

Copy to: H. A. Lamley

INSTITUTE FOR FISHERIES RESEARCH
UNIVERSITY MUSEUMS
UNIVERSITY OF MICHIGAN
ANN ARBOR, MICHIGAN

Report 281

April 15, 1935

REPORT ON A SMALLMOUTH BASS FROM LAKE HAMLIN, MASON COUNTY, MICHIGAN

On the morning of April 13, 1935 the Institute for Fisheries Research received a box from the express company containing a fish, which was sent us by Mr. H. A. Lamley, Project Superintendent of the Ludington State Park. The fish was well iced and packed, and reached us in good condition.

The same morning's mail brought a letter from Mr. Lamley, a copy of which is given below:

Pursuant to a request from Mr. Goodwin we are shipping, by express, a specimen of bass taken from Lake Hamlin in a dying condition. This is one of the hundreds recently washed up on shore and apparently is a victim of some gill infection.

Will you kindly diagnose the case and offer suggestions as to what can be done, if anything.

As we have no means for prepaying transportation charges we are sending this specimen collect.

(Signed) H. A. Lamley

An examination of the fish showed that:

The fish, a smallmouth bass, Micropterus dolomieu weighed 3 lbs., 7 oz., was 14 3/4 inches long in standard length and 18 inches in total length. Mr. Gerald Cooper of the Institute staff examined some of the scales and pronounced the fish to be ten years old.

The fish was normal in appearance externally; the fins were not unduly frayed, there were no definite signs of body or head injuries, and no excessive amount of mucus on body, head or fins.

An examination of the gills showed marked evidences of a gill infection. Quite a few of the gill filaments were missing, having apparently been eaten away or sloughed off; other gill filaments were greatly deformed either by being curled or enlarged at their free ends. Evidence indicates some bacteriological disease, followed by a secondary infection of fungus growth. The gills were also

heavily coated with mucus, which is usually the case when large amounts of bacteria or fungus are present.

An examination of the viscera (internal organs) showed a most advanced case of parasitism by the tapeworm Proteocephalus (probably Proteocephalus ambloplites). The entire viscera had, through the action of these tapeworms, become fused or bound together, and the pathological changes in the various organs was so great as to make their identification difficult. In fact, the pathological changes in the gonads were so great that it was impossible to sex the fish.

Either the condition of the gills or of the viscera was sufficient to have eventually caused the death of this fish. It is quite probable that the fish was infected by the tape worm infection first, that the gill infection was more recent, and that the combination of these two hastened the death of the fish.

The important question of "What can be done about either of these two diseases" is not answerable at present. To date, some work by parasitologists and bacteriologists have been done on these two diseases. As yet no means of controlling them (especially the one caused by Proteocephalus) have been found, though some success in control has been had in bass hatchery ponds.

Whether one or both of these diseases is the direct cause of the "hundreds [of fish] recently washed up on shore" at Hamlin Lake cannot be told from the examination of this one specimen. It is quite possible that one or both of these diseases is the primary cause, though it is also possible that some other agent was at work. Late winter apparently finds the fish's vitality in lakes at a low ebb, for at that season the mortality of fishes in lakes is often higher than at any other period of the year.

INSTITUTE FOR FISHERIES RESEARCH

Milton B. Trautman

Milton B. Trautman
Assistant Director