Always greener on the other side? Highlighting restoration actions for pollination ecosystem services

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Abstract:
Wild bees play a crucial role in the ecosystem service of pollination, contributing to the preservation of biodiversity and bringing direct and indirect economic and health benefits to humans. However, their survival is constantly threatened by a variety of factors that cause their decline, including urbanization and therefore habitat loss. The foraging choices of pollinating insects contribute to shaping the ecosystem service they provide and thus it is essential to consider these preferences in perspective of the European Union Restoration "law" Regulation 2022/869 which aims for interventions to restore degraded ecosystems and works to protect biodiversity.

Firstly, three different types of sward management were compared: high lawn, which was left to grow spontaneously and for conservation purposes, lawn mowed frequently and for recreational use and flowering strips for small pollinators, in which a pollinator-friendly mix of flowers has been sown. The objective was to determine which conditions attract a greater abundance and richness of pollinators across the season. We did this in order to understand whether different sward management strategies complement each other in supporting the pollinator community, and this study took place in the metropolitan city of Milan, in three different areas of the Parco Nord Milan. The wild bees fauna was sampled in the three sites of the park, in the months from April to August, and for each insect the name of the plant on which it was captured was reported. The collected data were then analyzed allowing a preliminary understanding of the interaction dynamics that take place in this environment.
The second part of the study consisted of a comprehensive literature review regarding the ecosystem service of pollination and in particular which ecological factors can best predict the effectiveness of pollination.

The results obtained from the two parts of the study will therefore be useful for guiding the management of green areas in the park, ecological restoration and the implementation of measures to protect the ecosystem service of pollination.