

Floating Islands as a Strategy for Promoting Biodiversity in Freshwater Ponds

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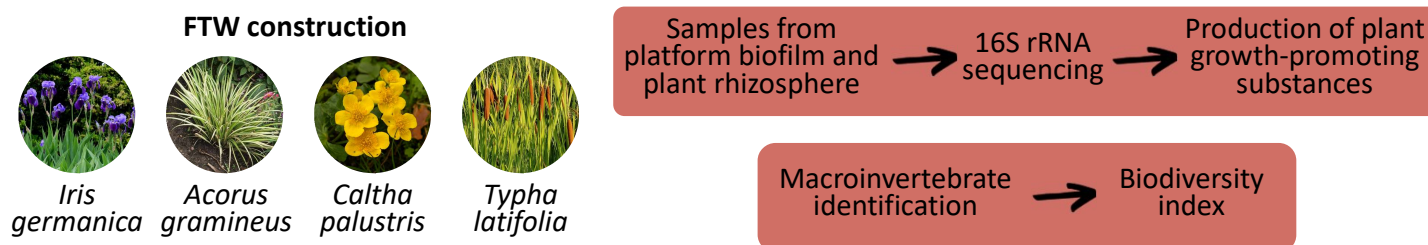
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Introduction

Floating treatment wetlands (FTW) are a nature-based solution (NBS) for water treatment and also delivered a wide range of other ecosystem services. The establishment of a FTW relies, mainly, on the presence of plants in a floating structure, where direct contact of the biological components enables the uptake and removal of contaminants from the water, through phytoremediation processes (doi:10.1016/j.ecoleng.2025.107598). However, there is still lack of knowledge concerning the performance and the impact on biodiversity of this NBS.

Study Aim: to assess the biodiversity associated with a FTW installed in 2018 in a freshwater pond using cork agglomerate as floating platform.

Methodology



Results

Preliminary results identified a variety of bacterial communities and the presence of strains with production of plant growth-promoting substances (PGPS). Macroinvertebrates were classified mainly in the order Odonata, with more than 80% belonging to genus Coenagrion.

Conclusions

Further research should explore the use of the bacterial strains with best production of PGPS in phytoremediation strategies and with plants undergoing climate change conditions. This study highlights the use of FTW as a water management technology and to promote biodiversity, as it aesthetic value.

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