



Insects of Monmouth County



www.monmouthcountyparks.com

The Monmouth County Park System has two environmental centers dedicated to nature education. Each has a trained staff of naturalists to answer visitor questions and a variety of displays, exhibits, and hands-on activities where visitors of all ages can learn about area wildlife and natural history.

The Huber Woods Environmental Center, on Brown's Dock Road in the Locust Section of Middletown, features newly renovated exhibits about birds, plants, wildlife and the Lenape Indians. Miles of surrounding trails offer many opportunities to enjoy and view nature.



The Manasquan Reservoir Environmental Center, on Georgia Tavern Road in Howell specializes in wetland species. The center has many water-related displays and exhibits to learn about local plants and wildlife. The 5-mile perimeter trail is a great place to explore and enjoy nature.



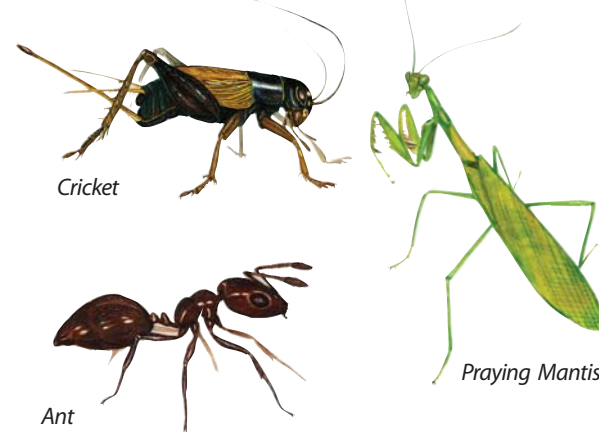
Monmouth County
Board of Chosen Freeholders
Board of Recreation Commissioners



There are more insects in Monmouth County than people. Insects are the most populous animals on the planet!

In fact, there are so many different kinds of insects it is helpful to categorize them to help with identification. There are more than 20 insect Orders (the groupings used by scientists). Here are some of the ones discussed in this brochure.

- Diptera; flies and mosquitoes
- Hemiptera; true bugs (assassin bugs and water striders)
- Homoptera; cicadas
- Hymenoptera; ants, bees and wasps
- Siphonaptera; fleas
- Lepidoptera; butterflies and moths
- Orthoptera; crickets, grasshoppers
- Mantodea; mantids
- Blattodea; roaches
- Isoptera; termites
- Anoplura; lice
- Coleoptera; fireflies and beetles (such as the Ladybug)
- Odonata; dragonflies and damselflies



All illustrations by Elayne Leighton

Classic Features & Variety

Insects have three body parts: a head, thorax, and abdomen. They also have exoskeletons, which is a type of hard outer "shell," 2 antennae, 6 legs, and (usually) wings. Some insects have two wings, others have four; some have only wing "buds" and some have no wings at all.

Dragonflies

Dragonflies and the similar looking damselflies (sometimes called "darning needles" for their slight build and fast motion) can look scary, but don't let their appearance fool you.



Calico Pennant Dragonfly

The adults are harmless to humans, but nymphs in the water are voracious predators and you could risk a nip should you attempt to capture one. These hunters have translucent wings and jewel-like coloring that make them a vision to see near the water.

Although like all insects they have six legs, they cannot walk! They can hold onto their prey with the front legs and hold onto grasses and shrubbery with the others.



Spreadwing Damselfly

And, interestingly, their four wings can function independently, allowing them great speed and the ability to hover and fly backwards. Visit the **Manasquan Reservoir** or any other park with bodies of water, such as **Holmdel Park** or **Turkey Swamp Park** during summer.

The Life Stages: Changing Appearance

Insects do not just grow bigger; instead they go through distinct stages of development called "metamorphosis." Many insects change appearance dramatically as they "morph" from an egg to larva then to pupae or nymph, and finally to their adult form.

Butterflies & Moths

Have you ever watched a Monarch, one of this area's most common, beautiful and recognizable butterflies? In the life cycle of the Monarch butterfly, they go through a complete metamorphosis. They start life as eggs, then hatch into caterpillars (the larval stage). Next, they shed their outer skin as they grow and pupate by attaching themselves to a surface to become a chrysalis. After their body has completely changed structure, they emerge as adult butterflies.

Metamorphosis of a Monarch Butterfly



1. caterpillar



2. pupae



3. chrysalis



4. adult

Visit the meadows of **Thompson or Tatum Park** late spring-early fall to see the Monarch and other elegant butterflies flutter-by.



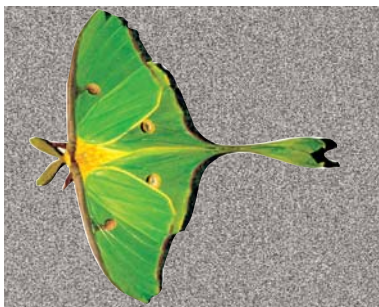
Tiger Swallowtails are another very common species.

The Mourning Cloak can be seen in early spring, arising on woodland trails before you as you hike along.



The Spicebush Swallowtail lives in low, damp woods and visits open fields less often than other swallowtails.

The luminescent Luna Moth glitters green in the evening moonlight searching for the aroma of the female's pheromones.



Seeing Bees

Honey bees are part of an elaborate social structure, while carpenter bees are solitary. Fortunately, neither are likely to sting you. Honey bees are by nature calm, but more importantly, should one sting you it will be the end of her (as she will leave the stinger and a rear portion of her abdomen with you!) Male carpenter bees, on the other hand, do not even have a stinger, although they may bite if you pester them, and can bore damaging tunnels into wooden structures such as decks, eaves, and sheds.

Carpenter Bee



The Good, Bad & Bugly

There are beautiful insects and destructive insects. Some we find repulsive, and others do important jobs for us.

The Good

Lady Bird Beetles, also known as ladybugs, have hard colorful wings on the outside to protect their diaphanous and delicate inner wings, which stay folded inside. When the outer wings lift up, the inner unfold to take flight. Ladybugs have biting mouthparts and are predators to many of the harmful insects that devour our crops.

Ladybugs are easy to catch and in the adult form are usually harmless. Although... should you irritate them you will find a yellow, foul-smelling secretion emanating from their leg joints. They range in color from red (with or without black spots) to pink, yellow, striped, black or white. Incidentally, you cannot tell a lady bug's age by counting the spots.

Ladybug



The Bad

Fleas are very unwelcome guests in our homes. They can live on cats, dogs, people, rats, raccoons, opossums, and birds. They feed on the blood of their host. It was the flea that carried bubonic plague. If fleas cannot find a blood meal, they can cocoon as an adult for a year. They can also live in carpet or furniture fibers as eggs, larva, and cocooned pupae.

Flea



Scanning Electron Micrograph (SEM). www.cdc.gov. Janice Haney Carr

The Bugly

Most true bugs have hard fore wings, similar to beetles, but the tips are membranous where they overlap. True bugs also have sucking (as opposed to chewing) mouthparts, so they can feed by piercing the outer covering of their prey—which may be plant or animal. Some are parasitic; and many have a scutellum, a triangular, breast-plate like covering, which is why they are commonly called shield bugs.

The Spined Soldier Bug, a kind of Stink Bug native to this area, is so named because it can emit a strong odor to repel enemies; note the "armor" like plates. [Not to be confused with the non-native (Asian) Marmorated Stink Bug, which has stripes, bands and/or dots along its outer edges and antennae.] Some true bugs are found in fresh water such as

Stink Bug



Water Strider



ponds and lakes. This one—the water strider—can even walk or skate on the surface of water. Tiny hairs or setae and a wax coating on the legs help it stay afloat.