FISHES TAKEN NEAR SALEM, OHIO.

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The present short list is published, not because of any records of special interest, but in order that a record may be made of the fish known certainly from the headwaters of Beaver Creek. In the case of fish the most logical and significant way to indicate distribution is certainly by streams, and a very small contribution to the ichthyology of the above named stream is here presented.

About three-fifths of Columbiana County is drained by Beaver Creek, one-fifth by the Mahoning River and streams leaving the county to the west, while the remainder enters the Big Yellow and Little Yellow Creeks. Beaver Creek is practically confined to Columbiana County, though it empties into the Ohio River in Pennsylvania at Smith's Ferry, just above the state line. The relation of Beaver Creek to the Mahoning River is interesting, the two being in general, arcs of concentric circles with the Mahoning outside. A person going directly west from Salem crosses Middle Fork of Beaver Creek first, then the Mahoning, and the same is true if he goes directly north or directly east. South-west of Salem the small streams empting into the Mahoning have not been seined. From one of these Herman McCane has taken a specimen of Ichthyomyzon concolor which is preserved in the Salem High School collection with the other species here recorded. All the other streams in close proximity to Salem are part of the system of the Middle Fork of Beaver Creek, with the exception of Cold Run, which flows almost directly south into the West Fork of Beaver Creek, the stream thus formed soon being augmented by the waters of the North Fork.

Seining has been done only near Salem in small tributaries and where Middle Fork has an average width of not more than ten or twelve feet. Mr. Albert Hayes, Mr. J. S. Johnson and Mr. F. W. Webster have helped me draw the seine. Mr. Webster has also given me many valuable suggestions as to suitable localities.

1. Ameiurus melas (Raf.). Rare, only in main stream.
2. Catostomus commersonii (Lac.). Common, main stream and tributaries.
3. Catostomus nigricans Le S. Taken only in a small tributary.
4. Moxostoma aureolum (Le S.). In a small tributary.
5. Cyprinus carpio L. Only in main stream.
6. Campostoma anomalum (Raf.). Everywhere.
7. Chrosomus erythrogaster Raf. In two small tributaries.
8. Pimephales promelas Raf. In main stream only.
9. Pimephales notatus (Raf.). Everywhere.
10. Semotilus atromaculatus (Mitch.). Everywhere.

11. Leuciscus elongatus (Kirt.). In one tributary and in Cold Run. The iridescent coppery red of the sides anteriorly in the living fish, taken in October, turned scarlet in alcohol.
12. Abramis chrysoleucas (Mitch.). Taken only in main stream.
13. Notropis cayuga Meek. A single specimen taken in Cold Run.
14. Notropis cornutus (Mitch.). Everywhere.
15. Notropis rubrifrons (Cope). Taken only in main stream.
16. Notropis umbratilis lythrurus (Jordan). Taken only in main stream.
17. Ericymba buccata (Cope). Everywhere.
18. Rhinichthys atronasus (Mitch.). In the smallest tributaries.
19. Hybopsis amblops (Raf.). In Cold Run.
20. Hybopsis kentuckiensis (Raf.). Taken only in Cold Run, a single specimen.
21. Umbra lima (Kirt.). Taken only in the main stream.
22. Eucalia inconstans (Kirt.). Taken only in the main stream.
23. Ambloplites rupestris (Raf.). In main stream and one tributary.
24. Apomotis cyanellus (Raf.). Taken in Cold Run.
25. Lepomis megalotis (Raf.). Taken only in the main stream.
26. Eupomotis gibbosus (Lin.). One specimen taken in a tributary; determined by Dr. Evermann. Numbers 25 and 26 probably represent one speeies.
27. Micropterus dolomieu Lac. Taken only in the main stream.
28. Boleosoma nigrum (Raf.). Everywhere.
29. Etheostoma flabellare Raf. In the main stream and Cold Run.
30. Cottus ictalops (Raf.). Taken only in Cold Run.

MR. A. J. PIETERS, Assistant Botanist in the U. S. Dept. of Agriculture, has written an interesting and useful article* on the plants of western Lake Erie. This report should be read by all who are interested in the hydrophytes of Ohio, or in the flora and fauna of Lake Erie. In addition to some introductory remarks, the paper treats of the plants in Put-in-Bay, in Squaw Harbor, near Gibraltar Island, in Hatchery Bay and in the open lake, and the plants of East Harbor. The swamp vegetation is also discussed, including the plants in the Portage River swamps and in the swamps about Sandusky Bay. The ecological conditions and the ecological adaptations of the flora are treated quite fully, and at the end are given alphabetical lists of the plants studied, including angiosperms, stoneworts and desmids.

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*A. J. PIETERS. "The Plants of Western Lake Erie, with Observations on their Disitrbution." Bull. U. S. Fish Commission, 1901, pp. 57-79. Pls. 11-20.