VI International Conference
ADVANCES IN MODERN PHYCOLOGY

BOOK OF ABSTRACTS

15-17 May 2019, Kyiv, Ukraine

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habitat to comparison with other genera of the Streptophyta division, and prefer acidic (pH<7) as well as neutral (pH=7) and alkalic habitats. *Closterium* species distributed inequally in Tajikistan territory. Most of species (15) were found in South Tajikistan Depression (Boboev, 2016, in Rus.), less of them (13 species) – in Pamir water bodies (Kurbonova, 2012, 2017, in Rus.), and the lowest number of *Closterium* species (8) were found in North Tajikistan water bodies. All identified in Tajikistan *Closterium* species also inequally distributed depending on the ecological group of algae and type of habitat. Most of species equally occur in plankton, as well as in benthos (*Closterium acerosum* Ehrenb. ex Ralfs, *C. acutum* (Lyngb.) Bréb., *C. dianae* Ehrenb. ex Ralfsand others), but *C. lanceolatum* Kütz., *C. moniliferum* (Bory) Ehrenb. ex Ralfs and others prefer benthic associations, or grow epiphytic in vascular plants' leafs. Some *Closterium* species are selective to oligotrophic (*C. cornu* Ehrenb., *C. didymotocum* Ralfs, *C. kuetzingii* Bréb., *C. lunula* (Müll.) Nitzsch и др.) or eutrophic water bodies (*C. acerosum, C. leibleinii* Kütz. ex Ralfs). Thus they can be used as a reliable bioindicators for water quality evaluation of the fresh water bodies.

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MOLECULAR AND MORPHOLOGICAL INVESTIGATION OF COSMOPOLITAN DIATOM *HANTZSCHIA AMPHIOXYS* (EHRENB.) GRUNOW (BACILLARIOPHYCEAE)

Until now, the diversity of representatives from the genus *Hantzschia* Grunow inhabiting of soils in Ukraine and European Russia was limited by the species *Hantzschia amphioxys* (Ehrenb.) Grunow, *H. elongata* (Hantzsch) Grunow and *H. vivax* (W. Sm.) Grunow with some ifraspecific taxa (Aleksakhina and Shtina 1984; Kostikov et al. 2001; Tsarenko et al. 2009; Maltseva 2009). At the same time, the adoption of a narrow species concept by many researchers led to the description of a number of new species within the genus *Hantzschia*. Thus, 17 new

taxa were identified by H. Lange-Bertalot with co-authors (Lange-Bertalot et al. 2003) mainly from samples from Sardinia island, 1 taxon is from springs in Germany (Werum and Lange-Bertalot 2004) and 5 new taxa from fresh water bodies and soil of the South Atlantic islands (Zidarova et al. 2010). Until recently, many of the described species were identified with *Hantzschia amphioxys*, which is positioned as a cosmopolitan species.

We have studied morphology, ultrastructure and phylogeny of 13 soil diatom strains, which belongs to *H. amphioxys* s.l. using 18S rDNA, 28S rDNA and *rbc*L. We show that our strains contain five different species of *Hantzschia*, including three new for science. Five strains we identified as *H. abundans* Lange-Bertalot. We indicated an insignificant curvature of the raphe near its external central ends. Four of the examined strains were represented by different populations of *H. amphioxys* and their morphological characteristics are fully corresponded with accepted isolectotype and epitype. The main specific features of this species include 21-25 striae in 10 µm, 6-11 fibulae in 10 µm, 40-50 areolae in 10 µm and internal central raphe endings bent to opposite directions. Three new species were described based on differences with shape of the valves, a significant excess of the dimensional characteristics, a smaller number of striae and areolae in 10 µm and the position of the internal central raphe ends. Based on the study of morphological variability and phylogeny of soil *Hantzschia*-species from different geographical locations we concluded that some sympatric populations of pseudocryptic taxa are exist in Holarctic.

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ALGAE AS INDICATORS OF THE ECOLOGICAL STATE OF MARINE ECOSYSTEMS IN THE COASTAL PART OF THE AZOV SEA

The Sea of Azov is socially and economically important for Ukraine. It provides the development of fishing, transportation, recreation and other industries. In general, the ecological situation of the Sea of Azov corresponds to the

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