here of the natural size (fig. 12) is taken from a jaw much shrunk in drying, but still 20 in. wide in its transverse diameter, and taken from a specimen 36½ ft. long. The extinct species must have been still more gigantic in bulk, probably reaching a length of 90 ft., as we may judge from teeth which are found in the crag or which were dredged up from the Pacific Ocean by the “ Challenger ” expedition, and which are 4 in. wide at the base and 5 in. long measured along their lateral margin. In some Tertiary strata these teeth are extremely abundant, so much so that—for instance, in Florida—the strata in which they occur are quarried to obtain the fossil remains for export to England, where they are converted into artificial manure.

The fox-shark or thresher *(Alopecias vulpes),* of which every year specimens are captured on the British coast, but which is common in the N. and S. hemispheres, is readily recognized

by its extremely slender tail, the length of which exceeds that of the remainder of the body. Its teeth are small, flat, triangular and without serrature. It follows the shoals of herrings, pilchards and sprats in their migrations, destroying incredible numbers and frequently injuring the nets. When feeding it uses the long tail in splashing the surface of the water, whilst it swims in gradually decreasing circles round a shoal of fishes which are thus kept crowded together. Sometimes two threshers may be seen working together. Statements that it has been seen to attack whales and other large cetaceans rest upon erroneous observations; its dentition is much too weak to bite through their skin. . The thresher attains to a length of 15 ft., the tail included.

The basking shark *(Selache maxima),* sometimes erroneously called “ sunfish,” is the largest fish of the N. Atlantic, growing

to a length of more than 30 ft. Though best known from the N. of the Atlantic or Pacific oceans, this species has also been recorded from the Australian seas. The mouth is of an extra­ordinary width, and, like the gill-cavity, capable of great expan­sion, so as to enable the fish to take at one gulp an enormous quantity of the small fish and other marine creatures on which it subsists. Also the gill-clefts are of great width, and the internal opening of each is guarded by a kind of strainer, formed by the enormously elongated gill-rakers, which serves to prevent the food organisms from passing out through the clefts. The teeth are very small, numerous, arranged in several series, conical and probably without use in feeding. This shark is therefore quite harmless if not attacked. Off the W. coast of Ireland it was at one time hunted for the sake of the oil from the liver, one fish yielding from a ton to a ton and a half. Its capture is not unattended with danger, as one blow from the tail is sufficient to stave in the sides of a large boat. The basking shark is gregarious, and may be seen in calm weather lying

with the upper part of the back raised above the surface of the water, a habit which it has in common with the true sunfish *(Orthagoriscus),* and from which it has derived its name.

A shark similar in many points to the basking shark, and an inhabitant of the Indo-Pacific Ocean, is *Rhinodon typicus.* So far as our present knowledge goes, it is the largest of all sharks, as it is known to exceed a length of 50 ft., but it is stated to attain that of 70. The captures of only a few specimens are on record, at the Cape of Good Hope and near the Seychelles, where it is known as the “ chagrin.” The snout is extremely short, broad and flat, with the mouth and nostrils placed at its extremity; the gill-openings very wide, and the eye very small. The teeth are extremely small and numerous, conical in shape No opportunity should be lost of obtaining exact information

on this shark. The same applies to the allied

*punctatus* recorded from off the W. coast of America.

The Greenland shark *(Laemargus borealis)* belongs to the same family as the spiked dogfish, but grows to a much larger size, specimens 26 ft. long having been met with. The two dorsal fins are small and destitute of spines. The teeth (fig. 15) in the upper jaw are small, narrow, conical in shape; those of the lower flat, arranged in several series, one on the top of the other, so that only the uppermost forms the sharp dental edge of the jaw. The points of these lower teeth are so much turned aside that the inner

margin only enters

the dental edge.

TheGreenland shark

is an inhabitant of

the Arctic regions,

sometimes straying

to the latitudes of

Great Britain and of

Cape Cod in the W.

Atlantic; it is one

of the greatest

enemies of the

whale, which is often

found with large

pieces bitten out

of the tail by this

shark. Its voracity

is so great that, as

Scoresby tells us, whilst engaged in feeding on the carcase of a whale it will allow itself to be stabbed with a lance or knife without being driven away.

The spinous shark *(Echinorhinus spinosus)* is readily recognized by the short bulky form of its body, its short tail, and the large round bony tubercles which are scattered all over its body, each of which is raised in the middle into a pointed conical spine. While most frequently recorded from the E. Atlantic, specimens have also been obtained from the coasts of N. America and of New Zealand. It always lives on the bottom, and probably descends to some depth. It does not seem to exceed a length of 10 ft.

*Bathybial Sharks.—*Sharks do not appear to have yet reached the greatest depths of the ocean; and so far as we know at present we have to fix the limit of their vertical distribution at 1000 fathoms. Those which we find to have reached or to pass