

8 GEORGE V, A. 1918

FISH No. 5.—Skin between the eyes and the back of the head was bruised and in places dirty white in colour. Microscopical preparations showed the presence of fungus. Flesh normal. All organs normal. Intestines empty. Smears from the wilt, liver, heart's blood showed a number of organisms. Plates:—

*Heart's blood.*—Numerous colonies.

*Liver.*—40—50 colonies.

*Milt.*—A few colonies.

Three isolations—E1, E2, E3.

FISH No. 6.—Skin bruised between eyes, fungus present in this area. Flesh normal. Organs normal in appearance. Intestines empty. Eggs, salmon pink in colour. Intestines slightly congested. Smears from heart's blood, liver and egg showed bacteria present. Plates:—

*Heart's blood.*—About 80 colonies, all similar.

*Liver.*—30—40 colonies, all similar.

*Eggs.*—One egg about 200 colonies, all similar.

One isolation, F1.

FISH No. 7.—A large amount of diseased skin from which preparations of the fungus were prepared. Flesh normal. Intestines empty. Organs apparently healthy.

*Kidneys.*—About 30 colonies, all similar.

*Liver.*—About 50 colonies, all similar.

*Heart's blood.*—30—40 colonies, all similar.

One isolation, G1.

FISH No. 8.—Large amount of diseased skin from which fungus growth was easily demonstrated. Liver pale in colour. Ovary deep reddish. Intestines empty. Many whitish eggs in ovary. Spleen normal. Plates:—

*Egg.*—About 150 colonies to the egg, large masses of bacterial growth near the crushed portion.

*Liver.*—About 250 colonies.

*Heart's blood.*—About 150 colonies, all similar.

A number of diseased portions of skin were cut off and examined in a variety of ways. Very good preparations were obtained by teasing portions of the diseased skin, triturating the material with 40 per cent potassium hydrate. After removal from this reagent they were washed in water and transferred to Lugol solution, or else stained with safranin, eosin, or fluorescein, dehydrated and mounted in balsam. Such teased particles of the skin gave, as a rule, better results than sections.

These preparations show that the fungus was a *Saprolegnia*, and I presume that full particulars of this fungus have been already given by Dr. Huntsman. A very full account of the salmon disease probably caused by *Saprolegnia* is given in the report of the United States Commissioner of Fisheries for 1878, the article having been reproduced from the proceedings of the Royal Society of Edinburgh, written by A. B. Stirling, of the Anatomical Museum of the University of Dublin. A very comprehensive paper by S. Walpole and Prof. T. H. Huxley entitled "Disease among the Salmon of many Rivers in England and Wales" appears in the bulletin of the United States Fish Commission, vol. 1, 1881, and was a reprint of a pamphlet contained in the "21st Annual Report of the Inspector of Fisheries for England and Wales for the year 1881 presented to both Houses of Parliament by command of Her Majesty."

It seemed peculiar that injuries, which appeared at first to be mere abrasions, and which subsequently became infected by the fungus *Saprolegnia*, should have such