

but the distal margins remain practically entire; sutural plates narrow, the sinus shallow with entire margin; a brown streak on each side of it internally but the rest of the interior white; external sculpture of the intermediate valves with lateral areas but no defined jugal tract; the surface microscopically reticulate with, on the central and pleural tracts, rather sparse slender bluish beaded longitudinal threads on a brownish ground, about 15 threads on each side with wider interspaces; lateral areas with two to four similar threads of which not more than two run the whole length of the area, the others being irregularly broken up and short; the anterior valve with about 20 similar threads, tending to pairs; the posterior valve with a feeble subcentral mucro, in front of which it is threaded like the pleural tracts, behind it there are about a dozen sparse feeble radial threads. There are no eyes or visible sense organs on the surface of the valves. Length of specimen (after soaking) 23; breadth 16; height 8 mm. U. S. Nat. Mus. Cat. no. 333091.

WHAT IS THE TYPE OF *ANCYLASTRUM* BOURGUIGNAT?

BY BRYANT WALKER.

In a paper recently published in the Proceedings of the Malacological Society (XIV, 1920, p. 86), Messrs. Kennard and Woodward, after stating that in their opinion the type of *Ancylus* of Geoffrey was the *Patella lacustris* of Linné, and that as that species is the type of Beck's *Acroloxus*, the latter consequently becomes a synonym of *Ancylus s. s.*, suggest that as *fluviatilis* Müll. must be placed in a distinct genus, "recourse must be had to the subgeneric name of *Ancylastrum*, proposed by Bourguignat in 1853 and that name must now be raised to generic rank."

Assuming that the premises of the authors are correct, which is by no means free from doubt, the question is at once raised as to whether *Ancylastrum* Bgt. can properly be used for the group typified by the European *fluviatilis* Müll.

If so, it is evident that the Tasmanian species represented

by *Ancylus cumingianus* Bgt., which are generically distinct from the European group of *fluviatilis*, will have to be known by another name.

As the establishment of the proper type of *Ancylastrum* thus becomes of very considerable importance in the classification of the *Ancylidæ*, and as I have not been able to agree with the position taken by the authors of this paper, it seems proper to state the reasons that have influenced my decision of the question before their suggestion has been generally accepted.

STATEMENT OF FACTS.

Ancylastrum was first proposed by Bourguignat in the *Journal de Conchyliologie*, IV, p. 63. This number of the *Journal* is dated February 15, 1853. His paper is entitled "Notice sur le genre *Ancylus*, suivie d'un catalogue synonymique des especes de ce genre." Only the preliminary part, the "Notice", was published at this time. On p. 63 the author defines his new "S. G. *Ancylastrum*," but neither names a type nor lists any species that he would include in it.

In the next number of the *Journal*, issued May 1, 1853, in a paper, which is entitled "Catalogue des especes du genre *Ancylus*, 2e Article," Bourguignat published a complete catalogue of all of the species of the genus then known to him. Under the caption "ANCYLASTRUM" (p. 170) the first species mentioned is *Ancylus cumingianus* Bgt., which he states "is the type of the section *Ancylastrum*," and remarks that "Cette magnifique espece, remarquable par l'excessive deviation de son sommet, contourné sur lui-meme, habite la terre de Van Diemen, dans la Nouvelle Hollande." He further states that he regrets that he is unable to give the diagnosis of this and certain other new species from the Cumingian collection for the reason that he had promised Mr. Cuming that they should appear first in the Proceedings of the Zoological Society of London. He then proceeds with his catalogue, which shows that he included all of the known *Ancyli* in *Ancylastrum* except those having the apex directed to the left side.

On July 12, 1853, Bourguignat's paper was presented to the Zoological Society and was published on July 25, 1854. The *A. cumingianus* was fully described in this paper on p. 91 and beautifully figured. And the author again states that it is the type of his section *Ancylastrum*.

In 1864 Bourguignat (Mal. Algerie, II, pp. 188-9) repeated his diagnosis of *Ancylastrum*, citing *A. simplex* Buch. (= *fluviatilis*) and *A. cumingianus* as examples.

In 1881 Fischer in his Manual cited *fluviatilis* as an example of *Ancylastrum*. Clessin in his monograph in the Conchylien Cabinet (1882) gave *fluviatilis* as the type of *Ancylastrum*, and in this has been followed by Tryon, Germain and practically all of the recent European writers.

Hedley (Prac. Mal. Soc., I, 1895, p. 118) was the first to call attention to the fact that Bourguignat had designated *cumingianus* as the type of *Ancylastrum*.

ARGUMENT.

The publication of Bourguignat's paper in 1853 in two distinct parts with an interval of nearly three months must be considered as two separate publications.

If so, it follows:—

I. That *Ancylastrum* in the first instance was a genus published not only without any specified type, but also without any accompanying list of species. It therefore comes within the ruling of Opinion 46 of the International Commission on the "Status of Genera for which No Species was Distinctly Named in the Original Publication," and consequently contained all of the species of the world which would come under the generic description as originally published. And the generic type could be designated by the first subsequent author dealing with the subject.

II. That the subsequent publication of Bourguignat's catalogue was not a part of the original publication and that consequently the subsequent designation of the type was not restricted to the species listed in that catalogue.

This does away with the criticism that the designation of *cumingianus* in the catalogue of 1853 was ineffective because

it had not then been described and was therefore simply a nude name.

If there is any question as to this position, it may be well claimed that the characterization of *cumingianus* in the catalogue of 1853, taken with the subgeneric diagnosis of *Ancylastrum* given by Bourguignat, was sufficient to identify the species, even though he refrained from giving a formal description of it at that time. His remarks give an "unmistakable picture, which applies to no other form yet known." The only other known species of that group, *A. irvinæ* Petterd, is quite different in the manner of the enrollment of the persistent spire, which has practically no lateral twist at all.

III. No other species having in the meantime been designated as the type, it follows that Bourguignat's second designation of *cumingianus* in the P. Z. S. as the type of his section, *cumingianus* having then been formally described, was fully operative, even though that of 1853 was insufficient.

IV. When later it was discovered that *cumingianus* was generically distinct from the European *Ancyli*, *Ancylastrum*, of which it was the type by designation, necessarily followed its type and became the name of the new genus.

The argument of Kennard and Woodward, as I gather from several letters from Mr. Kennard, is substantially as follows:

I. "It is clear that *Ancylastrum* Bourg. is really a synonym of *Ancylus* s. s. of authors. Bourguignat in 1853 when he used the word type did not use it in the modern sense and had no idea that it was generically distinct from the forms with which he associated it."

The reply to this is that under the Code the original diagnosis "cuts very little ice". The generic name follows the type regardless of the specifications of the original diagnosis. Very many of the ancient genera now in accepted use have wandered far from the specifications of the original author.

II. "Bourguignat never intended to separate *cumingianus* from the rest and he uses the word type in a different sense. He meant example, a very different thing. The present idea of "type" is quite a modern one and when the older men used it they meant example."

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.



Walker, Bryant. 1921. "What is the type of Ancylostomum Bourguignat?" *The Nautilus* 35, 5-9.

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