



UNIO AMPHICHLENUS FRIERSON.

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UNIO (LAMPUSILIS) AMPHICHLENUS, N. Sp.

BY LORRAINE S. FRIERSON.

Shell large, oblong oval, thin, slightly inflated, gaping for one-half its length at the anterior and basal part, and at the upper part of the posterior end, and covered with a shining, black or brownish epidermis which is decidedly wrinkled in places; growth lines strong and irregular; beaks but slightly prominent; hinge line evenly curved; hinge teeth but feebly developed, there being a single, compressed, rather sharp cardinal in the left valve of the young shell which becomes blurred and shows a tendency to split up in the older shells, and two rather short, faint laterals, the inner of which is the stronger; these being placed at the extreme posterior end of the hinge plate, with one cardinal, and sometimes a faint one above it, and a single, compressed, short lateral in the right valve; laterals ending abruptly at the posterior end, with the inner edges slightly curved upwards; area between the teeth narrow and rounded; muscle scars distinct, and quite deep for so thin a shell; posterior retractor scar completely united with the adductor, dorsal scars to the number of five or six extending in a row from the cavity of the beaks just behind their greatest projection towards the anterior base; pallial line showing a tendency to break up into several lines, and distinct traces of a posterior sinus; nacre clouded, varying from deep violet to bluish and white.

Length 106, height 68, diam. 36 mm.

Habitat, Sabine River at Logansport, Louisiana.

This is one of the most distinct and remarkable Unios in the United States. In its general structure, the hinge characters, the row of dorsal cicatrices, the incipient pallial sinus, and the gaping shell it shows relationship with *Unio tenuissimus*, and its naere is something like that of this species, but the female shell is considerably swollen in the post-basal region, and it reminds one a little of a short, compressed, female *Unio rectus*. The posterior opening, however, is its most remarkable character, commencing about midway up the end of the shell, and extending nearly to the ends of the laterals. This gap ends abruptly above, and less so below; the edges of the shell are reflected outwards, and considerably lamelated, and in old shells the remains of former reflected apertures may be seen. The opening in a fully adult shell is about one-fourth of an inch wide and one and one-fourth inch in length, and is as distinct as that of *Schizothaerus nuttalli* of the west coast of the United States, and occupies about the same relative position that it does in this marine bivalve. It may possibly group with *Unio tenuissimus*, but it is quite likely that it will have to be made the type of a new group, related to that species, to the *alatus* and *tampicoensis* groups.

I desire to thank Mr. Chas. T. Simpson for the valuable aid given in the preparation of the above description and remarks.

NOTES ON QUEBEC PUPIDÆ AND OTHER SHELLS.

BY A. W. HANHAM, WINNIPEG, MAN.

My Quebec *Pupidæ* have just been looked over and separated for me by Dr. V. Sterki, to whom I am under many obligations for this labor of love. As a result my list of species, as far as these small things are concerned, requires some corrections and additions. The following are the species taken, instead of as recorded on page 101, of the last volume of THE NAUTILUS:—

Pupa armifera Say. As already recorded.

Pupa pentadon Say. As already recorded.

Sphyradium edentulum Drap. Not uncommon; Isle d'Orleans and St. Joseph's de Lewis.

Vertigo ovata Say. As already recorded.

Vertigo gouldii Binn. The most abundant species taken. Common on mossy rocks at St. Joseph's and St. Romauld's (this species was confounded with *bollesiana*).

Vertigo ventricosa Morse. Nearly as common as *gouldii*, and taken at St. Joseph's and St. Romauld's, as well as on the Island.

Vertigo curvidens Gould. As already recorded.

Vertigo mitium Gould. Very rare.

Vertigo pygmaea Drap. Single example.

Vertigo tridentata Wolf. Single example.

A noticeable absentee from the above list is *Pupa contracta*, which however no doubt occurs in the Province.

Carychium exiguum Say. As already recorded.

Carychium exile Ad. One example.

Polygyra leai Ward. Referring to the valuable catalogue of North American land shells now appearing in THE NAUTILUS, I am glad to see that this shell has been recognized as a distinct species, for such I have always considered it. The species extends into Canada. In the spring of 1891, at Brantford, Ontario, in drift along the Grand River, I noticed plenty of dead shells, but never came across any living ones until October. On the 9th and 10th of that month, shortly before leaving for Quebec, I got over 200 specimens from a small corner of swampy land—overgrown with reeds and bushes—adjoining a sluggish stream. *Zonites ligatus* was in even greater abundance. Besides these species (rare in Canada) were taken: *Selenites concava*, *Vitrina limpida*, several small species of *Zonites*, *Pupa contracta*, *Succinea atrata* and *ovata*, and a very handsome small form of *S. obliqua*, *Pomatopsis lapidaria*, etc. A richer spot could hardly have been found. From a steep bank not far back from the stream, I got a number of pairs of *Polygyra monodon*, but no *P. leai* and I did not find the former species with *P. leai* down below. The chief object of this note is to show the Canadian record.

DESCRIPTION OF A NEW UNIO.

BY BERLIN H. WRIGHT.

U. reclusus sp. nov.

Shell ovate-triangular, smooth, polished above, nearly equilateral, somewhat inflated. Substance of the shell moderate and quite uniform in thickness. Epidermis finely striate, rayless, brownish, with

two or three distant growth lines. Beaks prominent and surrounded by four or five coarse, sharp, widely separated irregular undulations. Ligament reddish, short, thin and scarcely elevated above the disk. Dorsal margin slightly elevated; anterior margin gracefully rounded, base uniformly and slightly curved; posterior margin pointed. Posterior area abrupt with two slightly raised lines formed of irregular elevations from beak to margin. Umbos gracefully and uniformly rounded; greatest diameter in the centre of the disk. Nacre sky-blue throughout, sometimes darker within the pallial line. Beak cavities slight and abrupt. Cicatrices well impressed, smooth and distinct. Cardinals solid, prominent, double in the left valve and single in the right valve, laterals double in the left valve and disposed to be double or tripartite in the right valve and joined to the posterior cardinal by a distinct elevation of the dorsal plate. Width $1\frac{1}{4}$ in., length 1 in., diam. $\frac{3}{8}$ in.

Habitat: Ocklocknee River, Leon County, Florida.

Type in National Museum.

Remarks:—This anomalous little shell was taken with *U. tennesseanus* Lea, *lienosus* Con., *kirklandianus* Wright and *forbesianus* Lea. It does not seem to group well with any known species, though the beak sculpture indicates a relationship with *U. forbesianus* Lea. In some respects it reminds one of *U. macrodon* Lea, but it is more inflated, not as solid usually, darker in epidermis, rayless, with deeper beak and shell cavities. The lateral teeth are longer, higher and end more abruptly, besides being double or tripartite in the right valve. The very young show slight traces of broad, distant rays. It certainly groups with *U. forbesianus* Lea, but is easily distinguished from the young of that species by its want of rays, lighter epidermis, rounded base, rounded umbonal angle, flattened umbos and it is smoother on the posterior area.

~~NEW PISIDIA.~~

~~BY DR. A. STERKI.~~

Pis. singleyi n. sp.

Mussel small, rather high, somewhat oblique, ventricose, beaks prominent, also in the young, rounded but narrow on top, slightly posterior, vertical section broadly heart-shaped; superior margin moderately curved, rather short, scutellum slightly, scutum well