

Fin Trade Fingerprinted DNA test could help police shark fishing.

by Kendall Powell

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World shark populations are at risk because of increased demand for shark-fin soup. A new genetic test may help to pinpoint the species that are most at risk and to enforce fishing regulations.

Once served only at wedding banquets, bowls of noodles made from shark-fin cartilage now sell for as much as US\$100 in restaurants in the United States and Asia.

This lucrative trade accounts for the deaths of an estimated 100 million sharks each year. It also encourages the wasteful - and widely banned - practice of 'finning', in which fins are cut off and carcasses tossed back into the ocean.

It is almost impossible to tell which species a disembodied fin came from, says conservation geneticist Mahmood Shivji of the Guy Harvey Research Institute in Fort Lauderdale, Florida. "Nobody is keeping track of which sharks are being exploited," he says.

So Shivji and his colleagues have developed a DNA test to determine the species of the shark fins being traded and consumed from small samples of fin tissue¹. With it the group identified 75 dried shark fins from the Hong Kong commercial market. The researchers reckon that the test is fast and simple enough for conservation agencies to use.

So far, the team has DNA fingerprints for six species that are commonly found on the global fin market: blue, dusky, porbeagle, silky, and longfin and shortfin mako sharks. Species-specific probes can be combined in a single test tube, so thousands of samples can be processed simultaneously.

Sharks struggle more than other fish to recover from overfishing. "They don't bounce back," because they take up to ten years to reach maturity, have small litters and long gestation periods, explains Ellen Pikitch, director of marine conservation at the Wildlife Conservation Society in New York, which part-funded the study.

"We hope this test will help us get a handle on the global catch of sharks and whether they come from the Atlantic, Pacific, or Indian ocean," says Pikitch. The test could even be used to enforce finning bans or future regulations on shark fishing.

Shivji plans to expand the test to include the 35 species of shark that are most commonly fished. He also wants to determine the maximum number of species that can be tested for in a single reaction - it is currently 10.

References

1. Shivji, M. et al. Genetic identification of pelagic shark body parts for conservation and trade monitoring. **Conservation Biology**, **16**, 1 - 13, (2002).

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