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MIXOPLOIDY IN *DESCHAMPSIA ANTARCTICA* OF THE MARITIME ANTARCTIC
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Present-day natural Antarctic flora includes two species of vascular plants: *Deschampsia antarctica* Desv. and *Colobanthus quitensis* (Kunth) Bartl., both plants found only in the Maritime Antarctic. The species' biology is not studied well enough to determine the features that enable them to survive in the extremely harsh environment, though. Previous researches of the adaptation mechanisms in Arctic and mountainous plants evolved in studies of the polyploidy and polyploid series" development in those plants (Вульф, 1937), the adaptive meaning of the phenomena being laid out in the climatic Hagerup-Tihler hypothesis (Стеббинс, 1956). Further studies showed that mixoploidy (polysomaty; the simultaneous presence of diploid, polyploid, aneuploid and other cells with different chromosome number in an organism or a tissue (Кунах, 2005)) is quite common in plants. In a number of cases one can trace its development in response to the environment a! conditions (Кулиева, 1975). Still, there are no such surveys for the vascular plants of Antarctica,

The material was gathered by the 1 Oth Ukrainian Antarctic expedition 28-30.03.2005 in 3 populations of Subantarctic: Petermann Island (S 65°10/453//, W 64°08/452//), Bertheiot Island (S 65° 19/73 //, W 64°08/613//) and Galindez Island (S 65°14/783/Д W 64° 14/799//).

All analyzed curtains of *D. antarctica* revealed high variability of the number of chromosome (CN) in the root tip meristem (from 10 to 68); the numbers as follows: 10, 12, 16, 18, 20, 22, 24, 25, 26, 28, 29, 30, 31, 32, 34,36, 37,40,42, 44, 45, 55, 68.

It has been stated in the literature that the general CNs for the species are n=7 and 13 (Holdergerr et al, 2003). Hence, only the metaphase plates with 24, 26, 28, 32 and 46 chromosomes have CN divisible by the general one, while all other are aneuploids. The relative frequency of these two types of plates is presented in the Table.

Table

The frequency of metaphase plates with chromosome numbers divisible by the aneuploid and the haploid CN in the root tip meristem of *D. antarctica* of three populations of the Maritime Antarctic

Population	Total number of examined metaphase plates	The quota of the plates with chromosome numbers divisible by the haploid CN, %±standard error	The quota of the plates with chromosome numbers indivisible by the haploid CN (aneuploid cells), %±standard error
Petermann Island	25	36±9,6	64±9,6
Bertheiot Island	10	40±15,5	60±15,5
Galindez Island	44	32±7,0	68±7,0

Aneuploid metaphase plates dominated all the populations; similar picture was observed while analyzing separate curtains. Therefore, the adaptive mixoploidy hypothesis is quite applicable for the Antarctic habitats.