

Flutter into Butterfly Gardening



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Reasons to Create a Butterfly Garden

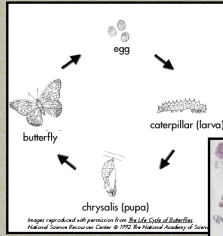
- Environmentally sound
- Supports repopulation of native plants
- Counteracts destruction of habitat
- Enjoyable and relaxing!



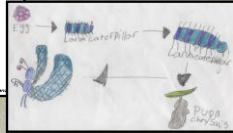


Butterfly Biology

From Egg to Adult



Complete
Metamorphosis:
4 Distinct Stages



Egg





Larva or Caterpillar

Tiger Swallowtail



Black Swallowtail



Gulf Fritillary



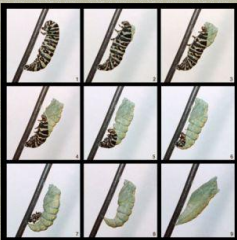
Pipevine Swallowtail

Five Monarch Instars



Pupa

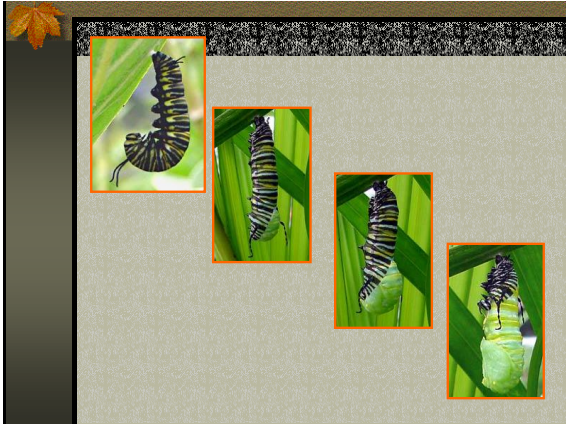
Eastern Tiger Swallowtail pupating

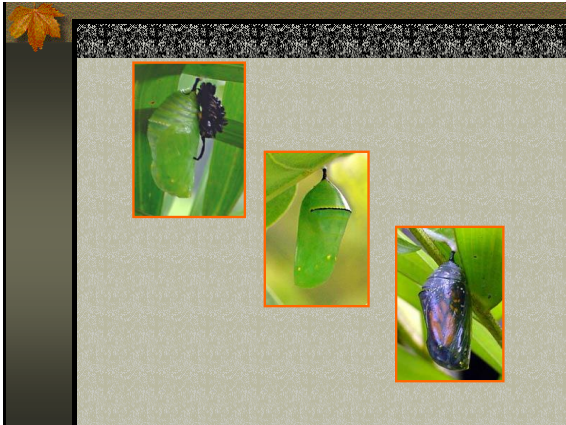


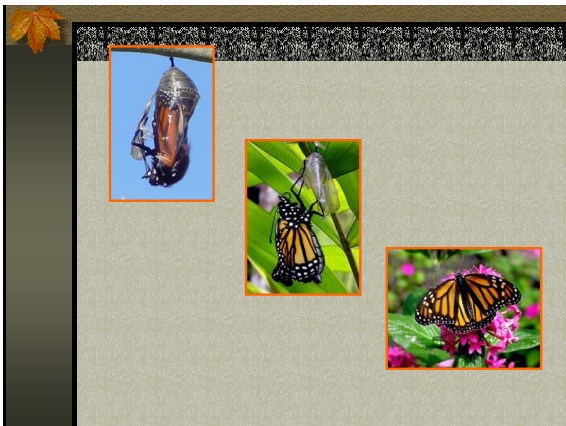
Pipevine Swallowtail




Black Swallowtail









Adult



Buckeye


Female
Black
Swallowtail






Male
Black Swallowtail


Georgia State Butterfly



Male

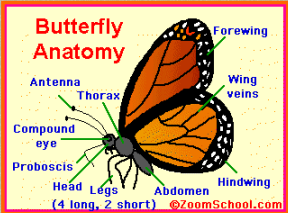


Females

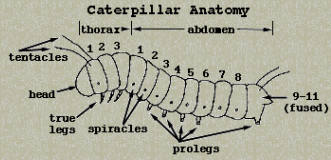


The Body of a Butterfly

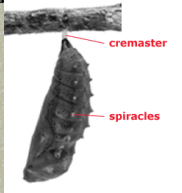
- **Head**
 - Antennae
 - Eyes
 - Proboscis
- **Thorax**
 - Wings
 - Legs
- **Abdomen**
 - Digestive Organs
 - Reproductive Organs



The Body of a Caterpillar



Body of a Chrysalis (or Pupa)



Lepidoptera Antennas



Butterfly




Skipper

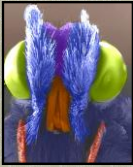



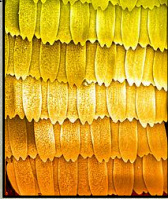
Moth

Proboscis of Tiger Swallowtail Butterfly

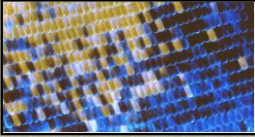


Electron Scan of a Monarch Butterfly





Electron scan of butterfly scales

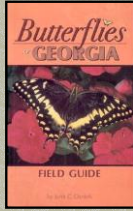
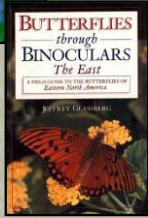


Creating a Garden

Sunny location, sunny location, sunny location....



Conduct a Survey



Protection



Flower Considerations

- Large Masses of Color
 - Purple, white, yellow, pink, and true blues
- Fragrance
- Flower Shape

Red Spotted Purple



Red Admiral



Nectar-Rich Blooms



Butterfly Weed (*Asclepias* spp.)



Aster (*Aster* spp.)

Blanket Flower (*Gaillardia* spp.)



Black-Eyed Susan
(*Rudbeckia hirta*)



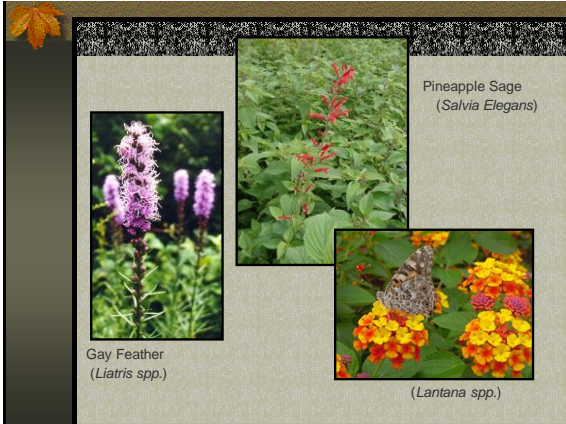
Purple Coneflower
(*Echinacea purpurea*)

Joe-Pye Weed
(*Eupatorium* spp.)



Butterfly Bush
(*Buddleia* spp.)





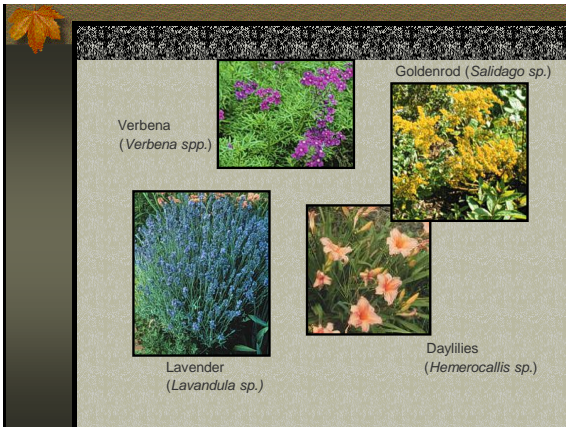
Gay Feather
(*Liatris spp.*)



Pineapple Sage
(*Salvia Elegans*)



(*Lantana spp.*)



Verbena
(*Verbena spp.*)



Goldenrod (*Solidago sp.*)



Lavender
(*Lavandula sp.*)



Daylilies
(*Hemerocallis sp.*)



Goldenrod is Not Ragweed



Shady Butterfly Gardening



Jewelweed



Spearmint



Foxglove



Gentian

Night Bloomers



Evening Primrose



Moonflowers



Angel Trumpets

Host Plants

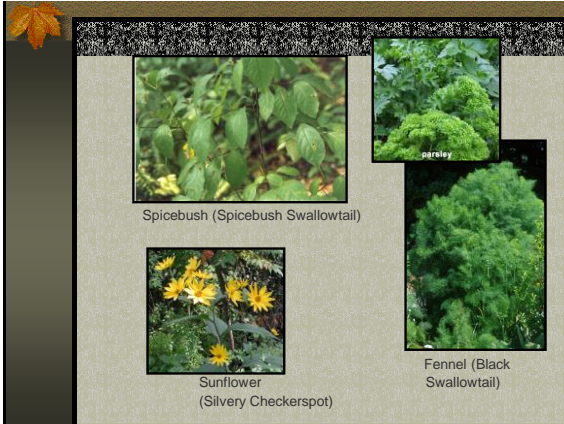
Plantain (Buckeyes)

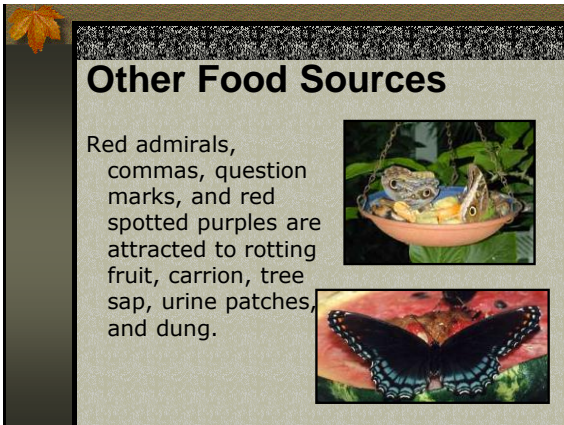


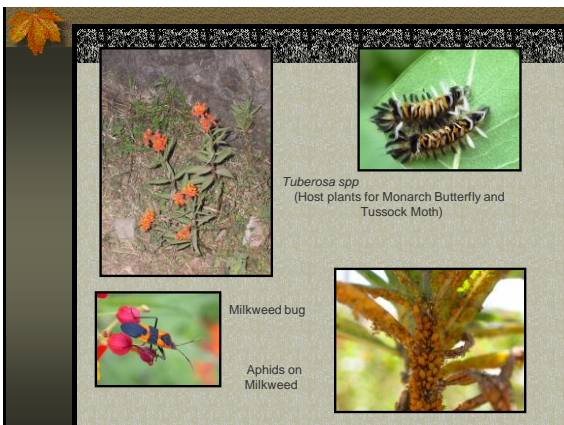
Violets (Variegated Fritillary)



Passionflower
(Gulf Fritillary
and Zebra)







Growing Milkweed

- Seeds
- Propagation
- Mature plants do not transplant very well



Milkweed Look-Alike



Dogbane
Apocynum cannabinum

A Few Milkweed Species


Curley Milkweed
Asclepias amplexicaulis




Fragrant Milkweed
Asclepias connivens



Poke Milkweed
Asclepias exaltata



Barrens Milkweed
Asclepias hirtella



Swamp Milkweed
Asclepias incarnata



Red Milkweed
Asclepias lanceolata



Butterfly Weed
Asclepias tuberosa



White Milkweed
Asclepias variegata



A Puddlin' We Will Go...



Basking

Julia Butterflies



Painted Ladies

Overwintering Protection



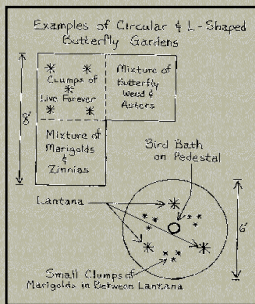
Migration

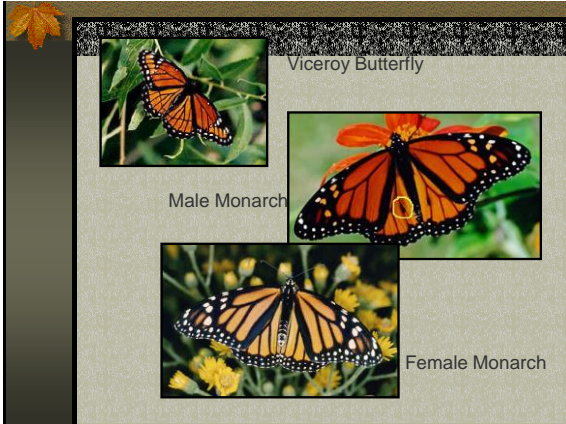


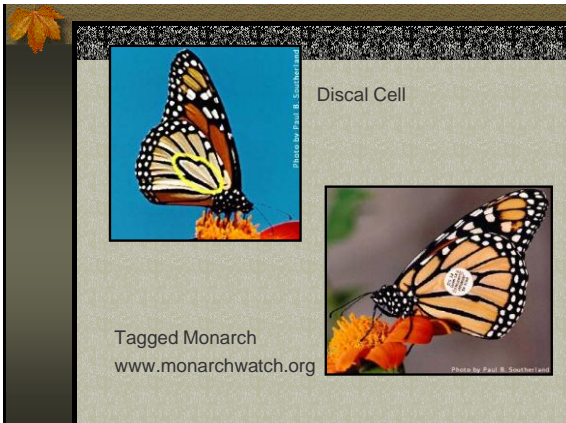
Use Diversity, Not Pesticides



Sketch Your Plans









Enjoy Your Garden!



Stretch



Hummingbirds

11 species
visit Georgia



Anna's



Calliope



Rufous



Allen's

Only one species nests in Georgia



Ruby-Throated Hummingbird

Biology

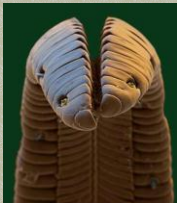


Black-chinned



Green violet ear

- 940 feathers
- Brain is 4.2% of body weight
- Bones are extremely porous
- Heart beats 250 beats/minute during rest
- Heart beats 1260 beats/minute during flight



- Brushy tongue laps up nectar 13/licks/minute
- Wings beat 70/second during flight
- Fly 25 – 30 MPH

Sphingidae Mimics



Food Sources

Flower Considerations:

- Nectar producers
- Brightly colored, usually red
- Trumpet-shaped
- Long-necked
- Long-blooming



Coral Honeysuckle



Crossvine



Native Azalea





Feeder Tips

- 1 part sugar to 4 parts water
- Do not use food coloring
- Never use honey
- Keep clean and filled

Shelter







Water

Mister or soaker



Helmet Feeder



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Or visit
Monarchs Across Georgia
www.monarchscrossga.org
Georgia Hummers
www.gahummer.org



Thank you!
