

Original: Fish Division
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REPORT NO. 428

INFESTATION OF BLUEWATER LAKE CRAPPIES
WITH PARASITIC LEECHES

A shipment of four small crappies from Bluewater Lake, New Mexico was received July 21, 1937 from Mr. Elliott S. Barker, State Game Warden of New Mexico.

In an accompanying letter he states that an epidemic of leeches has appeared on the fish of the lake, infesting mostly crappie but being present on the perch and bass.

He states in part:

"These leaches appeared very suddenly and attached themselves principally to the pectoral fins and at the base of these fins. They apparently destroy the membrane between the fin spines and suck the blood from the fish causing their death. Where sores have developed on the sides of the fish, a fungus has resulted, which, however, was secondary to the damage done by the leaches, and then the fungus growth becomes infested with water mites. Up until yesterday only small fish, consisting principally of last year's crappie, had died. Perhaps a few thousand of that size have already perished, but all of the larger crappie are heavily infested and we found some bass and perch also with the leaches attached, but so far none of the larger fish have been killed.

"Bluewater Lake is an irrigation reservoir, containing about 2,000 surface acres and now 75 feet deep at the dam and is fed by snow run off water and flood water from rains with a little bit of permanent creek water flowing into it. There was a rise of about 40 feet in the lake this spring, and it has been somewhat muddy or roily all season, having only recently cleared up a little. It is located at an elevation of about 7,500 feet and never gets very warm."

An examination of the fish sent in revealed the presence of the leeches on the body in various locations. These leeches proved to be a form usually parasitic on fishes and belonging to the family Ichthyobdellidae,

genus Fiscicola (?).

The pathological features found were essentially as described by Mr. Barker. The pectoral fins were badly frayed and fungused, and the sides of the body back of and above the pectorals was chaffed and fungused. The gills were almost colorless and with only a small amount of blood in the gill artery visible. The heart was practically empty and the sinus venosus in which most of the blood is usually found contained only a small amount. No other pathological features were observed.

From the presence of the leeches and the lack of blood, the diagnosis is death due to a severe anemia.

An interesting fact is that only the smaller fish were dying in any numbers. This is to be expected from the fact that the smaller fish have less blood than the larger forms and that the removal of a small amount of blood would have a more damaging effect on the small fish.

The specimens examined were two year old crappies with a growth history as follows:

Age	Total Length (inches)	Calculated length at end of each year	
		I	II
II	4.2	1.4	3.5
II	4.2	1.3	3.6
II	4.4	1.4	3.6
II	4.2	1.2	3.4
Average	4.25	1.3	3.5

Unfortunately no method of control is known for an epidemic of this kind and no suggestions can be made as to prevention of future epidemics.

The life history of the leech involved is not definitely known but is supposed to be similar to other leeches in that eggs are deposited and hatch out into small free-swimming forms which sooner or later attach themselves to a fish.

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