

## NEW FOSSIL FRESH-WATER MOLLUSKS FROM FLORIDA

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Manly D. Barber, of Knoxville, Tennessee, while visiting West Palm Beach, Florida, recently sent to the United States National Museum a lot of fossil shells for identification. They were labeled "Fossils from marls, thrown from canals, West Palm Beach, Florida." The lot includes two species of *Lymnaea*, a species of very large *Planorbis*, and an unusually thick species of *Physa*. It was found that all four of the species were new. Three of them are described below. The *Physa*<sup>1</sup> has been described by William J. Clench, of the University of Michigan. All data obtainable indicate that they belong to the Pliocene. The *Planorbis* is very closely related to *P. conanti* Dall, of the Caloosahatchie Beds of the Pliocene of central Florida. A test with acid shows the marl to be highly calcareous.

### LYMNAEA (PSEUDOSUCCINEA) BARBERI, new species

Plate 1, fig. 5

Shell fragile, imperforate slender, very elongate, whorls rapidly descending, very slightly rounded, front aspect of body whorl appearing to be compressed; sutures very oblique, well impressed, subrenulate. Sculpture consisting of many fine, axial growth lines and several indistinct impressed spiral lines; aperture one-half the length of the shell, ovate, its upper angle bent down and coming within two millimeters of the columella where it enters the aperture; outer lip thin, parallel with the axis; basal lip widely rounded, columellar lip very oblique.

The type, Cat. No. 353155, U.S.N.M., measures: height, 20 mm.; diameter, 8 mm.; length of aperture, 10 mm. Cat. No. 353156 includes eight paratypes.

The species is named in honor of Manly D. Barber, who has long been a liberal contributor to the Museum's collections.

The only species to which this seems to bear any relation is *Lymnaea (Pseudosuccinea) columella* Say.

<sup>1</sup> Occ. Papers Mus. Zool. Univ. of Michigan, No. 164, pp. 1-3, pl. 1, Aug. 3, 1925.

## LYMNAEA (PSEUDOSUCCINEA) APERTA, new species

Plate 1. fig. 4

Shell fragile, imperforate, much stouter and less elongate than *barberi*; whorls rapidly descending, suture moderately oblique, well impressed, subrenulate; sculpture consisting of fine axial lines of growth, and hints of spiral malleation. Aperture less than half the length of the shell; about half as wide as long; its outer lip thin, oblique to the axis of the shell, somewhat rounded, its basal portion well rounded; columellar lip thin, less oblique than in *barberi*; parietal wall with a thin glaze.

The type, Cat. No. 353154 U.S.N.M. measures: Height, 17.5 mm.; diameter, 9 mm.; length of aperture, 11 mm.

The name *aperta* was suggested by the flaring aperture. This shell shows a distinct relationship to *columella* Say and also to the new species described above as *barberi*. It may be an ancestor of *columella*.

## PLANORBIS (PLANORBINA) PREGLABRATUS, new species

Plate 1. figs. 1. 2. 3

Shell large, much compressed vertically, sunken on both spire and base. (In this description the shell will be treated as dextral, though that is subject to doubt.) Whorls seven, a large portion of each exposed in both the spire and the umbilicus; body whorl obtusely angular above and below, its middle portion but slightly convex, and the upper diameter much larger than the lower, making the whorl generally oblique. In the type and some of the paratypes the whorls in the spire and in the umbilicus overlap each other irregularly, instead of each whorl being neatly affixed to the outer surface of the preceding whorl. In other paratypes the growth is regular. Sutures deeply impressed, giving the whorls a semisolute appearance. Sculpture consisting of many fine, flexuous, retractive growth lines, and nearly equally spaced riblets; at intervals the striae across the body whorl are more deeply impressed, indicating a short period of rest in growth. About halfway round the body whorl a transverse thickening shows the point at which there was a prolonged rest period. Aperture very oblique, lip simple, a moderately thick callus on the parietal wall. Evidently, when living the shell was glossy, especially on its lower surface.

The type, Cat. No. 353152 U.S.N.M. measures: Height, 10.5 mm.; diameter, 29.5 mm. Cat. No. 353153 includes 13 paratypes.

The fact that this species is related to the recent shell *P. glabratus* and preceded it in time is indicated by the name *preglabratus*. It is also closely related to *P. conanti* Dall of the Caloosahatchie beds

(Pliocene) of central Florida, but is more compressed vertically. It differs from *P. glabratus* in having more whorls, in greater size and in the semisolite appearance of the whorls in the spire and umbilicus.

NOTES ON SEVERAL SPECIES OF *PLANORBIS* OF FLORIDA AND VICINITY

The close relationship of *preglabratus* with the recent shell *glabratus* naturally called attention to the latter species, and, while studying the history of the latter, the following notes were made concerning it and other species of Florida and vicinity. While visiting the Academy of Natural Sciences of Philadelphia recently its collection of *Planorbis* was examined and the subject was discussed with Dr. H. A. Pilsbry and Mr. Vanatta, who were able to add additional information. Doctor Pilsbry in his study of the Mollusca of the State of New York, to be published in the near future, will go deeply into the history of some of the species of *Planorbis*, among them *P. trivolvis* Say, and *P. lentus* Say, *P. bellus* Lea, and *P. pseudotrivolvis* Baker. Hence a discussion of these forms is unnecessary here, although *P. trivolvis* is found in Florida and the others found elsewhere are not distinctly separable from it.

Pilsbry<sup>2</sup> has said: "*Planorbis glabratus* Say has not been found in Mexico; nor does it range in the United States, outside of the peninsula of Florida. The *P. glabratus* of author's is not the true *glabratus* of Say." According to Bryant Walker,<sup>3</sup> "Haldeman's and Binney's figures do not represent this species, which is entirely distinct from *trivolvis*. It is not uncommon in Florida and in the United States does not range outside of that State. \* \* \* The true *glabratus* belongs to the section *Planorbina* and not to *Pierosoma*."

The specimen figured by Binney<sup>4</sup> in Land and fresh-water shells of North America, part 2, is in the National Museum (Cat. No. 29219) with the locality doubtfully given as South Carolina. Specimens catalogued under No. 8500 by Binney in the above-mentioned work are still here under that number and come from St. Simon's Island, Georgia. None of these specimens agrees with Say's description of *P. glabratus*, nor do eleven specimens (Cat. No. 120984), nor six specimens (Cat. No. 28212), both lots from St. Simon's Island. Pilsbry and Walker are right in saying that the *P. glabratus* of authors is not the *P. glabratus* of Say.

The large, flattish, glossy shell now generally accepted as *P. glabratus* Say, is the only species that fits Say's description.

<sup>2</sup> Land and fresh water shells collected in Yucatan and Mexico, Proc. Acad. Nat. Sci., Phila., p. 321, 1891.

<sup>3</sup> Synopsis of the classification of the Fresh-water Mollusca of North America, North of Mexico, and a catalogue of the more recently described species with notes, Univ. of Michigan, Mus. Zool. Miscell. Publ., No. 6, p. 99, 1918.

<sup>4</sup> Smiths. Misc. Coll., No. 143, p. 106, fig. 179, 1867

especially in regard to "the total absence of a carina, and in having a more smooth and polished surface, as well as a declining and more oblique aperture than *P. trivolvis*." Whether one would say that *P. glabratus* has "a more profound and much more regularly concave umbilicus than *P. trivolvis*"<sup>5</sup> is doubtful.

The type of *P. glabratus* has not been found, and hence the description is our only guide for the species. Apparently Say's citation of "near Charleston, S. C.," was unfortunate, and probably he was dealing with a Florida specimen. At least no other specimens of *P. glabratus* have been recorded from the vicinity of Charleston. All things considered it seems best to accept, for the present at least, the flat, glossy shell of Florida interpreted by Pilsbry and Walker as *P. glabratus* Say, as being the species described by Say under that name. In the Academy of Natural Science of Philadelphia the specimen catalogued under 21379 is labelled in Say's handwriting "*P. glabratus* Say, S. Carolina." On the exhibition label (but not in Say's writing) the specimen is said to be a cotype, but the specific name *P. glabratus* has been crossed off. It seems to be a small but typical *trivolvis*. It seems likely that Say's label has been shifted from the specimen to which it originally applied.

The shell figured by Binney as *P. glabratus* has been identified by Pilsbry as *P. tumidus* Pfeiffer. As a rule this species is more compressed than is usual with *P. trivolvis* and this seems to have led Binney and others to believe that it is the *P. glabratus* described by Say.

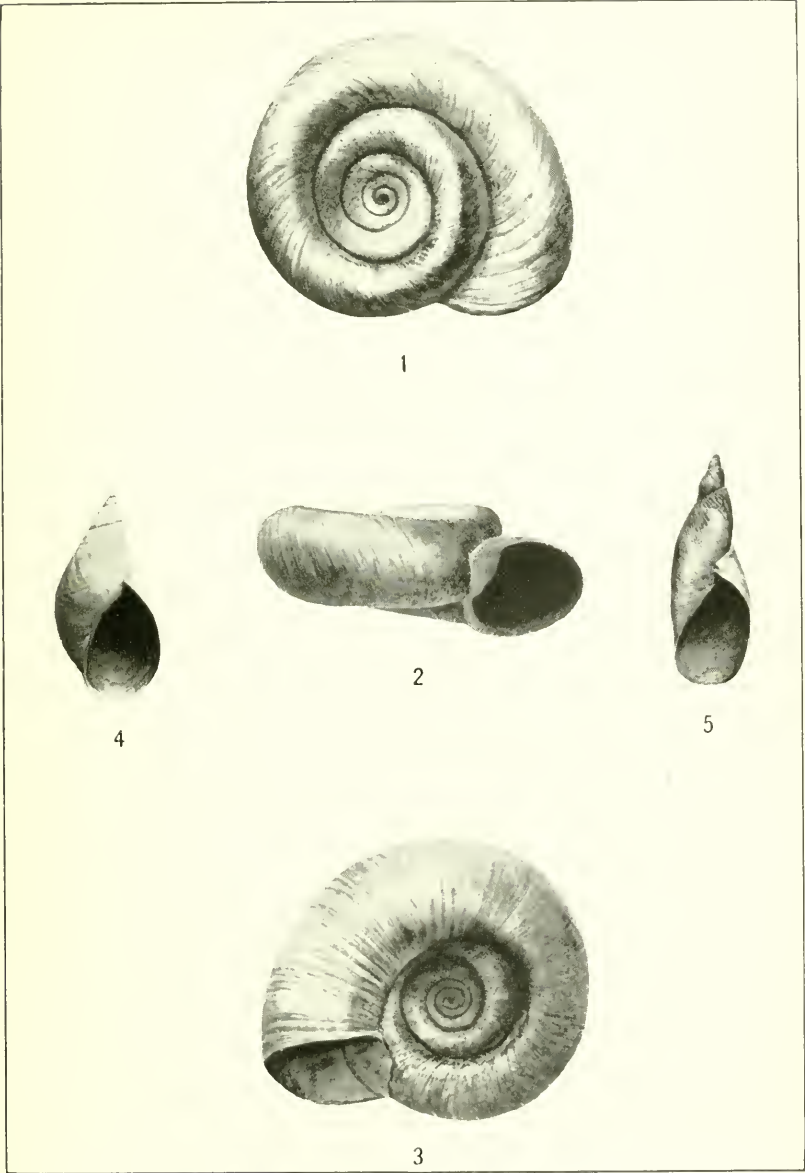
*P. tumidus* Pfeiffer was figured by Binney as *P. glabratus* and belongs in the section *Pierosoma* with *P. trivolvis* Say and *P. duryi* Wetherby, while the glossy, recent shell now accepted as *P. glabratus* Say, and the Pliocene fossil species, *P. conanti* Dall, *P. disstoni* Dall, and *P. preglabratus* Marshall belong in the section *Planorbina*. *P. glabratus* and the three fossil forms just mentioned show a very near relationship to recent West Indian and northern South American forms such as *P. olivaceus* Spix and *P. guadalupensis* Sowerby.

#### EXPLANATION OF THE PLATE

(All figures multiplied by 1½ diameters)

- FIG. 1. *Planorbis* (*Planorbina*) *preglabratus*, new species. Spire.  
 2. *Planorbis* (*Planorbina*) *preglabratus*, new species. Front.  
 3. *Planorbis* (*Planorbina*) *preglabratus*, new species. Umbilicus.  
 4. *Lymnaca* (*Pseudosuccinea*) *aperta*, new species.  
 5. *Lymnaca* (*Pseudosuccinea*) *barberi*, new species.

<sup>5</sup> When referring to "umbilicus," "base," and "spire" it must be remembered that Say described these species as sinistral.



FOSSIL FRESH-WATER SHELLS FROM FLORIDA

FOR EXPLANATION OF PLATE SEE PAGE 4

