The Wildlife Garden

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Create a Butterfly Garden

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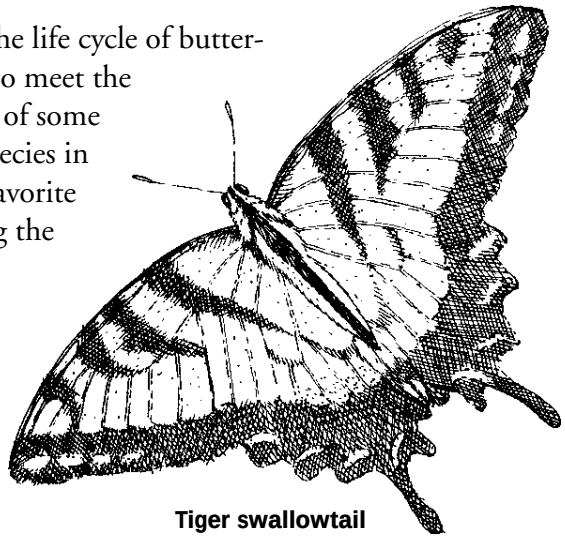
Butterflies are some of the most beautiful, fragile animals in nature, sometimes called "flying flowers." Butterflies and moths pollinate flowers, and both adults and larvae are an important food source for birds, bats, and other wildlife. Nearly 700 kinds or species occur in North America. About 20 species commonly are found in the Pacific Northwest.

Attracting butterflies to your yard and garden is easy if you create a habitat that meets the butterflies' needs for growth and development. Butterfly larvae, or caterpillars, eat leaves. Adult butterflies feed on nectar from colorful, fragrant flowers. Putting in the right plants for both of these increases your chances of attracting and keeping butterflies in your garden. Suitable habitat also includes shelter from wind and rain, open sunny areas for basking, and mud puddles for water and nutrients.

This publication describes the life cycle of butterflies, how to design your garden to meet the specific needs of butterflies, a list of some of the most common butterfly species in the Pacific Northwest and their favorite food sources, and a chart showing the different times of year the adult butterflies of each species are active.



Tiger swallowtail

Life cycle

Butterflies undergo a complete change or metamorphosis through four different life stages: egg, larva (caterpillar), pupa (chrysalis), and adult. The development of a butterfly from egg to adult can take from 3 weeks to several months, depending on the species and the time of year.

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Female butterflies lay eggs singly or in clusters on specific host plants. Usually, they lay their eggs on the undersides of the leaves, which provides protection from both predators and weather.

Tiny caterpillars hatch from the eggs and spend all of their time eating leaves and growing. (Some caterpillars born late in the summer overwinter in this stage and then begin eating in the spring.) When the caterpillar becomes too large for its skin, it molts, or sheds its skin. This occurs at least four times.

After the final molt, the caterpillar searches for a twig or leaf to which it can attach itself. The caterpillar then forms an outer shell around its body, called a pupa or chrysalis. It usually takes 1 to 2 weeks for the pupa to develop. (Some pupae spend the winter in this stage and emerge in the spring.)

During this stage, the transformation from caterpillar to adult butterfly is completed. A newly formed butterfly emerges and flies away to look for a mate and continue the cycle. See Table 1 for the time of year to expect adult butterflies.

Designing your garden

Protection from wind

A butterfly garden can be any size, but it needs to be in a sunny, open area protected from wind. Determine from which direction the prevailing wind comes, and plant larger shrubs, vines, or trees as a windbreak (Figure 1). The windbreak should protect from wind without decreasing the amount of sunlight.

You already may have an effective border area in your yard. If you are going to plant additional species, choose nectar-producing trees, shrubs, and vines that provide both food and protection. Pink or white viburnum, oceanspray, and rhododendron are excellent choices for shrubs. A trellis or wall covered with honeysuckle or clematis makes an attractive barrier. Nectar-producing trees include cottonwood, dogwood, cherry, apple, or plum.

Nectar plants for adult butterflies

After emerging, adult butterflies look for sources of nectar (Table 2). Color, fragrance, size, and shape are all important characteristics of the best nectar flowers.

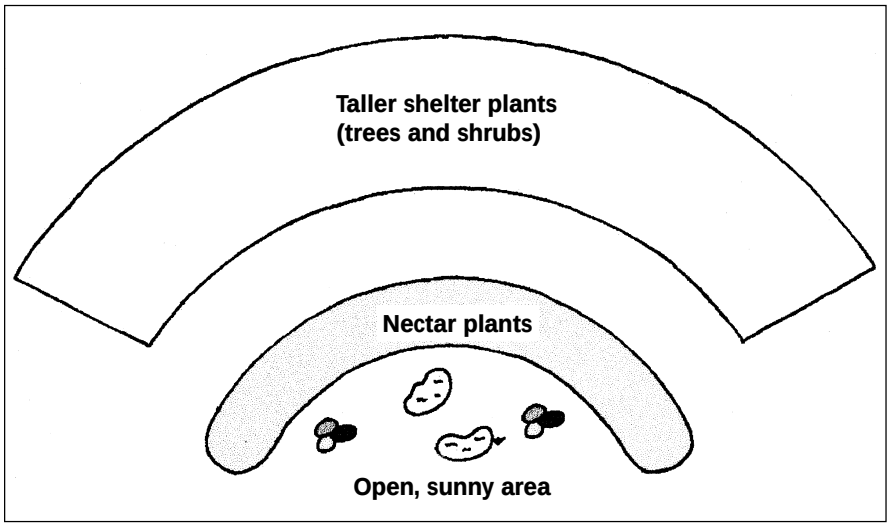


Figure 1. An example of a butterfly garden design.

Table 1. Butterfly species and the time of year they are active.

Common Name	Species	April	May	June	July	August	Sept.
Early spring species							
Sara orangetip	*Anthocharis sara*	■	■				
Spring azure	*Celastrina argioulus*	■	■				
Late spring/Early summer species							
Silvery blue	*Glaucopsyche lygdamus*		■	■			
Brown elfin	*Callophrys augustus*		■	■			
Mourning cloak	*Nymphalis antiopa*		■	■			
Western oak dusky wing	*Erynnis propertius*		■	■	■		
Wide-ranging species (late spring through early fall)							
Cabbage white	*Pieris rapae*		■	■	■	■	
Satyr comma or Golden anglewing	*Polygonia satyrus*		■	■	■	■	
Red admiral	*Vanessa atalanta*		■	■	■	■	
Monarch	*Danaus plexxipus*		■	■	■	■	
Western tiger swallowtail	*Papilio rutulus*		■	■	■	■	■
Western swallowtail	*Papilio zelicaon*		■	■	■	■	■
Field crescent	*Phyciodes mylitta*		■	■	■	■	■
Painted lady	*Vanessa cardui*		■	■	■	■	■
American painted lady	*Vanessa virginiensis*		■	■	■	■	■
Western painted lady	*Vanessa carye*		■	■	■	■	■
Common ringlet	*Coenonympha tullia*		■	■	■	■	■
Summer species							
Clodius parnassian or American apollo	*Parnassius clodius*			■	■	■	
Pale swallowtail	*Papilio eurymedon*			■	■	■	
Purplish copper	*Lycaena helloides*			■	■	■	
Summer/Early fall species							
Woodland skipper	*Ochlodes sylvanoides*			■	■	■	■
Lorquin's admiral	*Limenitis lorquini*			■	■	■	■
Large wood nymph	*Cercyonis pegala*			■	■	■	■
Gray hairstreak	*Strymon melinus*			■	■	■	■
Orange sulfur	*Colias eurytheme*				■	■	■
Pine white	*Neophasia menapia*				■	■	■
California tortoiseshell	*Nymphalis californica*				■	■	■
Great spangled fritillary	*Speyeria cybele*				■	■	■

Butterflies are nearsighted and are attracted to large patches of a particular type of flower. If you want to attract a particular species, a large splash of brightly colored flowers of one species is more effective than several different colors or species mixed together. However, planting several kinds of good nectar-producing flowers usually attracts more species of butterflies.

Fragrance may be even more important than color for attracting butterflies. Many nectar-producing flowers, such as lavender, lilac, and honeysuckle, emit strong fragrances to attract pollinators.

The size and shape of flowers is also important. Larger butterflies, such as swallowtails, prefer to land on flowers with large compact heads ("composites") because they

Table 2. Butterflies commonly found in the Pacific Northwest with host and nectar plants for each species.

Species	Host plants	Nectar plants
Anise swallowtail	Desert-parsley*, dill, carrot, garden parsley, anise	Desert-parsley*, garden mint, zinnia, penstemon*, lantana
Western tiger swallowtail	Big-leaf maple*, willow*, aspen*, cottonwood*	Common lilac, rhododendron*, honeysuckle*, milkweed*, mock orange*, lavender, verbena, sweet-william
Pale swallowtail	Buckbrush*, cherry*, plum, hawthorn*, cascara*, oceanspray*	Oceanspray*, columbine*, garden mint, thistle*, blackberry*, penstemon*, sweet-william
American apollo	Bleeding heart*	Blackberry*
Gray hairstreak	Pea*, mallow*, buckthorn*, borage*, rhododendron*, rose*, pine*	Goldenrod*, milkweed*, clover*, winter cress*
Pine white	Pine*, Douglas-fir*, true fir*, hemlock*, redcedar*	Dusty miller, daisies, coreopsis, lobelia, goldenrod*, strawflower
Orange sulfur	Alfalfa, clover*, and other legumes	Alfalfa, mustard, thistle*, aster*, red-osier dogwood*
Sara orangetip	Hedge mustard, winter cress	Cherry, plum, strawberry, monkey flower*, dandelion, violet*, rockcress
Brown elfin	Apple, bitterbrush*, manzanita*, rhododendron*, azalea, salal*	Cherry*, plum, willow*, osoberry*, bitterbrush*
Purplish copper	Knotwood*, cinquefoil*, dock*, sorrel*	Mint*, heather*, clover* and many composites
Spring azure	Dogwood*, oak*, buckthorn, madrone*, cherry*, plum, oceanspray*, salal*	Cherry*, plum, willow*, wild-lilac*, milkweed*, wild mustard*
Silvery blue	Mostly lupine*; also wild pea*, vetch*, clover*	Cherry*, plum, coneflower, desert-parsley*, lupine*
Lorquin's admiral	Willow*, oceanspray*, cottonwood*, cherry*, apple	Thistle*, dogbane*, wild mustard*, blackberry*, privet
Red admiral	Stinging nettle*	Daisy, aster*, thistle*, dandelion, goldenrod*, milkweek*, fireweed*
Painted lady	Mostly thistle*, sunflower*, pearly everlasting*, hollyhock	Oregon-grape*, rabbitbush, zinnia, dandelion, aster*, cosmos, milkweed*, purple coneflower
Mourning cloak	Elm, cottonwood*, willow*, birch*, wild rose*, hawthorn*	Willow*, milkweed*, clove pink, rockcress
California tortoiseshell	Wild lilac*	Willow*, garden lilac, thistle*, sneezeweed*, goldenrod*
Mylitta crescent	Thistle*	Pearly everlasting*, hawkbit, goldenrod*, aster*
Satyr comma	Stinging nettle*	Dandelion, aster*, blackberry*, also rotting fruit
Common ringlet	Grasses*	Dandelion, sweetclover, buttercup*
Common wood nymph	Grasses*	Coneflower, garden mint, sunflower, fleabane*, penstemon*, clematis
Great spangled fritillary	Violet*	Gloriosa daisy, thistle*, verbena, milkweed*
Monarch	Milkweed*	Milkweed*, lantana, lilac, cosmos, goldenrod*, zinnia
Woodland skipper	Grasses*	Bluebeard, lavender, oxeye daisy*, garden sage, pearly everlasting*, black-eyed susan*, aster*

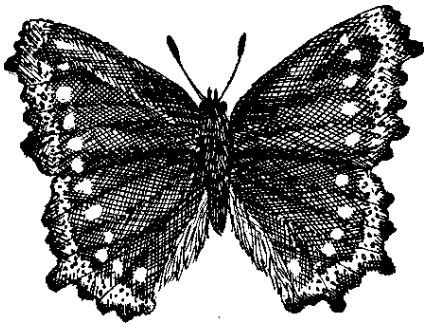
* Many wild varieties are native to the Pacific Northwest.

provide a platform for the butterflies to rest on while feeding. Composites include asters, goldenrod, zinnia, marigolds, and yarrow. Other flower types that butterflies prefer have tightly packed clusters of flowers. Some examples are lantana, honeysuckle, and milkweed. For your butterfly garden, choose a selection of plants that blossom at different times of year to provide nectar throughout the spring, summer, and fall.

Species that attract butterflies include native and non-native plants (see Table 2). Plants that are native to the Pacific Northwest are recommended for several reasons. Native plant gardens are better adapted to the climate and, once established, may need less water and maintenance. Butterflies recognize native plants more easily and often use them for food, shelter, and reproductive sites.

Be careful not to plant species that are too aggressive and/or invasive, such as English ivy. English ivy can out-compete all other plants, including native plants, and limit the diversity of your garden habitat. It spreads quickly to adjacent areas, climbing tree trunks and other vertical structures, and produces seeds that are carried by birds to other areas.

The popular, non-native butterfly bush (*Buddlea davidii*) is no longer recommended for planting, because it also is invasive. Alternatives to butterfly bush are California lilac (*Ceanothus thrysiflorus*) or chastetree (*Vitex agnus-castus*), which have similar foliage and flowers.



Mourning cloak

Avoid ornamental flowering plants that have been hybridized to produce showy or "double" flowers. Instead, choose the simple, old-fashioned varieties, because they are better sources of nectar.

Host plants for caterpillars

After it hatches, the caterpillar spends most of its time feeding on the host plants' leaves, which provide all of its nutritional requirements. Caterpillars are very particular about their host plants. Many starve to death if they cannot find the right plant. If you know which food each species prefers, you can attract more species of butterflies (see Table 2). Putting in the right host plants near nectar plants encourages butterflies to remain in your garden from generation to generation.

Minerals and water

In addition to nectar, butterflies need minerals and water. Butterflies do not drink from open water. They get the moisture and minerals they need from moist areas around water. This is called "mud-puddling."

You can create butterfly puddles with a bucket or any non-toxic container that holds water. Find a sunny spot that is out of the wind and near nectar plants. Bury the container in the ground, and fill it almost to the top with wet sand. Place a few twigs or rocks on top of the sand for perches.

Male butterflies require additional sodium during the mating season. You can supply it by occasionally adding a little salt to your puddle. If you are concerned about cats or other predators, you can put wet sand in a birdbath or other elevated container.

Winter shelter

A few butterfly species overwinter as adults. Most species either spend the colder months in the larval stage or move to warmer locations. To encourage adult butterflies to stay in your yard year-round, it is important

to provide adequate shelter. Hibernating adults or larvae may seek cover under leaf litter or mulch, in tree holes or cavities, in log piles, under loose tree bark, in crevices of tree trunks and walls, or in a vacant shed.

A log pile is an excellent addition to any wildlife garden. It provides shelter for many small mammals and amphibians as well as butterflies. Butterflies may use log piles for perching, roosting, and hibernation. See EC 1542, *Attract Reptiles and Amphibians to Your Yard* for instructions on how to build a log pile ("For more information," page 7).

Some butterflies have taken shelter in tin coffee cans or empty birdhouses. The only requirement is that there has to be a gripping surface for them to cling to. Some retailers advertise butterfly hibernation boxes, but these do not attract butterflies.

Basking sites

Butterflies are ectotherms, which means they need the sun to warm their blood and flight muscles. A butterfly must have enough sun exposure. Butterflies rarely take flight when temperatures are less than 60°F. To encourage butterflies to be active in your garden, you need to maintain a large, open, sunny space, preferably in the center of the garden. If this is not possible, any south-facing site will work.

Also, butterflies enjoy basking sites. These can take many forms. Large, flat, light-colored rocks with high sun exposure are ideal, but butterflies also use brick walkways, cement, or gravel.

Roosting sites

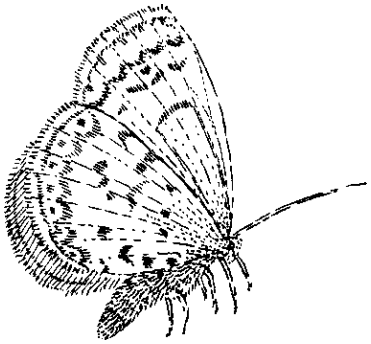
Butterflies spend more than half of their day at rest (roosting). They search for a roost in the early afternoon and spend the night there. They also use the roost during cold or wet weather. An effective roost could be as simple as the underside of a leaf or a protected part of a bush. However, certain species might have more specific preferences. If you offer a wide range of shelter such as trees, shrubs, and patches of overgrown grass, you provide more roosting sites.

Maintaining your garden

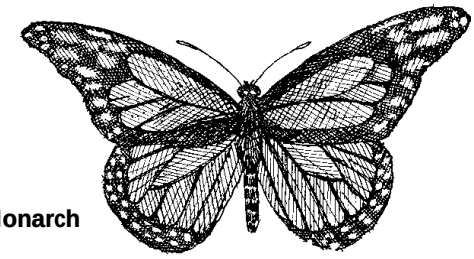
In order to maintain healthy butterfly habitat, do not use pesticides in your garden. Many pesticides not only kill the target insect species but also adversely affect all stages of a butterfly's life cycle. Some alternatives to pesticides include spot treating individual plants with organic oils or soaps, removing caterpillars from leaves by hand, or simply accepting insects as a natural component of a functioning garden. Also, the absence of chemicals allows natural insect predator populations, such as spiders and ladybug beetles, to increase. These species prey upon unwanted garden insects.

Remember when you prune or clean up dead plants and debris in your yard that there could be adults or larvae using this as habitat for roosting, pupating, or hibernating. If you find a chrysalis while pruning, attach the twig and leaf to a lower branch with a clothespin and watch for the butterfly to emerge in the spring.

Try to leave some areas in your property "wild," where grass and native, non-invasive weeds can grow undisturbed.



Spring azure



Monarch

Watching butterflies

Butterflies are beautiful, fascinating creatures. Children enjoy watching them and are fascinated with their stages of metamorphosis. Providing butterfly habitat in your yard is a great way to expose children to the wonders of nature.

Butterflies are easy to see during a warm, sunny day. Early in the morning, they are likely to be found basking in an open, sunny area. Later in the morning or early afternoon, most butterflies forage for food and fly around nectar-producing flowers. You also can see them around puddles or wet areas at this time.

You might be able to approach butterflies if you are slow and cautious. However, they are easily frightened. It is important not to approach butterflies from above, as they might view you as a predator.

Many people enjoy keeping a journal of the different species that visit their garden and the time of year they arrive. Butterflies also are excellent subjects for photographers. Once your butterfly garden is complete, sit back, enjoy the beauty you have created, and watch the treasures unfold.

For more information

OSU Extension publications

See these other publications in The Wildlife Garden set:

Attract Hummingbirds to Your Garden, EC 1541 (2002). $1.50

Attract Reptiles and Amphibians to Your Yard, EC 1542 (2002). $2.00

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Other publications

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