

Diatom 23: 55-70 (英文)

Tomonori Naya<sup>1</sup>, Yoshihiro Tanimura<sup>2</sup>, Ryoji Nakazato<sup>3</sup> and Kazuo Amano<sup>4</sup> : Modern distribution of diatoms in the surface sediments of lake Kitaura, central Japan

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#### Abstract

To investigate the spatial distribution of diatom valves in the surface sediment of Lake Kitaura, and to reveal the factors controlling diatom distribution, 60 samples from surface sediments were analyzed. Diatom valve abundance was high (more than  $4.0 \times 10^8$  valves  $g^{-1}$ ) in the area of fine grain sediment distribution, and low (less than  $1.0 \times 10^8$  valves  $g^{-1}$ ) in the littoral zone. Diatom assemblages in the surface sediment were characterized by the predominance of planktonic taxa including *Aulacoseira granulata*, *A. pusilla* and *Cyclostephanos dubius*. High abundances of tychoplanktonic taxa including *Pseudostaurosira* spp. (*P. brevistriata* and other species) and *Staurosira* spp. (*S. construens* var. *construens*, var. *binodis*, var. *exigua*, *S. venter*) were found in shallow areas in the northern and southern parts of the lake, and high abundances of benthic taxa including *Navicula* spp. and *Cocconeis* spp. at the northern end and littoral zone of the lake were also recorded. The diatom distributions in the surface sediment of the lake reflect the distribution of planktonic diatoms produced in the overlying lake water, tychoplanktonic diatoms occurred in the shallow area of the lake, and benthic diatoms transported from tributaries and the littoral zone of the lake.

Key index words : Lake Kitaura, Lake Kasumigaura, spatial distribution, surface sediments