



## Is that sushi you ordered really made with tuna? Tests at Nova cast some doubt

<http://www.sun-sentinel.com/news/broward/fl-nova-fish-20110402,0,4426683,full.story>

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That white tuna sushi you order at your favorite restaurant may not contain tuna at all, but an oily fish known as escolar. Last year, 186 Florida restaurants were cited for mislabeling fish, including tuna substitutions in sushi or sashimi.



Nova Southeastern undergraduate students test fish from local restaurants to make sure the fish are legitimately labeled. (Michael Laughlin, Sun Sentinel)

## Mislabeling of fish at restaurants may be widespread, studies suggest

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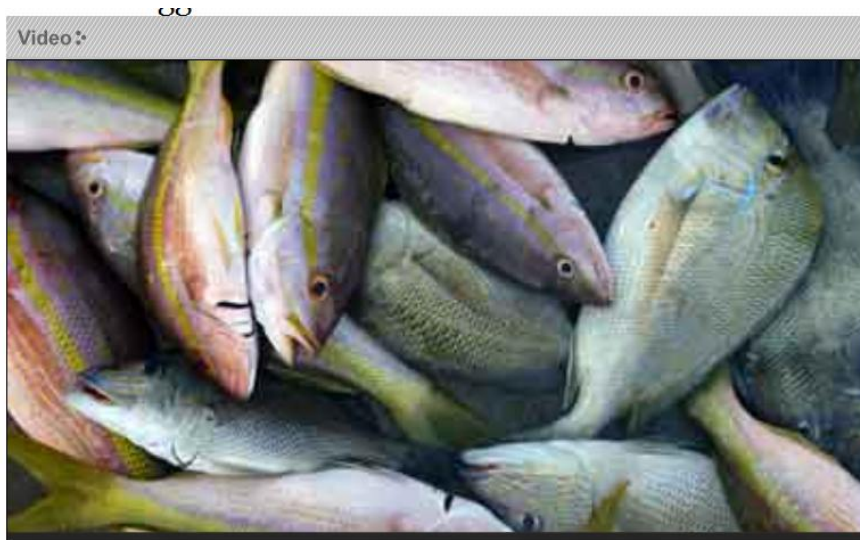
Last year, 186 restaurants in the state were cited by the Florida Department of Business and Professional Regulation for mislabeling their fish, including 24 that involved tuna substitutions

in sushi or sashimi. In most instances, the "tuna" was escolar, an oily fish also known as snake mackerel and sometimes called the "Ex-Lax fish" or "castor oil fish" because it can cause [diarrhea](#).

The problem most frequently cited by the state was labeling imitation crab meat, usually pollock, as real crab, while other common substitutions include less costly tilapia in place of red snapper and panga for grouper.

Such mislabeling may be widespread, recent studies and lab reports suggest.

For example, a [Nova Southeastern University genetics](#) class this semester tested fish advertised as white tuna from 10 sushi restaurants in Broward, Miami Dade and Palm Beach Counties. The results, confirmed Monday, showed eight were improperly labeled, said Professor Mahmood Shivji. A similar study last fall involving 10 restaurants in South Florida and Orlando, showed all 10 served escolar sold as white tuna.



**The fish you order may not be the fish you get**  
Nova Southeastern University students extract DNA from sushi from local restaurants to determine if the fish is actually tuna as advertised.  
(3:36)

"My sense is that this is an unspoken industry standard; that white tuna is escolar even though it's not

legal to call it that," Shivji said. "It may be such a common practice that restaurants don't even think about it."

In fact, websites for several seafood wholesalers would suggest white tuna and escolar are synonymous, even though escolar isn't a type of tuna. One website says escolar is known as "white tuna" on the East Coast; another advertises "escolar or 'white tuna' shipped to your door."

But restaurant and fishing trade groups and government agencies say the practice is misleading to consumers and hurts businesses that properly label their products and thus are charging higher prices.

Edo Sushi Buffet in Parkland was fined \$500 last year by the state for violations that included serving escolar as white tuna. Manager Ting Cheung said the escolar practice is common and he's not aware of any restaurants selling white tuna that is actually tuna.

"If you tell someone you're serving escolar, they don't know what it is," he said. "If you say it's white tuna, they say 'Oh, OK,'" he said.

Still, Ting said after being cited he started labeling the fish as escolar.

The state can fine restaurants up to \$1,000 for mislabeling seafood. Florida statutes also say a restaurant's license can be revoked or suspended, although state records do not indicate this has happened.

"The fines are not strong enough and many restaurants probably see them as a cost of doing business," said Bob Jones, executive director of the Southeastern Fisheries Association, a trade group that has spoken out against the practice. "But it's consumer fraud. Period. There's no other way to say it."

Carol Dover, president of the Florida Restaurant and Lodging Association, said fraud cases aren't always clear cut. During a check of grouper, [DNA](#) tests indicated some fish weren't grouper, simply because they were less common varieties from foreign countries that the tests didn't recognize, she said. Dover said she isn't familiar with the practice of substituting escolar for white tuna.

"We would never, ever endorse or support any restaurant knowingly, that is the key word, purchasing a product and putting it on the market fraudulently," she said.

There are about 40,000 licensed restaurants and food establishments in the state, according to the Florida Restaurant and Lodging Association.

Six restaurants have been cited two or more times for the same violation, including Fuji Sushi Japanese Cuisine in Winter Park, which was cited in 2008 and 2009 for passing escolar off as white tuna. An employee at the restaurant referred questions to the owner, who could not be reached Thursday or Friday.

Escolar is listed at \$12 to \$13 a pound on several wholesale seafood websites, while albacore, which can legally be sold as white tuna, sells for \$16 to \$18 a pound. Albacore is currently out of season but can be purchased frozen.

Shivji said the escolar-for-tuna substitution is of particular concern because of the health issues, which are less a factor in other seafood substitution cases. Eating too much can cause diarrhea. Several students in the Nova genetics class said they tasted the escolar, but none got sick. Experts say most people are not affected if they eat less than six ounces, although that varies from person to person.

Seafood substitution has been a growing concern in the industry in recent years. A 2008 Florida Attorney General's Office investigation revealed that Sysco Food Services was selling fish to restaurants improperly labeled as grouper. The company agreed to take steps to ensure the authenticity of its fish and agreed to reimburse the office for \$200,000 in investigative costs and donate \$100,000 worth of food items to charity.

A 2009 study, conducted by [Columbia University](#) and the American [Museum of Natural History](#),

found that 19 of 31 restaurants visited in New York and Colorado either misrepresented or were unable to clarify which species they sold. Five out of nine samples sold as a variant of "white tuna" were actually escolar.

"A piece of tuna sushi has the potential to be an endangered species, a fraud, or a health hazard," the study's authors wrote.

A 2009 federal Government Accountability Office report found the [Food and Drug Administration](#) lacked the oversight needed to combat seafood fraud. Since then, the FDA has teamed up with several other federal agencies to improve enforcement, spokesman Doug Karas said.

The FDA now has a system to screen electronically submitted information on all incoming shipments from other countries, Karas said. This "will enable investigators to better target food coming into the country that may be adulterated, economically, or otherwise," he said.

Karas said the FDA relies on complaints to guide in enforcement. "Often the complaints come from industry competitors who are concerned about the good name of their established products," he said.

Florida routinely inspects restaurants twice a year, and when there are complaints, said Sandi Copes, spokeswoman for the Department of Business and Professional Regulation. The state doesn't use DNA testing but requires the restaurants to provide invoices showing the seafood they sell matches what they received from the distributors.

Shivji became involved in seafood substitution as director of Nova's Guy Harvey Research Institute, which focuses on ocean research. A number of news outlets, including the Charlotte Observer, Scripps TV Station Group and WFOR, paid his lab to investigate whether restaurants were substituting cheaper fish for high-priced grouper and snapper. In most cases, the DNA tests revealed they were.

He decided in 2008 to start using seafood testing for a genetics class he teaches. He used the seafood scams as an interesting way teach students how to read DNA from fish. Initially, the classes examined grouper and snapper.

This semester, only one of the 10 samples was confirmed to be tuna. Six were escolar, one was a billfish, one was grouper and one was inconclusive due to bad DNA. The results concerned NSU student Danny Solano, 25, of Davie. A server at an Asian buffet told him the piece of sushi he sampled was white tuna, but it turned out to be escolar.

"There's an element of surprise and betrayal," Solano said. "When you order food, you hope it's what they say it is. Now I wonder what else may have been substituted."

Staff database editor [John Maines](#) contributed to this report.

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## Seafood DNA testing



Catherine Goetz places a DNA sample on a tray after purifying it during her genetics class at Nova Southeastern University. Nova Southeastern undergraduate students enrolled in Professor Mahmood Shivji's genetics class are testing fish from local restaurants to make sure they are legitimate. This is part of their class assignment. It turns out that half of the fish tested in South Florida restaurants is fraudulently sold as grouper or snapper when they are actually tilapia or catch fish. Shivji created this assignment to make genetics more interesting for his students.





( Michael Laughlin, Sun Sentinel / February 16, 2011 ) Luis Puchi and Catherine Goetz work on purifying a DNA sample of fish during their [genetics](#) class at [Nova Southeastern University](#).



Michael Laughlin, Sun Sentinel / February 16, 2011 ) Diane Huynh Hoa works on a DNA project during her [genetics](#) class at [Nova Southeastern University](#).