



NATIVE POLLINATORS

Thank them for every third
bite of food you take!

by Tish Resnik



What Do They Do?

- Animal pollinators are responsible for the reproduction of 90% of flowering plants and 1/3 of human food crops.
- Pollinators are necessary for productive agricultural ecosystems
- Abundant pollinators increase the size and quality of fruit crops
- Pollinators also provide food and cover for wildlife
- Reproducing naturally ensures erosion prevention and clean waterways
- Crops for fibers, beverages, spices and medicines are pollinated by animals

Who Are They?



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Bees



- Honey Bees are not native bees; they were imported from Europe 400 years ago
- There are nearly 4000 varieties of ground and twig nesting bees in the US.
- Native bees in New Mexico pollinate chile, alfalfa, melons, cotton to name a few
- Bee's tongues (proboscis) vary in length which determines which flowers they visit
- Bumblebees use "buzz pollination on tomatoes

The Bee's Knees

- Squash Bees mate inside the squash flowers
- Digger Bees are long-tongued and like to pollinate Penstemon blooms
- Females collect pollen in baskets on their hind legs known as corbiculas
- Leaf cutter Bee females collect pollen on their fuzzy abdomen not their legs



Butterflies and Moths

- Butterflies and Moths belong to the Lepidoptera family
- Butterflies and Moths need to land on the flowers that they visit; they prefer broad faced flowers.
- There are 24,000 species in the Butterfly family, 700 exist in North America
- There are 140,000 species of moths
- Bees and moths prefer flat faced flowers



Butterflies and Moths



- Butterflies can see red unlike bees
- Nectar is the flying fuel for butterflies and moths
- The Hummingbird Hawk moth has a proboscis (a hollow straw-like tongue) that is longer than rest of his body
- Most moths are nocturnal and pollinate night blooming flowers

Hummingbirds

- Hummingbirds are attracted to tubular shaped flowers
- Red, orange and yellow are favorite colors for Hummers
- Most flowers pollinated by Hummingbirds are prolific nectar producers
- When drinking nectar the Hummingbird's face comes out of the flower covered in pollen, moving it to the next flower
- Hummingbirds, with their long tapered bill can take nectar up to 13 licks per second and feed on over 20 flowers per minute
- New Mexico has 17 species of visiting Hummingbirds



Beetles and Flies



- Because of the number of Beetles, they are the largest set of pollinating animals
- They are responsible for pollinating over 88% of the 240,000 flowering plant globally.
- Beetles are considered “mess and soil” pollinators, eating leaves and petals and defecating in the blooms
- Beetles like to eat pollen
- Some flies resemble bees through color and patterns
- Flies have two wings and bees have four



Other Pollinators

- **Bats**-nocturnal pollinators. Pollinate Agaves and Saguaros and also pollinate many tropical fruit
- **Wind**-12% of the world's plants depend on wind to be pollinated. Grasses, cotton, cereal crops, pines, spruces, firs.
- **Ants**-great lovers of nectar will carry pollen with them from one flower to the next.
- **Wasps**-considered a pollinator using nectar and pollen as sources of nutrition

Protecting our Pollinators

- There is decline among pollinators- bees, bats, hummingbirds and bumblebees
- Disease is only one reason for decline-
 - Habitat Loss
 - Non-native plant species
 - Pesticides
 - Global warming
- Understand what pollinators need to survive-
 - Water
 - Native plants
 - Nesting environment



Garden for Pollinators

<http://aces.nmsu.edu/ipm/documents/plants-for-pollinators-nm-organic-conference-20122.pdf>

- Plant native plants
- Consider the type of pollinator you would like to attract to the garden and learn what attracts them
- Plant showy flowers and plants that will provide blooms throughout the gardening season
- Avoid landscaping cloth and heavy mulch to encourage native bees to nest
- Leave nesting materials in the garden
- Have water available for all living things
- Stay chemical free in the garden

Basic pollination syndrome character table.

FLOWER	bats	bees	beetles	birds	butterflies	flies	wind
color	dull white, green, purple	bright white, yellow, blue	dull white, green	orange, red, white	orange, red, purple	pale and dull to dark brown or purple, often veined	dull green or brown
odour	strong, fruity	fresh, mild, pleasant	fruity, spicy	none	spicy, none	putrid	none
shape	regular, bowl-shaped, closed during day	shallow, landing platform, tubular	large, bowl-like	large, funnel-like, no landing platform but strong perch support	narrow tube, wide landing pad	shallow, funnel-like or trap-like	regular, small, stigmas exerted, petals absent or reduced
bloom time	night	day	day	day	day	day and night	anytime
nectar	abundant, somewhat hidden	usually present	sometimes present, not hidden	ample, deeply hidden	ample, deeply hidden	usually absent	none

Reference Websites

- <http://pollinator.org>
- <http://www.fs.fed.us/wildflowers/pollinators/documents/BeeBasics.pdf>
- <http://www.xerces.org>
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- <http://www.fws.gov/pollinators/pdfs/PollinatorBookletFinalrevWeb.pdf>
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