

DESCRIPTIONS OF TWO NEW SPECIES OF MARINE GASTROPODS FROM WEST MEXICO AND COSTA RICA

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Studies of west American marine gastropods in the collections of the California Academy of Sciences have revealed the presence of two species which appear to be undescribed. One of these represented by seven specimens, referred to the genus *Acmaea*, was presented to the Academy in 1942 by Mr. and Mrs. Harry R. Turver then residing in Santa Cruz, California, now in South Gate, California. The other species, referred to the genus *Alvania*, was presented to the Academy in 1951 by Dr. Herman W. Miller, formerly a resident of San José de Costa Rica, now residing in Santa Clara, Cuba. These species are here described and illustrated.

The photographs were made by Mr. Frank L. Rogers.

ACMAEA TURVERI Hertlein & Strong, new species

Plate 51, Figures 1, 2 and 3

Shell rather small, broadly ovate, somewhat flattened, the apex situated anteriorly about two thirds the length of the shell; exterior surface mottled grayish-green and brown, sculptured with 10 low radiating ribs which scallop the margin, the entire surface bearing very fine concentric and radiating striae; interior with shallow grooves corresponding to the ribs, the apex with a pale orange spot surrounded by a narrow bluish band encircled by a similar pale orange band, in all occupying a little less than one half of the interior surface, the remainder, pale bluish except for a dark border at the margin. Dimensions of the type: length, 18.3 mm.; width, 16.0 mm.; height, 4.2 mm.; apex situated 11.9 mm. from the posterior end.

Holotype, No. 9533 and Paratypes, Nos. 9534, 9535, 9536, 9537, Calif. Acad. Sci. Dept. Paleo. Type Coll., from Loc. 31653 (C. A. S.), Punta Colorado near Guaymas, Mexico; Mr. & Mrs. Harry R. Turver colls.

The outer portion of the interior of some of the paratypes is nearly white with the dark border reduced to dark spots in the interspaces between the ribs.

There is uncertainty as to whether or not the present specimens are referable to the genus *Acmæa* or to *Patella*. The shells are thin, with very little thickening of shell material in the apical region of the interior. The shells of most species referred to *Acmæa* are ornamented with a strongly developed "owl"-shaped patch of color in the central portion of the interior. Such a distinct shape of the color pattern is almost completely lacking in the present specimens.

Specimens of the new species differ from juvenile shells of *Patella mexicana* Broderip & Sowerby,¹ a species which has been

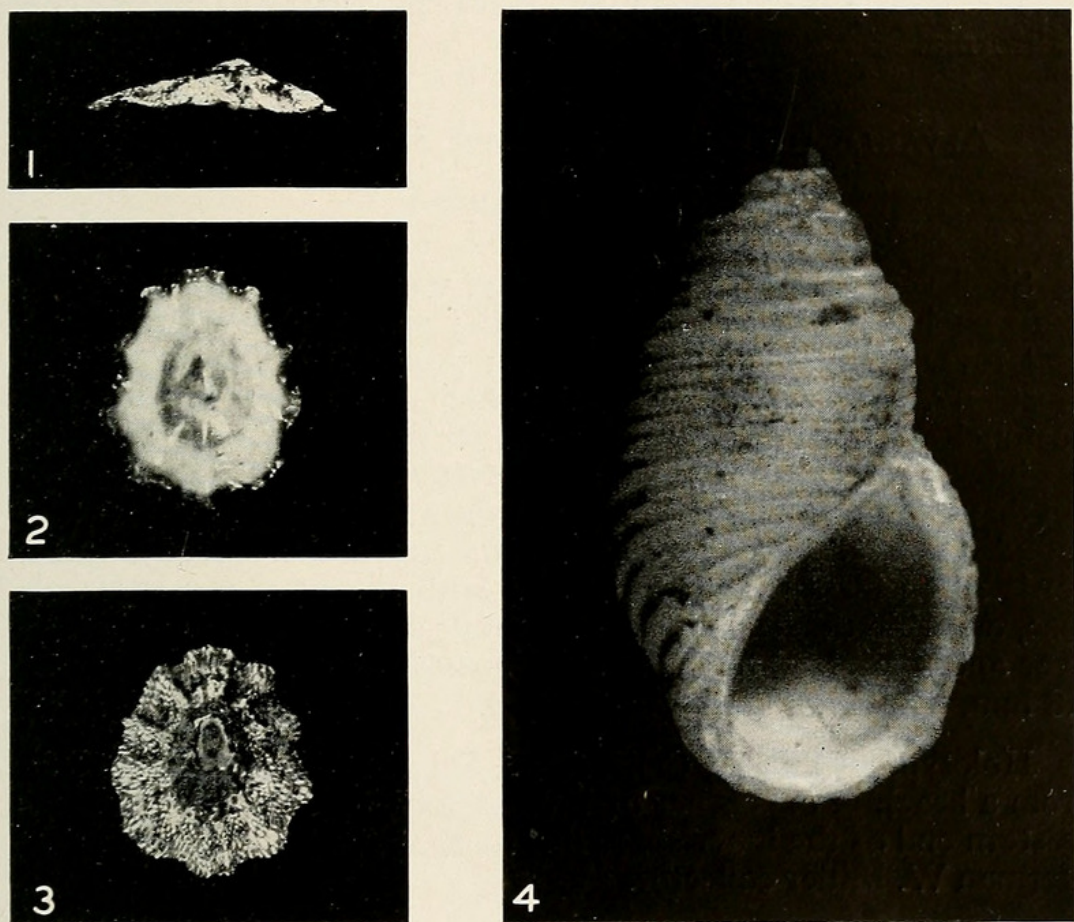


PLATE 51

Figs. 1, 2, 3. *Acmæa turveri* Hertlein & Strong, new species. Holotype, No. 9533, Calif. Acad. Sci. Dept. Paleo. Type Coll., from Punta, Colorado near Guaymas, Mexico. Length, 18.3 mm.; width, 16.0 mm.; height, 4.2 mm.

Fig. 1. Side view. Fig. 2. View of interior. Fig. 3. Apical view.

Fig. 4. *Alvania milleriana* Hertlein & Strong, new species. Holotype, No. 9538, Calif. Acad. Sci. Dept. Paleo. Type Coll., from Ballena Bay, Costa Rica. Length, 3.8 mm.; maximum diameter, 2.1 mm.

¹*Patella mexicana* Broderip & Sowerby, Zool. Jour., Vol. 4, No. 5, January, 1829, p. 369. "Hab. ad littora Oceani Pacifici." "From Mazatlan." Mexico. Reeve, Conch. Icon., Vol. 8. *Patella*. May, 1855, sp. 1, pl. 1, fig. 1.—Pilsbry, Man. Conch., Vol. 13, 1891, p. 108, pl. 31, figs. 59, 60, 61, 62.

recorded as occurring from the Gulf of California to Paita, Peru, in that they are thinner, broader in proportion to the length, in that they are sculptured with fewer ribs and in possessing a dark border on the margin of the interior.

The shell of the species here described as new differs from that of *Acmaea conus* Grant² in that the shell is flatter, it lacks minor ribs in the interspaces between the major ribs, the central portion of the interior is not thickened with shell material and the orange and blue coloration of the interior is quite different from the dark coloration of *A. conus* or *A. scabra* Gould.³

This species is named for Mr. Harry R. Turver of South Gate, California.

ALVANIA MILLERIANA Hertlein & Strong, new species

Plate 51, Figure 4

Shell very small, elongately ovate, white; nuclear whorls two and one half, well rounded, smooth; postnuclear whorls four, well rounded, with distinct sutures; principal sculpture consists of strong, equal, spiral cords of which two appear on the first postnuclear whorl, increasing to six on the penultimate whorl, in the interspaces between these cords many fine axial riblets appear but do not cross the summit of the ridges; periphery and base well rounded and sculptured similar to the spire with equally spaced cords and riblets; aperture oblique with the posterior angle obtuse, outer lip thickened, inner lip stout, strongly curved, reflected over and appressed to the base. Dimensions of the type: length, 3.8 mm. maximum diameter, 2.1 mm.

Holotype, No. 9538, Calif. Acad. Sci. Dept. Paleo. Type Coll., from a beach in the corner of Ballena Bay, Costa Rica, where the western end of the inner shore line turns toward the open sea; Dr. Herman W. Miller collector.

The sculpture of the shell of this species is not typical of the genus *Alvania* but the general character of the shell would seem to justify placing it in this genus at least for the present. One west American species, originally described as *Rissoa albolirata*

²*Acmaea cona* Test, in Light, Lab. & Field Test in Invert. Zool. (Stanford Univ. Press: Assoc. Students Store, Berkeley, 1941; pl. 12, figs. 20, 30; pl. 13, fig. 3; pl. 14, figs. 5, 6.—(Grant) Test, Nautilus, Vol. 58, No. 3, January, 1945, p. 92. "The type series is a group of 20 specimens taken personally at Point Fermin, San Pedro, California." Range, Point Concepcion, California, to Cape San Lucas, Lower California, and the Revillagigedo Islands, Mexico.—Test, Nautilus, Vol. 58, No. 4, April, 1945, p. 144. [Correction of specific name "*cona*" to "*conus*."]

³*Patella* (*Lottia*?) *scabra* Gould. Proc. Boston Soc. Nat. Hist., Vol. 2, July, 1846, p. 152. "Hab. San Francisco." California.

Patella spectrum Nuttall, in Jay, Cat. Shells, ed. 3 (Wiley & Putnam: New York), 1839, p. 39. "Upper California." [Name only].—Reeve, Conch. Icon., Vol. 8, *Patella*, January, 1855, sp. 76, pl. 29, figs. 76a, b. "Hab. Upper California."—Pilsbry, Man. Conch., Vol. 13, 1891, p. 14, pl. 1, figs. 7, 8, 9 (as *Acmaea spectrum*).

Carpenter,⁴ with somewhat similar sculpture, was placed by Bartsch in the genus *Alvania*. The species here described as new differs from Carpenter's species in that the spire is much lower and the axial riblets are less numerous.

This species is named for Dr. Herman W. Miller, of Santa Clara, Cuba, who collected the type specimen.

⁴*Rissoa albolirata* Carpenter, Ann. & Mag. Nat. Hist., Ser. 3, Vol. 13, p. 477, June, 1864. Reprint in Smithson. Miscell. Coll., No. 252, 1872, p. 216. "Cape St. Lucas." Lower California.—Bartsch, Proc. U. S. Nat. Mus. Vol. 41, No. 1863, 1911, p. 338, pl. 29, fig. 6 (as *Alvania albolirata*).—I. S. Oldroyd, Stanford Univ. Publ. Univ. Ser. Geol. Sci., Vol. 2, Pt. 3, 1927, pl. 80, fig. 6 (as *Alvania albolirata*). (Not in text).





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