

## Good Bugs, Bad Bugs

We use the term 'bug' in a very unscientific way to denote any creepy, crawly critter that we do not have the patience to properly research and classify. We are also well aware that beneficial insects abound and that in the larger scale of things each of these creatures has a purpose in the web of life despite our inability to find much use for ticks, for example.

Briefly there are four classes of the phylum arthropoda, each class is further divided into orders and orders into families, families into genera and genera into species. Gardeners center their interest on the insecta class as so many insects are pests. Insects include bugs, beetles, and butterflies. Butterflies a pest? Butterfly larvae are caterpillars before metamorphosis, hungry caterpillars.

The good bug definition is due both to their service as pollinators and to their predatory help in reducing the numbers of destructive insects. Ants may not belong on your kitchen counter but they play an important role in ecological health. Reported to be 10% of the planet's animal biomass, they abound with 12,000 species. Few of that number are a problem: Allegheny mound ants can make a nest two feet high and 8 feet across and red fire ant's sting.

Ants in their busy lifetimes disperse seeds, aerate soil, pollinate flowers, and are predators of termites. Another insect with a complex social system like that of ants, is the bee. On even the hottest day you notice a wealth of various bees flying in, out, and around flowerbeds, intent on their own purposes.

Beetles of various kinds don't catch our eye as easily. The Japanese beetle is glittery green and metallic and its damage to rose petals merits a lot of negative attention but there are worse sorts. One new horror is the Asian long-horned beetle a one to one and a half inch white spotted black beetle with four-inch antennae, called 'starry sky beetle'. Most boring beetles impact one tree as a preference but this killer beetle has a voracious appetite for dozens of tree species.

It is assumed that the Asian beetle arrived by way of imported packing materials, such as crates and pallets. There are regulations about fumigating or heat-treating such materials but with our eagerness for imported commodities there is no way that mountain of goods can be inspected, given the paucity of inspectors. In their home territories these beetles succumb to parasitic wasps or woodpecker species evolved to dine on them.

Not only do these Asian beetles bore into wood, they also bore into plastic. Maples are a favorite and they can kill a large tree in a year. They also seem immune to the effects of pheromone traps that lure other species. Just as small towns had Elm Streets and Maple Avenues, places today still tend to have lineups of a single species, as an invitation to invasion.

Cornell University scientists found a fungus that will infect and kill the beetle when banded on a tree trunk. If you notice ½ inch exit holes with piles of sawdust beneath notify the Va. Extension office.

Another pest, the result of our international trade bonanza is the growth in exotic mollusks. These non-insect snails and slugs are called gastropods, a word meaning stomachs on feet, alas. They are related to other mollusks such as oysters and octopi and the snail is related to the escargot eaten in France. Since we don't eat many snails here, they are a pest to crops.

Worldwide commerce has resulted in dozens of foreign gastropods among us. Even their names are exotic: white garden snail, Sloan's leatherleaf slug, spotted leopard slug, and amber, vineyard, and dune snails. Among the remedies used to protect hostas from slugs and snails are grit mulches, eggshells, coffee grounds, garlic, cinnamon, rosemary, and beer traps. Fortunately, both moles and birds find them delicious.

Proving that there is nothing new under the sun, an Arab remedy for slugs from the 14<sup>th</sup> century calls for coarse ashes scattered around the plants. The slugs "will meet with the ashes and retire confounded."