



# Snapper on your plate may be an impostor

A Nova Southeastern University DNA researcher has become a key resource in uncovering widespread fish-swapping at restaurants across the country.

by Michael Vasquez  
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Genetics professor Mahmood Shivji didn't get into DNA research to strike fear in the hearts of restaurant owners and chefs.

But the Guy Harvey Research Institute, which he heads, is a virtual CSI: Seafood lab these days. The widespread -- and illegal -- practice of fish substitution at restaurants has placed Shivji's marine life genetics expertise in high demand.

In the last two years, Shivji has analyzed upward of 100 restaurant plates from across the country, more than half the time proclaiming that the dish was not the grouper or snapper specimen that diners thought they were eating. Instead, restaurants secretly served up cheaper fish such as catfish or tilapia.

"It's consumer fraud," said Shivji, who teaches at Nova Southeastern University. "You're paying for item X and usually grouper and red snapper are on the higher end of the price list."

With domestic grouper costing restaurants \$11 or \$12 a pound -- and imported catfish available for a mere \$2.50 a pound -- unsavory chefs can profit handsomely from this unethical bait-and-switch.

Shivji has picked apart breaded fillets, fillets doused in sauce, even charred fillets left on the grill a little too long.

"We can tell with 100 percent certainty" whether restaurants are scamming, Shivji said. The professor's initial interest in identifying fish through DNA came from his passion for conservation. The federal government was having a hard time enforcing protections for endangered shark species, for example, because rogue fishermen would chop up their illegal shark catches in ways that hid any identifying features.

But chopping up a fish can't hide the DNA, Shivji reasoned. Shivji went on to pioneer a new way of testing shark DNA that has been instrumental in cracking down on the shark fin trade.

## SCOPE OF PROBLEM

Enter CBS4's Al Sunshine. Sunshine approached Shivji in 2007 with the idea to use the power of DNA to expose fish-swapping restaurants. Sunshine had to do a bit of arm-twisting to convince Shivji to run the first test, but Shivji's skepticism melted as the evidence of rampant seafood fraud poured in.

"It just validates the argument that this is a national, if not international, problem," Sunshine said.

Shivji's phone was soon deluged with calls from TV reporters in other towns. Shivji dutifully accepted and tested their frozen fish samples -- mailed in from places that included Los Angeles, New York and Charlotte, N.C.

Shivji has also fielded inquiries from an unidentified local fish wholesaler (who wanted to make



*Fish samples in plastic bags in the lab fresh from the freezer. (Candace West - Miami Herald)*



*Mahmood Shivji, Ph.D. has used DNA research to show that 1/4 to 1/3 of South Florida restaurants are serving bogus fish to customers (cheaper tilapia instead of snapper, for example). (Candace West - Miami Herald)*



*Mahmood Shivji, Ph.D. holds fresh fish samples just taken from the freezer. (Candace West - Miami Herald)*



*Aside from giving customers less than what they paid for, the problem can be dangerous for customers with specific fish allergies. (Candace West - Miami Herald)*

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sure his inventory was legit) and the Missouri attorney general's office (which was investigating restaurants in Kansas City).

Fish mislabeling persists in part because it is virtually impossible for federal and state regulators to police all of the nearly five billion pounds of seafood consumed by Americans each year -- more than 80 percent of which is imported.

Many restaurant patrons are also unfamiliar with the differences between species -- they might order grouper simply because it's a name they've heard before. "Most consumers can't really tell the difference between a grouper and a catfish," said Carlos Sanguily, vice president of Doral-based fish importer JC Seafood.

Aside from not getting what you pay for, fish mislabeling is a serious obstacle to ocean conservation efforts, Shivji said.

Widely popular grouper, for example, is a "severely overfished" species, but by appearing (often in name only) on menus everywhere, it creates the false perception that groupers are plentiful.

Fish-swapping can also have health consequences. Some imported fish may be raised in polluted waters, and diners with specific fish allergies can end up eating a fish species they're doing their best to avoid.

Sushi lovers ordering "White Tuna" are routinely served escolar, a tasty-but-oily fish that so frequently causes diarrhea it earned the nickname "Ex-Lax fish."

In the general genetics class Shivji teaches at NSU every fall semester, seafood fraud has become a teaching tool. Shivji regularly sends an army of students out to local restaurants to collect grouper samples that will be DNA-analyzed in class.

The tests revealed sizable numbers of impostor fish.

"It's got them jazzed up," Shivji said of his students. "They go and talk about it with their families, 'We did this and this is what we found.'"

## OVERSIGHT

Of course, keeping restaurants honest isn't solely the job of TV reporters and college researchers. Federal agencies such as the FDA have the ability to fine -- and in extreme cases prosecute -- restaurants and fish distributors that are deceiving buyers. State inspections of restaurants can also prompt fines of those who engage in fish-swapping.

Fort Lauderdale's Tokyo Sushi Express was cited by the state last month for selling customers tilapia billed as snapper. Imitation crab meat was also sold as real crab.

Manager Rob Rodalis said the restaurant had intended to print tilapia on the menu all along. "I think it was a miscommunication between the one who printed up our menu. . . . It was a mistake," Rodalis said.

Rodalis said the restaurant had been unaware that imitation crab needed to be identified as such on menus.

Both federal and state governments have been criticized for not doing enough to catch seafood scammers. In some cases the restaurants can be the victim, with seafood distributors charging top dollar for what are secretly bargain-basement species of fish.

A federal Government Accountability Office report released earlier this year faulted agencies such as the FDA for ineffective, uncoordinated oversight efforts.

Bob Jones, executive director of the Southeastern Fisheries Association, an industry trade group, said U.S. fishermen ultimately suffer from fewer buyers and depressed prices when



*Professor Mahmood S. Shivji, Ph.D. at NSU Oceanographic Center in front of the DNA Genetic Analyzer on August 20, 2009. (Joe Rimkus Jr. - Miami Herald)*



*Professor Mahmood S. Shivji, Ph.D. at NSU Oceanographic Center puts sample of fish into test tube to be genetically analyzed on August 20, 2009. (Joe Rimkus Jr. - Miami Herald)*



*Professor Mahmood S. Shivji, Ph.D. at NSU Oceanographic Center points to results of the DNA Genetic Analyzer on a McDonalds fish sandwich on August 20, 2009. (Joe Rimkus Jr. - Miami Herald)*

restaurants opt for selling imported, make-believe grouper. Jones, who estimates close to a quarter of all restaurants are deceiving customers, said diners should be suspicious of seafood deals that are too good to be true.

"If you pay less than \$10 for a grouper dinner, your odds, in my opinion, are nil," Jones aid.  
"You couldn't sell real grouper like that unless you were stealing the grouper."

Information on restaurants cited by state inspectors for food misrepresentation can be found online at: <http://tinyurl.com/m25796>

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