

Mr. Barnes says they catch very few ripe fish of either sex, but take a good many "down-runners," or spent fish. He believes all the fish go long distances above the highest fisheries, which are only a short distance from salt water, to spawn.

On the headwaters of these rivers, owing to the natural difficulties and the absence of market facilities, the only shad caught are taken with bow-nets and short pieces of gill-nets, as on the Saint Mary's, and only used for home consumption.

A great many shad are taken in Winyah Bay before they leave salt water. The best of the season here is February and March. On the day of my visit to Mr. Barnes's flat, the 7th instant, his total catch was 3 shad, and he quit fishing that day. He was paying 30 cents each, at first hand, for the fish he bought, and I see by the quotations in the Star of the 8th instant that they are being sold in Washington at \$25 to \$32 per hundred.

It is possible that some little work might be done here before the opening of the season farther north. There would certainly be more chance of success than in Florida, so far as my experience goes. I do not think much can be done where the catch of shad is taken by gill-nets, especially as fished in Southern rivers. As a rule, comparatively few shad are taken at a drift, and of these the proportion of males and females is rarely equally divided. Still more rarely are the two sexes in the proper condition for spawning. Especially is this true when by force of circumstances these nets are only fished in the long, deep reaches of the river, and never allowed to fish *near the bottom*. Consequently it seems to me most of the fish taken are those running up or down from the spawning-beds near the headwaters, where they cannot be caught, except in limited numbers, by the bow-net, &c.

We left Georgetown on the evening of the 7th instant, arrived off the Chesapeake early on the morning of the 9th, touched at Norfolk for a couple of hours, and then proceeded to Washington, D. C., arriving on the evening of this date at 6.20.

WASHINGTON, D. C., April 10, 1884.

66.—PROPOSED INTRODUCTION OF HAWAIIAN MULLET INTO THE UNITED STATES.

By Hon. JOHN F. MILLER, U. S. S.

[From a letter to Prof. S. F. Baird.]

The Hawaiian mullet is a very good food fish, not equal to our black bass, shad, Spanish mackerel, pompano, and any other American fishes of the best sorts, but a fairly good fish, which grows rapidly to perhaps a pound in weight and is comparatively free from objectionable bones. It inhabits the salt water in the harbor of Honolulu, and is propagated

and reared in artificial ponds which have been made in the salt marsh lands near that city. There are many of these ponds, and large numbers of these fishes are produced therefrom for the Honolulu market. The inhabitants there rate the mullet as next to the red-fish, which is taken in rather deep water and is not so abundant. I was informed that the mullet was a very hardy fish, easily cared for, and in the opinion of gentlemen of experience in such matters no difficulty would be found in transporting the small fish by steamer from Honolulu to San Francisco. The climate of Honolulu is warm and mild even in winter, and it is possible that the mullet would not thrive in our cold regions, but no one at Honolulu seemed to doubt that it would do well in California. Mr. C. R. Bishop, a banker of Honolulu, owns a number of ponds containing mullet, situate on his place at Waikiki, a suburb of Honolulu. He will give you full information in respect of these fishes. The United States Consul, Mr. David McKinley, is also quite familiar with the facts relating to the propagation of the mullet. Mr. Bishop, I have no doubt, would take pleasure in giving you assistance should you desire to obtain a number of the fish for the use of the United States Commission.

I am quite sure that the Hawaiian mullet would prove a valuable addition to the food fishes of the United States.

During my recent visit to Honolulu I made many inquiries in respect to this and other fishes, saw many specimens, inspected the ponds, and enjoyed the mullet* (very much indeed) cooked in many styles, in all of which I found them good.

WASHINGTON, D. C., *November 13, 1883.*

67.—THE INCIPIENCY OF NIGHT-SEINING FOR MACKEREL.

By **GEORGE MERCHANT, Jr.**

[From the Cape Ann Bulletin.]

As early as 1864, seining operations were conducted in the night time for pogies; as many of the old pogie fishermen (of whom I am one) can testify. Up to 1874, no mackerel of any account had been caught in this manner, although there had been a few exceptional lots. In 1874, and up to 1877, a larger quantity was taken. Since the latter date, it has been the general custom of the fishermen in the latter part of the summer and fall to expect to capture the greater part of their trip in this manner.

GLoucester, MASS., *November 9, 1881.*

* This is said to be *Mugil Chaptalii* Eyd. & Soul. voy. Bonite, Zool. I, p. 171, pl. 4, fig. 1. I suppose that like other species of *Mugil* it is migratory, and that it feeds on organic substances found in mud and sand. Of its propagation I have not yet been able to learn anything. Jordan and Gilbert do not mention it in their *Fishes of the Pacific coast*. I am preparing a description.—T. H. BEAN.