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POLLINATOR QUICK GUIDE: WHAT YOU CAN DO TO HELP BUMBLE BEES

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Agriculture and Natural Resources

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Threats to Bumble Bees

Fuzzy, furry bumble bees—sometimes called the teddy bears of the bee world—are frequently seen in Ohio gardens. Although about a dozen species are considered native to the state, the common eastern bumble bee (*Bombus impatiens*) is the most common garden visitor. Several formerly common bumble bee species are in serious decline and are rarely seen.

Bumble bees are important pollinators of crops, such as blueberries and raspberries, and many native plants. They face many of the same threats facing other pollinators, including lack of forage (flowers for food), pests, pathogens, pesticides, invasive plants, climate change and lack of suitable nesting sites. Bumble bees are specifically impacted by several introduced diseases that infect only bumble bees. Because of these threats, some native bumble bee species that used to be common, such as the rusty-patched bumble bee, are now facing extinction. In 2017, the U.S. Fish and Wildlife Service listed the rusty-patched bumble bee as an endangered species under the Endangered Species Act.



Bumble bee foraging on composite flower. (Photo by David Cappaert, Bugwood.org.)

Bumble Bee Biology

Bumble bees are social bees that live together in a colony. Each colony is active for only one year, with new colonies started by a queen in early spring. In March or April, the queen must find a suitable home for her colony, commonly in an abandoned rodent burrow or sometimes directly on the ground, depending on the species. She lays eggs and feeds the developing larvae pollen and nectar that she gathers from very early spring flowers. The larvae pupate in the nest, then emerge as adult workers. These workers, all females, are much smaller than the queen. They take over the work of tending and guarding the nest, and bringing pollen and nectar back to the colony. The queen continues to lay batches of eggs throughout the summer, rarely leaving the nest.

Toward the end of summer, the queen lays special unfertilized eggs that will become male drones, and other eggs that will be reared as new queens. The new queens and drones leave the colony to mate. Newly mated queens feed on flowers to pack their bodies full of fat to survive the winter. Each queen will spend the winter burrowed several inches below ground, emerging in spring to start a new colony. All the members of the old colony die with the winter's cold, including the old queen, old workers and old drones.



Commercial bumble bee nest with workers and capped brood. (Photo by MaLisa Spring.)



Bumble bees foraging on blue vervain.



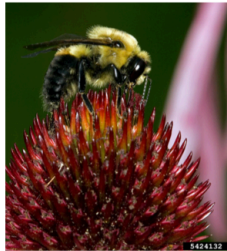
Queen bumble bee foraging for nectar on tree peony.

Gardening for Bumble Bees

- Gardeners can play an important role in bumble bee conservation by providing plants and nesting sites, and by adapting gardening practices to protect bumble bees and other pollinators.
- Add plants with bumble bees in mind. Early spring and late summer are especially critical times for bumble bees. Maple, cherry and willow trees provide spring food, while asters and golden rods are just a few of the late-season flowers that help fatten the new queens for winter.
- Bumble bees will forage on many different flowers, and they can fly farther than most other bees to find suitable food sources. Grouping plants together in the garden will help bumble bees find their food.
- If space allows, consider planting a small meadow or prairie patch full of native wildflowers to provide food from spring through fall.
- Bumble bees will often nest in abandoned mammal nests or cavities in rock walls, or at the base of ornamental grass clumps. Observe queens in spring to note possible nesting areas, and avoid disturbing those sites.
- In gardens and conservation areas, avoid the use of pesticides on plants visited by bees. Use an integrated pest management (IPM) approach to reduce pest pressure.



Grey-headed coneflower



Purple coneflower (Photo by David Cappaert, Bugwood.com.)



Lavender

Key Plants for Bumble Bees

- Trees: maple, crabapple, linden, redbud, willow
- Shrubs: diervilla, pussy willow, raspberry, rose, viburnum
- Perennials: aster, bee balm, hyssop, milkweed, penstemon
- Annuals: cosmos, morning glory, phacelia, sunflower, zinnia
- Herbs: borage, catmint, lavender, oregano, rosemary

Resources to Learn More

- Bumble Bee Watch (photo-based citizen science): bumblebeewatch.org
- Pollinator Partnership: pollinator.org
- The Ohio State University Bee Lab: beelab.osu.edu
- Xerces Society for Invertebrate Conservation: xerces.org

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