

OCCURRENCE OF ARMoured DINOPHYTES ALONG THE
LONGITUDE OF 75°E IN THE ANTARCTIC OCEAN
(EXTENDED ABSTRACT)

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An observation on the geographical distribution of the armoured dinophytes was carried out at 18 stns. (10 in the southward leg, 8 in the northward leg) between latitudes of 46 and 69°S along the longitude of 75°E in the Southern Ocean during the cruise of R.V. KAIYO MARU in December 1983 and from January to February 1984.

Samples were collected by vertical hauls with a plankton net (XX 13) from the 100 m depth layer to the surface. By the light-microscopical observation, 13 species of armoured dinophytes comprising 6 species of *Ceratium*, 5 species of *Protoperidinium*, 1 species of *Dinophysis* and 1 species of *Diplopsalis* were identified. They are; *Ceratium kofoidii*, *C. lineatum*, *C. minutum*, *C. pentagonum*, *C. fusus*, *C. petersii*, *Protoperidinium antarcticum*, *P. applanatum*, *P. pyriforme*, *P. sp. 1*, *P. sp. 2*, *Dinophysis simplex* and *Diplopsalis sp.* The occurrence of these species is shown in Table 1.

Except for Stn. 194, the diversity of species found was high in the northern part of the research transect, and in general the species of *Ceratium* were distributed in this area. This finding on the *Ceratium* distribution agrees with the result of OKAMOTO and TAKAHASHI (1984).

P. antarcticum was widely distributed along the transect but occurred sporadically in the southern part. The longitudinal distribution range of *C. pentagonum* followed that of *P. antarcticum* and its southern limit lay further north compared with *P. antarcticum*.

It is noteworthy that 3 species of *Protoperidinium*, *Dinophysis simplex* and *Diplopsalis sp.* occurred at Stn. 194, southernmost station. Except for *P. antarcticum*, the appearance of four species was unexpected. OTOMO and FUKUI (1984) reported the high phytoplankton biomass and low concentration of nutrients in the surface layer of this station in comparison with the northern stations. As shown in Table 1, the surface water temperature was also high. These facts seem to indicate some peculiarity of environmental conditions of this station. However, with the present fragmental materials it is difficult to develop further discussions on the relationship between the distribution of the these armoured dinophytes and their environments.

References

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