

DIFFERENCE OF THE CHEMICAL COMPOSITION OF ORGANIC  
MATTER BETWEEN FECAL PELLET OF *Euphausia superba*  
AND ITS FEED, *Dunaliella tertiolecta*

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Fecal pellets produced by *Euphausia superba* and its feed, *Dunaliella tertiolecta* were analyzed for organic matter to clarify the digestion processes of algal organic matter in zooplankton.

Fatty acid free and combined amino acids accounting for 20.3 and 30.1% of organic carbon of *Dunaliella*-cell, decreased to 7.5 and 19.8% in the fecal pellet, respectively, while a slight increase in carbohydrate content was observed in the fecal pellet relative to the *Dunaliella*-cell. These facts indicate that fatty acid and amino acids play a more important than carbohydrate in a food for zooplankton.

Fatty acid composition was determined with change in unsaturated fatty acids consisting of carbon atom of 16 (16: unsat) to a great extent. However, no significant difference between *Dunaliella*-cell and fecal pellet was observed in amino acid and monosaccharide compositions.

Digestion pathways of these algal organic materials in *Euphausia superba* were briefly discussed (p. 189-196)

BENTHIC FAUNA IN THE VICINITY OF BALLENY ISLANDS

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Collection of benthic organisms by pots with a bait inside was conducted on the sea floor at the depth of 528 to 576 m in the vicinity of Sturge Island, Balleny Islands. The pots were dragged on the sea floor during the setting and/or lifting, so that not only the movable animals but also the sessile ones were together with collected. List of animals collected is given. (p. 197-201)

DISTRIBUTION OF GADFLY PETRELS OF THE GENUS *Pterodroma*  
IN THE ANTARCTIC AND SUBANTARCTIC REGIONS OF THE  
AUSTRALIAN SECTOR, AUSTRAL SUMMER 1981

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Distribution of four species of the genus *Pterodroma* in austral summer in the Southern Ocean of the Australian sector is given. Both the white-headed petrel *Pterodroma lessoni* and mottled petrel *Pterodroma inexpectata* are widely distributed from the south of the Subtropical Convergence to the edge of pack ice. The former species is observed over waters colder than 14°C, especially abundantly at 8-10°C. Whereas, the mottled petrel is an Antarctic species and abundantly observed over cold waters of 0.7-2.0°C in the edge of pack ice. The third species, soft-plumaged petrel *Pterodroma mollis* was recorded only twice from the Subantarctic zone. It seems to be a vagrant. An unidentified species *Pterodroma* (*Cookilaria*) sp. was encountered in the Subtropical Convergence and its adjacent waters. Some exceptions passed over the boundary toward the south and reached the northern edge of the Subantarctic waters. Based on temperature preferences which affect to their pelagic ranges, the distribution patterns of *Pterodroma* species were discussed. (p. 203-211)