

But above all, the confusion concerning his *Unio cor* is the greatest, for there is not the slightest doubt that Mr. Conrad described one species, and figured an entirely different one under this name!

Through the kindness of Mr. E. C. Vanatta, of the Academy of Natural Sciences, this confusion has been cleared up.

Mr. Conrad published, in January 1834, a shell he called *Unio mytilloides* (Am. Jl. Sci. xxv, pl. 1, fig. 7), and his figure of *Unio cor* (New Fresh Water Shells, plate iii, fig. 3) in May, 1834. These figures were assumed by Mr. C. T. Simpson, to represent the same species. There is little doubt but that the "Mytilloides" figured is a *Unio ebenus* Lea, and the figure of *cor*, is much like it, yet not identical.

No shell exactly like Conrad's *cor* has yet been obtainable, and if the figure is accurate, the species is probably yet undescribed.

The true *Cor*, however, is well characterized, and the type, in the collection of the Academy of Natural Sciences, is figured herewith (pl. iii, figs. 1, 2, 3) through the courtesy of Dr. Pilsbry.*

U. cor Conrad is a native of the Elk and Flint Rivers. These are tributaries of the Tennessee River. The *Unio lewisi*, and *U. crapulus*, of Lea, with which *U. cor* has hitherto been identified, come from a different drainage system.

The true *Unio cor* is characterized by Mr. Conrad, as having rays,—the young, beautifully rayed, and having a sulcus from the beak to base. Neither of which are ever exhibited by *lewisi*, nor are indicated upon the pseudo-figure of *cor*. Mr. Conrad says the young shells resemble the *undatus*, Barnes, (Mr. Conrad's conception of *undatus*, was the *obliquus* of Lamarck).

The true *U. cor* is to be found in many collections, under other names, among which the writer has noted *U. edgarianus*, *tuscumbiensis*, *andersonensis*, and others. The figure of *andersonensis* Lea represents an old, much inflated specimen, rather short behind, but otherwise quite characteristic.

* Dr. Pilsbry believes that Conrad's figure, pl. 3, fig. 3, represents the shell he described as *Unio cor*, and that it was a slightly older specimen than that now figured, but of the same species.

Mr. Conrad also observes that mature specimens of *U. cor* are sometimes produced and cuneiform behind, "like some varieties of *triangularis* of Raf.," (a species, in Mr. Conrad's estimation at that time, embracing the group of *pyramidatus* etc.

▲ NEW CALIFORNIAN LAND SNAIL.

BY HENRY A. PILSBRY.

EPHFRAGMOPHORA ZECHÆ n. sp. Pl. III, lower figs.

The shell is strongly depressed, umbilicate (width of umbilicus contained nearly eight times in greatest diameter of the shell), rather thin. The whorls of the spire and as far as the front of the last whorl are dilute cinnamon, then changing to ecru-olive or dark olive-buff; there is a chestnut-brown band at the shoulder (about 2 mm. wide), bordered with inconspicuous, hardly noticeable bands paler than the ground-color. Surface is glossy, distinctly, irregularly striate, and immediately behind the lip it is closely and minutely granulose. The spire is a little convex, whorls $5\frac{1}{2}$, moderately convex, slowly increasing to the last, which is about double the width of the preceding, and decends a little in front. The aperture is broadly lunate, decidedly wider than high. Lip thin, the upper margin scarcely expanded, outer very slightly, basal very narrowly reflexed, the columellar margin broadly dilated.

Alt. 15.2, diam. 31 mm.; aperture, alt. 14.3, width 17.8 mm.

Habitat, San Antonio Canyon, in the San Gabriel Mts., western edge of San Bernardino Co., California, at about 5000 ft. elevation (Miss Lilian Zech).

This fine species will probably prove to belong to the *Helminthoglypta* group, in which it most resembles *H. sequoiicola* (Cooper); yet the absence of malleation on the last whorl and of granules on the spire are features more like *Sonorella*.

Miss Zech gives the following account of the locality.

The specimen was found in a narrow, winding canyon branching from the main San Antonio canyon at 4700 feet and at this point, some two or three hundred feet higher as near as I can

guess,—only wide enough to admit of water, and the trail is a narrow, winding, cuneiform, like some varieties of *triangularis* of Raf. The trees were small and lay on a pile of brush, and contained

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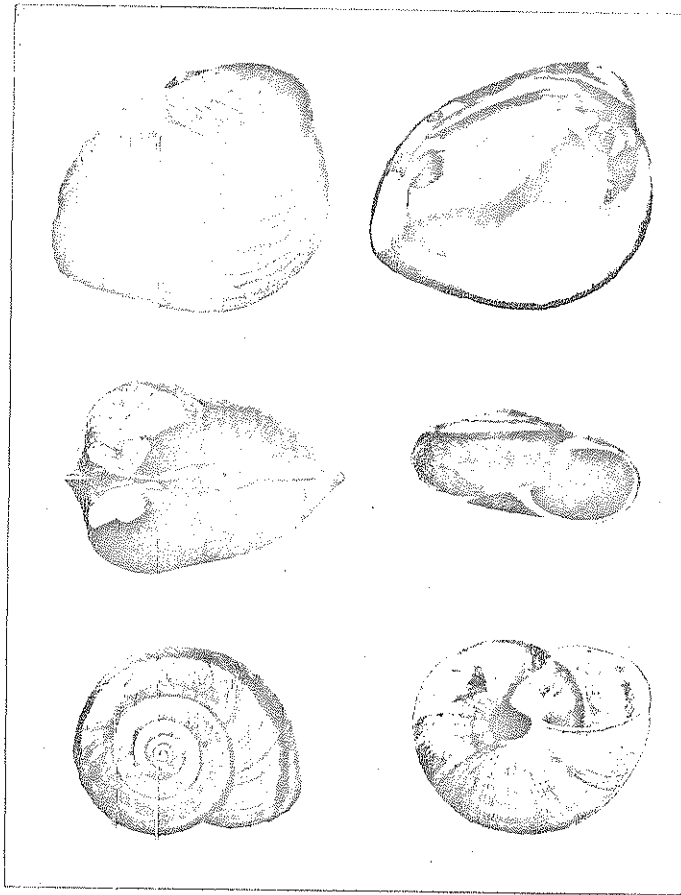
BIFIDARIA MINUTA,

Shell minute, or narrowly umbilicate, four to four and a half whorls, the last large, rounded at the apex, with a distinct stria, apex without a callus, rather large, well rounded, the ends somewhat close to and parallel, callus or none; lip simple, columellar base, or wanting; examined. Alt. 1

Hab.: Woods, No. 1990, collection

This *Bifiduria* is a species as follows: are less in number than the last is comparative a very slight one, secondary ones (as

It was a surprise to find it in this country, and it represents a distinct appearance of the appearance of and probably were *Bifidurias* of this



FRIERSON: UNIO COR CONRAD.
 PILSBRY: EPIPHRAGMOPHORA ZECHÆ.

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VOL. XXIX.

HELICES OF L

In my "Notes upon Acad. Nat. Sci. Phil given of the Helices of peninsula. The inland

While it seems likely mountain Helices will of the genus *Micranion* we have as yet no *Sonorella*. It seems shells of the Southwest long elsewhere by dis

G.

Helices of this group open umbilicus, more lip. They have the c

¹ In the paper just mentioned a subspecies of *Micranion* since *H. canescens* was described as species until the intergrade, then *veatchii* and