Angler’s Guide to Fish Diseases and Parasites

Material adapted from “What’s Bugging That Fish -- An Angler’s Guide to Fish Diseases and Parasites.” Nebraska Game and Park Commission.

The Cooperative Extension Service, The University of Georgia College of Agricultural and Environmental Sciences offers educational programs, assistance and materials to all people without regard to race, color, natural origin, age, sex, or handicap status.

AN EQUAL OPPORTUNITY EMPLOYER

Circular 772 F&A-1 Reprinted November, 1991

Issued in furtherance of Cooperative Extension work, Acts of May 8, and June 30, 1914, The University of Georgia College of Agricultural and Environmental Sciences and the U.S. Department of Agriculture cooperating.
Occasionally anglers catch fish that show signs of infection or parasitism. Is the fish safe to eat? The usual and safest response to this question is, “When in doubt - don’t.” However, very few fish diseases can be transferred to humans. Almost all fish are safe to eat when thoroughly cooked, smoked or frozen.

Fish are a valuable resource in Georgia. Not only do they provide important recreation, but they are also a valuable supplement to the family food budget. The anticipation of any fisherman, whether he be a young boy with a cane pole and a can of worms or an “old pro,” is a quality fish for the table. It is the unwritten law of any true sportsman to utilize the fish he catches. The purpose of this publication is to help you, the angler, determine if the fish you’ve caught is worthy of your skillet. Remember, a sick fish will not take the hook.

For convenience, we have listed groups of parasites diseases and other causes of abnormalities sometimes seen in the fisherman’s catch.

1. **Viruses and Bacteria**: These microorganisms cannot be seen with the naked eye. They cause many diseases in fish. Symptoms include swollen, fluid-filled body cavity, bulging eyes, bloody fins, bloody spots on the skin or base of scales, sores, and lesions, etc.

2. **Fungi**: Fungi are small, strand-like parasites. They normally do not infect healthy fish. They usually grow on dead tissue or infected wounds. Most of the fungi on fish have a patchy, gray-white, cotton-like appearance.
3. **Protozoa**: These are microscopic, single-cell animals. They can be found on the gills, body surface or imbedded in the flesh. There are many different protozoans, and they cause a variety of fish diseases. Fisherman usually observe the damage they cause but rarely see the microorganism without the aid of a microscope.

4. **Trematode or Fluke**: There are two groups of flukes. Monogenetic flukes live on the external body surface and multiply on the same host. Digenetic flukes are internal fish parasites and require two or more hosts to complete their life cycle. Other hosts may include snails, clams, birds or other fish - but not man. Trematodes can be found in cysts in the flesh or other internal organs. They also can live in the eye, blood, gills and other parts of the fish. Trematodes are rarely observed by fisherman.

5. **Cestode or Tapeworm**: These parasites are commonly observed by fishermen when cleaning their catch. Larval tapeworms form cysts on or in the internal organs or in the body cavity. Adults are white and worm-like and are found in the intestines.

6. **Acanthocephalan or Spiny-Headed Worm**: These parasites are rarely seen by fishermen. They live in the intestines of fish.
7. *Nematode or Round Worm*: Nematodes are very common parasites of ski. The larvae may be found in cysts or coiled in or on the internal organs. Adults are usually found in the intestines. Some are found coiled under the skin.

![Nematode or Round Worm](image)

8. *Leeches*: These parasites are external, blood-feeding animals. They leave circular wounds on the fish.

![Leeches](image)

9. *Copepods*: These small crustaceans can be embedded in flesh, gills or mouth. Some move freely over the body surface.

![Copepods](image)

10. *Tumors*: As on other animals, tumors occasionally occur on fish.

11. *Physical Injury*: Predators, such as birds and other fish, can cause wounds and other malformities.
**OBSERVED EXTERNALLY**

### Visual Signs

- Lesions, sores, hemorrhages, fish pop-eyed, blood under scales, or loss of scales.
- Cotton-like, white-tan-gray fuzzy growth on body or fins.
- Small, pinhead-size white spots on the skin of catfish and sometimes excessive mucus (slime) production.
- Small, black-to-purple spots under the skin or in the flesh of scale fish.
- Eye opaque or deformed.

### Comments

- Various species of bacteria can infect fish. Symptoms vary depending on bacteria and fish species. Bacterial infections are usually the result of a stress on the fish or infection of a wound. An infected fish is edible. Trim away infected flesh.
- Fungus infection of wound or lesion. An infected fish is edible. Trim away infected flesh.
- Ich (Ichthyophthirius) is a common protozoan parasite of catfish. It occurs on the skin and gills of catfish and some other fish species. An infected fish is edible. Clean and prepare as usual.
- Black Spot is one of the more frequent parasites observed by fishermen. It is caused by larval flukes encysting under the skin or in the flesh. An infected fish is edible. Clean and prepare as usual.
- Eye Flukes live in the fluid of the eye. Although they cannot be seen by the fishermen, they eventually cause blindness in the fish. An infected fish is edible. Clean and prepare as usual.
There are a number of *gill parasites* infecting fish. They are microscopic and only the damage they cause is observed by the fisherman. Some of these parasites are gill flukes and a number of Protozoan species. Chemicals in the water can also irritate the gills and present the same symptoms. Unless chemicals are suspected, the fish is edible. Clean and prepare as usual.

*Roundworms* can be found throughout the intestines. They sometimes can be seen extending from the anus. An infected fish is edible. Clean and prepare as usual.

*Leeches* are blood-sucking animals that leave a circular wound after they have dropped off the fish. An infected fish is edible. Clean and prepare as usual.

*Anchor Worm* is an appropriate name for this parasitic copepod. It buries its anchor-shaped head into the flesh and allows its body to hang free of the wound. An infected fish is edible. Clean and prepare as usual.

*Fish Louse* are microscopic copepods rarely seen by fishermen. They feed on the blood by piercing the skin. The bites can become infected. An infected fish is edible. Clean and prepare as usual.
White worms in the intestine.

Large, white flat worm in body cavity.

Worm encysted on internal organs coiled like a watch spring.

Small cysts on internal organs.

Small, white thread-like worms on or in internal organs.

Small, white-to-orange worm in body cavity or attached to intestines.

Adult flukes, tapeworms, roundworms or spiny-headed worms are commonly observed in the intestines of fish. The fish is edible. Clean and prepare as usual.

Tapeworm found in the body cavity of carp suckers, minnows and some other fish. The fish is edible. Clean and prepare as usual.

Larval Roundworm. The fish is edible. Clean and prepare as usual.

Larval Flukes. The fish is edible. Clean and prepare as usual.

Larval Tapeworms. Often found in the ovaries. The fish is edible. Clean and prepare as usual.

Spiny-headed worm usually lives inside intestines. Sometimes they are found lying in the body cavity with their heads buried in the intestines. The fish is edible. Clean and prepare as usual.