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SOME OBSERVATIONS ON THE OVA OF UNIONIDÆ.

BY L. S. FRIERSON.

When the ova of those species of Unionidæ, with which I am acquainted, are first noted in the marsupia, they are spherical in shape, and consist of a single mass of yolk, surrounded with a clear fluid, probably albumen, all confined in a spherical egg-shell membrane. Soon after fertilization takes place, the yolk undergoes segmentation, and goes through a "mulberry" stage, and finishes with the familiar glochidium. Several interesting facts have been noted, which may prove of interest. Some young ova of a *Quadrula trapezoides* Lea were under observation, and being called off a short time, on my return I noticed that some of the ova had changed their

shapes in the interim.
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Close observation showe
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The other case was
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the axis was fixed for e
no relation to anything
Some were horizontal,

This revolution was e
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A solution of salt wou
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curious to know if alcoh
drop on the slide. In a
effervescence took plac
open! Apparently the en
as to burst the membran

Frierson, La., August,

SPHÆ

Mussel large, almost
curved, with slightly m
into the supero-anterio
marked; scutum and e
posterior ends rounded,
near or in the middle in

shapes in the interim. Some of these ova resembled dumb bells in shape (except that the two balls were in close juxtaposition). Close observation showed that on the side of the spherical vitellus would appear a slight bump or projection. This would slowly grow until it had become as large as the remainder of the yolk, thus producing the dumb bell, apparently the fluid contents of the yolk would pour itself from one ball into another, and a motion similar to that of the well known Amœba would result.

The other case was that of the ova of *Anodonta imbecillis* Say, which were in the mulberry stage. These were revolving about an axis, making in some instances six complete turns per minute, while the axis was fixed for each individual, the direction of this axis bore no relation to anything that I could see, but were in every direction. Some were horizontal, others perpendicular and many oblique.

This revolution was confined to the inside of the shell. The egg as a whole remaining unmoved, neither the cause or object of this rotation could be noted or conjectured by me. Possibly when packed together in the marsupium, the motion would influence the shell, and so in a measure prevent *congestion* in the narrow gill passages.

A solution of salt would in a minute or two cause a visible contraction of the vitellus, and the stoppage of the motion. Being curious to know if alcohol would stimulate their motions I placed a drop on the slide. In an instant an appearance resembling a violent effervescence took place, and at its close every egg-shell had *burst open*! Apparently the endosmosis had so far exceeded the exosmosis as to burst the membranes.

Frierson, La., August, 1906.

SPHÆRIUM HENDERSONI N. SP.

BY V. STERKI.

Mussel large, almost equipartite, well inflated; superior margin curved, with slightly marked rounded, or no angles where passing into the supero-anterior and posterior slopes which are slightly marked; scutum and especially scutellum distinct; anterior and posterior ends rounded, the latter scarcely drawn downward; beaks near or in the middle in half-grown and adult specimens, markedly