

Contribution to the Knowledge of Phytoplankton of the Tavalzhan Lake, Kazakhstan

A. T. Toleuzhanova

Pavlodar State University named after S. Toraigyrov, Lomova str. 5, Pavlodar, Kazakhstan

Abstract

The article deals with the analysis of phytoplankton of the lake Tavalzhan in Kazakhstan. In the revealed flora among algae the diatoms are dominated. The leading genus in the algal flora of the lake was *Navicula* Bory.

Key words: phytoplankton, plankton, algae species

The floristic examinations of the uninvestigated territories and regional floras, and also particularly important groups of inferior plants are always in the attention of botanists (Akhmetova, 1986).

The biological diversity of algae is usually defined by means of morphological characters in combination with their ecology and geographical distribution (Vinogradova, 1978). Most of the algae of continental inland waters mainly have unicellular structure, and the cell morphology involves decisive importance for taxonomy.

The samples of planktons were collected in the spring and summer of 2006, from the Tavalzhan Lake, which is situated on the right side of the Irtysh River, 75 km to the northeast from Pavlodar city.

Taking samples, their analysis and determination are done according to general methods of algological and hydrobiological research (Masyuk *et al.*, 1989; Gollerbah & Polyansky, 1959; Proshkina-Lavrenko, 1951; Lothar, 1980; Tsarenko, 1990).

The following species of algae are found in the Tavalzhan Lake. Diatoms: *Navicula menisculus* Schum. is presented by the nominal species, *N. menisculus* Schum. (with a variety, *N. menisculus* var. *meniscus* (Schum.) Hust., *N. protracta* Grun., *N. gregarta* Donk., *N. cuspidata* Kutz (the latter species is represented with two varieties: *N. cuspidata* var. *ambigua* (Ehr.) Grun. and *N. cuspidata* var. *subrostrata* Dipp.), *N. tuscula* (Ehr.) Grun., *N. crucicula* (W. Sm.) Donk., *N. mutica* Kutz., *N. bacillum* Ehr., *N. peregrina* (Ehr.) Kutz. (with two varieties, *N. peregrina* var. *hankensis* Skv., *N. peregrina* var. *minuta* Skv.), *N. oblonga*

Kutz., *N. salinarum* Grun., *N. amphibola* Cl. (= *N. galikii* Pant.), *N. viridula* var. *abbreviata* Grun., *N. viridula* Kutz., *N. halophila* f. *subcapitata* Ostr., *Cymatopleura solea* (Breb.) W. Smith., *Cocconeis disculus* (Schum.) CL., *C. pediculus* Ehr., *C. pediculus* var. *minutissima* Poretzky, *Amphora holsatica* Hust., *A. paludosa* W. Sm., *Cyclotella comta* (Ehr.) Kutz., *C. stelligera* Cl et Grun., *C. planctonica* Brunth., *C. melosiroides* (Kirchn.) Lemm., *Rhoicosphenia curvata* (Kutz.) Grun., *Stephanodiscus dubius* (Fricke.) Hust., *Diatoma vulgare* Bory, *D. elongatum* (Lyngb.) Ag., *D. hiemale* (Lyngb.) Heib. (= *Odontidium hiemale* Kutz.), *Mastogloia smithii* Thw., *M. smithii* var. *lacustris* Grun., *Synedra ulns* (Nitzsch.) Ehr., *S. tabulate* (Ag.) Kutz., *S. berlinensis* Lemm. (= *S. limnetica* Lemm.), *Staroneis anceps* Ehr., *Gomphonema olivaceum* (Lyngb.) Kutz., *Rhizosolenia longiseta* Zacharias, *Nitzschia holsatica* Hust., *N. gracilis* Hantzsch., *N. subtilis* var. *glacialis* Grim., *N. hantzschiana* Rabenh., *Bacillaria paradoxa* Gmelin (= *Nitzschia paradoxa* Grim.), *Nitzschia tryblionella* Hantzsch., *N. longissima* var. *reversa* W. Sm. (= *N. reversa* W. Sm.), *N. paleacea* Grim. (*N. subtilis* var. *paleacae* Grun.), *Epitemia sorex* Kutz., *Rhopalodia gibba* (Ehr.) Mull., *Surirella striatula* Turp., *S. ovata* Kutz., *Fragilaria intermedia* Grun. (= *F. vaucheriae* (Kutz.) Boye), *Pinnularia braunii* (Grun.) Cl., *Rhopalodia gibba* (Ehr.) Mull. and *Eunotia arcus* Ehr.

Thus, in the revealed flora among algae the diatoms are dominated, among which the leading genus is *Navicula*.

Green algae are assisted as admixture and

are represented with one species, *Scenedesmus quadricauda* (Turp.) Breb. with its variety, *S. quadricauda quadricauda*.

The given specific review does not pretend to the whole algoflora and further studies undoubtedly will enlarge this list.

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Хураангуй

Энэхүү товч мэдээнд Казахстан улсын Таволжан нуурын фитопланктонын бүрэлдэхүүний талаархи мэдээллийг оруулав. Судалгаагаар нуурын замгийн бүрэлдэхүүнд цахиур замаг давамгайлж буйг тогтоосон ба *Navicula* Вору төрөлд хамаарах зүйлүүд зонхилон тохиолдож байв.

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