A global perspective of hoverfly migration

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Abstract

Hoverflies have been shown to be common migrants on a number of continents, with billions of individuals migrating, annually. Hoverfly migration represents an immense movement of biomass and a significant flux in the availability of ecosystem services in an area. Hoverflies are key pollinators, predators, and decomposers in many habitats, making the study of their migration critical for understanding and conserving their roles in the ecosystem. However, our knowledge of hoverfly migration is still fairly incomplete, with many exciting discoveries still being made. For example, migratory events in some countries have only been reported relatively recently. Furthermore, there is still much to be learned about the mechanisms driving hoverfly migration, the routes they take, how they behave and navigate en route, and the role of migrants in the ecosystem. Concerningly, some long-term studies of hoverfly migration in Europe have indicated declines in the number of migrants over time, echoing the declines observed in other insect groups, and indicating potential threats to hoverfly populations. I will present a global overview of hoverfly migration, incorporating knowledge on the geographic occurrence, species involved, and mechanisms driving migratory movements. I will also discuss key gaps in knowledge and highlight areas that may be fruitful for further research into this fascinating phenomenon.

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