

## Bugs: We Couldn't Live Without Them

I know, a lot of folks might be saying to themselves right now, "Well, I could certainly live without them." It is interesting how much animosity we have toward some of the smallest critters in our world. It has even crept into our language. When something bothers us or gives us some concern, we don't say that it "birds us" or "fishes us", or "mammals us", we say that it "bugs us".

So, let me try to set the record straight about bugs, or more properly, insects. There are an estimated 30,000 species of insects in Texas. With so many species, only a professional entomologist would be able to identify many insects down to the species level, and in fact most people are happy if they can identify the order of the insect, or possibly the family, and they don't worry so much about the genus or the species. Depending on the book and when it was written, there are over 30 orders of insects and similar invertebrates.

In spite of how some people think about them, insects perform some exceedingly important services for mankind. The most obvious of which is pollination. While some plants, including many trees, are fertilized by wind-borne pollen, the majority of blooming plants require pollen to be spread by an animal, and most of this is done by insects. And a very wide variety of insects indeed, including not only the bees, but many wasps, flies, beetles, moths, butterflies and ants can transfer pollen from one flower to another. Without pollination, most of our fruits and vegetables could not be produced, as well as most wildflowers and flowering shrubs. Adequate pollination is so important to agriculture that a whole industry has developed to bring bee hives to farmers' fields at the appropriate time and at considerable costs.

Perhaps a less obvious benefit to having insects is that they provide food for so many other animals. Frogs, toads, lizards, snakes, fish, armadillos, skunks, and most other small mammals including foxes and coyotes eat insects for at least part of their diet. With few exceptions, all birds, except raptors, need insects as at least part of their diet. All songbirds, including hummingbirds and seed eaters, need insects to feed their young. Without insects, many species of higher animals would not exist, and all of these animals are in fact food sources for other predators. So for a large part of the animal world, insects represent the initial harvesters of photosynthesized food sources and are the base of the food chain.

Finally, it is also true that many insects feed on other insects, and therefore help to control the numbers of the prey species. This is especially beneficial to humans when the prey species is a pest that damages our crops and garden plants.

Soil-living insects help to contribute to the fertility and porosity of the soil. Some of the more common orders of insects include: dragonflies and damselflies, mantids and

walkingsticks, grasshoppers and crickets, cicadas and aphids, true bugs (Yes, there is an order called true bugs), beetles, butterflies and moths, true flies, and wasps, bees and ants. The definition of an insect is that they have three distinct body parts (head, thorax, abdomen) and six legs. There are a number of insect-like invertebrates that are not true insects, and these include spiders, ticks, chiggers, scorpions, centipedes, millipedes, and pill bugs. They all have eight or more legs, and may have only one body part or many.

For such small critters, insects can have very complicated life cycles. Many insects such as butterflies have a larval stage that looks totally different from the adult, then a pupal stage where a complete metamorphosis takes place before emerging as an adult. Other insects skip the pupal stage, and still other species hatch from an egg looking like a small adult.

Given the importance of insects to our world as we know it, I would suggest we all try to limit the use of insecticides as much as possible, at least outside of our homes. We can keep insects out of our homes without killing every one on the lot, and the flowers and the birds and the lizards and the frogs and the toads will thank you very much.

Just a note to my readers in or near Kerrville, I will resume the "1 on 1 with a Naturalist" sessions at Riverside Nature Center on Fridays from 10 to 12 beginning May 21. Hope to see you there.

Until next time...

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