UF IFAS Extension UNIVERSITY of FLORIDA

FA-114
https://doi.org/10.32473/edis-fa114-2005

Common Freshwater Fish Parasites Pictorial Guide: Acanthocephalans, Cestodes, Leeches, & Pentastomes[1]

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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 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.

Acanthocephalans, Cestodes, Leeches, & Pentastomes

Acanthocephalans ("Thorny-Headed Worms")

Figure 1. Acanthocephalans: Inverted proboscis (left); protruded proboscis (right)

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")

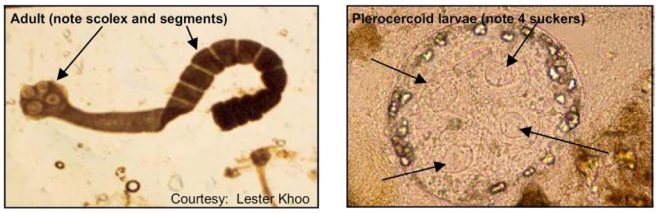

Figure 2. Cestodes, adult (left) showing scolex and segments; Plerocercoid larvae (right) showing 4 suckers
Credit: left image courtesy of Lester Khoo

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 plerocercoid larvae)

Leeches

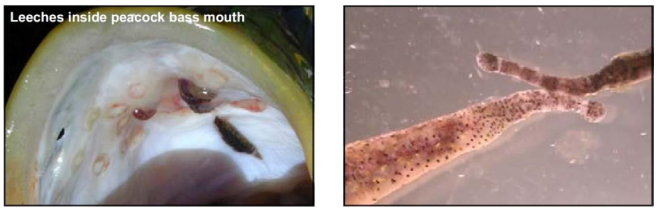

Figure 3. Leeches inside peacock bass mouth (left)

Target Tissues: Skin, gills, oral cavity

Appearance: Body segmented; anterior and posterior suckers

Size: Up to 5 cm in length; can be see 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

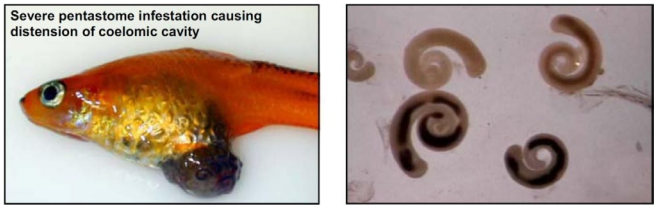

Figure 4. Severe pentastome infestation causing distention of coelomic cavity (left); coiled pentastomes (right)

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

Acknowledgements

The authors thank Lester Khoo for the photograph he contributed to this publication.

Recommended Reading

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

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

UF/IFAS Circular 121 Fish Health Management Considerations in Recirculating Aquaculture Systems - Part 2: Pathogens. https://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. https://edis.ifas.ufl.edu/FA101

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

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

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

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

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

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

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

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

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

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

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

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

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

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[1] This document is FA-114, one of a series of the School of Forest Resources and Conservation, Program in Fisheries and Aquatic Sciences, UF/IFAS Extension. Original publication date July 2005. Visit the EDIS website at https://edis.ifas.ufl.edu for the currently supported version of this publication.

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