

A Note on Manganese in Marine Plankton.

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ALTHOUGH to many organisms manganese is known to be of great importance (Berkeley, 1922; Brenchley, 1927; Hopkins, 1930) its part in the economy of the sea is unknown. Some attempts were therefore made in 1934 to estimate the manganese in marine plankton using the residues from the determinations of phosphorus (Cooper, 1934; Harvey *et alia*, 1935). The residues from the triplicate digests from each cruise were combined and concentrated from about 200 to 70 ml. The concentrates were then examined quantitatively for manganese by the periodate method of Willard and Greathouse as described by Yoe (1928). In all cases but one the concentration of manganese was less than could be detected with certainty (Table I). In the absence of confirmatory data the figure of 5γ per litre of the diatom catch of May 15th must be regarded as suspect and attributable to chance contamination. Thus in these catches at L4 (5 miles off shore) during the spring outburst in 1934 manganese amounted to less than three parts per million million parts of water filtered, equivalent to one-thousandth or less of the phosphorus content.

TABLE I.

Manganese content of plankton caught at Station L4. First group caught with quantitative net; second group with ordinary tow-nets. The diatoms of May 15th and 24th were separated from the larger animals by passage through a silk net having 60 meshes to the linear inch.

Date 1934.	Description of plankton.	Manganese in catch γ/m^3 of sea water filtered.	Ratio Mn/P (weight/ /weight).
9/3	Routine haul; mixed . . .	<3	<0.003
10/5	„ „ „ . . .	<1	<0.0008
15/5	„ „ „ . . .	<2	<0.002
23/5	„ „ „ . . .	<0.5	<0.002
10/5	Fæcal pellets . . .	<0.3	<0.02
γ /litre of catch.			
4/5	Animal plankton . . .	<0.2	<0.0008
15/5	Diatoms . . .	ca 5 (?)	ca 0.01 (?)
24/5	Rhizosolenia spp. . .	<2	<0.02

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