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College of Agricultural, Consumer and Environmental Sciences
Cooperative Extension Service
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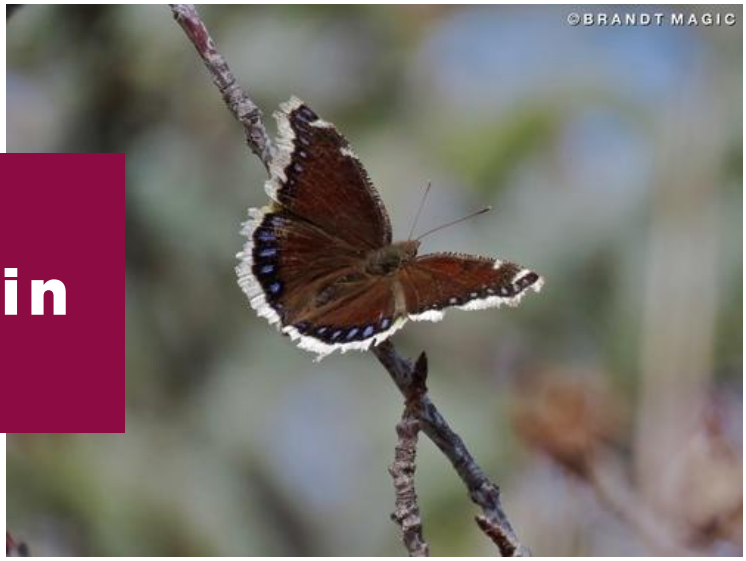
Supporting Beneficial Insects in Winter



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Insects provide many benefits including pollination and pest control. However, they are in trouble from habitat loss, competition, disease, and irresponsible pesticide use. Learn how you can help these wonderful helpers in your own yard!

Overwintering Strategies

- **Honeybees** stop brood production and huddle and shiver in the hive, using stored honey for food and for insulation. Beekeepers should take care to ensure adequate food stores for their hives and protect hives from mice.
- **Ground-nesting native bees** have diverse nests for overwintering. They vary widely based on many factors, including location, soil texture and compaction, surface features and presence of natural enemies or conspecifics, and time spent nest-making (Antoine et al. 2021).
- **Stem-nesting native bees** emerge at different times throughout spring and may overwinter as larvae or adults. Males often emerge first.
- **Bumble bee** mated queens store up food in the fall and overwinter in a hibernacula, to emerge and start a colony in the spring.
- **Butterflies and moths** may overwinter in any life stage, or migrate to warmer climates. Mourning cloaks overwinter in bark and crevices and may be seen flying on warm days.
- **Predatory beetles, wasps and flies** provide benefits in the landscape by feeding on pest insects and sometimes pollinating flowers. They often overwinter in the soil, brush or leaf litter. In the case of parasitic Tachinid flies, they may spend the winter within their insect host.
- **True bugs** such as minute pirate bugs and damsel bugs also feed on pests, and spend the winter as adults in leaf litter or protected spots.
- **Spiders** vary in how they spend the winter: jumping spiders hide in silk retreats as young adults, while orb weaver spiders overwinter as eggs. Black widow spiders may move indoors to continue their life cycle when outside temperatures drop.
- **Praying mantises** overwinter as eggs in a structure called an ootheca.

Watch out for these signs of overwintering insects in your landscape!

- Broken stems that have been sealed over
- Butterfly chrysalises on host plants
- Egg sacs
- Insects overwintering in protected areas and on perennial plants
- Pollinators flying on warm days

What Can You Do?

Provide habitat in winter. Leave the leaves and stems where possible to allow insects to overwinter and return organic matter back to the soil. Consider establishing human and wildlife areas to focus your clean-up efforts. Provide a diversity of habitats such as logs, rocks, and some areas of bare ground. A water source on a warm day can be of great benefit to overwintering insects.

Plan for the new year with insects in mind. Plant a variety of species that are climate-ready or native to the area (see Sources, right). Consider no-till gardening so as not to disturb underground nests. Start a garden journal to keep track of the beneficial insects spotted in your area!

Practice integrated pest management. Identify pest problems correctly and consider cultural, mechanical or biological controls first to reduce pest populations. Always follow the label on pesticides and use best practices to protect pollinators.

Cover photo: Mourning cloak. Credit- Photo credit: Brandt Magic, iNaturalist, CC BY-NC. Back photo: Female andrenid bee guarding nest entrance. Credit: Whitney Cranshaw, Colorado State University, Bugwood.org, CC BY-NC 3.0 US

Sources/Further Reading

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