



ART XII. *ANODONTA BROOKSIANA*, A NEW NAIAD  
FROM NEWFOUNDLAND

BY HENRY VAN DER SCHALIE  
UNIVERSITY OF MICHIGAN

(PLATE XVI)

A series of about four hundred specimens of *Anodonta* from Newfoundland, representing collections made by Dr. and Mrs. Stanley Truman Brooks, was recently sent to me for identification. These came from four localities, chiefly in the Ferryland district which is in the southeastern part of the island. With such a large collection it is possible to make comparative studies. One series of sixty-seven specimens from Junction Pond, at Whitbourne, obviously belong to what has been called *Anodonta marginata* Say. The remaining three hundred and fifty are definitely not that species but are more closely related to the *cataracta-implicata* complex. Since they cannot justly be classified as either *Anodonta cataracta* or *Anodonta implicata*, they are being described here as a new species.

*Anodonta brooksiana* sp. nov.

*Description:* Shell thin, of medium size, elliptical in outline, not compressed but generally somewhat swollen and well rounded. Posterior ridge low and inconspicuous. There is a low but not pronounced wing which tends to make the dorsal and ventral margins appear more or less parallel. Beaks low and not prominent, giving the shell a decided inequilateral appearance. Beak-sculpture consisting of numerous (8-12) more or less irregularly concentric, corrugated folds which extend well out on the disc; the first two or three folds somewhat double-looped while the others are irregular and often appear to anastomose. Anterior end of shell well rounded; ventral outline slightly bulging post-ventrally; posterior end somewhat bi-angular. Viewed from above the shell has an elliptical outline with the greatest diameter close to its center. The outer surface has a straw-yellow background crossed by numerous fine, radiating green rays which give it a greenish yellow appearance. Surface broken by minor growth-rests and well-defined annulations; two prominent green rays are usually evident on the posterior slope. Nacre thin, uniform in thickness, with a bluish silvery hue; often marred by yellowish waxy

blotches which are most likely due to trematode parasitism of the mantel.

*Type locality:* Spout Pond Arm, Ferryland District, Southern Shore, Newfoundland. Dr. and Mrs. Stanley Truman Brooks, collectors, September 17, 1937. Type, (Cat. No. 61.13137), Carnegie Museum; paratypes in the Museum of Zoology, University of Michigan; Museum of Comparative Zoology, Cambridge; Academy of Natural Sciences of Philadelphia; United States National Museum; and in the Museum of Natural History, University of Illinois.

DIMENSIONS IN MILLIMETERS

	Annulae	Length	Height	Diameter
TYPE	7	69.5	33.3	24.5
Paratypes	3	39.4	20.0	12.0
"	4	49.2	24.9	16.3
"	6	67.2	32.7	22.5
"	7	72.7	34.2	24.1
"	13	88.5	45.0	30.7
"	13	88.4	43.6	29.0

*Distribution:* At present this species has been taken from four localities in Newfoundland, as follows:

Spout Pond Arm, Ferryland District, 1937	35 specimens
Long Run Pond, Ferryland District, 1937	135 "
Spout Pond, Ferryland District, 1937	187 "
Well's Gully, Whitbourne, 1935	No definite count

The last locality was recorded in a paper by Dr. Brooks in 1936, when this species was referred to *Anodonta implicata* Say. After re-examining this material it is obvious that this was erroneously referred to *Anodonta implicata* Say and that it should be included under *Anodonta brooksiana*.

*Discussion:* The most distinguishing character of *Anodonta brooksiana* is its beak-sculpture which is not characteristically double-looped and nodular as is the case in *Anodonta marginata*, *implicata*, and *cataracta* (Marshall, 1890, figs. 16 and 17). The position and lack of prominence of the beaks is also distinctive. In this there is a strong indication of an apparent relationship with the European *Anodonta cygnea*. However, our knowledge at present does not warrant any positive statement as to whether this similarity to *cygnea* indicates a close relationship or whether it is due to parallel evolution.

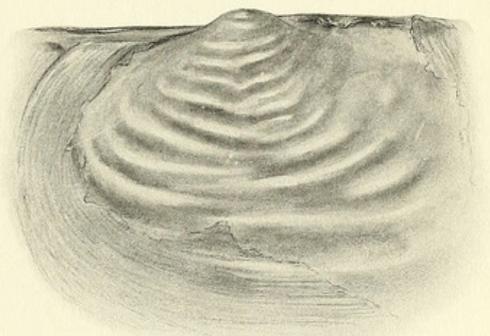
There has been some question as to what specimens Lamarck used in his description of *Anodonta fragilis*. In Lamarck's original description (*Anim. sans vert.*, 1819, p. 85) the following locality data are given: "Habite les lacs de Terre-Neuve. M. Lapylaie. Mon Cabinet." Previous to 1900 such workers as Lea, Beauchamp, Walker, Mitchell, and Nylander repeatedly reported *A. fragilis* as occurring in northeastern North America. Between the years 1900 and 1916, Simpson, Whiteaves, Ortmann, and Maury have considered *fragilis* a synonym of *marginata*, which has priority since it was described by Say two years previous to Lamarck's description of *fragilis*. Since Lea (*Observations . . .*, vol. 1, p. 205) reports receiving a specimen of Lamarck's material which was collected by M. Lapylaie from Newfoundland and since Lea claims to have seen this species from Lake Skaneateles, Lamarck's *fragilis* is most likely a synonym of *marginata* Say. *Anodonta brooksiana* is consequently suggested as the new name for this hitherto undescribed species from Newfoundland. The fact that nothing resembling *A. brooksiana* has been seen from the North American mainland supports this contention.

## EXPLANATION OF PLATE XVI

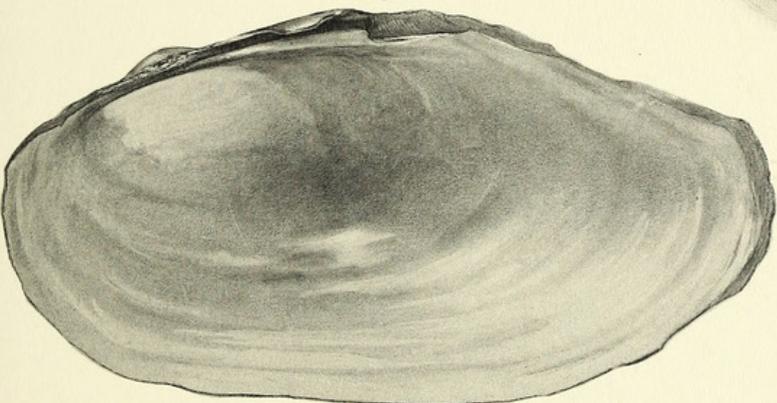
- FIG. 1. *Anodonta brooksiana*, type. (a) external view; (b) internal view; (c) dorsal view.
- FIG. 2. Beak sculpture of a young specimen of *Anodonta brooksiana* collected at Long Run Pond, Ferryland District, Newfoundland.
- FIG. 3. Beak sculpture of a young specimen of *Anodonta marginata* Say collected at Junction Pond, Whitbourne, Newfoundland.



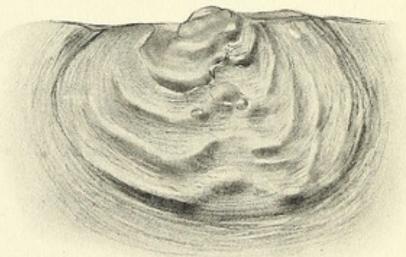
1a



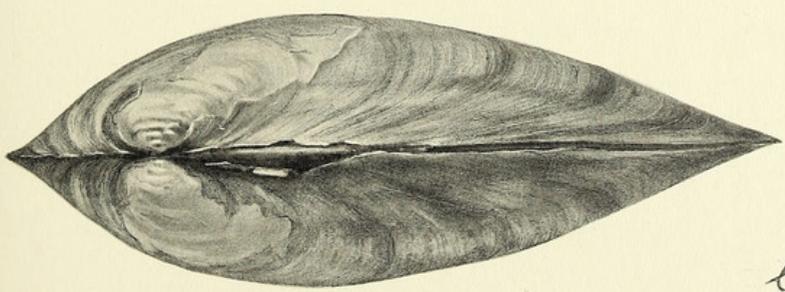
2



1b



3



1c

*Grace Eager*



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