II. THE SHARK-FIN INDUSTRY IN THE PHILIPPINE ISLANDS.

The drying and curing of sharks' fins (Plate III, fig. 1) in the Philippines, for export to China, is one of the minor industries, requiring but little capital and yielding profitable returns. At present the business is almost entirely in the hands of Chinese merchants.

The fins of all of the numerous species of sharks found in the Islands are used, as well as some of the fins of the larger rays. The big, dorsal fin of the shark is the most desirable; this is usually of a uniform pale grayish or whitish color on both sides, and is supposed by the Chinese to contain more gelatin than any of the others, therefore it commands the highest price and is known in commerce as the "white fin." All the remaining fins, which include the ventrals, pectorals, anal, and caudal, are classed together as "black fin." The large caudal fin when uniform in color is frequently put in as "white fin." The fine white fins are selected for the making of soup, while the black fins are largely used in manufacturing a superior grade of fish glue.

METHOD OF CATCHING SHARKS.

Sharks are principally caught by the Moros, although they are captured in considerable numbers in corrals and nets throughout the Islands. The Moros usually spear them, or catch them with hook and line, using stale fish for bait. The observer can not fail to be impressed by the number and size of the sharks caught by the Samal Moros in the vicinity of Sitanki Island.

A number of Philippine sharks will take the trolling spoon, especially if it is painted red on one side; they afford very good sport. In India, sharks are captured in large nets for the sake of the oil secured from the liver; they are also used as food by the poorer classes. In the Philippines the Moros alone seem to relish shark-meat, and the manufacture of fish oil is an entirely neglected industry. If we consider the great number of sharks caught in these Islands, it is a matter of surprise to find that the making of fish-oil is not carried on in connection with the shark-fin industry, as this would very materially increase the revenue derived from each shark.

THE PREPARATION OF SHARKS' FINS.

The fins are cut from the shark as soon as possible after its capture, the thick fleshy portions of the larger fins are slit open to facilitate their drying, and they are then spread out in the sun. It requires from three to six days to dry the product depending upon the amount of sunshine. After the fins are thoroughly dry they are assorted into two grades: The white fins, or first class variety, in which are placed all the large dorsal fins; and the black fins, or second class, which includes all the small fins. They are then packed tightly in bales of about 100 kilograms each and are ready for export.

These fins are further prepared by being soaked in boiling water for a short time and the skin removed. They are then shredded into small cartilaginous rods, somewhat resembling a very fine grade of sphagetti. These are waxy white and attractive in appearance (Plate III, fig. 2).

At this stage they are either made into soup, or dried and reëxported to all parts of the world at considerably more than double the original price. To make this prepared fin into a savory and wholesome soup it is soaked in cold water one day, then placed in hot water for one hour, this causes all the rods to separate. Eggs and some chicken or beef stock, salt, pepper, and butter are added and the mixture boiled for two hours. That the above receipt produces a most delicious soup was the unanimous verdict of the staff of the Bureau of Science after testing a sample prepared by Sing Fat, a well known Chinese cook of Manila.

No great Chinese feast is complete without a dish of this soup and I believe it is worth while to call the attention of our large soup manufacturing establishments to the possibilities of this industry in the Philippines. I believe that an almost unlimited market could be found in China.

THE AMOUNT AND VALUE OF SHARK-FIN EXPORTED FROM THE PHILIPPINE ISLANDS.

Sharks' fins weighing 172,610 kilograms, valued at 85,000 pesos (42,500 dollars), were exported from Manila during the year 1910. The current price of shark-fin at Zamboanga, which is one of the centers of the trade, is 84 centavos per kilogram for the white fin and 58 centavos for the black, therefore, it is evident that the export valuation is very low and that the real value probably would be somewhat over 100,000 pesos. The price is subject to considerable variation. In 1909 the maximum price paid for the entire yield was 2.19 pesos per kilogram including both white and black fins. Chinese merchants in Zamboanga informed me that the price for the first grade white fin sometimes reaches 6.58 pesos per kilogram, but this is unusual. Almost the entire yield of Philippine shark-fin is shipped to Singapore or Hongkong, and from these places is distributed to various parts of China.

In Manila the retail price of prepared shark-fin, as shown in Plate III, fig. 2, is from 8 to 10 pesos per kilogram.

In conclusion I wish again to call attention to the fact that the by-products of the shark fishery are entirely wasted. If, in addition to the fins, the liver was used to make fish oil, and the skin which is used for scabbards for swords was also saved, the revenue derived from each shark would be about doubled.