United States Department of the Interior, Fred A. Seaton, Secretary
Fish and Wildlife Service, Arnie J. Suomela, Commissioner

Fishery Leaflet 457

Washington 25, D. C. July 1958

SOFT-EGG DISEASE OF FISHES

By
Ken Wolf 1/
Bacteriologist
Branch of Fishery Research
Bureau of Sport Fisheries and Wildlife

INTRODUCTION

Soft-egg disease is an abnormal condition encountered in incubating fish eggs. It is also known as soft shell.

IDENTIFICATION

Soft-egg disease is identified by a flaccid, easily deformed character in incubating eggs. In some instances normal eggs become soft within a few days. The affected eggs lack entirely the normal firm resilient quality.

CAUSE OF THE DISEASE

Davis considers the disease to be most likely due to an amoeba, and a variety of subsequent evidence supports this theory. Davis, however, did not entirely exclude bacteria as a possible cause.

SOURCE AND RESERVOIR OF INFECTION

Has not been determined. It is, however, likely that the postulated causative agent occurs in the water supply.

MODE OF TRANSMISSION

Unknown.

INCUBATION PERIOD

Unknown.

PERIOD OF COMMUNICABILITY

Confined to egg stage.

SUSCEPTIBILITY AND RESISTANCE

Nothing is known with certainty, but susceptibility is probably general.

RANGE

As far as is known there are no geographical restrictions to soft-egg disease. Environmental influences have not been determined.

OCCURRENCE

Reports of occurrence of soft-egg disease are not frequent, but some hatcheries have had losses from it for periods of several years.

1/ Headquarters: Eastern Fish Disease Lab., Leetown (P.O. Kearneysville), West Virginia.

METHODS OF CONTROL

Davis (1953) advises employment of strict sanitary measures and frequent disinfection of equipment. He states (without giving concentration or methods) that treatments with strong salt solutions have satisfactorily reduced losses due to soft-egg disease. Rayner in Oregon (Anon. 1955) has effected satisfactory control with a 1:18,000 solution of gentian violet for 5 minutes every 48 hours. Where soft-egg disease is endemic filtration of water used for incubation may prove an economical and efficient method of prevention.

ANNOTATED BIBLIOGRAPHY

Anon.

1955. Treatment of soft shell in trout eggs. Prog. Fish-Cult., Vol. 17, No. 3, pp. 139.

Malachite green, gentian violet and acriflavine were compared at a station having chronic difficulty with soft shells in trout eggs. Gentian violet and acriflavine prevented soft shell in one trial experiment.

Davis, H. S.

1953. Culture and Diseases of Game Fishes. Univ. of Calif. Press, Berkeley and Los Angeles, 332 pp., illus.

(p. 296) Characteristics, possible causes and methods of prevention and treatment are presented.

INT.-DUP. SEC., WASH., D.C. 39225