

## THE NAUTILUS.

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## A NEW SUBEMARGINULA FROM CALIFORNIA.

BY WILLIAM HEALEY DALL.

Among some specimens sent for examination from California I find a new *Subemarginula* collected by Mrs. W. H. Golisch of Los Angeles at San Nicolas island of the Santa Barbara group.

## SUBEMARGINULA GOLISCHÆ n. sp.

Shell of moderate size, radiately ribbed, concentrically zoned and radiately striped with dark rose color, the worn apex greenish, the interior whitish, the extreme edge of the slightly crenulated interior margin with the external coloration showing through. Sculpture of rather strong radial ribs, corrugated more or less by strong incremental rugosities, alternated in front and behind with a single feebler rib, on the sides there are two or three minor riblets between the major ribs; apex rather acute, somewhat anterior; marginal notch shallow, its groove distinct on the internal face of the shell; the number of major ribs in the type specimen is about twenty. Length 20; apex behind the notch 7; width 13; height 7.5 mm.

In a general way this shell looks like one of the varieties of *Fissurella volcano* Reeve, except for the entire apex.

## OBSERVATIONS ON UNIO GIGANTEUS BARNES.

BY L. S. FRIERSON.

Although the common and striking plicated shells were among the first of the Western Unios to receive names, their nomenclature is still considerably confused.

The first species to be named was the *plicatus*. Although that Thomas Say described it in Nicholson's Encyclopedia, was an easily ascertainable fact, Dr. Lea persisted throughout his life in denying this, and he credited the species to LeSueur; an error in which he has been largely followed.

Say's type came from Lake Erie, and it has been claimed therefore that his species is really the flattened form widely known as *undulatus*. But in 1830 Mr. Say wrote the "*plicatus* is a species with very prominent umboes." Therefore the *plicatus* (*s. s.*) is that form which, as Barnes wrote, "can stand on end." The more common form of the same species which has flattened umboes, is very generally called *undulatus* Barnes. This is an error of nomenclature for two distinct reasons. The earliest name for this form is *costata* Rafinesque. The description of *costata* has been said to be inadequate, but without good reason, for Rafinesque's figure is unquestionably that of a plicate shell. His statement that its "disc is flattened" precludes the *plicata*, (*s. s.*) and the statement that the "animal is yellow" excludes the *multiplicatus*.

The two forms above named constitute a single species, connected by myriad links. The third form is readily distinguished by its umboes being covered with literations. It is widely but erroneously called *heros* Say, or *multiplicatus* Lea, neither of which names should be used, since either of them have been preceded by at least two (if not three!) names. The earliest name is almost certainly *peruviana* Lamarck. But because of ambiguity this name cannot be used.<sup>1</sup> Another name is the *undulatus* Barnes, almost universally applied to the *costata*, but is without doubt the *heros* Say! Barnes' statement among others, that its "disc is tuberculate below the beaks" almost alone proves this contention. As in the case of *peruviana*, the identity of *undulatus* has been thoroughly confused by authors, about half identifying it with *heros*, the others with *costata*.

Luckily there can be no doubt concerning the identity of the

<sup>1</sup> Lea stated that Lamarck's *Unio peruviana* was what has commonly been known as *U. plicatus*. This identification is entirely borne out by the figure in *Encyclopedie Methodique*, cited by Lamarck—Eds.

name which we now call *giganteus* Barnes 1823

This very appropriate name was given by the systematists. Simply it to Lea, saying, "that it is in Dr. Mitchell described." (Synopsis

*Unio giganteus* was of his *crassus* which shells. (His Variety

Following the genus "Variety (i) *Unio giganteus* collection." The variety, valve sent by Professor ounces. It is in even between the points of inch; the length of the the posterior cicatrix, inch.

This species, of which N. W. Expedition, mentioned under the designation size of the largest *Unio* Lamarck.

Three specimens—

Diameter 2.9,

" 3.0,

" 3.1,

preserved in Dr. Mitchell

Another specimen— Diameter 2.9, Length ounces, is preserved in Habitat. The Mississippi Douglass.

These specimens (all collected, were mentioned 31, footnote) writes—

name which we now adopt for this magnificent Naiad, *Unio giganteus* Barnes 1823.

This very appropriate name has been totally overlooked by systematists. Simpson, it is true, mentions it; but he credited it to Lea, saying, "Dr. Lea does not describe this but only states that it is in Dr. Mitchell's collection. Probably it has never been described." (Synopsis, 1900, page 767, note 4.)

*Unio giganteus* was, however, described as a named variety of his *crassus* which, as is well known, embraced the plicate shells. (His Variety "K," is typical Lake Erie *plicata*!)

Following the general description of *crassus*, Barnes writes— "Variety (i) *Unio giganteus*. Mississippi. Dr. Mitchell's collection." The variety (i) deserves particular notice. A single valve sent by Professor Douglass to Dr. Mitchell weighs fifteen ounces. It is in every respect a gigantic shell. The distance between the points of the two lobes of the cardinal tooth is one inch; the length of the lateral tooth, three inches; diameter of the posterior cicatrix, one inch, and its depth, one-fourth of an inch.

This species, of which four specimens were obtained by the N. W. Expedition, might perhaps constitute a separate species under the designation of *Unio giganteus*. It is three times the size of the largest *Unio crassus* mentioned by Mr. Say and M. Lamarek.

Three specimens—

Diameter 2.9,	Length 4.8,	Breadth 7.2,
" 3.0,	" 4.6,	" 7.0,
" 3.1,	" 4.7,	" 7.1,

are preserved in Dr. Mitchell's collection.

Another specimen—

Diameter 2.9, Length 4.9, Breadth 7.0, and weighing fourteen ounces, is preserved in Gov. Cass's collection, Detroit.

Habitat. The Mississippi, near Prairie du Chien. Prof. Douglass.

These specimens labeled "giganteus," in Dr. Mitchell's collection, were mentioned by Mr. Lea, who (in Obs., vol I, page 31, footnote) writes—"The giganteus of Dr. Mitchell's collec-

tion is also a peruviana which occurs in our western waters of a larger size and more ponderous than any species we know of."

The reader will note that Lea identified the *giganteus* as *peruviana*. At this time (1829) he regarded all the plicate shells as being one species. He never mentioned *giganteus* again! Can it be that this omission arose because of his very evident wish to protect his name of *multiplicatus*?

With the possible exception of *peruviana*, the *giganteus* is the earliest name given to the species, as well as the most appropriate. Following Lea, Simpson placed "giganteus" (Lea) under *plicatus*. The *giganteus* of Barnes however can be nothing else than *heros*. No other Naiad attains the dimensions given by him.

This species has recently been erected into a separate genus by Utterback, whence its proper name is now *Megalonaias giganteus* Barnes, 1823.

#### PLEISTOCENE MOLLUSCA FROM CALLAWAY COUNTY, MISSOURI.

BY DARLING K. GREGER, COLUMBIA, MISSOURI.

During the past season, engineers in charge of river improvement being carried on near Mokane, Mo., called my attention to two localities where an abundance of fossil or semi-fossil shells were being unearthed, and upon their invitation to conduct me to the localities, both were examined, and collections made.

The first place visited was an excavation on the east bank of Middle River, a short distance below the point of its entrance into the gorge of the Missouri. At a depth of twenty-six feet below the level of the flood-plain of the Missouri River, in a black, sticky clay the following species were gathered:

<i>Polygyra profunda,</i>	<i>Succinea ovalis?</i>
<i>Polygyra albolabris,</i>	<i>Gastrodonta ligera,</i>
<i>Polygyra thyroides,</i>	<i>Helicina occulta,</i>
<i>Polygyra elevata,</i>	<i>Pyramidula solitaria.</i>
<i>Polygyra clausa,</i>	<i>Pyramidula alternata,</i>
<i>Polygyra appressa,</i>	<i>Pyramidula perspectiva,</i>

*Polygyra i*  
*Polygyra f*  
*Polygyra v*  
*Polygyra h*

The second locality is in the government Mokane on the exposed in the feet; rising along son City formation sixty feet followed with worn fragments deposited a layer probably an average layer of soil rich Missouri Bluff region.

While occasionally throughout the thin zone, about as to attract attention they present a line they present a pronounced than the

Of the entire for their color markings appearance common

A few are filled with the surface are unfilled the matrix.

Careful examination preserved shells in detect a single aquifer of land forms, and can be readily explained after a torrential rain, such as preservation of knowledge of the