

With regards of Author

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Descriptions of a New Genus and two New Species of Nudi-branchiate Mollusks from the Coast of California.

BY ROBERT E. C. STEARNS.

Genus *LATERIBRANCHIÆA*, Stearns.

Animal like *Triopa*, with a single series of gills on each side, central or sub-central and opposite.

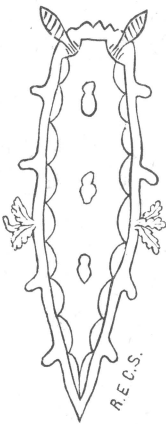


FIG. 1, ($\frac{2}{3}$).

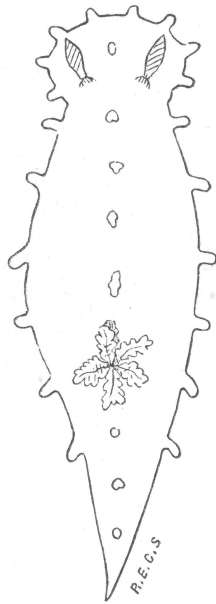


FIG. 2, ($\frac{2}{3}$).

LATERIBRANCHIÆA FESTIVA, Stearns, FIG. 1.

Body slug-shaped, about one inch long ; of a *translucent* cream white color on back, ornamented with looped linear markings on each side, of an opaque *chalky white*, and three irregular, ring-shaped markings of the same color, nearly equidistant and along a central line on the back, also marked with a few inconspicuous irregularly placed orange spots ; cephalic tentacles short, clavate, stumpy,

fringed at base, branchial orifices on each side, sub-central, with short arborescent plumes.

Habitat.—Point Pinos, near light house, Monterey, California, on the under side of granite boulders at extreme low tide; detected by Mr. Harford and myself in March, 1868.

TRIOPIDÆ, Gray.

TRIOPA, Johnston.

TRIOPA CARPENTERI, Stearns, FIG. 2.

Animal slug-shaped; anteriorly obtusely rounded, posteriorly pointed, somewhat attenuated; cephalic tentacles clavate, upper part of same of an orange color, below white; gill plumes five, arborescent, resembling fern leaves, tipped with orange; plumes and tentacles 1–16 inch in length; the former situated in middle of the back somewhat posterior to centre. Six tentacular processes on each side, tipped with orange and 1–32 inch long; also short tentacular processes in front of the head; body one and one-half inches in length, translucent white, covered with fine papillæ of an orange color.

Habitat.—Monterey, at Point Pinos near the light house, on the under side of granite rocks at edge of laminarian zone, where the above was collected by Mr. W. G. W. Harford and myself in March, 1868.

This species is named for my friend Dr. P. P. Carpenter of Montreal, whose thorough work in connection with the mollusca of W. North America has been of great service to investigators.

The above descriptions, though somewhat meagre from lack of the proper instruments for more careful diagnosis, are nevertheless adequate to a ready determination of both of the above well marked and elegant species.

Descriptions of New Marine Mollusks from the West Coast of North America.

BY ROBERT E. C. STEARNS.

CONUS DALLI, Stearns. Plate I, fig. 1.

Shell conical, robust with a smooth surface faintly marked with incremental lines; lower third portion of shell obscurely spirally ribbed and the spire elevated and indistinctly grooved on the top of each whorl; body whorl and spire moderately convex, the latter with a distinct sutural line and a faint sulcation parallel to the same; outer lip simple, aperture linear, internally of a delicate rose-pink tinge; surface of shell marked with irregular longitudinal stripes of reddish brown and sienna yellow, the former color predominating and blending in more or less and glazing the yellow; the longitudinal markings are interrupted by a series of four revolving bands (of which the two lowest are the widest.) composed of numerous whitish spots of irregular size and shape but generally small, rounded or angular; occasionally whitish subangulate spots of larger size

than those included in the bands occur between the same, and in line with the longitudinal markings.

Dimensions of largest: Long. 2.35; lat. 1.22 inches. Another specimen measures: Long. 2.15; lat. 1.1 inches.

Habitat.—Gulf of California, from whence specimens are occasionally brought to San Francisco on vessels in the Gulf trade. It is not common.

Figure 70 in Sowby's Conch. Illustr. without habitat, and named "*C. textile* var." resembles this species. Specimens are in my collection and in that of Mr. Fisher of San Francisco.

This shell belongs to the group of so-called "embroidered cones" of which *C. textile* is the most common illustration, and it might carelessly be mistaken for that species; in *C. textile* however the white (in cleaned specimens) is the dominant color, and the triangular blotches of white are large and sharply defined by a line of brown, and there is but little blending or coalescing of the brown and yellow lines, which are much sharper and more distinct as well as of a lighter shade and narrower than in *C. Dalli*. *C. textile* is of a clear whiteness interiorly, while the shell described herein has a delicate pinkish interior; in *textile* the spire is somewhat *concave*, in *Dalli* it is moderately *convex*; and the latter in outline is a less graceful shell, and belongs to a widely separated zoological province.

PTYCHATRACTUS OCCIDENTALIS, Stearns.

P. occidentalis, Stearns, Prel. Descr. August 28, 1871.

Shell elongated, fusiform, rather slender, whitish, traversed by narrow, revolving, brownish threads and much wider intervening spaces; suture distinct, spire tapering; aperture oblong-oval, about half the length of the shell; within white, polished; canal short, nearly straight; columellar obliquely, not strongly plicated; length about three-fourths of an inch.

Habitat.—Near the Island of Nagai, one of the Shumagin Islands, where it was hooked up attached to a rock from a depth of forty fathoms, by Captain Prime of the California Fishing fleet; through the kindness of Mr. Harford to whom it was given, it is now in my cabinet.

This shell in its general features resembles the North Atlantic *P. ligatus* of Mighel and Adams, *vide* Boston Jour. Natl. Hist., IV, 1842, p. 51, pl. iv., fig. 17. It is a more delicate shell than the Atlantic species, though my solitary specimen, judging by the thinness of the outer lip, is not quite mature. I regret that I am unable at present to furnish figures of this and the succeeding species, the specimens having inadvertently been mislaid.

FUSUS (CHRYSODOMUS?) HARFORDII, Stearns.

F. (C.) Harfordii, Stearns, Prel. Descr. August 28, 1871.

Shell solid, elongate, regularly fusiform; spire elevated, whorls six or seven, moderately convex, slightly flattened (in outline) above, with a groove or channel following the suture; color, chocolate brown; surface marked by numerous narrow revolving costæ, which alternate in prominence on the body whorl, and longitudinally by fine incremental striæ, and on the upper whorls by obtusely

rounded ribs of more or less prominence; aperture ovate, about one-half the length of the shell, polished, white and finely ribbed within; (the outer lip in perfect specimens is probably finely crenulated); canal short, nearly straight. Lon. 2.1; lat. .94 in. Number of specimens, three; two mature, dead, one junior, fresh.

Habitat.—Coast of Mendocino County, near Big Spanish Flat, California where it was detected by Mr. Harford.

Though almost typically fusiform, except in the brevity of the canal, I am disposed to place it in *Chrysodomus* rather than with *Fusus*. Dr. Carpenter is inclined to believe that certain specimens collected at Monterey by the late Dr. C. A. Canfield and at Catalina Island by Dr. Cooper, are identical with the above. I am of the opinion that it is rather a northern form, exceedingly local in its distribution and more nearly allied to some of the later fossils of the coast described by Mr. Gabb.

PLEUROTOMA (DRILLIA) MONTEREYENSIS, Stearns. Plate I, fig. 2.

P. (D.) Montereyensis, Stearns. Prel. Descr. August 28, 1871.

Shell small, rather solid, elongate, slender; spire elevated, sub-acute; whorls, seven to eight moderately rounded; upper portion of larger volutions somewhat concavely angulated; suture distinct; color, dark purplish brown or black; surface covered with rather coarse, inconspicuous, revolving costæ, interrupted on the body whorl by rude incremental lines; middle of upper whorls and upper part of body whorl displaying fourteen to fifteen equidistant, longitudinal, nodose, slightly oblique ribs, which are whitish in the specimen before me (being somewhat rubbed) on the larger whorls; on the smaller volutions of the spire a puckering at and following the suture suggests a second indistinct series of nodules; aperture less than half the length of the shell; canal short; terminal portion of columella whitish, slightly twisted; posterior sinus, rather broad rounded, and of moderate depth. Long. .67 in.; lat. .24 in.

Habitat.—Monterey, California, where the single specimen in my cabinet was collected by Mr. Harford and myself in March, 1868. The shell, in its general aspect, resembles the sombre colored species of the Gulf of California and Panama.

In the cabinet of the Rev. J. Rowell is a specimen perhaps of this species, but not in sufficiently perfect condition to admit of certainty.

PLEUROTOMA (DRILLIA) HEMPHILLII, Stearns. Plate I, fig. 3.

P. (D.) Hemphillii, Stearns. Prel. Descr. August 28, 1871.

Shell small, smooth, slender, polished; spire long, subacute, rounded at apex; longitudinally marked with inconspicuous, oblique ribs, which are nearly obsolete on the body whorl; number of whorls seven, with well defined sutural line, and just below it a parallel impressed thread-like line; shell of an opaque dingy horn color; incremental lines fine, marked in some specimens with dingy white; mouth obliquely ovate, about one-third the length of the shell; labrum produced, anteriorly somewhat thickened; sinus sutural, deep, calloused; columella thickened at base; canal very short, somewhat produced and twisted; one spec-

imen shows obscure, revolving, impressed lines below the swell of the body whorl; size quite uniform. Long. .26; lat. .09 inch.

Habitat.—Todos los Santos Bay, Lower California, where several specimens were obtained by Mr. Hemphill, for whom I have named this well marked species.

MURICIDEA SUBANGULATA, Stearns. Plate I, fig. 4.

Shell small, abbreviated fusiform, dingy white and marked spirally by an inconspicuous band formed of three reddish-brown lines more or less interrupted on the basal and the preceding volution; whorls five, angulated above and on the basal whorl rounded below the angle, with a shallow sulcation beneath; surface covered with rounded and irregular costæ, which are inconspicuous or obsolete on the upper whorls; longitudinally marked with from seven to nine irregular rounded ribs, which at the edge of the angle (which is somewhat carinated) are broken into angular or pointed knobs or blunt spines; aperture ovate, angulated above and white within; the outer lip with five or six tubercles internally; canal moderately prolonged, slightly curved and open in the two specimens before me. Dimensions of largest: Long. .89; lat. .41 inch.

Habitat.—San Miguel Island, off the southern coast of California, where the specimens from which this description is made were obtained by Mr. W. G. W. Harford.

ASTYRIS VARIEGATA, Stearns. Plate I, fig. 5.

Shell small, elongated, acutely conic, light rufous-brown or sienna-yellow under a thin brownish or greenish epidermis; with whitish median and sutural bands more or less interrupted; in some specimens these bands are connected by wavy lines of a darker brown; surface of shell when free from epidermis, smooth and shining, marked with delicate incremental lines, and on the lower portion of the body whorl with narrow grooves; apex rounded, whorls seven, convex; suture well defined, aperture ovate, about one-third the length of the shell; outer lip simple, in some specimens a little thickened with small tubercles on the inner side.

Dimensions: Long. .3; lat. .12 inch.

Habitat.—San Diego, California, where numerous specimens were collected by Henry Hemphill, Esq. This beautiful species resembles some forms of *Nitt-della* and *Truncaria*; it differs from *Astyris tuberosa*, in the greater convexity of the whorls, and especially in being without the angularity or concavity which is displayed in the lower part of the body whorl in the latter species; it is a more delicate and graceful shell than either of the other forms of *Astyris* found on the coast, many of which have been distributed as "*Amycla*" or "*Columbella*" *gausapata*, *Californiana*, *carinata*, and var. *Hindsii*.

PHOLAS PACIFICA, Stearns. Plate I, figs. 6, 6a, 6b, 6c.

P. Pacifica, Stearns, Prel. Descr. August 28, 1871.

Shell oblong, beaks two-fifths of length of shell from anterior end; anterior end of valves triangular, pointed; anterior dorsal edge of valves reflected and folded down on the umbos; lower anterior margin curved, forming a large elliptic-oval

gape; posterior end of valves squarely rounded; shell dull chalky white, sculptured in concentric lines, which anteriorly are laminated and posteriorly become extinct; valves radiately ribbed, which also become obsolete at the posterior end; at the intersection of the radiating and concentric lines the sculpture is pectinated; an area below the umbos nearly or quite destitute of sculpture, which varies much in prominence in different specimens; accessory plate sublanceolate and bent down on the beaks, anteriorly prolonged, but not wholly covering the ante-umbonal gape; figs. 6a, 6b, show the variation in the shape of the dorsal plate in different specimens; interior of valves white, enamelled; internal rib short, curved and flattened. Largest specimen, two and six-tenths inches in length, and one and five-tenths inches in height.

Habitat.—Alameda, San Francisco Bay, California, where in some places it is common in sandy mud between tide marks. Numerous specimens collected by Messrs. Harford, Hemphill, Drs. Kellogg and W. P. Gibbons.

This shell is the West Coast analogue of the Atlantic *P. truncata*, Say, which it resembles; it is however a much longer shell for its width, and the portion of the valves posterior to the beaks, very much longer than in Say's species. Specimens of this species have been distributed as *Zirphæa crispata*, which also is found upon the coast, though quite distinct from *P. Pacifica*, which latter comes within Mr. Tryon's subgenus *Cyrtopleura*.

According to the Messrs. Adams in the genus *Pholas*, there are two dorsal plates; yet they have included in their list of the species under that genus, *P. truncata*, Say, which has only one.

