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## 淀山湖浮游植物群落时空分布动态初步研究

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### Preliminary study on spatial and temporal variations of phytoplankton community in Lake Dianshan

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- 摘要
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**摘要** 为了解淀山湖浮游植物群落时空变化特点,于2008年10月至2009年9月对淀山湖浮游植物进行四季调查.调查发现浮游植物8门126属384种,群落组成以绿藻、隐藻、蓝藻和硅藻为主,尖尾蓝隐藻(*Chroomonas acuta* Uterm)和小球藻(*Chlorella vulgaris* Beij)为淀山湖全年主要优势种,微囊藻属(*Microcystis*)藻类为夏季主要优势种之一.浮游植物平均密度为 $4.01 \times 10^6$  cells  $\cdot$  L<sup>-1</sup>,且夏季>春季>冬季>秋季.浮游植物Shannon Wiener, Margalef和Pielou指数分别在0.31~1.59, 2.22~7.98和0.17~0.82之间波动,指示淀山湖浮游植物多样性和均匀度较好.通过聚类分析法将淀山湖浮游植物分为4个主要类群:类群I位于中部及西南部(S3, S6, S7)区域,类群II为湖东 东南(S1, S2)区域,类群III为湖北 湖西(S4, S5)区域,类群IV为S8,类群间差异与种群密度及优势种不同有关.根据历史调查资料,分析了淀山湖浮游植物群落结构长期变化情况,为淀山湖富营养化防治提供依据.

**关键词:** 浮游植物 群落结构 时空分布 淀山湖 浮游植物 群落结构 时空分布 淀山湖

**Abstract:** In order to evaluate the spatial and temporal variations of phytoplankton community structure in Lake Dianshan, an investigation was carried out from October 2008 (autumn) to September 2009 (summer). Total of 384 species were identified. The phytoplankton community was mainly composed by Chlorophyta, Cryptophyta, Cyanophyta and Bacillariophyta. In quantity, the dominated species were *Chroomonas acuta*, *Chlorella vulgaris* all year round and *Microcystis* in summer. The average density of phytoplankton was  $4.01 \times 10^6$  cells  $\cdot$  L<sup>-1</sup>, in the order from large to small was: summer, spring, winter and autumn. The Shannon Wiener index, Margalef index and Pielou index were ranged from 0.31 to 1.59, 2.22 to 7.98 and 0.17 to 0.82 respectively, which meant that both diversity and uniformity of phytoplankton were in healthy status in Lake Dianshan. The structure of phytoplankton was examined by the cluster analysis. The results was that the phytoplankton community can be separated into four groups. Group I (S3, S6, S7) was in the middle and southwest area, group II (S1, S2) in the east and southeast, group III (S4, S5) in the north and west, group IV (S8) in the south. Groups were classified by quantity and dominated species of phytoplankton. Historical data was also used to analysis the long term variation of phytoplankton community.

**Key words:** community structure spatial and temporal distribution Lake Dianshan phytoplankton community structure spatial and temporal distribution Lake Dianshan

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