DNA links shark fins from Atlantic to China
Nova scientists spot endangered hammerheads

A large male adult blue shark, Prionace glauca, is about to be released after having been fitted with a satellite tag to track its migration routes. The hook is removed and shark released after having taken a small clip of fin for DNA analysis as part of a similar study to the hammerhead one. (Courtesy photo / November 29, 2009)

By David Fleshler, Sun Sentinel
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DAVIE - Scientists at Nova Southeastern University have penetrated the secrecy of the vast Hong Kong seafood market, using DNA to show that shark fins on sale there came from endangered hammerheads thousands of miles away.

Mahmood Shivji, director of the Guy Harvey Research Institute at Nova, already had become the authority on using DNA to tell one shark species from another, having assisted law enforcement agencies in convicting smugglers trafficking in the fins of protected sharks.

Now he and his colleagues have published a paper in the journal Endangered Species Research showing that fins at the Hong Kong seafood market came from hammerheads in the western Atlantic, a population considered severely overfished.

The study likely will be used by the United States in pressing for international protections for three species of hammerhead and several other sharks at a 175-nation conference on endangered species protection this March in Qatar.

"This study that Mahmood did is extremely useful for the U.S. policy makers and scientists to get protection for these vulnerable species," said Matt Rand, director of global shark conservation at The Pew Environment Group.

The shark fin trade has grown enormously over the past 20 years, as growing prosperity in China and other Asian countries increased demand for the delicacy of shark fin soup. Hammerhead fins are particularly prized for their long cartilage needles, which provide the soup with a noodle-like thickener. The typical Hong Kong price for 2.2 pounds of hammerhead fins is $120.

In their study, Shivji and his colleagues analyzed fingernail-size samples of fins from the Hong Kong market to link them to the struggling shark population thousands of miles away. He worked at Nova with scientist Demian Chapman, now at Stony Brook University in New York. In their study, they showed that 21 percent of the fins analyzed came from the western Atlantic, where the hammerhead population is classified as endangered.
Shivji said he used sections of DNA that don’t code anything but that do vary in known ways among shark populations, allowing him and his colleague to trace the fins to not just specific species, but specific populations.

“That’s the first time this was done for any shark,” he said. “It will, for the first time, allow conservation agencies to keep track of not only which species are being killed, but where they’re from.”

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