

ICE ALGAE COLLECTED IN THE COASTAL FAST ICE OF KING  
GEORGE AND NELSON ISLANDS, ANTARCTICA  
(ABSTRACT)

Kentaro WATANABE<sup>1</sup>, Fengpeng HUANG<sup>2</sup> and Peiding LU<sup>2</sup>

<sup>1</sup>National Institute of Polar Research, 9-10, Kaga 1-chome, Itabashi-ku, Tokyo 173

<sup>2</sup>First Institute of Oceanography, State Oceanic Administration,  
P. O. Box 98, Qingdao, China

Micro-algae samples in sea ice (ice algae) were collected from land fast ice of southern King George Island and northern Nelson Island in the South Shetland Islands during the period between mid-November and late December 1988. Brown discoloration was found in the snow ice layer and in the infiltration layer of the fast ice of King George and Nelson Islands and the assemblages were dominated by *Navicula glaciei*. High concentrations of chlorophyll *a* (up to 56.8 mg m<sup>-3</sup>) were measured in the interior layers of the coastal fast ice of King George Island on 17 November 1988. Dominant species in the upper (50–60 cm from the bottom) and lower (20–30 cm from the bottom) interior layers were *Navicula glaciei*, and *Nitzschia cylindrus* and *N. lecointei*, respectively. *N. glaciei* has been reported from various strong-light habitats in Antarctic sea ice areas, *e.g.* tide crack area and the surface of snow ice, and this species was revealed to grow in the fast ice of 30–40 cm deep on the coast of King George Island. The dominance of *Phaeocystis pouchetii* in the bottom ice layer demonstrated that this species grew in the ice and suggested that the ice population would be a possible seed stock for the blooming in the water column.

(Received May 30, 1990; Revised manuscript received September 20, 1990)