Sustainable Home Gardening: Preserving Native Insects

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The Attractive Garden

- Plant Diversity
- Continuous Bloom
- Nectar & Pollen
- Shelter
- Variety of Insect Prey
- Water & Mud

Color
Texture
Design
Variety
Function
Misconceptions of Biological Control in the Home Garden

- Releasing insects
  - Lady beetles (or lady bugs)
  - Praying mantis
- Predatory insects will stay in your garden after release
- Other practices/activities don’t matter
Functional Biological Control

- Rely on native or natural enemies
  - Mostly small in body size
- Conservation of natural enemies
  - Avoid toxic chemicals
  - Maintain a diverse plant environment (avoid monocultures)
    - Continuity in time & space
  - Cultivate plants that provide quality nectar & pollen
  - Tolerate some herbivorous insects
- Get a hand lens to see them!
Native Pollinators
Beneficial Insects Need a Diverse Diet & Shelter

- Protein and carbohydrate (sugar) food sources
  - **Protein**
    - Insect prey, pollen, bird droppings
  - **Carbohydrate**
    - Nectar, plant nectaries, aphid honeydew
- Shelter & varied habitat

Flowering plants
- Herbs
- Wildflowers
# Plants with Quality Nectar and Pollen

www.ars.usda.gov/research/docs.htm?docid=12052

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## Research

**Plants Attractive to Native Bees**

<table>
<thead>
<tr>
<th>FAMILY</th>
<th>GENUS</th>
<th>COMMON NAME</th>
<th>Notes</th>
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<td>Caprifoliaceae</td>
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<tr>
<td>Asteraceae</td>
<td>Balsam</td>
<td>desert balsam</td>
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Pollinator of the Month

Pollinator of the Month will highlight the interdependency of certain species of native North American wildflowers and their animal pollinators. Most plants have a flower morphology, color, blooming period, and/or scent that will attract a particular type of pollinator to reap its food rewards of nectar and pollen.

For some species, the co-evolved relationship between plant and pollinator can be so interconnected that the disappearance of one can signal the extinction of the other. Likewise, efforts to conserve or restore plant communities should pay special attention to the needs of the pollinators associated with those plants in order to promote long-term success.

Pollinator of the Month demonstrates the beautiful dance between native plants and their pollinators found in a variety of ecosystems across the United States.

Previous Pollinators of the Month

The thumbnail links below are an archive of previous Pollinator of the Month descriptions.
Beneficial Insects & Mites

Cast of Characters

Parasitic wasps & flies

Predaceous true bugs & beetles

Lacewing

Syrphid Fly

Common Aphid Predators

Lady Beetle

Predaceous Mites
Lady Beetles (Lady Bugs)

Native

Introduced

Synchrony of predator & prey
Continuous food source
Shelter
Alternative food

Prey specific
Aphids
Scales
Mealybugs
Habitat specific
Arboreal vs. forbs
Lacewings

Green lacewing
most common

Wide variety of prey
small insects
aphids
mealybugs
thrips
caterpillars
leafhoppers
insect eggs

Brown lacewing
Syrphid or Hover Flies

Adults mimic bees

Eat a variety of small insects & insect eggs
Ground Beetles & Tiger Beetles

Eat mid-sized prey
caterpillars
cutworms
slugs
Live on the ground
Nocturnal
Minute Pirate Bug

Prey
- small insects & mites
- caterpillars, leafhoppers, psylla, aphids, etc.
- insect eggs
Big-eyed Bug

Adult

Nymph

Eat small insects, insect eggs, & mites
Damsel Bug

**Adult**

Eat small insects & eggs

**Nymph**
Ambush Bug

Use camouflage and ambush to attack prey

Their bite can hurt – ouch!

Eat small to mid-sized insects
Predatory Mites

Native species
Need plant-feeding spider mites for food
Cannibalistic
Some also eat pollen & nectar

Western predatory mite

Zetzelia
Parasitic Wasps
Parasitic Flies

Tachinid Fly
Lay eggs on caterpillars
Fly larvae parasitize host
Insect Pathogens = Entomopathogens

Nematodes
Fungi
Protozoa
Viruses
Protect, Conserve & Promote Native Insects

- Diverse, healthy garden with flowering plants
  - Continuity in food & shelter in space & time
- Quality pollen & nectar
  - Wildflowers, herbs, fruit trees
- No toxic pesticides
  - Use cultural & mechanical pest management practices
  - Use selective, “soft” pesticides
- Tolerate some plant-feeding insects
  - Natural enemies must have food to survive