

## Butter-Flying

by Ursula Nanna, Bell County Master Gardener

A story tells of a time when yellow butterflies were floating in a wooded area and became known as butterfly-flying, shortened to butterflies. Myth has it that the happy dead come back as butterflies and that the butterfly is a symbol of good fortune and prosperity. Whatever the story, there is a growing awareness and appreciation for their beauty.

Butterflies, sometimes referred to as "Leps" for their scientific Order Lepidoptera, are a disappearing species caused by meadow habitat being replaced by urban sprawl. The threat of more insecticide use and even genetically engineered crops producing their own insecticide (butterflies ARE insects) are reducing Lep populations.

We can help by supplying a safe haven habitat and a supply of food for Leps in our own back yard. With several havens in a neighborhood, there would soon be enough butterflies for everyone to enjoy. How do we do that?

By planting a variety of host and nectar plants to serve as a proper menu that sustains them throughout their diverse life cycle. Butterflies begin life as eggs deposited on a specific host plant. Why? Because when the egg hatches into a caterpillar it will use only certain plants for food. For example: the Swallowtail will lay eggs on parsley and the Gulf Fritillary on Passion vine. The host plant can be totally consumed if enough caterpillars are munching their way to a chrysalis. A chrysalis or pupa is the next life stage and considered a dormant stage. This is far from the truth as it is the stage from which the butterfly emerges and the life cycle begins again.

To nourish itself and gain strength for mating, a Lep will drink nectar (feed) on SPECIFIC nectar plants. For example, Monarchs enjoy a meal on milkweed while the Swallowtail will dine on Lantana. Grow lots of nectar plants as they are the main food for the adult butterfly. Among the top 10 nectar plants for our area are: Butterfly bush, aster, globe thistle, Joe-pye weed, pentas, liatris, purple cone flower, lantana, and bee balm. Grow several like plants together to produce a wave of color for the garden and lots of food for the Leps. Butterflies love to "puddle". Groups gather at a damp spot and suck the nutrients from the moist soil with their proboscis. You can make a puddle for them by using a shallow dish, add some moist sandy soil and a few pebbles and the butterflies will happily puddle there. Plastic is best as moisture evaporates too quickly from terra cotta. Sports drinks contain just the right amount of nutrients and minerals for butterflies and may be used to moisten the soil.

Butterflies love to hide away in stone walls and wood piles. Be especially careful when bringing wood in to burn that you check for hidden butterflies or their pupae so you don't burn a resting butterfly or chrysalis.

Also plant a banquet of plants to act as larval (caterpillar) food. This can range from weeds to vegetables to herbs to perennials. Host or larval plants include Passion vine, sunflower, parsley, fennel, dill, snapdragons, wild senna, milkweed, spicebush, pipevine, dill, and carrots. Again plant an ample number of plants. The female will instinctively lay only a certain number of eggs per host plant so that the caterpillars will have enough to eat, AND the caterpillars WILL eat. The more host plants, the more caterpillars, the more butterflies.

There are four stages to a butterfly's life, each is very different from the other. First is the egg which hatches in 5-10 days. A young caterpillar looks like small bird droppings as it begins to eat the host or larval plant and grows bigger. It will shed its elastic skin about 4-6 times during this process. Fully grown after 2-4 weeks, the caterpillar transforms into a pupa or chrysalis. This is the stage during which the caterpillar body parts change into an adult butterfly. This wonderful process is called a metamorphosis, or "form change".

How does this happen? Inside the caterpillar are juvenile hormones that are secreted from glands near the head. These hormones inhibit growth centers, called the imaginal buds from developing. Once the pupa stage is entered, these juvenile hormones are shut off and the imaginal buds begin to grow and to develop into adult structures and organs. This causes many of the caterpillar structures to dissolve into a juicy substance that feeds the growth of the adult structures. In less than 2 weeks, if conditions are right,

such as warm weather, a butterfly emerges. The pupal skin splits open near the head region and the adult butterfly crawls out with wings folded. It moves to an area with more room hanging upside down by its legs, and swallows air to pump up its wing veins with hemolymph, butterfly blood, to make the wings expand to their fullest. It remains in place until the wings dry and harden so it can fly. They begin to feed on nectar plants, find a mate, and the cycle begins again.

As more butterflies visit your yard, it's exciting to identify the different species and to watch their feeding and growth habits. You will figure out which host and nectar plants you need to plant more of and perhaps see a butterfly emerge from a chrysalis. The next time you see a plant being devoured by a caterpillar "bug" think about it a little before you decide to use a pesticide to save a plant that will probably survive its encounter anyway. Enjoy the wonder, experience the life happening in your back yard.