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What's the difference between a bug and an insect?

To many, the words bug and insect are interchangeable, and refer to those six-legged creatures you see everywhere. However, in the scientific community, the two terms do have different meanings. The word bug refers to a specific subgroup of insects classified as "true bugs" which have a feeding tube instead of chewing mouthparts. Examples of true bugs are the shield and assassin bugs. So remember, all bugs may be insects, but not all insects are bugs.

Banded Woolly Bear A member of the tiger moth family, the banded woolly bear is the larval stage of the Isabella moth. It gets its name from its woolly, bristly, black and rust-colored coat. It eats low-growing vegetation. A familiar late summer and fall sight, the woolly bear is thought by many to be able to predict the severity of the upcoming winter based on the width of its black bands. However, the real determining factors for band size are genetics and environmental impacts experienced by the caterpillar such as past weather, crowding factors, and ingestion of old leaves. The caterpillar overwinters.

Walking Stick A unique-looking insect, the walking stick truly looks like a small twig with legs, making it very difficult to spot them on the trees and shrubs where they like to hang out. They can grow to be fairly long, reaching 4 to 5 inches in length. Strictly an herbivore, these twig mimics can be so abundant that they can defoliate whole tracts of forest. New York State has two wingless species of walking sticks, one found throughout the state, and the other limited to Long Island. Historically classified with the grasshoppers, they are now placed in their own order.

Bumblebee Large, plump, and fuzzy, black and yellow bumblebees are a familiar sight to everyone. Important pollinators, they are often seen during the summer drinking nectar from flowers. Bumblebees are not aggressive, but can give a painful sting if threatened. They nest underground, with

only the queen overwintering (the rest die). Bumblebees have relatively small wings when compared to their large bodies, making one wonder at their ability to fly. To overcome this, the wings move in a complicated figure-eight pattern that provides more lift because of re-used airflow.

Praying Mantis Appropriately named, the praying mantis is a formidable predator that holds its powerful front legs upraised in a seemingly praying position while it waits to ambush its prey of insects and spiders. A large insect, the praying mantis can reach 3 to 4 inches in length. The praying mantis is perhaps best known for the female's tendency to behead the male during mating. New York is home to two species of mantids—the praying mantis and the Chinese mantis, introduced from Europe and China, respectively.

Cricket Known for serenading on a summer's night, crickets are more often heard than seen. They produce their chirping song by rubbing the edges of their wings together. Mistakenly thought by many to be a beetle, crickets generally have large, bent back legs and are closely related to grasshoppers. While there are many species of crickets—camel, house, ground, etc.—probably the cricket species most commonly seen is the field cricket. Each cricket species has its own unique song. The tempo of a cricket's song is so predictable and temperature dependent that one can calculate the temperature by counting the number of chirps per minute and plugging it into a formula.

Dragonfly Dragonflies come in a variety of shapes and sizes, with New York State having approximately 120 different dragonfly species. All have relatively long, slender bodies with two pairs of approximately equal-length wings. They are



often seen near water, but are good fliers and will fly long distances. Of the various dragonfly groups, skimmers are slightly shorter-bodied and are the ones you most commonly see around ponds and marshes. Damselflies are delicate-bodied with very slender abdomens. Darners are our largest dragonflies, reaching over 3 inches in length. All dragonflies are predators, known for their aerial acrobatics. Often referred to as a mosquito hawk, a single dragonfly is able to consume as many as 100 mosquitoes in a day. Dragonflies do not sting, but larger adults can bite if handled carelessly.

Lightningbug A type of beetle, lightningbugs (or fireflies) are a favorite of kids who enjoy watching these rather small insects put on a unique, dazzling night display of blinking lights each spring and early summer. Firefly adults use this bioluminescence to find mates and each species has its own distinct flashing pattern. Lightningbug larvae look like little alligators, and eat snails and slugs. One genus of lightningbugs will mimic the courtship flash of another genus of smaller lightningbugs in order to attract and then eat them.



Grasshopper New York is home to numerous grasshopper species, including various short-horned species (the type most commonly seen), and katydids. A familiar summer sight, grasshoppers are easily recognized by their large, conspicuous, powerful hind legs that they use for jumping. They are excellent fliers, sometimes traveling long distances. Adult male grasshoppers make a buzzing sound by rubbing their wings together, and are often heard "singing" in fields and farmland. While some species will eat and damage farm crops, grasshoppers provide an important food source for many bird species, as well as other insect-eating animals.



Monarch Butterfly With a distinct orange and black wing pattern, the monarch is perhaps the best known of our butterflies. Large, strong fliers, they are often seen feeding on flowers or flying leisurely in open areas. Monarchs migrate thousands of miles, frequently stopping in the same rest spots each



year. Millions migrate south each fall, with females returning each spring or early summer, laying their eggs along the way. These new generations replace the old, continuing the northward trek. Birds and other predators avoid eating monarchs because they are toxic; the caterpillars feed on milkweeds, storing toxic chemicals from the plant.

June Bug Also called May beetles, these relatively large, stout beetles are most often encountered in May and June, buzzing around lights or banging against screens and windows. Adults graze on the foliage of shrubs and trees. The larval stage of this beetle, known as a grub, feeds on the roots of grasses and other plants, remaining in the soil for up to three years. Moles and skunks will sometimes dig up entire lawns searching for these grubs to eat.



Ladybug Also known as ladybird beetles, ladybugs are often brightly colored, relatively small beetles that are generally a favorite of children. The nine-spotted ladybug is New York State's official insect.



Ladybugs are highly regarded as one of our most beneficial insects because they feed on pest aphids, with adult ladybugs consuming as much as 100 aphids a day. There are a few species of ladybugs (such as the Mexican bean beetle) that are herbivores. Adult ladybugs frequently overwinter in groups, sometimes indoors where they will congregate at windows in spring and fall. Because of their beneficial qualities, several different species of ladybugs—including the European seven-spotted ladybug, and the Halloween bug or many-spotted ladybug—have been introduced into New York since the 1940s as a method of aphid control. Unfortunately, many native ladybugs (such as the nine-spotted) are now rarities because of these exotic introductions.

Hornworm The larval form of various species of sphinx moths, hornworms get their name from the "horn" on the back end of the body. Large, plump, hairless caterpillars, they will rear up when threatened. They are voracious feeders and can quickly strip a plant of all its leaves.



Two species, the tomato and potato hornworms, migrate into New York State each summer, sometimes damaging crops. Tomato hornworm moths have coiled tongues that can extend many inches, enabling them to reach the nectar of long-tube flowers, pollinating the plants in the process. Although many people think a hornworm can sting with its horn, this is not true.