

UT Marine Science Institute scientists join study of ciguatera

By David Sikes

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CORPUS CHRISTI — The University of Texas Marine Science Institute in Port Aransas has joined an international team of researchers to study ciguatera, the world's most common source of seafood poisoning.

The \$4 million grant will fund a five-year study to better understand the microscopic algae that produces ciguatera toxins, focusing on the Gulf of Mexico and the Caribbean.

The algae, which can attach to seaweed, reefs or the legs of oil rigs, are eaten by smaller fish, which, in turn, are eaten by larger fish and so on up the food chain.

As a result, higher and higher concentrations of the toxins collect in predator fish such as barracuda and grouper that live near artificial and natural reefs in tropical waters. This process is known as biomagnification.

Ciguatera, which can cause severe vomiting, diarrhea and neurological symptoms, poisons tens of thousands of people worldwide every year, according to the National Oceanic and Atmospheric Administration.

Symptoms can last days or months but rarely result in death. There is no antidote, and no amount of cooking can kill it.

Little is known about ciguatera, said the Marine Science Institute's Deana Erdner, who is part of the research team responsible for conducting genetic testing of the toxic algae to help determine whether ciguatera algae from other regions is related to algae found in the northern Gulf.

"We'd like to know how the algae get from one area to another," Erdner said. "And we need more information on the history, whether the algae have been in a location for a long time or have arrived recently."

Research will include what makes the algae grow, its effect on marine life, whether the algae is increasing its range, and which fish are most likely to harbor the toxins.

Ciguatera has been found in more than 400 marine species, which are virtually immune to the toxin. Most cases occur in tropical and subtropical regions. Reports of ciguatera poisoning are rare in the northern Gulf of Mexico off the Texas coast.

It's fairly common in Florida, where the sale of barracuda is banned in some areas. There are no confirmed cases of ciguatera poisoning in red snapper here, but it has been found in red snapper in other parts of the world.

There is no easy test for ciguatera. It's visually undetectable, tasteless and odorless.

In Texas, ciguatera awareness heightened in 2007 after an angler and his wife suffered severe symptoms after eating part of a 34-pound grouper caught at the Flower Gardens Banks National Marine Sanctuary, a coral reef about 100 miles southeast of Galveston.

One concern is whether warming trends in the Gulf might create favorable conditions for ciguatera, which could result in greater risk for seafood consumers.

Ultimately, Erdner said they'd like to learn enough to predict or prevent the risk from ciguatera in different regions, including potential risks associated with changing environmental conditions.



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