

that this can be consumed by the animals without harm to the plant aggregate. He further assumes that copepods and other multicellular animals require per day a quantity of nutriment equal to a tenth of their own volume, whereas protozoa need half their own volume. In view of what I have previously stated regarding the variations in the rate of production of *Ceratium*, I have no hesitation in declaring that the augmentation of the algæ varies within wide limits, and the same is undoubtedly also the case with the nutriment-requirements of the animals. Still I am quite ready to concede that Lohmann's assumptions may apply to the average conditions. The following table compiled by him, and showing values in cubic millimetres of plankton per 100 litres of sea-water, will doubtless be of interest :—

	Daily Augmentation of Producers available for Nutriment.	Daily Nutriment-requirement of Animals.	Surplus or Deficiency.
August .	35	6	+ 29
September	27	8	+ 19
October	14	5.5	+ 8.5
November .	9	4.5	+ 4.5
December .	3.5	2.5	+ 1.0
January .	3	1.8	+ 1.2
February .	1	1.8	- 0.8
March .	3	2.4	+ 0.6
April .	13	2.0	+ 11
May .	14	5.5	+ 8.5
June .	20	4.0	+ 16
July .	17	4.5	+ 12.5
August .	16	4.3	+ 11.7

According to this table the surplus plant substance is not large, and in February there was actually a deficiency. It is possible, too, that Lohmann's assumptions are on the optimistic side, and that he has put the production-capacity of the plants too high, and the nutriment requirements of the animals too low.

Pütter, after studying the quantities of oxygen consumed by different marine animals, both benthonic and pelagic, considers that the augmentation of the plant aggregate by no means suffices as nutriment for the animals. If his view is correct, there must, of course, be other sources of nutriment, both to replace the loss of organic substance which the animals incur by