

# Landscaping for pollinator conservation

Robinson Sudan

New Leaf/Pollinator Partnership



**POLLINATOR  
PARTNERSHIP**

# Pollinator conservation for landscaping

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PARTNERSHIP**

# What is New Leaf?

501(c)3 non-profit  
dedicated to:

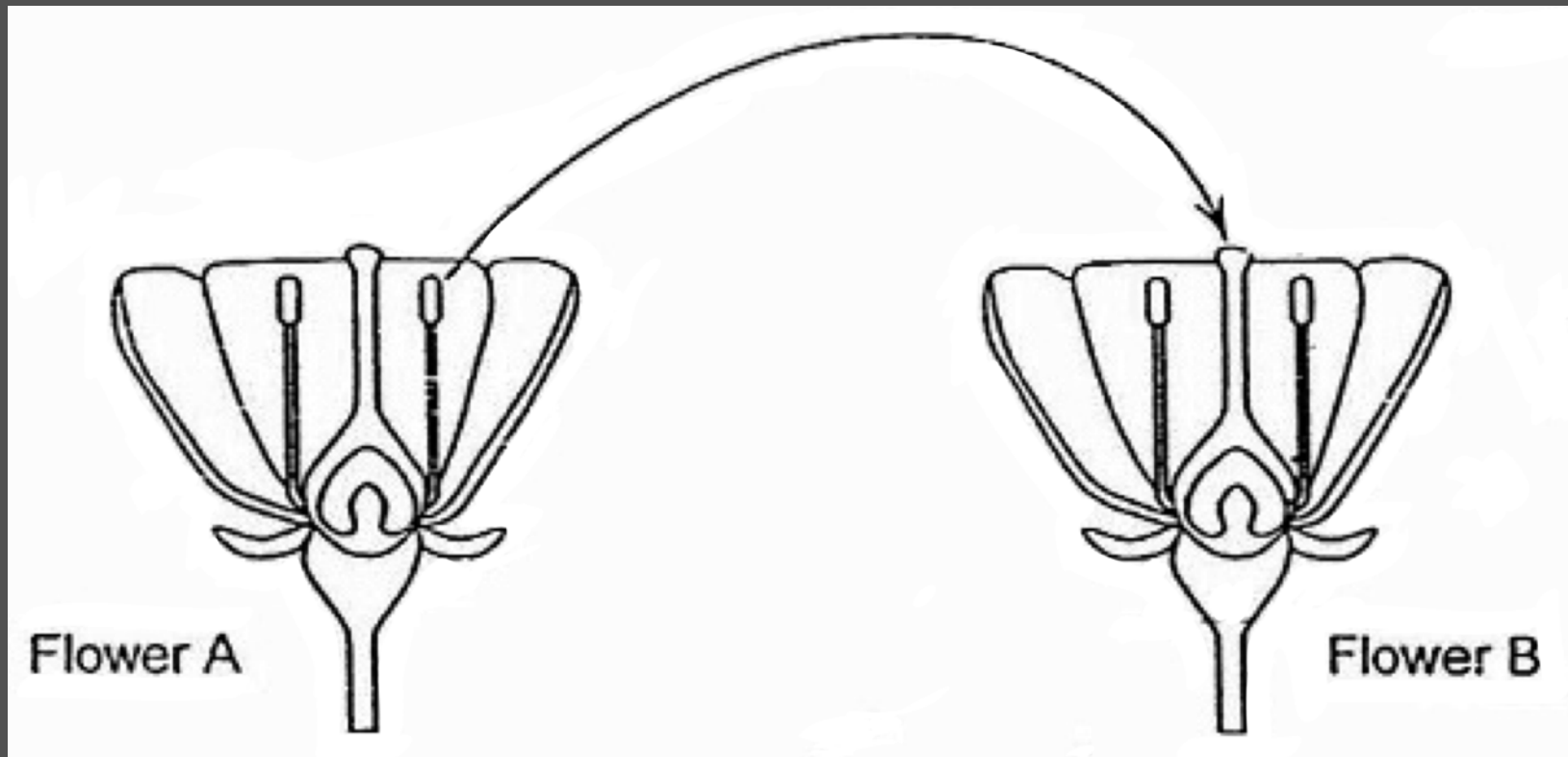
- biodiversity conservation
- habitat and ecological restoration
- scientific research

[www.newleaf-tx.org](http://www.newleaf-tx.org)



# What is pollination?

transfer of pollen from one flower to the female parts of another flower



# What is pollination?

transfer of pollen from one flower to the female parts of another flower

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animal pollination



Photo by: Nancy Castillo  
(<http://goo.gl/XoWnFI>)

wind pollination



Photo by: Andy Heatwole  
(<https://goo.gl/97yA8W>)

# Importance of pollination

increases fruit and seed set

crops



Photo by: Liliana Usvat  
(<http://goo.gl/iLgcZE>)

wild plants



Photo by: Ray Mathews  
(<http://goo.gl/Pzwf4z>)

# Importance of pollination

facilitates sexual reproduction and genetic diversity within plant populations



photo: <http://goo.gl/8qbpUf>

# What are pollinators?

animals that facilitate pollination by moving pollen from one flower to another

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alexanderwild.com



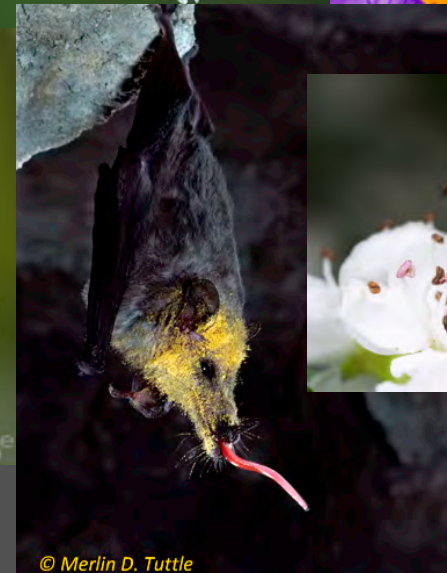
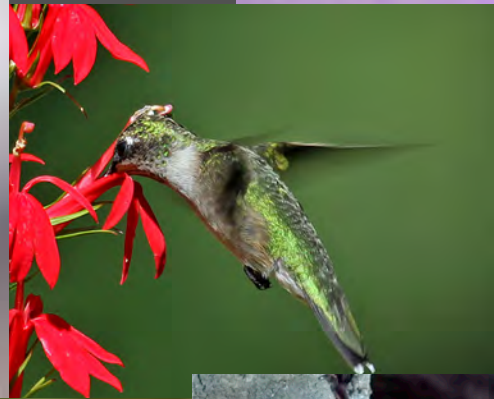
# What are pollinators?

Yeah, but which animals are pollinators?

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# What are pollinators?

come in all shapes and sizes



© Merlin D. Tuttle

# What are pollinators?

“pollinator” is a loaded term

flower visitor vs. pollinator



# Bees as pollinators

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# Bee ecology

## Sociality



### Social

- bumble bees
- honey bees
- some sweat bees



# Bee ecology

Sociality



Solitary & communal

...pretty much all other bees



# Bee ecology

## Nesting

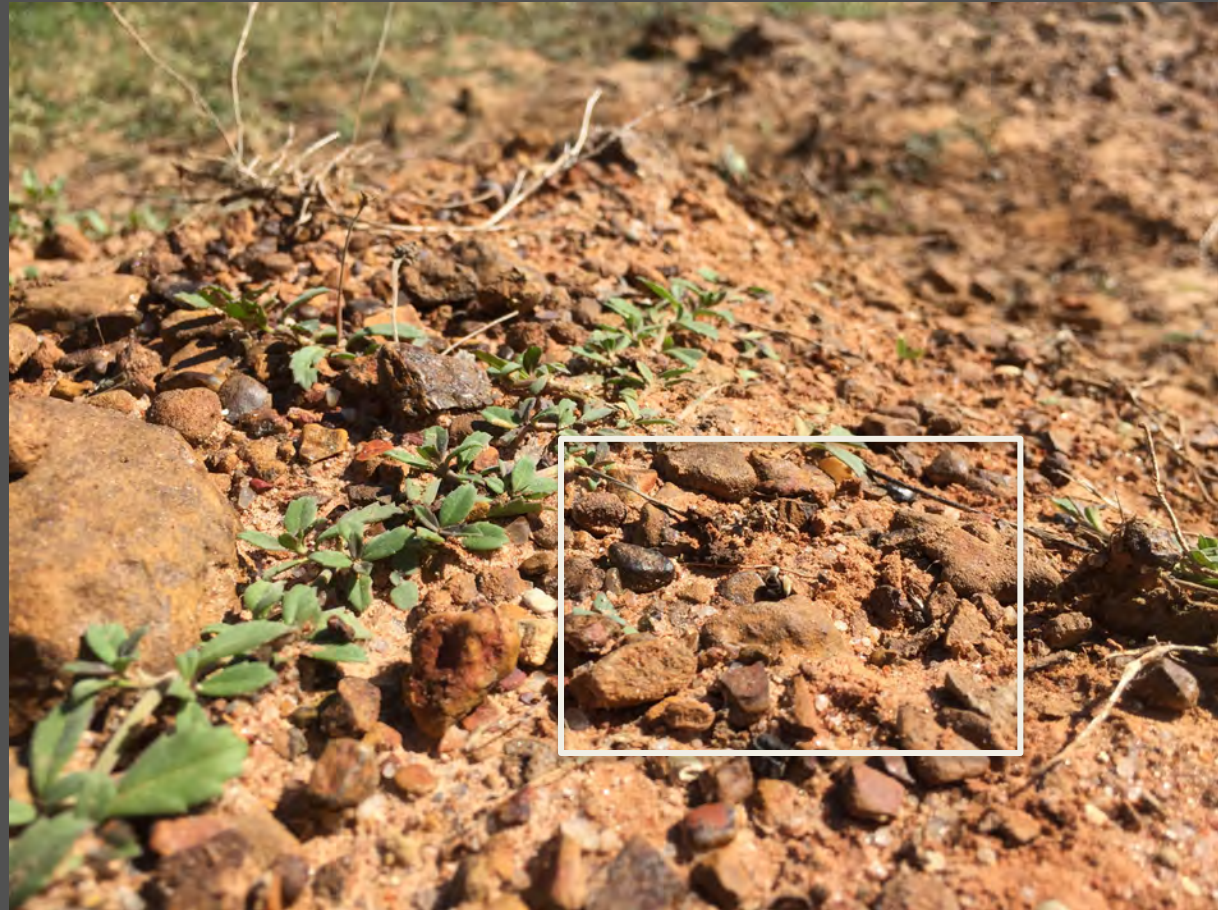
soil or ground  
nesting



# Bee ecology

## Nesting

soil or ground  
nesting





# Bee ecology

Nesting

soil or ground  
nesting



# Bee ecology

## Nesting

wood, cavity, and stem  
nesting



# Bee ecology

## Foraging

generalists take pollen from many different families



# Bee ecology

## Foraging

specialists take pollen from  
a limited number of families  
and/or genera



# Bee ecology

Foraging

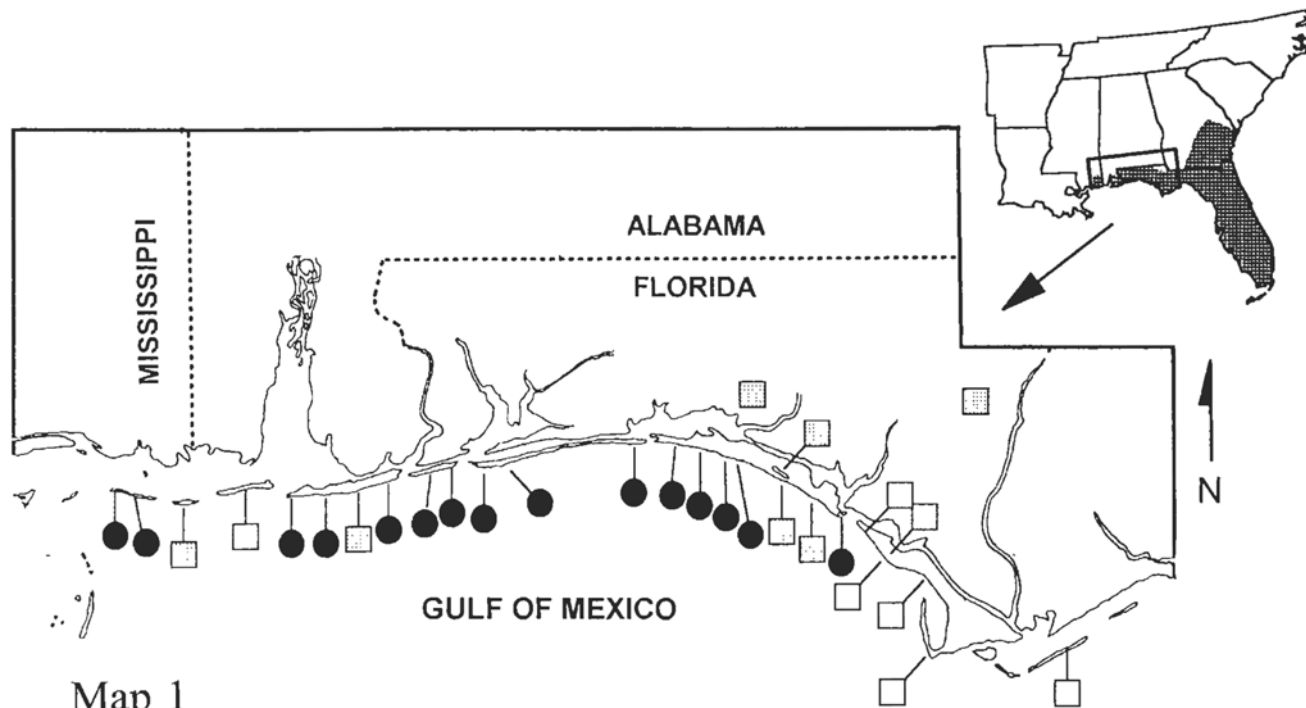
specialists...to the extreme



# Bee ecology

Foraging

specialists...to the extreme



Map 1

# Plant/pollinator relationships

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# Plant/pollinator relationships

Specializing by pollinators

relatively common among  
insects

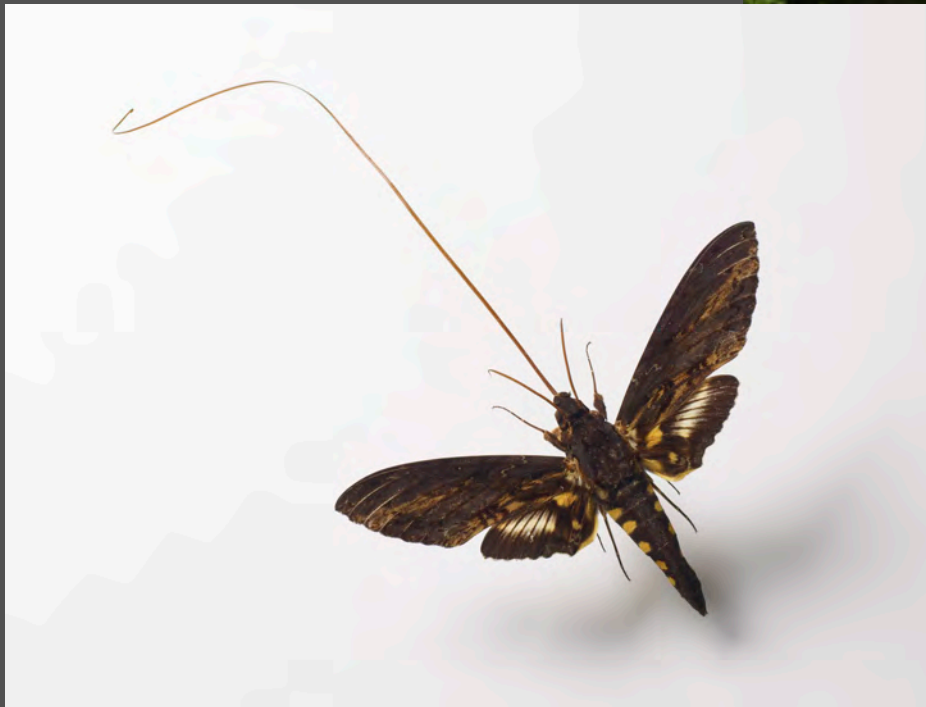




# Plant/pollinator relationships

Specializing by plants

relatively UNcommon for  
plants



# Plant/pollinator relationships

## Wild Pollinators Enhance Fruit Set of Crops Regardless of Honey Bee Abundance

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# Plant/pollinator relationships

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# Plant/pollinator relationships

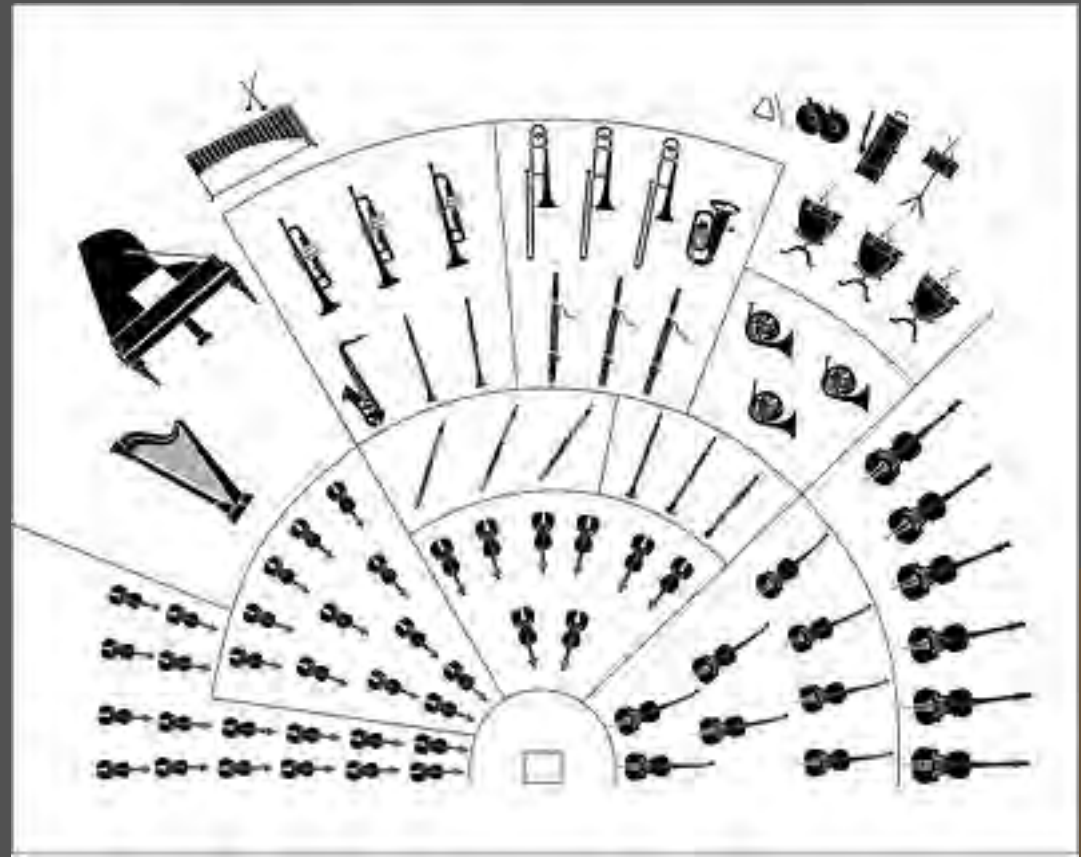


# Plant/pollinator relationships

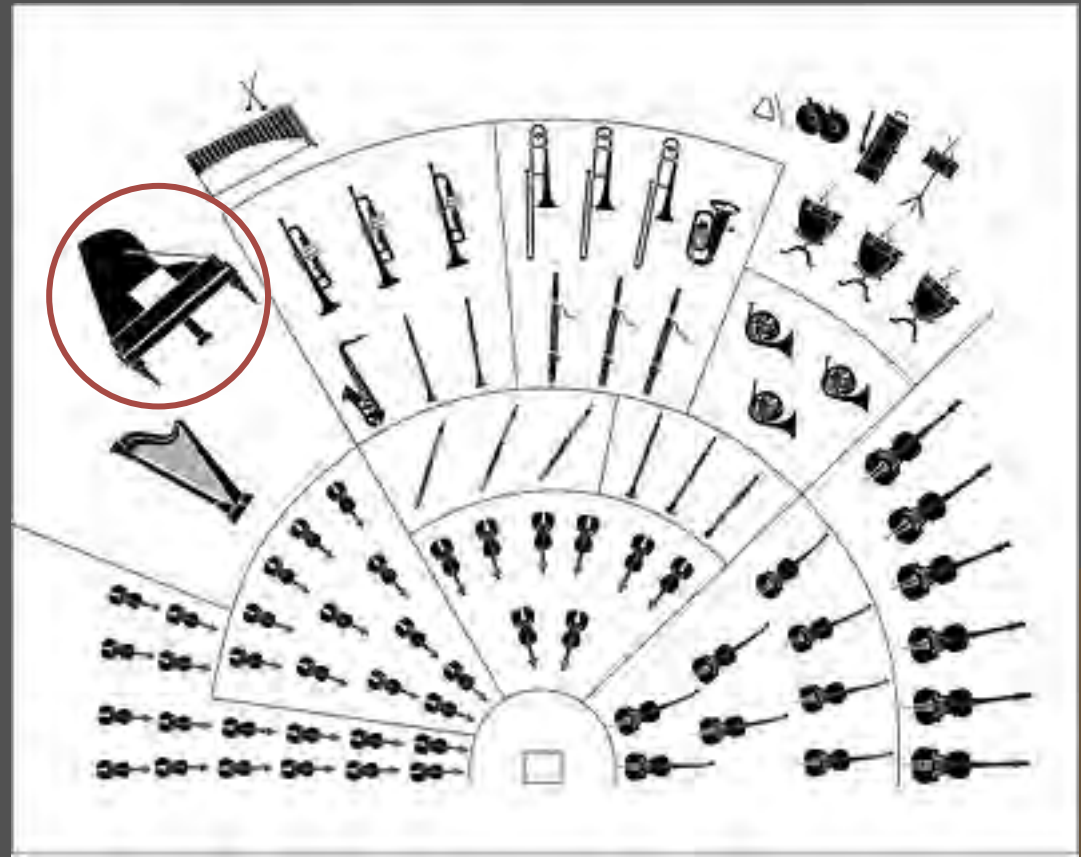
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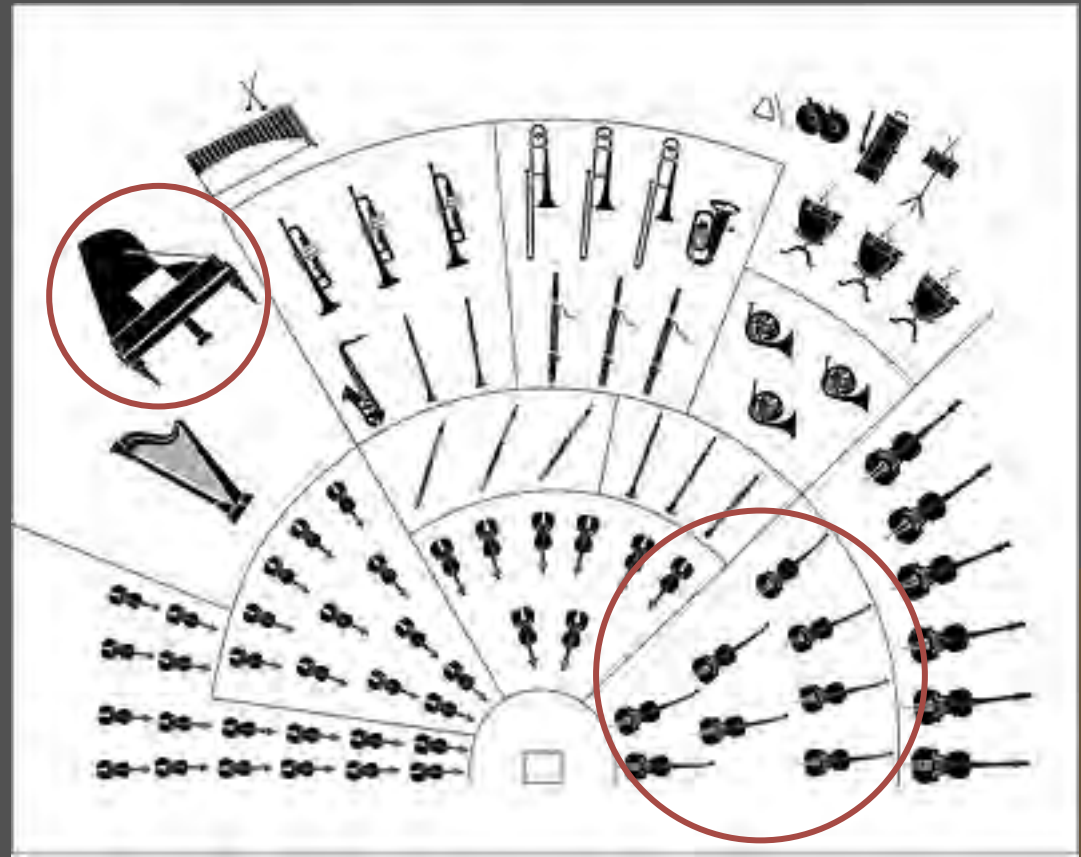
# Plant/pollinator relationships



# Plant/pollinator relationships

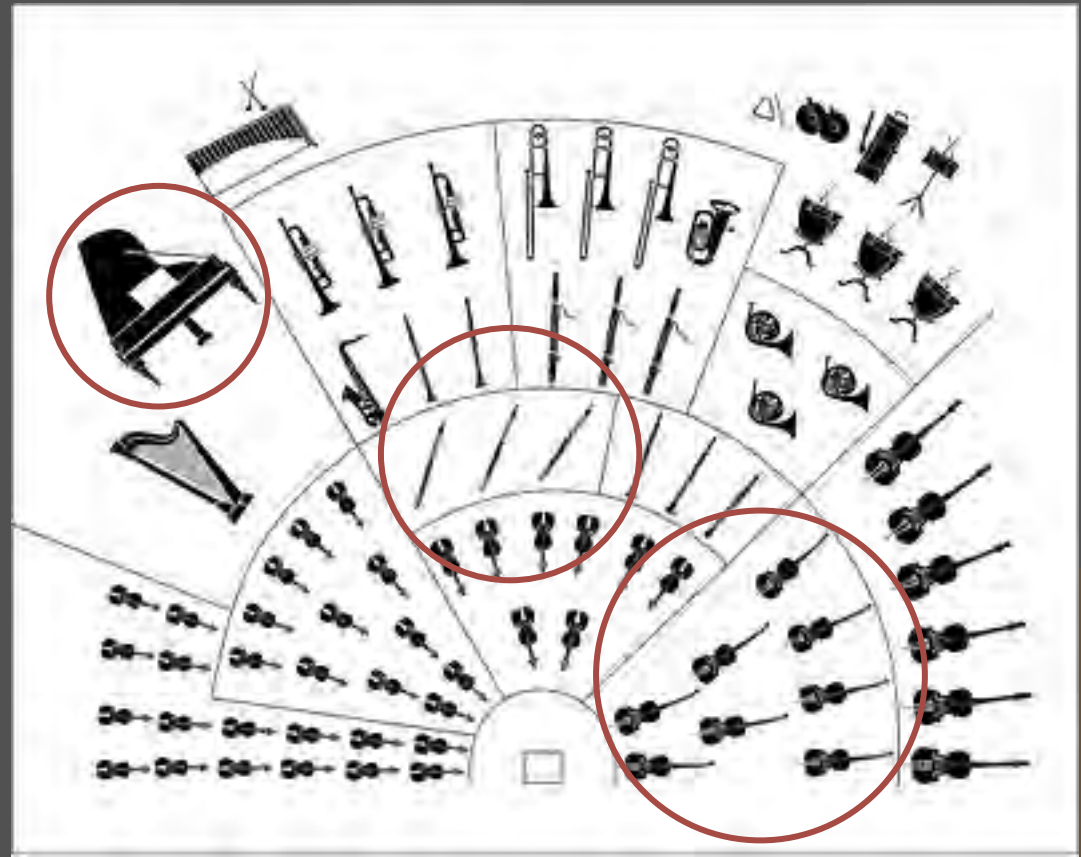


# Plant/pollinator relationships





# Plant/pollinator relationships



# Plant/pollinator relationships

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# Plant/pollinator relationships

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# Plant/pollinator relationships



# Plant/pollinator relationships



# Summary

key points of pollinator ecology

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- pollinators are a diverse group that includes insects, mammals, birds, and reptiles
- flower visitors are not necessarily pollinators
- bees are by far the most important pollinators
- many pollinators have specific resource requirements
  - host plants (e.g. bees, butterflies, and moths)
- pollinator diversity is just as important as pollinator abundance

# New Leaf and pollinators

Shameless plug...

- Bees of the Madrean Sky Islands  
([www.experiment.com/sky\\_island\\_bees](http://www.experiment.com/sky_island_bees))



# Acknowledgements

Many thanks!

- City of Austin
- Alex Wild for use of his excellent photos  
([www.alexanderwild.com](http://www.alexanderwild.com))



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