

INITIAL DATA ABOUT CRYOPHYTON OF THE REGION OF THE UKRAINIAN ANTARCTIC STATION "ACADEMIC VERNADSKIY"

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In 1995, the British Antarctic Station "Faraday" was handed over to Ukraine, and on February 6, 1996 it was named "Academic Vernadskiy". At the "Academic Vernadskiy" station, monitoring and hydrometeorological observations have been conducted until 1997. Since 1997, the array of research has been extended to seismoacoustics, glaciology, ecology, medicine-physiology, and biology. In the study of bioresources, priority was given to ichthyological and zooplankton.

The ice supports intense development of cryophytic algae on its surface and inside. This is particularly true of diatoms which reproduce there in great quantities and colour the ice reddish-brown, yellow, and green. In a fairly short period of time, the surface of large ice areas "blooms". It is rather difficult to find ice surface without microscopic algae in summer.

The "blooming" of ice occurs mainly in crevices, microcracks, and pores rather than on the surface. The abundant algal development is believed to be connected not only with the high supply of nutrients, but also with a favourable influence of heterogeneous melted water mass. According to some data, the cryobiotopes support up to 350 species. In Antarctica, the Bacillariophyta (about 90 species), Chlorophyta (100), and Cyanophyta (40) are the major algal group that develop most intensely.

Consequently, during the collection of data a special attention was paid to the collection method: when analyzing the quantitative samples, the depth of drilling into the ice was taken into account.

The qualitative analysis of algae, collected in February-March 2003, in the Antarctic station "Academic Vernadskiy" area has been carried out. Melted ice samples contained mainly diatom and blue-green algae. The major diatom species was *Aulacoseira islandica*. Two forms of the species were present: large and small cells (active vegetative division and formation of auxospores was observed). *Nayicula* sp., *Fragillaria* sp., and *Coloneis* sp. were tentatively identified in the samples; the identification was subsequently confirmed.

The Cyanophyta were found to be represented by, i.a., *Glaeocapsa magna* f. *opaca*, *Glaeocapsa alpina*, *Anabena sedovii*, *Oscillatoria* sp., *Synechococcus aeruginosus*, *Aphanizomenon flos-aquae*, *Phormidium tenue*, and *P. ambigua*.

So, the cryophyton of the Ukrainian Antarctic station area is characterized by a noticeable species diversity and high abundance. Because the mass development of algae in ice greatly affects its formation and dynamics and provides stratigraphic data for studies of long term climate changes, we consider that constant algal monitoring near the station should be continued.

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