

Fluttering Through Gardening

Creating a Butterfly Habitat



By Karen Garland

kgarland@gaconservancy.org

The four main goals of a butterfly garden are:

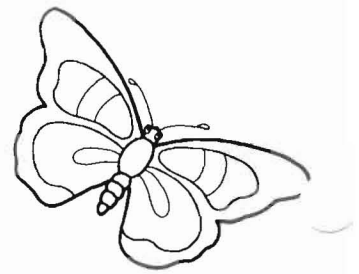
1. Planting gardens is environmentally sound and helps bring plants and flowers back into populated, urban areas.
2. Bringing native plants back into your local area, as these are often driven out by commercial and foreign varieties in many homes and gardens.
3. Helping to preserve many species of butterflies that are threatened by the ongoing destruction of their habitat.
4. Enjoying some of nature's most beautiful creatures by attracting them and nurturing them around your home.

In a nutshell the basic design elements are:

- sunny locations (at least 6 hours/day)
- shelter from wind
- nectar-rich blooms
- host plants where they can lay eggs
- moist sand or mud for 'puddling'
- flat rocks or other light colored flat surfaces for basking

Add plants that will support the various stages in a butterfly's life:

- egg – approximately two days
- caterpillar – approximately two weeks
- pupa (chrysalis = butterfly, cocoon = moth) -approximately two weeks
- adult – approximately two weeks to two months



Adult butterflies need nectar-producing plants for their energy supply. The larvae generally require certain plants--"host plants"--on which to feed. Don't worry, though--they won't eat everything in your garden.

Adult Nectar Plants

****Top 10 Nectar Plants****

- Aster (*Asters spp.*)
- Black-eyed Susan (*Rudbeckia hirta*)
- Butterfly bush (*Buddleia sp.*)
- Butterfly weed (*Asclepias spp.*)
- Coreopsis (*Coresopsis spp.*)
- Joe-Pye weed (*Eupatorium purpureu*)
- Lantana (*Lantana spp.*)
- Liatris (*Liatris spicata*)
- Purple coneflower (*Echinacea purpurea*)
- Yarrow (*Achillea spp.*)



Butterfly Gardening Tips

1. Do not use pesticides and herbicides
 - a. Most kill butterflies, caterpillars and beneficial insects.
 - b. Harmful insects quickly become immune.
 - c. Predatory insects and birds will control pests, given time.
2. Choose a sunny, protected area
 - a. An area receiving at least 5 to 6 hours of sun daily is preferable.
 - b. Most plants favored by butterflies prefer sun to partial shade.
 - c. Butterflies need shelter from strong winds.
3. Plant nectar flowers for adult butterflies
 - a. Choose perennials and annuals so that some butterfly favorite will be blooming from early spring through late fall.
 - b. Plant large areas of one plant species or one color.
 - c. Native plants are usually preferred.
 - d. Choose single or semi-double blooms over highly double flowers; extremely fancy blooms generally have less nectar, and it is more difficult for butterflies to obtain.
 - e. Flat-topped blossoms or clusters of short, tubular flowers are favorites.
 - f. Deadhead (cut off dead blooms) to keep plants flowering abundantly.
4. Plant host plants for butterfly caterpillars
 - a. You'll be able to observe life cycles.
 - b. Female butterflies will be drawn to your garden and encouraged to stay and lay eggs.
 - c. Without plants for caterpillars, there would be no butterflies.
 - d. Larvae do eat leaves and flowers of host plants but don't usually kill the plants, as so few caterpillars survive more than a few days. Chewed foliage may be unsightly, so screen host plants from main viewing area. Be sure you've planted enough to support the growing caterpillars.
5. Provide water
 - a. Butterflies will drink from shallow puddles and dew on leaves.
 - b. They will also drink and "puddle" on damp or muddy areas.
6. If space is limited, try planting butterfly-attracting flowers in containers, window boxes or hanging baskets.
7. Provide flat rocks or bare soil to allow butterflies to bask in the sun.
8. Research before planting
 - a. Host plants need to be for larvae of butterflies found in your area.
 - b. Determine if flowers/plants prefer dry or moist conditions, full or partial sun, acid or alkaline soil, etc.
 - c. Plants grow; don't place potentially large shrubs/trees where they will block sunlight from smaller flowers.
 - d. Start with a few of the butterflies' favorite flowers.
 - e. Observe plants in the wild, in gardens of others, in parks and at plant nurseries to find what grows well and attracts butterflies.
9. Butterfly gardens attract other wildlife too, primarily birds and bees.

You can supplement the garden's flower nectar with a homemade feeder. Made from an inverted baby food or other small jar, such a feeder can be attractive to butterflies. Drill a small hole in the center of the lid and plug it with cotton. Fill the jar with a solution of one part sugar (not honey) to nine parts water. Attach brightly colored fabric petals to the lid to make the feeder more appealing to butterflies. Hang your feeder in a tree near your garden.

Behaviors to Watch



Feeding

Most species of local butterflies use flower nectar as their primary food source. This sugar-rich material is required for energy used in flight. Very long-lived tropical butterflies in Florida, of the family Heliconiidae, also feed on pollen.

Some butterflies, such as the Mourning Cloak (Nymphalidae: *Nymphalis antiopa*) and Hackberry (Apaturidae: *Asterocampa celtis*) feed on rotting fruit, sap that oozes from trees, and even dung.

Basking

Butterflies are cold-blooded creatures. They may need the sun to warm their wing muscles so they can fly. They fly best when air temperatures range from 75-90 degrees; so when it's cooler, they bask, using the sun's heat to warm their bodies. A large, flat rock in the butterfly garden provides a warm spot for basking when the temperatures are cool. When temperatures get too warm, butterflies seek shade.

The most common basking position is with the wings positioned flat, facing the sun. Butterflies that bask this way often have black bodies and dark colored areas on their wings. Most common among Satyrs (Satyridae) and Sulphurs (Pieridae) is lateral basking with wings folded and facing the sun. This is because the undersides of their wings are darker than the topsides, or the bases of the wings are darker than the edges. In a third type of basking, called *reflectance*, the wings are used to reflect the sunlight to the butterfly's body rather than absorb it. Butterflies that use reflectance basking, such as whites, have lighter colored wing ends.

Puddling

Butterflies congregate at the wet edge of mud puddles or wet sandy areas, where they imbibe fluids rich in salts and nutrients. Butterflies require these extra salts and other nutrients to mate successfully. Typically, more males than females puddle. Males pass the nutrients on with their sperm and these nutrients are used by the females for reproduction.

Nutrients gained from puddling also help in producing pheromone. This is the chemical sexual attractant released by males to attract females to mate.

Sweat Sippers

Human perspiration may seem far away from nectar, but several types of butterflies seek out sweat. The tiny drops of liquid are full of salt, a necessity for butterflies. If you are working up a sweat in the garden and a Red Admiral, Hackberry Emperor, or other species alights on your bare arm, hold still and watch closely. You may see and feel the butterfly begin to tap its proboscis against your skin with a delicate, tickling touch as it sips your sweat.

Patrolling and Perching

For the purpose of mating, male butterflies search out female butterflies in two ways, by *patrolling and perching*. In patrolling, the male butterflies fly over areas where the female butterflies may be feeding or egg-laying. Butterflies do not, however, have sharp vision; so once a patrolling butterfly spots what he perceives to be a likely mate, he swoops down and examines it more closely. If it's indeed a female of his species, he will begin the courting ritual.

Some butterflies that commonly use a patrolling strategy include the Monarch, Sulphurs and Whites. When butterflies fly upward next to one another, they are either males combating one another for territory, or males trying to convince females to mate with them.

Instead of patrolling, butterfly species such as the Mourning Cloak (Nymphalidae: *Nymphalis antiopa*), Black Swallowtail (Papilionidae: *Papilio polyxenes*) and Red Admiral (Nymphalidae: *Vanessa atalanta*) will perch on tall plants in areas along streams or ridges where the females are likely to occur. Once they spot something that might be a female, they will fly in to explore it closely. If they have found a female of the appropriate species, they will begin courtship. If the intruder turns out to be a male, the original male will give chase. Generally they will fly vertically for a few feet after which the original male returns to his perch.

Mating

Flight patterns used in courtship differ among the butterfly species. Typically, a male will fly above or behind the female, fluttering his wings a bit more than usual. He may release pheromones from his body or wings. If the female is interested, she'll alight on plants or on the ground. Sometimes courtship continues with the male touching the female's antennae or legs and with different wing movements. They copulate by joining the tips of their abdomens. Sometimes they even take flight during copulation while still joined.

The mated female may try to avoid the advances of other courting males. With many species, the female physically avoids contact either by positioning her abdomen tip or spreading her wings in a manner to make contact impossible, or by releasing antiaphrodisiacs. Still other species, such as Sulphurs, fly upward in a spiral until the male gives up the chase.

Egg-laying

If you notice a butterfly flying over plants, then touching down briefly, you are watching a female searching for egg-laying sites. Female butterflies recognize host plants through visual cues, such as leaf shape and color. Plant scent further identifies a potential host.

Female butterflies also often drum on the leaf surface with their feet. Drumming scratches the leaf surface, releasing chemicals enabling the butterfly to identify the correct plant on which to lay her eggs.

Host Plants

Butterfly gardening involves planning your garden to attract, retain, and encourage butterfly populations. Flowers of similar colors grouped together are more attractive to both butterflies and the gardener.

You should select a variety of nectar-producing plants with the aim of providing flowers in bloom throughout the season. This will entice a continuous succession of new visitors to a yard. It is especially important to have flowers in mid to late summer, when most butterflies are active. Flowers with multiple florets that produce abundant nectar are ideal.



Annuals are wonderful butterfly plants because they bloom continuously through the season, providing a steady supply of nectar. Butterflies visit perennial plants, such as coneflowers, lilac, butterfly weed, and asters, regularly. Most plants in the mint family are also good nectar sources for butterflies. Avoid double flowers because they are often bred for showiness, not nectar production.

Resources

Monarchs Across Georgia

www.monarchsacrossga.org

The University of Kansas Entomology Program

www.monarchwatch.org

Track Monarch Butterfly Migration

www.learner.org/jnorth

Monarchs in the Classroom

www.monarchlab.umn.edu

Butterfly Conservation

www.xerces.org

Butterflies of North America

<http://www.npwrc.usgs.gov/resource/distr/lepid/bflyusa/bflyusa.htm>

North American Butterfly Association

<http://www.naba.org/>

Field Guides and Gardening Books

Butterflies Through Binoculars: The East

By Jeffrey Glassberg

Butterflies Of Georgia Field Guide

by Jaret C. Daniels

Butterfly Gardening for the South

By Geyata Ajilvsgi

Butterfly Gardening: Creating Summer Magic in Your Garden

By The Xerces Society and The Smithsonian Institution

Ortho's All about Attracting Hummingbirds and Butterflies

By Ortho Books

The Family Butterfly Book

By Rick Mikula

Handbook for Butterfly Watchers

By Robert Michael Pyle.

Stokes Butterfly Book : The Complete Guide to Butterfly Gardening, Identification, and Behavior

By Ernest Williams and Donald Stokes