

REPRINTS OF RARE ARTICLES ON MOLLUSCA. -- D. H. Barnes, 1828, "Reclamation of Unios." --- American Journal of Science, vol. 13, No. 2, pp. 358-364. (Reprinted with permission of the Editor of the American Journal of Science, Dr. John Rodgers).

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ART. XIII. - Mr. BARNES'S Reclamation of Unios.

(Read before the Lyceum.)

TO PROFESSOR SILLIMAN.

New York, Nov. 12, 1827.

Dear Sir - In looking over the continuation of Humboldt and Bonpland's Zoological Observations, just received, I observe, that a portion of that splendid work is devoted to

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American Unios, of which the author, Mons. A. Valenciennes, describes nine species, all of which have been previously described by American naturalists, either under the same or different names; but, in several instances, no notice is taken of the original author, from whom those names were derived. This is a singular oversight, in the French naturalists, who have been distinguished by their liberality towards American authors; inasmuch as these shells have been sent to the Baron Ferussac, and set forth in his excellent Bulletin, with all due praise. It is an act of duty to Mr. Say and myself to notice this departure from the law of naturalists, that priority must have preference, in all regular publications. I have, however, no doubt, that the oversight was unintentional, and such as

will sometimes unavoidably occur. After the publication, in your sixth volume, of the shells brought from the northwestern territory, in 1820-1, I was shown a paper by Professor Rafinesque, published in Brussels, without a date, in which I discovered some of those which I had published. I am not sure which had the priority, but if it belongs to Mr. R. that circumstance probably occurred from the delay in printing the paper in your Journal, caused by my absence from the city, during the prevalence of the yellow fever, and several other unfavorable events. The want of a date in Mr. R's paper, sent to Dr. Mitchill, the only one I have seen, was I believe, owing to its being a part of a larger work of which some extra copies were bound up for the author. Mr. R's paper was totally unknown to me at the time of publishing mine, as you will perceive by the introduction, in which Mr. Say's paper is mentioned as the only one then known.

In the paper of A. Valenciennes, which is the subject of this reclamation, Mr. Rafinesque is mentioned but not followed; and the author's view appears just and reasonable, which is to leave the genus as it now stands, and not to constitute other genera from it, by the external form of the shells. Mr. Say is also respectfully mentioned, but no notice whatever is taken of the paper in your sixth volume, though several of the same species are set forth under the same names, even those of which you have given plates; and others are republished under different names. I shall notice them in detail with corrections to each.

1. UNIO OVATA. (ova tus.) - The gender of the word Unio is again mistaken. It is masculine. This error is noticed in

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your Journal, Vol. VI, page 115; and has since been corrected by Dubois, the translator of Lamarck, in his synoptical table, page 30th. This Unio is referred to Lamarck, vol. vi, page 75, No. 23, and Lamarck in this place quotes Say's American conchology, pl. 2, fig. 7. Now it so happens, that the shell thus referred, is not Mr. Say's Unio ovatus, but his U. cariosus, in a young state, and the author is correct in saying, that it nearly approaches the Unio cariosus, of Lamarck, vol. vi, p. 226. The Unio ovatus, of Mr. Say, is eminently distinguished by a slightly elevated obtuse keel around the anterior slope (posterior of Cuvier and Blainville.) See American Journal of S. and A. vol. vi. p. 113.

2. UNIO DOMBEYANUS. - The author has made two species of Lamarck's Unio Peruvianus. The one is what I have named Unio rugosus, with a plate and description, in the Journal, vol. vi, p. 126, and the other is the

3. UNIO UNDULATUS. - The same shell as that figured in the Journal, with the same name, and from the same locality, the Ohio river. In the Journal, vol. vi, p. 120, Lamarck's Unio Peruvianus is quoted with a mark of doubt. The same reason which caused that doubt, has induced M. Valenciennes to recommend, that Lamarck's name should be discontinued. It comes from the Ohio, and not from Peru. The shell here figured is a younger and smaller one than that figured in the Journal.

4. UNIO VERRUCOSUS. - This, again, is our shell with the same name. It is the variety (b) mentioned on page 124, which is always much less than the one figured in the Journal. The dimensions of the plate, of M. Valenciennes, are the same as those of our shell.

5. UNIO TUBERCULOSUS. - This is the young of our U. verrucosus, and not as the name might seem to indicate, our U. tuberculatus.

6. UNIO ROSTRATUS. - This the author marks Nobis. It is Mr. Say's well known nasutus, but not the nasuta of Lamarck, which circumstance probably led him into the error, Lamarck's name should be changed, and Mr. Say's must have preference. Both the names, nasutus and rostratus,

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are descriptive of the same character of the shell - the unusual extension of the anterior side. (See Journal, vol. vi, p. 110 - 111, and p. 273, No. 26.)

7. UNIO NAVIFORMIS, Lam. - For this, both Lamarck and this author refer to Mr. Say's Unio cylindricus, with a mark of doubt. It is the same. Mr. Say's figure represents an old shell from Dr. Barton's collection, now in the Philadelphia museum, and the figure of this author represents one which is rather younger and smoother than an intermediate one now in my collection, received from Mr. King of Buffalo, and by him brought from the Ohio. This species, of which we have now several specimens, was mentioned, p. 127 of the Journal, but not described as it had been previously described, by Mr. Say, and as one specimen only had then been found; and it seems there is yet only one known in France, which one was carried thither by the younger Michaux, and given to the museum of natural history.

8. UNIO RECTUS. - This shell resembles the Unio praelongus, of the Journal, and, indeed, it has been supposed to be the same. Lamarck's shell is, however, much less in size, and uniformly, as far as my observations have extended, differently colored on the inside. The rectus has the inside either white or with a pale tinge of red, and the praelongus is of a deep and splendid purple. The variety, with the inside

whitish green, mentioned in the Journal is the *Unio rectus*, of Lamarck, which name, and not his *purpuratus*, has the preference to ours.

Most beautiful specimens of the *Unio rectus* are found in Lake Champlain, at Ticonderoga point.

9. *UNIO HIANS*. - This is the *Alasmodonta undulata*, of Mr. Say; a genus which the French have not yet admitted into their books. It is, however, a natural genus, of which we have now five or six well characterized species; every one of which may be instantly distinguished from the *Unios*, by the color and peculiar smell of the animal, and by the yellowish tinge on the inside of the shell. It is a matter of regret that the animals have not yet, to our knowledge, been carefully examined by an acute and discriminating comparative anatomist. They will, no doubt, prove to be different. It is remarkable that this genus should still be included under the *Unio*, when it has

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not the generic characters of that genus. It always wants the LONG, COMPRESSED LATERAL TOOTH, which Lamarck inserts as a part of his generic description, (alter (sc. dens) elongatus, compressus, lateralis, infra pubem productus,) Lam. Genus *Unio*, vol. vi, p. 69; and yet Lamarck himself, has put a shell of exactly this kind, at the head of his genus *Unio*. This fact led me into a mistake concerning the *Alasmodonta arcuata*, which is Lamarck's *Unio sinuatus*, and the *Mya margaritifera*, of authors; and Lamarck has again described the young of this same species, under the name of *Unio elongatus*. Neither of these ever has the long, compressed, lateral tooth. They, therefore, belong properly to Mr. Say's genus, *ALASMODONTA*. Am. conch. p. 14-15. Both the young and the old, answering to the two species of Lamarck, just mentioned, are figured in the Journal, vol. vi. pl. 12. The same shell is figured by Pennant and Lister. It

is very remarkable, that a shell found in our waters, should be so exactly like one found in Europe. This species, though so well known abroad, was unknown to Mr. Say, when he published his treatise. It was brought to me from Tappan and Canada creek, in this state, and being unknown to Mr. Say, I supposed it new, and so described it.

I find it difficult to believe, what seems to be a very plain fact; I suspect there must be some mistake: the figures and description of this shell seem to show an exact identity, and we have compared ours with specimens labeled, *Mya margaritifera*, from Liverpool, Eng. They are the same; and yet, if the *Unio sinuata*, of Lamarck, has the long, lateral, lamelliform tooth, ours is a different shell, and the original name must stand. If that is the fact, neither of us has made a mistake. In the case of the *Unio hians*, of M. Valenciennes, we seem to perceive the same error as that above imputed to Lamarck. His shell is from our waters, and we have numerous fine specimens, all of which are destitute of the lateral tooth, by which the genus *Unio* is characterized.

This natural and useful genus contains now six species, as follows: -

1. *Alasmodonta margaritifera*, Mya L. *Unio* Lam.
 2. " *complanata*, } American
 3. " *rugosa*, } Journal, vol.
 - vi, p. 75-80.
 4. " *marginata*, } Say, Am.
 5. " *undulata*, } conch, l. c.
 6. " *purpurea*, c. } A. Valenciennes,
- mentioned below.

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All these, except the last, are known to us as well characterized, and perfectly distinct; and to persons less cautious than we are, the northwestern expedition might have afforded an opportunity of increasing the number. (See Journal, vol. vi. p. 279.)

This paper of Mons. Achille Valenciennes, on the *Naiades* terminates with an account of two *Anodontas*: the first is called *Anodonta glauca*, which is said to be new. It is well known to us, and is Mr. Say's *Anodonta marginata*. The *Anodonta* has numerous varieties, but I have yet seen no evidence of more than one species; although Lamarck describes fifteen, Mr. Say, two; this author, two; and others, more. In the same way it would be easy to increase the number to a hundred; but they would all be more alike than the numerous varieties of the *Unio purpureus*. The identical variety here figured has been brought from our southern waters, and laid on the table of the Lyceum, without being supposed worthy of particular notice.

The next the author calls *Anodonta purpurea*, which without doubt, is another of Mr. Say's genus *Alasmodonta*. This is evident from the figure, and the following part of the description. "Cette espèce est très remarquable par l'épaississement du bord inférieur, sous les crochets." I believe that no one ever saw an *Anodonta* thickened about the beaks. They are always thin, and uniformly thin throughout. But this is not all. "Ce bord un peu relevé, semble montrer un commencement du dent, et conduire ainsi vers la chambre des mulettes." This again is never found in the proper *Anodonta*, but it is a very good description of a young *Alasmodonta* before the teeth of the hinge are fully formed. When this shell is again examined the learned author will find, if my conjecture is right, on the inside, near the hinge, where the shell is thickened, a tinge of yellow. The animal, when extracted, was yel-

low, and had a rank, offensive smell, different from the fresh and not unpleasant smell of the *Unios*. The description of the *Unio hians*, mentions the same appearance about the cardinal tooth, "sous cette dent le test est très-épais: il devient ensuite tres-mince." This is an exact description of the *Alasmodonta*, which is common to several species, but not often seen in the *Unio*, and never, to my knowledge, in the *Anodonta*.

We are gratified to perceive, that the method of measuring shells, and inserting the length, breadth, and diameter;

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(which method was commenced and recommended in this Journal,) is uniformly pursued in this paper. It has also been adopted in England. But the French, instead of diameter, use thickness; as it seems to us, with less propriety, for the reasons given, vol. vi, p. 111.

We regret to see the exploded error, of the axolotl's being the larva of a water salamander, again put down as a matter of undoubted science. It rests, indeed, here as elsewhere, on the authority of Cuvier; but even that authority cannot support it against a simple examination of the specimens now in the New-York Lyceum. The animal is, beyond all doubt, mature and distinct from all others.

Your cordial friend,

D. H. BARNES.