

34.—HOW LONG WILL OYSTERS LIVE OUT OF WATER?**By Prof. A. E. VERRILL.**

My attention was recently called by Capt. C. H. Townsend to a large cluster of oysters attached to an old boot which had been hanging in the front windows of the fish market of Charles Reed, in this city, for a long time. This cluster was taken from the water in the early part of December, 1884 (about the 10th, it is said), and when I examined it on February 25 several of the larger oysters were still alive. I am told that they continued to live for some days afterwards. The larger ones which were still alive were of about the size ordinarily sold in the market. Most of the smaller ones were dead, and many of the larger ones, of which the edges had been broken or chipped, were dead and dried up when I saw them. Those that were alive had all been hung up with the *front edge of the shell downward* and the hinge upward. They had been hanging in the show window, attached to a gas-burner, during the whole time (over ten weeks), freely exposed to the air and light. The room was, of course, rather cool, as such shops usually are in winter, and the window space, although open freely to the shop, was doubtless still cooler, especially at night, but the air must have been dry and the temperature quite variable. The window faces to the west and would have direct sunlight in the afternoon. The remarkable duration of the life of these oysters is undoubtedly due to two causes:

1. The perfect condition of the edges of the shells, which allowed them to close up very tightly.

2. The position, suspended as they were, with the front edge downward, is the most favorable position possible for the retention of water within the gill-cavity, for in this position the edges of the mantle would closely pack against the inner edges of the shell, effectually closing any small leaks, and the retained water would also be in the most favorable position to moisten the gills, even after part had evaporated. It is also possible that when in this position the oyster instinctively keeps the shell tightly closed, to prevent the loss of water.

This incident may give a hint as to the best mode of transporting oysters and clams long distances. Perfect shells should be selected, and they should be packed with the front edge *downward*, and kept moderately cool, in a crate or some such receptacle which will allow a free circulation of air. Under such favorable conditions selected oysters can doubtless be kept from eight to twelve weeks out of water. Probably the quahaug, or round clam, which has a very tightly closing shell, when perfect, can be kept equally long in the same way.

NEW HAVEN, CONN., *March 9, 1885.*

NOTE BY JOHN A. RYDER.

The observations of Professor Verrill are interesting and important. I have had oysters live in the shell for two weeks where the temperature ranged from 35° to 40° F. at night to over 80° F. in the day, lying on shelves in the cases in my work-room, exposed the whole time to the air, without showing the slightest tendency to decompose, every specimen containing and holding liquid in its mantle cavity. The position of the shells I did not notice. This was about two years since, and the facts did not then seem to me to have any practical bearing, as they now appear to, as suggested by Professor Verrill.

A striking observation which I made at that time, and which I recorded, I believe, in the sketch of the life history of the oyster prepared under my direction for the annual report of the Geological Survey, was the following: The specimen which served me as my "model" from which to sketch the external anatomy of the soft parts, published in that report and also in the Fishery Report of the Census, laid open for twenty-four hours, with one valve removed and the soft parts exposed to the air for the whole time, and yet at the end of that time, when the ventricle was touched, it began to slowly pulsate, and did so under this stimulus a number of times. This instance of tenacity of life on the part of a mutilated bivalve is pretty hard to excel for incredibility; in fact, had I not witnessed the facts as stated above, I would have been disinclined to accept them as a statement of the truth.

WASHINGTON, D. C., *March 13, 1885.*

35.—NEW ENGLAND FISHERIES FROM JANUARY 1 TO MARCH 31, 1885.

By W. A. WILCOX.

The winter fishing by the New England fleets is confined to the George's Bank cod, haddock, and halibut fleets, the frozen-herring catch of Grand Manan, Bay of Fundy, and Fortune Bay, Newfoundland. With the exception of vessels engaged in supplying the large fresh-fish markets of Boston and New York, and a few sail from the Provinces, the winter fishing is confined to vessels from Gloucester. A large part of the catch sold at the leading fresh-fish markets is also made by vessels from that port. The catch of codfish and mackerel during 1884 having been exceptionally large and prices lower than for years, not much encouragement was felt to engage in the dangerous winter fishing. The report for January shows few sail and light receipts.

SHORE COD-FISHERY.—Thirty-two sail from Gloucester have followed the near-home shore fishery for ground fish, the catch being made in Ipswich Bay and landed at Portsmouth, Rockport, and Gloucester. During the past winter, up to the middle of March, the entire catch was