

Hesterman

copy to Frank L. Snipes

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FISH DIVISION

INSTITUTE FOR FISHERIES RESEARCH

January 20, 1932

Report No. 120

ON DEATH OF YEARLING LOCH LEVEN AND BROOK TROUT IN NORTHVILLE

On this date, Mr. Carmen from the U. S. hatchery at Northville brought into the Institute 7 yearling Loch Leven 55 to 84 mm. in standard length and 2 brook trout yearlings 104 and 114 mm. long. These had all recently died, with the exception of one which was picked up dying. He also brought a sample of apparently healthy fish of the same species and age.

The brook trout showed no external signs of disease, except that the smaller was much emaciated. It had an enlarged and mushy kidney, with a considerable number of oval whitish cysts. It is possible that the enlarged kidney was due to farunculosis. The larger brook trout, a ripe male, showed no signs of disease on skin, fins or gills, and it was in good condition with a considerable amount of abdominal fat. The spleen however was somewhat enlarged and swollen; and the rectum was highly inflamed. As these are symptoms often associated with farunculosis, we suspect this disease to have been involved.

The losses in the brook trout are reported as quite low. The losses in Loch Leven trout are reported as having been heavier, so it was deemed more important to determine the cause of the mortality in that species.

All 7 of the dead Loch Levens were rather small and thin. Every one showed dorsal fin rot. The fins were eaten down well toward their bases, and had a frayed out edge with broken down membranes, or a thickened overturned edge. No Cyrodactylus or other parasitic worms or cysts were found on the fins of these dead trout, or <sup>one</sup> one which was yet alive. Perhaps associated with the bad fins were soft bloody lesions in two of seven fish, in the flesh about the base of the dorsal fin. These lesions

had every appearance of being farunculosis lesions. In three of the others, similar lesions occurred in the lateral muscles under the skin of the side of the fish. The lesions varied from small to large, but all showed broken down and bloody tissue.

Some indications of associated diseases were noted. The gills in some showed excessive mucous, coupled in one instance with what appeared to be a sporozoan parasite. Various internal organs were more or less swollen and inflamed, or affected with encysted parasites.

Our conclusion is that farunculosis in advanced state is evident at the hatchery, and is the cause of the loss in the Loch Leven Yearlings. No bacterial tests were made, because the symptoms appeared conclusive, and because this disease was definitely identified in this hatchery last year by Dr. Krull (See Report 71).

Our suggestion would be to dispose of the diseased fishes sometime in the winter; to thoroughly clean out the small cement rearing ponds, scrubbing with strong lime water; then allowing the ponds to stand as long as practicable without fish.

It would be advantageous if some way could be devised to shut off the spring inlet into these ponds, or to divert this supply. While the cleaning is going on. The gravel in the ponds should be cleaned out and removed from the vicinity of the ponds. It might be advantageous to leave gravel out of these ponds as that would make cleaning more effective. Of course all screens and all utensils used about the ponds should be thoroughly cleaned and disinfected also.

Although chemical baths are of no avail in treating farunculosis, we recommend giving all the trout at the hatchery appropriate external treatment at rather frequent intervals, especially since a considerable number of other diseases appear to be contributing factors in the losses which occur at this hatchery.

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*original 4 cc. to Snipes, Franks L., Northville Fish Hatchery  
cc to Wendell H. Krull,*

Carl L. Hubbs

Director