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By Brad Balukjian
July 10, 2013 3:45 p.m.

Pelagic thresher sharks, charcoal-eyed predators that patrol the world's oceans, use their massive, scythe-like tails to slap schools of sardines, according to a new study published Wednesday in PLOS ONE.

The aqua-smack delivers a shock wave so hard it forces dissolved gases to bubble out of the water, researchers found when they trained their video cameras on numerous feeding events near the Philippines.

Scientists know that other marine predators, such as killer whales, tail-slap schools of small fish, called "bait balls," when they hunt. People had suspected for centuries that the thresher shark's tail, which is about as long as the rest of its



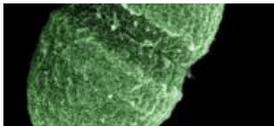
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many, many years, and have never seen anything close to this.”

Oliver and his team of researchers and citizen scientists set out to videotape as many slap sessions as they could to analyze the behavior. They ended up with 25 hunting events that were suitable for scientific analysis.

The team viewed the videos at slow speed to examine the detailed mechanics of the slapping motion. The shark first lunged towards the sardine bait ball, then slammed on the brakes by lowering its snout and squeezing its pectoral fins. Finally, the beast whipped its tail up over its head — far enough to make an accomplished yogi jealous — striking the hapless sardines with an uppercut and sending out a shock wave that injured those not directly hit. The whole thing took an average of 1.9 seconds.

“It’s very violent, very quick and very dramatic,” Oliver said.

In almost all cases, the shark then turned around to snatch its victims, eating an average of 3.6 dazed sardines.

From the video footage, Oliver’s team was also able to determine the size of the sharks, and found that larger sharks can whip fish faster than smaller ones because their tails are longer.

Oliver said that tail-slapping may be a more efficient way to hunt than chasing small fish gathered in disorienting schools. He hopes further documentation of thresher sharks’ behavior and natural history will help policymakers protect the animals. His efforts have already led to legal protection in the Philippines, he said, although the sharks are under threat from fishermen in many other Southeast Asian countries.

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body, was also used to hunt — but this is the first formal documentation of the behavior, said study lead author Simon Oliver, founder of the [Thresher Shark Research and Conservation Project](#).

“This is the holy grail of thresher shark behavioral research,” he said.

When he embarked on this research, Oliver had been studying this particular species of shark, *Alopias pelagicus*, for several years in the shallow waters of the Philippines. The 10-foot-long fish, which is not aggressive towards humans, trawls both temperate and tropical waters, and is listed as “vulnerable” on the International Union for Conservation of Nature’s Red List, which categorizes extinction risk for threatened species. In 2010, scuba divers noticed the sharks lurking around schools of Indian sardines off Pescador Island, in the central Visayan Islands. Klemens Gann, one of the coauthors on the study and an expert videographer, saw the bait ball and rang up Oliver, who was studying sharks for his Ph.D.

“Klemens told me, ‘we’ve got a huge bait ball, the sharks are coming in and we think they’re hunting,’ so I dropped everything and went down to investigate,” Oliver said.

Sure enough, the sharks were slapping away, sending sardines belly up. Oliver was euphoric.

“I had been chasing these animals for five or six years,” he said. “If you saw Andy Murray win Wimbledon over the weekend, you know it was a long road to get there and a big relief. I felt that total awe and joy. I’ve worked in this field for



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qcdude3 at 9:22 PM July 10, 2013

I've watched Salmon do a very similar thing to schools of herring in a ball. They sweep in and flip the ball of herring with their tail then feed upon the dazed individuals they have blasted out of the ball.

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