

*copy to: Lydell*

INSTITUTE FOR FISHERIES RESEARCH  
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Report No. 48

REPORT ON SOME BLUEGILLS RECEIVED FROM MR. CLAUD LYDELL,  
COMSTOCK PARK

During my visit at the Comstock Park Hatchery in August 1930, Mr. Claud Lydell gave me a number of preserved fingerling Bluegills. A heavy loss had occurred in several ponds during the previous season and these were some of the dead fish which had been preserved by Mr. Lydell.

The fish are covered with a whitish film containing many white blotches of various sizes. These fish died as the result of a disease known as Ichthyophthiriasis caused by a protozoan parasite which lives in the skin.

This is a very common parasite on pond fishes and when conditions, particularly of temperature, are favorable, these parasites will kill every fish in a very short time.

A certain stage in the life cycle of the parasite is free-living in the water and for this reason it is possible to completely cure the fish of this disease if they are not in the last stages.

Dr. Hubbs has given me some more information about the ponds at Comstock Park in which the disease occurs which prompts me to add the following notes.

We at present do not know why a certain pond only should be affected year after year. Small changes, however, may have a bearing on the peculiarity of distribution. As an illustration it may be mentioned that at a water temperature of 50°F. the organism is said to cause no trouble, but is exceedingly serious at from 60°F. to 74°F., and a German author says it is killed at 86°F. It is said that freezing will not kill the organism but

after thawing, it is ready to reinfect the fish in 3 or 4 weeks providing the temperature is high enough. On the other hand, drying kills them.

Keeping fish well fed is always a good preventative and thinning out the pond as Mr. Lydell has done is a very good practice. We do not know what he has done with the fish which were removed, but under ordinary conditions, they should by no means be transferred to other ponds before they were free from infection. Anything that can be done to keep the fish from coming together in certain places in the pond is of benefit.

There are many treatments, but only a very few are practicable with the equipment of our hatcheries at the present time.

Treating the fish by putting them in troughs or raceways in fast running water is perhaps the easiest. In this method the young forms of the parasite as they escape from the fish are washed away. Add salt to troughs or raceways daily and scrub if necessary. In from seven to ten days the fish should be free from all parasites.

If repeated dipping of fish is possible, salt 3% or aluminum sulphate can be used. In the salt treatment, dip the fish until they show signs of distress and return to fresh water. For the aluminum sulphate (alum sulphate) use a 5% solution and dip the fish for 1 minute. Use 6 1/2 ounces of the chemical to 1 gallon of water. Do not use it if the solution is more than five days old. Mix and use in glass, wood or porcelain containers only. This solution has a very beneficial effect on the fish. The slime congeals and is sloughed off and the solution has a healing effect on the lesions.

In one case Bangham treated 5,000 bass with the alum solution, put them in a different pond and all fish recovered.

Other chemicals which have been used with various degrees of success are eosin, methylene blue, copper sulphate, formaldehyde, sodium bicarbonate, mercurochrome, & sodium carbonate.

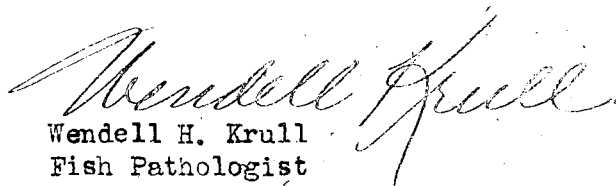
Infected ponds should be cleaned, limed and dried for several weeks if possible. Salt may be used in place of the lime. For the use of lime see "Care and Diseases of

Trout" by Davis, Page 137.

If the pond is not or cannot be drained completely there is no way of being sure that all of the organisms are killed. If lime is used there may be a better chance of getting at more organisms by stirring up the bottom and then repeating both the liming and stirring several times.

The information given is based on twenty-two references on Ichthyophthirius.

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