MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO

Table of Contents

Contact

For more information, photo requests or to schedule an interview with Woodland Park Zoo staff, please contact:

Woodland Park Zoo Public Relations
woodlandparkzoopr@zoo.org | 206.548.2550

Gigi Allianic, Senior Public Relations Manager
Alissa Wolken, Public Relations Coordinator

MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO

Exhibit Overview

Take a walk through the Pacific Northwest's gardens and engage with native North American butterflies in the immersive Molbak's Butterfly Garden. Woodland Park Zoo's seasonal Butterfly Garden exhibit emphasizes both the fragility and resilience of nature through the display of what many consider to be among the most beautiful of natural expressions: butterflies and flowers.

An arching tent structure encloses a landscape of approximately 3,000 square feet, and nearly 500 free-flying butterflies represent at least 15 species native to North America. Here, guests learn about the butterfly's life cycle while watching new butterflies emerge from their chrysalises before flying free in the garden.






Behind the Garden is the new, year-round Microsoft Pollinator Patio, where guests can enjoy a beautiful stroll among pollinator-friendly plants while learning how to help pollinators in their own backyards. This garden is full of ideas and actions guests can take on behalf of native pollinators such as hummingbirds, beetles, bees and flies. Before leaving, guests can also take a sneak peek at the zoo's Silverspot Butterfly Lab, where zookeepers and teen volunteers hatch and raise endangered Oregon silverspot butterflies for release into protected wild habitat. Molbak's Butterfly Garden and Microsoft Pollinator Patio are free with zoo admission.

The Butterfly Garden focuses on the life cycle and identification of North America's butterflies and on preservation and restoration of appropriate habitat for these pollinators. The exhibit contains approximately 500 butterflies representing several species from North America. The outdoor Pollinator Patio teaches visitors about the many species and importance of pollinators to human food sources, as well as a few easy actions people can take to provide food, water, and shelter for pollinators in their own backyards.

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO

Exhibit Overview (continued)

Support for Molbak's Butterfly Garden and Microsoft Pollinator Patio

Construction of Woodland Park Zoo's Butterfly Garden was made possible thanks to generous contributions of individuals, families, foundations, and corporations throughout the Pacific Northwest and funding from the Seattle Park District. Molbak's Garden + Home generously agreed to donate the plants and landscaping supplies that will augment the pollinator habitat and guest experience for up to 10 years.

Construction of Woodland Park Zoo's Pollinator Patio was made possible thanks to generous contributions of individuals, families, foundations, and corporations throughout the Pacific Northwest and funding from the Seattle Park District. A capital grant from Microsoft underwrote the new Pollinator Patio.

Green Features and Sustainable Design

Woodland Park Zoo designs with the environment in mind. The Butterfly Garden features rain gardens and storm water infiltration. When rain falls on the exhibit tent, it collects along the sides and soaks into the ground. Specially prepared gravel channels along the perimeter of the tent allow the rainwater to be retained on site and slowly seep into the ground. Storm water is infiltrated into the ground instead of spilling into storm drains which lead to Puget Sound and other waterways.

The Butterfly Garden and Pollinator Patio, as well as all of zoo grounds, are pesticide free. Signage in the exhibit offers alternatives to insecticide use for treating ants and spiders.

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO

Exhibit Overview (continued)

Additional Information

Exhibit Public Opening: July 2, 2016 (Molbak's Butterfly Garden), May 27, 2017 (Microsoft Pollinator Patio)

Location: Next to Zoomazium

Size: 3,000 square feet

Animals: Butterflies, wild bees, flies, hummingbirds and other pollinators

Project Cost: $420K (Molbak's Butterfly Garden), $30K (Microsoft Pollinator Patio)

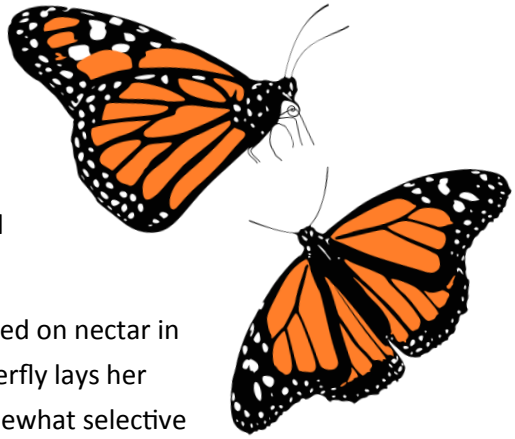
Exhibit Designer: Woodland Park Zoo Staff, Andrew Dornan-Turnstone Construction, Curtis McGuire Architect

Project Manager: Monica Lake, Woodland Park Zoo

Presenting Sponsor: Molbak's Garden + Home (Butterfly Garden), Microsoft (Pollinator Patio)

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO



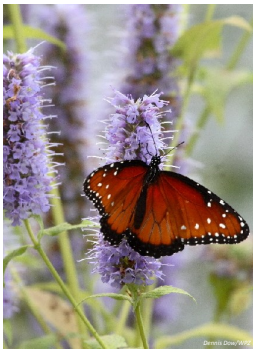
About Exhibit Species

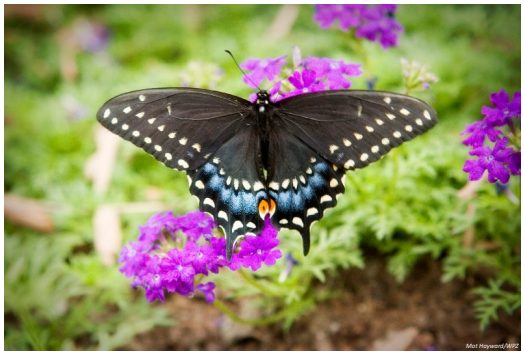
Butterflies

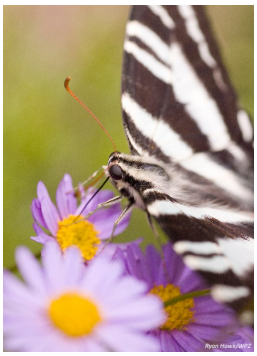
The Butterfly Garden contains approximately 800 butterflies representing several species from North America.

As adults, most butterflies live only a few weeks. In this brief stage of life, they feed on nectar in flowers, attract mates and defend their territories. After mating, the female butterfly lays her eggs on specific host plants, on which their caterpillars feed. Even adults are somewhat selective about the types of flowers and fruits they visit for food. Adult butterflies pollinate many different plant species and, not surprisingly, many flowers have specific adaptations for attracting them. The blooms that we enjoy with our eyes and noses are also the beacons, landing platforms, and launching pads for butterflies. The flower's color, form, aroma, and nectar guides work as signals and signposts to efficiently guide the butterfly to the source of nectar. In the process, of course, they get dusted with pollen which they carry to other flowers. This, in turn, helps the plants produce seeds and reproduce.

In addition to pollinating flowers, in their various stages, butterflies become food for birds and other animals and help control certain species of invasive plants. The presence of butterflies in their various life stages is also an indicator of the relative health of our environment. For example, the expansion or contraction of butterfly ranges helps scientists study problems such as habitat degradation, air pollution and global climate change.







5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO

About Exhibit Species (continued)

Butterflies

Most butterflies fly by day, rest with wings closed, have slender, club-tipped antennae and appear slim-bodied. Most moths fly by night, rest with wings open, have straight or feathery antennae, and appear thick and hairy. In general, butterflies tend to fold their wings vertically up over their backs, while moths tend to hold their wings in a tent-like fashion, hiding the abdomen.

Brush-footed butterflies

**Species marked with* *can be found in the Puget Sound region.*

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO

About Exhibit Species (continued)

Butterflies (continued)

Swallowtail butterflies

Whites, oranges, yellows and sulphurs

Misc.

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

About Exhibit Species (continued)

Moths

Wild pollinator species

Potential wild pollinator species that can be found in the Microsoft Pollinator Patio include:

Mason bees

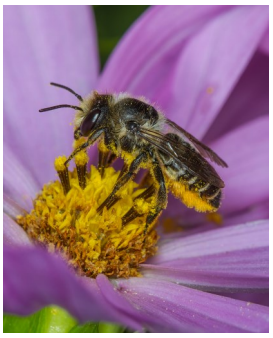
Mason bees are named after the walls they construct in their nests. They are medium-sized, robust and round, typically lacking obvious hairs and markings on their bodies. Most are metallic and may be bright green or blue; sometimes they are mistaken as flies. Mason bees are efficient pollinators (sometimes more efficient than honey bees), carrying pollen under their abdomens. They benefit numerous wildflowers and crops such as apples, cherries, almonds, raspberries, blackberries, blueberries, pears and sweet clover. Mason bees do not live in hives but are solitary tunnel-nesting bees.

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

About Exhibit Species (continued)

Wild pollinator species (continued)

Leafcutter bees

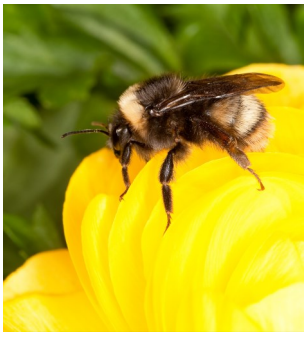


Leafcutter bees are aptly named for their habit of cutting leaves or petals of plants to build shelter for their young. They are moderate to large-sized bees that tend to be more stout or squat than other bees, with flattened abdomens and broad heads. Leafcutter bees are efficient at collecting pollen on long hairs beneath their abdomen; they pollinate many wildflowers, fruits and vegetables. Species of leafcutter bees in the Northwest are solitary tunnel-nesters, with a similar life cycle to mason bees. Instead of building walls between cells in the tunnels, however, leafcutter bees use pieces of leaves of petals to line or wrap the cell.

Sweat bees

There are three genus of sweat bee: *Lasioglossum*, *Halictus* and *Agapostemon. Lasioglossum* and *Halictus* are attracted to animal sweat, including humans; it is believed they drink for its salt content. Hence, why they are called sweat bees. All sweat bees nest underground, but different species are solitary (individual females have separate nests), communal (individuals share a common nest entrance), or semisocial (daughters and mothers live together but there is no queen). Finding bare ground with loose soil, female sweat bees dig vertical channels, often a narrow shaft with branches that contain cells with an egg and pollen ball.

Bumble bees



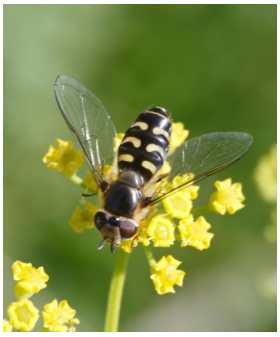
These easily-recognized bees are large, hairy and visible very early to very late in the season. Bumble bees can "buzz-pollinate": they hold a flower and buzz by vibrating their wing muscles without flapping their wings, shaking the flower and causing it to release pollen. Plants that benefit from bumble bees include peppers, tomatoes, eggplants, blueberries, cranberries, currants, raspberries, apricots, apples, melons, squash, alfalfa, clover and onions. Bumble bees are social and live in colonies. They prefer to nest in dry, well-protected nooks such as abandoned bird houses, rodent nests and sheltered grass clipping piles.

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

About Exhibit Species (continued)

Wild pollinator species (continued)

Hover flies



Also known as flower flies or syrphid flies, these small insects are named after their ability to hover in mid-air and close relationship with flowers. Their appearance often mimics bees or wasps and many have black and yellow striped abdomens. In temperate regions, hover flies pollinate many wild flowers and fruits such as apples, pears, strawberries, cherries, plums, apricots, peaches, raspberries and blackberries. They also pollinate peppers, fennel, coriander, caraway, onions, parsley and carrots. Females lay their eggs on rotting plant material, such as leaf litter piles. When the larvae hatch, they look like small slugs and may be mistaken for pests, but they are great for gardens. Hover fly larvae primarily eat aphids, small sap-sucking insects that can damage plants.

Hummingbirds

These unmistakable birds are tiny and fast. Their long, thin beaks and ability to hover in mid-air are adaptations for drinking nectar from flowers, their primary food source. Hummingbirds are effective pollinators and important for maintaining wildflower populations. Anna's hummingbirds are year-round residents in the Seattle region, whereas rufous hummingbirds breed here and migrate to Central America to overwinter. Hummingbirds build their cup-like nests with fine plant and animal materials (fur, hair, feathers) and spider webs, covering the outside with lichen or moss.

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO

About the Plants

The plants in Molbak's Butterfly Garden and Microsoft Pollinator Patio have been selected because they provide the most food for butterflies and are not nest plants. Additionally, trees, shrubs and flower combinations have been selected to provide butterflies with a wide range of behavioral choices while simultaneously stimulating human senses. The Butterfly Garden also teaches visitors how they can create a welcoming environment for butterflies in their own neighborhood.

Some Flowering Plants for Pollinators

Annuals Bloom Time

Swan River daisy *(Brachyscome iberidifolia)*.....spring to summer

Hairy beggarticks *(Bidens ferulifolia*).....summer

Cosmos *(Cosmos bipinnatus)*.....summer to autumn

Floss flower *(Ageratum hybrid)*.....summer to autumn

Lantana *(Lantana camara)*..... summer to autumn

Perennials Bloom Time

Giant hyssop *(Agastache)*.....summer

Phlox *(Phlox paniculata)*.....summer to autumn

Goldenrod *(Solidago rugosa)*.....autumn

Yarrow *(Achillea millefolium)*.....autumn

Shrubs Bloom Time

California lilac *(Ceanothus)*.....spring to summer

Seedless butterfly bush *(Buddleia)*.....summer to fall

Note: *The seedless butterfly bush planted in the exhibit will not produce unwanted seedlings.*

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO

Conservation Partnership

Woodland Park Zoo supports more than 35 field conservation projects in the Pacific Northwest and around the world. One of the zoo's regional programs focuses on the Oregon silverspot butterfly (*Speyeria zerene hippolyta*), which was once found on coastal grasslands along the Pacific Ocean from northern California to southern Washington. Now, forest succession, invasive weeds and grasses, and land development have greatly reduced this butterfly's habitat to five wild populations in Oregon and California.

The Oregon silverspot butterfly depends on the early blue violet (*Viola adunca*), a low-growing native wildflower, to survive. Silverspots lay their eggs near violet plants, and growing caterpillars rely on them as their sole source of food. U.S. Fish and Wildlife Service collaboratively works with The Nature Conservancy, U.S. Forest Service and other partners to restore native butterfly habitat at sites in Oregon in the hopes of returning the butterfly to its historic range. Woodland Park Zoo and Oregon Zoo help to augment the wild population through head starting. In our labs we collect eggs, hatch and raise caterpillars at the zoos until they pupate, and then release the pupae to protected areas in Oregon.

This project is part of Woodland Park Zoo's Living Northwest program, which combines conservation programs that focus on native species restoration, habitat protection, wildlife education and human-wildlife conflict mitigation across the Pacific Northwest. These strategies improve the health of our wildlife populations, the health of our ecosystems and the health of our communities.

Learn more about this and our other conservation programs the zoo supports at www.zoo.org/conservation.

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org

MOLBAK'S BUTTERFLY GARDEN
and
MICROSOFT POLLINATOR PATIO

About Woodland Park Zoo

Woodland Park Zoo saves animals and their habitats through conservation leadership and engaging experiences inspiring people to learn, care and act. For more than 115 years, Woodland Park Zoo has served as an urban oasis, gathering generations of people together to enjoy the natural world. The zoo spans 92 acres, 70 of which are developed as exhibits and public spaces including entries and parking. The remainder is devoted to administrative offices and support facilities, a buffer zone and neighborhood parks.

Hours and Fees: Hours: 9:30 a.m.-4:00 p.m. daily October 1 through April 30, and 9:30 a.m.-6:00 p.m. daily May 1 through September 30. Woodland Park Zoo is open every day except Christmas Day. Admission: October 1- March 31: Adult (13-64) $14.95; Child (3-12) $9.95. April 1-September 30: Adult (13-64) $20.95; Child (3-12) $12.95. Free for children 2 and under year round. Active, retired, and veteran U.S. military and their families, seniors and people with physical disabilities receive an admission discount. Zoo members receive free zoo admission year round. Admission prices subject to change. Parking: $6. For more information, visit www.zoo.org or call 206.548.2500.

Collection: Animal care professionals at Woodland Park Zoo are experts in their field and provide the highest quality care for animals every day. The zoo manages the largest live animal collection in Washington state, with more than 1,200 animals, representing more than 300 species. The zoo provides a home for 55 endangered and 18 threatened or vulnerable animal species. The zoo's botanical collection includes more than 92,000 plants and trees representing more than 1,300 species.

Field Conservation: Through funding provided by the zoo's Partners for Wildlife, Living Northwest, and Wildlife Survival Fund, and the contributions of zoo members and donors, the zoo is supporting conservation of wildlife, preserving fragile habitats, and increasing public awareness for wildlife and environmental issues. The zoo currently partners with more than 35 field conservation projects taking place in the Pacific Northwest and around the world. These include some of the smallest life forms—the endangered Oregon silverspot butterfly—to some of the largest—the Asian elephant.

Education: As the Washington hub for excellence in conservation education, the zoo's programs are grounded in an outcomes-based framework focusing on connecting children to nature, developing ecological literacy and providing pathways to conservation. From early learners to senior learners, and on and off grounds, the zoo's developmental approach to lifelong learning is to foster empathy for nature, build conservation knowledge and skills, and increase people's personal ownership for action that benefits wildlife and habitats. In 2016, more than 736,000 visitors participated in the zoo's public programs and more than 76,000 students, teachers and chaperones visited the zoo in school groups or received a zoo outreach program.

Award-winning Exhibits: Woodland Park Zoo is famed for creating revolutionary naturalistic exhibits that began a shift that changed the face of zoos worldwide. The Association of Zoos & Aquariums has honored the zoo with seven major exhibit awards: **Humboldt penguin**, **Jaguar Cove**, **Trail of Vines**, **Northern Trail**, **Tropical Rain Forest**, **Elephant Forest** and **African Savanna**.

5500 Phinney Ave. N., Seattle, WA 98103 | ph 206.548.2500 fax 206.548.1536 | www.zoo.org