Common Freshwater Fish Parasites Pictorial Guide:
Acanthocephalans, Cestodes, Leeches, & Pentastomes

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Introduction
This publication is one in a series of pictorial guides that is designed to assist in the identification of common freshwater fish parasites. The publications included in this series are:

- Common Freshwater Fish Parasites Pictorial Guide: Sessile Ciliates
- Common Freshwater Fish Parasites Pictorial Guide: Motile Ciliates
- Common Freshwater Fish Parasites Pictorial Guide: Dinoflagellates, Coccidia, Microsporidians, & Myxozoans
- Common Freshwater Fish Parasites Pictorial Guide: Monogeneans
- Common Freshwater Fish Parasites Pictorial Guide: Digenean Trematodes
- Common Freshwater Fish Parasites Pictorial Guide: Nematodes
- Common Freshwater Fish Parasites Pictorial Guide: Acanthocephalans, Cestodes, Leeches, & Pentastomes
- Common Freshwater Fish Parasites Pictorial Guide: Crustaceans

The information provided in this guide is not intended to be a complete, detailed description of each parasite or parasite group and its characteristics but rather is intended to assist in the visual identification of some of the most common species or groups of parasites seen in freshwater fish. For further information on each parasite, refer to publications in the “Recommended Reading” and “Reference” sections below.

Guide Information
- Target Tissue: provides the location on/in the fish where the parasite is most commonly found.
- Characteristic: provides a brief description about the appearance of the parasite.
- Size: provides the size or size range of the parasite. (1 µm = 0.001 mm = 0.0001 cm) (µm = micron or micrometer; mm = millimeter; cm = centimeter)
- Movement: provides the type of movement, if any, of the parasite.
- Note: provides a brief comment of interest about the parasite.

Acknowledgements
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**Recommended Reading**

SRAC Publication No. 410 Calculating Treatments for Ponds and Tanks. Southern Regional Aquaculture Center.  
https://srac.tamu.edu/index.cfm/event/getFactSheet/whichfactsheet/83/

SRAC Publication No. 475 Proliferative Gill Disease (Hamburger Gill Disease). Southern Regional Aquaculture Center.  
https://srac.tamu.edu/index.cfm/event/getFactSheet/whichfactsheet/122/

SRAC Publication No. 4701 Protozoan Parasites. Southern Regional Aquaculture Center.  
https://srac.tamu.edu/index.cfm/event/getFactSheet/whichfactsheet/171/

UF/IFAS Circular 91 Nematode (Roundworm) Infections in Fish.  
http://edis.ifas.ufl.edu/FA091

UF/IFAS Circular 120 Fish Health Management Considerations in Recirculating Aquaculture Systems - Part 1: Introduction and General Principles.  
http://edis.ifas.ufl.edu/FA099

UF/IFAS Circular 121 Fish Health Management Considerations in Recirculating Aquaculture Systems - Part 2: Pathogens.  
http://edis.ifas.ufl.edu/FA100

UF/IFAS Circular 122 Fish Health Management Considerations in Recirculating Aquaculture Systems - Part 3: General Recommendations and Problem Solving Approaches.  
http://edis.ifas.ufl.edu/FA101

UF/IFAS Circular 716 Introduction to Freshwater Fish Parasites.  
http://edis.ifas.ufl.edu/FA041

UF/IFAS Circular 919 Stress--It's Role in Fish Disease.  
http://edis.ifas.ufl.edu/FA005

UF/IFAS Circular 920 *Ichthyophthirius multifiliis* (White Spot) Infections in Fish.  
http://edis.ifas.ufl.edu/FA006

UF/IFAS Circular 921 Introduction to Fish Health Management.  
http://edis.ifas.ufl.edu/FA004

UF/IFAS Fact Sheet FA-13 Use of Copper in Freshwater Aquaculture and Farm Ponds.  
http://edis.ifas.ufl.edu/FA008

UF/IFAS Fact Sheet FA-23 The Use of Potassium Permanganate in Fish Ponds.  
http://edis.ifas.ufl.edu/FA032

UF/IFAS Fact Sheet FA-28 Monogenean Parasites of Fish.  
http://edis.ifas.ufl.edu/FA033

UF/IFAS Fact Sheet FA-37 Use of Potassium Permanganate to Control External Infections of Ornamental Fish.  
http://edis.ifas.ufl.edu/FA027

UF/IFAS Fact Sheet FA-55 Submission of Fish for Diagnostic Evaluation.  
http://edis.ifas.ufl.edu/FA055

UF/IFAS Fact Sheet FA-90 Pentastomid Infections in Fish.  
http://edis.ifas.ufl.edu/FA090

UF/IFAS Fact Sheet FA-107 Common Freshwater Fish Parasites Pictorial Guide: Sessile Ciliates.  
http://edis.ifas.ufl.edu/FA107

UF/IFAS Fact Sheet FA-108 Common Freshwater Fish Parasites Pictorial Guide: Motile Ciliates.  
http://edis.ifas.ufl.edu/FA108

UF/IFAS Fact Sheet FA-109 Common Freshwater Fish Parasites Pictorial Guide: Flagellates.  
http://edis.ifas.ufl.edu/FA109

UF/IFAS Fact Sheet FA-110 Common Freshwater Fish Parasites Pictorial Guide: Dinoflagellates, Coccidia, Microsporidians, and Myxozoans.  
http://edis.ifas.ufl.edu/FA110

UF/IFAS Fact Sheet FA-111 Common Freshwater Fish Parasites Pictorial Guide: Monogeneans.  
http://edis.ifas.ufl.edu/FA111

UF/IFAS Fact Sheet FA-112 Common Freshwater Fish Parasites Pictorial Guide: Digenean Trematodes.  
http://edis.ifas.ufl.edu/FA112

UF/IFAS Fact Sheet FA-113 Common Freshwater Fish Parasites Pictorial Guide: Nematodes.  
http://edis.ifas.ufl.edu/FA113

UF/IFAS Fact Sheet FA-115 Common Freshwater Fish Parasites Pictorial Guide: Crustaceans.  
http://edis.ifas.ufl.edu/FA115

UF/IFAS Fact Sheet VM-67 Management of Hexamita in Ornamental Cichlids.  
http://edis.ifas.ufl.edu/VM053

UF/IFAS Fact Sheet VM-77 Use of Formalin to Control Fish Parasites.  
http://edis.ifas.ufl.edu/VM061
UF/IFAS Fact Sheet VM-78 Bath Treatment for Sick Fish.  
http://edis.ifas.ufl.edu/VM037

UF/IFAS Fact Sheet VM-85 “Red Sore Disease” in Game Fish.  http://edis.ifas.ufl.edu/VM059

UF/IFAS Fact Sheet VM-86 Use of Salt in Aquaculture.  
http://edis.ifas.ufl.edu/VM007


UF/IFAS Fact Sheet VM-104 Cryptobia iubilans in Cichlids.  
http://edis.ifas.ufl.edu/VM077

References


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Acanthocephalans ("Thorny-Headed Worms")

**Target Tissues:** Adults in gastrointestinal tract; larvae in mesentery, liver

**Appearance:** “Thorny head”; numerous chitinous hooks on proboscis

**Size:** Approx. 2–700 mm in length (average 10 mm in length)

**Movement:** Limited movement; can invert or extend proboscis

**Note:** Complex life cycle requires invertebrate host; proboscis imbeds into fish’s intestine, which may cause severe damage to intestinal lining

Cestodes ("Tapeworms")

**Target Tissues:** Adults in gastrointestinal tract; larvae in any organ

**Appearance:** Larvae not segmented with scolex, usually encysted; adults segmented, flattened body with scolex (attachment organ);

**Size:** Adults approx. 3 mm up to 200 mm in length

**Movement:** Larvae may move within cyst; limited movement in adults

**Note:** Fish can be final host (with adult tapeworm) or intermediate host (with juvenile plerocercid larvae)

Leeches

**Target Tissues:** Skin, gills, oral cavity

**Appearance:** Body segmented; anterior and posterior suckers

**Size:** Up to 5 cm in length; can be seen with unaided eye

**Movement:** Free-moving; worm-like movement; fixed when feeding

**Note:** Parasitic on host’s blood—can cause anemia and may act as disease vector because they suck body fluid; direct life cycle

Pentastomes

**Target Tissues:** Muscle, body cavity; internal organs

**Appearance:** Coiled, stout, segmented worms

**Size:** Approx. 3–10 mm in total length

**Movement:** Not free-moving; may see internal organs of parasite “pulse”

**Note:** Indirect life cycle which includes aquatic reptiles (turtles, snakes, alligators) as final host