

# FLORIDA-FRIENDLY BUTTERFLY GARDENING



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UF-IFAS/Extension Broward County Education Section  
Parks & Recreation Division

# PRESENTATION PROGRAM

- ❑ **Our Pollinators**
- ❑ **Butterfly Facts and Biology**
  - Anatomy of a Butterfly
  - The Life Cycle of a Butterfly
- ❑ **What is a Larval Plant**
  - Why is the Larval Plant Eaten?
- ❑ **What is a Nectar Plant**
  - Why is the Nectar Plant Eaten?
- ❑ **Butterfly Requirements**
  - Butterfly Friendly landscaping principles
  - Is space a problem?
  - What to Plant to Attract Butterflies to your garden
  - Weeds you want to cultivate.
  - Watering-Rain Barrels
- ❑ **UF/IFAS Extension Events**
  - Art in The Garden
  - BioBlitz
- ❑ **How Butterflies Connect Us**

# OUR POLLINATORS

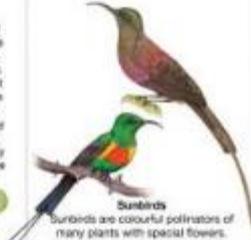
## Figwasps

Figwasps are the tiny pollinators of the mighty Fig Trees. Figwasps have a very special relationship with the Fig Trees. Each kind of Fig Tree has it's own unique kind of Figwasp that pollinates it. The tree cannot survive without the figwasp, and the wasp cannot survive without the tree. They are wedded together forever. Only female figwasps pollinate and can fly between the trees. Males never leave the fig they are born in.



## Sunbirds

Sunbirds are colourful pollinators of many plants with special flowers. Aloe and Red-hot Poker Trees are pollinated by sunbirds. Flowers pollinated by sunbirds are often red or orange and have lots of sugary nectar. Giant lobelias that grow on the high mountains of East Africa are pollinated by sunbirds. Sunbirds also feed on insects that visit flowers. Male sunbirds are very colourful while the females are dull-coloured.



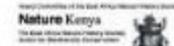
## Bats and Bushbabies

Bats and bushbabies are mammals that pollinate plants in East Africa. The Basobab tree is pollinated by fruit Bats and occasionally by Bushbabies. Sausage Trees are pollinated by bats. Flowers that are pollinated by bats open in the evening and night and have a musky, fruity scent. Bats can travel great distances over a single night and pollinate many different trees.



## Butterflies and Moths

Butterflies and Moths are pollinators of certain kinds of flowers. Many red flowers with short tubes are pollinated by butterflies. White flowers with fragrance in the evening or at night are often pollinated by moths. Hawkmoths are an important group of pollinators. They pollinate many different kinds of African orchids. Papaya is also pollinated by hawkmoths.



For more information please contact  
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Printing, Research and Workbooks by Steve J. Maitland  
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## Our Friends the Pollinators



## Pollinators

Flowers produce seeds and fruits. Seeds and fruits are produced when a flower is pollinated. Pollination is the transfer of pollen from the anthers to the stigma of a flower. As plants can't move around, they rely on other creatures to carry their pollen for them. Pollinators transport pollen between different flowers and make sure that flowers produce seeds and fruits. Did you know that every one in three bites of food is thanks to a pollinator?



## Honeybees

Honeybees are common visitors to flowers. They live in large colonies in both domestic beehives and in the wild in hollow trunks. They collect nectar and pollen from flowers. A honeybee can tell her fellow bees where to find flowers through a special dance language. Many herbs, wildflowers and trees are pollinated by honeybees.



## Wild Bees or Native Bees

There are many different kinds of wild bees. Most wild bees lead a solitary life. They collect pollen and nectar from flowers. Some wild bees are specialised and collect oils and other substances from flowers. Wild bees are one of the most important groups of pollinators. There are thousands of different kinds of wild bees.



## Stingless Bees

Stingless bees live in colonies like the honeybee. They are smaller than honeybees and are also called 'Sweet Bees'. Stingless bees live in hollow trees, rocks and even termite mounds. They often make tubes from resin at the entrances to their nests. They are very important pollinators as they rely entirely on flowers for nectar and pollen to feed their larvae. Many forest and dryland plants are pollinated by stingless bees.



# POLLINATORS

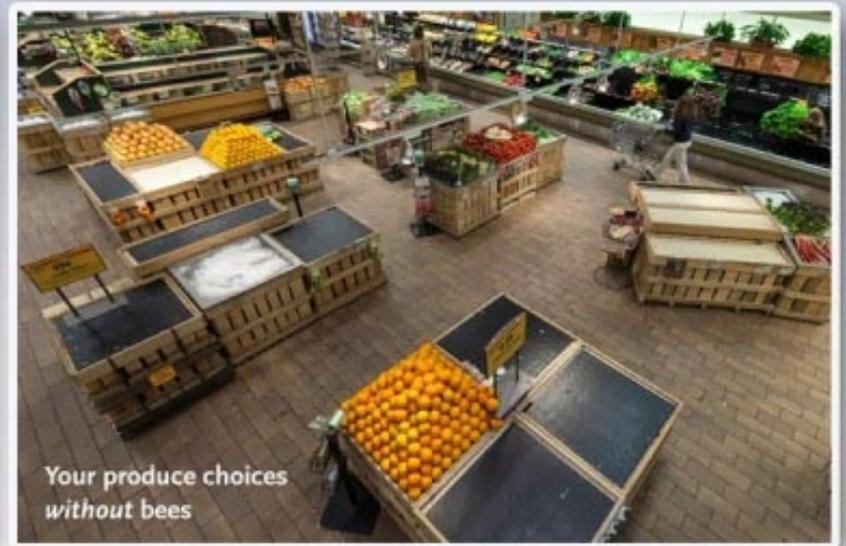


Birds, bats, bees, butterflies, beetles, and other small mammals that pollinate plants are responsible for bringing us one out of every three bites of food.

# POLLINATORS

**They also sustain our ecosystems and produce our natural resources by helping plants reproduce.**

# This is what your grocery store looks like **WITHOUT BEES**





first ingredient  
WHOLE GRAIN OATS

NO ARTIFICIAL FLAVORS  
NO ARTIFICIAL COLORS

SIMPLY MADE  
Gluten Free  
GLUTEN WHEAT TOASTED

# NATURALLY FLAVORED Honey Nut Cheerios



Enlarged to  
Show Detail



## HELP BRING BACK THE BEES

WITH YOUR FREE PACKET OF SEEDS SEEDS CERTIFIED



PER 3/4 CUP SERVING

110 CALORIES	0g SAT FAT	160g GRAIN	9g SUGARS
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SEE NUTRITION FACTS FOR "AS PREPARED" INFORMATION

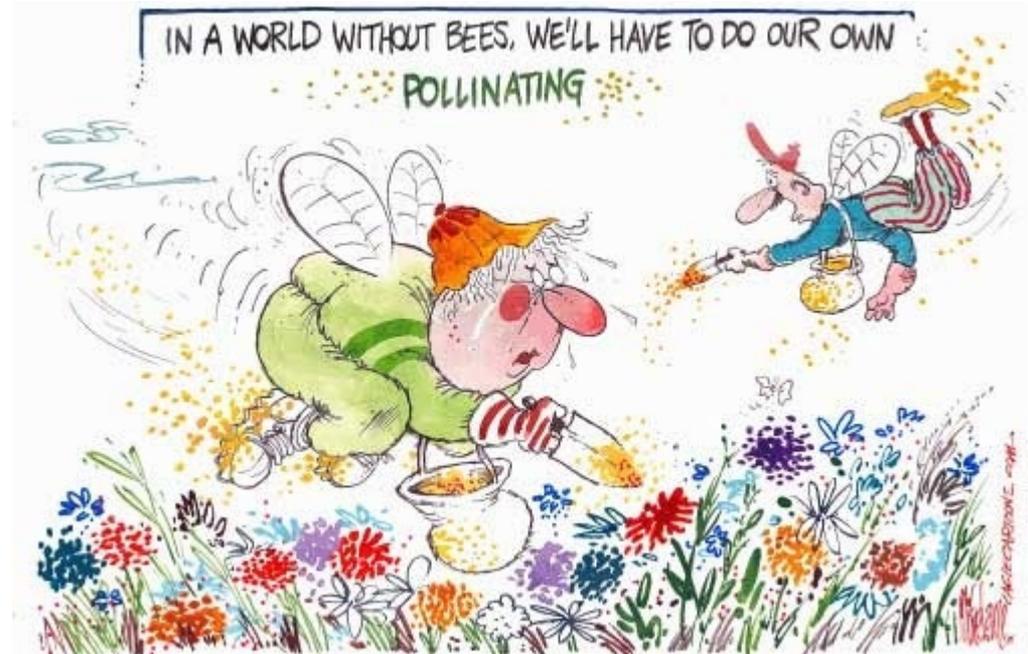
Sweetened Whole Grain Oat Cereal with  
Natural Flavors



# POLLINATORS

## Pollinators worldwide are in decline!!!

- Habitat Loss
- Invasive Species
- Parasites
- Pesticides



# POLLINATORS

More than **150 U.S. food crops** depend on pollinators, including almost all fruit and grain crops. The USDA estimates that crops dependent on pollination are worth more than **\$10 billion a year.**

# BUTTERFLY FACTS & BIOLOGY

- There are more than **765 species** of butterflies found in North America north of Mexico.
- Florida boasts over 180 verified butterfly species representing some 170 native or newly established species and 17 tropical vagrants.
- Within that mix, around 40 are considered either unique to the state or occur mostly within its boundaries.
- This diverse butterfly fauna is the highest of any state east of the Mississippi River and helps make Florida a premier location for butterfly gardeners.

# Anatomy of the Butterfly

Antennae

Multifaceted Eye

Forewing

Proboscis

Leg

Smells with antennae

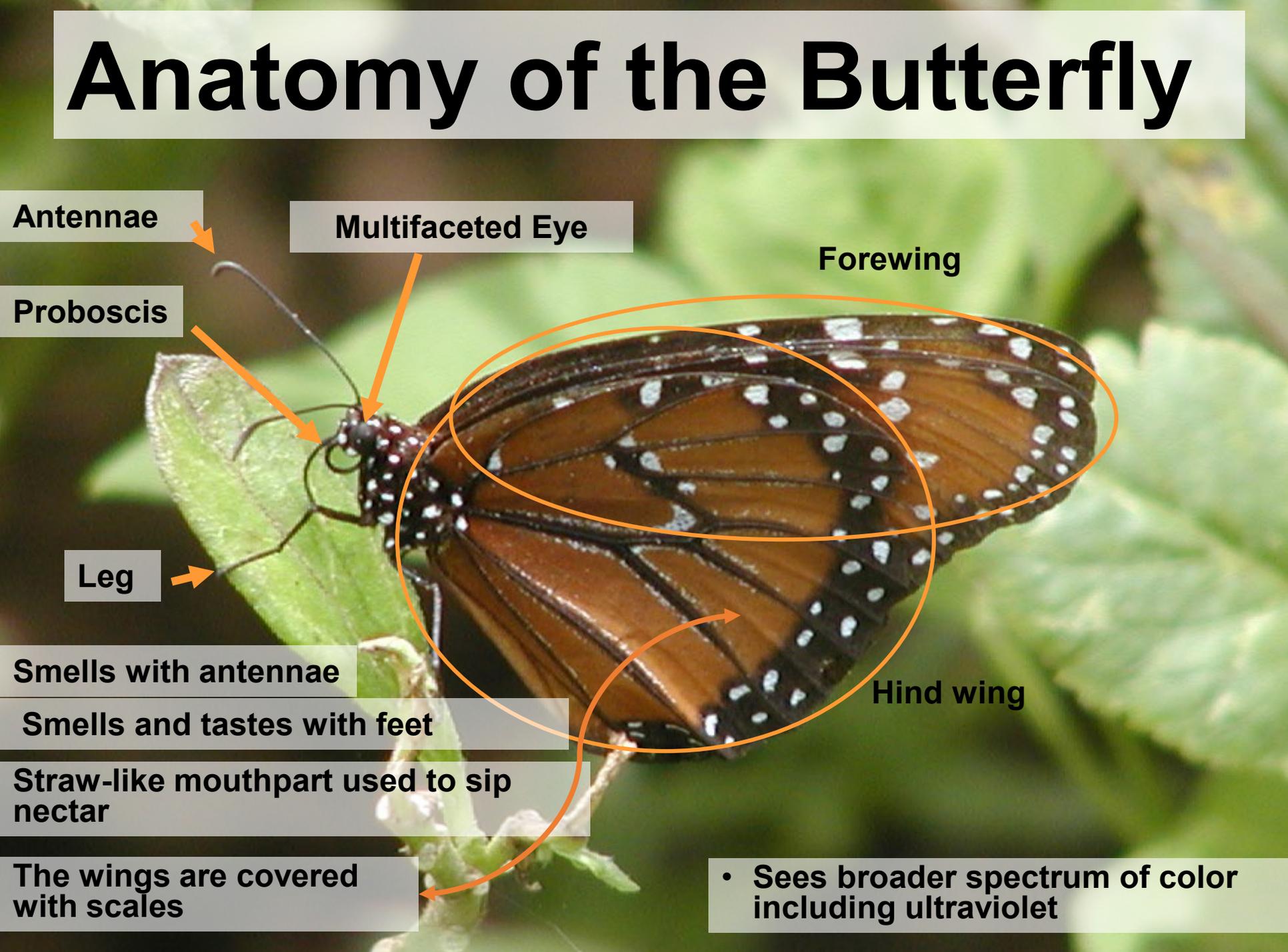
Smells and tastes with feet

Straw-like mouthpart used to sip nectar

The wings are covered with scales

Hind wing

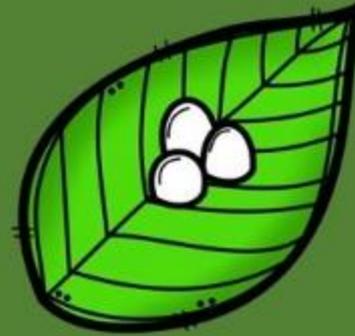
- Sees broader spectrum of color including ultraviolet



# LIFE CYCLE OF THE BUTTERFLY



# The life cycle of a Butterfly



# LIFE CYCLE OF THE BUTTERFLY

**Life span** varies among species. Within a species, life span may also depend upon:

- latitude
- time of year
- even local weather conditions.
- Adult lasts from 1 week to 6 months; **feeds on nectar from flowers**

# Life Cycle of the Butterfly

## Adult



Chrysalis stage lasts  
10 to 15 days

## Chrysalis (pupa)



## Egg



Egg takes from  
5 to 10 days to  
hatch

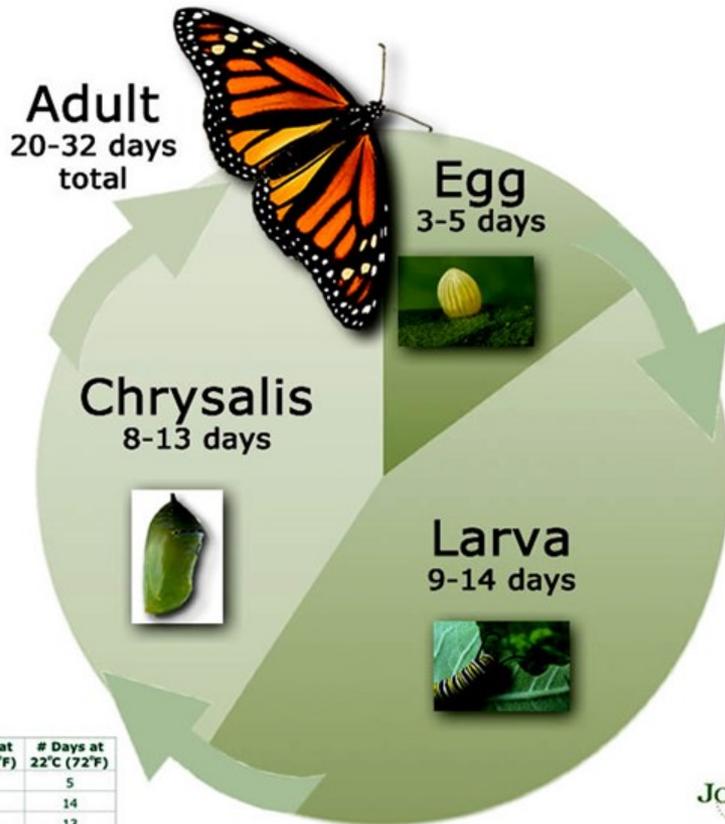
## Larva



Larva grows from 2 to 6 weeks before pupation into chrysalis. Eats leaves and stems of larval plants

# Life Cycle of the Butterfly

## Monarch Butterfly Life Cycle

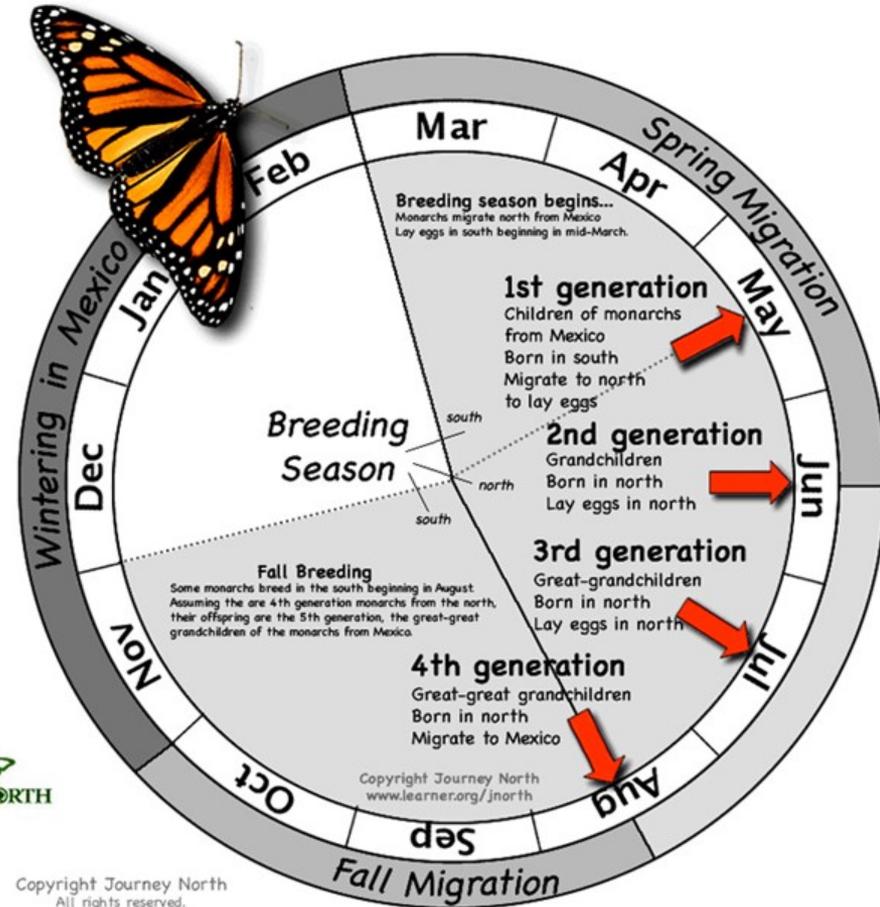


Stage	# Days at 28°C (83°F)	# Days at 22°C (72°F)
Egg	3	5
Larva	9	14
Chrysalis	8	13
Total Days	20	32

**About one month for one generation**

Development rates are temperature dependent.  
Monarchs develop more quickly in warm temperatures and more slowly in cool temperatures.

## Monarch Butterfly Annual Cycle



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# WHAT IS A LARVAL PLANT?

**Plant where butterflies lay their eggs and the (larvae) caterpillars eat the leaves and stems for food**



# WHAT IS A NECTAR PLANT?

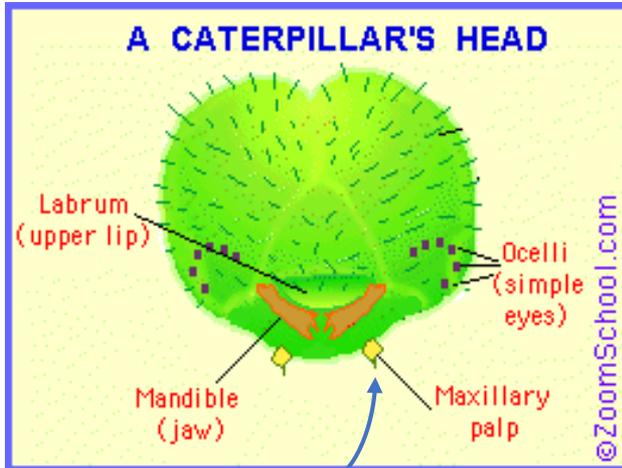
**Plant that feed adult butterflies  
with nectar from the flowers**



**The flowers may be  
pollinated by the  
butterflies**

# Why is the Larval Plant Eaten?

The caterpillar has mouthparts that chew

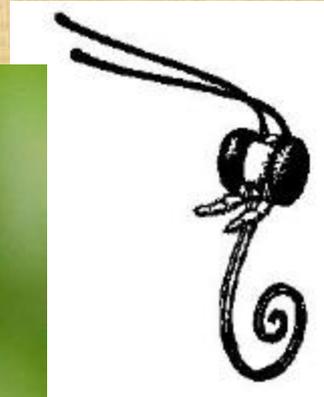


Sensory organs=test food quality



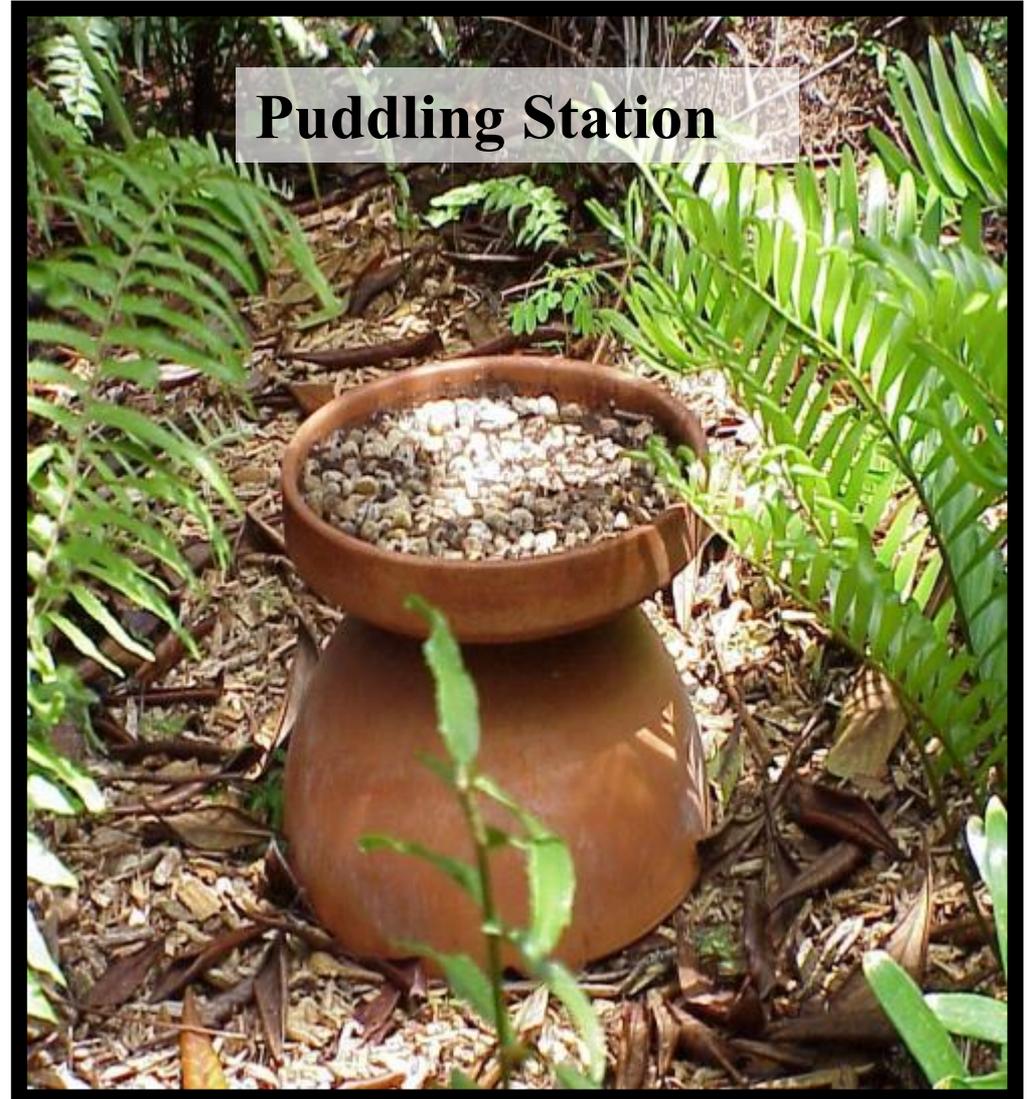
# Why is the Nectar Plant not harmed?

The adult butterfly drinks nectar from the flowers and has siphoning or sucking mouthparts like a straw



# BUTTERFLY REQUIREMENTS

- ❑ **Shelter (Large plants to hide in inclement weather)**
- ❑ **Safe sunny area away from human traffic**
- ❑ **Food (Larval and Nectar Plants) and water**
- ❑ **A place to raise young (Larval or Host Plants)**



# FLORIDA FRIENDLY LANDSCAPE PRINCIPLES



Presented by: Lorna Bravo

## Florida Friendly Yards-Standards

- 1) Right Plant, Right Place
- 2) Water Efficiently
- 3) Fertilize Appropriately
- 4) Mulch
- 5) **Attract Wildlife**
- 6) Manage Yard Pests Responsibly
- 7) Recycle Yard Waste
- 8) Reduce Storm water Runoff
- 9) Protect the Waterfront



1. Right Plant, Right Place



4. Mulch



7. Recycle



2. Water Efficiently



5. Attract Wildlife



8. Reduce Storm water



3. Fertilize Appropriately



6. Manage Yard Pests Responsibly



9. Protect the waterfront

# PLANNING YOUR

# BUTTERFLY GARDEN



## PLANNING YOUR BUTTERFLY GARDEN



- Requires proper planning and a little basic research.
- Although Florida boasts over 180 different butterflies, you can't attract species that do not naturally occur in your region, nor can you grow plants that aren't adapted to the soils and climate in your region.
- Follow these easy steps to plan your garden.

## YOUR BUTTERFLY REGION MAP

Look at the map provided (Figure 1) and determine the region in which you live.



# BUTTERFLY GARDEN DESIGN



(The butterfly's proboscis is like a long coiled straw used to sip liquid nectar from flowers.)

These factors help determine which flowers a butterfly visits.

As a rule, small butterflies nectar from small flowers and large butterflies nectar from larger ones.





Some butterflies flutter like a hummingbird while feeding, pausing only briefly at each flower. They can often gain access to nectar in long tubular blossoms. Others rest for some time on each blossom.

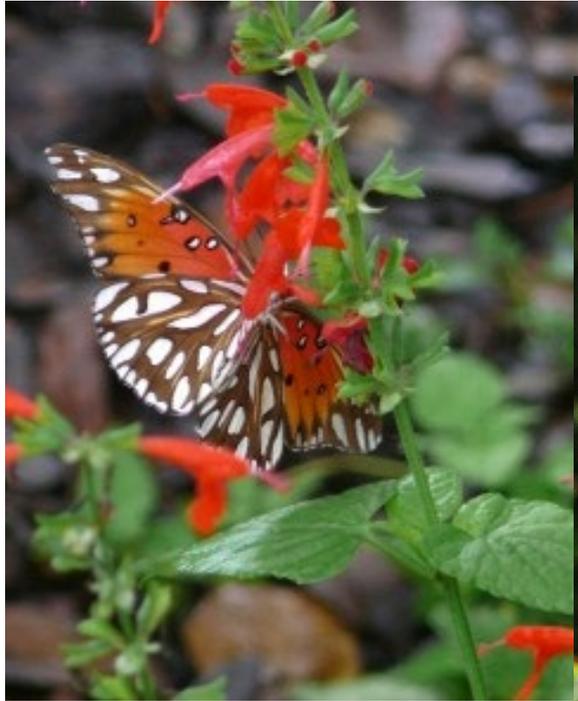
# BUTTERFLY GARDEN DESIGN



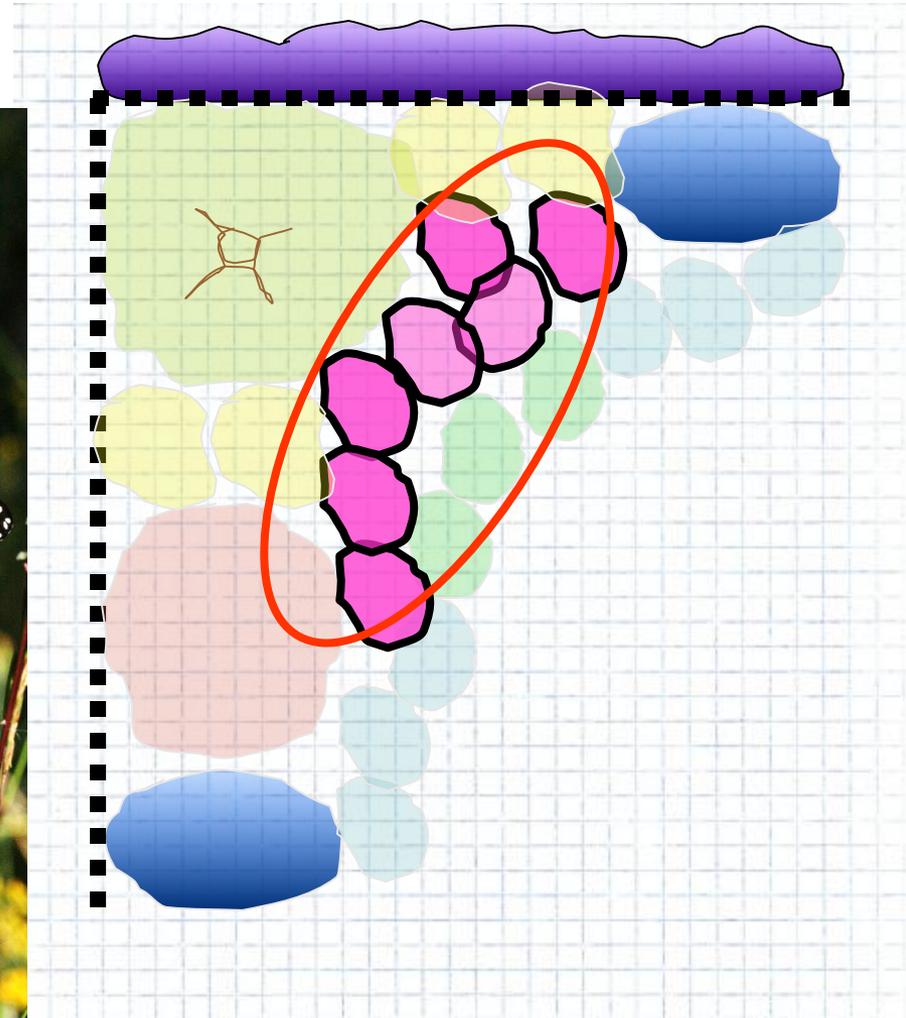
- A wide mix of flower colors, shapes, and sizes provides appealing and accessible food to a greater number of butterfly species.
- It also makes your garden more eye-catching.
- Adults of some butterfly species rarely or never visit flowers.
- They feed instead on tree sap, or the fermenting juices from rotting fruit or plant material, animal dung (droppings), and dead animal remains.

# Plant in blocks of analogous color -adjacent on color wheel (e.g., red + blue)

**Tropical Sage: *Salvia coccinea***



**Sky Blue Salvia  
*Salvia azurea***



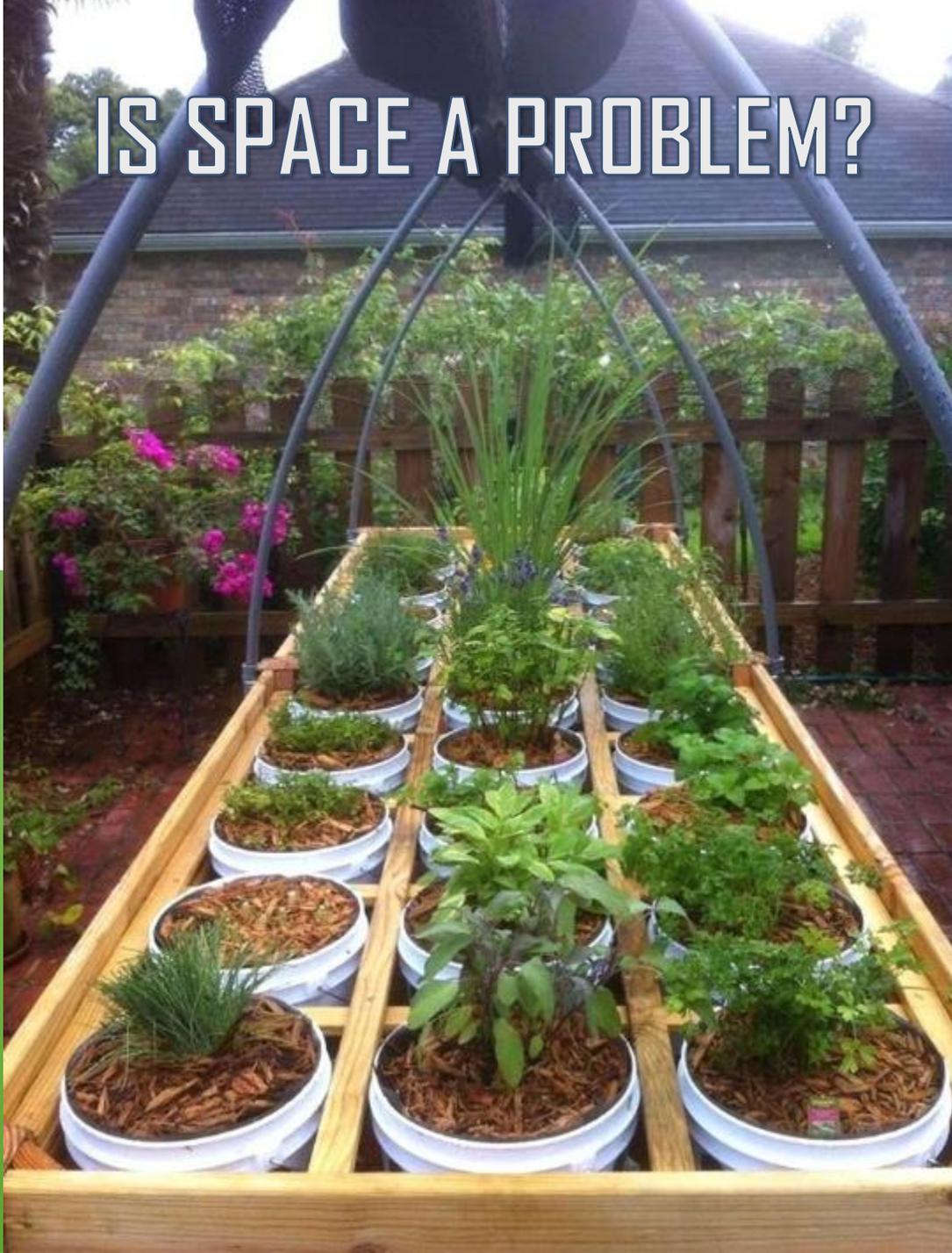
# BUTTERFLY GARDEN DESING-COLOR



Adult butterflies are attracted to **RED**, **YELLOW**, **ORANGE**, **PINK** & **PURPLE** blossoms

Flat-topped or clustered, short flower tubes

IS SPACE A PROBLEM?



# GARDENING IN BAGS

FLOWER GARDEN



VEGETABLE GARDEN



FRUIT GARDEN



ROOG GARDEN



HANGING GARDEN



RAISED BED

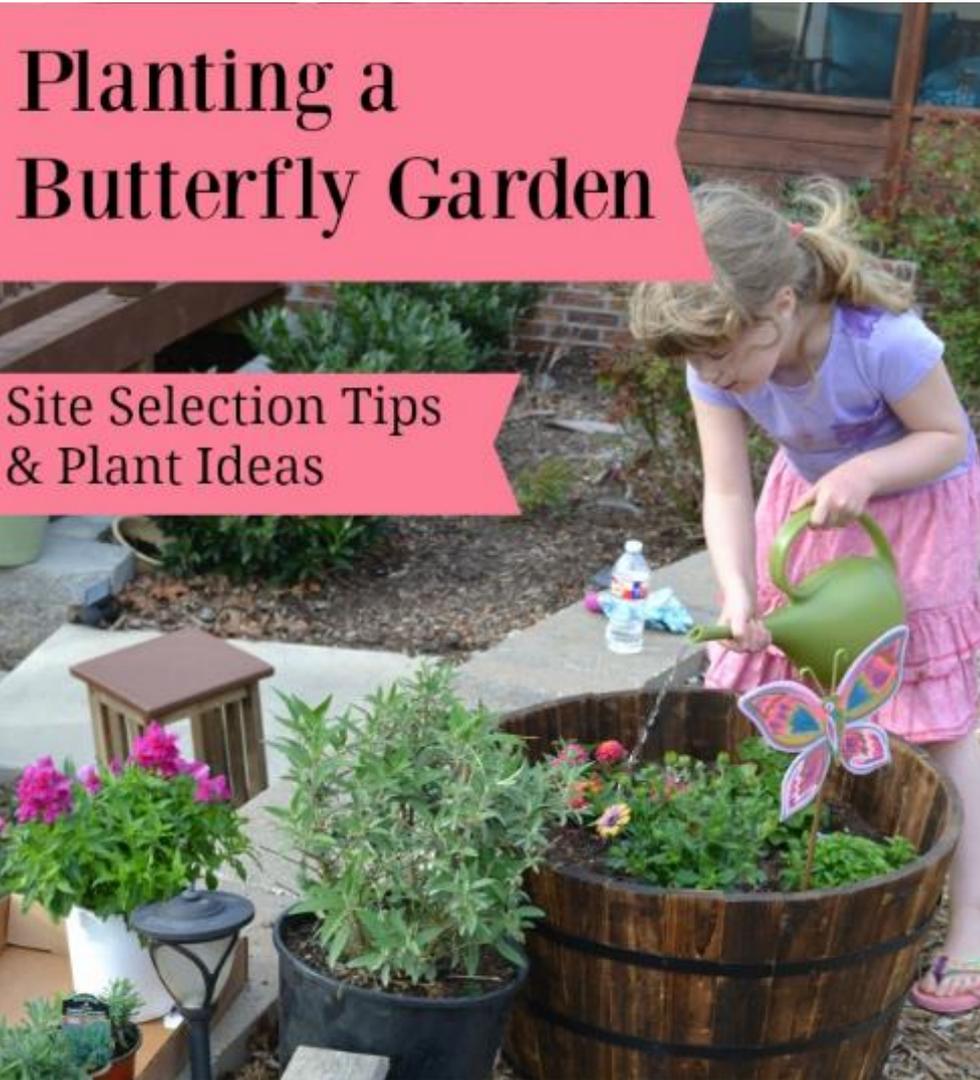


Grow bags are far superior to standard pots



# IS SPACE A PROBLEM?

- **Be sure you have some host and nectar plants.**
- **Be sure it is in a less traveled area.**
- **Have a water source.**



Planting a  
Butterfly Garden

Site Selection Tips  
& Plant Ideas

# IS SPACE A PROBLEM?



- Have a water source.





# HOW TO ATTRACT BUTTERFLIES TO YOUR GARDEN



WHAT TO PLANT TO  
ATTRACT  
BUTTERFLIES TO  
YOUR YARD?

# Powered-Living Monarch Waystation 15' X 30' Butterfly Garden



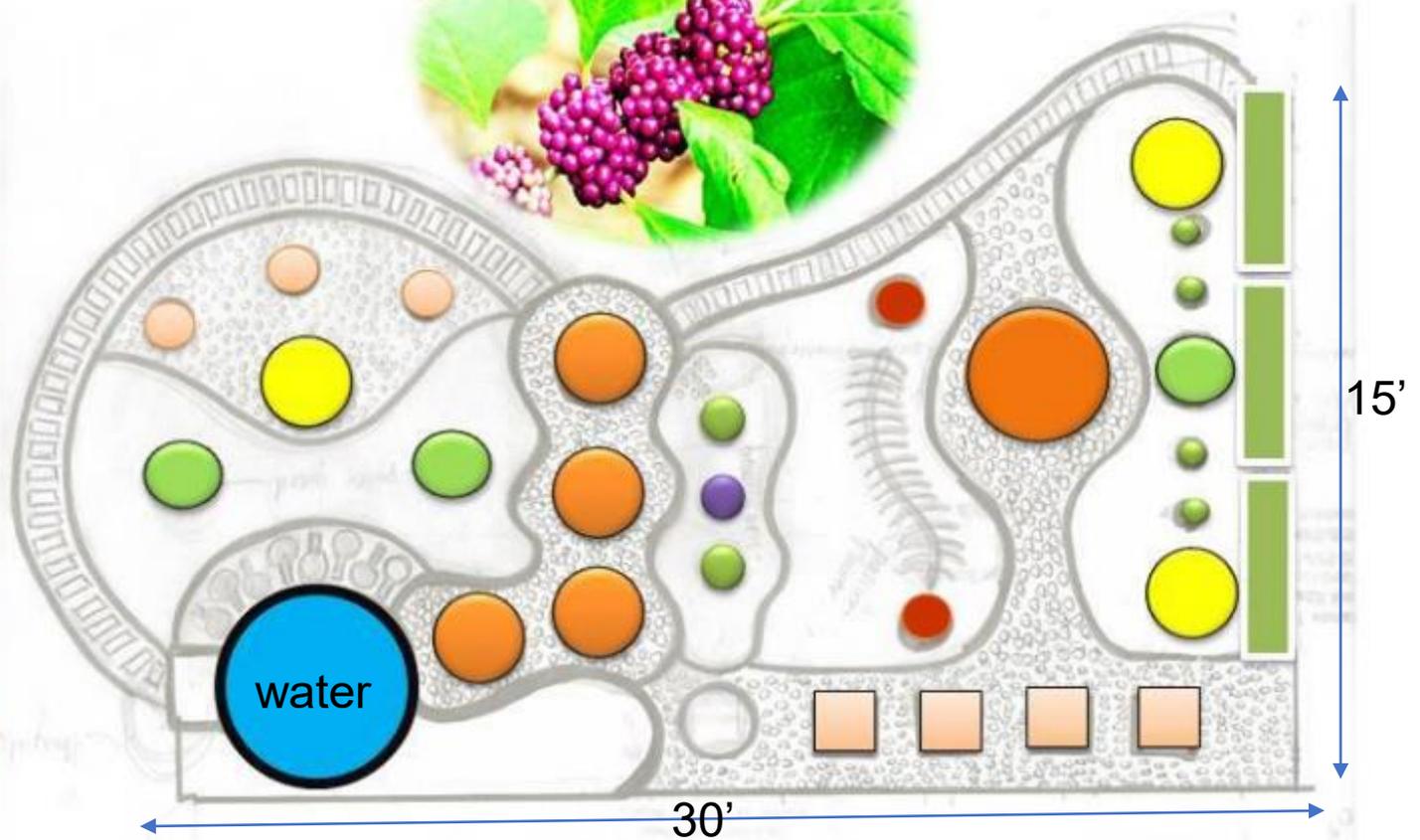
PASSION VINE



THRYALLIS



MILKWEED



# NECTAR PLANTS IN YOUR GARDEN

**Table 3.** Host groundcovers and associated butterflies

Groundcover	Moisture	Flower	Butterflies	Comments and tips
Fogfruit	Moist to dry, sunny areas	Small, white	Phaon crescent, common buckeye, white peacock (South Florida)	Excellent nectar source, grows denser with moisture, easy to propagate from cutting, rebounds after mowing, try as hanging plant
Passionflower	Dry to moist	Large, purple	Gulf fritillary, variegated fritillary, zebra heliconian	Lush, showy vine that creeps along the ground
Fanpetals	Dry to moist	Small, yellow	Tropical checkered-skipper, and white checkered-skipper	Mow occasionally to keep low, but let flower in between; becomes shrub if not mowed.
Spanish needles	Dry to moist	Small, white	Dainty sulphur	Excellent nectar source. Allow to bloom, but mow to maintain at around 12 in. to prevent undesirable, weedy appearance; becomes shrub if not mowed.
Sunshine mimosa	Dry to moist, sandy	Pink, fluffy	Little yellow	Good nectar source
Twinflower	Dry	Medium bluish/purplish	Common buckeye	Good nectar source, fills in, rebounds after winter

# WHAT TO PLANT?

Chaya, Spinach tree, *Cnidioscolus aconitifolius* - **Best nectar for everything**

Citrus trees & Wild Lime - *Zanthoxylum fagara* –**Host Giant Swallowtails**

Coontie, *Zamia pumila* Fla native - **Host for Atala**

Frog fruit , *Phyla nodiflora* –**Host Buckeye, Phaon Crescent, White Peacock**

Firebush, *Hamelia Patens* – **Host pluto sphinx, & nectar for everything**

Jamaica Caper, *Capparis cynophallophora* L. – **Host Florida White**

Jatropha's **Excellent nectar source year-round for everything**

Melochia tomentosa. **The best pollinator attractor in my yard**

Passiflora – **Host Gulf Fritillary, Julia, Zebra Long Wing, and Variegated Fritillary**

Strangler fig, *Ficus* **Host Ruddy daggerwing butterfly**

*Senna bicapsularis* **Host cloudless sulphur, sleepy orange, and orange-barred sulphur**

Jack-in-the-bush – **Excellent nectar for everything especially Atalas**

# NECTAR PLANTS FOR YOUR GARDEN-ATALA



(Sweet Almond, scorpion tail, basically things with small white flowers!)

# NECTAR PLANTS FOR YOUR GARDEN-ATALA

TABLE 1. (CONTINUED) NECTAR SOURCES FOR *EUMAEUS ATALA*.

Family (common name)	Genus species/original citations	Common name	Origin
	<i>Psychotria nervosa</i> * L. <sup>1</sup>	Wild Coffee	FL
	<i>P. ligustrifolia</i> (Northrop) Millsp. <sup>3</sup>	Bahama Wild Coffee	FL
	<i>P. sulzneri</i> Small <sup>3</sup>	Shortleaf Wild Coffee	FL, WI
	<i>Randia aculeata</i> L. <sup>1,3</sup>	Indigoberry	FL
Rutaceae (Citrus Family)	<i>Citrus sinensis</i> * L. <sup>4</sup>	Sweet Orange	Asia
	<i>Murraya koenigii</i> * L. <sup>1</sup> = <i>M. paniculata</i>	Curry Tree	Asia
Sterculiaceae (Cacao Family)	<i>Dombeya</i> spp. L. <sup>1,5,6</sup>	Florida Powder Puff	Madagascar
Verbenaceae (Vervain Family)	<i>Citharexylum spinosum</i> * L. <sup>4</sup>	Florida Fiddlewood	FL
	<i>Duranta erecta</i> L. <sup>4</sup> § = <i>D. repens</i>	Golden Dewdrops	WI
	<i>Nashia inaguensis</i> * <sup>3</sup>	Moujean Tea	WI
	<i>Lantana</i> spp. L. <sup>1,4,5,8</sup> §	Lantana	FL, WI
	<i>Petitia domingensis</i> * (Jacq.) Schult. <sup>4</sup> §	Bastard Stopper	WI
	<i>Stachytarpheta jamaicensis</i> L. Vahl <sup>4</sup>	Blue Porterweed	FL
	<i>S. cayennensis</i> (L.C. Rich.) Vahl <sup>3</sup>	Porterweed	FL?
	<i>S. frantzii</i> Pol. <sup>3</sup>	Red Porterweed	Trop. Am.
	<i>S. mutabilis</i> Vahl <sup>3</sup>	Pink Porterweed	Trop. Am.

**Notes:** Genus or species may be native to more than one area. Asterisk denotes favored nectar sources. Abbreviations: FL—Florida; WI—West Indies; Trop. Am—Tropical America. § Denotes nectar sources used by *E. atala atala* as witnessed on Andros Island, Jun 2005, 1. Culbert (1995). 2. Gerberg and Arnett (1989) 3. Hammer (1995, 2005) 4. Koi, this note 5. Landolt (1984) 6. Lollar (2004) 7. Stewart (2004) 8. Tompkins, pers. comm. 9. Lana Edwards, pers. comm.

# NECTAR FLOWERS IN YOUR GARDEN

## Lantana

– *Lantana depressa* – low native, mat-forming shrub with yellow flowers



--*Lantana involucrata* low native shrub with white flowers



# NECTAR FLOWERS IN YOUR GARDEN



**The native porterweed is a short plant that can be used for a border plant and grows to 2 foot in height, in full sun**

## **Native Porterweed**

*Stachytarpheta jamaicensis*

**Be sure to double check**— our native species *S. jamaicensis* is often confused with the exotic *S. cayennensis*. *S. jamaicensis*' flowers should be violet-blue (not mauve or white), with floral bracts 2 mm (not 1 mm) broad

# Florida-Friendly Landscape Plant of The Month

## Buttonsage (*Lantana involucrata*)



Photos: Lorna Bravo, UF/IFAS. All rights reserved

### Family: Verbenaceae (Verbena)

Leaves are oppositely arranged, ovate to elliptical in shape, with toothed margins and a rough upper surface. They are aromatic when crushed. Its fruit is a small, purplish-black drupe.



Buttonsage (*Lantana involucrata*) is easily one of the most underutilized native plants as it epitomizes the term "Florida-Friendly." Occurring naturally throughout central & southern Florida in most sandy coastal habitats such as pinelands & dunes, this shrub requires virtually no irrigation once established & is highly tolerant of salt, alkalinity, & poor soil in general. It regularly & consistently produces small clusters of white flowers throughout the year, providing a bountiful feast for butterflies & native bees. These flowers soon become clusters of bright magenta fruits adored by many birds. With a full, low canopy (<10ft) of beautiful bright green foliage as well as a moderate growth rate, Buttonsage even makes an excellent hedge, proving it truly has something for everyone.

You'll be delighted you choose to add this exceptional native plant to your landscape!- Adam Pitcher



Us on Facebook – UF IFAS Extension Broward County @uffasextbroward

# NECTAR FLOWERS IN YOUR GARDEN

**‘Pentas’** *Pentas lanceolata*  
of the Coffee Family (not  
native but not invasive)

- **Small to medium sized short lived perennial (about 3 years) attaining heights from 18 inches to 5 feet depending on variety and color**
- **Likes full to partial sun**



# NECTAR FLOWERS IN YOUR GARDEN



**'Tropical Sage'**  
*Salvia coccinea*



**'Blue or Azurea Sage'**  
*Salvia azurea* Lamiaceae



# NECTAR PLANTS IN YOUR GARDEN

**Monarchs LOVE our native milkweed, *Asclepias tuberosa***



*Asclepias currassavica*, the Scarlet Butterfly Weed, is invading our natural areas and **is not recommended**



# NECTAR or LARVA PLANTS IN YOUR GARDEN

## **White Twine or White Milkweed Vine**

*Sarcostemma clausum*



**Twining vine with milky sap**

**Likes full to light shade**

**Small white flowers**

**Attracts butterflies for nectar or larva**

# PLANT IT AND THEY WILL COME!!!



## **White Milkweed Vine -**

*Sarcostemma clausum*

White twinevine is a frequent native of the hammocks of central and southern Florida. It flowers all year. *Sarcostemma clausum* usually occurs in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.

It has undergone extensive population growth in a nutrient-enriched region of Water Conservation Area 2A in the northern Florida Everglades.

# PLANT IT AND THEY WILL COME!!!



**Habitat:** Hydrated soils, floodplains, water way margins, marshes, cypress swamps, ditches, and wetlands.

**Height:** 18-24 in (46-61 cm)

## ➤ Aquatic Milkweed

*Asclepias perennis*

This species can be easily identified before the flowers open because the tips of the corollas are pink creating a large pink spot at the apex of an unopened flower. Leaves are relatively short and narrow. Grows in areas with soils that are continuously wet.



## UF IFAS PUBLICATIONS

- The following 3 slides contain information quoted from *EDIS, UF IFAS Extension Publication #WEC266 Native Habitats for Monarch Butterflies in South Fla.*
- “This species (*Asclepias curassavica*) establishes itself most readily in dry, sandy, disturbed areas, but also grows in mucky soils in swamps such as Coconut Creek Maple Swamp in Broward County, Florida.”

*Source: EDIS, UF IFAS Extension Publication #WEC266 Native Habitats for Monarch Butterflies in South Fla.*



## UF IFAS States

- “Scarlet milkweed contains much higher amounts of toxins than native milkweeds. Monarchs do not discriminate between *Asclepias* that have high or low toxicity;
- higher toxicity milkweed may hinder larval performance, but it may also provide additional protection from predation. More research into scarlet milkweed's effects is needed because it may (or may not) have adverse effects on monarchs that we do not yet understand.”

Source: EDIS, UF IFAS Extension Publication #WEC266 *Native Habitats for Monarch Butterflies in South Fla.*

# UF IFAS States



“There is testing going on to determine if due to eating non native, highly poisonous, milkweed plants any damage is being done to local Monarch caterpillars. As of yet, this research has not been verified or published”

*Source: EDIS, UF IFAS Extension Publication #WEC266 Native Habitats for Monarch Butterflies in South Fla.*

# NON-NATIVE MILKWEED

## Potential Conservation Concerns

- Impact of non-native tropical milkweed (*A. curassavica*)
- Most widely available milkweed
- No viable commercial alternative
- Colorful, easy to grow, monarchs love it
- Public Misconceptions
- Does not senesce

## Exposure to Non-Native Tropical Milkweed Promotes Reproductive Development in Migratory Monarch Butterflies

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6724006/>



Dr. Jaret Daniels of the University of Florida



# NON-NATIVE MILKWEED

## Potential Conservation Concerns

- Ecological Trap
- Promotes extended winter breeding along Gulf Coast
- Increased vulnerability to frost/freeze
- Monarchs remaining more 5 – 9 times more likely to be infected with *Ophryocystis elektroschirrha* ( OE)
- Systemic insecticides



Dr. Jaret Daniels of the University of Florida

# NON NATIVE MILKWEED

NEW RESEARCH Note: Dr. Jaret Daniels of the University of Florida believes that the spread of non-native tropical milkweed may be causing monarch population to persist longer than they naturally would, making more vulnerable to OE and presenting a risk to other monarch population

<https://flawildflowers.org/non-native-milkweeds-killing-monarchs/>

Researchers at the University of Georgia have found that OE (*Ophryocystis elektroscirrha*) is much more widespread in the non-migratory monarchs. According to their findings, a **whopping 70% of the non-migratory monarchs of South Florida are infected.**

Exposure to Non-Native Tropical Milkweed Promotes Reproductive Development in Migratory Monarch Butterflies  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6724006/>



Dr. Jaret Daniels of the University of Florida

# NON NATIVE MILKWEED



**Giant Milkweed** *Calotropis procera*



**Attracts butterflies for nectar or larva**

# FLORIDA-FRIENDLY

**Herbaceous plant growing  
8-12 ft tall**

**Lavender flowers**

**Likes full Sun**



# NECTAR FLOWERS IN YOUR GARDEN

## Sea Lavender

*Tournefortia gnaphaloides* Boraginaceae



Nectar for  
Queen Butterfly  
*Danaus gilippus*



Nectar for  
Atala Butterfly

# NECTAR PLANTS FOR YOUR GARDEN

Railroad Vine *Ipomoea pes-caprae* Convolvulaceae

Nectar plant for  
Gulf Fritillary  
*Agraulis vanillae*



# NECTAR FLOWERS IN YOUR GARDEN

**Firebush** *Hamelia patens*-



**Attracts butterflies and hummingbirds**

# LARVAL PLANTS IN YOUR GARDEN





LARVAL PLANTS-  
Caterpillars will often severely defoliate plants- That is their purpose.. Do not worry

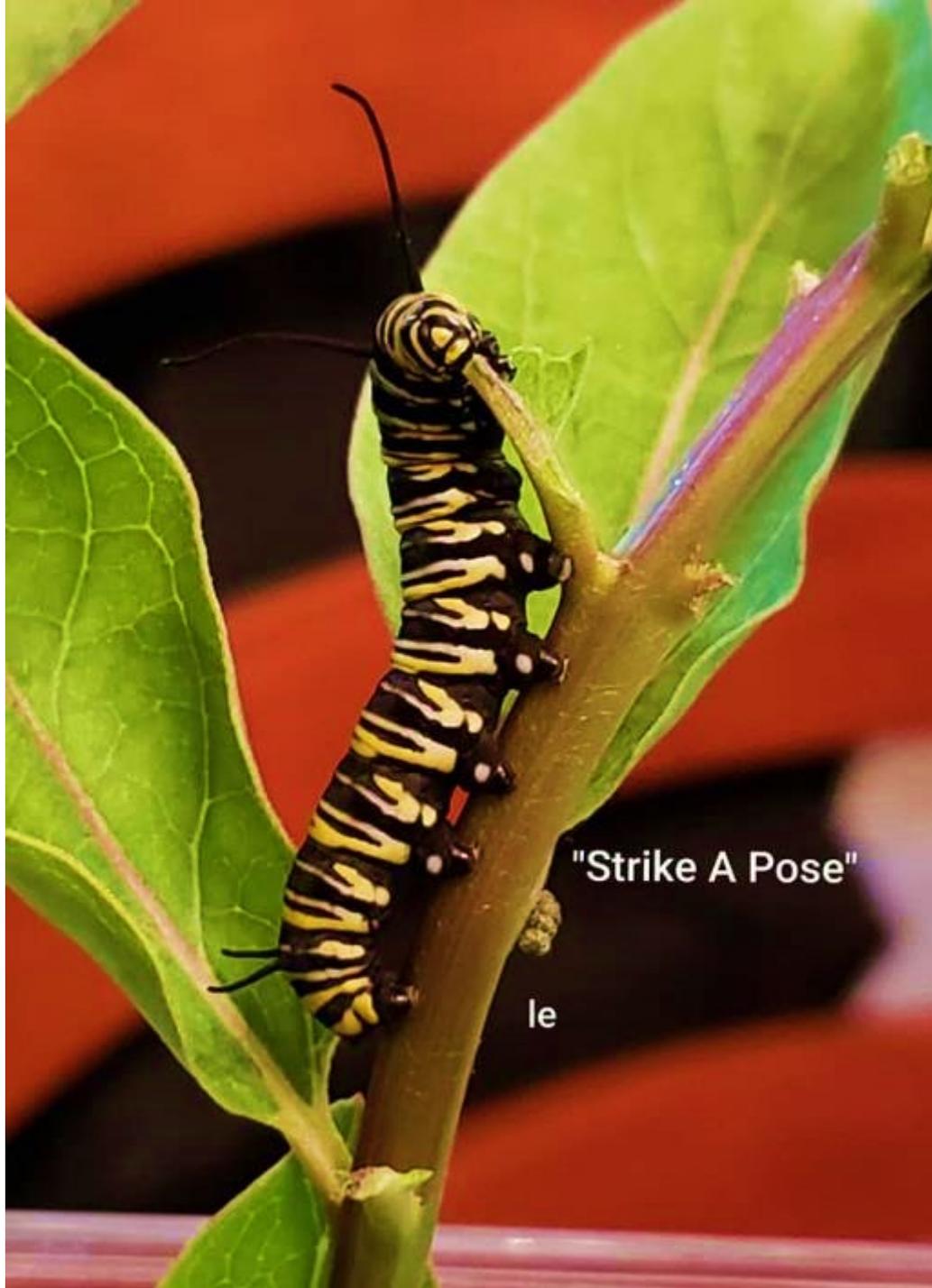
# IF YOU PLANT THEM THEY WILL COME!



PLANT IT AND THEY WILL COME!!  
(L. BRAVO)



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"Strike A Pose"

le

# Saw palmetto *Serenoa repens*

## Arecaeae

Larval Host for Palmetto Skipper

*Euphyes arpa*



# Native Strangler Fig, *Ficus aurea*, Moraceae

Larval Host for Ruddy Daggerwing  
*Marpesia petreus*



# Larval plants for your garden

*Zamia integrifolia* Coontie Zamiaceae,  
Larval plant for Atala butterfly



# Larval plants for your garden

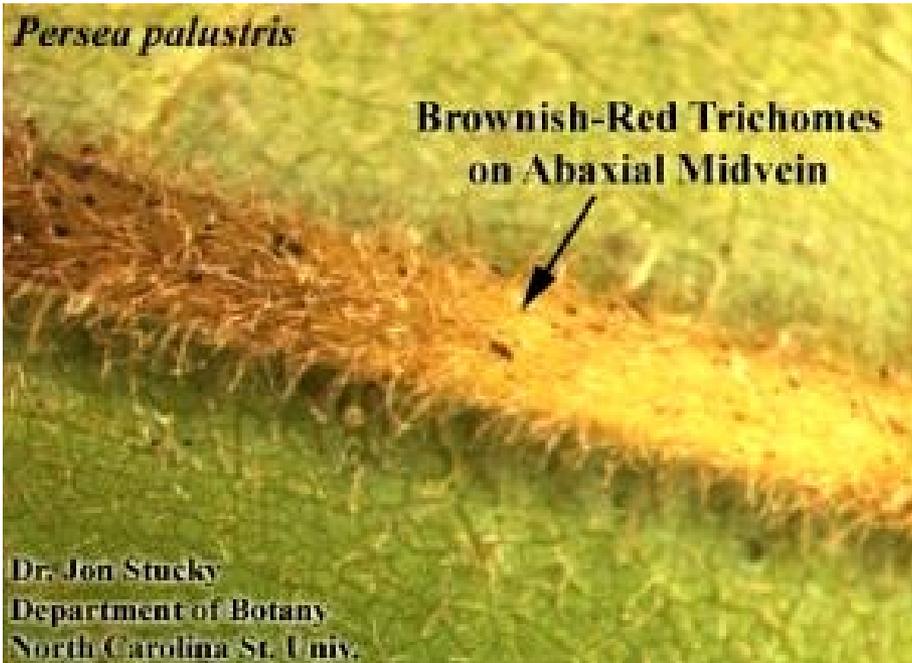
## Atala mating



# *Swamp Bay*

*Persea palustris* Lauraceae

Larval Host for  
Palamedes Swallowtail  
*Papilio palamedes*



# Sand Pine *Pinus clausa* Pinaceae

Larval Host for Pest:  
Subtropical pine tip moth  
*Rhyacionia subtropica*



# Larval Plants for your landscape

## Sand Live Oak- *Quercus geminata* Fagaceae

Sand Live Oak:  
Larval Host for White M-Hairstreak  
*Parrhasius m-album*



# MORE HOST-LARVAL PLANTS



**Senna Mexicana**



**Cloudless sulphur**



**Sleepy orange**



**Orange sulphur**



**Wild lime**



**Giant Swallowtail**



**Jamaica caper**



**Florida white**



**Frog-fruit**



**Phaon crescent**



**White peacock**



**Buckeye**

# Some N-fix Legume Family plants & the butterflies they attract

***Cassia***: Cloudless Sulphur, Large Orange Sulphur,  
Orange Barred Sulphur, Sleepy Orange

**Sensitive plant**: Mimosa Yellows

**Cat claws**: Miami Blues, Large Orange Sulphurs

**Clovers**: Little Yellows

**Sweet clover**: Orange Sulphur, Southern Dogface

**White clover**: Clouded Sulphur

***Dalea***: Southern Dogface

**Gray nicker**: Miami Blue

**Lead tree**: Amethyst Hairstreak, Tiny Hairstreaks

**Leadplant**: Southern Dogface

**Shy leaf**: Barred Yellow

**Southern pencil flower**: Barred Yellow

**Wild Tamarind**: Tiny Hairstreak

# More Host-Native Plants



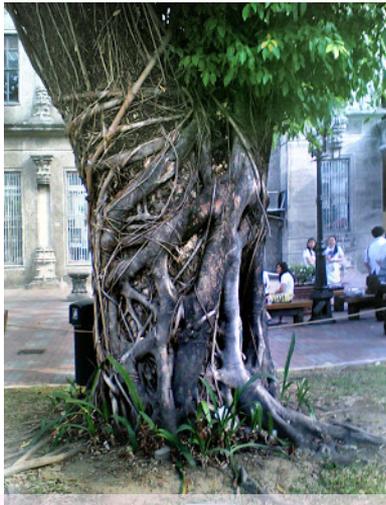
Coontie  
Nitrogen fixer



Mimosa strigillosa  
nitrogen fixer



Purple thistle  
nitrogen fixer



Strangler fig



Jack-in-the-bush  
nitrogen fixer



Melochia tomentosa

# Host-Larval Plants That Will Bring Butterflies to Your Garden



Butterflyweed



Monarch



Queen



Maypop

Passionflower



Zebra Longwing



Julia



Gulf fritillary

“WEEDS”

YOU MIGHT WANT TO CULTIVATE

# “Weeds” You might want to Cultivate

Some weeds attract butterflies to collect nectar. Usually these weeds provide larval food, nectar sources, and a source of minerals for mating butterflies.

A few of these can be cultivated in a butterfly garden but they need attention because they are aggressive and tend to spread if not controlled.

## Frogfruit or Matchweed

*Phyla nodiflora*



Frogfruit provides nectar and minerals. It will do well in shade or sun and in moist or dry areas. The only way you will obtain this plant is to volunteer to remove some weeds from a neighbors yard.

## Beggars tick or Spanish Needle

*Bidens alba*



Beggars tic provides nectar and minerals. Control can be achieved by deadheading and removal of new plants trying to increase their range.



**Frogfruit or Matchweed**  
*Phyla nodiflora*



# Florida-Friendly Landscape Plant of The Month

## Frogfruit (*Phyla nodiflora*)



Photo: Larkia Bravo, UF/IFAS. All rights reserved



Family: Verbenaceae  
Scientific name: *Phyla nodiflora*

Deep green oval leaves are opposite on the stems and toothed at the outer margins. Small drumheads stand above the foliage and tiny white to pinkish flowers are produced regularly in small numbers.

Florida-Friendly  
Landscaping™ PROGRAM 

**Want to visit UF/IFAS Extension Broward County Education Florida-Friendly Landscaping Demonstration Gardens?**  
You can see examples of our Florida-Friendly Landscaping Plant of The Month. Contact our office.

If you're looking for a native groundcover, look no further than *Phyla nodiflora*! Common names include Frogfruit, Turkey Tangle, & Matchweed. Found throughout the Southeastern US, this plant is highly adaptive to a wide variety of conditions so long as it gets plenty of sunlight. Frogfruit loves water & will thrive in any wet area even if gets submerged occasionally, but once established it can actually be more drought resistant than many turfgrasses. Hardly any fertilizer or organic material is needed for it to establish, though it will certainly respond well if these are provided. Frogfruit is easily capable of forming a dense mat of foliage on its own, rapidly spreading to cover any area you plant it in. Though it may tend to grow a bit upright over time it can easily be mowed as you would a regular lawn, except you'll only need to mow about half as often, if that! Foot traffic isn't an issue either. The best thing about Frogfruit is how great it is for wildlife! Small clusters of white flowers appear year-round on dark purple "heads" & provide a bountiful buffet of nectar to pollinators. As if all that wasn't enough, Frogfruit is also the host plant for 3 different butterflies: the Phaon Crescent, the White Peacock, and the Common Buckeye. **Adam Pitcher**



Us on Facebook – UF IFAS Extension Broward County @ufifasextbroward

**Beggars tick or Spanish  
Needle *Bidens alba***







Be careful when buying larval host plants as many nurseries use pesticides. These chemicals can be deadly to butterfly larvae. When in doubt, always ask if the plants you wish to purchase have been treated with pesticides.

Be sure to **AVOID** the use of **systemic pesticides** in order not to kill the moths, skippers and butterflies in the garden.



Similarly, be very careful when using pesticides in your garden. If you must use chemicals to control pest insects, use them sparingly and only treat the infected plant.

# Water before dawn to avoid wetting emerging butterflies



WATERING?



# UF ROADMAP-WATER CONSERVATION : *Rain Barrels*



## *Did you know...*

**Broward County averages 50-60 inches of rain annually.**

**You can capture and use our abundance of rain!**

**Rain barrels and other storage vessels can help.**



## *Rain Barrels*

Rain barrels are a great way to reduce stormwater runoff and to save water for a dry spell. If you have gutters on your house, you may be able to collect 55 gallons of water during a 1/2-inch rain by directing a downspout to a rain barrel.

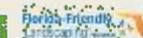
Rain Barrel Workshops provided by:  
UF/IFAS Extension Broward County  
Contact: Lorna Bravo  
lbravo1@ufl.edu  
(954) 756-8529

## *Reduce Stormwater Runoff*

**To protect waterways and replenish Florida's aquifer**



- Connect a rain barrel to your downspouts to collect rainwater and reduce runoff.
- Use porous surfaces, such as pavers, and bricks for walkways, patios and driveways.
- Aim downspouts toward porous surfaces so that water can soak into soil.
- Rain gardens catch water and serve as an attractive feature within the landscape.



## Reduce Stormwater Runoff

To protect waterways and replenish Florida's aquifer



- Connect a rain barrel to your downspouts to collect rainwater, and reduce runoff
- Use porous surfaces, such as pavers, and bricks for walkways, patios and driveways
- Aim downspouts toward porous surfaces so that water can soak into soil
- Rain gardens retain water and serve as an attractive feature within the landscape



## OUR ROLE IN PROTECTING OUR ENVIRONMENT



## RAINBARREL PROJECT

**A RAINBARREL WILL SAVE  
 HOMEOWNERS ABOUT  
 1,300 GALLONS OF WATER  
 DURING PEAK SUMMER  
 MONTHS**



Community Development  
and Family Well-being  
Family Development  
te

- Non-Formal and Project-Based
- Youth / Adult Partnerships
- Inclusive: For All Youth Ages 5 to 18

## UF | IFAS Extension

UNIVERSITY of FLORIDA

### Florida-Friendly Landscaping: Adopting Water-Conservation Practices with Rain Barrels

Florida-Friendly Landscaping (FFL) is a program of the University of Florida IFAS Extension-Broward County Education Station, Parks & Recreation Division.

**RAIN BARREL CHALLENGE**

REDUCE YOUR WATER CONSUMPTION  
To protect waterways and replenish Florida's aquifer

**CONTACT US**

Visit the UF/IFAS Extension Broward County Office today at 3345 College Ave, Davie, Florida 33314, 954.756.4523

Visit our UF/IFAS Extension Broward County Website at <http://ifas.ufl.edu/browardco>

Do you want to make us part of your business? We'd love to! Contact us at [ifas@browardco.floridastate.edu](mailto:ifas@browardco.floridastate.edu)

Like us on Facebook - UF IFAS Extension Broward County @UFExtBroward

**DECORATE YOUR BARREL!!!**

**DECORATE YOUR BARREL!!!**



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in their families and communities.  
- manage their money

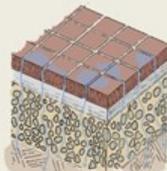
[ifas.ufl.edu/browardco](http://ifas.ufl.edu/browardco)

Visit Our Website at <http://broward.org/extension>



## Reduce Stormwater Runoff

To protect waterways and replenish Florida's aquifer



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Florida-Friendly  
Landscaping



*After taking the Master Gardening course and learning about how I might help the environment by installing a rain barrel I decided to try it. Mostly I wanted to do my part to reduce runoff pollution and erosion and feel less guilty about my usage of water for my orchids.*

*So, hopefully I will conserve some water. -Luanne Betz MG Class 2019*

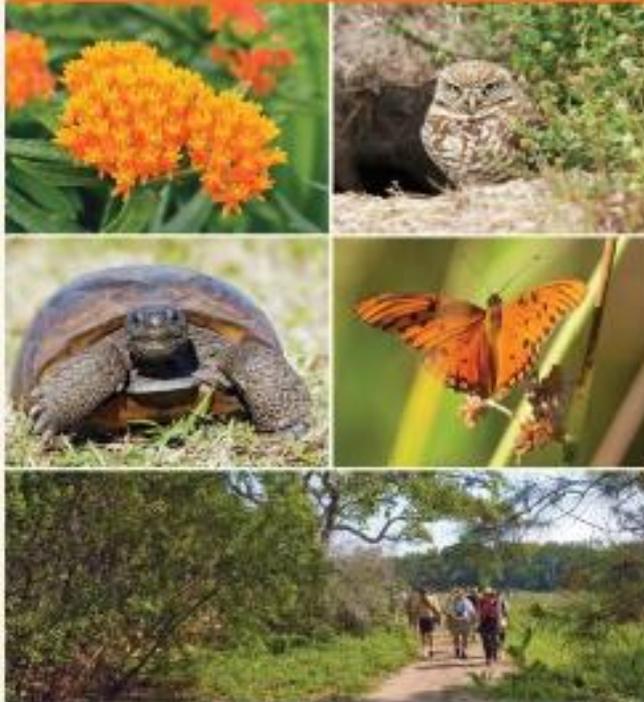
# UF ROADMAP-WATER CONSERVATION : *Rain Barrels*



# UPCOMING EVENTS

UF|IFAS  
UNIVERSITY of FLORIDA

# BIOBLITZ



**JOIN** citizen **SCIENTISTS** in parks  
to **LEARN** about **BIODIVERSITY**

Visit: [tinyurl.com/BrowardBioBlitz](https://tinyurl.com/BrowardBioBlitz)

# Extension Events

**BioBlitz 2018**  
November 21<sup>st</sup>, 2018

## BIOBLITZ



### Tree Tops BioBlitz is complete!



Tree Tops BioBlitz managed to log 278 observations on iNaturalist (more 15 observations), nearly tripling the current amount of observations in the park. This culminated in 340 species found in the park, adding 90 new species to the park on iNaturalist (100 to 190). This really increased the local knowledge of biodiversity in the area and will contribute to future studies on wildlife in South Florida!



UF/IFAS  
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## BIOBLITZ



JOIN citizen SCIENTISTS in parks  
to LEARN about BIODIVERSITY  
Visit: [ufl.com/BrowardBioBlitz](http://ufl.com/BrowardBioBlitz)

## BIOBLITZ



"Broward Green Bites", UF/IFAS Extension, Broward County



An Equal Opportunity Institution and Employer

UF/IFAS Fort Lauderdale Research and  
UNIVERSITY OF FLORIDA Education Center

UF/IFAS Extension  
UNIVERSITY OF FLORIDA

BROWARD  
COUNTY  
FLORIDA

THE FORT LAUDERDALE RESEARCH & EDUCATION CENTER AND  
UF/IFAS EXTENSION OF BROWARD COUNTY PRESENT...

# BIOBLITZ



### WHERE

Long Key Natural Area and Nature Center  
3501 SW 130th Ave, Davie, FL 33330

### DATE

SUNDAY APRIL 19 2020

### TIME

7:00AM to 9:00PM



### WHAT

A BioBlitz is an intensive one-day study of biodiversity in a location, bringing scientists and volunteer citizen-scientists together. We'll look for birds, mammals, reptiles, butterflies, and insects.

Using your smartphone, you will take pictures of every living thing you see. We will then upload our findings onto iNaturalist, share our photos, and identify the species.



### BRING

We suggest bringing water, snacks, hats/sunglasses and proper attire. Bring your binoculars and cameras, if you want to enjoy wildlife from closer, and bring nice pictures back home

### REQUIREMENTS

No experience necessary. Everyone is welcome.  
Don't forget to download the iNaturalist app before the event to get right to the fun!  
\*Children under the age of 16 must be accompanied by an adult\*



### REGISTER AT:

<https://longkeybioblitz2020.eventbrite.com>

### FOR ADDITIONAL INFORMATION PLEASE CONTACT:

Adam Pitcher, Urban Horticulture Program Assistant, 954-756-8526 | [a.pitcher@ufl.edu](mailto:a.pitcher@ufl.edu)  
Anthony Gross, Urban Horticulture Program Assistant, 954-756-8525 | [anthony.gross@ufl.edu](mailto:anthony.gross@ufl.edu)  
Lorna Bravo- C.E.D & Urban Horticulture Agent II, 954-756-8529 | [lbravo1@ufl.edu](mailto:lbravo1@ufl.edu) or  
Dr. Mathieu Basille- Asst. Professor, Landscape Ecology, 954-577-6314 | [basille@ufl.edu](mailto:basille@ufl.edu)

## BENEFITS OF CONDUCTING A BIOBLITZ



**BIOBLITZ**

Tree Tops BioBlitz is complete!!

Tree Tops BioBlitz managed 278 observations on iNaturalist (from 15 observers), nearly tripling the current amount of observations in the park. This culminated in 140 species found in the park, adding 50 new species to the park on iNaturalist (100 to 150). This really increased the local knowledge of biodiversity in the area and will contribute to future studies on wildlife in South

UFIFAS

**BIOBLITZ**

## BioBlitzes offer people a chance to explore and map natural areas.

BIOBLITZ GROUP: INSECTS

Pictures provided by: Matthew Boone

This citizen science event connects regular people with scientists to help collect information on the plants and animals in a given area.

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## 2019 QUIET WATERS

### Tree Tops Park

**278**  
Observations

**140**  
Species Recorded



### Quiet Waters Park

**350**  
Observations

**170**  
Species Recorded





Pictures provide by: Lorna Bravo

## QUIET WATERS BUTTERFLY COUNT

**BIOBLITZ  
ENCOURAGES  
AWARENESS OF  
NATURE**



# Connecting Youth to Nature



2019 2nd Annual UF/IFAS Extension Art in The Garden



Event Won Disney Volunteer Award !

Want to join our Master Gardener program? Contact Lorna Bravo: lbravo1@ufl.edu

Art in the Garden was a successful collaboration that reached almost 50 youth and over 90 adults.



2019 2nd Annual UF/IFAS Extension Art in The Garden



COME AND VISIT US FOR OUR 3RD ANNUAL ART IN THE GARDEN EVENT IN THE FALL OF 2020!!!



ART IN THE GARDEN IS A WONDERFUL UF/IFAS EXTENSION BROWARD COUNTY 4-H & MASTER GARDENER ANNUAL EVENT FOR FAMILIES TO LEARN THE IMPORTANCE OF HAVING A FLORIDA-FRIENDLY BUTTERFLY GARDEN AND THE VITAL ROLE OUR LOCAL POLLINATORS PLAY IN OUR ENVIRONMENT.



UF/IFAS EXTENSION BROWARD COUNTY BEE HOUSE PROJECT



Reconnect young children with nature, the arts and allow them to explore their intrinsic interest of natural world.



**HOW BUTTERFLIES CONNECT US**

# WHY BUTTERFLIES?





Our cultural attitude  
about outdoors has  
changed and how  
butterflies can  
**connect us**  
to the natural  
world.....

and even spur an  
interest in **SCIENCE**

“We are unfamiliar with creatures outside, but comfortable with the human world.

Butterflies are an invitation into the natural world and an introduction to the huge realm of insects, which seems particularly strange and threatening to many.

But there is nothing scary about butterflies; indeed, their beauty is almost impossible to resist. It is no wonder that so many scientists can trace the origin of their careers to an early fascination with butterflies...”

*Florida's Fabulous Butterflies by Tom Emmel*



*Exploring  
&  
Discovering  
The Outdoors*



“In the end we will conserve only  
what we love.

We will love only what we  
understand.

We will understand only what we  
are taught.”

-Baba Dioum



*One more thing.....*



GIVE

YOURSELF

TIME

# PLANT IT AND THEY WILL COME!!!

Environmental Sustainability starts in our own backyards. L. Bravo



**UF** | IFAS Extension  
UNIVERSITY of FLORIDA





# BUTTERFLY GARDENING INFORMATION

- Butterfly Gardening in Florida  
<http://edis.ifas.ufl.edu/uw057>
- Butterfly Garden Basics  
[http://gardeningsolutions.ifas.ufl.edu/school\\_gardens/school\\_gardens/butterfly\\_garden.shtml](http://gardeningsolutions.ifas.ufl.edu/school_gardens/school_gardens/butterfly_garden.shtml)
- Community Butterfly Scaping  
<http://edis.ifas.ufl.edu/ep420>
- Get Started in Butterfly Gardening  
<http://www.floridaplants.com/reprintbutter.html>
- Butterfly Gardening- LadyBird Johnson Wildflower Center  
<http://www.wildflower.org/howto/show.php?id=29>



# BUTTERFLY GARDENING RESOURCES

# Follow us @ [broward@ifas.ufl.edu](mailto:broward@ifas.ufl.edu)

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What can we help you with?

GO

## UF/IFAS EXTENSION BROWARD COUNTY

Broward County Extension Service is a partnership between the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS), and Broward County government, to provide non-biased, research-based information to Broward citizens.

## CONTACT

[broward@ifas.ufl.edu](mailto:broward@ifas.ufl.edu)

[\(954\) 756-8519](tel:(954)756-8519)

3245 College Avenue

Davie, FL 33314

## HOURS

Monday - Friday

8 am - 5 pm

# Follow us @ ufifasextbroward

The image shows a screenshot of the Facebook page for UF IFAS Extension Broward County. The page header features the organization's logo, which includes the text "UF IFAS Extension Broward County" and "FLORIDA to and beyond". Below the logo, the page name "UF IFAS Extension Broward County" and the handle "@ufifasextbroward" are displayed. A navigation menu on the left lists various page features such as Home, About, Photos, Reviews, Events, Videos, Posts, Services, Shop, Groups, Notes, Offers, Jobs, Community, and Info and Ads. The main content area shows a post with a photo of a monarch butterfly on a sunflower in front of a sign that reads "UF IFAS Extension Broward County". The post includes interaction options like "Like", "Follow", and "Share", along with a "Send Message" button. Below the post, there is a "Create Post" section with options for Live, Event, Offer, and Job. A draft post is visible, created on Wednesday, April 26, 2017. The right sidebar shows a 4.9 rating based on 13 reviews and a list of "Your Pages" including SOLES 2Fitness, Art meets Nature, and Justice to Lath-GLNLRAHION N... The bottom of the page features an advertisement for "Save Time and Get Results with Automated Ads".

# THANK YOU FOR YOUR ATTENTION

UF/IFAS Extension Broward County Education Section

Parks and Recreation Division

3245 College Ave, Davie, FL 33314

[lbravo1@ufl.edu](mailto:lbravo1@ufl.edu)



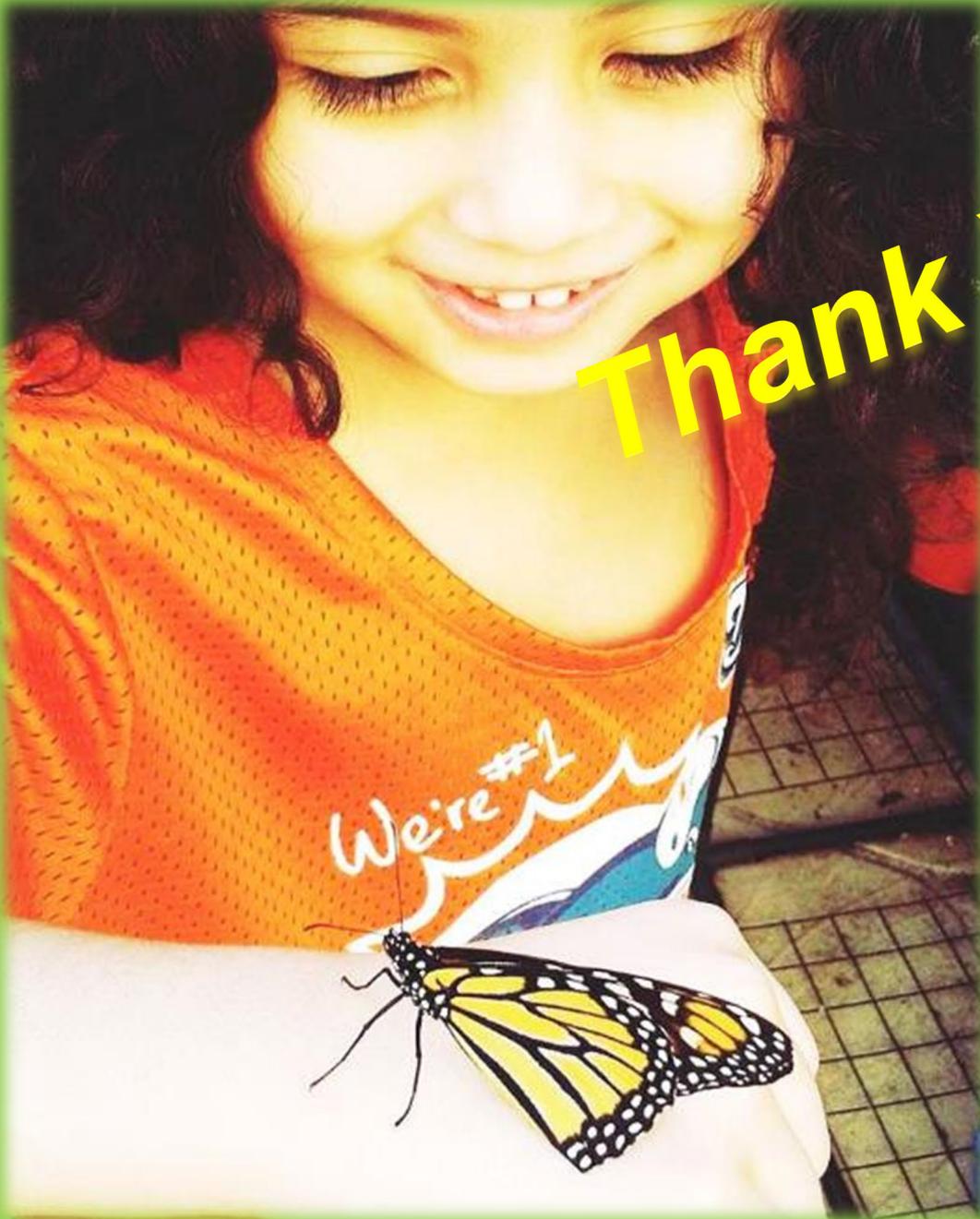
A SERVICE OF THE BROWARD COUNTY BOARD OF COUNTY COMMISSIONERS

Visit our UF/IFAS Extension Broward County Website at:  
<http://sfyl.ifas.ufl.edu/broward/urban-horticulture-and-natural-resources/>  
<http://blogs.ifas.ufl.edu/browardco/>

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Stay Connected @ Constant Contact: [shorturl.at/tux39](http://shorturl.at/tux39) [shorturl.at/tux39](http://shorturl.at/tux39)

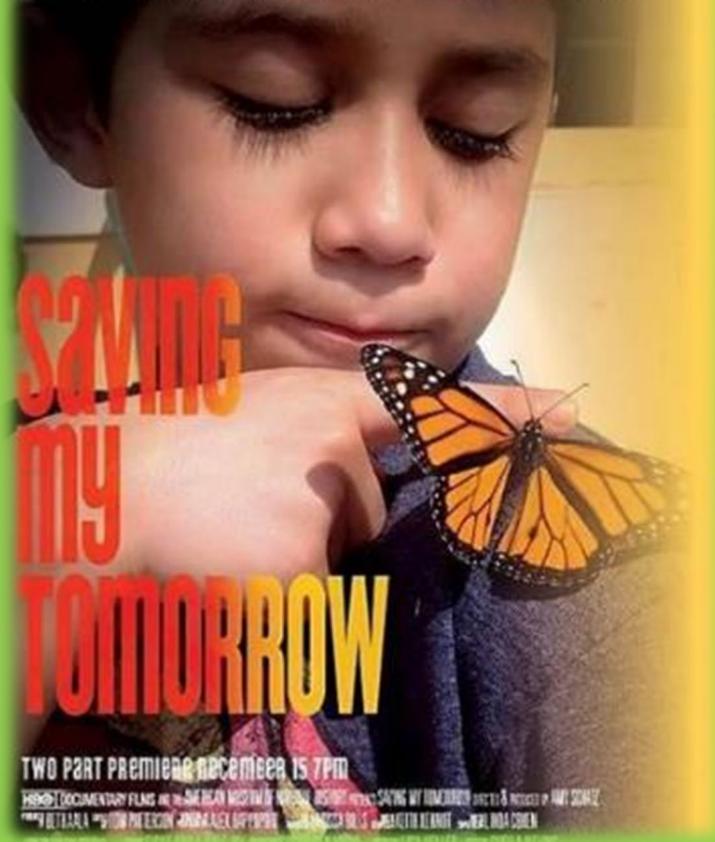


Us on Facebook – UF IFAS Extension Broward County @ufifasextbroward



Thank You!

HBO and THE AMERICAN MUSEUM OF NATURAL HISTORY PRESENT



SAVING  
my  
TOMORROW

TWO PART PREMIERE DECEMBER 15 7PM

FRONT DOCUMENTARY FILMS AND THE AMERICAN MUSEUM OF NATURAL HISTORY PRESENTS SAVING MY TOMORROW WRITTEN & PRODUCED BY AMY SCARLE  
\*\*\*MELISSA L. WILSON PHOTOGRAPHY ANDREA ALEX. GUTTERBAUM MUSIC BY ANTHONY DALL'ASTA EDITOR KEVIN R. HARRIS EXECUTIVE PRODUCERS