

E 1115
KEIM
1918NOTES ON THE GLOCHIDIA OF STROPHITUS EDENTULUS PAVONIUS
(LEA) FROM COLORADO.

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While collecting material for class use from St. Vrain Creek, near Longmont, Colorado, December 6, 1817, 25 specimens of *Strophitus edentulus pavonius* (Lea) (det. J. Henderson) were obtained. Of these, 15 contained large numbers of well-developed glochidia. These glochidia soon freed themselves from the cords when the cords were placed in water after being removed from the gills of the parent mussels, and each individual glochidium began active snapping movements. Many individuals lived for two or three days after leaving the cords and continued active all the while.

This record of gravid specimens of *Strophitus edentulus pavonius* is later in the year than any record given by Surber (Bur. Fish. Doc. 771, 1912) for *Strophitus edentulus* from the Mississippi River, November being the last month in which he found glochidia-bearing individuals of that species.

When compared with the figures and description given by Surber (l. c.) for *Strophitus edentulus*, the glochidia of these Colorado mussels of the variety *pavonius* were found to differ in both size and proportion from the *Strophitus edentulus* type. As these differences may have some taxonomic significance, occurring as they do in the glochidia of a variety of *Strophitus edentulus* taken near the western edge of the range of that variety, the following description of the glochidium of *Strophitus edentulus pavonium* is given.

General shape that of the *Anodonta* type as given by Surber (l. c.) but of a form intermediate between that of *Strophitus edentulus* (fig. 3, l. c.) and that of *Anodonta grandis* (fig. 45, l. c.); hinge line straight; depth slightly greater than the length; marginal spines three, well developed, the median spine being slightly longer than the two lateral spines; from seven to ten rows of spines, counting the marginal row, on each valve; end of the adductor muscle showing from 35 to 50 distinct bundles of fibers. The exact measurements of 20 specimens are given below.

<i>Length in micra</i>	<i>Depth in micra</i>	<i>Length in micra</i>	<i>Depth in micra</i>
254	280	260	264
256	260	260	264
258	264	260	280
260	266	264	274
260	280	266	272
260	272	266	272
260	270	268	272
260	272	270	280
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The modal average of the specimens examined gives an average length of about 260 and an average depth of about 270, the range of variation being 254 to 272 for the length and 260 to 280 for the depth. Surber (p. 8, l. c.) states that the length is greater than the depth in *Strophitus edentulus* and gives 350 for the length and 285 for the depth as average measurements.

The behavior of the living glochidia was interesting in the light of the work of Lefevre and Curtis (Bur. Fish. Doc. 756, 1912) on the metamorphosis of *Strophitus edentulus* without parasitism. These writers state (p. 173) that they were unable to bring about the attachment of the glochidia to fish. Our glochidia of *Strophitus edentulus pavonius* were offered gills from the Topminnow, *Fundulus zebrinus* Jordan & Gilbert and of the Sunfish *Lepomis cyanellus* Rafinesque (these two species of fishes are found in St. Vrain Creek) immediately after the gills were removed from the body of the fish. Fish blood caused an evident increase in the activity of the glochidia and several glochidia seized gill filaments. Once attached the glochidia remained on the gill filament until the experiment was discontinued, i. e. for several hours. No attempt to infect living fish with the glochidia of *Strophitus edentulus pavonius* was made, but the behavior of the living glochidia suggests physiological differences between the glochidia of *Strophitus edentulus* and these western specimens of *Strophitus edentulus pavonius*.

University of Colorado, May, 1918.