Planting for pollinators

Desert Botanical Garden

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Insect Ecologist and Exhibits Specialist
The importance of pollinators

• The majority of angiosperms (flowering plants) rely on animals for pollination
• Pollination is a valuable ecosystem service
  – 15-30% of US diet is a result of insect pollination
  – 80% of worldwide food plants rely on pollinators
  – Estimation of pollination services is $112 billion annually
Biodiversity of pollinators
Pollinator numbers

• Southwest has over 1,000 species of bees
• 330+ butterfly species in Arizona
• 18 species of hummingbirds
Pollinator decline

• Estimated that 200 vertebrate and 10,000 insect pollinator species are at risk
• Due to loss of habitat and pesticide use
Development in Phoenix

- Large land area developed without many native resources
- Create “habitat stepping-stones” for migratory animals
Monarch migration through AZ

Southwest Monarch Study, swmonarchs.org
Hummingbird migration and breeding
How can we support pollinators?

- Choose native plants that will flower throughout the year
- Don’t use pesticides
- Provide abiotic resources
Plant perspective

• Plants need pollinators to carry pollen from one plant to another
• Then the plant can produce fruit and seeds
• Adapted to attract and sometimes reward pollinators

Chemical cues (scent)  Visual cues (color, shape, size)
Pollinator rewards

- Pollen
- Nectar
- Also, floral tissues, shelter, brood shelter, oils, and meeting places
Pollinator perspective

Pollinators need those rewards to survive

• Butterflies need to visit about 40-100 flowers a day to get the nectar they need

• Hummingbirds need 1.5 – 3 times their body weight in nectar

• Lesser long-nose bat needs 21 saguaro flowers per night
Pollinators also need shelter
Caterpillars need hostplants to eat

- Many caterpillars are specific about what plants they eat
- They need a lot of food

Monarch (*Danaus plexippus*)

Milkweed (*Asclepias* spp.)
Other habitat components

• Sunny spots for warmth
• Access to water
• Insect hotels (native bee and insect habitat)
• Nesting material
Registering pollinator habitat

You can register monarch habitat as a Monarch Waystation through Monarch Watch
monarchwatch.org/waystations/

Or participate in the Million Pollinator Garden Challenge
millionpollinatorgardens.org
See examples of pollinator habitat

Harriet K. Maxwell Desert Wildflower Trail

Center for Desert Living Trail
Additional resources

- Desert Botanical Garden-dbg.org-gardening and horticulture-Desert Gardening Guides
- *Gardening for Butterflies* – The Xerces Society
- *Pollinators of the Sonoran Desert* – Arizona Sonoran Desert Museum
- *Attracting Native Pollinators* – The Xerces Society Guide
- *Wild About Gardening* – Tucson Botanical Gardens
- North American Pollinator Protection Campaign- www.pollinator.org
- Mountain States Wholesale Nursery- www.mswn.com
Thank you!

QUESTIONS?

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