

The answer to that is that Bourguignat twice explicitly stated that *cumingianus* was the type of *Ancylastrum*. I cannot see how we can go behind his positive statement and argue that he meant something else. The fact that in 1864 he mentions *cumingianus* and *fluviatilis* as "examples" of *Ancylastrum* has no bearing on the validity or intention of his original designation. If this can be done, all of the older designations of typical species can be overthrown.

III. That when *cumingianus* was designated as the type in 1853 it had not been described and therefore could not be so used.

This has been answered by my paragraph II.

CONCLUSION.

Ancylus cumingianus Bgt. is the type of *Ancylastrum* by designation and consequently that name cannot be used for the European group typified by *A. fluviatilis* Müll.

ANCULOSÆ NORTH OF THE ALABAMA DRAINAGE.

BY CALVIN GOODRICH.

Work upon the Alabama drainage Anculosæ collected by Herbert H. Smith, compelled a more or less thorough study of the species and forms which occur in other parts of the country. I submit the impressions and conclusions for what they are worth, realizing that a painstaking examination might greatly modify my present views.

Group of *Anculosa carinata* (Brug.).

1—A. CARINATA (Brug.), 1792.

Synonyms: *Paludina dissimilis* Say, 1819; *Anculotus nigrescens* Conrad, 1834; *Anculotus monodontoides* Conrad, 1834; *Anculotus dentatus* Couthouy, 1839; *Anculosa carinata* Lea, 1841; *Anculosa dentata* Lea, 1841; *Anculosa variabilis* Lea, 1841; *Anculotus carinatus* DeKay, 1843; *Anculotus trivittata* DeKay, 1843.

Some of these may deserve recognition as local races.

1a—A. CARINATA NICKLINIANA Lea, 1841.

Tryon's insistence to the contrary (Monograph of the Streptomatidæ, p. 395), this is an *Anculosa*. I think the reason for Tryon's error may lie in the fact that a dwarf form of *Goniobasis virginica* Gmel. was in his day distributed as *nickliniana*. I have specimens from the type locality which were sent to me by Mr. Robert Patterson of Chase City, Va. Their generic position cannot be questioned.

2—A. CORPULENTA Anth., 1860.

3—A. CANALIFERA Anth., 1860.

4—A. DILATATA Conrad, 1834.

Synonyms: *Anculotus rogersi* Conrad, 1834; *Melania inflata* Lea, 1838; *Anculotus kirtlandianus* Anth., 1840; *Leptoxis rapæformis* Hald., 1843(?) (on the authority of Tryon); *Anculotus carinatus* Anth., 1860.

5—A. ORNATA Anth., 1860.

This is a form with Atlantic drainage antecedents which, like *dilatata*, has crossed over into a western drainage. So far as I know, it is confined to the Hiawassee of the Tennessee.

Group of *Anculosa trilineata* Say.

1—A. TRILINEATA Say, 1829.

Synonym: *Melania viridis* Lea, 1841.

2—A. COSTATA Anth., 1840.

Synonym: *Melania occidentalis* Lea, 1841.

3—A. VIRGATA Lea, 1841.

A distinct species, quite different from *subglobosa* Say where Tryon placed it.

4—A. MINOR Hinkley, 1912.

5—A. ARKANSENSIS Hinkley, 1915.

Group of *Anculosa prærosa* Say.

1—A. PRÆROSA Say, 1824.

Synonyms: *Melania cruentata* Menke, 1828; *Melania angulosa* Menke, 1830; *Anculotus angulatus* Conrad, 1834; *Melanopsis neritiformis* Deshayes, 1838; *Melania cincinnatiensis* Lea, 1838.

2—A. TINTINNABULUM Lea, 1834.

3—A. TRYONI Lewis, 1870.

4—A. PINGUIS Lea, 1852.

5—A. TROOSTIANA Lea, 1841.

6—A. PLANISPIRA Anth., 1854.

The figure given of this species by Tryon suggests a variant very common among the *prærosa* of the Holston and Cumberland rivers. The Green river material mentioned in Tryon is *Lithasia obovata* Say with the spire worn away.

7—A. LEWISII Lea, 1861.

8—A. VIRIDULA Anth., 1860.

Cited from Tennessee. It suggests some of the forms taken by *A. picta* Conrad in the Alabama river. Tryon links it with *kirtlandianus* Anth. of the *carinata* group.

9—A. UMBILICATUS Wetherby, 1876.

10—A. HARPETHENSIS Pilsbry, 1896.

11—A. SUBGLOBOSA Say, 1825.

Synonym: *Melania globula* Lea, 1841.

12—A. GIBBOSA Lea, 1841.

A form from Abram's creek, Blount county, Tenn., is the only one I have seen which consistently corresponds with the description of this species.

13—A. LITTORINA Hald., 1840.

Synonym: *Melania pilula* Lea, 1841.

It seems to me to be of significance that this species, re-

corded from the Holston river, does not appear in the extensive collections of Mrs. Andrews and Professor Wetherby. Aberrant specimens of *virgata* agree with the description except in the matter of size. It may be suspected that *littorina* is a form of *subglobosa* varying in a similar manner.

The entire *prærosa* group is something of a confusion. Particularly in the smaller rivers and creeks of central Tennessee does it take peculiar aspects which may or may not deserve differentiation from the parent stock. In the Elk river are forms ranging from undeniable *prærosa* to *subglobosa*. The same thing is true of the Duck river. *A. pinguis* is in the Caney Fork of the Cumberland river, but typical *prærosa* is there also, and I have not had means of learning whether *pinguis* is a true local race or represents specimens selected from sendings of species previously named. The suspicion holds good against *troostiana* and *lewisii*. The only *subglobosa* outside of southeastern Virginia and eastern Tennessee that may not be challenged as variants of *prærosa* comes from Lookout creek, a tributary of the Tennessee river in northern Alabama. There is still a great deal to be learned about the forms of middle Tennessee.

THE HELICOID GROUP DISCULELLA PILSBRY.

BY T. D. A. COCKERELL.

Lowe gave the name *Placentula* to a small group of Madeiran Helices, typified by *H. maderensis* Wood. This shell, in general form and coloration, resembles the *H. polymorpha* group (*Discula* Lowe), but is easily distinguished by the lack of the surface sculpture of elongate pustuliform granules, the round aperture (hence the synonym *H. cyclostoma* Menke) and strictly continuous peristome. Eight species are referred to *Disculella* by Pilsbry, and a ninth must now be added:

Geomitra (Disculella) cenourensis n. sp.

Shell with max. diam. 7.2 to 9.5 mm., with the form of *G. dealbata* Lwe., to which it is nearly related, but dark reddish-



Goodrich, Calvin. 1921. "Anculosae north of the Alabama Drainage." *The Nautilus* 35, 9–12.

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