Drunk bees? The effects of vineyard management on pollinator quantity at local scale

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Abstract:
Vineyard ecosystems comprehend many more species than just vines, which are inhabited by a potentially high biodiversity, that could perform invaluable ecosystem services.
A primary ecosystem service is pollination, carried out by numerous species of insects, particularly certain Hymenoptera such as bees and bumblebees, and some Diptera such as hover flies; maintaining a high local biodiversity of these groups is fundamental, because it influences the stability of the pollination service and, therefore, its resilience against natural or antropic changes.
Consequently, preserving pollination efficiency and pollinator biodiversity is paramount for human sustenance.

The Italian economy is partly based on a well developed wine industry, which shapes Italy's landscapes and pervades its culinary traditions.
A great example of this is Valtellina, where the study takes place, that is extremely rich in vineyards, covering nearly 820 hectars along the lower mountain side.
Valtellina's vineyards showcase a tremendous diversity in terms of vineyard management, structural organization (such as contour or vertical ploughing), inter-rows and intra-rows vegetation practice, and land use of adjecent areas.

Considering this high variety in environmental and agricultural conditions, the project objective is the characterization of the resulting pollinator community and biodiversity.
The results show that pollinators abundance is impacted by vineyard management; this will provide practical directions for a more sustainable approach to vineyard management, one that takes into account the impacts of agricultural activities on biodiversity.