

Wabash basins to be by far the richest in species, the Lake Michigan basin poorest, though with a good representation of *Limnæidæ*.

The catalogue is interesting and useful, though it would be better, we think, if Dr. Call had followed modern classification, and had adopted the rectifications regarding many species which have been made in the last decade. He apparently thinks that progress in the anatomical and systematic study of Mollusks abruptly stopped fifteen or twenty years ago, as no innovations of later date are adopted, except a few, mostly wrong, made by himself. Aside from these matters, there are but few errors, and these not of grave consequence; a figure of *Strobulops* is given for *Zonites fulvus* (p. 376); *Tebennophorus dorsalis* is said to be "the most common slug in Indiana," though we think what he had was dark *Agriolimax campestris*. We note also that the descriptions of Lamarck's *Unios* are quoted not from the original but from the Deshayes edition, and the accents of the French remarks are badly "balled up."—H. A. P.

UNIONIDÆ OF INDIANA.—In Mr. Call's *Descriptive Catalogue of the Mollusca of Indiana*, the author repudiates the attempt at a natural classification of the Unionidæ made in Mr. Baker's *Mollusca of the Chicago Area*, and cannot realize that such a system is proposed seriously. He cannot understand why, for instance, such a form as *Unio trigonus* is placed in the same subgenus as *Unio plicatus*.

Now it is a fact that has been repeatedly demonstrated by Dr. Lea's, Dr. Sterki's and my own observations of the anatomy of these mollusks that *Unio trigonus* and the allied forms, the different species of the *Plicatus* group, *Unio pustulosus* and its allies, *Unio coccineus*, *U. subrotundus*, *U. kleinianus*, and the forms belonging to the *Chickasawhensis* group which have been placed in the genus *Quadrula*, all have the embryos contained in all four of the gills, and when they are thus filled they form thick, smooth pods. And there are certain conchological characters which hold good in all these species. Their shells are all solid, short, more or less inflated; they generally have a wide, flat hinge plate and almost invariably deep beak cavities. Many specimens occur among species belonging to the *Plicatus* group in which the plications are nearly or even wholly wanting, and the epidermis varies from greenish to brown and black. Such specimens are not far removed conchologically from the smoother forms of the *Pustulosus* group or from *U. subrotundus* and *U. kirtlandianus*.

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ide, P. E. I., and two speci-
icates a wide distribution.

TO COAST.—The following
ond Roberts, from a former
ragua, Sept. 27, 1900. This
ea, is a net-work of lagoons,
nd is mostly swampy, inun-
on. In fact, this Mosquito
d solid-looking, is in reality
ive. Hence, so far as I am
Bulimulidæ and other land
miles, and also south and
elevated, I believe there is
the very coast I have found
is lost. *Bulimulus corneus*
Also another lot, which I
l in abundance. Another
paringly. These last two
ver, is a good locality for
cipulka, just twenty miles
e *Donax cayennensis* Lam.

VED.

OGUE OF THE MOLLUSCA
Annual Rep. of the State
This catalogue is intended
resent state of knowledge
presented in the fauna of
raphy, and illustrations of
m the Smithsonian series
except the Unionidæ, most
figures only rarely repre-
gh.
d, 55 aquatic gastropods,
ion shows the Ohio and

The true Unios, which in the United States are well represented by such forms as *U. complanatus*, *U. buckleyi*, *U. crassidens* and *U. gibbosus*, have longer shells than the Quadrules, they are generally less solid, and as far as I have seen, the beak cavities are comparatively shallow, while the hinge plate is never wide and flat as in *Unio pustulosus*. In these the embryos are found in the outer gills only.

Mr. Call uses the time honored names *Unio*, *Margaritana* and *Anodonta* for the Indiana Unionidæ. These names are applied in a subgeneric sense, but he neglects to tell us what genus he places them under, whether it is *Unio* of Retzius or the *Margaron* of Lea. In his artificial key to the groups of *Unio*, excluding *Anodonta* and *Margaritana*, he places the species in groups, typified by *U. luteolus*, *U. ligamentinus*, *U. crassidens*, *U. tuberculatus*, *U. personatus*, etc. These groups have been recognized as natural assemblages by Lea, Lewis, Marsh, Wetherby, and most of the other American students of the Unionidæ. I consider them as natural and reasonable as any that can be made among large assemblages of nearly related species, and every amateur who gets together a collection of naiades begins to perceive them after a little study. Yet Mr. Call seems to consider them as mere artificial or laboratory devices of little value.

The *Anodonta edentula* of Say is placed by Mr. Call in the genus *Anodonta*. In this remarkable species there are more fully developed vestigial hinge teeth than in any of the true anodontas, and the hinge plate is incurved in front of the beaks, while in *Anodonta* proper it is evenly curved throughout. This species carries the young in the outer gills in short, distinct ovisacs running directly across the gill, instead of in long ovisacs running vertically, as in the true anodontas. These contain from 8 or 10 to 20 or more embryos and finally break out through the outer walls of the outer gills and are discharged entire, with their contents, into the water. After this the gills assume the ordinary unionoid form. It is probable that a few other species from the southern states which have been placed in *Margaritana* have similar marsupia. I have examined gravid specimens of most of our American anodontas and of the *A. woodiana* Lea of China, and in all of them the marsupia are radically different from that of *A. edentula*.

Mr. Call's synonymy of *Unio clavus* Lamarek is certainly astonishing, and includes species as different in shell characters as can be found among the North American unios.—C. T. S.

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NEW VOLUME

Physa ancillaria var. *mag*

Shell subglobose, tapering stronger toward the suture, very minute or subminute at apex, which is dark brown, broad white varicose at the lip and at the base of the lip, the first minute shouldered, the greater elevated, acute; suture white; aperture large below the centre; outer broadly rounded below or liver-colored callus band, extremities connected over the body, twisted.

Alt. $12\frac{2}{3}$, diam. 11,

Alt. $17\frac{1}{2}$, diam. $12\frac{1}{2}$

Alt. $13\frac{1}{2}$, diam. $10\frac{1}{2}$

Types from Frankfurt found at Charlevoix, City and Port Austin indicate distribution a