

## DIATOMS OF THE GENUS *GOMPHONEMA* EHRENBERG FROM LAKE GLUBOKOE (MOSCOW AREA, EUROPEAN RUSSIA) WITH SOME NOTES ON THE MORPHOLOGY OF STRIAE

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The mesotrophic Lake Glubokoe is situated at 90 km to the west from Moscow and represents one of the most antropogenically undisturbed water bodies of the Moscow Area. During the study of the recent (r) and fossil (f) diatom flora of the lake, 25 species belonging to the genus *Gomphonema* Ehrenberg were found: *G. acuminatum* Ehrenberg 1832 (r, f), *G. acutiusculum* (O. Müller) Cleve-Euler 1955 sensu auct. (f), *G. angusticephalum* Reichardt et Lange-Bertalot 1999 (f), *G. auritum* A. Braun ex Kützing 1849 (r), *G. bavaricum* Reichardt et Lange-Bertalot 1991 (f), *G. brebissonii* Kützing 1849 (r, f), *G. capitatum* Ehrenberg 1838 (f), *G. clavatum* Ehrenberg 1838 (r, f), *G. aff. cymbelliclinum* Reichardt et Lange-Bertalot 1999 (r, f), *G. cf. geisslerae* Reichardt et Lange-Bertalot 1997 (r), *G. gracile* Ehrenberg 1838 (r, f), *G. hebridense* Gregory 1854 (r, f), *G. italicum* Kützing 1844 (r, f), *G. jadwigiae* Lange-Bertalot et Reichardt 1996 (f), *G. jergackianum* Reichardt 2009 (r, f), *G. lateripunctatum* Reichardt et Lange-Bertalot 1991 (f), *G. micropus* Kützing 1844 (f), *G. minusculum* Krasske 1932 (r, f), *G. parvulum* (Kützing) Kützing 1849 (r, f), *G. sarcophagus* Gregory 1856 (f), *G. cf. turgidum* Ehrenberg 1854 (r), *G. utae* Lange-Bertalot et Reichardt 1999 (r), *G. vibrio* Ehrenberg 1843 (f), *G. sp. 1* (f), *G. sp. 2* (f). Comparison of our data with published lists of the Lake Glubokoe diatoms is problematic due to the drastic changes in the taxonomy of genus *Gomphonema* in the last two decades and to the absence of images and descriptions in the majority of previous publications. Presumably 15 species are new for the lake flora. The morphology of all reported taxa was documented with light microscope (LM). Scanning electron microscope (SEM) images were taken for only 13 species. Based on the ultrastructure, the studied species may be divided into four distinct groups according to the structure of their striae. Generally, the striae in *Gomphonema* are composed of two parts: (1) proximal (psp), extending from the raphe sternum to the advalvar region of the valve mantle, laying in a groove (alveolus) on the internal valve surface, and (2) distal (dsp), restricted to the valve mantle and flushing with the internal mantle surface. In the first group (*G. auritum*, *G. gracile*, *G. parvulum*) psp and dsp are slightly differentiated, e.i. they are indiscernible in LM, areolae in dsp bear volate occlusions. Struts on the internal side of vimines in psp occur only in this group. In the second group (*G. acuminatum*, *G. angusticephalum*, *G. italicum*) psp and dsp are clearly differentiated: they have different appearance in LM, areolae openings in the dsp are round with no or only a rudimentary flap-like volae. In the third group (*G. cf. geisslerae*) striae parts are strongly differentiated, but the dsp is composed of a single areola. Fourth group (*G. minusculum*) is characterised by the fully reduced dsp, so each stria is composed only of alveolate psp. The first character state may be considered plesiomorphic because of the presence of infraviminal struts in other genera of the Cymbellales (species of *Encyonema*, *Cymbella*, *Cymbopleura*, *Placoneis*).