

Width of mouth.....	.14
Diameter of eye.....	.03
Distance from snout to first dorsal.....	.62
Length of base of first dorsal.....	.08
Distance between dorsals.....	.09
Length of base of second dorsal.....	.05
Height of second dorsal.....	.065
Length of base of anal.....	.065
Height of anal.....	.08
Length of caudal.....	.18
Length of pectoral.....	.21
Length of ventral.....	.11

ON THE OIL-SHARK OF SOUTHERN CALIFORNIA (GALEORHINUS GALEUS).

By **DAVID S. JORDAN** and **CHARLES H. GILBERT.**

Along the coast of Southern California a large species of shark appears in the spring in great schools. At certain places along the coast, especially about Newport Landing, in the southern part of Los Angeles County, the pursuit of this shark becomes a matter of considerable economic importance. They are taken easily with a hook, and sometimes great numbers of them may be surrounded and brought in with a seine. They are valued for their livers and fins. A single liver when the animals first arrive, in March, will yield a gallon of oil. As much as 4,000 gallons of this oil have been procured at Newport in a single season. The fins of this species are sold to the Chinamen, who find them a great delicacy, and pay for them 12½ cents a pound.

The present writers have succeeded in obtaining one of these "oil-sharks," and find the species to be the European tope, *Galeorhinus galeus* (*Galeus canis* and *vulgaris* of authors). It is singular that our only knowledge of the occurrence of this species on the west coast of America till now has been the indication by Dr. Günther of the presence in the British Museum of "o. Young. San Francisco. From Mr. Gruber's collection." Yet, in the waters of California south of Point Conception it is doubtless more numerous in individuals than all other species of sharks combined.

Measurements of an adult male oil-shark.

Length.....	63 inches = 1.00
Depth (greatest).....	.14
Length of head.....	.18
Length of snout (below, from mouth).....	.075
Length of snout (from eye).....	.08
Width of mouth.....	.07
Length of spiracle.....	.0075
Diameter of eye.....	.025
Distance from snout to first dorsal.....	.33
Length of base of first dorsal.....	.073

Height of first dorsal075
Distance between dorsals.....	.25
Length of second dorsal045
Height of second dorsal.....	.04
Length of anal.....	.035
Length of caudal.....	.21
Distance from ventrals to pectorals25
Length of pectorals.....	.15
Length of ventrals.....	.045

THE SURF-SMELT OF THE NORTHWEST COAST, AND THE METHOD OF TAKING THEM BY THE QUILLEHUTE INDIANS, WEST COAST OF WASHINGTON TERRITORY.

By JAMES G. SWAN.

NEEAH BAY, WASH., *September 22, 1879.*

Thirty miles south of Cape Flattery, at the entrance to Fuca Strait, Washington Territory, is the Quillehute River, a small stream emptying into the Pacific Ocean near some rocky islets, the largest of which, named by the Indians "Alikistet," and by the whites "James Island," is a landmark for the entrance to the little bay or cove, on the shore of which is the principal village of the Quillehute Indians, who collect and dry for winter use a very choice variety of smelt (*Hypomesus olidus*), which I have named the surf-smelt, from its peculiar habit of depositing its spawn among the shingle of the beach, coming in with the surf in incredible numbers, and in this respect somewhat resembling the capelin (*Mallotus villosus*) of New Brunswick.

The surf-smelt closely resembles the common smelt in shape, size, and the peculiar cucumber-odor, but differs in having its belly covered with a coating of yellow fat, which imparts an oily appearance to water where the fish have been cleaned or washed, and makes them the very perfection of pan-fish.

During the month of August, 1879, I was at the Quillehute Indian village from the 17th to the 22d, with United States Indian Agent Charles Willoughby, and had an ample opportunity to witness the habits of the surf-smelt and their capture by the natives. These Indians take them by means of a peculiar-shaped hand-net of a parallelogram form at top, five feet long, twenty inches wide, and from four to five feet deep, with a curved handle.

The specimen net which I send is made of the fiber of the common stinging nettle (*Urtica dioica* L.), which grows in luxurious abundance on the northwest coast near Indian villages and deserted camps. A specimen of the prepared fiber is also sent with the net.

The method of preparing the nettle by the Quillehute Indians, after gathering a quantity and stripping off the leaves and twigs, is to dry the stalks in the sun or on a frame in the lodge, near, but not directly over, the fire.