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### 氨氮浓度及基质对附着藻类群落组成的影响

### Effects of ammonia and substrate on the community composition of the epiphytic algae

关键词: [附着藻类](#) [菹草](#) [载玻片](#) [氨氮浓度](#)

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摘要: 为了了解水体富营养化过程中附着藻类群落演替规律, 本文设置了0.5、1.5、2.5、5、10 mg·L<sup>-1</sup> 5组氨氮浓度, 利用显微计数法研究了5组氨氮浓度下菹草和载玻片上附着藻类群落组成. 结果表明, 将相同群落组成的附着藻类接种到不同氨氮浓度下进行培养, 在低浓度氨氮条件下附着藻类群落以硅藻门的舟行藻、异极藻以及蓝藻门的色球藻为优势藻, 在氨氮浓度较高时则以硅藻门的舟行藻和异极藻以及绿藻门的纤维藻为优势属; 在相同氨氮浓度下, 基质性质影响附着藻类优势种群个数, 载玻片基质上附着藻类优势种群数量小于菹草上的种群数量, 但当氨氮浓度较高时, 基质不仅影响附着藻类优势种群个数而且还影响附着藻类优势种, 载玻片上绿藻门的毛枝藻(65%)的丰度远远超过附着在菹草上毛枝藻(<<1%). 表明氨氮浓度及基质种类影响附着藻类优势种群组成.

**Abstract:** In order to understand epiphytic algae community succession in the eutrophication process, the community compositions of epiphytic algae were investigated by using macroscopic counting method under the different ammonia concentrations (0.5, 1.5, 2.5, 5 and 10 mg·L<sup>-1</sup>). The results showed that with the same epiphytic algae species inoculated, the epiphytic algal community composition varied under different ammonia concentrations. The genus of Navicula (Bacillariophyta), Gomphonema (Bacillariophyta) and Chroococcus (Cyanophyta) were dominated in the low ammonia concentration, while the genus of Navicula, Gomphonema and Ankistrodesmus (Chlorophyta) were dominated in the high ammonia concentration. At the same ammonia concentration, the abundance of dominant epiphytic algae genus was determined by the characteristic of substrates. For instance, the abundance of dominant genus on the glass slide was less than that on the *Potamogeton crispus*. However, the substrate could affect both the abundance and the species composition of the dominant epiphytic algae genus under high ammonia concentration. For instance, the relative abundance of the *Stigeoclonium* on the glass slide(65%) was much higher than that on the *Potamogeton crispus*(<<1%). It was indicated that the community composition of the epiphytic algae could be effected by both the ammonia and the substrate.

**Key words:** [epiphytic algae](#) [Potamogeton crispus](#) [glass slide](#) [ammonia concentration](#)

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