

THE SEA WORLD BOOK OF
SHARKS

BY EVE BUNTING

PHOTOGRAPHS BY FLIP NICKLIN

A Sea World Book for Young Readers

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Text by Eve Bunting
Photographs by Flip Nicklin
Editorial Direction by Cynthia Edwards
Design by Carla Clarke

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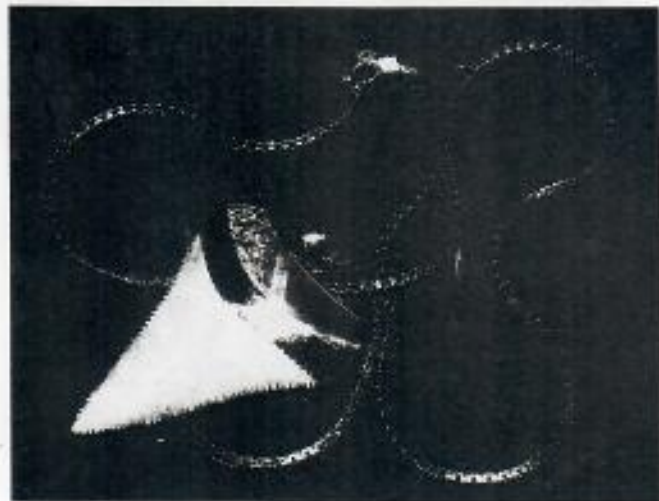
paving stones; thus the name.

Shark teeth, though so dangerous, are set weakly into the jaws. They can easily be lost from the gums, and sharks often leave a few behind when they bite into something hard. But whoever heard of a toothless shark? Five or six or seven rows of extra teeth lie in both jaws, one behind the other. When some are lost, the spare ones move forward into the gaps.

In olden days fossilized shark teeth were used to tell if food was poisoned. Rich men kept one on hand, just in case. To test for poison, the tooth was stuck into the food. If the tooth changed color there was poison indeed, and off with someone's head! Children in those times wore whale shark teeth around their necks at night. These were supposed to keep them safe, and to give them good appetites, so they'd grow big and strong too. And way back in time Hawaiian women studded their gloves with sharks' teeth. Sharktooth gloves were perfect for punching-out unwanted admirers.

Shark teeth are still sold. Souvenir shops in beach towns often have whole shark jaws for sale — large, gaping jaws studded with rows of pointed teeth. What kind of horrible hacking and sawing was needed to take them from the dead shark? Very little: shark jaws are not attached directly to the skull, but are held in place by ligaments and muscles. A bit of know-how, a sharp slice around, and the jaws are free.

Sharks do not all bite the same way when attacking something



Opposite page: A blue shark nudging a floating soft-drink can.

Left: A necklace made from an upper front tooth of an eighteen foot great white shark.

too large to be swallowed whole. Some slice away chunks of flesh while the front parts of their bodies shudder. Some snip with quick little pecks. Some twist and flop, and a great white will gulp piece by piece. Sometimes it won't swallow till its mouth is completely full — and that is quite a mouthful. Sharks do not need to roll over on their backs to bite, as was once thought. Although their mouths are set back on the underside of their snouts, they can attack head on. This is because the upper jaw is not fixed to the brain case. It can be raised and stuck out from the body. Sharks are rather messy diners, spreading blood and flesh around whenever they have to bite into something.

→ If they eat something that disagrees with them, such as a turtle shell, some sharks can bring their stomachs up and out through their mouths. After rinsing the lining in water, the shark can slip the whole

Right: A blue shark eating.

Below: A great shark ready to eat.

Opposite page: A great white shark, breaking the surface of the water, taking a piece of bait.



stomach back down again into place. It's rather like turning the lining of a pocket inside out, and is much better than suffering indigestion.

In the wild waters of oceans, lakes, and rivers big fish eat little fish to live. Big sharks eat big fish. They also eat littler sharks. This probably explains why sharks that are seen swimming together are usually about the same size. No little one is likely to try joining up with a group of larger ones. And because female sharks are generally larger than males, there are often groups of just one sex roving together. Many sharks seem to like to swim alone. Often they will come together to attack when there is a lot of easy food in the water. Then there can be the type of feeding frenzy that has been described so many times. But when the victim or victims have been eaten, the sharks will go their own secret, silent ways.

The shark does have companions, though. Small, blue-striped pilotfish often swim with sharks. And remoras — long, brown, green, or grey fish — will attach themselves to the shark's body. No one really knows why these two species risk being so close to sharks. Sharks scatter tidbits when they feed. So the pilotfish and remoras may be there for the crumbs the shark drops. Perhaps they also get protection from the giant fish. The pilots could be there for the easy

Right: A school of similar sized grey reef sharks.

Opposite page, left: A shark with a remora attached to its lower jaw.

Opposite page, right: researcher holding a one foot long remora, showing the suckers on the top of the remora's head.



ride on the bow wave the shark makes when it swims. Pilotfish do not guide the shark to its prey, as was once thought. Sharks don't need help in that department. The shark was supposed to be so grateful to the pilotfish that it didn't eat it. It's more probable that the pilotfish are too quick for the shark to catch, and too wary to get close to its jaws.

The company of the remoras is something else the shark can do nothing about. Remoras use the suckers on the tops of their heads to stick themselves to the shark. These suckers are so strong that in parts of the world fishermen use remoras to do their fishing for them. They attach a line to the remora's tail and throw it overboard in the direction of a turtle. The remora sticks itself on so firmly that the fisherman can just reel in his line, and he has dinner. Not much wonder the shark is stuck with remoras!

For millions of years sharks have been in the seas of the world. We know certain things about them: how they look, what they eat, and even how they taste. We have cut off their heads and sliced out their jaws. We have removed their insides and put their unborn babies in glass jars. We have read about, written about, and taken pictures of them. And still we know less of them than we know of almost any other living creature. That is their fascination — and their challenge.



when they are spread like this, over a wide area. When this shark swims along the bottom, its head swings from side to side like a minesweeper. Stingrays, which bury themselves in sand, are the hammerhead's favorite food. Ninety-six poisonous barbs were found in one hammerhead's jaw, mouth, and head. Maybe they'd slowed the hammerhead a little, but they surely hadn't stopped it.

Nurse sharks also live in tropical seas. They are slow, rather drab, and generally harmless. "Nasal barbels," like soft tusks, come down from their snouts. Nurses are brownish in color and can grow as big as fourteen feet. Since they are able to breathe without moving, they often lie half-hidden on the bottom. They don't look at all ferocious lying there, and divers are sometimes tempted to prod them — just to see what happens. A thirteen-year-old boy saw what happened. He had his arm bitten when he pulled on the tail of a little two-footer.

Tiger sharks also like warm, tropical oceans. They often swim together in groups, the markings on their backs like bars of sunshine and shadow. Their snouts are squarish, their teeth curve to the side and their tempers are ferocious.

The largest tiger shark ever caught was eighteen feet. The Shark Attack File shows that they have made twenty-seven attacks on humans.

Two men were killed in 1937. Their legs, parts of their arms, and the hand of one were found the next day in an eight-hundred-and-

Right: A nurse shark.
Opposite page: A tiger shark.



fifty-pound tiger shark. In 1967 a spear diver in Australia was "bitten in half" in a tiger shark's jaws.

Tiger sharks are basically shy and don't care for the company of other sharks. It is often difficult to get them to eat in captivity, which is strange because in the wild a tiger shark will eat almost anything. The head of a cow was found in one, the head of a horse in another, the head of a crocodile in still another. Even elephants are not safe. In 1959 a crazed elephant plunged into the ocean off South Africa. It was torn apart before it could escape.

Fishermen who trap their fish in nets say it is the tiger sharks who feed most often on other captured sharks.

Stewart Springer, one of the world's leading shark researchers, holds a strange record. And it must surely be the record for the most sharks ever caught on one hook. He caught a tiger shark at the mouth of the Mississippi River. In its stomach was a bull shark. In the bull's stomach was a blacktip shark. In the blacktip's stomach was a dogfish. There they were, the four of them — one inside the other, like Chinese boxes.

Tiger sharks are ovoviviparous. Their litters are large. One gave birth to eighty-two pups.

The tiger stripes that make this shark easy to recognize are more noticeable in the young sharks. As they get older, the markings fade so the shark looks almost gray or gray-brown.

