

Phytoplankton community of Lake Baskandi anua, Cachar District, Assam, North East India – An ecological study



Diversity, relative abundance and dominance of phytoplankton community of the Lake Baskandi anua, an oxbow lake of Assam, North east India were studied during December 2009 to November 2010. Chlorophyll content and biomass of phytoplankton along with physico-chemical properties of water of the lake were also estimated. The lake is covered with Hydrilla and other macrophytes like Eichhornia, Trapa, Altrnenthera, Polygonum, Ludwizia sp., etc. Seasonal fluctuations of 41 genera of phytoplankton, belonging to 5 groups (Chlorophyceae, Cyanobacteria, Bacillariophyceae, Euglenophyceae and Dinophyceae) were encountered in the lake. Chlorophyceae was found to be highest in winter, Cyanobacteria and Euglena in monsoon and Bacillariophyceae in pre monsoon. According to Engelmann's scale, Spirogyra indica was found eudominant followed by 10 dominant, 24 subdominant and 20 recedent species. Chlorophyll- a content of phytoplankton varied from 14.18 to 33.89 $\mu\text{g}\cdot\text{L}^{-1}$, during the study period. One way analysis of variance (ANOVA) revealed significant seasonal variation in physico-chemical properties of water like Water

temperature, pH, Conductivity, Dissolved oxygen, Free CO₂, Total alkalinity, Calcium, Chloride, Nitrate and Ammonia. Relationship between phytoplankton group assemblage and environmental variables were explored by the ordination method CCA (Canonical Correspondence Analysis).

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Obtenir le document : EDP Sciences

Mots clés : Phytoplankton, diversity, chlorophyll, water quality, anua, Phytoplankton, diversité, chlorophylle, qualité de l'eau, bras mort

Thème (issu du Text Mining) : MILIEU NATUREL, BIOCHIMIE - CHIMIE

Date : 2016-01-18

Format : text/xml

Source : <https://doi.org/10.1051/kmae/2015034>

Langue : Anglais

Télécharger les documents : <https://www.kmae-journal.org/10.1051/kmae/2015034/pdf>

Permalien : <https://www.documentation.eauetbiodiversite.fr/notice/phytoplankton-community-of-lake-baskandi-anua-cachar-district-assam-north-east-india-an-ecological-s0>

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