

m<sup>2</sup>. The standing stock of nanoplankton (smaller than 10  $\mu$ m), microplankton (10–60  $\mu$ m) and netplankton (larger than 60  $\mu$ m) was  $15.73 \pm 1.78$ ,  $8.39 \pm 3.96$  and  $7.73 \pm 4.87$  mg chl. *a*/m<sup>2</sup>, respectively, and their mean percent contributions to the total chlorophyll *a* stocks were 52.6, 25.1 and 22.3%, respectively. The standing stock of nanoplankton chlorophyll *a* was almost constant in all water masses, while those of the micro- and netplankton showed large fluctuations. Thus, the cause of the regional variations of the standing stock of phytoplankton chlorophyll should mainly be attributed to the variations of micro- and netplankton standing stocks. (p. 111–128)

## PHYTOPLANKTON COLLECTED DURING THE FIBEX CRUISE OF THE UMITAKA MARU III, 1980–1981; A PRELIMINARY REPORT

Teru IORIYA and Mitsuo KATO

From November 1980 to March 1981, 145 phytoplankton taxa were identified in 30 samples collected at various stations on the FIBEX Cruise of the T/S UMITAKA MARU III of the Tokyo University of Fisheries. The classification of phytoplankton were: 65 taxa of Bacillariophyceae, 68 taxa of Dinophyceae, 2 taxa of Cyanophyceae, one taxon of Euglenophyceae, 8 taxa of Chrysophyceae and one taxon of Cryptophyceae. Tables of stations and species with preliminary notes on the distribution patterns of phytoplankton in the Antarctic, temperate and tropical waters are given. Brief taxonomic notes are also given for some of the predominant and rare phytoflagellates. (p. 129–144)

## PRELIMINARY REPORT ON THE BIOMASS OF MACROPLANKTON AND MICRONEKTON COLLECTED WITH A BONGO NET DURING THE UMITAKA MARU FIBEX CRUISE

Takashi MARUYAMA, Hiroshi TOYODA and Shigemi SUZUKI

Zooplankton biomass in the austral summer in the western Pacific sector of the Southern Ocean was estimated. The mean total biomass was 28.8–31.1 g/1000 m<sup>3</sup> in the richer regions and 14.1–20.1 g/1000 m<sup>3</sup> in the poorer ones. These values were similar to the previous estimates. However, the maximal values were extremely smaller than those of the previous ones. Copepods were most abundant, and chaetognaths, euphausiids and amphipods followed. There seemed to be at least two types of waters represented by different zooplankton assemblages. *Euphausia superba* occurred only at the southernmost station. (p. 145–153)

## CONTINUOUS COLLECTION OF MACROPLANKTON BY A FISH PUMP AT SURFACE LAYER IN THE ANTARCTIC OCEAN; A PRELIMINARY REPORT

Yoichi SASADA

Continuous samplings of macroplankton were conducted at two regions with a fish pump connected with the cod-end of the KMT-net by a hose from the surface layer of the Antarctic Ocean during the FIBEX Cruise of the T/S UMITAKA MARU III.

Occurrence of the species at the surface water closely related to the surface light intensity. Both the number of species and number of individuals increased with the decreasing of the light intensity. The reaction of the species to light intensity varied with