

BENEFICIALS IN THE GARDEN

THE POLLINATORS: BUTTERFLIES

Notes from Hood County AgriLife Extension Service



FIGURE 1. Male monarch butterfly, *Danaus plexippus* (female monarchs do not possess the pair of dark wing spots).



FIGURE 2. The Gulf Fritillary, *Agraulis vanillae*.



FIGURE 3. Tropical Checkered Skipper, *Pyrgus oileus*.
Skippers are classified as butterflies.



FIGURE 4. The Long-tailed Skipper, *Urbanus proteus*.

While the best-known pollinators may be honeybees and bumblebees, there are a myriad of other insects that contribute to pollination. Some of the most beautiful and graceful are butterflies, and instead of noisily buzzing from flower to flower, butterflies artfully flit. Though butterflies may not be as efficient as bees in pollinating plants and crops, butterflies certainly do their fair share in bringing about seed and fruit production—and definitely are more pleasing to watch.

Butterflies are diurnal, pollinating a wide variety of flowers that open during the day. They frequent big, beautiful, brightly colored blooms. Butterflies have good color vision sensing more “wavelengths” than either humans or bees and, unlike bees; butterflies can see the color red.

Scent is another characteristic. One study speculated that it might be “some kind of scent or marking” that attracts a butterfly. Another study found that many butterflies produce pheromones to entice the opposite sex, and this scent is similar to flowers that they are drawn to.

As butterflies are perching feeders, they favor flowers with a landing platform (labellum). They gather pollen as they walk around flower clusters on their long and thin legs.

Finding the right flower is only the beginning of a pollinator's challenge. The butterfly must then actually find the nectar. Alcinda C. Lewis, a behavioral ecologist in the Department of Environmental, Population and Organismic Biology at the University of Colorado, studied the butterflies refined nectar gathering technique. One study showed that the cabbage butterflies' first visit to a flower took "10 seconds of groping before finding the right place to sip. By the third or fourth blossom, however, the butterflies are drinking in less than half the time." Dr. Lewis believes some flowers are designed better than others. She studied "11 species, ranging from the slim cup of an oxalis, which butterflies figured out quickly, to the winged tube of a clover, which butterflies struggled with for almost 20 seconds on the first try."

In the 1970's, researchers concluded that butterflies prefer flower nectar containing considerable amounts of amino acids. Recently, researchers, from the University of Basel in Switzerland, extended this theory by feeding butterflies nectar with, and without, amino acids. They concluded that butterflies laid more eggs when fed nectar containing amino acids.

But back to this butterfly flitting issue. It makes butterflies sound like the blondes (no disrespect intended) of pollinators. Though butterflies may not be premiere pollinators, their continual flitting from flower to flower more than makes up for the quantity of pollen they carry. Another reason butterflies have not been taken seriously as pollinators is because they are not considered major players in commercial food crops. Research tends to follow the money, and butterflies have been regarded as second-class to their bee brethren. That may be valid, but because of butterflies' fragility to ecological change, they are an incredible indicator of an ecosystem's condition.

Butterflies are found on every continent but Antarctica; the U. S. is home to about 700 different species. Their beauty and mystery have enchanted mankind for centuries and are woven into folklore and legend. In ancient Hopi, Mayan and Aztec cultures, the butterfly was one of the most frequently represented figures.

The butterfly has a 4-stage life cycle—egg, caterpillar (larvae), pupa and adult. After mating, females typically deposit their eggs on the undersides of leaves, especially those that act as a food source for newly emerging caterpillars.

We know that adult butterflies feed on the nectar of flowers, but did you know they lay their eggs on a limited number of native plants? This is because butterfly caterpillars are host specific. Plant-wise, the caterpillars of some butterfly species like asters, black-eyed Susan, clover, lupines, milkweed, sedum or violets. Aspen, birch, cherry, hackberry, oak or willow trees make caterpillars of other butterfly species equally happy. Oddly enough, butterflies taste with their feet, which is where their taste sensors are located and by

standing on their food, they can taste it to see if their caterpillars are able to eat it.

Butterflies have smooth, slender bodies, knobbed antennae, rest with their wings held upright, and fly during warm weather. Their bright coloring is the result of loose, powdery scales on the wings. Probably the best known of the species in the U. S. is the orange and black patterned monarch butterfly; however, butterflies come in a wide range of colors and patterns to delight the eye of the beholder.

Butterflies probe blossoms with their long tongues. Each flower has nectar usually hidden in narrow tubes or spurs that is suitable in length. This tongue or proboscis works like a straw, drawing up nectar and when not in use, the proboscis stays coiled.

Butterfly populations are on the decline due to humans reducing numbers of pollinators by destroying habitats and migratory nectar corridors, emitting pollution and the misuse of pesticides.

How can you help? Attract butterflies to your garden, by planting a "butterfly friendly" garden which provides the types of plants required by butterfly larvae. Butterfly friendly plants usually produce clusters of brightly colored sweet-smelling flowers and include asters, daisies, butterfly bush, butterfly weed, lantana, marigolds, purple coneflowers and zinnias. Understand that releasing non-native butterflies for special events, such as weddings, can be harmful to native butterfly populations. It's worthwhile to become better educated in the effort to keep these extraordinary creatures existing among us.



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