

## Abstracts of the papers printed or to be printed

### BIOLOGICAL INVESTIGATION DURING ANTARCTIC EXPEDITION VOYAGE AND AT EAST AND WEST ONGUL ISLANDS IN ANTARCTICA\*

Tatsuro MATSUDA\*\*

#### 南極観測航海及び昭和基地における生物\*

松田 達郎\*\*

(1) The quantitative collection of the marine plankton in the surface water with the pumping method was carried out during the Japanese Antarctic Research Expedition voyage. The quantities of the plankton were most abundant in the sea between the south latitude 45 degree and 60 degree.

(2) The pollen grains in the air were collected every day during the voyage. It is interested that the pollen grains were collected in Antarctic Region.

(3) Observation of the flora were made in

East and West Ongul Island and micro fauna in the water of these wet plant surface are studied.

(4) Plankton ice is formed in the sea when the sea water freezes. Ecological observation on the plankton ice were made in the Antarctic sea.

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\* Will be printed in the Antarctic Record.

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### THE LIFE OF THE ANTARCTIC OCEAN\*

#### The Plankton at the Offing of Syowa Base in the Antarctic Ocean

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(1) The plankton at the offing of Syowa Base in the Antarctic was collected from January 9 to February 19, 1957, in the range of waters from station 7 (65°49' S., 45°36' E.) to station 44 (68°12' S., 38°25.5' E.).

(2) Oceanographical data observed by Umi-

taka-maru and concerned with those stations from 7 to 44 are shown in Table 1.

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\* Printed in the Jour. Tokyo Univ. Fisheries (Special edition) 1 (4): 313-324, (1958).

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Table 1. Oceanographical data observed at the stations from 7 to 44 in Southern Ocean.

Depth (m)	Water temperature (°C)	Chlorinity (0/00)	O <sub>2</sub> content (cc/1)	Transparency (m)
0	-1.0 — +0.5	18.80 — 18.00	8.0 — 9.0	10 — 25 — 30
10	-1.5 — +0.5	18.80 — 18.50	8.0 — 9.0	(W) (E) (NW)
25	-1.5 — +0.5	18.70 — 18.80		
50	-1.5 — -0.5	19.00 — 18.80		
75	-1.8 — -1.5	19.00 — 19.00		
100	-1.8 — -1.4	19.00 — 19.00		
150	-1.7 — +1.0	19.10 — 19.00		
200	-1.5 — +1.0	19.20 — 19.00		
200	-1.5 — +1.5	19.20 — 19.10		

Depth (m)	Silicate-Si (mgA/1)	Phosphate-P (mgA/1)
0	30 — 45	21 — 10

3) The ordinary plankton net with an opening 455 mm in diameter was fished vertically from a depth of about 150 m to the surface, the 455 mm vertical closing net was hauled from the same depth (ca. 150 m) to a depth of 50 m and horizontal hauls were made with the 1330 mm larval net after the sunset at each station.

4) It is the qualitative examination of the phyto- and zooplankton, rates of their occurrence in the east and the west waters of the Cook Peninsula and relations among the plankton population, transparency and colour of sea that this paper is concerned about.

5) Nearly 25 and 18 species and 20 groups,

in which used units are larger than order, could preliminarily be identified with phytoplankton, copepods and other zooplankton, respectively. It was found that the plankton in the west waters of the Cook Peninsula was predominant than that in the east waters.

6) It was found that station 31 had the lowest transparency (7 m) and 4 stations of 16, 22, 32, and 33 had slightly higher one (9 m). The stations above mentioned lie in the far western region centered at about Lat. 68°S., Long. 24°E., and are peculiar in turbidity, discolouration, pH and oxygen content.

7) It will be recognizable that the considerable increase in number of species in phytoplankton, which propagates in large quantity in general, might be one of the effective factors on transparency and colour of sea.