or fungi. According to the Dr. Hiroshi FUKUSHIMA's observation, the *Gloeocapsa* colony is widely distributed in the ground of Syowa Base, so that *Chlorosphaera* has probably grown with the *Gloeocapsa* and others. The cells, probably mature cells, are somewhat solitary and are enveloped by a curious mantle, and sometimes have a curious projection, like an envelope, at one side. The cell content is sometimes half pushed out from the envelope, and the outer margin appears globular and smooth, but never shows a broken, irregular form. If the cells content is pushed out mechanically by the pressure of a finger through cover-glass, or if it is broken out of the envelope by a micro-pin, the content is irregularly scattered and does not show any smooth outline of the content. The cell content is rich in reserve substances, and show starch reaction by iodine. At the same time, reserve substances are globular and fatty-like and show a bright golden yellow colour among the green content. Mature cells reach 70μ in diameter without the envelope. In small, young cells the diameter is 12-13μ, and cells are always enveloped by a hyaline gelatinous mantle and are grouped in a cluster like formation. There must certainly be some relation between the mature large cells and the size of the clusters of the small cell group. Both are almost equal in size. In mature cells the cell content sometimes shows a cleavage appearance, but it is not certain whether this appearance developes into a zoospore-formation or an autospore formation. The cluster of the small cells grouped together seems to be a developement from the autospores. The writer's observations are merely fragments of the whole life cycle of the *Chlorosphaera*. Further studies are needed to clear up questions on the curious envelope of the present specimens, to determine whether the nature of the envelope is really characteristic of the species of this alga.

PRELIMINARY REPORTS OF THE BIOLOGICAL STUDIES ON COLOURED OCEAN ICE

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南極の氷雪藻類

福島博*

In the pack ice area of the Antarctic Ocean, a great deal of brown ice can be seen throughout 30 cm up and below the surface of water. Biological study on the cause of the ice coloration seem not to have been done. The concentration of chlorine ion of the ice was 0.2 mg-5 mg/1, being equal from 1/100 to about 1/4 of sea water. On the brown ice, most of phytoplankton were a great number of diatoms, some chrysophyta, too.

Diatoms found on the brown ice were the following.

Chaetoceras dichaetae Ehr.
Coscinodiscus australis Karst.
Corethron valdiviae Castr.
Eucampia antarctica (Castr.) Mangin.
Fragilaria cylindrus Grun.
Fragilariopsis antarctica (Castr.) Hust.
Rhyzosolenia truncata Karst.

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