

48. ~~Pomatopsis lapidaria Say Common.~~  
 49. ~~Carychium exiguum Say var. exile Ad. Few.~~  
 50. ~~Helicina orbiculata Say. Common.~~

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ON A REVISION OF THE AMERICAN UNIONIDÆ.

CHAS. T. SIMPSON, WASHINGTON, D. C.

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In looking over the September NAUTILUS I was greatly interested in the article on American Association of Conchologists, and heartily agree with the suggestion that the nomenclature of our American Unionidæ needs revising. But to do this properly will be an herculean labor, one that will require time, hard study, and infinite patience, as well as a love for the work.

In the first place most of the literature on the subject is out of print, and much of it, such as the New Harmony Disseminator, Nicholson's Encyclopedia and the like, is so rare as to be practically out of the reach of the average student. It is scattered in a very large number of publications and it will take a considerable amount of careful research to hunt up what has been written on the subject.

Much of this literature is in a terribly confused condition, and there are many disputed points which will require the nicest judgment to satisfactorily settle. Lea read the descriptions of most of his species before scientific societies, claiming that such reading was a bona fide publication, and dated them from that time; Conrad held that no species could be considered published until a description had been printed and circulated. There was a further dispute between them as to dates, Lea holding that of publication of the part or separata in which his descriptions were printed was valid, while Conrad claimed that the date should be given when the whole volume was issued. There are many disputed points between Say and Lea as to their species. Lamarck described his Unionidæ in Animaux sans Vertebres, in Latin, giving each species from ten to fifteen words, without figures, and their identification largely rests on the fact that Dr. Lea afterwards examined the types.

Rafinesque, in his Monograph of the Bivalve Shells of the Ohio River, described and figured a large number of Unionidæ, but the descriptions are brief and unsatisfactory, and the figures are unrecognizable. Certain conchologists have considered his work valid, and

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<sup>1</sup> Rafinesque's types of Philadelphia.—Ed.

have attempted to identify his shells, others reckon him a quack and claim that he should not be recognized. So far as I know, few or none of his types are in existence, and those that have attempted to identify his species have not been able to agree among themselves. His work, like a tax-title deed, will always leave a cloud on what it was intended to cover.<sup>1</sup>

The material itself forms an exceedingly difficult study, even if the literature was in a satisfactory shape. In North America alone there are in the neighborhood of 800 commonly recognized species of this family, very many of which are extremely close, and nearly all are quite variable. Only a small part of this territory has been at all carefully worked; even in New York, Mr. Wm. Marshall is making the most commendable efforts to record their distribution and find out what species belong to the State, a work which has never yet been done.

In the belt of country in the south known as the "Pine Region," extending from Virginia to beyond the Mississippi, and from the Atlantic and Gulf to the "Hill Country" specific lines among the Unionidæ seem to be almost obliterated, owing largely, perhaps, to the sameness of configuration of the surface, and the uniformity of soil and climate. The British Possessions outside of Canada are for the most part a *terra incognita*, and of the eighty or more nominal species found in Mexico and Central America for the most part we know almost nothing.

We ought to have a knowledge of the anatomy of each species, but that is impossible at present, as few local collections are found over wide areas of our country, and of many forms only the type shell is known. It is enough to thrill the blood of a conchologist to read over the list of those earnest collectors who gathered in the treasures of our streams for Lea, and caught from him his grand enthusiasm; it reminds one of the roll call of some glorious company of soldiers who perished in battle. Anthony, Barrett, Boykin, Buckley, Budd, Clark, Downie, Edgar, Elliott, Emmons, Estabrook, Forshy, Hallenbeck, Jewett, Kirtland, Law, Leconte, Lewis, Lindsley, Lyon, Moores, Neisler, Pybas, Ravenel, Showalter, Spillman, Tait, Tuomey, Vanuxem, White and others of whom I believe not a soul remains living. There is no such corps of collectors of Unionidæ to-day, and it will probably be a long time before there is again.

<sup>1</sup> Rafinesque's types are in the collection of the Academy of Natural Sciences of Philadelphia.—ED.

I think it is recognized by all who have at all carefully studied the family that Dr. Lea's arrangement, classifying by the presence or absence of a dorsal wing, by sculpture and form, is largely artificial and that some more natural system should be adopted. I believe that the subgenera of Rafinesque, Swainson, Agassiz and others are of little value; it seems to me that an arrangement into groups around certain characteristic and fairly typical species is the most natural that can be made. But while there are large numbers of species among which the strongest relationship is at once apparent there are many others which seem to stand on the border land, and which may as well be placed in one section as another; others, by the characters of certain specimens, appear to have an affinity in one direction and by those of others to belong elsewhere, while there are some nondescripts that do not fit anywhere.

It is my intention to publish some time in the future a Geographic and Systematic Catalogue of the Unionidæ of North America, but it will require years of patient study to prepare it. I also hope at some time to be able to monograph our species.

So far as the South American forms are concerned our material and knowledge are so limited it seems to me it would be almost unwise to attempt at present to do anything with them. Dr. von Ihering is doing excellent work with the Unionidæ of this region and probably has a better understanding of the subject than any man living.

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#### ON THE REVISION OF THE UNIONIDÆ.

BY S. HART WRIGHT AND BERLIN H. WRIGHT, PENN YAN, N. Y.

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EDITOR NAUTILUS:—In the September number of THE NAUTILUS, the specialists in Unionidæ are asked to reply to a suggestion that a Committee be appointed to classify and revise the nomenclature of the American Unionidæ.

It is well known that the history of this branch of Conchology is somewhat tainted with personal bitterness and rivalry. The nomenclature is in consequence slightly chaotic; and the synonymy though not more extensive than in the Helices, or in Botany or Ornithology and many other sciences, still needs sifting out. A classification too, still better than Lea's if possible, should be brought for-

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ward. The determination of priority of names is a delicate matter in many of our Unionidæ, and it should be settled *officially* by a Committee on lines of equity, rather than by an individual. The same is true also, in discarding a so-called species, and in elevating a synonym to take the first rank.

We have so many species of Unionidæ in North America, that *extremists*, both at home and abroad, look upon the list as one that is over-loaded. A revision by Committee should command general acquiescence. It is not true that *our* nomenclature is burdened like that of Europe.

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NOTES AND NEWS.

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THE address of Mr. John Ford will be in future *Holmes Station, B. & O. R. R., Delaware Co., Pa.*

DR. W. S. SRODÉ has removed from Bernadotte to Lewistown, Ill., where he will hereafter be permanently located.

EXTRACTS from a letter to the Editor from DR. WM. H. RUSH, dated *U. S. S. Yantic, Montevideo, Uruguay, March 11, 1892.*—  
 "Since being here I have been able to do very little and have not seen a native land shell. One trip out to the suburbs of Montevideo only yielded some *Helix lactea*. At Buenos Ayres I found the British Cemetery over-loaded with *Helix pomatia*. In the swamps around Buenos Ayres I found an *Ampullaria* very common, which is, I think, *australis*, and while up at Palermo Park I found another which I took to be *canaliculata*. Further collecting around the swamps led me to believe that they are the same species. The coloration of the animal varies from a very dark brown to a light mahogany brown; the coloring of the animal also leads to corresponding variation in the color of the shell. Both forms are banded. I saw many in the act of copulation, a light with a dark individual, etc. I tried to preserve a lot of their eggs, but so far I have not met with any success. *Planorbis perigrinus* is also very common; also a species of *Paludestrina*. While walking down the Boca one Sunday afternoon I observed quite a crowd collected around a man standing on the curbstone. Upon approaching I saw that he was opening a bivalve which was being eaten by the people.