

NEW FRESH-WATER SHELLS FROM THE OZARK MOUNTAINS.

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Of Dubois, Illinois.

During August, 1914, the writer spent two weeks collecting in the Ozark region, chiefly at Galena, Missouri; Cotter, Norfolk, and Black Rock, Arkansas. An interesting series of fresh-water species was obtained, of which several appear to be new. Descriptions of these are given below with a list of the species collected.

ANCULOSA ARKANSENSIS, new species.

Plate 78, fig. 3.

Shell smooth, conical; whorls five, convex; suture impressed. Aperture large, oval; labrum straight, a slight sinus at the base of the columella; columellar callus brown, thick and curved across the parietal wall, slightly indented in the umbilical region. Shell yellowish or straw-color externally with six faint, narrow, brownish bands, showing the same in the aperture. The type, Cat. No. 271764, U.S.N.M., measures: Height, 10 mm.; diameter, 7 mm.

This species was found in the North Fork of White River 2 or 3 miles above Norfolk, Arkansas. A very few were taken at Cotter, Arkansas.

This is the first *Anculosa* known from west of the Mississippi River. Compared with *A. subglobosa*, it is smaller, spire more produced, aperture not as wide. It is nearer to *A. virgata* but is smaller, more solid, lighter colored, and has the character of the bands different when present.

The more elevated specimens resemble short wide forms of *Goniobasis plebeius*, but that species has an angular body-whorl and differs in the aperture and callus. The difference is strongly marked in the young specimens. The young *A. arkansensis* has a striking resemblance to some of the species of *Somatogyrus*. An occasional specimen has two broad bands with a light zone between of about the same width. A light-colored band below the suture is shown on many specimens.

PYRGULOOPSIS OZARKENSIS, new species.

Plate 78, fig. 2.

The shell is imperforate, conical, smooth, whitish horn-colored; whorls five, convex; the suture impressed. The aperture is holostomate, oblique, widely ovate; columellar callus thick, the outer edge slightly raised, and curved. The outer lip thickened, extending beyond the outline of the spire. The type, Cat. No. 271765, U.S.N.M., measures: Height, 3 mm.; diameter, 1.5 mm.

Found in shallow water on the bedrock of the North Fork of White River, 2 or 3 miles above Norfolk, Arkansas, on August 14, 1914.

Differs from *P. wabashensis* in the convex whorls, deeper suture, wider aperture, and the conical outline.

SOMATOGYRUS CRASSILABRIS, new species.

Plate 78, fig. 1.

Shell small, depressed, translucent whitish horn-color, of about four whorls; surface smooth but not polished, sculptured only with rather sharp but not conspicuous incremental lines; whorls rapidly increasing in size, markedly flattened in front of the suture, thence evenly rounded; base rounded, with a minute but distinct umbilicus; aperture obovate, the margin continuous, duplex, moderately and evenly thickened; aperture bluish white within. The type, Cat. No. 271763, U.S.N.M., measures: Height, 4.5 mm.; maximum diameter, 3.5 mm.

Collected by A. A. Hinkley, in 1914, in North Fork of the White River, at Norfolk, Arkansas.

LIST OF SPECIES COLLECTED.

G=collected at Galena, Missouri; C=collected at Cotter, Arkansas; N=collected at Norfolk, Arkansas; B=collected at Black Rock, Arkansas; S=collected at Spring River.

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| <i>Truncilla triquetra</i> Rafinesque, C. | <i>Cyprogenia aberti</i> Conrad, C. N. B. S. |
| <i>Lampsilis ventricosus</i> Barnes, G. C. N. B. S. | <i>Obliquaria reflexa</i> Rafinesque, B. S. |
| <i>Lampsilis breviculus brittsi</i> Simpson, G. C. N. | <i>Ptychobranchus clintonensis</i> Simpson, G. C. N. |
| <i>Lampsilis luteolus</i> Lamarck, G. C. | <i>Strophitus edentulus</i> Say, G. C. N. B. S. |
| <i>Lampsilis ellipsiformis</i> Conrad var., G. C. | <i>Anodonta imbecilis</i> Say, G. |
| <i>Lampsilis ligamentinus</i> Lamarck, G. B. S. | <i>Anodonta suborbiculata</i> Say (pond), S. |
| <i>Lampsilis orbiculatus</i> Hildreth, C. N. B. S. | <i>Anodonta grandis</i> Say, C. |
| <i>Lampsilis rectus</i> Lamarck, G. C. N. | <i>Symphynota complanata</i> Barnes, C. |
| <i>Lampsilis subrostratus</i> Say, G. | <i>Symphynota costata</i> Rafinesque, G. C. N. B. S. |
| <i>Lampsilis lienosus</i> Conrad, N. | <i>Alasmidonta calceola</i> Lea, G. C. |
| <i>Lampsilis iris</i> Lea, G. C. | <i>Alasmidonta truncata</i> B. H. Wright, G. C. N. B. S. |
| <i>Lampsilis glans</i> , G. | <i>Unio gibbosus</i> Barnes, G. C. N. B. S. |
| <i>Lampsilis purpuratus</i> Lamarck, C. S. | <i>Pleurobema uterbacki</i> Frierson, G. C. N. S. |
| <i>Lampsilis gracilis</i> Barnes, C. N. B. S. | <i>Quadrula perplicata</i> Conrad, C. N. |
| <i>Lampsilis leptodon</i> Rafinesque, G. C. | <i>Quadrula undulata</i> Barnes, G. B. S. |
| <i>Obovaria ellipsis</i> Lea, B. | <i>Quadrula trapezoides</i> Lea, B. |
| <i>Plagiola securis</i> Lea, C. N. B. S. | <i>Quadrula cylindrica</i> Say, C. N. B. S. |
| <i>Plagiola elegans</i> Lea, C. N. B. | <i>Quadrula mctanевра</i> Rafinesque, B. S. |
| <i>Plagiola donaciformis</i> Linnaeus, B. | |
| <i>Tritogonia tuberculata</i> Barnes, C. N. B. S. | |

- Quadrula pustulosa* Lea, C. N. B. S.
Quadrula trigona Lea, G. N. B. S.
Quadrula coccinea Conrad, C. N.
Quadrula solida Lea, C. N. B. S.
Quadrula pyramidata Lea, B. S.
Quadrula plena Lea, S.
Quadrula ebena Lea, N. B. S.
Quadrula tuberculata Rafinesque, G. C. N. B. S.
Sphaerium, species, C.
Sphaerium striatinum Lamarck, G.
Musculium transversum Say, G. N.
Pisidium, species, G. C.
Pisidium sargenti Sterki, G.
Pisidium compressum Prime, G.
Pisidium punctatum Sterki, G.
Pisidium friersoni Sterki, G.
Pisidium virginicum Bourguignat, G. N.
Campeloma subsolida Anthony, G. C. N. B. S.
Campeloma, species? B.
Vivipara contectoides Pinney (pond), S.
Vivipara subpurpurea, Say B.
- Somatogyrus crassilabris* Walker, N.
Somatogyrus subglobosus Say, B. S.
Amnicola cincinnatiensis Anthony, G. C. N. B. S.
Amnicola emarginata Küster, B.
Pyrgulopsis ozarki Hinkley, N.
Angitrema verrucosa Rafinesque, B. S.
Pleurocera elevatum Say, G. C. B.
Pleurocera subulare Lea, C. N.
Pleurocera moniliferum Lea, N.
Pleurocera alveare Conrad, B. S.
Pleurocera plicata Tryon?, C. N.
Goniobasis plebius Anthony, G. C. N.
Goniobasis, species, N.
Anculosa arkansasi Hinkley, C. N.
Physa gyrina Say G. C. N.
Physa crandalli Baker, G.
Planorbis (Helisoma) trivolvis Say, G. C.
Planorbis (Helisoma) bicarinatus Say, C.
Planorbis (Gyraulus) parvus Say, G.
Planorbis sampsoni, G.
Lymnaea obrussa Say, G. N.
Succinea concordialis Gould, G.



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FRESH-WATER SHELLS FROM THE OZARK MOUNTAINS

FOR EXPLANATION OF PLATE SEE PAGE 589.