

Butterfly Gardening



in the D.C. Area

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Front cover: Black Swallowtail on Dianthus.
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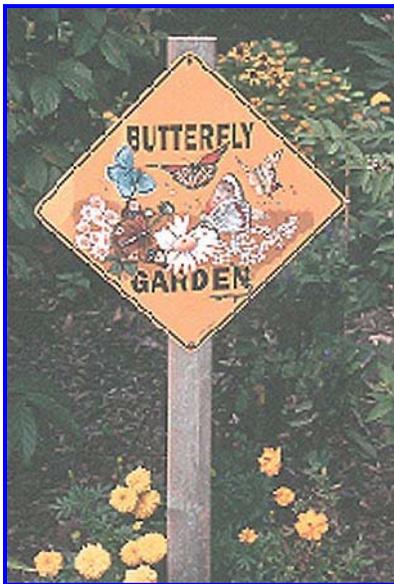
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CHAPTER 1. WHY GARDEN FOR BUTTERFLIES?

Butterflies are at risk. As a result of continued loss of habitat to housing, businesses, and malls and widespread use of pesticides and herbicides, many of our butterflies need assistance to survive and prosper. You can provide a habitat for butterflies: a butterfly garden. This can be as simple as choosing butterfly-friendly flowers for the planters on an apartment balcony or as complicated as landscaping an entire yard as a butterfly haven.

Butterflies will benefit from your efforts, and so will you. Planning and planting your garden with our winged friends in mind is important for their continued existence, and you will be rewarded with privileged views of the diverse and colorful butterflies that find the banquet you have provided for them.

A successful butterfly garden depends on first combining a basic knowledge of how to grow plants and an understanding of the butterfly's life cycle. You can then make wise landscaping and plant choices that will turn your garden into a favorite butterfly hang-out.

CHAPTER 2. PLANTS: A PRIMER

It is nearly impossible today to read a gardening column or watch a TV landscaping show without hearing about “low-maintenance” plants. However, low-maintenance is NOT the same as no-maintenance. The only true no-maintenance plants are artificial. Many factors will affect how much time you’ll need to spend in your garden. Factors you can control include what plants you choose and where you plant them. Factors you can’t control include how much available planting space you have and weather, such as D.C.’s infamously hot and humid summers. But don’t despair! Even if you kill houseplants, you can create a butterfly garden by devoting a few minutes to learning these vital plant facts:

Know the Plant. Plants require more than soil and water. Their needs can be as diverse as the flowers they produce and are a result of where they can be found growing in the wild (deserts, wetlands, mountains, etc.). Some plants need full sun to create lush foliage and colorful flowers, while others can actually suffer sunburn without shade to protect them from the sun’s rays. Some plants need to be kept constantly wet, while others will rot if exposed to abundant moisture. Even a low-maintenance plant may die if placed in the wrong location (for example, a cactus planted in a pond). Fortunately, many plants (including some butterfly favorites) are generalists that will grow and flower in a wide range of conditions. To learn what a plant needs to thrive, check the tag: most plants are sold with a label containing basic information, such as light, soil, and water requirements. Many plant nurseries will also group their plants into at least “sun” and “shade” categories, with shade-loving plants located under a roof or shade cloth. Choosing plants that will tolerate the growing conditions you can provide is **much** easier than trying to revise your entire landscape (via grading, drainage pipes, etc.) to accommodate particular plants.

Learn the Vocabulary. Knowing these common terms will help you choose and maintain the right plants for your garden or patio.

Annuals vs. Perennials. Annuals live for one season, growing quickly, producing flowers, and then dying when cold weather hits. They are ideal for containers on patios or balconies because they can be discarded at the end of the growing season. Additionally, annuals allow you to experiment with different plant varieties or color themes each year. Perennials will come back year after year. They are the “bones” of the garden, providing a consistent presence. Perennial is not a synonym for evergreen: most perennials die down to the ground in winter, appearing again in spring as if by magic. You will want to do a little extra research before purchasing perennials because you will presumably have them for many years.

Deadheading. No, you don’t need to invite band groupies to your garden. Deadheading is a fancy term for cutting off dead flowers. Because plants flower to produce seed, removing the finished bloom before it has fulfilled this biological imperative will often encourage the plant to produce more flowers, and it may even extend the plant’s normal flowering season.

Invasive Plant. Suburban sprawl is not the only way vital butterfly habitat is lost. Invasive plants are aggressively spreading plants that were introduced to areas where they don't occur naturally by humans, whether accidentally or intentionally. Most exotic plants are popular and well-behaved additions to our gardens. Occasionally, because of freedom from the predators, diseases, and competition found in their natural habitat, some species escape unchecked into natural areas. By choking out the diversity of plants that once existed in these areas, invasive plants can turn acres that used to support many species into a wasteland that supports only one. Purple loosestrife, Kudzu vine, and English ivy are a few well-known examples. We must educate ourselves about the “thugs” common to our area to ensure we don't contribute to this serious problem (see Appendix B for a link to plants to avoid).

Native Plants. Natives are plants that naturally grow in a particular region and were not introduced by humans. In America, most botanists consider a plant “native” if it was known to exist prior to the arrival of Europeans. However, there are several shades of meaning. A honeysuckle that grows naturally in any region of the United States could be called native to distinguish it from a similar Japanese species. A native may also be a plant that grows in the D.C. region, as opposed to a related species that grows on the West Coast. Because plants and butterflies co-evolved, native plants (often called wildflowers or “weeds”) are easily recognized by butterflies as good nectar sources. More importantly, most butterflies only lay their eggs on locally native plants (this will be discussed further in Chapter 4). Please remember: purchase native plants from reputable growers (see Appendix B). Do not dig up plants from parks or other land! Some plants are already threatened by the same factors that affect butterfly populations. Removing plants or animals from public lands is illegal, and it can negatively affect the health of plant populations by reducing the number of individuals in the gene pool.

A name in single quotes after the plant's common or scientific (botanical) name is the plant's *cultivar* name (for example, Verbena ‘Homestead Purple’). Cultivars are plants that have been selectively bred for desirable traits, such as a different flower color, smaller or larger plant size, or better disease resistance. Both native and non-native plants can have cultivars. Occasionally, this restrictive breeding may reduce or eliminate the plant's value to wildlife. For example, flowers with many more petals than normal and almost no visible center (often called double or ruffled flowers) make it difficult for butterflies to reach the nectar; other flowers may produce less nectar than the “wild” form.

Compare Plant Nurseries. Today, easy plants such as Zinnias and Marigolds can be bought at local home improvement stores. However, plant choices there are limited, and many such stores provide inadequate plant care. Choose carefully, rejecting plants that look weak or sickly. Less popular plants (especially natives) are more likely to be found at small specialty nurseries and plant sales held by botanic gardens and plant societies. Plant sale vendors are also usually the growers, and they are happy to answer questions and help you find the best plants for your purpose. See Appendix B to find a specialty nursery or plant sale near you.

Understand Your Location. As in all aspects of life, there is no perfect garden—each has a unique combination of advantages and challenges. But both homeowners and multiple-unit dwellers can have a successful garden by making the best use of available space.

Gardening in Yards. The clear advantage of an average-sized suburban yard (generally $\frac{1}{4}$ to $\frac{1}{2}$ acre) is space for both larger and more plants. The disadvantage is that larger gardens require more maintenance. Here are some special considerations for the land-owning gardener:

- **Choosing Where to Plant.** Choose one small area to start with: gardens are always evolving, and it is better to expand your planting beds as time allows than to become overwhelmed by trying to make too many changes at once.
- **Light.** Consider how much sunlight different parts of your yard receive by observing it at different times of the day. A yard may receive more or less sun during different seasons. Areas shaded by deciduous trees may become exposed to full sun once those trees lose their leaves in autumn. The terms most often used to describe how much daily light a plant needs are as follows: *full sun* means at least 6 hours of direct sunlight in midsummer; *part shade* is between 2 and 5 hours of sun (not necessarily all at once); and *shade* means an area that receives less than 2 hours of sun.
- **Soil.** If you are planning to convert an existing flowerbed, the soil may already be in fairly good shape. If you will be creating a new flowerbed by removing turf grass, you will almost certainly have to improve the soil by adding organic matter, such as compost and other soil amendments (available in bags at garden centers and home improvement stores). Because the soil in your suburban yard is quite different from undisturbed soil in natural areas, even native plants will have a difficult time growing in soil that has not been improved since the house was built. In most developments, the topsoil—the first few inches containing the most nutrients and organic matter—is removed and sold for profit, leaving behind the infertile subsoil and, often, construction fill. Both heavy clay soils and porous sandy soils will benefit from generous additions of organic matter.

However, adding unnecessary fertilizer to the soil can kill your plants and result in toxic runoff to nearby streams. To understand exactly what nutrients you need to add to your soil, it helps to know what's already there. Soil test kits will provide basic information such as whether your soil is acid, neutral, or alkaline. The most accurate and complete breakdown of your soil's components can be obtained for a small fee by sending soil samples to your Agriculture Extension Office (see Appendix C for contact information).

- **Water.** Knowing if the area you have chosen to garden in tends to be wet or dry will affect your plant choices. Most plants do best with moderate moisture. The D.C. area's signature hot, humid summers with little rain are challenging for both plants and the humans who tend to them. Plants are most vulnerable in the first few weeks (or months, for slower growing plants) after they are planted in a new environment, and most will need to be watered frequently during this time, even drought-tolerant species. Keep new plants moist (but not wet) until they have become established; new growth indicates the plant has settled in.

Gardening in Apartments and Condos. Yes, even if you only have a small patio or apartment balcony, you can have a “garden” by planting in containers. Butterflies will visit high balconies, and have even been known to lay eggs on container grown plants. Here are some special considerations for space-challenged gardens:

- **Choosing a Container.** Pots are available in many materials and styles. Although clay pots are great, they are heavy and lose moisture more rapidly than plastic containers. Avoid dark-colored pots: they heat up and dry out too rapidly, already an issue in our climate. Bigger is better since your plants will be growing and flowering in their confined space for months. In a large pot, you can increase diversity by planting more than one species tolerant of similar conditions.

Even lightweight containers become heavy once filled with soil—and heavier still after watering. Check with your landlord or homeowner’s association for any applicable weight restrictions before adding a number of large containers to a balcony. Ensure hanging baskets are hung from structures strong enough to support their weight. Arrange your containers in their final positions before adding soil and water to avoid straining your back.

- **Soil.** Choose a quality, lightweight, soil-based potting mix: again, your plants are wholly dependent on the nutrients in the soil you provide for them. Fertilizer may be added if plant growth and flowering slows noticeably. Follow the package instructions; too much plant food can harm your plants.
- **Water.** All container grown plants will need to be watered more frequently than their in-ground cousins: during a typical Washington summer, this may mean watering as often as once or twice a day. Hanging baskets in particular need frequent watering because of their wide, shallow shape. Remember that water dripping from hanging plants will impact any plants below—or your downstairs neighbors, if you are not cautious!

To determine if your containers need to be watered, stick a finger into the soil as deeply as you can. If moist soil clings to your finger, don’t water. If your finger comes out relatively clean and the soil feels dry, water.

In addition to using light-colored pots, add an inch or two of mulch on top of the soil to lessen evaporation; group your containers together to help them maintain hydration; and use hydrophilic polymers (available at garden centers or through catalogs under brand names like Soil Moist™ and Terra-Sorb™), which soak up large amounts of water and release it slowly into the soil.

It's All Latin to Me!

If you talk to “plant people” or butterfly gardeners, you may be startled to hear them refer to plants by their scientific (botanical) names—sometimes scary-sounding, long terms like *Verbena bonariensis*. This is because a common name often applies to several different plants. For example, the common name “starflower” is used for a drought-tolerant annual, a temperate perennial, and an evergreen shrub. In other cases, the same plant may have numerous common names. Botanical names are used because they are more stable than common names, and because they are universally understood by scientists. A botanical name consists of two words: the first word tells you the genus (a group of plants that share numerous characteristics, many of which may be visually obvious), and the second word tells you the plant’s species (the individual plant within that genus).

You don’t need to become a Latin expert to lure butterflies to your garden or patio, nor should you be overly concerned about pronunciation. Botanical Latin is treated differently from the Latin encountered in both school classrooms and Catholic liturgy. Factor into this regional and cultural accents, and a universal pronunciation becomes impossible (although the occasional “plant snob” may argue otherwise).

You may already know more Latin than you think. For some garden plants, the botanical name is also used as the common name (for example, Petunias are from the genus—you guessed it—*Petunia*). For most familiar plants found at large nurseries, using their English name will work fine. However, when looking for more unusual plants, knowing that species’ botanical name will help ensure neither you nor your butterfly visitors are disappointed. Most plant lists (including the ones in this guide) reference botanical names for clarity. Consider writing these names down before you go plant-shopping so encountering an unfamiliar name won’t keep you from finding what you need.

CHAPTER 3. BUTTERFLIES: A PRIMER

Many children read and enjoy Eric Carle’s *The Very Hungry Caterpillar*, a book about a caterpillar that eats an amazing quantity of food before becoming a butterfly. Yet all too frequently, adults eliminate any “pest” they see eating their plants, forgetting that all butterflies start life as humble—and hungry—caterpillars. A refresher course is in order. Learning the butterfly’s four-stage life cycle will help you understand what you need to provide in your garden to entice them to stay and reproduce. How long the butterfly spends in each stage, which will be described below, is strongly dependent on factors such as light, heat, day length, and the species of butterfly. All times given below are approximate.

Butterfly Life Cycle



This Swallowtail egg (middle) is shown with two pins for size comparison.

1. Egg. All butterflies start life as an egg smaller than the head of a pin. Eggs are most often deposited singly, but occasionally, they are laid in groups or even stacked on top of one another. Eggs are usually laid on the plant the caterpillar will eat, called the **host plant**. This plant may be an herb, “weed,” bush, or even a tree, depending on the butterfly species. Some caterpillars can use a variety of plants; others are so specialized that they can eat only one genus or species of plants. Average time as an egg is 5 days.

2. Larva/Caterpillar. When the tiny caterpillar (also called a larva) emerges from the egg, it is barely larger than an eyelash. This “baby butterfly” is an eating machine that grows so quickly that its skin, which can only stretch a limited amount, can’t keep up. The caterpillar must shed its skin 4 to 5 times before making its chrysalis. Some caterpillars look the same throughout their larval stage; others may gain new colors, bumps, or bristles as they grow. Average time as a caterpillar is 15 days.

3. Chrysalis. After an average of only two or three weeks, the once eyelash-sized caterpillar will be from 1 – 2 inches long. At this point, the caterpillar stops eating and fastens itself to a plant or twig with a silk base and connecting thread. Once it is firmly attached, the caterpillar sheds its skin one final time to reveal the chrysalis (also called a pupa). Inside this “house,” it will perform its amazing transformation. Technically, butterflies don’t make cocoons: those familiar fuzzy enclosures are created by moths and some other insects.

Chrysalises are as varied as the butterflies themselves. Some resemble a hanging jewel case, complete with dots of “gold”; many mimic the appearance of a dead brown leaf so predators

have a hard time seeing them; and a few even look like a wet bird dropping—an effective defense against both predators AND curious humans. Average time as a chrysalis is 10 days.

4. Adult. If the caterpillar has managed to avoid all the dangers that it faces—predators, parasitic insects, pesticides, disease, accidental or intentional destruction by humans or grazing animals—it will emerge from its chrysalis as the beautiful winged adult so different from its larval stage. A butterfly splits its chrysalis and comes out with wrinkled, soft wings and an abdomen fat with fluid. It pumps this fluid into its wings to expand and harden them, which takes an average of an hour. The butterfly then flies off with one primary mission: to mate and produce the next generation of its species. Adult lifespans vary greatly. Species that hibernate or migrate live for several months, but the average lifespan is between one and two weeks.

“Parsley Worm”: Butterfly Incognito

One butterfly caterpillar familiar to many is the larva of the beautiful Black Swallowtail butterfly. This butterfly uses as host plants commonly grown herbs such as parsley, dill, fennel, rue, and even carrot plants, and it is sometimes called a “parsley worm.” It isn’t necessary to kill these caterpillars. Unless you have only a single parsley plant, your temporary guest’s feast will barely be noticeable to either you or the plant.

The easiest solution of all: plant more of the Black Swallowtail’s favorite host plants so there will be enough for you AND the caterpillars. By learning the difference between true garden pests and those that just look scary, you’ll increase the overall health of your garden—and you may be rewarded by the unforgettable sight of a freshly emerged Black Swallowtail!



Young Black Swallowtail caterpillars are brown and white or black and white and resemble a bird dropping.



Older Black Swallowtail caterpillars are impressive green and black creatures with brilliant yellow spots.



The “parsley worm’s” true identity revealed: an adult Black Swallowtail. This is a male. Females have more blue on the lower wing.

Common Garden Butterflies

Knowing what butterfly species live in the D.C. area will help you choose appropriate host plants you may wish to include in your garden. Below is a brief text list of those butterflies most likely to visit suburban D.C. yards and patios. Because larger, flashier individuals are the first to catch our eye, the species are listed in order from largest to smallest. For pictures and more information on these butterflies, see Appendix A.

1. Tiger Swallowtail. Large;* bold, yellow with black stripes and border; noticeable “tails” on lower wings. There is also a dark brown color variant.

2. Monarch. Large; orange and black; no tails.

3. Black Swallowtail. Large; black with tails and noticeable yellow band (males) or iridescent blue (females) parallel to the border of the wings.

4. Anglewings. Medium; distinctive jagged wing edges. With wings open, strong orange with brown/black marks. With wings closed, resembles a dead brown leaf. Prefers woods and woodland edges; generally feeds on tree sap and rotting fruit. We have two local Anglewing species: the Question Mark and the Eastern Comma.

5. Lady or Vanessa Butterflies. Medium; orange and black color similar to Anglewings but without the jagged edge. With wings closed, several round false “eyes” may be visible. There are two local Lady butterfly species: the American Lady and the Painted Lady.

6. Cabbage White. Medium; mostly white with a few black spots or edging. Our most common butterfly: can be seen even in the heart of cities. An introduced European species.

7. Clouded Sulphur. Medium; lemon yellow with some black spots and black edging. Wings usually held closed when feeding.

8. Silver-spotted Skipper. Medium; brown skipper with a fuzzy body and distinctive bright white patch visible as the skipper feeds in its characteristic closed-wing posture.

*For this list, these definitions apply (measurements are from wingtip to wingtip):

Small = $\frac{3}{4}$ inch to under $1\frac{3}{4}$ inches

Medium = $1\frac{3}{4}$ inch to under 3 inches

Large = 3 inches to over $5\frac{1}{2}$ inches

9. Sachem (a Skipper Butterfly). Small; most common of our similar yellow-brown skippers. Wings usually held closed when feeding.

10. Gray Hairstreak. Small; gray with a thin white line across the wings, which are held closed when feeding. Rubs hindwings together almost continuously when at rest to attract predators to the hair-like false “antennae” (actually thin wing structures) protruding from its hindwings.

11. Blues. Very small; silvery gray wings held closed. In flight, flashes of brilliant blue from the inner wings visible. Some of our earliest butterflies to emerge in spring; easily overlooked. There are several local Blue species, including the Spring Azure and the Eastern Tailed-Blue.

CHAPTER 4. ATTRACTING BUTTERFLIES: MEETING THEIR NEEDS

Butterfly gardeners often hear people say “I don’t see butterflies in my yard like I used to.” Unfortunately, human activities are responsible for the decline of many butterfly species. We bulldoze forests and fields, which once harbored a diversity of plants used by many butterfly species, and replace them with an unbroken expanse of grass. When we treat our lawns with toxic chemicals to make them greener—or more weed-free—than the lawn next door, we prevent even the butterflies that use grasses as a host plant from sharing our yard. Finally, we may unreasonably expect our flowers and shrubs to look “florist perfect.” When the plants in our gardens display blemishes, holes, or other telltale signs of the vast web of life they support, we apply even more pesticides.

Your garden doesn’t have to look “messy” or overgrown to attract butterflies, but you may need to look at plants through new, compound eyes: the eyes of a butterfly. Gardening without relying on chemicals—called natural or organic gardening—means learning to accept minor cosmetic damage to plants for the sake of the butterflies you wish to invite. The rewards are great, and you don’t have to get rid of any current garden favorites (except perhaps the most chemically-dependent). Butterflies simply ignore plants that function as neither nectar nor host plants.

This booklet offers guidelines based on the collective experience of experts and amateurs alike. There is no magic recipe. Many factors determine how popular nectar plants will be with butterflies from year to year: weather (which may affect nectar production), the availability of other plants in or near your garden, etc. And while following the guidance below will maximize your chances of seeing butterflies, it is not necessary to provide all of these elements to make your garden butterfly friendly.

1. Do not use pesticides and herbicides.

- This is the “golden rule” of butterfly gardening. Recent local research has verified that pesticide use even on nearby properties dramatically decreases the number of butterflies visiting an otherwise suitable habitat. It’s easy to forget that butterflies are also insects. Most pesticides—even the biological insecticide BT (*Bacillus thuringiensis*), used to control Gypsy Moth caterpillars—will harm or kill butterfly caterpillars and other beneficial insects.
- Given time, predatory insects and birds will control the pests in your yard, although these predators may also eat some of your butterflies and caterpillars.

2. Research before planting.

- If you decide to incorporate host plants, first ensure that the butterfly that uses the host is found in *this* area (Appendix A lists our most common species). An exotic butterfly occurring only in Florida will not come to your yard, no matter how many of its host plants you provide.
- Observe plants in the wild, in the gardens of others, in parks, and at plant nurseries to learn what grows well in this climate and attracts butterflies.

3. Plant in a sunny, protected area.

- An area receiving at least 5 to 6 hours of sun daily and sheltered (perhaps by a bush or fence) from strong winds is preferable.
- Butterflies seldom feed in shade, and most plants favored by butterflies prefer sunny conditions. However, a few nectar plants that tolerate shade and do attract butterflies are included in Table A.

4. Plant nectar flowers for adult butterflies.

- Certain plants are known to produce more nectar than others (see Table A).
- Butterflies have two favorite flower shapes: daisy-shaped blossoms (the flat flower head is a perfect “landing platform”), and clusters of short, tubular flowers (these provide many nectar “tubes” concentrated in a small area).
- Plant large areas of one plant species or one color to help attract a butterfly’s attention.
- Provide plants native to this area, as butterflies usually recognize and prefer them.
- Choose single blooms rather than highly ruffled flowers, which often have less nectar and are more difficult for butterflies to use.
- Deadhead (cut off dead blooms) to keep plants flowering abundantly.

What is that hummingbird with antennae I saw using my flowers?



*Hummingbird Clearwing Sphinx Moth
nectaring on Swamp Milkweed
(Asclepias incarnata)*

This interesting insect is called a Hummingbird Clearwing Sphinx Moth (*Hemaris thysbe*) because of its obvious resemblance to hummingbirds and the characteristic lack of scales on the front wings. It is a day-flying moth that hovers like a hummingbird and nectars at many plants that hummers and butterflies also enjoy. This is not the adult form of the destructive tomato hornworm; caterpillars of the hummingbird sphinx moth eat a diverse selection of host plants, including honeysuckle, wild cherry, and viburnum. It is harmless, beautiful, and fun to watch.

You may see many additional creatures taking advantage of your butterfly garden, including bees (which rarely sting while feeding). Your garden will NOT, however, attract rats, which go where they can find abundant food and shelter.

5. Plant host plants for butterfly caterpillars.

- Butterflies will only lay their eggs on their specific host plants (see Table B).
- Caterpillars will eat leaves and flowers of host plants but don't usually kill the plants. Chewed foliage may (rarely) be unsightly, so use other flowers to camouflage host plants.

6. Provide water.

- Butterflies will drink from dew and shallow puddles on leaves.
- They will also drink and “puddle” (gather in large groups to imbibe nutrients) on damp or muddy areas.

7. Provide rocks or bare soil in sunny areas.

- Most butterflies can't fly until their body temperature reaches 60° F; basking spots warmed by the heat of the sun help them achieve this.

8. Be patient.

- It may take some butterfly species more than one growing season to find your new garden.
- Remember that gardens are a living work in progress, and the unexpected is inevitable. Even professional horticulturists lose plants sometimes!

Table A. Popular Butterfly Nectar Plants

Annuals			
Common name	Botanical name	Color(s)	Comments
Bloodflower	<i>Asclepias curassavica</i>	Red/yellow	Non-native Milkweed.
Cosmos	<i>Cosmos bipinnatus</i>	Red, orange, pink, yellow, white	
Globe Amaranth, Globe Flower	<i>Gomphrena globosa</i>	Pink, purple, white	
Heliotrope	<i>Heliotropium arborescens</i>	Deep purple	Fragrant.
Lantana	<i>Lantana</i> species	Many colors	Excellent in baskets, containers.
Marigolds	<i>Tagetes</i> species	Yellow, orange	Single or slightly ruffled flowers preferred.
Texas Golden Star, Melampodium	<i>Melampodium paludosum</i>	Yellow	Native
Mexican Sunflower	<i>Tithonia rotundifolia</i>	Orange, yellow	
Pentas	<i>Pentas lanceolata</i>	Red, white, pink	
Verbena	<i>Verbena</i> species	Many colors	Both annual and perennial species exist.
Zinnia	<i>Zinnia elegans</i>	Many colors	Single or slightly ruffled flowers preferred.
Perennials			
Asters, such as New England Aster, Smooth Aster, White Wood Aster, Calico	<i>Aster novae-angliae</i> , <i>A. laevis</i> , <i>A. divaricatus</i> , <i>A. lateriflorus</i> , others	White, blue, purple	Native. Single-flowered. Important fall nectar plant. Wood Asters (<i>A. cordifolius</i> , <i>A. divaricatus</i>) bloom in shade.
Black-eyed Susan	<i>Rudbeckia fulgida</i>	Yellow/Gold	Native. Will bloom in shade in the D.C. area.
Goldenrod	<i>Solidago</i> species	Yellow/Gold	Native. Does not cause hayfever. Late-fall nectar for migrating Monarchs. Blue-stemmed Goldenrod (<i>S. caesia</i>) blooms in shade.
Herbs (most), including chives, mints, lavender	<i>Allium schoenoprasum</i> , <i>Mentha</i> species, <i>Lavandula</i> species	Varied	Allow to flower to attract butterflies.
Joe-Pye Weed	<i>Eupatorium fistulosum</i> , others	Pink/mauve	Native.

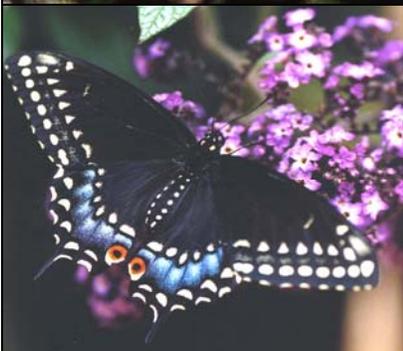
Table A. Popular Butterfly Nectar Plants-cont'd

Common name	Botanical name	Color(s)	Comments
Milkweeds	<i>Asclepias</i> species	White to pink	Native. Vital as both nectar and host to Monarchs.
New York Ironweed	<i>Vernonia noveboracensis</i>	Royal Purple	Native. Prefers moist soil; tolerates garden conditions.
Purple Coneflower	<i>Echinacea purpurea</i>	Purple, white (cultivar)	Native. Leave some done flowers for goldfinches, who relish the seeds.
Sedums	<i>Sedum spectabile</i> , other species	Pink, white	Best are cultivars with large flowerheads, such as 'Autumn Joy' and 'Brilliant'.
Verbena	<i>Verbena bonariensis</i> , many others	Many colors	Both annual and perennial species exist.
Shrubs			
Abelia Bush	<i>Abelia grandiflora</i>	White to pink	Semi-evergreen foliage (stays green in mild winters).
Butterfly Bush	<i>Buddleia davidii</i>	White, Purple	Caution: <i>Buddleia</i> will spread into the wild as an invasive plant. Only plant this bush if you are prepared to deadhead multiple blossoms every 7-10 days in summer (to prevent seeding).
Summersweet	<i>Clethra alnifolia</i>	White/pink	Fragrant. Dwarf cultivars excellent for small gardens.

Table B. Caterpillar Host Plants of Common Butterfly Species		
Common name	Botanical name	Host for
Annuals		
Cabbage	<i>Brassica</i>	Cabbage White
Nasturtiums	<i>Tropaeolum</i>	Cabbage White
Parsley, dill	<i>Petroselinum, Anethum</i>	Black Swallowtail
Perennials		
Clovers	<i>Trifolium</i>	Blues, Clouded Sulphur
Hop vine	<i>Humulus lupulus</i>	Anglewings
False nettles	<i>Boehmeria</i>	Anglewings
Fennel	<i>Foeniculum</i>	Black Swallowtail
Grasses, including crabgrass, Bermuda grass	<i>Digitaria, Cynodon dactylon</i>	Sachem
Legumes (bean family)		Blues, Clouded Sulphur, Gray Hairstreak, Silver-spotted Skipper
Mallows	<i>Malva</i>	Gray Hairstreak, Lady butterflies
Pussytoes	<i>Antennaria</i>	Lady butterflies
Milkweeds	<i>Asclepias</i>	Monarch
Trees		
Black locust	<i>Robinia pseudacacia</i>	Silver-spotted Skipper
Tulip tree	<i>Liriodendron tulipifera</i>	Tiger Swallowtail
Dogwoods (flower parts)	<i>Cornus</i>	Blues
Willows	<i>Salix</i>	Tiger Swallowtail

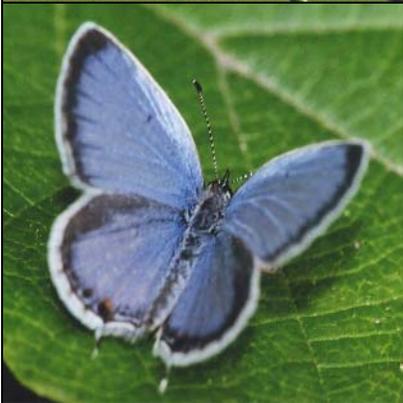
NOTE: This table is not exhaustive, but includes at least one host plant for each of our most common butterfly species.

Appendix A. Common Butterflies of the D.C. Region

Picture	Common Name	Description/ Comments
	<p>Tiger Swallowtail</p>	<p>Virginia's state insect. Flies with slow wing beats; sometimes ventures high into treetops.</p> <p>Hosts: Trees like willows (<i>Salix</i>) and tulip tree (<i>Liriodendron tulipifera</i>).</p>
	<p>Monarch</p>	<p>Strong flier, often alternates several flaps and a long glide.</p> <p>Host: Only Milkweeds (<i>Asclepias</i>).</p>
	<p>Black Swallowtail</p>	<p>This is a female; males have a wider yellow band and less blue. Flies low and lazily, often over common garden plants.</p> <p>Hosts: Parsley, dill, fennel.</p>
	<p>Anglewings</p>	<p>With wings closed, imitates a dead leaf. Quick, jerky flight. Prefers woods and woodland edges; favors tree sap, rotting fruit. Our area has two Anglewing species: Question Mark and Eastern Comma.</p> <p>Hosts: False nettles (<i>Boehmeria</i>), hop vine (<i>Humulus lupulus</i>).</p>

NOTE: This table lists only a few of each butterfly's most common host plants, except where specified.

	<p>Lady or Vanessa Butterflies</p>	<p>With wings closed, several round “eyes” may be visible. Flies fast and strong with a zigzag pattern. Two local Lady species: American Lady and Painted Lady.</p> <p>Hosts: Pussytoes (<i>Antennaria</i>) and mallows (<i>Malva</i>).</p>
	<p>Cabbage White</p>	<p>Fluttery flight with almost no gliding. Our most common butterfly. Generally holds wings closed when feeding.</p> <p>Hosts: Mustard and cabbage families, including cabbage (<i>Brassia</i>) and Nasturtiums (<i>Tropaeolum</i>).</p>
	<p>Clouded Sulphur</p>	<p>Low, direct flight.</p> <p>Hosts: Clovers (<i>Trifolium</i> and <i>Lespedeza</i>).</p>
	<p>Silver-spotted Skipper</p>	<p>Like all skippers, displays rapid, darting, “skipping” flight.</p> <p>Host: Black locust (<i>Robina pseudacacia</i>).</p>

	<p>Sachem (a skipper butterfly)</p>	<p>Most common of our similar yellow-brown skippers. Rapid, darting, “skipping” flight.</p> <p>Hosts: Grasses, including crabgrass, Bermuda grass.</p>
	<p>Gray Hairstreak</p>	<p>Rubs hind wings together almost continuously to attract predators to the false “head.” (In this photo, true head is facing bottom left.) Erratic flight.</p> <p>Hosts: Many, including legumes (bean family) and mallows (<i>Malva</i>).</p>
	<p>Blues</p>	<p>Silvery gray wings when closed. Flutters slowly and steadily low above the ground. Our smallest, earliest butterflies; easily overlooked. Two local Blue species are Spring Azure and Eastern Tailed-Blue.</p> <p>Hosts: Legumes (bean family), clovers (<i>Trifolium</i>) like common white lawn clover, and flower parts of dogwoods (<i>Cornus</i>) and Viburnums.</p>

Appendix B. To Learn More

Butterfly Gardening Books

Glassberg, Jeffrey. 1995. *Enjoying Butterflies More*. Ohio: Bird Watcher's Digest Press.

Available at wild bird stores or on-line at: <http://www.birdwatchersdigest.com/booklets.html>

Mikula, Rick. 2000. *The Family Butterfly Book*. Vermont: Storey Books.

Stokes, Donald and Lillian and Ernest Williams. 1991. *The Butterfly Book: An Easy Guide to Butterfly Gardening, Identification, and Behavior*. New York: Little, Brown.

Wilson, Jim. 1992. *Landscaping with Wildflowers: An Environmental Approach to Gardening*. New York: Houghton Mifflin.

Includes good chapter on attracting butterflies.

Butterfly and Caterpillar Identification (ID) Field Guides

The books listed below are just a few examples of available ID resources. To decide which guide works best for you, check several out from your local library and take them for a "test read."

Glassberg, Jeffrey. 1999. *Butterflies through Binoculars: The East*. New York: Oxford University.

Latimer, Jonathan P. and Karen Stray Nolting. 2000. *Peterson Field Guides for Young Naturalists: Caterpillars*. New York: Houghton Mifflin.

Opler, Paul A. 1998. *A Field Guide to Eastern Butterflies*. New York: Houghton Mifflin.

Wright, Amy Bartlett. 1993. *Peterson First Guide to Caterpillars of North America*. New York: Houghton Mifflin.

Local Gardening Information and Soil Testing

Maryland Cooperative Extension:
<http://www.agnr.umd.edu/MCE/index.cfm>

Virginia Cooperative Extension soil sampling info.:
<http://www.ext.vt.edu/pubs/compost/452-129/452-129.html>

Local Plant Sources

Maryland

Behnke's http://www.behnkes.com/ 3 locations: 9545 River Road Potomac, MD 301-983-9200 11300 Baltimore Ave. Beltsville, MD 301-937-1100 700 Watkins Park Dr. Largo, MD 301-249-2492	Homestead Gardens 743 W. Central Avenue Davidsonville, MD 21035 410-798-5000 http://www.homesteadgardens.com/
	Wings and Wildflowers Nursery 8619 Hawkins Creamery Road Gaithersburg, MD 20882 301-253-6903 By appointment only from April 15 to Sept 15. e-mail: monarch301@verizon.net

Virginia

The Garden Gate Plant Shop Green Spring Gardens Park 4603 Green Spring Road Alexandria, VA 22312 703-642-5173 http://www.co.fairfax.va.us/parks/gsgp/	Morningside Farm & Nursery 7855 Griffinsburg Road Boston, VA 22713 540-547-3726 http://morningsidefarmandnursery.com
Merrifield Garden Center http://www.merrifieldgardencenter.com/ 2 locations: 8132 Lee Hwy Merrifield, VA 22116 703-560-6222 12101 Lee Hwy Fairfax, VA 22030 703-968-9600	Nature By Design 300 Calvert Avenue Alexandria, VA 22301 703-683-4769 http://www.nature-by-design.com
	Hyla Brook Farm 270 Valentine Mill Road Louisa, VA 23093 540-967-6160 http://www.hylabrookfarm.com

Plant Sales:

Visit the WABC Web site for an up-to-date list of plant sales in the MD/DC/VA area at:
<http://users.sitestar.net/butterfly/bfgardening/resources.htm#sales>

What NOT to plant (lists of invasive plants):

<http://www.mdflora.org/publications/invasives.htm>

<http://www.dcr.state.va.us/dnh/invlist.pdf>

Join the Club!

The Washington Area Butterfly Club (WABC) is a group of diverse, welcoming individuals of all skill levels interested in the study, conservation, and appreciation of butterflies. We have monthly meetings in the off season, and field trips and butterfly counts during the warm months. To learn more, please visit our home page at:

<http://users.sitestar.net/butterfly>

APPENDIX C. REFERENCES

BOOKS

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- Cullina, William. 2000. *The New England Wild Flower Society Guide to Growing and Propagating Wildflowers of the United States and Canada*. New York: Houghton Mifflin.
- Mikula, Rick. 2000. *The Family Butterfly Book*. Vermont: Storey Books.
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- Pyle, Robert Michael. 1981. *National Audubon Society Field Guide to North American Butterflies*. New York: Chanticleer Press.
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CLASSES/LECTURES

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- Fischer, Thomas. January/February 2000. *How Do You Say That? A guide to pronouncing botanical Latin*. Handout, class at Green Spring Gardens Park.
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WEB SITES

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- Container Planting*. 2001. Canadian Wildlife Federation.
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<http://melanys.tripod.com/june.htm>
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- Migration & Tagging*. MonarchWatch.
<http://www.monarchwatch.org/tagmig/spring.htm>
(22 February 2004.)
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<http://www.urbanext.uiuc.edu/container/index.html>
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