

and, this action is quite illegitimate. For the name of "*fusca*," apparently introduced (p. 53) for f. 4, pl. 235, of Sowerby's

represents a group rather than a species, *D. spinosum* H. & A. Adams, Genera *Ricinula*, f. 12b; *D. iostomus* A. Adams, and Gardiner, Fauna Laccadive, Pl. *usii*, Smith, P. Mal. Soc., VIII, 1909, is known under *Ricinula*, *sensu stricto*, may be a synonym; *synonyms in italics*.

1798.
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 Adams, 1853.
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SPRING COLLECTING IN SOUTHWEST VIRGINIA.

BY CALVIN GOODRICH.

Early in May last I joined Dr. Ortman at Charleston, W. Va., for two weeks among the richly-stored sources of the Tennessee. The road took us along the Kanawha for an hour or two, and then making a sudden turn swung into the mountains, every slope and valley of which was a lure to the winter-wearied collector. At Princeton we transferred to automobile and, packed amid the hand baggage like shells in a box, were driven into Bluefield, just over the line from the older Virginia.

The first collecting was in the Clinch at Cedar Bluff, Tazewell Co., Va., where there is a long shoal upon a wide and picturesque bend. The river ran swiftly, but not more swiftly than word to the local chief of police. Through him and a zealous deputy we learned two interesting facts, that the Puritan Sunday is not passed completely into history, and that the idea of assessing fines without the formality of trial or pronouncement from the bench is in as good standing in the Appalachians as among the police in the bigger centers of population. However, the village powers did not agree with the chief's conviction as to our condition of hopeless sinfulness, and with a friendliness which paid for the adventure they bade us return to the river.

Pleurocera uncialis Hald. and *Anculosa subglobosa* Say, with *Goniobasis simplex* Say, in smaller numbers, were on every stone. *Io* here was all of the smooth form described by Anthony under the name of *inermis*. This locality is some miles above the uppermost locality for *Io* recorded by Adams. Working among the rocks and in the swifter water of the right bank, Dr. Ortman collected *Fusconaia bursa-pastoris* (Wright), *Truncilla capsaeformis* (Lea), *Ptychobranthus subtentus* (Say), *Eurynia perpurpurea* (Lea) and *Eurynia nebulosa* (Conrad), while in the sandy ground along the left bank the predominating species were *Quadrula cylindrica strigillata* (Wright), *Medionidus conradicus* (Lea), *Strophitus edentulus* (Say) and *Lampisilis multiradiata* (Lea). *Symphynota costata* (Raf.) was everywhere, and because of its manner of hiding all except the edges of the valves it became a source of irritation. The shells had to be dug out, if only to learn that they were not of some other and desired

species. The catch of *Unios* at Cedar Bluff was eighteen species, among them some riddles in *Pleurobema*, which at last account were still making trouble for the Doctor. Out of the drift at the head of the rapids we picked *Sphæria*, which Dr. Sterki has kindly identified as *Sphærium fabale* Pme., *S. solidulum* Pme., *Pisidium virginicum* Gmel., *P. compressum* Pme., and three individuals "apparently near *P. noveboracense* Pme." The next morning I climbed the bluff and found *Polygyra albolabris major*, *rugeli*, *thyroides*, *zaleta* and *stenotrema*; *Gastrodonta acerra* and *gularis*; *Omphalina fuliginosa*, *Zonitoides arborea* and the umbilicated form of *Vitrea indentata*. The weather had been dry for weeks, and the land mollusca had to be dug for. I uncovered *Lymnæa obrussa* and *Succinea avara* glued to leaves in a dried-up brook.

Our next jump was to St. Paul, Wise Co., Va., still on the Clinch. Decided differences were to be remarked in the fauna. In the rapids opposite Fink station, Russell Co., a mile or so above St. Paul, were *Fusconata edgariana* (Lea), *Crenodonta undulata* (Barnes), *Ptychobranthus phaseolus* (Hild.), and *Nephronaias perdix* (Lea), none of which had appeared at Cedar Bluff. The *Io* at this station was beginning to assume nodules. One specimen equals *Io lurida* of Reeve. *Anculosa subglobosa* Say, which at Cedar Bluff was wholly without bands, so far as we noted, was almost universally banded in the rapids at Fink. To me they seemed also to run larger. In the material brought away from this place appeared *Pleurocera tenebrocinetum* Anth. and *P. opaca* Anth.

The following morning Dr. Ortman went to Cleveland, Russell Co., up the river, whence he returned aglow with enthusiasm over the discovery of twenty-five species of *Naiades*, while I had a try for land shells among the Russell county hills. The most interesting observations were that the *Polygyra appressa*, *rugeli* and *thyroides* of the region seemed to prefer the stray logs of the high pastures to the woods, that the ratio of banded *Polygyra profunda* to unbanded was 1 to 10, and that there thrived here a *Succinea ovalis* Say, of quite surprising size, one specimen reaching 25 mm., the extreme recorded by Binney. Though the dead of this species was plentiful, only one living individual was found. In brooks fed by hillside springs, I came upon a few specimens of *Pomatiopsis cincinnatiensis* Lea, *Paludestrina nickliniana* Lea, and *Lymnæa obrussa* Say.

(To be concluded).

HELIX HORTENSIS:
the first survey of Casco
have allowed the inhabi
Cows and three Mark I
these certainly add confu
distribution.

The "Brown Cow" Is
should be Western Brow
an eastern and a western
one that has been referre
Although *Helix hortensis*
less abundant there. E
island about ten miles ea
Dr. J. A. Cushman also
the variety *subglobosa*.

The "Swan Island" r
for October, should have
eastern side of Cape Sma
the Seal Island, or Sea
hortensis is also found.

LYMNÆA (RADIX) AU
MASS.—Since Mr. W. I
species in the Charles r
seems to have greatly inc
ton, has found it in num
Speedway.

MR. T. H. ALDRICH ha
not far from 20,000 name
Geological Survey. The
in a New York village w
includes not only his own
of the world, but many lar
collected by Col. Nicholas
muda and Nova Scotia coi
net of about 5,500 listed

The type-set is from Gas-

Structure identical with that of *F. subrotunda*. Anal opening separated from the supra-anal by a very short mantle connection, with fine but distinct crenulations. Branchial with papilla. Posterior margins of palpi connected for about one-third to one-half of their length.

Gills short and wide, the inner wider. Inner lamina of inner gill free from abdominal sac, except at its anterior end. In the female, all four gills have marsupial structure. None of the females was gravid.

Color of soft parts generally of the orange type, with foot, adductors and mantle margin often deep orange, rarely paler. In a few specimens the soft warts were pale brown to whitish. Gonads in most females intensely red (crimson); also in the males more or less red or pink, but in the latter they were in some cases brownish gray.

(To be continued.)

SPRING COLLECTING IN SOUTHWEST VIRGINIA.

BY CALVIN GOODRICH.

[Concluded from page 82.]

Some additions were made the next morning to Dr. Ortman's Naiad list of the Clinch a mile and a half below St. Paul: *Micromya caelata* (Conrad), *Eurynia recta* (Lam.), and *Nephronaias ligamentina gibba* (Simpson), closely allied to *N. perdix* (Lea). *Io* at this point was seemingly all provided with tubercles. The shells were to be found on the larger stones on the up-stream side, or under an up-stream shelf, in the swifter water. An occasional one appeared in relatively quiet water. The white disintegrating shells of *Campeloma decisum* (Say), were common on the flood plain here.

Our next collecting spot was in the South Fork of the Powell river at Big Stone Gap, Wise Co., Va. The Doctor tackled the stream at once, while I climbed the big ridge, which hangs over it, in search of land material. The ridge proved to be entirely of sandstone and was as barren of molluscan life as the ordinary town lot, no bones at all being seen and only two living individuals, juvenile *Polygyræ*. Joining Dr. Ortman after a couple of hours, I found

identical with that of *sub-*
and females, but on May 25
glochidia were present.
ovicles only partly charged,
was empty, while the distal
This shows that the pla-
ns. Glochidia identical in
and *kirtlandiana* (Ortman,
1). Length, 0.13; height,

ight). (See *Quadrula b.-p.*

er, at Richland and Raven
912.

him happy over the plentifulness of the *Naiades*; they made up in this and in new interest what they lacked in variety. The most striking fact was that while *Eurynia vanuxemensis* (Lea), was unknown to the Clinch, it was one of the most common species of the Powell, at least at this station. *Io* was not seen. Two specimens only of *Anculosa subglobosa* were collected. *Pleurocera unciata*, of a heavier aspect than the species in the Clinch, and *Goniobasis simplex* were common. In flood pools, I was lucky enough to make several interesting finds: *Physa crandalli* Baker, *Planorbis bicarinatus* Say, *Lymnæa obrussa* Say, and, best of all, *Ancylus obscurus* Hald., which Mr. Walker tells me has been one of the long-lost species.

The weather turning stormy, we regretfully gave up plans for further collecting in the Powell river and in shoals of the Clinch which could be conveniently reached from Big Stone Gap. So in hopes of getting out of what might happen to be a localized storm area, we went on to Gate City, Scott Co., which brought us into the Holston drainage. Though assured that no shells had ever been seen in the Little Moccasin, which runs as a sort of decorative border to the corporation of Gate City, the results proved, as they usually do in such cases, that the resident sense of observation was of indifferent development. Two species of *Naiades* were found in this stream and, had the creek been clearer, probably more had been collected. The purple-black *Goniobasis spinella* Lea, was an easy mark in the yellow water, and many specimens were taken. The ubiquitous *Pleurocera unciata* was here and also *Goniobasis claviformis* Lea, a species new to the expedition. *Physa heterostropha* Say, covered the wooden sides of the flume of a grist mill run by this creek.

Following the Little Moccasin slowly down stream, we came to the Big Moccasin creek. Almost at once Dr. Ortmann struck a pocket of clams and in the course of a few minutes had taken seven specimens. But luck quickly deserted, a thunder shower forcing us to the protection of a covered bridge. After it was over there was nothing to do but trudge home, as the water had risen and was carrying a heavy load of clay. The *Pleuroceratidæ* of the Big Moccasin seemed to be the three species of the Little Moccasin—exceedingly eroded—and one other species, *Anculosa subglobosa*.

The weather instead of improving grew constantly worse. The Doctor decided to go to points south for a try at the Holston river

and thence across the me determined upon a search miles up the line from Gate City to the snails out, warm and twenty species being bagged. *profunda* had mostly disappeared. An species was found on the artificial tunnels. It was living just out of the natural mountain brook contained *aterina* Lea. One could stand from the rocks where they Stock creek, tributary to the natural tunnel, were tall and *Goniobasis aterina*—the *simplex*.

Acknowledgments are due to Mr. Walker, Mr. A. A. Hinkle for their suggestions, and to Mr. George for the land shells.

From a preliminary catalogue which I have his kind permission to use, it is seen that of last May had been made:

Fusconaia bursa-pastoris (Lea) Cleveland, Fink, St. Paul.

Fusconaia estabrookiana (Lea) *fassinans rhomboideum* Simons Cleveland, Fink, St. Paul, Powell, Big Stone Gap.

Fusconaia appressa (Lea) (Lea) nothing but a flattened edge. Cleveland, Fink, St. Paul.

Crenodonta undulata (Lea) (Lea) Cleveland, Fink, St. Paul.

Quadrula intermedia (Lea) (Lea) *sparsa* Lea." Clinch, Cleveland, Fink.

Quadrula cylindrica strigosa (Lea) Cleveland, Fink.

NAUTILUS.

of the *Naiades*; they made up in quantity what they lacked in variety. The most common species of the *Naiades* was *Naias vanuxemensis* (Lea), was undoubtedly the most common species of the *Naiades* was not seen. Two specimens of *Pleurocera uncialis* were collected. *Pleurocera uncialis*, of the Clinch, and *Goniobasis* *profunda* were the most common. I was lucky enough to make a collection of *Goniobasis* *profunda* Baker, *Planorbis bicarinatus*, best of all, *Ancylus obscurus* has been one of the long-lost species. I regretfully gave up plans for a search in shoals of the Clinch and in the Big Stone Gap. So it happened to be a localized storm in the Clinch, which brought us into the Clinch that no shells had ever been seen there runs as a sort of decorative stream in the Clinch, the results proved, as they showed a distinct sense of observation was that species of *Naiades* were found in the Clinch clearer, probably more had been taken. *Goniobasis spinella* Lea, was another species and many specimens were taken. *Physa heterodonta* was here and also *Goniobasis* *profunda* of the Clinch of a grist mill

lowly down stream, we came to a point where at once Dr. Ortmann struck a rock and in a few minutes had taken seven specimens, a thunder shower forcing us to take shelter. After it was over there was a heavy rain and the water had risen and was carrying a large quantity of the Big Moccasin shells. The Little Moccasin—exceedingly common—was also present.

grew constantly worse. The water was very high for a try at the Holston river

and thence across the mountains into the Atlantic drainage, and I determined upon a search for land shells at Natural Tunnel, a few miles up the line from Gate City. It was the kind of day to bring the snails out, warm and steaming, and they did prove to be out, twenty species being bagged. Here, as in Russell county, *Polygyra profunda* had mostly dispensed with bands. But *Polygyra elevata* had assumed them. An interesting depauperate colony of this species was found on the face of the cliff between the natural and artificial tunnels. It was scarcely more than half the size of *elevata* living just out of the northern mouth of the natural tunnel. A mountain brook contained a small and handsome form of *Goniobasis aterina* Lea. One could stand upright and pick these little fellows from the rocks where they lived in the spray of the falls. From Stock creek, tributary to the Clinch and the stream which carved the natural tunnel, were taken *Pleurocera uncialis*, *Goniobasis simplex* and *Goniobasis aterina*—this last surely the same or an offspring of *simplex*.

Acknowledgments are due to Mr. F. C. Baker, Mr. Bryant Walker, Mr. A. A. Hinkley and Dr. Victor Sterki for identifications, and to Mr. George H. Clapp for valuable comment on the land shells.

From a preliminary catalogue made by Dr. Ortmann, and to use which I have his kind permission, the following list of the collections of last May had been made:

Fusconia bursa-pastoris (Wright). Clinch River, Cedar Bluff, Cleveland, Fink, St. Paul.

Fusconia estabrookiana (Lea). "Synonyms, *fassinans* Lea and *fassinans rhomboideum* Simpson and others." Clinch, Cedar Bluff, Fink, St. Paul, Powell, Big Stone Gap, Big Moccasin, Moccasin Gap.

Fusconia appressa (Lea) or *edgariana* (Lea). "Practically nothing but a flattened *edgariana*." Clinch, Cleveland, Fink, St. Paul.

Crenodonta undulata (Barnes). Clinch, Cleveland, Fink, St. Paul.

Quadrula intermedia (Conrad). "Possibly *tuberosa* Lea and *sparsa* Lea." Clinch, Cleveland.

Quadrula cylindrica strigillata (Wright). Clinch, Cedar Bluff, Cleveland, Fink.

Pleurobema maculatum (Conrad). Clinch, Cedar Bluff, Cleveland, St. Paul, north fork of Holston.

Pleurobema oviforme (Conrad). "Runs into *clinchense* Lea." Clinch, Cedar Bluff, Cleveland.

Pleurobema sp.? "Looks like a flattened *obliquum* Lam." Clinch, Cleveland.

Pleurobema argentum (Lea). "With many synonyms, such as *planior* Lea and *brevis* Lea." Clinch, Cedar Bluff, Cleveland, Fink, St. Paul, Powell, Big Stone Gap, Big Moccasin, Moccasin Gap.

Elliptio gibbosus (Barnes). Clinch, Cedar Bluff, Cleveland, Fink, St. Paul, also in middle fork of the Holston.

Lastena lata (Raf.). Clinch, Cleveland, St. Paul.

Symphynota costata (Raf.). Clinch, Cedar Bluff, Cleveland, Fink, St. Paul; also in middle fork of the Holston.

Symphynota holston (Lea). "Not an *Alasmidonta*." Clinch, Cedar Bluff, Powell, Big Stone Gap, Little Moccasin, Gate City.

Alasmidonta minor (Lea). Clinch, Cedar Bluff, Cleveland, Fink, St. Paul; also in the Holston.

Alasmidonta marginata (Say). Clinch, Cleveland, Fink, St. Paul; also in middle fork of Holston.

Strophitus edentulus (Say). Clinch, Cedar Bluff, Cleveland, St. Paul.

Micromya caelata (Conrad). Clinch, St. Paul.

Ptychobranthus phaseolus (Hild.). Clinch, Cleveland, Fink, St. Paul.

Ptychobranthus subtentus (Say). Clinch, Cedar Bluff, Cleveland, St. Paul; in middle fork of Holston.

Nephronaias ligamentina gibba (Simp.). Clinch, St. Paul.

Nephronaias perdix (Lea). Clinch, Cleveland, Fink, St. Paul.

Medionidus conradicus (Lea). Clinch, Cedar Bluff, Cleveland, Fink, St. Paul, Powell, Big Stone Gap, Big Moccasin, Moccasin Gap.

Eurynia fabalis (Lea). Clinch, Cleveland, St. Paul.

Eurynia perpurpurea (Lea). Clinch, Cedar Bluff, Cleveland, St. Paul.

Eurynia nebulosa (Conrad). Clinch, Cedar Bluff, Cleveland, Fink, St. Paul, Powell, Big Stone Gap, Big Moccasin, Moccasin Gap.

Eurynia vanuxemensis Moccasin, Gate City, Big Holston."

Eurynia recta (Lam.).
Lampsilis ovata ventric land, Fink, St. Paul.

Lampsilis multiradiata Fink, St. Paul, Big Mocc

Truncilla capsaeformis Fink, St. Paul, Big Mocc

In September, 1912,
Truncilla haysiana (Lea) county, Va. This species

ANOTHER NOTE ON
It may be of interest to lovers of rare books, to be "Universal Conchologist" large folio, bound in magnificent copy in the Star vol. XXII, 1908, p. 72), plates (vols. I-11). The variation, but the sumptuous the work in French, dated neither this copy nor that as has been described for from a Paris dealer and a

The opportunity should be crept into my former note *fourth* volume of the Star planatory table; vol. III

LAND SHELLS FROM EN were taken in a few hours of the Union River, just sent to Mr. George H. Cl

Eurynia vanuxemensis (Lea). Powell, Big Stone Gap, Little Moccasin, Gate City, Big Moccasin, Moccasin Gap. "Common in Holston."

Eurynia recta (Lam.). Clinch, St. Paul.

Lampsilis ovata ventricosa (Barnes). Clinch, Cedar Bluff, Cleveland, Fink, St. Paul.

Lampsilis multiradiata (Lea). Clinch, Cedar Bluff, Cleveland, Fink, St. Paul, Big Moccasin, Moccasin Gap.

Truncilla capsaeformis (Lea). Clinch, Cedar Bluff, Cleveland, Fink, St. Paul, Big Moccasin, Moccasin Gap.

In September, 1912, Dr. Ortmann found a single specimen of *Truncilla haysiana* (Lea) in the Clinch river at Raven, Tazewell county, Va. This species was missed in the visit of last May.

NOTES.

ANOTHER NOTE ON MARIYN'S UNIVERSAL CONCHOLOGIST.—It may be of interest to those readers of THE NAUTILUS who are lovers of rare books, to learn that there is now a fifth copy of the "Universal Conchologist" in the United States. The volumes are large folio, bound in morocco and gold, and essentially like the magnificent copy in the Stanford University Library (see NAUTILUS, vol. XXII, 1908, p. 72), except that they comprise only the first 81 plates (vols. I-II). The plates are themselves in excellent preservation, but the sumptuous binding is badly worn. A prospectus of the work in French, dated 1787, is laid into the second volume. In neither this copy nor that at Stanford is there any plate of medals, as has been described for other editions. The volumes were acquired from a Paris dealer and are now in the private library of the writer.

The opportunity should be taken to correct a slight error which crept into my former note in these pages as above cited. It is the *fourth* volume of the Stanford University copy which lacks the explanatory table; vol. III appears to be complete.—S. S. BERRY.

LAND SHELLS FROM ELLSWORTH, MAINE.—The following species were taken in a few hours' collecting October last along the shores of the Union River, just below Ellsworth, Maine. The shells were sent to Mr. George H. Clapp, who kindly identified them for me: