

Diatom 6: 11-17 (英文)

加藤和弘：珪藻を用いたいくつかの水質汚濁指数の比較研究

Kazuhiro Katoh : A comparative study on some pollution indices using diatoms

Abstract

Three kinds of biotic indices, viz. diversity index, Beck's index (BI) and Pantle and Buck's saprobity index (SI), were compared and the ability of each index for indicating the phases of water pollution was discussed. Field surveys were conducted at the Asakawa River in Tokyo, Japan. Though the diversity indices have so far been used commonly as water pollution indices, this work shows that their ability indicating the water pollution is more limited than other indices. In contrast, strong correlations between SI and chemical oxygen demand, electric conductivity and other water conditions were observed. The superiority of the indices was also evaluated from the robustness of the indices using replicated samples, and it is concluded that SI is more robust than both BI and diversity indices.

Key index words

biotic index, diversity index, pollution index, principal coordinate analysis