

Attracting Butterflies!



With special thanks to subject matter experts
Denise Gibbs and Paul Tuskes



Topics

- ▶ Butterfly basics
- ▶ Providing for butterflies
- ▶ The most likely butterflies to visit your property and their host plants
- ▶ Tips for purchasing plants
- ▶ Dependable plant and seed sources

Butterfly Basics

- ▶ Active during the day
- ▶ Have good vision but weak sense of smell
- ▶ Most species lay eggs on specific species of plants
- ▶ Can probe deeply for nectar



Butterfly Basics



- ▶ Butterflies go where their needs are met.
 - ▶ Warmth
 - ▶ Moisture and minerals
 - ▶ Food – host plants and nectar sources
 - ▶ Mates
 - ▶ Overwintering adults vs pupae vs migrants
- ▶ Spring and summer are the best time to see butterflies

Butterfly Basics



► EGGS AND PREDATORS

- Eggs are laid singly and often placed on the underside of a leaf.
- Species with gregarious larval deposit their eggs in clusters.
- Eggs are eaten by ladybug larvae/adults and lacewings, and are parasitized by microscopic wasps

► LARVAE AND PREDATORS

- Small larvae are eaten by spiders, ladybug larvae, lacewings, true bugs, and ants. Larger larvae are eaten by birds and wasps. Parasitic flies and wasps deposit eggs in, on, or near the larvae.

Butterfly Basics

- ▶ Pupae vs cocoon vs chrysalis
- ▶ Monarch, bush footed, and longwings pupate upside down
- ▶ Swallowtails and whites pupate vertically or horizontally
- ▶ Blues and metalmarks often pupate under debris
- ▶ Skippers pupate in grass and debris



Butterfly Flowers

Flowers that attract butterflies are typically:

- ▶ In clusters and with good (flat) landing platforms
- ▶ Brightly colored (red, yellow, orange)
- ▶ Open during the day
- ▶ Ample nectar producers, with nectar deeply hidden
- ▶ May be clusters of small flowers (goldenrods)
- ▶ Nectar guides are present

Butterflies select flowers based on shape. Since they can't hover, they need a good place to land.



Nectar Guides

- ▶ The region of low ultraviolet reflectance near the center of each petal that guides butterflies and bees directly to the center of the flower.



As humans view it!



As butterflies view it!

Providing for Butterflies

- ▶ Include native plants in your garden
- ▶ Focus on larval host plants versus only nectar plants for the adults
- ▶ Choose species so plants are blooming throughout the growing season
- ▶ Plant big patches for better foraging efficiency
- ▶ Provide pesticide-free puddling areas



Puddling

- ▶ Puddling Behavior
 - ▶ Shallow puddles and damp soil
 - ▶ Most often puddle between 10 AM and 2PM
- ▶ Containers
 - ▶ shallow versus deep
 - ▶ Fill with sand
- ▶ Water Sources
 - ▶ drip emitter
 - ▶ dripping faucet
- ▶ Add Salt and minerals - sea salt, wood ashes, overripe fruit, stale beer, leaf or manure compost





Providing for Butterflies

- ▶ Provide a Nectar Corridor or Feeding Waystations:
 - ▶ 0.5 ac minimum
 - ▶ Include early, mid, and late season flowering plants
 - ▶ Must be undisturbed throughout growing season
 - ▶ Herbicides and insecticides should not be used in corridor
 - ▶ Control invasive species





Most Likely Butterflies

- ▶ The 23 most likely butterflies to visit your property
- ▶ And their host plants

Swallowtails and Their Host Plants

- ▶ Black Swallowtail
- ▶ Carrot family, parsley, dill, parsnips



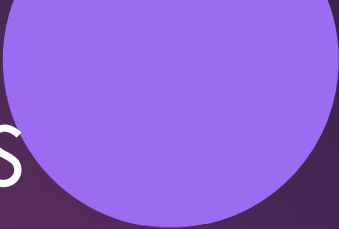
- ▶ Two-tailed Swallowtail
- ▶ Rosewood, Ash, Sycamore, Hop tree, Chokecherry



Whites and Sulfurs



100



Checkered White

- ▶ Host plants - native and exotic mustards: rock cress, peppergrass, shepherd's purse, tansy mustards



Cabbage White

- Host plants -
cabbage,
broccoli, kale,
radish, kohlrabi,
mustard,
nasturtium



A Few Sulphurs

- ▶ Orange Sulphur: lupines, clovers, vetch, alfalfa, locoweed,



- ▶ Dainty Sulphur: sneezeweed, Spanish needles, common beggar's tick, dogweed, cosmos

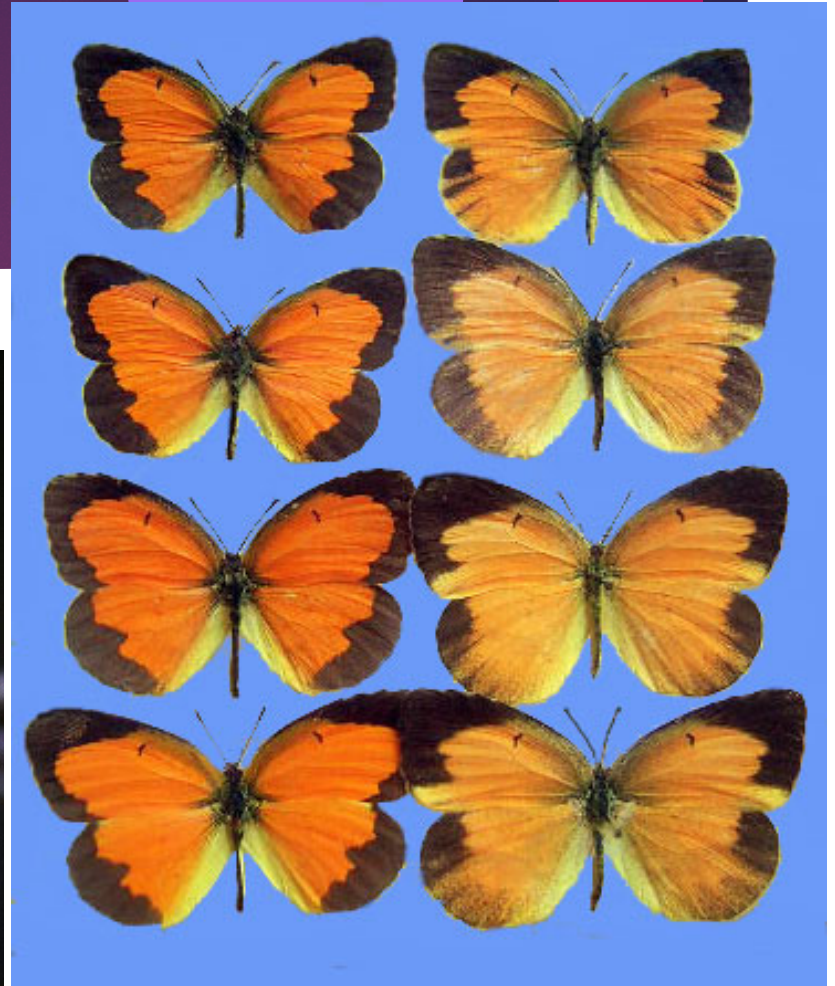


Cloudless Sulfur



Larval host plants include
Senna (*Cassia*) species.

Sleepy Orange



Host plants - low growing Cassia sp.

Gray Hairstreak

- ▶ Host plants = many species in several plant families: pea, mallow, buckthorn, buckwheat.



Lycaenidae - The Blues



Two Blues

- ▶ Western Pygmy-Blue – saltbush, goosefoot, Russian thistle

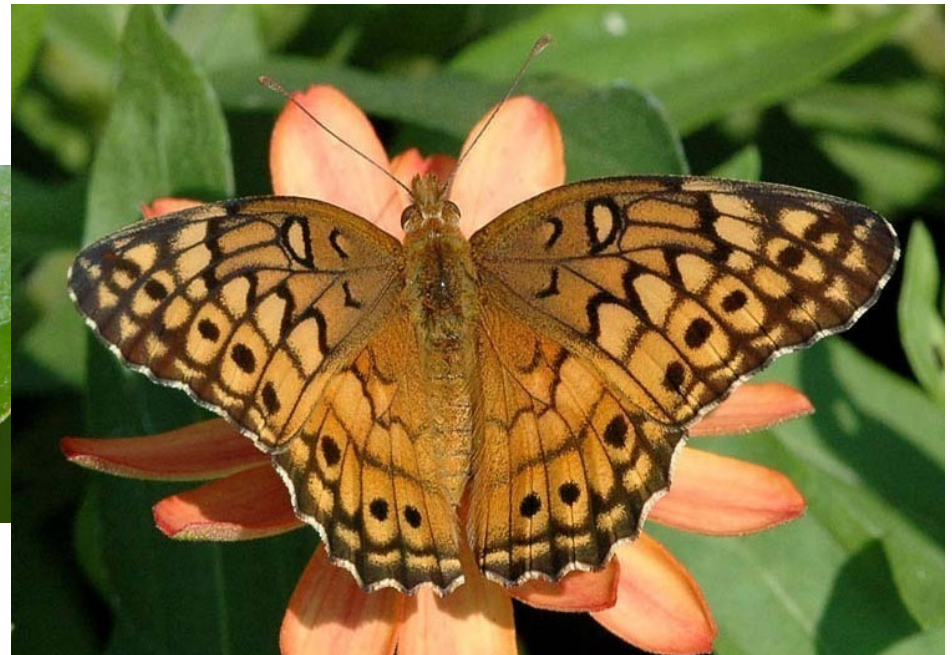


- ▶ Marine Blue – mesquite, false indigo, catclaw acacia



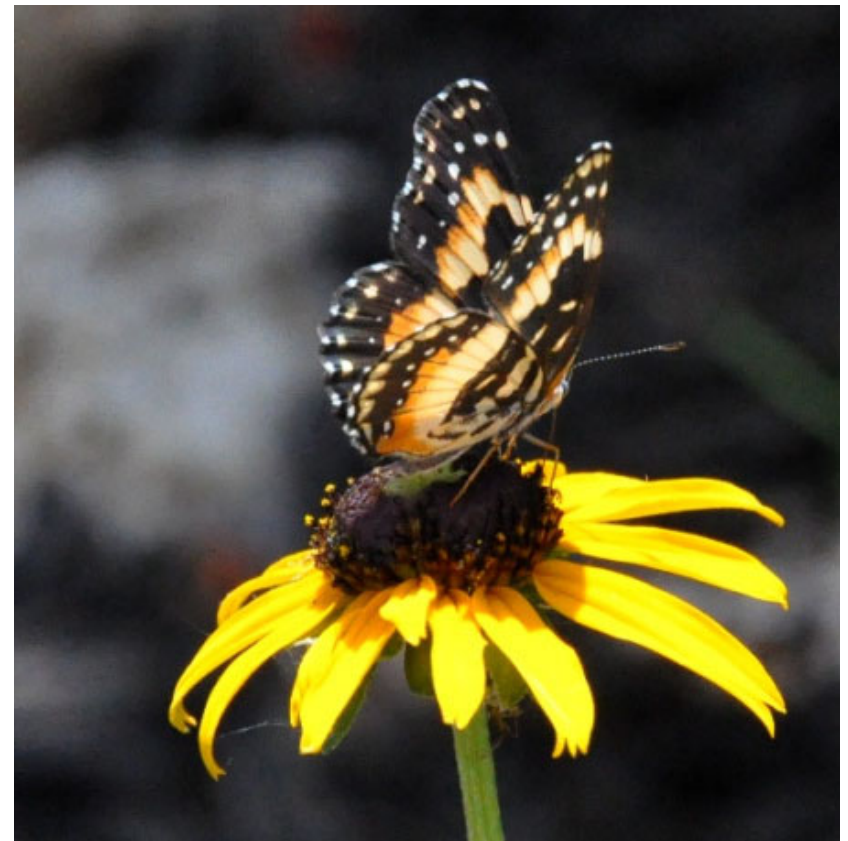
Variegated Fritillary

- Host Plants = blue flax, passionflower, and violet (Hybanthus)



Bordered Patch

- ▶ Host plants = plants in the sunflower family, including sunflowers (*Helianthus*), ragweed (*Ambrosia*), crownbeard (*Verbesina*), and cockleburs (*Xanthium*).



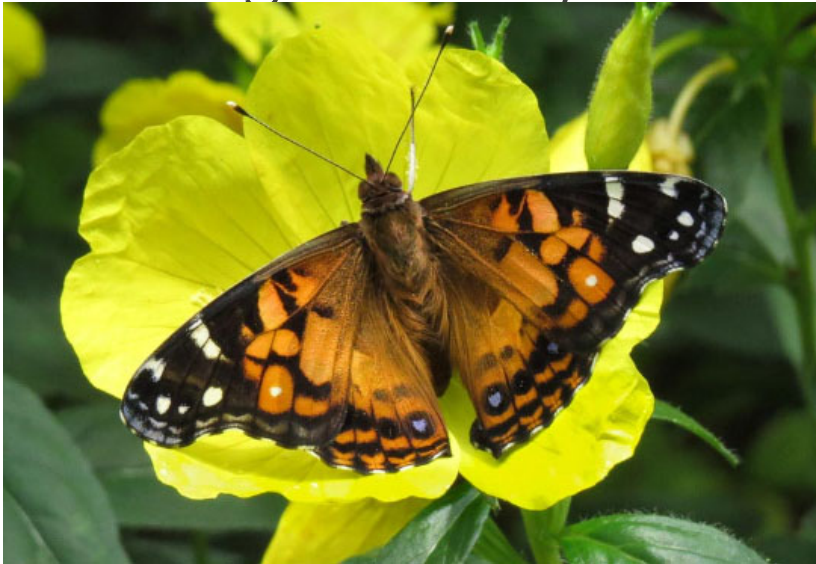
California Patch

- Host plants = desert golden eye and composites (sunflower family)

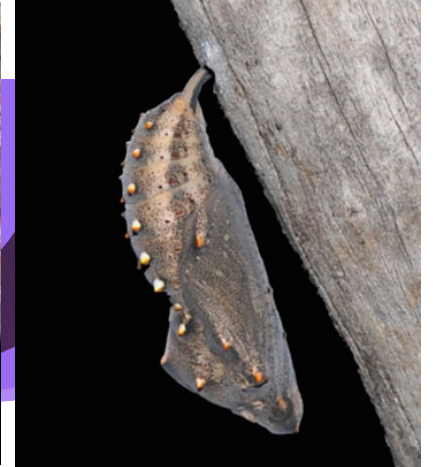


A Couple of Ladies

- ▶ American Lady - thistles, nettles, Pearly everlasting (*Anaphalis margaritacea*)



- ▶ Painted Lady - many species in the sunflower family, yarrow, Malva, and thistle



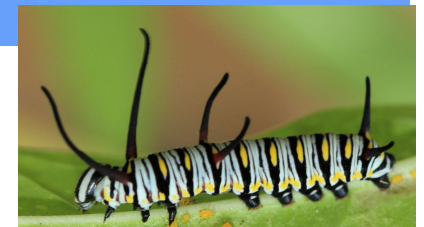
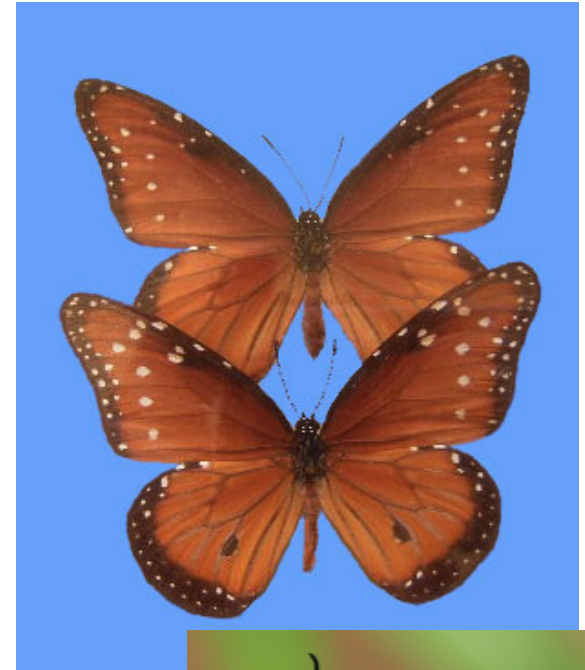
Common Buckeye

- ▶ Petunia species, plantains, toadflax, owl's clover, speedwell species, and snapdragon



Monarch and queen

- Host plants = many milkweed species.



Create a Monarch Waystation

- ▶ 100 or more square feet
 - ▶ 10 or more milkweed plants of two or more species
- OR
- ▶ a large amount of 1 species
 - ▶ At least 4 annual, biennial, or perennial plant species for nectar
 - ▶ Species that provide nectar in spring, summer, and fall



The Skippers



- ▶ Silver-spotted Skipper – New Mexico locust, false indigo

- ▶ Common Checkered-Skipper – globemallow species, Indian mallow (*Abuilon*), and cheeseweed (*Malva*).



- ▶ Fiery Skipper – Bermuda grass, Kentucky bluegrass

- ▶ Sachem – Bermuda grass, Red fescue, crabgrass



Mourning Cloak

- ▶ Willows,
Cottonwood,
Chinese Elm





Tips for purchasing Plants

- ▶ Avoid cultivars – stick with pure species:
 - ▶ Buy *Echinacea purpurea* versus *Echinacea purpurea* 'Sunset'.
- ▶ Avoid plants treated with systemic insecticides
 - ▶ Especially neonicotinoides
 - ▶ Stick with smaller pots, market packs, and 6 packs
- ▶ Plant dill/fennel/parsley/carrots from seed

The Best Nectar Plants



- ▶ Butterfly Bush (*Buddleia*)
- ▶ Lilac bush
- ▶ Profusion Zinnias – apricot and fire
- ▶ Wisteria
- ▶ Butterfly mist (*Ageratum*)
- ▶ *Lantana*
- ▶ *Tithonia*
- ▶ Gloss Flower (*Ageratum*)
- ▶ *Pentas* but only *P.lanceolata* – Ruby Glow
- ▶ Blue Salvia
- ▶ Bee balms
- ▶ Mexican sage
- ▶ Greg's Mist Flower
- ▶ Tropical milkweed
- ▶ Hyssop (*Agastache*)



Native Nectar Plants

- ▶ Desert Willow
- ▶ Cardinal flower
- ▶ Turpentine Bush
Ericameria laricifolia
- ▶ Desert broom
(*Baccharis sarothroides*)
- ▶ Woolly butterfly bush (*Buddleja marrubifolia*)
- ▶ *Agastache wrightii*
- ▶ Milkweeds
- ▶ Wild sunflowers
- ▶ Rabbitbrush

Milkweeds Native to the Verde Valley

- ▶ *Asclepias asperula*
Antelope Horns
- ▶ *Asclepias nyctaginifolia*
Mojave Milkweed
- ▶ *Asclepias subverticillata*
Horsetail Milkweed
- ▶ *Asclepias speciosa*
Showy Milkweed
- ▶ *Asclepias tuberosa*
Butterfly Milkweed



Max Licher

A decorative graphic in the top right corner consisting of a large light purple circle and a smaller magenta rectangle, both partially overlapping a dark purple banner.

Grow Your Own Milkweeds

From <https://swmonarchs.org/startingseeds.php>

► Method:

- Fill jar with milkweed seeds with the hottest tap water.
- Let seeds soak for 24 hours. Drain water, refill with the hottest tap water, and let it cool for 24 more hours.
- Repeat daily until a small root begins to appear.
- Drain the water and plant the seeds in a growing medium. Keep newly planted seeds moist.

Grow Your Own Milkweeds

From <https://swmonarchs.org/startingseeds.php>

- ▶ Approximate soaking time required for various species.
 - ▶ *A. subverticillata* (Horsetail) 2-3 days
 - ▶ *A. asperula* (Antelope Horns) 2-3 days
 - ▶ *A. tuberosa* (Butterfly) 3-4 days
 - ▶ *A. latifolia* (Broadleaf) 3-4 days
 - ▶ *A. speciosa* (Showy) 3-4 days



Max Licher



Dependable Plant Sources

Pre-order milkweeds in January from NAU

<https://www.azmilkweedsformonarchs.org/>

Flagstaff Arboretum plant sale; <https://www.thearb.org/plantsales/>

Highland Center for Natural History in Prescott's plant sale:

<https://highlandscenter.org/>

Flagstaff Native Plant and Seed's mailing list

http://nativeplantandseed.com/plant-search/?wpv-plant-type%5B%5D=wildflower&indigenous%5B%5D=1&wpv_aux_current_post_id=378&wpv_view_count=490-TCPID378

Plants of the Southwest:

<https://plantsofthesouthwest.com/pages/about-us>



Questions?

Janie Agyagos
jagyagos@fs.fed.us
928-203-7507