



Fig. 2—Atlantic Coast with the localities from which the muttonfish has been reported shown by crosses.

but absolute information is as yet lacking. Females taken from May 31 to October 15, 1918, contained eggs of various sizes but none contained young. As stated above no muttonfish were taken in Passamaquoddy bay during the winter of 1918-19, and apparently they had migrated into the outer deeper waters. On April 5, 1919, there was taken in a seine in St. Andrews harbour a small sculpin which contained in its stomach a muttonfish $1\frac{1}{2}$ inches long. This specimen doubtless was born during the winter. These facts indicate rather conclusively that the reproductive period is in the winter months while the fish are in the outer waters. The young of the first summer come close inshore during flood tides, and may be taken in traps as the tide ebbs. They have also been found around rocks uncovered at the time of low tides.

A study of the age of the fish has been made by means of the otoliths (ear stones) and the vertebrae. The scales which are usually used for the determination of the age of a fish were found unsuitable. In this study the ear stones have been found quite satisfactory but the vertebrae not reliable in the higher years though serving as a rough check on the otolith determinations. About eighty specimens ranging in size from 3 inches to $28\frac{1}{2}$ inches