

Butterfly Gardening

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This NebGuide discusses butterflies and their relatives and the plants that will help attract them to a garden.

Butterflies can be found throughout Nebraska, from the coniferous forests of the Pine Ridge, through the grasslands of the Sandhills, to the deciduous forests along the Missouri River. Like bird watching or observing wildflowers, watching butterflies is a popular and enjoyable pastime. Although many natural butterfly habitats have been lost to urbanization and agricultural development, conservation of these beautiful insects has been incorporated into numerous programs and projects. Many individuals also are taking a personal interest in attracting these fascinating insects to their gardens. By choosing the right plants, you can attract many different butterflies, moths, and skippers, adding an ever-changing mural of color and motion to your landscape.

Butterflies, moths, and skippers belong to the insect order Lepidoptera, with moths comprising the largest percentage. Skippers are most often mistaken for butterflies, but they differ somewhat (Table I). All three groups act as pollinators for specific plants and are a food source for many animals. For this publication, reference to butterflies also includes moths and skippers.

Table I. Characteristics of butterflies, skippers, and moths.

Butterflies	Skippers	Moths
Fly in daytime	Fly in daytime	Fly mostly at night
Clubbed antennae	Clubbed antennae with a feathery hook on end	Unclubbed, usually feathery, antennae
Usually brightly colored	Drab to colorful (often brown to orange)	Drab to colorful
Usually smooth	Usually smooth bodied Often powerful fliers	Usually hairy bodied

Butterfly Biology and Life Cycle

Butterflies go through a four-stage development process known as metamorphosis. The four stages are egg, larva or caterpillar, pupa or chrysalis, and adult. Understanding a butterfly's life cycle can make watching them more enjoyable, and can help people understand the principles of attracting butterflies to their gardens. Depending on the species, the life cycle of the insect may take anywhere from about one month to an entire year to complete. Nebraska butterflies may have one, two, or more generations (broods) per year. Usually, the most common butterflies have multiple broods and provide a continuous array of color and activity in a butterfly garden throughout the season.

Life Cycle

Egg — Eggs are laid singly or in clusters, usually on the host plant, but sometimes in organic matter, weeds, or soil. Eggs hatch in a few days to a couple of weeks, depending on the species. However, some copper and hairstreak butterflies spend the winter in the egg stage. The larva eats its way out of the egg and is soon ready to feast on its host plant. Fritillaries are one exception, spending the winter as newly-hatched unfed larvae.

Larva — The larva continues to eat many times its own weight until its cuticle (skin) stretches to capacity. A hormone in the larva signals when it is time to shed its skin, or molt. Butterfly caterpillars go through three to five molts and are therefore found in various sizes before they are ready to pupate.

Pupa or Chrysalis — When the larva is full grown, another hormone signals when it is time to form a chrysalis, or pupate. The chrysalis is the resting stage between larva and adult. When it is time to pupate, the larva may spin a small silken mat to use to hang itself upside-down from a branch or leaf, or attach itself to the host plant by a silken girdle. In contrast to butterflies, many moths spin a silken cocoon.

Adult — Several conditions may influence the development of the chrysalis, including humidity, temperature, and/or day length. Emergence time usually coincides with host plant availability. Adults spend their entire life mating, laying eggs, and seeking nectar. Adult butterflies live from about a week to several months. A few spend the winter in outbuildings or logs, but most die before winter.

Commonly Attracted Butterflies in Nebraska

In Nebraska, some of the most easily attracted butterflies, moths, and skippers include:

- Alfalfa Butterfly — *Colias eurytheme* Boisduval
- American Painted Lady — *Vanessa virginiensis* (Drury)
- Cabbage Butterfly — *Pieris rapae* (L.)
- Checkered Skipper — *Pyrgus communis* (Grote)
- Clouded Sulphur — *Colias philodice* Godart
- Eastern Black Swallowtail — *Papilio polyxenes asterius* Stoll
- Eastern Tailed Blue — *Cupido comyntas* (Godart)
- Gorgone Checkerspot — *Chlosyne gorgone carlota* (Reakirt)
- Gray Hairstreak — *Strymon melinus* Hübner
- Great Spangled Fritillary — *Speyeria cybele* (Fabricius)
- Monarch — *Danaus plexippus* (L.)
- Painted Lady — *Vanessa cardui* (L.)
- Pearl Crescent — *Phyciodes tharos* (Drury)
- Red Admiral — *Vanessa atalanta* (L.)
- Sachem — *Atalopedes campestris* (Boisduval)
- Snowberry Clearwing — *Hemaris diffinis* (Boisduval)
- Spring Azure — *Celastrina neglecta* (W. H. Edwards)

Table II. Plants to attract butterflies.

Common Name	Scientific Name	Select Varieties	Bloom Color	Ht./ Spread	Bloom Time	Remarks	Larval Source	Nectar Source
Perennials Attractive to Butterflies								
Alfalfa	<i>Medicago sativa</i>	many	purple	16"-20"	May-Sept	Old plants lodge	X	X
Allium, Ornamental	<i>Allium senescens</i>	'Glaucum'	lavender	12"-12"	July-Sept	Long bloom season		X
Aster, Dwarf	<i>Aster x dumosus</i>	'Woods Dwarfs'	pink, purple, white	48"-36"	Sept-Oct	Dwarf, very little seed production	X	X
Aster, Fendler's	<i>Aster fendleri</i>	'My Antonia'	purple, white	6"-12"	July-Sept	Native, good drainage needed	X	X
Aster, New England	<i>Aster novae-angliae</i>	'Purple Dome'	pink, purple, white	36"-48"	Sept-Oct	Taller aster, late	X	X
Bee Balm	<i>Monarda</i> spp.	'Jacob Kline'	pink-lavender, red	18"-18"	June-Aug	Colonizes		X
Black-eyed Susan	<i>Rudbeckia hirta</i>	'Prairie Sun'	yellow-orange	24"-24"	July-Sept	Seeds itself, treat as an annual	X	
Black-eyed Susan	<i>Rudbeckia fulgida</i>	'Goldstrum'	yellow-orange	18"-24"	July-Sept	Seeds itself		X
Blanket Flower	<i>Gaillardia aristata</i>	'Baby Cole', 'Goblin', 'Burgunder'	yellow-red	18"-24"	June-Sept	Seeds itself, can be short lived		X
Catmint	<i>Nepeta</i> spp.	'Fassen's', 'Six Hills Hybrids', 'Walker's Low'	lavender	18"-18"	May-Oct	Several species		X
Chrysanthemum	<i>Dendranthema</i> spp.	many	assorted	varies	Aug-Oct	Hardiness varies	X	
Coneflower, Narrowleaf	<i>Echinacea angustifolia</i>	species type	pink	36"-24"	June-Aug	Native	X	X
Coneflower, Purple	<i>Echinacea purpurea</i>	'Magus', 'Cygnet White'	purple, pink, white	36"-24"	June-July	Native	X	X
Coneflower, Pale	<i>Echinacea pallida</i>	species type	lavender	30"-24"	June-July	Native, most drought tolerant of the species	X	X
Coreopsis, Threadleaf	<i>Coreopsis verticillata</i>	'Moonbeam', 'Zagreb'	yellow	18"-24"	June-Sept	Long bloom season, drought tolerant		X
Daylily	<i>Hemerocallis</i> spp.	many	assorted, warm colors	varies	June-Sept	Variable		X
Gayfeather, Dotted	<i>Liatrix punctata</i>	species type	rose-purple	20"-24"	Sept	Native		X
Gayfeather, Tall	<i>Liatrix pycnostachya</i>	'Eureka'	rose-purple	60"-24"	June-Aug	Native		X
Gayfeather, Spike	<i>Liatrix spicata</i>	'Kobold', 'Floristan White'	rose-purple, white		June-July	Cut flower		X
Goldenrod species	<i>Solidago</i> spp.	'Fireworks', 'Golden Baby'	yellow	varies	July-Sept	Cut back for rebloom, good dried		X
Goldenrod, Stiff	<i>Solidago rigida</i>	species type	yellow	30"-10"	July-Aug	Native		X
Hollyhock	<i>Alcea rosea</i>	many	assorted	72"-12"	May-Aug	Rust susceptible, allow to reseed	X	X
Ironweed	<i>Vernonia fasciculata</i>	species type	red-violet	48"-24"	July-Sept	Prefers moist soils		X
Joe-Pye Weed	<i>Eupatorium purpureum</i>	'Gateway'	purple	72"-48"	July-Sept	Better in eastern Nebraska, takes wet sites		X
Lavender	<i>Lavandula angustifolia</i>	'Provence', 'Hidcote'	lavender-blue	18"-18"	June-July	Semi-woody	X	X
Leadplant	<i>Amorpha canescens</i>	species type	lavender-blue	36"-36"	June-July	Native, semi-woody, drought tolerant		X
Milkweed, Butterfly	<i>Asclepias tuberosa</i>	species type, 'Hello Yellow'	orange, red, yellow	24"-24"	June-July	Native, difficult to transplant	X	X
Milkweed, Common	<i>Asclepias speciosa</i>	species type	pink	28"-15"	May-Aug	Common native milkweed, can be weedy	X	X
Milkweed, Swamp	<i>Asclepias incarnata</i>	species type, 'Ice Ballet'	pink, white	48"-15"	July-Aug	Best in moist sites	X	X
Pasqueflower	<i>Pulsatilla</i> spp.	'Rubra', 'Heiler Hybrids'	purple, white, red	12"-12"	Apr-May	Native, very early		X
Phlox, Prairie	<i>Phlox pilosa</i>	'Eco Happy Traveler'	rose-pink	15"-15"	May-June	Native, fragrant		X
Pinks, Cheddar	<i>Dianthus gratianopolitanus</i>	'Spotti', 'Dottie', 'Tiny Rubies'	white, rose-pink, red	8"-8"	May-June	Fragrant		X
Pitcher Sage	<i>Salvia azurea</i>	'Nekan'	blue, pink, white	24"-48"	Aug-Sept	Native		X
Prairie Clover, Purple	<i>Dalea purpureum</i>	'Stephanie'	purple	20"-15"	June-July	Native	X	X
Prairie Clover, Silky	<i>Dalea villosa</i>	'Sandhills Satin'	pink	15"-24"	July-Aug	Sandy sites	X	X
Primrose, Missouri	<i>Oenothera macrocarpa</i>	'Commanche Campfire'	yellow	15"-30"	July-Aug	Drought tolerant	X	X
Pussytoes	<i>Antennaria</i> spp.	species type	white, pink	2"-12"	May-June	Tiny groundcover for dry sites	X	X
Sea Lavender	<i>Limonium latifolium</i>	species type	blue, white	24"-24"	July-Aug		X	
Sedum Low varieties	<i>Sedum</i> spp.	'Gold Carpet', 'Dragon's Blood'	yellow, red, pink	6"-18"	June-July	Very adaptable		X
Sedum Tall varieties	<i>Sedum</i> spp.	'Indian Chief', 'Autumn Fire'	pink, bronze	24"-18"	Aug-Sept	Cut or dried flowers		X
Shasta Daisy	<i>Leucanthemum x</i>	'Alaska', 'Becky', 'Crazy Daisy'	white	24"-36"	June-July	Excellent cut flower		X
Sweet Clover	<i>Melilotus</i> spp.	species type	yellow, white	30"-30"	May-Oct	Consumed by domestic livestock	X	X
White Clover	<i>Trifolium repens</i>	several	white	15"-15"	May-Oct	Can be a lawn weed	X	X
Yarrow spp.	<i>Achillea millefolium</i>	'Paprika', 'Terra Cotta'	assorted	24"-36"	June-July	Prefers low fertility		X

<i>Common Name</i>	<i>Scientific Name</i>	<i>Select Varieties</i>	<i>Bloom Color</i>	<i>Ht./ Spread</i>	<i>Bloom Time</i>	<i>Remarks</i>	<i>Larval Source</i>	<i>Nectar Source</i>
Annuals Attractive to Butterflies								
Ageratum	<i>Ageratum x hybrida</i>	'Blue Horizon', 'Blue Pacific'	blue, lavender, white	varies	June-Oct	Trim off old flowers for repeat bloom		X
Broccoli	<i>Brassica</i> spp.	'Packman'	green	18"-12"	June	Replant for fall crop	X	
China Aster	<i>Callistephus chinensis</i>	many	assorted	12"-12"	June-Sept	Replant for fall crop		X
Cosmos	<i>Cosmos bipinnatus</i>	'Sensation', 'Shellleaf'	white, pink, crimson	60"-18"	June-Oct	Avoid overwatering		X
Flowering Cabbage	<i>Brassica</i> spp.	'Color Up'	reds, pinks, greens	18"-12"	Aug-Oct	Best in cool weather	X	
Flowering Tobacco	<i>Nicotiana glauca</i>	many	white, pink, red	36"-12"	June-Sept	Straight species is fragrant, white		X
Globe Candytuft	<i>Iberis umbellata</i>	many	assorted	12"-6"	June-Oct	Fragrant		X
Gomphrena	<i>Gomphrena globosa</i>	'Strawberry Fields'	assorted	30"-18"	June-Sept	Excellent for drying, clover-like flowers		X
Marigold, African	<i>Tagetes erecta</i>	many	yellow, orange	40"-18"	May-Oct	Natural nematode control		X
Marigold, French	<i>Tagetes patula</i>	many	yellow, orange, bronze	12"-6"	May-Oct	Border plant		X
Nasturtium	<i>Tropaeolum majus</i>	many	yellow, orange, red	12"-8"	May-Oct	Tolerates poor soil		X
Petunia	<i>Petunia</i> spp.	many	assorted	18"-12"	May-Oct	Provides season-long color		X
Salvia	<i>Salvia</i> spp.	many	red, blue	12"-15"	May-Oct	Upright plants, also attract hummingbirds		X
Scabiosa	<i>Scabiosa atropurpurea</i>	several	blue, pink	20"-15"	May-Oct	Good for drying		X
Snapdragon	<i>Antirrhinum majus</i>	many	assorted	varies	April-Oct	Cutting flower, can overwinter	X	X
Statice	<i>Limonium sinuatum</i>	'Blue River', 'Forever Gold'	white, lavender, yellow	18"-12"	July-Oct	Good cutting flower or dried		X
Sunflower	<i>Helianthus annuus</i>	many	yellow, orange, bronze	varies	July-Sept	Bird seed, cut flower	X	X
Sweet Alyssum	<i>Lobularia maritima</i>	'Carpet of Snow', 'Easter Basket'	white, lavender	4"-6"	May-Oct	Low trailing plant, fragrant		X
Sweet William	<i>Dianthus barbatus</i>	many	assorted	12"-12"	June-Sept	Annual or biennial		X
Verbena	<i>Verbena x hybrida</i>	many	blue, white, pink	12"	June-Sept	Best in cool weather, spreading		X
Zinnia	<i>Zinnia angustifolia</i>	'Crystal White', others	white, gold, yellow	12-16"	June-Oct	Hot, dry areas		X
Zinnia	<i>Zinnia elegans</i>	many	assorted	varies	June-Oct	Cut flowers, powdery mildew		X
Herbs Attractive to Butterflies								
Catnip	<i>Nepeta cataria</i>	species type	blue, purple	12"-18"	June-Aug	Many good cultivars, needs dry sites		X
Chives	<i>Allium schoenoprasum</i>	species type	pink	12"-12"	May	Perennial, reseeds		X
Dill	<i>Anethum graveolens</i>	'Elegans'	yellow	36"-24"	July-Sept	Annual, reseeds	X	X
Mint	<i>Mentha</i> spp.	many types	pink, white	24"-24"	May-Sept	Many types		X
Oregano	<i>Origanum vulgare</i>	species type	pink, white	24"-24"	July-Sept	Many uses		X
Parsley	<i>Petroselinum crispum</i>	varies	greenish	24"-18"	June-Oct	Annual or biennial, several types	X	X
Sweet Fennel	<i>Foeniculum vulgare</i>	species type	yellow	48"-18"	July-Sept	Licorice flavored	X	X
Biennials Attractive to Butterflies								
Dame's Rocket	<i>Hesperis matronalis</i>	species type	lavender	36"-18"	May-June	Naturalizes, somewhat invasive		X
Queen Anne's Lace	<i>Daucus carota</i>	species type	white	72"-48"	June-July	Also known as wild carrot	X	X
Standing Cypress	<i>Ipomopsis rubra</i>	species type	red	30"-12"	July-Oct	Fine texture		X
Shrubs Attractive to Butterflies								
Butterfly Bush	<i>Buddleia davidii</i>	many	purple, blue, white, pink	48"-48"	July-Oct	Cut to ground in spring		X
Cinquefoil	<i>Potentilla</i> spp.	many	white, orange, yellow	36"-36"	June-frost	Prune in late winter		X
Chokecherry	<i>Prunus virginiana</i>	'Shubert'	white	15'-10'	May	Fruit attractive to birds	X	X
Cotoneaster	<i>Cotoneaster</i> spp.	many	white, pink	varies	May-June	Attractive fruit		X
Lilac	<i>Syringa</i> spp.	many	white, pink, violet	8'-12'	May	Fragrant, susceptible to scale and borers	X	X
Mockorange	<i>Philadelphus</i> spp.	'Minnesota Snowflake'	white	5/10'-5/10'	May-June	Very fragrant		X
Privet	<i>Ligustrum</i> spp.	many	white	10'-6'	May-June	Often used as a hedge		X
Spirea	<i>Spiraea</i> spp.	many	white, pink	3/8'-10'	May-June	'Vanhoutte' is a popular type		X
Viburnum	<i>Viburnum</i> spp.	many	white, pink	varies	May-June	Some fragrant, good fruit		X
Wild Plum	<i>Prunus americana</i>	species type	white	15'-15'	May	Good for eating	X	X

Tawny-edged Skipper — *Polites themistocles* (Latreille)
Tiger Swallowtail — *Papilio glaucus* (L.)
Variegated Fritillary — *Euptoieta claudia* (Cramer)
White-lined Sphinx — *Hyles lineata* (Fabricius)

Attracting Butterflies

Although proper plant selection and placement are essential to attract butterflies, the location and characteristics of the site are important, as are additional features like rocks. Butterflies like sunny sites and areas sheltered from high winds. Warm, sheltered areas are most needed in the spring and fall. Provide rocks or bricks for pupation sites and for basking and warming in the sun. A water source for puddling and drinking is important. Butterflies require food plants for their larval stages and nectar plants for their adult stage. Some larvae feed on specific host plants, while others will feed on a variety of plants. Including both larval host plants and adult nectar plants in your butterfly garden will increase the chances of attracting a greater number and variety of butterflies. Listed in *Table II* are plants that can be used in Nebraska landscapes to attract butterflies.

Types of Plants that Attract Butterflies

Plants that attract butterflies are classified as either a food source, a nectar source, or both. Some of these plants will also provide protection from predators, shelter, a site to lay eggs, and a place for butterflies to attach themselves while pupating. It can be relatively simple to attract butterflies to a garden that suits your landscape tastes and needs. Many native or introduced annuals, perennials, herbs, vines, grasses, shrubs, and trees provide nectar flowers or meet other butterfly requirements. The time of flowering, duration of bloom, flower color, and plant size are all important considerations when selecting plants to attract butterflies. Include an assortment of plants for season-long bloom. If you want to attract a greater variety of butterflies, you will need to add plants that are not only a good source of nectar but a good source of food as well.

Many plants that attract butterflies, especially trees and shrubs, may already be present in a specific area. Although weed species are generally not welcome in a garden, allowing them to grow under supervision may be an option, since many of these plants support butterflies. Be cautious about using plants like blue flax (*Linum perenne*) and gray-head prairie coneflower (*Ratibida pinnata*) that readily reseed and may dominate garden sites.

Plants with clusters of flowers or large blooms provide easier landing sites for butterflies than plants with small, single flowers. Planting masses of single kinds of plants usually will attract more butterflies since there is more nectar available at a single stop. Select plants adapted to your site and location, and develop a plan for the butterfly garden. Several books containing sample butterfly garden plans are available in bookstores.

It is difficult to have a successful butterfly garden in locations where insecticides are used. Insecticides can kill butterflies as well as other useful insects. Plants that attract butterflies also may attract other forms of wildlife, including bees and wasps. Most bees and wasps, busy collecting pollen and nectar, are not likely to sting if left undisturbed. However, if you are allergic to bee and wasp stings, be careful! Even biological controls, such as BT (*Bacillus thuringiensis*), will kill butterfly larvae. When

treating for insect pests, always consider nonchemical methods of pest control before turning to pesticides.

Annuals — Annuals are plants that grow, flower, and complete their life cycle in one season. They come in a wide range of growth habits, flower types, and colors. Removal of old flowers (deadheading) may be necessary to encourage the continuous bloom that provides butterflies with an extended good source of nectar.

Biennials — Biennials form roots and rosettes of foliage the first year, flower and set seed the second year, and then die. They often persist in the garden for many years if some of the seedlings are allowed to remain.

Herbs — Herbs have many uses, among them flavoring food. Butterflies are attracted to many of the herbs we use for flavoring, and use them as a nectar source as well as a larval food source.

Shrubs — Most woody shrubs have a limited number of days of flower duration. However, they can provide good, short-term nectar sources as well as long-term butterfly habitats.

Trees — Trees can serve vital functions as larval food hosts, nectar sources, and protection. Some trees that are good for attracting butterflies include birch (*Betula* spp.), cherry (*Prunus* spp.), cottonwood (*Populus deltoides*), elm (*Ulmus* spp.), hackberry (*Celtis occidentalis*), hawthorn (*Crataegus* spp.), linden/basswood (*Tilia* spp.), oak (*Quercus* spp.), plum (*Prunus* spp.), red cedar (*Juniperus virginiana*), Russian olive (*Elaeagnus angustifolia*), and willow (*Salix* spp.).

Herbaceous Perennials — Herbaceous perennial plants are nonwoody plants that live and flower for more than two years. Some herbaceous perennials that are beneficial to butterflies, like alfalfa and clover, may not be suitable for a small garden, but they may be encouraged to grow in surrounding areas.

Grasses — Grasses can be native or introduced, annuals or perennials. Their height can vary from a few inches to several feet. They can provide larval food and protection for butterflies.

Resources

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