuals being a dark brown and the surface covered with wartlike papilla. In the matter of the color this species probably varies as do individuals of the others.

The various forms heretofore described are principally inhabitants of the Indo-Pacific province, and the Mediterranean region is also credited with a representative of this group.

The shell of *D. californica* is in outline very much like that of *D. Ramphii* Cuvier=*D. scapula*, Martyn.

The nuclear callosity varies more or less in different specimens.

Family ONCHIDIDÆ.

Genus **ONCHIDELLA** Gray.

Onchidella Binneyi Stearns.

Plate L. Figs. 1, 2.

= *Onchidella Carpenteri* Binney, Stearns, Proc. Acad. Nat. Sciences Phila., 1878, Pl. VIII, Figs. 7, 8.

= *Onchidella Carpenteri* Binney. Third supplement to vol. v, air-breathing mollusks of the U. S., vol. XIX, Bull. Mus. Comp. Zoölogy, Cambridge, Pl. VI, Figs. D and E, p. 214.

not *Onchidium Carpenteri* Binney. Proc. Ac. Nat. Sc. Phila., 1860, 154; L. & F. W. Sh. of N. A., i, 307-308, Fig. 514 (1868) nor

Onchidella Carpenteri Binney, Manual Am. Land Shells, Bulletin 28, U. S. Nat. Mus., 1885, p. 163, Fig. 150.

Oncidella? Carpenteri W. G. Binney, Fischer and Crosse. Mission Scientifique au Mexique et dans l'Amérique Central.

Several examples (Mus. No. 58824). San Francisquita Bay, Los Animas Bay, and Angeles Bay in the Gulf of California.

The form listed herein was collected by Mr. W. J. Fisher at the places indicated; all of the specimens were living. A description with figures was published by me in the Proceedings of the Philadelphia Academy in 1878. Mr. Binney's *Onchidium Carpenteri* was the only form of the family that had been credited to the Gulf region; without looking into the matter sufficiently, I assumed that Mr. Fisher's specimens belonged to Mr. Binney's species.

* See Woodward's Manual, 2d ed., p. 321.

The figures recently given by Mr. Binney in his third supplement to the fifth volume of the Air-Breathing Mollusks of the United States are not new drawings from the original specimens which furnished a basis for the brief and partial description of *O. Carpenteri*, as first published by him in the Proc. Acad. Nat. Sciences of Philadelphia, but from a specimen sent to him by Mr. Dall, one of the Fisher lot described by me in 1878, and, as I now regard it, erroneously referred to his species. His *O. Carpenteri* is a much smaller form, "the length of the largest* being 5 millimeters, the extreme breadth 3 millimeters," while the Fisher specimens average 17.2 in length by 12.2 millimeters in breadth.

My former description is here given with some modifications. Body oblong ovate, about a third longer than wide; convex or rounded above, flat on the under side; anterior and posterior ends equally rounded; dorsum formed by the mantle and entirely covering the back, which is of a smoky-brown color, coriaceous and quite thick at the edges; under side of a dingy, yellowish color. Surface of dorsum covered with wartlike papillae, some larger than others, the larger having somewhat the aspect of regularity, the interspaces being filled with the smaller; creeping disk or belly, elongated, nearly as long as the animal, and its width equal to about one-third of the entire width as seen from the under side.

Sexual organs on the right side, near the head. Respiratory orifice on the left side, between the edge of the creeping disk and the mantle, at a point about two-fifths of the total length from the posterior end. Anal outlet on the right side, very near the posterior extremity of and just above the edge of the creeping disk. The eye peduncles rather short, and these as well as the buccal appendages are obscured by the contraction caused by the alcohol. The creeping disk being comparatively soft is much contracted by the same cause. Mr. Fisher remarked that he found this form "abundant, attached to the under side of stones at low tide, sometimes overlapping each other."

In Hutton's Catalogue of the Marine Mollusea of New Zealand, he includes a species, *Oncidella nigricans* Quoy, "uniform black, * * * common on rocks between tide marks," having the same habit in this respect as *O. Binneyi*.

The localities where Mr. Fisher collected his specimens are in the Gulf of California, on the westerly shore, the first in latitude 28° 26', the second in 28° 50', and the third and last in latitude 29 north, as it will be observed, not far from each other. *Oncidium Carpenteri* Binney is credited by the author as ranging geographically from the "Strait of Fuca to the Gulf of California." It is probably a distinct species and will sooner or later be verified by additional specimens in a suitable condition to admit of its characters being definitely ascertained and described.

* Binney's Manual, p. 163.

Family FASCIOLARHIDÆ.

Subfamily FUSINÆ.

Genus **FUSUS** Lamarck.*Fusus? polygonoides* Lamarck.

A single example, agreeing more closely with this species than any other that is contained in the National collection or that has been described or figured, was collected at Catalina Island, California, by Mr. Fisher (Mus. No. 32348).

Family NASSIDÆ.

Genus **NASSA** Lamarck.*Nassa brunneostoma* Stearns.

Described in "Nautilus," May, 1893, Vol. VII, pp. 10-11.

Shell small, elongated ovate, of seven to eight whorls, with a pointed and acutely elevated spire with generally three spiral series of granules; occasional individuals show four series on the penultimate whorl and six to seven on the basal. In some examples the sculpture has the appearance of longitudinal ribs broken up into granules; in others the sculpture suggests spiral or revolving ridges broken into granules; in some examples the granulation covers nearly the whole of the basal whorl; in others an area equal to the last third of the basal whorl is comparatively smooth. In some individuals the granules next below the suture are more conspicuous than the others, and again a double row of more prominent granules are seen on the upper part of the basal whorl. In some individuals the suture is distinct, in others obscure. Most of the examples exhibit fine revolving liræ on the lower half of the basal whorl.

The aperture is small, ovate, about one-third the length of the shell; the outer lip is thickly rimmed externally and usually crenulated and denticulate within just below the edge. Columella roundly arcuated with the usual callus above and a single terminal plication at the base of the pillar, with four or five obtuse ridges above. The greater part of the basal whorl, as seen in front, is covered with shiny callus of a warm chestnut brown, varying more or less in depth of color, in some cases quite light. When held up to the light, on looking through the aperture, an obscure lightish band is perceptible. The warm brown glaze surrounding the aperture and covering the pillar is quite characteristic, and together with the acute and elevated spire, makes it easily separable from its nearest congeners. Its nearest relatives geographically and otherwise are *Nassa complanata* Powis (= *N. scabriuscula* C. B. Ad.) and *N. tegula* Reeve (= *N. tiarula* Kiener), both common in the Gulf region and forming, with *brunneostoma*, a little group exhibit-

ing similar general characters. Some examples of *brunneostoma* are more robust than others and vary in the elevation of the spire.

Dimensions: Length of largest, 16 millimeters; breadth, 9 millimeters; an intermediate example measures 15 millimeters in length and 8 millimeters in breadth. This last is, however, much above the average in size.

HABITAT.—Gulf of California, near the mouth of the Colorado River (Mus. No. 37239); also at Guaymas, on the easterly shore (No. 23721, 55951), where numerous examples were collected by Dr. Edward Palmer.

Family MURICIDÆ.

Subfamily MURICINÆ.

Genus **MUREX** Linné.

Subgenus **CHICOREÛS** Montfort.

Chicoreus palma-rosæ Mexicana Stearns.

= *palma-rosæ* Lamarek, var?

? = *M. affinis* Reeve.

? = *M. Steeria* Reeve.

A single example (Mus. No. 46803), in fair condition.

The occurrence on the west coast of any form allied to the *palma-rosæ* group of Murices has not heretofore been reported. In several instances during my residence in California I noticed worn beach shells of the above in material received from the Gulf of California. The specimens were usually in such poor condition as to be of no value as examples for the cabinet, and the geographical fact of their appearance among west-coast shells did not impress me sufficiently, until Mr. Fisher returned from his Gulf expedition with the quite fair specimen herein listed. It hardly agrees with either of the described forms above referred to, neither does it differ greatly. A comparison with the monographs is not quite satisfactory, and the various examples in the National Museum of such forms as it most nearly approaches, are not sufficiently numerous to remove the doubt. I have given it the above name, as in other instances in this paper, solely for the object that the geographical fact may be clinched and made known. It may ultimately prove to be a variety of Reeve's *affinis*, for which he has given no habitat.

The allies of the form known as *palma-rosæ* include the following: *M. palma-rosæ* Lamarek, *M. Steeria* Reeve, *M. Saulia* Sowerby, *M. murus* Broderip, and *M. affinis* Reeve.

The salient features of the group are well illustrated in the principal and best known form, the species first named.

The character, number, and arrangement of the fronds upon the varices or varical fronds are quite persistent in all of these species, and they all have minor characteristics in common.

Commencing with the upper part of the varices, is the principal frond and this is divided or bifid, or we may say it is composed of two fronds uniting and forming one, the main frond; then comes a gap, followed by three fronds, then another gap followed by two fronds, and this system of one, three, and two is exhibited usually in each of the three varices of the body whorl.

Chicoreus *Leeanus* Dall.

Proc. U. S. Nat. Museum, vol. xii., pp. 329-330, 1889.

Two examples of this rare and striking species were brought to my attention when in San Diego, in May, 1892, by Miss J. N. Cooke. The larger measured 90, the smaller 75 millimeters in length. They were both collected by Capt. G. D. Porter. The first was found living between tide marks in sand, one in San Ignacio lagoon, Lower California; the other was a beach shell. Dall's type was dredged off Cerros Island, Lower California, in 44 fathoms muddy bottom by the U. S. Fish Commission steamer *Albatross*, in 1888. It measured 70 millimeters.

Genus *OCINEBRA* Leach.

Ocenebra lugubris Sby.

Murex lugubris Sby. Proc. Zool. Soc. London, 1832, p. 175. Conch. Illus., Fig. 26. Reeve, Iconica, Sp., 143.

Murex crinacoides Valenciennes. Recueil d'observations, etc., ii, 302, 1833.

Murex californicus Hinds. Proc. Zool. Soc. London, 1843, p. 128. Voyage Sulphur, t. 3, pp. 9, 10.

Murex californicus Reeve. Conch. Iconica, Sp., 114.

Murex (Ocenebra) crinacoides Val. (= ? *M. californicus* Hinds) Stearns. Proc. Acad. Nat. Sciences, Phila., 1878, pp. 395, 396.

Collected by Mr. W. J. Fisher at La Paz, Lower California, in 1867 (Mus. No. 46767).

In the late Dr. Carpenter's reports to the British association (1856 and 1863) reference is made to *Muricidea crinacoides* by name only.

In his Mazatlan catalogue, however, he has described a "var. *indentata*," of a form which he presumes to be Valenciennes's species, and suggests a comparison with Kiener's *Murex alreatus*. In the Smithsonian check-list, June, 1860, he included Kiener's name, but omitted that of Valenciennes. The "*alreatus*" of Kiener is a quite distinct form, not at all like *lugubris*.

The form under review came to my notice many years ago and its determination sorely puzzled others as well as myself. About the same times numerous examples of the European *M. crinaceus* were received from various sources and from several localities, from the British Coast to the Mediterranean shores of southern Europe. The close resemblance of the West American to certain examples of the European form at once attracted my attention and placed me on the right track to identification.

The propriety of Valenciennes's name was evident from the material

examined at the time and has since been shown, as further specimens have come to hand from other localities on the coast of Lower California

Hinds described the shell as having six varices, but his figures show only three. Reeve's description is correct in mentioning three varices alternating with nodes or ribs. I think that Hinds unintentionally included the three internodes as varices in his description.

The variation exhibited by *lugubris* is so great that it may ultimately be connected with *trialatus*; the type of *lugubris* as figured is hardly characteristic when the general facies of a large number of examples is considered. It is to be regretted that the more appropriate name of Valenciennes has to give way to that of Broderip.

Subfamily PURPURINE.

Genus **PURPURA** Brugniere.

Purpura hippocastanum Linné.

A single living example of this Polynesian species, occurring in the Viti, Samoan, and Pelew islands, as well as in the Australian region, was detected at Mulege Bay, on the eastern shore, Gulf side of the peninsula of Lower California.

Family TRITONIDÆ.

Genus **RANELLA** Lamarck.

Ranella cruentata Sby.

This form, generally regarded as Indo-Pacific or Polynesian, collected at the Viti Islands by the late Andrew Garrett, was dredged by the *Albatross* (depth 31 fathoms, rocky bottom) off Lower California in latitude 22° 52', longitude 109° 55'. This is near Cape St. Lucas, the extremity of the peninsula. This adds another Indo-Pacific form to the many instances noticed in the Fisher collection, and may be explained perhaps by the great depth of water that prevails so close to the coast, and curves well up into the Gulf of California, where the 1,500 fathom line reaches a point that would be intersected or touched by a line drawn across the Gulf from Cape St. Lucas to Mazatlan and reaches nearly up to the Tres Marias Islands on the south. In fact the depths of 1,724 to 2,395 fathoms were found between the end of the peninsula and Corrientes.* (Mus. No. 125665.)

The remarkable distribution of this species is still further corroborated by an example collected by Mr. Charles T. Simpson, of the U. S. National Museum, who detected it at the island of Utilla, on the coast of Honduras.

* *Albatross* Explorations, A. Agassiz in Bull. Mus. Comp. Zool., Vol. XXIII, No. 1.

Family CASSIDIDÆ.

Genus *CASSIS* Lamarck.Subgenus *CASMARIA* H. and A. Ad.*Casmaria vibex* Linné.

An example of this form (Mus. No. 88831) was detected on the beach at the island of Maria Madre, of the Tres Marias, by Mr. Fisher. It is a crab shell with the columella considerably excavated by its alien tenant; the extreme upper or apex whorls are wanting; otherwise the specimen is in good condition, the surface polish and the color being intact, with a hint of the broad obscure color bands sometimes seen in this species, and the fine dots or minute color spots that occur along the line of the bands where they are intersected by lines of growth. Though a small specimen, only 33 millimeters long by 21.5 millimeters in breadth, it is solid and mature, with a thick callus in the columella region and a heavy rim to the outer lip, exteriorly broadened and prettily color-marked, as frequently seen in this species. This example is inconspicuously obtusely nodose on the upper part of the basal whorl, which is also slightly angulated below the suture. The lower part of the outer lip, though somewhat worn, shows faint crenulation.

Another example of this species, the smooth, thin, inflated form, was collected at La Paz, on the opposite side of the Gulf, near the southern extremity of Lower California, by Mr. L. Belding. This has a thin or only slightly thickened rim to the outer lip; the color markings or spots on the same are inconspicuous, the deposit of callus in the columella region is slight, and the subsutural nodes of the basal whorl are barely perceptible. This also is a crab shell, the pillar very much worn away and the tip of the apex is broken or worn off; the surface of the shell is in good condition and still exhibits its normal gloss. The Belding specimen is considerably larger than the Fisher shell, and measures lon. 44.25, lat. 24.50 millimeters (Mus. No. 34184).

Family CYPRÆIDÆ.

Genus *CYPRÆA* Linné.Subgenus *LUPONIA* Gray.*Luponia isabella—mexicana* Stearns.

Plate I., Figs. 3, 4.

= *C. controrsata* Gray, Stearns, Proc. Phila. Acad. Nat. Sciences, Phila. 1878, p. 399.

In Sowerby's monograph of *Cypræa* in the Conchological Illustrations, species 30, Fig. 136, no habitat stated, reference is made to

what at that time (1878) I regarded as probably applying to this West Coast form. The only comment in Sowerby's text is "30—*C. controversa*, Gray, Zool. Jour., t. 7 and 12, p. 7. Obs. This may prove to be only a variety of *C. isabella*."

My remarks in the Proc. of the Phila. Academy, following the above quotation from Sowerby, with the West Mexican examples before me, were as follows:

While its general coloration would lead to its being grouped with *C. isabella* of the Indo-Pacific and *C. lurida* of the Mediterranean regions, it differs more from the former than from the latter species. While it is a more ventricose form than *C. isabella*, in this respect being nearer to *C. lurida*, the edges of the lips are not as finely and closely crenulated as in *isabella* nor as coarsely as in *lurida*.

Numerous examples, some fresh and living, others beach shells, were collected by Mr. Fisher at the Maria Madre and San Juanita islands of the Tres Marias group.

The figure of *controversa*, in Sowerby, represents a more globose form than any example of *isabella* that I had seen at the time of my examination of the Fisher shells, and these latter, as a whole, varied in this character from any examples of *isabella* I had met with, and agreed more nearly with Sowerby's figure. Since then I have seen numerous specimens of rather short or ventricose *isabellas*, notably a lot kindly sent to the Museum by Mr. Isaiah Greigor, of Jacksonville, Fla. An example (No. 23394) from the "Gulf of California," collected by Capt. Pedersen, has somewhat more of the ordinary aspect of the Indo-Pacific *isabellas*. The Pedersen shell is too much worn to be of service in the matter of determining the color. The Museum also contains examples collected by Dr. Edward Palmer, credited to "Cape St. Lucas" (No. 23685). Of the fresh examples collected by Fisher, the figure represents the largest, highest colored, and most strongly characterized individual; the ground color is nearly as dark as the average of *lurida* (certainly as dark as a light-colored *lurida*); the dark, longitudinal, irregular linear markings sometimes, rather rarely, met with in specimens of *isabella*, are exceedingly conspicuous, and the blotch-like spots at the apical and opposite extremity strongly exhibited; these are dull orange, shaded down with reddish brown. It may be that this is an extreme example; by itself it might well be regarded as a distinct species; this fine shell, as well as others in the Fisher lot, presents, in a greater or less degree, a combination of the characteristics of both *isabella* and *lurida*.

The individual figured has the following dimensions: Length, 39 millimeters; diameter, 22 millimeters. (Mus. No. 46581.)

The National collection contains 1 example (beach), No. 23394, "Gulf of California," collected by Capt. Pedersen; 10 from the "Tres Marias," Nos. 46581 and 46582, Fisher; 7 from "Cape St. Lucas," Nos. 23685, 55861, 55862, Dr. Edward Palmer; and 46580, 1 example "Gulf of California."

Family LITTORINIDÆ.

Genus **TECTARIUS** Valenciennes.**Tectarius atyphus** Stearns.

Pl. L., Fig. 5.

Preliminary description, "Nautilus," December, 1892.

Shell small, ovate, subturreted, with five whorls; the basal traversed spirally by five principal obtuse keels, or ribs, broken into nodules; of these the peripheral keels are the strongest; between these and below the lower of the stronger keels, fainter keels or striae are perceptible; the penultimate whorl shows three rows of nodules; of these the two upper are the more prominent and the lower one is sutural and inconspicuous. Color, dull ashen chocolate above, lighter below the periphery of the basal whorl, and mottled below the lowest keel. Aperture rather ovate than round, dark colored within; columella somewhat excavated and of a pale chocolate tint. Near the base of columella the hint of a lightish band may be seen, from the edge of the outer lip, inward.

Dimensions: Alt., 6.25; lat., 4 millimeters.

A single example (Mus. No. 48396), from Manta, Ecuador, collected by Dr. W. H. Jones, U. S. Navy.

This is the first example of this group of the Littorinidæ detected on the west coast of the American continents. It is rather remarkable, when the abundance of *Tectarius muricatus* and its ally, *Echinella nodulosa* in the Antillean-Caribbean region is considered.

Many of the so-called species of *Littorina* inhabiting the Caribbean and Panamic waters or shores are so much alike as to at once suggest a common ancestry within comparatively recent geological times. The species described above is quite distinct from *T. muricatus* or *E. nodulosa*, and exhibits in the details of its characters such differences as to warrant specific designation.*

Family TURBINIDÆ.

Genus **ASTRALIUM** Link.Subgenus **UVANILLA** Gray.**Uvanilla regina** Stearns.

Pl. L., Figs. 6, 7.

Preliminary description, "Nautilus," 1892.

Shell conic, acute, imperforate, black or purplish black; whorls six or seven, concave and longitudinally somewhat obliquely corrugated or plicated, the plications more or less produced or overlapping at the suture and periphery or edge of the basal whorl, producing a closely crenulated or undulating effect just above the suture, and at the basal

* Vide Proc. U. S. National Museum, Vol. XIV, p. 326.

edge; surface otherwise closely sculptured by incremental striae, which run at right angles to and cross the longitudinal plicae. Base concave, radiately closely lamellose plicate; plicae sharply defined and becoming more prominent as they approach the periphery, flattening, coalescing and sinuously curving at the edge, which latter is followed by a shallow sulcation or groove parallel to and just back thereof; this groove commences at the point where the upper edge of the outer lip joins the basal whorl and extends towards the lower edge of the aperture, where it is less distinct. Aperture obliquely subangulate, outer edge black, thin, crenulated, nacreous, silvery white toward the edge, bright, lustrous golden-yellow within and around the umbilical region, which latter, though deeply excavated, is not open. Columella white, calloused, arcuated, with a moderately conspicuous rounded rib bounding the umbilical depression, and terminating in a single tubercle. A shallow furrow then follows the inner rib, terminating in a notch just below the tubercle, and the umbilical region is still further characterized by an exterior or outer rib, part of the way double, of a brilliant orange, which color blends in, more or less, along the edges of the rib, to the bright yellow around it. A shallow furrow follows along the course of this outer rib also, becoming obsolete toward the aperture. The base of the shell is further sculptured, rather obscurely, by faint revolving lines.

Dimensions: Altitude, 36.0; diameter, maximum, 34.0 millimeters.

The above species combines the sculptural features of the Japanese *Chlorostomas* and the West American *Uvanillas*, more especially *U. olivacea*. It is a much handsomer shell than the latter, and geographically the most northerly species of the group thus far detected on the west coast. It is numbered in the register of the department 125314.

Family TROCHIDÆ.

Genus **CHLOROSTOMA** Swainson.

Chlorostoma gallina, var. *multifilosa* Stearns.

Pl. L, Figs. 8, 9.

Preliminary description, "Nautilus," December, 1892.

Shell imperforate, large, heavy, solid, thick, turbinate, elevated, inflated, globosely conical, with five and one-half to six and one-half whorls; whorls rounded; suture simple, moderately distinct, not channeled; apex obtusely pointed, eroded, and yellowish at the tip; color nearly black when wet, reddish or purplish black, when dry; sculpture spiral, consisting of numerous narrow, closely set, rounded ridges or costae, separated by narrower incised whitish thread-like grooves; aperture rounded, oblique, subangulate on the columellar side and pearly within; outer edge black-rimmed, finely crenulated and mottled by the projection of the lighter colored groovings; columella short,

arcuated, with two somewhat elongated tubercles near the base, and a shallow umbilical pit above; base convex.

Altitude 36; diameter, maximum, 34 millimeters.

HABITAT.—Guadalupe Island, "among the rocks," Capt. George D. Porter. This island is off the outer coast of Lower California, in latitude 29° north and longitude 118° west; it belongs to Mexico. (Mus. No. 125315.)

The ridges are not of equal thickness, but vary considerably; in some instances twice as thick or wide as in others; and both ribs and grooves are somewhat coarser on the base than elsewhere. The example before me varies from the ordinary aspect or typical form of Forbes's *gallina*, by the *absence throughout of any trace of "longitudinal markings or sculpture,"* and from Hemphill's var. *tineta* in the *absence of the "streak of yellow on the base, just below the columellar teeth;"* in the latter also "the longitudinal markings and sculpture are obsolete, and the spiral grooves generally scarcely visible above," while in the example herein described the entire surface is *conspicuously ribbed and grooved throughout.*

The exceeding variability exhibited by *gallina* and the related forms of this genus on the west coast is such that I do not feel warranted in regarding this fine and strongly characterized shell as a new species; it can, however, with propriety, be assigned, and is well entitled to an easily recognized varietal position.

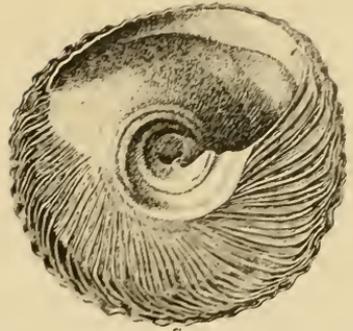
EXPLANATION OF PLATE I.

NOTE.—The figures following the authority for the specific name denote the actual size in millimeters of the specimen figured.

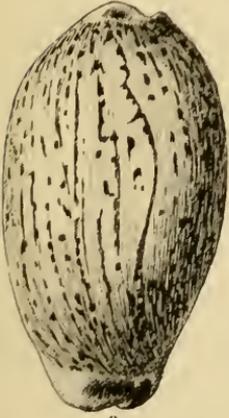
- Fig. 1. *Onchidella Binneyi* Stearns, dorsal view, 17.2×12.2 .
 2. *Onchidella Binneyi* Stearns, ventral view.
 3. *Cypræa isabella-mexicana* Stearns, 39.0×22 .
 4. *Cypræa isabella-mexicana* Stearns.
 5. *Tectarius atyphus* Stearns, 6.25×4.0 .
 6. *Uvanilla regina* Stearns, 36.0 alt.
 7. *Uvanilla regina* Stearns, 34.0, max. diam.
 8. *Chlorostoma gallina* var. *multifilosa* Stearns, 36.0.
 9. *Chlorostoma gallina* var. *multifilosa* Stearns, 34.0, max. diam.



6



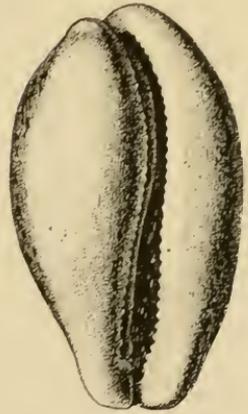
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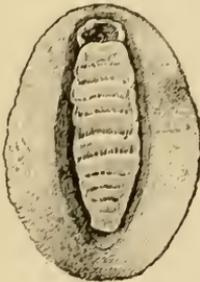
3



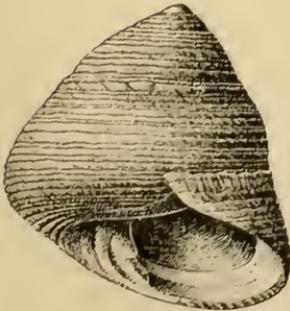
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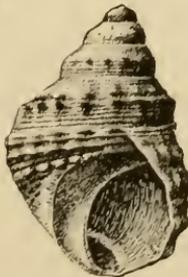
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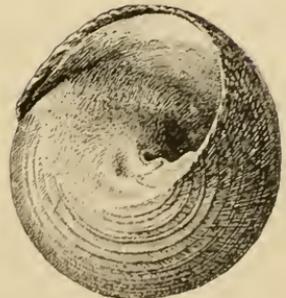
2



8



5



9

