Philadelphia Insectarium
and Butterfly Pavilion

What's This Bug?

This guide from the Philadelphia Insectarium and Butterfly Pavilion will help identify bugs you might find during your explorations outside. Keep in mind that many of these creatures look different at each life cycle stage. If you can't identify what you have, you can always email their resident bug expert at tierneyphillyibp@gmail.com. Happy trails!

In Bush/Trees:

Aphid (*Aphis spp.*)

Aphids are small sap-sucking insects and members of the superfamily Aphidoidea. Common names include greenfly and blackfly, although individuals within a species can vary widely in color. The group includes the fluffy white woolly aphids. It reproduces rapidly, often producing live young without mating, and may live in large colonies that cause extensive damage to crops.

Asian Lady Beetle (*Harmonia axyridis*)

Harmonia axyridis, most commonly known as the harlequin, multicolored Asian, or Asian ladybeetle, is a large coccinellid beetle. This is one of the most variable species in the world, with an exceptionally wide range of color forms. Native ladybugs look similar except that they do not have the white M-shape at the crown of their "head."

Black Firefly (*Lucidota atra*)

The Black Firefly has light organs, but prefers using aerial pheromones instead of bioluminescence to communicate presence and position. Like all fireflies, Black Fireflies can be found in woodlands, forests, parks, fields, backyards, and in meadows near water. This species prefers areas with moisture and humidity. Black fireflies are more likely to be found in suburbs and rural areas. They tend to avoid city lights.

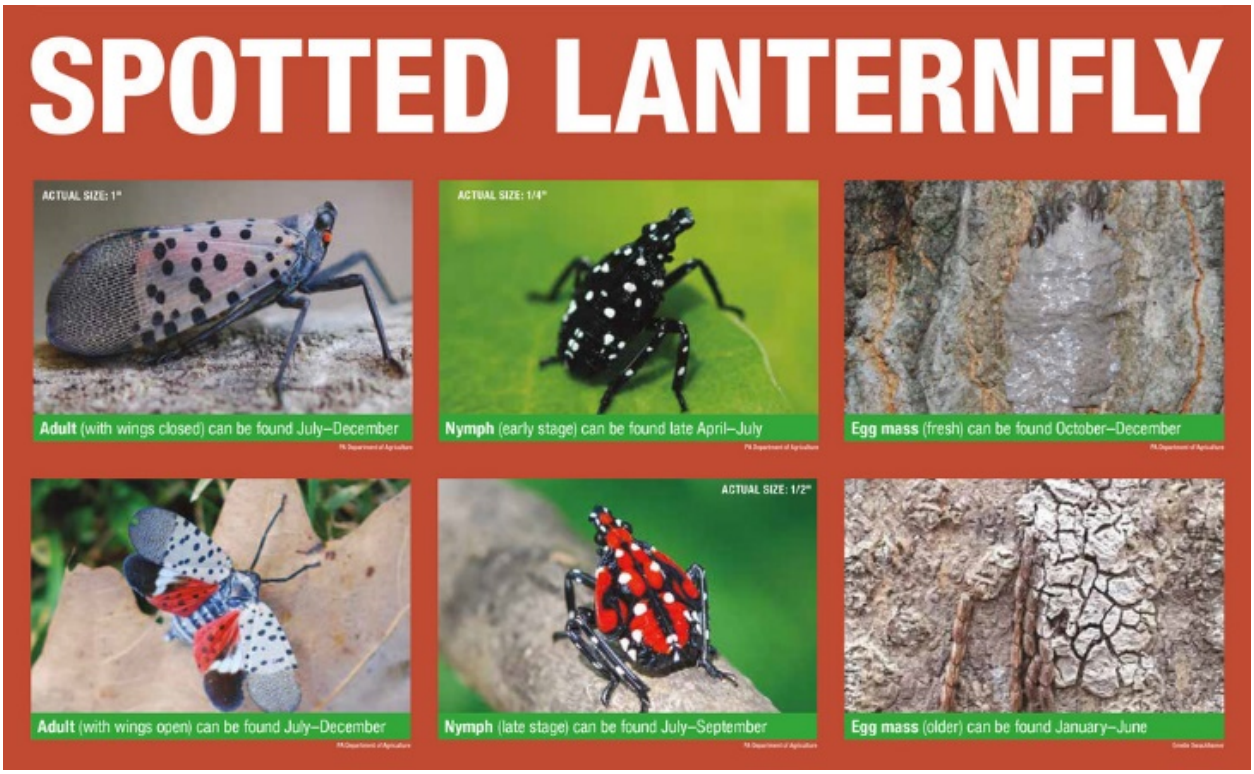
Pale Green Assassin Bug (*Zelus luridus*)

Zelus luridus, also known as the Pale Green Assassin Bug, is a species of assassin bug native to North America. It is the most common Zelus species in the eastern United States. Like many other assassin bugs, Zelus luridus preys on other insects. It will often wait on leaves to ambush passing insects, but occasionally it also actively hunts. For this, it uses sticky traps. The sticky material is produced by a gland on the leg.

Bold Jumping Spider (*Phidippus audax*)

Phidippus audax is a common jumping spider of North America. It is commonly referred to as the daring jumping spider, or bold jumping spider. The spider belongs to the genus Phidippus, a group of jumping spiders easily identified both by their relatively large size and their iridescent chelicerae. Like most jumping spiders, *P. audax* tends to prefer relatively open areas to hunt in, as they actively seek and stalk prey and do not build webs to catch food. They do use webbing, however, only when laying eggs or to hide. They also use spider silk as a “lifeline” when jumping for prey or evading predators.

Spotted Lanternfly (*Lycorma delicatula*)



The spotted lanternfly is a planthopper that is indigenous to parts of China, India, Vietnam and eastern Asia. Although it has two pairs of wings, it jumps more than it flies. In its native habitat it is kept in check by natural predators or pathogens. In September 2014, it was first recorded in the United States, and as of 2018 it is an invasive species in eastern Pennsylvania, southwestern New Jersey, northern Delaware, northern Virginia, and eastern Maryland. You will most likely see nymphs in June and July. This is a highly invasive species and can be killed on sight at any stage in its life cycle!

Leaf Hopper (*Family Cicadellidae*)

A leafhopper is the common name for any species from the family Cicadellidae. These minute insects, colloquially known as hoppers, are plant feeders that suck plant sap from grass, shrubs, or trees. Their hind legs are modified for jumping, and are covered with hairs that facilitate the spreading of a secretion over their bodies that acts as a water repellent and carrier of pheromones.

June Bug (*Family Scarabaeidae*)

The name "June bug" refers to any of the 100 species of beetles that are related to the scarabs familiar from ancient Egyptian iconography. Other common names for the June bug include "June beetle" and "May beetle." The common June bug is one-half to five-eighths inches long and reddish-brown in color. June bugs can cause damage to gardens, lawns and pastures. They are classified as chafers, meaning they feed on vegetation, specifically leaves. Their diet can also encompass grass, flowers, fruit, food crops.

Eastern Harvestman/Daddy Long Legs (*Leiobunum vittatum*)

While they are arachnids, Harvestman, most often found in low bushes and shrubs, are not spiders, though they resemble them in many ways. They are relatives of the spider in that they are both from the same Order. The Harvestman does not have fangs, are not venomous and do not bite. They eight legs actually do more for them that help them travel. The second pair of legs act like antennae and are very sensitive; they also help capture prey as well as smell surroundings and even breath (through holes called spiracles).

Pond/Creek:

Water Strider (*Family Gerridae*)

Water striders are small insects that are adapted for life on top of still water, using surface tension to their advantage so they can “walk on water.”Water striders are about a half-inch long with a thin body and three sets of legs. The water strider's secret is its legs. The legs have tiny hairs that repel water and capture air. By repelling water, the tiny water striders stand on the water’s surface and the captured airs allows them to float and move easily. Water striders can be seen on the surface of calm or slow-moving water throughout the continental U.S. They prefer ponds, vernal pools and marshes.

Mosquito Larvae (*Family Culicidae*)

Mosquitoes comprise a group of about 3,500 species of small insects that are flies (order Diptera). Mosquitoes have a slender segmented body, one pair of wings, one pair of halteres, three pairs of long hair-like legs, and elongated mouthparts. The mosquito's saliva is transferred to the host during the bite, and can cause an itchy rash. In addition, many species can ingest pathogens while biting and transmit them to future hosts. In this way, mosquitoes are important vectors of diseases. Mosquito nymphs live in still, stagnant water.

Stonefly (*Order Plecoptera*)

The Plecoptera are an order of insects, commonly known as stoneflies. Some 3,500 species are described worldwide, with new species still being discovered. Stoneflies are found worldwide, except Antarctica. Stoneflies are believed to be one of the most primitive groups of Neoptera. Plecoptera are found in both the Southern and Northern Hemispheres. All species of Plecoptera are intolerant of water pollution, and their presence in a stream or still water is usually an indicator of good or excellent water quality. The nymphs are aquatic and live in the benthic zone of well-oxygenated lakes and streams — only the stonefly nymphs are aquatic.

Dragonfly (*Order Odonata*)

A dragonfly is an insect belonging to the order Odonata. Adult dragonflies are characterized by large, multifaceted eyes, two pairs of strong, transparent wings, sometimes with colored patches, and an elongated body. Many dragonflies have brilliant iridescent or metallic colors produced by structural coloration, making them conspicuous in flight. An adult dragonfly's compound eyes have nearly 24,000 ommatidia each. You will most likely find dragonfly larvae in water, but adults do skim the surface of the water as they fly by.

Predaceous Diving Beetle (*Family Dytiscidae*)

Predaceous diving beetles occur in virtually any freshwater habitat around the world, but a few species live among leaf litter. Most are dark brown, blackish, or dark olive in color with golden highlights in some subfamilies. The larvae are commonly known as water tigers due to their voracious appetite. They have short, but sharp mandibles and immediately upon biting, they deliver digestive enzymes into prey to suck their liquefied remains. The family includes more than 4,000 described species.

Scuds and Sideswimmers (*Order Amphipoda*)

You could describe scuds as “shrimplike sowbugs.” Like sowbugs (in the order Isopoda), they have two pairs of antennae; they lack a carapace (a covering “back” like a crayfish has); their eyes are not on stalks; and they have several body segments with legs, gills, and other appendages. But unlike sowbugs, their arched bodies are flattened sideways, like shrimp, and the gills arise on the thorax segments (not on the abdomen). The various appendages have different purposes: armlike gnathopods at the front for feeding, followed by leglike pleopods for swimming, waving water across the gills, and other types of locomotion.

Under Logs/Rocks:

Greenhouse Millipede (*Oxidus gracilis*)

The greenhouse millipede (Oxidus gracilis), also known as the hothouse millipede, short-flange millipede, or garden millipede, is a species of millipede in the family Paradoxosomatidae that has been widely introduced around the world, and is sometimes a pest in greenhouses. The dorsal section of each segment has a transverse groove, a trait found in most paradoxosomatids. They are brown in color with pale cream-colored legs and paranota (lateral "keels" extending from each segment).

Terrestrial Isopod, Pill Bug, Roly Poly, etc. (*Armadillidium vulgare*)

Terrestrial isopods, commonly known as pill bugs (Porcellio) or sow bugs (Armadillidium), are land-dwelling crustaceans. Related to lobsters, crabs, and shrimp, isopods breathe with gills and require a humid environment for survival. They are found in cool, damp places under rocks, rotting wood, and decaying vegetation. The female carries up to 200 eggs in a brood pouch located underneath her body. When threatened, pill bugs roll into a tight ball for protection while sow bugs run or remain still, appearing to be dead.

Soil Centipede (*Strigamia bidens*)

There are many species of soil centipedes. They range in color from reddish brown to nearly white and have slender bodies. Often their bodies are flattened top to bottom. They have between 27 and 191 pairs of legs, depending on the species. Centipedes always have an odd number of pairs of legs, and only one pair of legs per leg-bearing body segment. Soil centipedes lack eyes and are sightless. They move through the soil like earthworms, expanding their length forward, then contracting to draw the hind part of the body toward the head. They are commonly encountered under rocks, logs, and other protected areas.

Sugar Ants (*Tetramorium caespitum*)

Sugar ants are harmless intruders. They never sting and don’t have a painful bite. If threatened, the ant may attempt to use its mouthparts to defend itself, but most people wouldn’t even feel the bite, and reactions are rare unless the individual is highly allergic. Though their moniker would lead you to believe that sugar ants seek primarily sweet foods, they’re omnivores and will consume a variety of different substances. In the wild, these ants live in forests and woodland habitats. They can build their colonies between rocks, in wood, around shrubs, and in the soil. They prefer nectar from plants and honeydew from aphids as their food source. In outdoor environments, the ants will tend to aphids, protecting them from predators so they can collect the honeydew secretions.

Japanese Beetle (*Popillia japonica*)

The Japanese beetle is a species of scarab beetle. The adult has iridescent copper-colored elytra and a green thorax and head. It is not very destructive in Japan, where it is controlled by natural predators, but in North America, it is a noted pest of about 300 species of plants. The adult beetles damage plants by skeletonizing the foliage consuming only the leaf material between the veins, and may also feed on fruit on the plants if present, while the subterranean larvae feed on the roots of grasses.

Click Beetle (*Melanotus spp.*)

Elateridae or click beetles are a cosmopolitan beetle family characterized by the unusual click mechanism they possess. A spine on the prosternum can be snapped into a corresponding notch on the mesosternum, producing a violent "click" that can bounce the beetle into the air. Clicking is mainly used to avoid predation, although it is also useful when the beetle is on its back and needs to right itself. There are about 9300 known species worldwide and 965 valid species in North America. Click beetle larvae, called wireworms, are usually saprophagous, living on dead organisms, but some species are serious agricultural pests, and others are active predators of other insect larvae.

European earwig (*Forficula auricularia*)

The name earwig comes from the appearance of the hindwings, which are unique and distinctive among insects, and resemble a human ear when unfolded. They are considered a pest because of the damage they do to crops, their frightening appearance, their ability to fly (which they rarely use), foul odor, and tendency to invade crevices in homes and consume pantry foodstuffs. Earwigs are reddish brown in color, with a flattened and elongate body, and slender, beaded antennae. An obvious feature of earwigs is the pair of 'pincers' or forceps at the tip of the flexible abdomen. Both sexes have these pincers; in males they are large and very curved, whereas in females they are straight.

Field cricket (*Gryllus spp.*)

Field crickets are a common site throughout the United States, Mexico and Canada, Warm summer nights bring them out as the males loudly chirp up to 30 times a minute in an effort to attract a female. Field crickets make homes in the ground, in tall grass or even piles of organic lawn debris. Their diet consists of animal remains and plant matter. They provide beneficial services to the ecosystem by eating the eggs and pupae of insects that are considered pests.

Patent Leather Beetle (*Odontotaenuis disjunctus*)

The patent-leather beetle, horned passalus or bess beetle is a saproxylic beetle in the family Passalidae, which can grow to just over an inch-and-a-half long, weigh 1 to 2 grams and are capable of pulling 50 times their own weight. They have been used to study several aspects of general family characteristics since the early 1900s but remain a relatively unknown species within the diverse Coleoptera order Patent leather beetles are most commonly found in climates with higher humidity, mainly in the warmer parts of both hemispheres, and also widely distributed in temperate North American forests. They are usually found under, or inside, old logs or stumps and are rarely observed outside of their wooden habitats.

Many thanks are due to Tierney Gannon for her help in compiling this list!