

BENEFITS OF BUTTERFLY GARDENING

From: Your Florida Guide to Butterfly Gardening
A Guide for the Deep South

By Jaret C. Daniels

Phone: (352) 392-5894

email: jcdaniels@hargray.com

1. **Attract wildlife** (bring butterflies and other wildlife into your garden for purposes of enjoyment, observation, study and photography)
2. **Ecosystem/habitat conservation** (a well-planned butterfly garden becomes a small but representative sample of the surrounding habitat and as such provides a safe haven for butterflies and other wildlife to gather, seek shelter, acquire food and water, reproduce and build populations; do not underestimate the importance of even a small garden)
3. **Practical benefits**
 - A. **Use of native plants** (hardy and drought-tolerant, disease/pest resistant, adapted to region so perform better under local conditions)
 - B. **Food for natural enemies** (healthy butterfly populations attract and sustain healthy populations of beneficial insects/organisms as well as provide food for birds, lizards, mammals, etc. which in turn help control garden pests; most butterfly nectar sources also attract beneficial insects)
 - C. **Plant diversity** (less susceptible to pests/individual plants less apparent in landscape; large number of microclimates provide home/shelter for other insects including beneficials)
4. **Scientific** (keeping detailed logs on the butterfly species encountered, times, abundance can provide important and useful information on butterfly population numbers nationwide)
5. **Therapeutic** (provide soothing retreat from every day life)
 - A. **Herbs** (most herbs are also excellent butterfly attractants; useful culinary plants and provide wonderful aromatherapy)

BUTTERFLY GARDEN BASICS

From: Your Florida Guide to Butterfly Gardening

A Guide for the Deep South

By Jaret C. Daniels

Phone: (352) 392-5894

email: jcdaniels@hargray.com

MAJOR COMPONENTS OF A SUCCESSFUL BUTTERFLY GARDEN

1. **Adult nectar sources** (attract and nourish adult butterflies)
2. **Larval host plants** (attract ovipositing female butterflies, food source for developing larvae)
3. **Shelter** (vegetation that provides protection from temperature extremes, storms/rain, predators as well as locations for roosting/sleeping)
4. **Water source with fountain** (allows for easy and consistent access to water for drinking and thermoregulation)

GARDEN DESIGN

1. **Provide a combination of adult nectar sources and larval host plants** (attracts maximum variety of butterfly species; encourages butterflies to remain in your yard, reproduce and build populations instead of just passing through; allows gardener to appreciate all life history stages)
2. **Incorporate native plants into the landscape whenever possible** (most larval host plants are natives; adapted to region; produces a small but representative extension of the natural ecosystem; attracts other wildlife)
3. **Create horizontal and vertical heterogeneity** (choose plants that have different heights and growth habits; creates numerous microclimates which in turn appeal to a greater diversity of butterfly species; provides shelter; creates levels/strata of feeding opportunities)
4. **Aim for a consistent host plant and floral venue throughout the growing season** (choose plants that have different blooming times; ensures that garden remains attractive and productive as long as possible; provides food for butterflies during periods of low natural availability)
5. **Provide a number of different flower colors** (different butterfly species are attracted to different flower colors so include yellow, orange, white and blue flowers as well as reds, pinks and purples)
6. **Provide a mix of flower shapes** (the feeding behavior and proboscis length of a butterfly dictate which flowers will be visited; long-tubed flowers for example are typically more accessible to species with long probosces whereas many composites provide a feeding platform and easy nectar accessibility for smaller species)
7. **Plant in shade as well as full sun** (appeals to more butterfly species; many forest species prefer shadier locations)
8. **Plant in groupings** (aesthetically pleasing; provides masses of color; more apparent in landscape; allows larvae to locate additional food resources in event of shortage)

9. Choose appropriate plants for each location (understand each plant's basic water, light, and soil requirements; will perform and grow to its maximum potential)

GARDEN MAINTENANCE

1. Give new plants a good start (water and mulch new plantings to insure firm establishment)
2. Fertilize (a regular fertilizing regiment will produce maximum growth and flower production)
3. Avoid pesticide application when possible (all butterfly life history stages are very sensitive to pesticides; avoid bt; when pest problem arises treat it locally; use beneficial insects/natural enemies)
4. Learn to identify the butterfly species in your garden (provide greater enjoyment; allows for gardener to "plant" for particular desirable local species)

BUTTERFLIES OF NORTH CENTRAL FLORIDA AND THEIR HOST PLANTS

From: Your Florida Guide to Butterfly Gardening
A Guide for the Deep South
By Jaret C. Daniels
Phone: (352) 392-5894
email: jcdaniels@hargray.com

BUTTERFLY

LARVAL HOST PLANT

Swallowtails (Family Papilionidae)

Giant Swallowtail (*Papilio cresphontes*)

Hercules'-club (*Zanthoxylum clava-hercules*)
Wild Lime (*Zanthoxylum fagara*)
Common Rue (*Ruta graveolens*)
Orange, Lemon and Grapefruit (*Citrus* spp.)

Tiger Swallowtail (*Papilio glaucus*)

Black Cherry (*Prunus serotina*)
Chokecherry (*Prunus virginiana*)
Sweet Bay (*Magnolia virginiana*)
Tulip-tree (*Liriodendron tulipifera*)
Ash (*Fraxinus* spp.)

Palamedes Swallowtail (*Papilio palamedes*)

Red Bay (*Persea borbonia*)
Swamp Bay (*Persea palustris*)
Sweet Bay (*Magnolia virginiana*)

Spicebush Swallowtail (*Papilio troilus*)

Sassafras (*Sassafras albidum*)
Camphor tree (*Cinnamomum camphora*)
Spicebush (*Lindera benzoin*)

Black Swallowtail (*Papilio polyxenes*)

Fennel (*Foeniculum vulgare*)
Dill (*Anethum graveolens*)
Parsely (*Petroselinium crispum*)
Carrot (*Daucus carota*)
Virtually all other wild or cultivated members
of the carrot family (Apiaceae)

Zebra Swallowtail (*Eurytides marcellus*)

Pawpaw (*Asimina* spp.)

Pipevine Swallowtail (*Battus philenor*)

Virginia Snakeroot (*Aristolochia virginiana*)
Wooly pipe-vine (*Aristolochia tomentosa*)
Dutchman's Pipe (*Aristolochia macrophylla*)
Other Pipevines (*Aristolochia* spp.)

Polydamas Swallowtail (*Battus polydamas*)

Pipevines (*Aristolochia* spp.)

Zebra longwing (<i>Heliconius charitonius</i>)	Maypop (<i>Passiflora incarnata</i>) Yellow Passion Flower (<i>Passiflora lutea</i>) Other Passion flowers (<i>Passiflora</i> spp.)
Variegated Fritillary (<i>Euptoieta claudia</i>)	Passion flower (<i>Passiflora</i> spp.) Violets (<i>Viola</i> spp.)
Whites and Sulphurs (Family Pieridae)	
Checkered White (<i>Pontia protodice</i>)	Virginia Peppergrass (<i>Lepidium virginicum</i>) Shepherd's purse (<i>Capsella bursa-pastoris</i>)
Great Southern White (<i>Ascia monuste</i>)	Virginia Peppergrass (<i>Lepidium virginicum</i>) Shepherd's purse (<i>Capsella bursa-pastoris</i>)
European Cabbage Butterfly (<i>Pieris rapae</i>)	Peppergrass (<i>Lepidium</i> spp.) Mustards (<i>Brassica</i> spp.) Other cultivated and wild crucifers
Alfalfa Sulphur (<i>Colias eurytheme</i>)	Alfalfa (<i>Medicago sativa</i>) White Sweet Clover (<i>Melilotus alba</i>) White Clover (<i>Trifolium repens</i>) White Prairie Clover (<i>Dalea alba</i>) Purple Prairie Clover (<i>Dalea purpurea</i>) Leadplant (<i>Amorpha canescens</i>) False indigo (<i>Amorpha fruticosa</i>)
Dogface Butterfly (<i>Zerene cesonia</i>)	White Sweet Clover (<i>Melilotus alba</i>) White Prairie Clover (<i>Dalea alba</i>) Purple Prairie Clover (<i>Dalea purpurea</i>) Leadplant (<i>Amorpha canescens</i>) False indigo (<i>Amorpha fruticosa</i>)
Cloudless Sulphur (<i>Phoebis sennae</i>)	Partridge Pea (<i>Cassia fasciculata</i>) Coffee Senna (<i>Cassia occidentalis</i>) Sickle-pod Senna (<i>Cassia obtusifolia</i>) Sensitive Pea (<i>Cassia nititans</i>) Wild Senna (<i>Cassia hebecarpa</i>) Other native and ornamental <i>Cassia</i> spp.
Orange-Barred Sulphur (<i>Phoebis philea</i>)	Native and ornamental Sennas (<i>Cassia</i> spp.)
Sleepy Orange (<i>Eurema nicippe</i>)	Sickle-pod Senna (<i>Cassia obtusifolia</i>) Other native and ornamental <i>Cassia</i> spp.
Little Yellow (<i>Eurema lisa</i>)	Partridge Pea (<i>Cassia fasciculata</i>) Sensitive Pea (<i>Cassia nititans</i>)
Barred Sulphur (<i>Eurema daira</i>)	Joint Vetch (<i>Aeschynomene</i> spp.) Pencil Flower (<i>Stylosanthes biflora</i>)
Dainty Sulphur (<i>Nathalis iole</i>)	Shepherd's needle (<i>Bidens alba</i>)
Milkweed Butterflies (Family Danaidae)	
Monarch (<i>Danaus plexippus</i>)	Mexican Milkweed (<i>Asclepias curassavica</i>)

Brush-footed butterflies (Family Nymphalidae)

Red-spotted Purple (<i>Basilarchia astyanax</i>)	Black Cherry (<i>Prunus serotina</i>) Chokecherry (<i>Prunus virginiana</i>)
Viceroy (<i>Basilarchia archippus floridensis</i>)	Weeping Willow (<i>Salix babylonica</i>) Black Willow (<i>Salix nigra</i>) Costal-Plain Willow (<i>Salix caroliniana</i>) Sandbar Willow (<i>Salix exigua</i>) Willow (<i>Salix</i> spp.)
Buckeye (<i>Junonia coenia</i>)	Plantain (<i>Plantago</i> spp.) False Foxglove (<i>Agalinis</i> spp.) Toadflax (<i>Linaria</i> spp.) Ruellia (<i>Ruella</i> spp.) Snapdragon (<i>Antirrhinum</i> spp.)
White Peacock (<i>Anartia jatrophae</i>)	Ruellia (<i>Ruella occidentalis</i>) Frog-fruit (<i>Phyla nodiflora</i>)
American Painted Lady (<i>Vanessa virginiensis</i>)	Sweet Everlasting (<i>Gnaphalium obtusifolium</i>) Pearly Everlasting (<i>Anaphalis margaritacea</i>) Cudweed (<i>Gnaphalium</i> spp.)
Red Admiral (<i>Vanessa atalanta</i>)	False Nettle (<i>Boehmeria</i> spp.) Stinging Nettle (<i>Urtica chamaedryoides</i>)
Question Mark (<i>Polygonia interrogationis</i>)	Sugarberry (<i>Celtis laevigata</i>) Common Hackberry (<i>Celtis occidentalis</i>) Georgia Hackberry (<i>Celtis tenuifolia</i>) Elms (<i>Ulmus</i> spp.)
Phaon Crescent (<i>Phyciodes phaon</i>)	Frog-fruit (<i>Phyla nodiflora</i>)
Pearl Crescent (<i>Phyciodes tharos</i>)	Asters (<i>Aster</i> spp.)
Hackberry Butterfly (<i>Asterocampa celtis</i>)	Sugarberry (<i>Celtis laevigata</i>) Common Hackberry (<i>Celtis occidentalis</i>) Georgia Hackberry (<i>Celtis tenuifolia</i>)
Tawny Emperor (<i>Asterocampa clyton</i>)	Sugarberry (<i>Celtis laevigata</i>) Common Hackberry (<i>Celtis occidentalis</i>) Georgia Hackberry (<i>Celtis tenuifolia</i>)
Goatweed Butterfly (<i>Anaea andria</i>)	Goatweed (<i>Croton capitatum</i>) Silver Croton (<i>Croton argyranthemus</i>)
Gulf Fritillary (<i>Agraulis vanillae</i>)	Maypop (<i>Passiflora incarnata</i>) Yellow Passion Flower (<i>Passiflora lutea</i>) Other Passion flowers (<i>Passiflora</i> spp.)

	Sandhill Milkweed (<i>Asclepias humistrata</i>) Climbing Milkvines (<i>Matelea</i> spp. and <i>Cynanchum</i> spp.) Other Milkweeds (<i>Asclepias</i> spp.)	Spring Azure (<i>Celastrina ladon</i>)	Flowers of a number of trees and shrubs including: Wild Cherry (<i>Prunus serotina</i>) Flowering Dogwood (<i>Cornus florida</i>)
Queen (<i>Danaus gillippus</i>)	Butterflyweed (<i>Asclepias tuberosa</i>) Mexican Milkweed (<i>Asclepias curassavica</i>) Climbing Milkvines (<i>Matelea</i> spp. and <i>Cynanchum</i> spp.) Other Milkweeds (<i>Asclepias</i> spp.)	Harvester (<i>Feniseca tarquinius</i>)	Larvae are carnivorous, feeding on Woolly Aphids
Gossamer Wings (Family Lycaenidae)		Snout Butterflies (Family Libytheidae)	
Henry's Elfin (<i>Incisalia henrici</i>)	Redbud (<i>Cercis canadensis</i>)	Eastern Snout (<i>Libytheana bachmanii</i>)	Sugarberry (<i>Celtis laevigata</i>) Common Hackberry (<i>Celtis occidentalis</i>) Georgia Hackberry (<i>Celtis tenuifolia</i>)
Pine Elfin (<i>Incisalia niphon</i>)	Loblolly Pine (<i>Pinus taeda</i>) Scrub Pine (<i>Pinus virginiana</i>) Pitch Pine (<i>Pinus rigida</i>) Sand Pine (<i>Pinus clausa</i>)	Satyrs and Wood Nymphs (Family Satyridae)	
Banded Hairstreak (<i>Satyrrium calanus</i>)	White Oak (<i>Quercus alba</i>) Turkey Oak (<i>Quercus laevis</i>) Other Oaks (<i>Quercus</i> spp.) Walnuts (<i>Juglans</i> spp.) Hickories (<i>Carya</i> spp.)	Common Wood Nymph (<i>Cercyonis pegala</i>)	Grasses
Striped Hairstreak (<i>Satyrrium liparops</i>)	Hawthorn (<i>Crataegus</i> spp.)	Carolina Satyr (<i>Hermeuptychia hermes</i>)	St. Augustine Grass (<i>Stenotaphrum</i> spp.) Centepede Grass (<i>Eremochloa ophiuroides</i>) Kentucky Bluegrass (<i>Poa pratensis</i>) Many other grasses
Southern Hairstreak (<i>Fixsenia favonius</i>)	Live Oak (<i>Quercus virginiana</i>) Other Oaks (<i>Quercus</i> spp.)	Little Wood Satyr (<i>Megisto cymela</i>)	St. Augustine Grass (<i>Stenotaphrum</i> spp.) Centepede Grass (<i>Eremochloa ophiuroides</i>) Many other grasses
Swedner's Hairstreak (<i>Mitoura gryneus swedneri</i>)	Southern Red Cedar (<i>Juniperus virginiana</i>)	Gemmed Satyr (<i>Cyllopsis gemma</i>)	Grasses
Great Purple Hairstreak (<i>Atlides halesus</i>)	Mistletoe (<i>Phoradendron</i> spp.)	Appalachian Eyed Brown (<i>Satyrodes appalachia</i>)	Giant Sedge (<i>Rhynchospora inundata</i>)
Red-banded Hairstreak (<i>Calycopis cecrops</i>)	Wax Myrtle (<i>Myrica cerifera</i>) Fragrant Sumac (<i>Rhus aromatica</i>) Dwarf Sumac (<i>Rhus copallinum</i>) Smooth Sumac (<i>Rhus glabra</i>)	Georgia Satyr (<i>Neonympha areolatus</i>)	Grasses
Gray Hairstreak (<i>Strymon melinus</i>)	Clovers (<i>Trifolium</i> spp.) Tick Trefoils (<i>Desmodium</i> spp.)	Pearly Eye (<i>Enodia portlandia</i>)	Switch Cane (<i>Arundinaria</i> spp.)
White M Hairstreak (<i>Parrhasius m-album</i>)	Live Oak (<i>Quercus virginiana</i>) Other Oaks (<i>Quercus</i> spp.)	Skippers (Family Hesperidae)	
Ceraunus Blue (<i>Hemiargus ceraunus</i>)	Indigo (<i>Indigofera</i> spp.)	Long-tailed Skipper (<i>Urbanus proteus</i>)	Beggar's ticks (<i>Desmodium</i> spp.) Hog peanut (<i>Amphicarpa bracteata</i>) Wisteria (<i>Wisteria</i> spp.) Milk pea (<i>Galactia</i> spp.) Butterfly pea (<i>Centrosema virginianum</i>) Kudzu (<i>Pueraria lobata</i>)
Eastern Tailed Blue (<i>Everes comyntas</i>)	Clovers (<i>Trifolium</i> spp.) Beggar's Tick (<i>Desmodium</i> spp.) Vetches (<i>Vicia</i> spp.) Bush Clover (<i>Lespedeza</i> spp.)	Checkered Skipper (<i>Pyrgus communis</i>)	Globe mallow (<i>Sphaeralcea</i> spp.) Common mallow (<i>Malva neglecta</i>) Hollyhock (<i>Anthaea</i> spp.) Sidas (<i>Sida</i> spp.) Poppy mallow (<i>Callirhoe</i> spp.)

HERBS FOR BUTTERFLIES

From: Your Florida Guide to Butterfly Gardening
A Guide for the Deep South
By Jaret C. Daniels
Phone: (352) 392-5894
email: jcdaniels@hargray.com

Yarrow (<i>Achillea</i> spp.)	Horsemint (<i>Monarda punctata</i>)
Anise Hyssop (<i>Agastache foeniculum</i>)	Basil (<i>Ocimum</i> spp.)
Elephant Garlic (<i>Allium ampeloprasum</i>)	Oregano (<i>Origanum</i> spp.)
Chives (<i>Allium schoenoprasum</i>)	Parsley (<i>Petroselinum crispum</i>)
Dill (<i>Anethum graveolens</i>)	Anise (<i>Pimpinella anisum</i>)
Angelica (<i>Angelica</i> spp.)	Plantain (<i>Plantago</i> spp.)
Wild Celery (<i>Apium graveolens</i>)	Rosemary (<i>Rosmarinus</i> spp.)
Dogbane (<i>Apocynum cannabinum</i>)	Scarlet Sage (<i>Salvia coccinea</i>)
Caraway (<i>Carum carvi</i>)	Pineapple Sage (<i>Salvia elegans</i>)
New Jersey Tea (<i>Ceanothus americanus</i>)	Virginia Skullcap (<i>Scutellaria laterifolia</i>)
Queen Anne's Lace (<i>Daucus carota</i>)	Tyme (<i>Thymus</i> spp.)
Purple Coneflower (<i>Echinacea purpurea</i>)	Culver's Root (<i>Veronicastrum virginicum</i>)
Eupatorium (<i>Eupatorium</i> spp.)	Chaste Tree (<i>Vitex agnus-castus</i>)
Fennel (<i>Foeniculum vulgare</i>)	
Cow Parsnip (<i>Heracleum</i> spp.)	
Hyssop (<i>Hyssop officinalis</i>)	
Lavender (<i>Lavendula</i> spp.)	
Lovage (<i>Levisticum officinale</i>)	
Mints (<i>Mentha</i> spp.)	
Bee Balm (<i>Monarda didyma</i>)	
Wild Bergamot (<i>Monarda fistulosa</i>)	

ADULT NECTAR SOURCES

TREES

Mimosa (*Albica julibrissum*)
Black Cherry (*Prunus serotina*)*
Flowering Dogwood (*Cornus florida*)*
Redbud (*Cercis canadensis*)*
Chaste Tree (*Vitex agnus-castus*)*

SHRUBS

Glossy Abelia (*Abelia x grandiflora*)
Azalea (*Rhododendron* spp.)
Butterfly Bush (*Buddleia davidii*)
Golden dewdrop (*Duranta repens*)
Chinese Privet (*Ligustrum sinense*)
Buckeye (*Aesculus* spp.)*
Button Bush (*Cephalanthus occidentalis*)*
New Jersey Tea (*Ceanothus americanus*)*
Mallow (*Hibiscus* spp.)
Fire Bush (*Hamelia patens*)
Plumbago (*Plumbago capensis*)

VINES

Honeysuckle (*Lonicera* spp.)
Star Jasmine (*Trachelospermum jasminoides*)
Mexican Flame Vine (*Senecio confusus*)

HERBACEOUS PERENNIALS

Pentas (*Pentas lanceolata*)

Porter Weed (*Stachytarphaeta jamaicensis*)*

Butterfly weed (*Asclepias tuberosa*)*

Society Garlic (*Tulbaghia violacea*)

Mexican Milkweed (*Asclepias curassavica*)

Swamp Milkweed (*Asclepias incarnata*)

Sandhill Milkweed (*Asclepias humistrata*)*

Verbena (*Verbena* spp.)

Lantana (*Lantana* spp.)

Fire Spike (*Odontonema strictum*)

Shrimp Plant (*Beloperone guttata*)

Flame vine (*Senecio confusus*)

Morning Glory (*Ipomoea* spp.)

Aster (*Aster* spp.)

Cigar Plant (*Cuphea micropetala*)

Purple Coneflower (*Echinacea purpurea*)*

Black-eyed Susan (*Rudbeckia hirta*)*

Goldenrod (*Solidago* spp.)*

Daylily (*Hemerocallis* spp.)

Heliotrope (*Heliotropium arborescens*)

Jupiter's Beard (*Centranthus ruber*)

Blue Sage (*Salvia azurea*)

Tropical Sage (*Salvia coccinea*)*

Sedum (*Sedum* spp.)

Blue-eyed Grass (*Sisyrinchium* spp.)*

Cardinal Flower (*Lobelia cardinalis*)*

Indian Blacket (*Gaillardia pulchella*)*

Blazing Star (*Liatris* spp.)

Groundsel (*Senecio* spp.)*

Ironweed (*Vernonia* spp.)*

Joe-pye Weed (*Eupatorium fistulosum*)*

Spotted Beebalm (*Monarda punctata*)*

Goldenaster (*Chrysopsis* spp.)*

Sunflower (*Helianthus* spp.)*

Verbena (*Verbena brasiliensis*)

Moss Verbena (*Glandularia* spp.)

Coralbean (*Erythrina heracea*)*

Indigo Bush (*Amorpha fruticosa*)*

Yarrow (*Achillea millefolium*)*

Mist Flower (*Eupatorium coelestinum*)*

Mountain Mint (*Pycnanthemum* spp.)*

Phlox (*Phlox paniculata*)

Coral Vine (*Antigon leptopus*)

Stokes Aster (*Aster laevis*)

Catchfly (*Silene* spp.)

Mexican Heather (*Cuphea hysopifolia*)

Bluebeard (*Caryopteris chandonensis*)

Firecracker Plant (*Russelia equisetiformis*)

Wild Petunia (*Ruellia brittoniana*)

(*indicates native species)