GARDEN ECOLOGY LAB BRIEFS
A joint effort of 10-Minute University™ and Oregon State University's Garden Ecology Lab

Garden Plants for Hover Flies

Our research

Hover flies belong to the fly family Syrphidae. As adults, hover flies are important pollinators that visit flowering plants for pollen and nectar to fuel short and long-distance flight. In their juvenile stages, they can offer gardeners other beneficial services, like pest control, since their larvae often feed on common garden pests. Despite their importance, there are few resources available on how to support them in gardens. We surveyed 30 gardens across Corvallis and Portland, Oregon, to identify the types of hover flies in gardens and the plants that they visit. Here, we report the plant genera that hosted the greatest hover fly species richness (greatest number of species), and greatest hover fly abundance (most individuals).

What we found

*Non-native genera

High hover fly species richness AND abundance


Yarrow
Achillea


American Asters
Symphyotrichum


Tickseed
Coreopsis


Alyssum*
Lobularia


California Poppy
Eschscholzia


Mint
Mentha


Carrots
Daucus


Daisy*
Leucanthemum

High hover fly richness


Fleabanes
Erigeron


Cat's Ear*
Hypochaeris

High hover fly abundance


Parsley*
Petroselinum


Fennel*
Foeniculum

Alyssum photo by Deniz Wilson, mint by Kathy Fulton, daisy by Nina Miller, parsely by Piermario Maculan, fennel by Simon Tonge. Others by Jen Hayes.

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Garden Plants for Hover Flies

We identified 12 garden plant genera that are highly attractive to hover flies. Seven of the genera have plant species native to Oregon, but 5 do not. This highlights both the generalist nature of hover fly foraging and the use of both native and non-native forage plants. We additionally collected many hover flies (13% of individuals) from plant foliage, which provides opportunities for temperature regulation and rest between foraging bouts.

How does this relate to your garden?

Our study highlights 12 plant genera that can help support hover fly communities in gardens. Hover flies have very small mouth parts, which limits the types of flowers they are able to access pollen and nectar from. Though most of the plants that hosted high richness and abundance had shallow flowers, we found that smaller hover flies visited more tubular flowers, such as mints and mountain-trumpets *(Collomia)*. Incorporating plants with shallow and tubular flowers may help support hover flies of different body sizes.

Hover flies also visited many common crops, including mint, fennel, parsley, and carrots, which may already be in your garden. When these plants bolt, they can provide a food source to hover flies and other pollinators. In addition to planting for hover flies, gardeners can support hover flies by reducing or eliminating the use of pesticides, and decreasing disturbances in gardens (e.g., less frequent mowing, leaving leaves and woody debris).

Additional Information

- Holloway BA. 1976. Pollen-feeding in hover-flies (Diptera: Syrphidae). New Zealand Journal of Zoology. 3(4):339–350. https://doi.org/10.1080/03014223.1976.9517924
- Skevington J, Locke MM, Young AD, et al. 2023. Field Guide to the Flower Flies of Northeastern North America. [Enhanced Credo edition]. Princeton, New Jersey, Boston, Massachusetts: Princeton University Press, Credo Reference.
- Johnson, D. 2022. The Underappreciated Syrphid Fly. Garden Ecology Lab Blog. https://blogs.oregonstate.edu/gardenecologylab/2022/08/23/the-underappreciated-syrphid-fly/

- See our other brief on hover flies by visiting the "For Gardeners" page from gardenecology.oregonstate.edu

Master Gardener™ Advice

- Contact your local extension office for Master Gardener advice, or look for Master Gardeners at local farmers' markets.
- For more 10-Minute University™ handouts, videos, and the class schedule, visit cmastergardeners.org.

This Garden Ecology Lab brief was created with support by members of the Garden Ecology League and Garden Ecology Circle. To learn how you can support garden research and outreach, scan the QR code.

Oregon State University College of Agricultural Sciences