Common Freshwater Fish Parasites Pictorial Guide: Nematodes

Deborah B. Poudor, Eric W. Curtis, and Roy P.E. Yanong

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.

1. This document is FA-113, one of a series of the Tropical Aquaculture Laboratory, Program in Fisheries and Aquatic Sciences, School of Forest Resources and Conservation, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. First published: July 2005. Reviewed February 2011. Please visit the EDIS website at http://edis.ifas.ufl.edu.

2. Deborah B. Poudor, Coordinator of Research Programs and Services; Eric W. Curtis, former Biological Scientist, and Roy P.E. Yanong, Associate Professor, Tropical Aquaculture Laboratory, Ruskin, FL 33570, Department of Fisheries and Aquatic Sciences, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida.
• 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.

Acknowledgements

The authors thank Jennifer Matysczak for the photographs she contributed to this publication.

Recommended Reading


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


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


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 multifilis* (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-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-115 Common Freshwater Fish Parasites Pictorial Guide: Crustaceans. http://edis.ifas.ufl.edu/FA115


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


**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**

- **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**

- **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

**Eustrongylides**

- **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