

afford more or less obvious attachment or support to the adjacent embryos by means of the thin structureless membranes already spoken of.

While I have had practically but a single stage of development to study, it is obvious that we have in this instance a very remarkable condition of affairs in the ovary. It is clear, I think, that the method of viviparous development as seen in *Sebastes* is quite different from that observed in other types of viviparous fishes, so that this type adds another to the several forms of development noticed in a paper which I have recently published.*

WASHINGTON, D. C., March 27, 1886.

32.—NEW ENGLAND FISHERIES IN MARCH, 1886.

By W. A. WILCOX.

The month came in with the longest and most severe of the many gales during the past winter. The storm began February 25 and continued until March 3. During much of this time the thermometer indicated zero or below, and the wind blew from 50 to 75 miles an hour. One hundred and forty-three sail from Gloucester were absent at this time on cod and halibut trips to George's Bank; and as several days passed with no arrivals or news from them, much anxiety was felt. All at last arrived, mostly more or less damaged. Ten men were lost by being swept overboard, two vessels losing two men each and six vessels one man each. It is doubtful whether any previous record will show as many lost during a single storm by being washed overboard. Much suffering was experienced from the excessive cold weather.

Among the arrivals, schooner Fitz J. Babson reports that on February 27, on George's Bank, the decks were swept and three dories stove by a heavy sea, and that as soon as the deck was cleared a small-sized live mackerel was found to have been washed aboard. This may be recorded as the first mackerel caught this season. During the month the fishermen have several times reported finding mackerel in the stomachs of codfish caught on George's Bank.

The frozen-herring fleet from the United States to Fortune Bay, Newfoundland, numbered twenty sail, all belonging to Gloucester. One has previously been reported wrecked† while on the way home; the others all brought full fares, the last to arrive being the schooner Herman Babson, arriving March 8.

Codfish have been abundant, and when the weather permitted fishing a good catch has been made on George's Bank and in Ipswich Bay. The fleet in Ipswich Bay numbered forty-three sail that used trawls and seventeen sail that fished with gill-nets. Before the gale, which destroyed many nets, those using them were doing well. The schooner Sarah

* On the Development of Viviparous Osseous Fishes. Proc. U. S. Nat. Mus., 1885; pp. 123-155, pls. VI-XI.

† See F. C. Bulletin, 1886, p. 79.

C. Wharff took 36,000 pounds of codfish with gill-nets, while fishing only three days in Ipswich Bay; and sold the same at \$4 per 100 pounds, netting over \$1,400. The price just mentioned was exceptionally high; while during the month prices for all kinds of fish have ruled lower than for years, the exceptional cases being on fresh fish, with which the market would be poorly supplied during stormy weather.

The codfish found in Ipswich Bay seem to have followed in, or been followed by, a large body of shrimp, their stomachs being full of them. The shrimp are from two to four inches long, of a bright red color, and full of spawn. The codfish taken in Ipswich Bay average seventeen pounds each, about half of them being female fish.

The mackerel vessels have been getting ready for their season's work, which is close at hand. The catch of mackerel before June is generally regarded as unprofitable and injurious to the business. It has been expected and largely desired by producers and dealers that Congress would pass a "close season" law, prohibiting the catch or importation of mackerel until June. The mackerel vessels began to leave for the southern fishing grounds on March 11. No mackerel had been seen up to the close of the month. Not so many sail as usual will be engaged in this branch of the fisheries early in the season, yet by the middle of April one hundred sail will be on the fishing grounds. As long as *any* go early, many who are opposed to fishing for mackerel so soon in the season will go with them.

Although much of the time during the month the weather was stormy and vessels were obliged to remain idle, fish have been abundant and good average fares brought in. The receipts at Gloucester of cod and halibut, the two leading varieties, as compared with the corresponding month last year, show an increase, as follows:

Month.	Number of fares.	Cod.	Halibut.
March, 1885.....	179	<i>Pounds.</i> 4, 286, 000	<i>Pounds.</i> 693, 500
March, 1886.....	190	4, 568, 334	1, 106, 100
Increase, 1886.....	11	802, 334	412, 600

Receipts of fish at Gloucester, Mass., in March, 1886.

From—	Fares.	Codfish.	Halibut.	Haddock.	Frozen her- ring.
		<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Number.</i>
George's Bank	122	4, 114, 334	105, 000	623, 000	.....
Brown's Bank	7	180, 000	37, 000	.....	.....
Banquereau	2	.....	55, 000	.....	.....
La Have Bank	1	15, 000	10, 000	.....	.....
Western Bank	1	10, 000	6, 000	40, 000	.....
Ipswich Bay, trawls	12	113, 000	.....	.....	.....
Ipswich Bay, nets	14	136, 000	.....	.....	.....
Newfoundland	1	.....	40, 000	.....	.....
Fortune Bay, Newfoundland	3	.....	.....	.....	1, 250, 000
Bay of Fundy	8	.....	.....	.....	610, 000
Grand Banks	24	.....	792, 500	.....	.....
Total	100	4, 568, 334	1, 106, 100	603, 000	1, 860, 000

Additional, 10,000 boxes of smoked herring from Grand Manan.