

Cooperative Science Services, LLC Dolphinfish Research Program

Made possible by a grant from the Guy Harvey Ocean Foundation

August 2016



The Ugly Side of Dolphinfish

One topic about dolphinfish that few fishermen bring up, especially when cleaning fish in front of people new to the offshore fishing world, is the creepy little animals attached to or inside the dolphin being cleaned. Most fishermen just like to act as if they don't exist. Maybe it's a case that if you don't acknowledge them, they don't exist.

The fact is that every animal has its own parasites, including humans. It is just a fact of life, but one that most people find repulsive. The good news is that the vast majority of the parasites known from dolphinfish do not pose a threat to man. They might dissuade you from eating the fish, but most likely could not harm you.

One of the more common and most visible parasite of dolphin is the Lernaieid copepod, commonly called anchorworms. It is referred to as an ectoparasite because it is found on the outside of the fish, usually attaching to the skin on the back, or the dorsal fin. It resembles a piece of string coming out of the fish's skin but a closer look reveals three distinct body parts. While most dolphin that I have inspected from the U.S. East Coast do not carry any of these critters, occasionally fish will show up with a heavy infestation of dozens of these animals, giving an almost hairy appearance to the fish's skin. Like mosquitoes, only the female of this copepod species is parasitic. Under normal infestation levels this parasite does not cause serious harm to adult fish and does not affect the table quality of the fish. Heavy infestations of juvenile fish can be fatal.



Lernaieid copepods are one of the more common and most visible parasites of dolphinfish.

There are 12 known groups of parasites that have been documented infecting dolphinfish in the western North Atlantic. (See the following table.) Researchers have reported more than 120 species of parasite infecting mahi caught in the western North Atlantic. Many of the species are global in occurrence, while others appear to be regional, which could be used to connect a fish to having been in a specific region previously.

Types of parasites that infect dolphinfish and the number of known species.

Type of Parasite	No. of Species
Amphipods	1
Barnacles	1
Copepods	24
Flukes	19
Gill Worms	8
Isopods	8
Myxozoans	2
Protozoans	1
Roundworms	22
Spiny-head Worms	5
Tapeworms	28
Tissue Flukes	3

Sponsored In Part By:



GRADY-WHITE BOATS
Exceptional attention to detail.



The Dolphinfish Research Program needs your financial support. No federal funds support this important research. This program exists because of private donations.

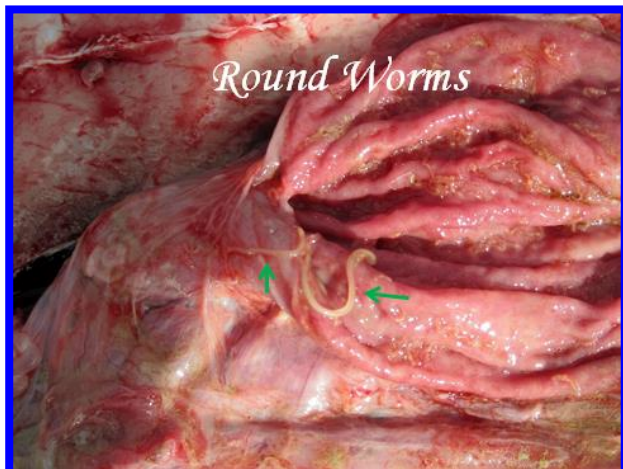
Dolphinfish Research Newsletter

August 2016

Page 2.

Most of the species of tapeworms found in dolphin occur in their larval form and are commonly called spaghetti worms by fishermen. These parasites are very common in adult greater amberjacks. They get the name because of their long tubular bodies that wind through the muscles of the fish resembling spaghetti, but the worm's head is anchored in the stomach or intestine of the fish. These larval worms can be in excess of 10 inches in length. There are species that could possibly infect man, but you would have to consume the larval worm whole without cooking it.

Roundworms are probably the most frequently encountered dolphin parasite by fishermen. These are revealed when the gut cavity is cut into during the filleting process. Normally, there will be just a few worms evident, but on occasion a wriggling mass will come pouring out when the stomach is breached. That is when you hose off the entire work surface. But even with a heavy infestation, the fish flesh is perfectly safe to eat. Like tapeworms, some roundworms can be passed on to humans if they are consumed whole and uncooked.



One of the most dramatic examples of how severe an impact that parasites can have on fish is caused by a microscopic parasite belonging to the group of multicellular animals known as myxosporeans. These organisms cause the flesh of the host fish to become soft and almost gelatin-like after the fish dies.

This year has seen a rash of reports from anglers encountering dolphin with this soft, gelatin-like flesh instead of the normal firm pinkish-white flesh. These reports were first received from anglers in the Florida Keys but were soon followed by reports from both South Carolina and North Carolina. All of the anglers reported that the fish had behaved and fought normally. It was only when the fish was taken out of the fish box back at the dock for cleaning that the change in the tissue was noticed.



Dolphin are tough. They can survive some serious injuries, such as exhibited by this 25-inch dolphin that was caught off Jupiter Inlet, Florida, by David Knutson. The fish was tagged 28 days prior off Key West by Capt. Rob Harris who noticed the injury and decided it was healing nicely. The appearance of the wound just behind the gill plate suggests that something had been wrapped around the fish and was cutting into the right side of the fish. Capt. Harris said that there was nothing on the fish when he caught it. Photo by D. Knutson.

It appears to be a condition known as myoliquefaction. It seems that the microparasite, belonging to the genus *Kudoa* has been identified as the culprit in many cases where the soft tissue syndrome has appeared. This condition has been noted in fish from the Atlantic and the Pacific oceans. It does not restrict itself to warm water fishes but strikes such cold water species as wolffish that occupy waters as cold as 34 to 37° F. This problem has shown up in many species of wild and cultured fish.

I did not find any report stating that consumption of this soft flesh caused health problems in humans. However, I did not find any report from a study that specifically addressed the human health question directly.

All fish have parasites of some form, but these offer very little risk to the people who eat the fish. Fishermen should just take care to rinse the fillets well before storing them. Even if some parasites still remain embedded in the flesh, freezing the fish and cooking the flesh thoroughly will ensure that they are dead.

**Your donations to the Dolphin Study are
Fully Tax-Deductible**

Make checks out to:

HH Reef Foundation/Dolphin Study

Mail checks to the address shown below.

New Financial Supporters 2016

David A. Neblett, Miami, FL

Terry & Tamithia Wynn, Osteen, FL

Tim & Michelle Heiser, Plantation, FL

Dolphinfish Research Newsletter

August 2016

Page 3.



Two-tone dolphinfish? Eddie Yarbrough holds up a young bull dolphinfish that he caught at the Islamorada Hump off the Florida Keys recently. The photo caught the fish in the process of changing its body color from the normal yellow/green pattern to the silver/blue phase that helps it hide from predators. Photo by Bill Pomenti.

Without your financial support this program will cease to exist.

Financial Support Needed

This research program relies on private donations for its funding. It does not receive any government financial support. If this research program is to continue it needs your support.

Your donations are fully tax deductible thanks to the Hilton Head Reef Foundation, a 501 (c) (3) organization that receives donations in support of the Dolphinfish Research Program. Make your check out to the Reef Foundation/Dolphin Study and send it to the address shown below.

Many of you think nothing of spending \$100 for a lure; how about investing \$100 in the future of dolphinfish fishing?

For More Information, Contact

Don Hammond

Dolphinfish Research Program
Cooperative Science Services, LLC
961 Anchor Rd., Charleston, SC
29412

Telephone – FAX (843) 795-7524

Email CSSLLC@bellsouth.net

Web site www.dolphintagging.com



2015-16 Financial Supporters

Haddrell's Point Tackle and Supply,
Mt. Pleasant & Charleston, SC
Star Rods/Big Rock Sports, Morehead City, NC
Hilton Head Reef Foundation, Hilton Head, SC
Costa Del Mar, Daytona Beach, FL
Micky Scott, Allendale, SC
West Palm Beach Fishing Club, W. Palm Beach, FL
Peter E. West, Greenville, NC
Grady-White Boats, Greenville, NC
Franklin Hendley, Cheraw, SC
Brad Truluck, Charleston, SC
Georgetown Landing Marina, Georgetown, SC
Suzanne Sigel & Bill Pomenti, Islamorada, FL
Ann & Richard Cook, Ft. Lauderdale, FL
Capt. Bill Parker, Hilton Head Island, SC
Mitchell Collette, Julian, NC
Charleston Fifty-Fifty Tournament, Charleston, SC
Gary York, Palm Beach, FL
Capt. Bouncer Smith, Miami Beach, FL
Charleston City Marina, Charleston, SC
Capt. Rom Whitaker, Hatteras, NC
Jerry Wagoner Construction, Raleigh, NC
Mitchell S. Scott, Allendale, SC
Mark & Louise Forsythe, Jupiter, FL
David A. Neblett PA, Miami, FL
American Fishing Tackle Company, Santa Ana, CA
Nicholas Caplanis, Mims, FL
Harry Hampton Fund, Columbia, SC
Ms. Jane Wood, St. Louis, MO
Robert Waite, Del Ray Beach, FL
The Greenery of Charleston, Daniel Island, SC
Central Florida Offshore Anglers, Orlando, FL
Ron Penska, Avalon, NJ
Tony Ray Homes, Melbourne Beach, FL
Capt. Jim Rose, Jr., Shelby, NC
Six Mile Creek, LLC, Charleston, SC
Antonio Gonzalez, Miami, FL
Blue Water Magazine, Runaway Bay, Australia
Killin Time II Fishing Team, Cudjoe Key, FL
Carolina Inspection Service, Charleston, SC
Patrick McGrady, Ponce Inlet, FL
Craig Sudbrink, Greensboro, NC
Bill & Denise Ball, Orlando, FL
Roy G. Magnuson, Ft. Pierce, FL
Edward & Victoria Kattel, Islamorada, FL
Kat Keys, LLC, Islamorada, FL
Harris Huddle, Trent Woods, NC
Capt. Larry Harvey, Georgetown, SC
David Wamer, Taylors, SC
Richard S. DeLizza, Weston, FL
Robert & Joanne DeLizza, Weston, FL
Tom Driver, Summerville, SC
Golden Hook Fishing Club, St. Croix, VI
Florida Sport Fishing Association, Cape Canaveral, FL
Meat Fish Slam Tournament, Georgetown, SC
John C. Bills, Palm Beach Gardens, FL
Ryan Van Fleet, Tavernier Key, FL