

Common Freshwater Fish Parasites Pictorial Guide: Nematodes¹

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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.

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- **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.

Printing Tips

For the best results as a pictorial guide, print this document in color on photo quality paper at a photo or “best” setting.

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Recommended Reading

SRAC Publication No. 410 Calculating Treatments for Ponds and Tanks. Southern Regional Aquaculture Center. <http://srac.tamu.edu/410fs.pdf>

SRAC Publication No. 475 Proliferative Gill Disease (Hamburger Gill Disease). Southern Regional Aquaculture Center. <http://srac.tamu.edu/475fs.pdf>

SRAC Publication No. 4701 Protozoan Parasites. Southern Regional Aquaculture Center. <http://srac.tamu.edu/4701fs.pdf>

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-114 Common Freshwater Fish Parasites Pictorial Guide: Acanthocephalans, Cestodes, Leeches, and Pentastomes. <http://edis.ifas.ufl.edu/FA114>

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-87 Sanitation Practices for Aquaculture Facilities. <http://edis.ifas.ufl.edu/AE081>

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

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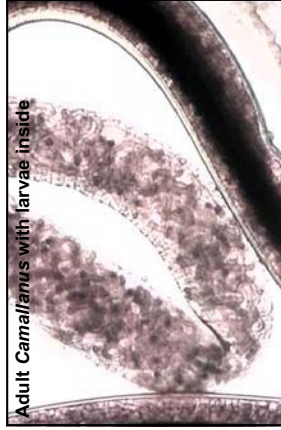
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Adult *Camallanus* with larvae inside

Camallanus

Target Tissues: Intestinal tract; all other organs

Appearance: Smooth, cylindrical, elongated, reddish thread-like worm

Size: Up to 1 cm in length

Movement: Free-moving; serpentine (snake-like) movement

Note: Often protrudes from anus; live-bearer; larvae may be seen in adult; indirect life cycle (requires intermediate invertebrate host)



Capillaria



Adult *Capillaria* with eggs inside

Target Tissues: Gastrointestinal tract

Appearance: Smooth, elongated, worm; double-operculated barrel-shaped eggs may be seen in females; may see eggs only in fish tissues

Size: Males approx. 5.4-7.4 mm; gravid females approx. 9.4-16.5 mm

Movement: Free-moving; serpentine (snake-like) movement

Note: Direct life cycle; can spread directly from fish to fish

Contracaecum



Coils of *Contracaecum* in coelomic cavity

Courtesy: Jennifer Matyszczak

Target Tissues: Body cavity, liver, muscle, heart, swim bladder

Appearance: Grossly visible; often seen coiled (encysted)

Size: Larvae (found in fish) up to approx. 20 mm in length

Movement: Movement usually not seen in fish

Note: Indirect life cycle includes birds and invertebrates



Courtesy: Jennifer Matyszczak

Eustrongylides



Eustrongylides in coelomic cavity of swordtail

Target Tissues: Internal tissues

Appearance: Grossly visible; coiled, reddish worm (encysted)

Size: Larvae (found in fish) 11-83 mm in length

Movement: Movement usually not seen in fish

Note: Fish is intermediate host; definitive host is wading bird; oligochaete worm required as intermediate host in some species

