

Average Seasonal Variation of Chemical
Constituents of the Mussel (*M. edulis*)

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The present paper is an advance to a study of the chemical constituents of mussels (*Mytilus edulis*).

The mussels we have studied grow on the iron hull of a ship that is permanently anchored, in Vigo harbour, as a floating coal store.

The samples were taken about every fortnight. The size groups of 40-45, 55-60 and 70-75mm. were analyzed separately, not any accountable difference being found among them, so that in Figure 1 only the values for the 40-45mm. size groups are shown, as representatives of the variation of the whole.

Almost in every case duplicate samples were taken, consisting of about 20 specimens each. The mussels were partially opened by cutting their adductory muscle. In order to draw the internal water they were allowed to drain during 12 minutes after they had been opened. Then the fresh meat was removed from the shell.

Curve a, in Figure 1, shows the variation of the average weight of fresh meat per individual mussel within every size group. It will be noticed that this average weight progressively increases from February, when there is a minimum value of 1,32 g., till September when a maximum value of 3,57 g. is reached. From September to February there is a progressive decrease of average weight.

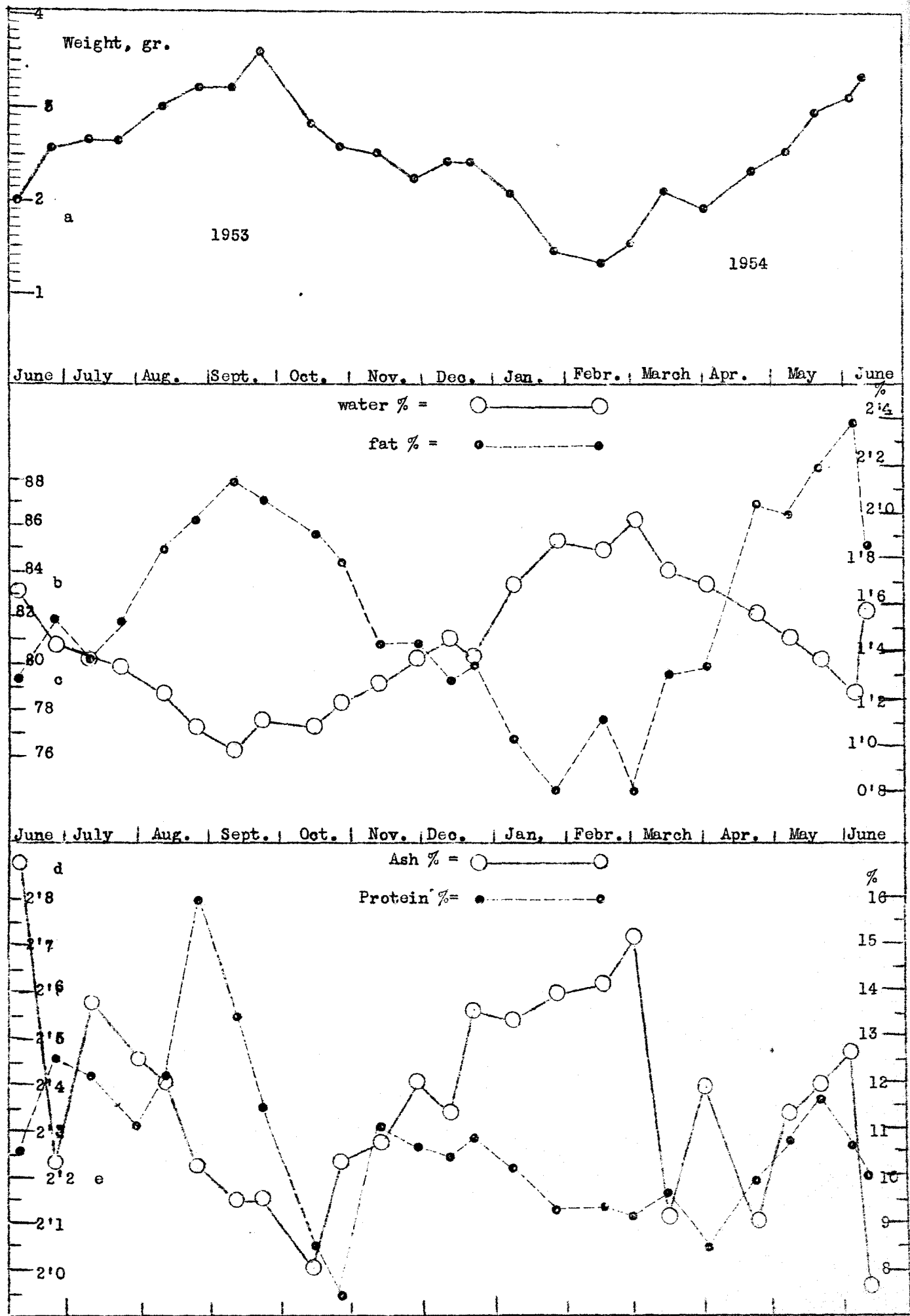
The dry weight variation is so similar to that of fresh weight that we have not plotted it in Figure 1: the relative fluctuations of water contents are much lesser than those of dry weight. The water contents variation (curve b) is quite opposite to that of average weight, but less than that with a maximum in February-March (86,2 per cent.) and a minimum in September (76,3 per cent.)

Curve c shows the variation of fat contents, which is similar to that of average weight and opposite to the water contents variation. The fat contents ranges from 2,4 per cent. to 0,85 per cent.

The variations of proteins, ashes and glycogen are not so uniform as the preceding ones. The curve for ashes, d, shows some abnormal points and has some likeness to that for water contents.

The proteins contents varies in such a way that it cannot easily be referred to the other components. Its maximum value is placed at 15,9 per cent. in August and after this month it decreases progressively to become almost constant from October and afterwards.

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All the curves refer to a 40-45 mm. shell length mussel.

a, average weight of mussel without shell. b, water contents. c, fat. d, ashes. e proteins. The values represented in curves b, c, d, and e are given by percentage referred to fresh meat.