PLEUROBEMA LEWISII (LEA).

BY BRYANT WALKER.

As the result of some recent correspondence between Mr. L. S. Frierson and the writer, it has become evident that the synonymy, in which this species was included by Simpson in his Synopsis and Descriptive Catalogue, will have to be revised. We are both of the opinion that this species is entitled to specific recognition for the following reasons.

The synonymy given by Simpson is briefly this :

1834. *Unio mytilloides* var. Conrad. Type locality, Alabama River.

1834. *Unio cor* Conrad. From the Elk and Flint rivers, Ala.

1861. *Unio crapulus* Lea. Type locality, Etowah River, Ga.

1861. *Unio lewisii* Lea. Type locality, Coosa River, Ala.

Just what Conrad's *mytilloides* var. was, is not certain. If it was not a *Pleurobema*, it is entirely immaterial what it was so far as the species under consideration is concerned. But it was apparently a *Pleurobema* from the Alabama River. If so, it is equally immaterial what it was, so far as nomenclatorial purposes are concerned. In 1820 Rafinesque described a species from the Wabash as *Pleurobema mytilloides*. As in the case of so many of the species described by this author, there has always been an element of uncertainty as to what his species really was. By a general concensus of opinion among the earlier students of American *Unionidæ*, it was considered to be the same as the species subsequently described by Lea as *Unio pyramidatus*. Dr. Lea, himself, gave it doubtful recognition as a valid species and placed it near *pyramidatus* in his Synopsis. Simpson states that, in his opinion, the shells under this name in the Lea collection are an elongated form of *pyramidatus*. Conrad in his Synopsis of 1853 considered it a synonym of Lamarck's *clava*. It is quite probable that he was entirely correct in this disposition of this species, which would be a very satisfactory solution of the problem. It seems to be reasonably certain, however, that it was either *clava* Lam. or *pyramidatus* Lea. According to Dr. Ortmann, *pyramidatus* Lea is a *Pleurobema* and

not a *Quadrula*. But even this is immaterial, if Rafinesque's species can be satisfactorily identified as either of those species. If *mytilloides* Raf. is the same as *clava* Lam., it disappears in the synonymy. If it is the *pyramidatus* Lea, it would take precedence of that species. But in either event, and that is the important point here, the specific name *mytilloides* can not be used again for a different species of *Pleurobema*. So that, although Conrad's *mytilloides* was described as an *Unio*, his name, even if the species is clearly identified, can not be used if his type was a *Pleurobema*.

The shells, on which Conrad based his *Unio cor*, came from the Elk and Flint rivers, Ala. Both of these streams are tributaries of the Tennessee River. It is probable that the form described by Conrad as *cor* represents some species also described by Lea. Mr. Frierson has investigated that question (NAUTILUS, Jan., 1916, p. 102). But whatever *U. cor* is, it is quite clear that it is not the same as either of Lea's species, *crapulus* or *lewisii*. With the great increase in recent years of our knowledge of the faunas of the Alabama and Tennessee drainage systems, it has become more and more evident that there are very few species of *Pleurobema* that are common to both systems. The fauna of the Tennessee has been very thoroughly worked over and there can be no doubt that there is no species in that fauna that can by any approximation be referred to either of Lea's species.

The elimination of *cor* from further consideration leaves the two species from the Alabama system to be dealt with. Assuming, for the purposes of the argument, that they are synonymous, what name shall be used? Both were described in the same paper, but *crapulus* has page precedence. This, however, under the Code (see NAUT. xxviii, p. 125), is immaterial. I am of the opinion that precedence should be given to the name of *lewisii* for the following reasons:

1. The *lewisii* Lea is a well-defined and well-known species of the Coosa, and there can be no doubt as to what it is.

2. Lea's *crapulus* came from the Etowah River, Ga., and was described from a single specimen. It does not seem to have been found by any of the recent collectors. While it may be

an absolute synonym of *lewisii*, on the other hand, in view of the well-known variation of the species of this genus in the different rivers of the Alabama system, it is quite possible that it may be varietally or even specifically distinct. Its final position in the system must necessarily await its re-discovery in sufficient quantity to enable its standing to be definitely determined. If its accidental page priority were to be recognized, it would leave the specific type a matter of uncertainty for an indefinite period.

3. By adopting *lewisii* as the specific name, Dr. Lea's intention to perpetuate the memory of one of the leading conchologists of his time will be effective.

In view of these considerations and assuming the two forms to be synonymous, I select *Unio lewisii* Lea as the specific type.

The synonym, therefore, would be as follows:

PLEUROBEMA LEWISII (Lea).

1861. *Unio lewisii* Lea, Pr. Ac. Nat. Sci. Phila., p. 40.
1862. *Unio lewisii* Lea, Jl. Ac. Nat. Sci. Phila., v, p. 71, pl. vii, fig. 220; Obs., viii, p. 75, pl. viii, fig. 220.
1861. ? *Unio crapulus* Lea, Pr. Ac. Nat. Sci. Phila., p. 39.
1866. ? *Unio crapulus* Lea, Jl. Ac. Nat. Sci. vi, p. 42, pl. xv, fig. 40.
1867. ? *Unio crapulus* Lea, Obs., xi, p. 46, pl. xv, fig. 40.
1900. *Pleurobema cor* Simpson, Syn., p. 754 (not of Conrad).
1914. *Pleurobema cor* Simpson, Desc. Cat., p. 765 (not of Conrad).

NOTE.—The foregoing article was received before the publication of that on *U. cor* in the January number. Most of the matter relating to *cor* has therefore been eliminated.—EDS.

ANODONTA DANIELSI LEA IN COLORADO.

BY MAX M. ELLIS.

While collecting fishes during October in Black Wolf Creek, a tributary of the Arikaree River in eastern Colorado, a large, isolated colony of bivalves was discovered, specimens from