

Providing Leadership in Environmental Entomology

Department of Entomology, Soils, and Plant Sciences • 114 Long Hall • Clemson, SC 29634-0315 • Phone: 864-656-3111
email: dpento@clemson.edu

Butterfly Gardening

Flying flowers or *Jewels of the sky*, are just two of the terms that have been used to describe the beauty and fascination that people have for butterflies. By following a few simple steps, you can attract these flying beauties to your garden.



Swallowtail Butterfly J. D. Culin

WHY DO BUTTERFLIES VISIT A GARDEN?

Butterflies are looking for two things when they enter a garden: *nectar*, the food that adult butterflies need, and; *host plants*, the place where the female will lay her eggs and the food that caterpillars need. Both are necessary to create a successful butterfly garden.

NECTAR PLANT FACTORS

- **Nectar plants.** These are plants with flowers that produce the sweet fluid that many insects, including butterflies, use as food.
- **Flower Colors.** Many of our native butterflies prefer plants that have pink, red, purple, yellow, or orange flowers. Butterflies appear to be attracted to areas with large masses of a single color, or closely related colors, rather than gardens with many colors mixed together.

- **Flower types.** Most butterflies must land in order to get to the nectar. They prefer plants having either clusters of short tubular flowers, or flowers with large flat petals.



Flower types preferred by butterflies J. D. Culin

- **Season-long flowering.** Butterflies are active from early spring through frost, and having a mix of plants in your garden that flower throughout this entire time will attract them all season long.

HOST PLANT FACTORS

- **A place to lay eggs.** Because tiny caterpillars can not travel far to find their own food, the female locates, and lays her eggs on, only the type of plant that the caterpillar can use as food.
- **Caterpillar food.** Most species of caterpillars are particular about the type of plants they can eat. If the egg was not placed on the correct plant, the caterpillar hatching from that egg will not survive. Many native trees and other plants found in and around our yards are host plants for caterpillars. However, there are a variety of plants that can be included in a garden that are excellent host plants.
- **If you feed them, they will eat.** Many gardeners do not like to see plants in their gardens that have been chewed on by insects. To avoid this, you may want to locate host plants in areas that are not highly visible, or in a separate garden area a short distance from the nectar plants. If you do not provide host plants, you will have fewer butterflies.

LOCATION & DESIGN

- **Butterflies love sun.** Both butterflies, and the plants they prefer, like bright sunny areas protected from high winds. As you begin to plan your butterfly garden look for areas around your yard that have at least 6 hours of sun each day. In South Carolina summers, areas with morning to mid-afternoon sun seem to work best. If your yard is not too large, you also can plan a garden that consists of separate 'pieces' that are not adjacent to each other.
- **A place to catch some rays.** On cool mornings, butterflies need to warm their bodies before they can become active. To do this, they often sit on a reflective surface such as a flat stone, spread their wings, and turn their backs to the sun. Their wings work like solar panels, absorbing the sun's warmth that is then transferred to their bodies.



Puddling butterflies

J. D. Culin

- **Why are they eating dirt?** Butterflies often gather in groups on wet sand or mud, and look like they are eating. This activity is called *puddling*, and they do it to obtain the minerals that are found in the soil. You can create a puddling place in your garden by placing a shallow pan in the soil, filling it with coarse sand, and keeping it moist. You can add salt to this at a rate of ½ to ¾ cup salt (table salt or rock salt) to 1 gallon of sand, mix well and moisten. Locating the puddling area under a soaker hose or near a drip emitter works well to keep the sand moist.
- **Butterflies do not eat only nectar!** There are some butterflies that rarely feed on nectar and will only visit a garden if it has some *extra touches*, such as rotten fruit or manure. The best fruits are those that are either soft (banana) or moist (watermelon). Small amounts of fresh manure also will attract butterflies. If there are young children in your home, you may want to make sure that either of these items are in a protected

area as they both sometimes attract wasps as well as butterflies.

BUTTERFLIES & CATERPILLARS ARE INSECTS!



Various types of butterfly caterpillars

C. S. Gorsuch

The use of insecticides will kill many butterflies and their caterpillars. If a pest problem develops in your butterfly garden, try using biological controls, such as ladybugs, lacewings, and preying mantids as a first line of defense. These are often already present in a butterfly garden. If pests such as aphids, whiteflies, mealybugs, or spider mites become a serious problem, try using controls such as insecticidal soaps or horticultural oils applied only to those areas on the plants where the pests are located. Widespread application of these may affect the caterpillars on their host plants and the butterflies visiting nectar

plants. Applications of herbicides also may have a negative effect on caterpillars and butterflies.

SUGGESTED BUTTERFLY GARDEN PLANTS

Perennial plants

ageratum (*Ageratum*)
 * aster (*Aster* spp.)
 bee-balm (*Monarda didyma*)
 * black-eyed susan (*Rudbeckia* spp.)
 boltonia (*Boltonia asteroides*)
 bugle (*Ajuga reptans*)
 * butterfly weed (*Asclepias tuberosa*)
 chives (*Allium schoenoprasum*)
 * coneflower (*Echinacea purpurea*)
 * coreopsis (*Coreopsis* spp.)
 daisy, Shasta (*Chrysanthemum maximum*)
 daylily (*Hemerocallis* spp.)
 false indigo (*Baptisia australis*)
 * gayfeather (*Liatris* spp.)
 goldenrod (*Solidago* spp.)
 hibiscus (*Hibiscus* spp.)
 hollyhock (*Althaea rosea*)
 * ironweed (*Vernonia* spp.)
 * Joe-pye weed (*Eupatorium fistulosum*)
 * lantana (*Lantana camara*, *L. spp.*)
 leadplant (*Amorpha fruticosa*)
 lobelia (*Lobelia cardinalis*)

* milkweed (*Asclepias* spp.)
mountain mint (*Pycnanthemum* spp.)
passion flower (*Passiflora* spp.)
* phlox (*Phlox paniculata*, *P. carolina*)
sage (*Salvia leucantha*; *Salvia* spp.)
sedum (*Sedum* spp.)
thistles (*Cirsium* spp.)
verbena (*Verbena* spp.)
yarrow (*Achillea* spp.)

Trees and Shrubs

* abelia, glossy (*Abelia*)
blueberry (*Vaccinium* spp.)
buckeye (*Aesculus parviflora*; *A. pavia*)
* buddleia (*Buddleia davidii*)
buttonbush (*Cephalanthus occidentalis*)
hawthorn (*Crataegus* spp.)
mock orange (*Philadelphus* sp.)
pear (*Pyrus communis*)
plum (*Prunus* spp.)
redbud (*Cercis*)
rose of sharon (*Hibiscus syriacus*)
silverling (*Baccharis* spp.)
spiraea (*Spiraea* spp.)
summersweet (*Clethra alnifolia*)
viburnum (*Viburnum* spp.)

Annuals & biennials

cosmos (*Cosmos sulphureus*)
globe amaranth (*Gomphrena globosa*)
impatiens (*Impatiens wallerana*)
marigold, French (*Tagetes patula*)
Mexican sunflower (*Tithonia* sp.)
nasturtium (*Tropaeolum majus*)
* sunflower (*Helianthus* spp.)
* verbena (*Verbena* spp.)
Queen Anne's Lace (*Daucus carota*)
zinnia (*Zinnia elegans*)

* top choices

IDENTIFYING YOUR BUTTERFLIES

Although it is nice to have butterflies and their caterpillars in your garden, it is even better if you know who is who. Two great identification books for beginners are:

- *Peterson First Guides: Butterflies and moths* by Paul A. Opler
- *Peterson First Guides: Caterpillars* by Amy Bartlett Wright

For more advanced butterfly watchers:

- *Peterson Field Guides: Eastern Butterflies* by Paul A. Opler & Vichai Malikul
- *The Audubon Society Field Guide to North American Butterflies* by Robert Michael Pyle

REFERENCES FOR BUTTERFLY GARDENING

- *Butterfly gardening for the South.* by Geyata Ajilvsgi, Taylor Publishing Co., 1991.
- *The butterfly garden.* by Matthew Tekulsky, Harvard Common Press, 1985.
- *Creating a butterfly garden.* by Marcus Schneck, Simon & Schuster, 1993.
- *The butterfly garden.* by Jerry Sedenko, Villard Books, 1991.

SUGGESTED LARVAL FOOD PLANTS**ADULT BUTTERFLY**

asters (<i>Asters</i> spp.)	Pearly Crescentspot
cherry laurel, black cherry, wild plums (<i>Prunus</i> spp.) tuliptree (<i>Liriodendron tulipifera</i>)	Tiger Swallowtail & Red-Spotted Purple
clovers (<i>Trifolium</i> spp.) & other legumes	Sulfurs, Gray Hairstreak
dogwoods (<i>Cornus</i> spp.) and viburnum	Spring Azure
elm (<i>Ulmus</i> spp.), willows	Mourning Cloak, Viceroy, & Question Mark
hackberries (<i>Celtis</i> spp.)	Hackberry Butterfly
oaks (<i>Quercus</i> spp.)	Banded Hairstreak
milkweed (<i>Asclepias</i> spp.)	Monarch
mustard family	Cabbage & Checkered Whites
passion flowers (<i>Passiflora</i> spp.)	Gulf Fritillary & Zebra Longwing
paw paw (<i>Asimina</i> spp.)	Zebra Swallowtail
pearly everlastings (<i>Antennaria</i> , <i>Anaphalis</i> , <i>Gnaphalium</i>)	American Painted Lady
pipevines (<i>Aristolochias</i> spp.)	Pipevine Swallowtail
plantains (<i>Plantago</i> spp.) & snapdragon	Buckeye
senna, coffeeweed (<i>Cassia</i> spp.)	Cloudless Giant Sulfur
spicebush (<i>Lindera benzoin</i>) & sassafras (<i>Sassafras occidentalis</i>)	Spicebush Swallowtail & Palamedes Swallowtail
dill, carrot, parsley, fennel, Queen Anne's Lace (<i>Umbelliferae</i> : Parsley family)	Black Swallowtail
native grasses	various Skippers

For other publications in our Entomology Insect Information Series visit our web site at <http://entweb.clemson.edu/cuentres/eiis/index.htm>.

Prepared by Joseph D. Culin, Extension Entomologist/ Professor, Department of Entomology, Soils, and Plant Sciences, Clemson University.

This information is supplied with the understanding that no discrimination is intended and no endorsement by the Clemson University Cooperative Extension Service is implied. Brand names of pesticides are given as a convenience and are neither an endorsement nor guarantee of the product nor a suggestion that similar products are not effective. Use pesticides only according to the directions on the label. Follow all directions, precautions and restrictions that are listed.
Eiis/BB-2 (New 3/1999).