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Report on green croaker infection of lower Chesapeake Bay in July, 1943

H. S. Davis

Virginia Fisheries Laboratory & College of William and Mary

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H.S. Davis,
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Report on Green Croaker Infection of Lower
Chesapeake Bay in July, 1943
of the
Virginia Fisheries Laboratory of the Commission of Fisheries
and
College of William and Mary



For three weeks previous to July 15, local catches of large croakers were reported to have a high percentage that showed a green coloration of the mid-ventral surface which, under normal refrigeration conditions, became intensified.

On July 15th., six fish were examined - one small fresh specimen, normal, taken from landing boat - number 1; two large fifteen-inch fish, normal, that had been in storage for 3 days - numbers 2 and 3; three large fish with slight external discoloration after three days in storage; numbers 4, 5, and 6.

Observations on Croakers obtained through the courtesy of
of
Mr. Forrest, of Hawkins and Forrest Fish Co., Hampton, Va.

- I Specimen Number 1 - a medium sized croaker, unaffected, stomach empty.
- Specimen Number 2 - a fifteen-inch fish, unaffected, stomach empty.
- Specimen Number 3 - a fifteen-inch fish, unaffected, stomach contained partially digested remains (length 2 inches) of small fish, one of the herring family.
- Specimen Number 4 - a large croaker. Slightly green on under surface when first removed from cold storage plant (after three days storage) and increasingly so when examining 2 hours later (having been kept surrounded by ice). Large fish in stomach, digested too much to permit identification. Intestine have a bad odor. Condition of several internal organs, abnormal. Body cavity bloated.

Specimen Number 5 - large-sized, green fish as was number 4. Stomach contained fish digested beyond recognition. Apparently it was over 4 inches in length. Spleen and liver abnormal on the surface but not below the surface of the liver.

Specimen Number 6 - large-sized, green fish in bad condition. Stomach contained remains (5 inches long) of a partly digested fish which is considered to be a member of the herring family probably menhaden. Spleen and liver abnormal on the surface but not under the surface layer of the liver.

II A second lot of fish was examined at Yorktown and similar observations made as to the condition of the affected and unaffected fish.

III A third sample of about six specimens was sent, through the courtesy of Mr. Forrest to Dr. H.S. Davis, fish pathologist in Kearnesville, West Va. who kindly tested for bacterial infection. Dr. Davis reported "it appears very doubtful that bacteria are the cause of the trouble".

Remarks

The abnormal condition observed is a green coloration of the larger croakers originating from decomposition in the digestive tract. It may be confined to stomach, or extend to the organs of the body cavity, or to the lining of the wall of this cavity or in advanced stages of infection it may be visible on the outside surface of the body wall on the under surface of the fish.

A correlation was found between the size of the croakers, the size of the fish in the stomach and the state of decomposition of the food fish in the stomach (probably menhaden).

No evidence of disease was found and, according to Dr. Davis, no bacterial

infection is apparent.

Fish with empty stomachs or those containing well digested fish were not affected.

Conclusion

It is concluded that the trouble is a local one, originating in the digestive tract and caused by the food which the croaker is unable to completely digest. The food fish is one of the herring family most likely menhaden.

Yorktown, Virginia
August 6, 1943