NRCS Oregon

Introduction to Insect Pollinators

Oregon's primary pollinators are native bumble bees, sweat bees, mining bees, wasps, butterflies, and moths. Imported European honey bees also play a critical role in pollinating crops. This guide will help you recognize the characteristics of pollinators and their requirements for food and shelter.

Native Pollinators

Native bees are easily overlooked since most do not fit the stereotype image, like the European honey bee, with black and brownish stripes, living with thousands of others in a hive full of honeycomb. About 4,000 species of native bees have been identified and catalogued in North America. They range in length from less than one eighth of an inch to more than one inch; vary in color from dark brown or black to metallic green and blue; and may have stripes of red, white, orange, or yellow.

Bumble Bees

There are 49 species of bumble bees in the United States. About 19 of these are found in Oregon.

Bumble bees are excellent pollinators, especially of berry species. While bumble bees are generalist foragers that visit a diversity of flowers, a few groups of flowers, such as willows and lupines, are particularly important to them.

Bumble bees practice what is called 'buzz pollination' where they grab onto the anthers, the pollen-bearing structure, of certain flowers and buzz their flight muscles to release the pollen. This behavior is especially important in pollinating blueberries, cranberries, and tomatoes.

Bumble bees are social insects that build their nests in the ground, often in abandoned mouse burrows, empty bird nests, and under fallen grass. The mated queen overwinters in the soil while the rest of the colony dies at the onset of cold weather. In early spring, she establishes a new nest and rears the first worker brood. These workers are small, sterile females that enlarge the nest, forage, and tend to the next generation of workers. These are larger bees, due to changed nest conditions, such as increased temperature, cell size, and food availability. Produced in late summer are the fertile females (next year's queens) and males (called drones), whose sole function is to fertilize the queens before dying in the fall.

Sweat Bees

Sweat bee is the common name for bees in the Halictidae family, and they are named for their attraction to the salts in human perspiration. Most sweat bees are small to medium in size, 1/8 to 3/8 of an inch long. They are generally black or metallic, and some are brilliant green or brassy yellow.

Sweat bees are among the most common bees. There are about 1,000 species in the United States, Canada, and Central America.

All species nest in the ground. Halictids have a range of nesting habits, from dispersed solitary nests, to densely situated ones with individual bees sharing common entrance ways, to primitive social arrangements. Halictid bees are common insects and good general pollinators.

Mining Bees

Andrenid bees, commonly called mining or digger bees, are another common pollinator. They resemble the typical honey bee in shape and size. Their bodies are dark in color and covered with fine, light brown or yellow hairs.

Andrenid bees have chewing-lapping mouthparts used to manipulate and collect nectar and pollen. The protruding, 'lapping' mouthpart is shorter in mining bees than honeybees, giving them the common name of short-tongued bees. As their name suggests, mining bees dig single nests in the soil. Mining bees are solitary and do not form large, socially organized nests. However, thousands of individuals may nest in a general area with good nesting habitat.

Wasps

Like bees, yellowjackets and hornets belong to the insect order Hymenoptera. These species are beneficial to humans for pest control and some pollination. In addition, thousands of small wasp species are parasites of other insect pests, particularly aphids and caterpillars. Without parasitic wasps, pests would overtake most crops.

Yellowjackets can be both beneficial and problematic wasps. They are important predators and scavengers, helping to control pests and recycle organic materials, but can also be a threat to humans due to their ability to sting repeatedly in defense of their nests. Yellowjackets are relatively short and stout, holding their legs close to their body compared with other wasps. Paper wasps, for example, are more slender and have long, dangling legs. All yellowjackets are striped either black and white or black and yellow. They are rapid fliers, and are more aggressive than other types of wasps. Their nests are always enclosed with a papery envelope and can be found in the ground, hanging from eaves or tree branches, and occasionally in wall voids.

The Bald or White Faced 'Hornet,' is scientifically not considered to be a hornet, but a large wasp. Its coloration is black and white. Their nests are found in trees or shrubs and they become very large by summer's end. The size of the nest, number of individuals in a colony, and the active time beyond summer all depend on the species.

Non-native Pollinators

European Honey Bees

European honey bees play a critical role in pollinating crops. They are the pollinator we know how to best manage and move for agriculture. However, in recent years they have been plagued by pests, diseases, and most recently, the mysterious colony collapse disorder.

Other Pollinators

Syrphid Flies

Syrphid flies, also known as hover flies for their ability to hover in flight, are common predators of aphids and other soft bodied insects. Because Syrphid flies feed on pollen, nectar, and aphid honeydew, they can also act as pollinators. They mimic the appearance of bees or wasps as a protective strategy. There are multiple species of Syrphid flies in Oregon.

Butterflies

Butterflies, as well as moths, can serve as pollinators. There are approximately 170 species of butterflies in Oregon that are found at sea level, on mountaintops, and everywhere in between. Some range throughout North America or even other continents. Others, like the Oregon swallowtail, are unique to the Pacific Northwest.

Improve pollinator habitat on your property...

NRCS

The USDA Natural Resources Conservation Service (NRCS) provides voluntary technical and financial assistance to help private landowners plan, design and install conservation treatments. Ask your local NRCS about practices to benefit pollinators. Locate your service center online at:

www.or.nrcs.usda.gov

Look for opportunities to improve pollinator habitat with these NRCS conservation programs:

- Conservation Security Program
- Conservation Technical Assistance
- Environmental Quality Incentives Program
- Wetlands Reserve Program
- Wildlife Habitat Incentives Program

The Xerces Society
for Invertebrate Conservation

The Xerces Society is a non-profit organization that works with farmers and scientists to protect habitat that supports pollinators. The Xerces Society provides plant lists, crop-specific fact sheets and other guidance for protecting pollinator habitat. More information can be found at:

www.xerces.org

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