A new genetic test or identifying endangered species from dismembered body parts might help conservationists better document the fast-growing trade in shark fins.

Shark fin soup is a 2000-year-old Asian delicacy, and the demand for it is on the rise, despite prices of up to $90 a bowl. This has led to the growing practice of “finning”—hacking the valuable appendages off sharks and tossing the mutilated animals back in the sea.

Monitoring finning’s impacts on individual species is practically impossible, says Mahmood Shivji of Nova Southeastern University in Dania Beach, Florida. Existing genetic tests entail many time-consuming steps, and a separate procedure is required each time a sample of fin DNA is compared with DNA of a known species.

But Shivji and his colleagues think they’ve found a shortcut. The procedure, detailed in the August issue of Conservation Biology, cuts lab time and costs by more than half, he says, and by combining multiple primers scientists can compare a fin DNA sample to DNA from up to 10 different shark species in a single go. Shivji’s team says it can now spot fins from favorite soup sharks such as blue, mako, silky, and hammerhead. They hope to expand the technique to identify some 50 species most at risk.

The new method could be a boon for those monitoring finning, “a huge problem in open-sea fisheries,” says George H. Burgess of the Florida Museum of Natural History in Gainesville. Shivji says the method could be applied to tracking trade in other wildlife products, such as tiger parts used in Chinese medicine or whale meat.