Georgia Pollinators

The Value of Pollinators
Pollinators ensure full harvests and seed production from many agricultural crops and provides for healthy plants grown in backyards, community gardens, and other urban areas.

- Worldwide, of the estimated 1,330 crop plants grown for food, beverages, fibers, condiments, spices, and medicines, approximately 1,000 (75 percent) are pollinated by animals. It has been calculated that one out of every four mouthfuls of food we eat, and beverages we drink, is delivered to us by pollinators.
- More than half the world's diet of fats and oils comes from oilseed crops. Many of these, including cotton, oil palm, canola, and sunflowers, are pollinated by animals.
- In the U.S., pollination by insects produces $40 billion worth of products annually.

Pollinators are essential components of the habitats and ecosystems that many wild animals rely on for food and shelter.

- Approximately 25 percent of birds include fruit or seeds as a major part of their diet.
- Plants provide egg laying and nesting sites for many insects, such as butterflies.
- Berries and other fruit form a significant part of the late-summer diet of animals, such as grizzly bears, which fatten themselves in preparation for winter hibernation.

Pollinator Declines
Despite the importance of pollinators, the ever-expanding conversion of landscapes to human uses adversely affects their habitats. A growing body of evidence indicates that these beneficial creatures are in serious decline, due to loss, modification, and fragmentation of habitat, and the excessive use of pesticides. The risk of losing the essential role of pollinators, required for the successful propagation of native plant communities, wildlife habitats, and a range of food crops, is real. The decline in pollinators must be reversed now, before a crisis occurs.

Source: http://pollinators.nbii.gov/declines.html

In addition to bees, wasps, moths, butterflies, flies and beetles, as many as 1500 species of birds and mammals serve as pollinators. Hummingbirds are the best known wildlife pollinators in the Americas, but perching birds, flying foxes, fruit bats, snails, slugs, possums, lemurs and even a gecko function as effective pollinators elsewhere in the world.

- **Bees and Wasps (Hymenoptera)-** Both the domesticated honeybees and native wild bees such as bumblebees are attracted to flowers with bright lively colors (especially blues and yellows). They can't see the color red, so won¹t visit blossoms that are red. The flowers may be massed into a group of many smaller flowers, or may have a 'landing platform' for the bees to stand upon while they drink nectar or collect pollen. Such bee flowers often have pleasing fresh scents that humans find attractive. There is abundant nectar and pollen.
- **Birds-** especially hummingbirds have good eyes which especially can see red but poor senses of smell. They are hover-feeders, and these flowers (for example, columbine or fuchsia) are designed to dust the bird's head (and back) with pollen. The throat of these pink, orange or red blossoms is narrowly constricted so that only their narrow bills can enter to extract the abundant but dilute nectar. The flowers have no scent that we can detect. There is no landing platform on the flowers.
- **Bats-** Unless you live in the American southwest (such as Texas, Arizona, New Mexico or southern California) you aren't likely to have picked a flower pollinated by bats. Most of this happens in the tropical rainforests. Bat blossoms are large and very sturdy. The flowers are always presented at night as in the case of our Century plants (the genus Agave). There is lots of dilute nectar and the flowers are usually not brightly colored. They don't even smell that good. Some people think these flowers smell musty or like fruit. Bats pollinate some bananas.
- **Butterflies (Lepidoptera)-** Blossoms built for butterflies have lively colors, especially pinks, blues and yellows. They are often grouped together in small masses. The floral tube is often narrowly restricted to just allow their slender tongues (the proboscis) into the opening. Fat bees keep away! They have very pleasant floral scents and abundant nectar.
- **Moths (Lepidoptera)-** - Not many of our crop plants are pollinated by moths, but just in case you selected one, here is some information. These flowers open during the evening or at night when moths are active. They often have very sweet pleasant scents (like night-blooming Jasmine) which we can smell from a long distance away. The flowers are almost always white and have abundant nectar but not much pollen. There may or may not be a landing area.

- **Flies and Mosquitoes (Diptera)-** Many species of flies are important pollinators of flowers (there are many different kinds of flies - not just house flies and horse flies). There hairy bodies are great for transporting those little pollen grains around helping to pollinate flowers and set those fruits. Flies may visit many types of blossoms, especially big open masses of them like on goldenrod. They also visit flowers, which can smell like rotting meat. Other flowers trap and hold flies inside (like the Dutchman's Pipe) as pollinators. Some species of flies, such as hoverflies, are capable of helicopter-like movement that allows them to hover over flowers and probe into tubular corollas with their elongate mouthparts. Did you know that you have flies (midges in this case) to thank for pollinating the cacao blossoms whose seeds are ground up to make the chocolate in your candy bar?
- **Beetles (Coleoptera)-** There are more kinds of beetles alive today than any other kind of insects. They are usually generalists and will often visit many types of flowers for food, especially in the tropics. Beetle pollination is generally regarded as among the least specialized of animal pollination. These insects seem to favor large, strong-scented flowers (i.e. Magnolias), and it is common for beetles to chew the entire flower as a food source. Pollination by beetles, therefore, is regarded as a bit sloppy, but efficient enough to get the job done. Because of this they are known as “mess and soil” pollinators.
- **Ants (Formicadae)-** Many plants with flowers that are found close to the ground are pollinated by ants. They are typically attracted to red or brown floral colorations and faint sweet smells. Sometimes flowers supply extrafloral nectaries to attract ants that keep other insects from stealing the nectar (by entering the flower from the side) and force them to enter the flower in a way that is more beneficial to the pollination process.
- **Slugs and Snails (Gastropods)**- Many flowers are so close the ground that they are covered by leaf litter, which then can’t attract a flying pollinator. Therefore, it is believed that slugs or snails may pollinate these flowers (i.e. wild ginger).