



The Monmouth County Park System has two environmental centers dedicated to nature education. Each has a trained staff of naturalists to answer 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.



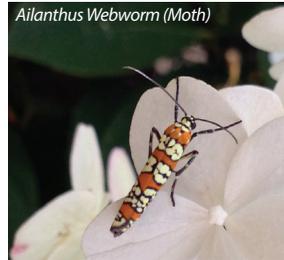
The **Manasquan Reservoir Environmental Center**, on Georgia Tavern Road in Howell specializes in wetland species. The center has many water-related displays and exhibits to learn about local plants and wildlife. The 5-mile perimeter trail is a great place to explore and enjoy nature.



Insects of Monmouth County



White-faced Fly



Ailanthus Webworm (Moth)



Dragonfly



Milkweed Bug



Aphid

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

Insect Categories

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

Field Cricket



Beetle



Ant



Fruit Fly



Illustrations by Elayne Leighton

Source: Kate St. John
birdsoutsidemymywindow.org

Classic Features & Variety

Insects have three body parts: a head, thorax, and abdomen. They also have an exoskeleton, (hard outer shell) 2 antennae, 6 legs, and (usually) wings. Some insects have two wings, others have four; some have only wing "buds."

Dragonflies & Damselflies

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.

Like all insects they have six legs and can hold onto prey with the front legs while latching grasses and shrubbery with the others. Their four wings can function independently, allowing them great speed and the ability to hover and fly backwards.

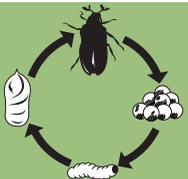
Spreadwing
Damselfly



Visit the **Manasquan Reservoir** or any other park with bodies of water, such as **Holmdel Park** or **Turkey Swamp Park** during summer to view dragonflies and damselflies.

Insect Life Stages: Metamorphosis

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 the Monarch, one of this area's most common, beautiful and recognizable butterflies? They go through a complete metamorphosis during their life cycle. They start 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

Early and late stage caterpillar (larvae)



Pupae and early chrysalis



Late stage chrysalis



Adult



Butterflies have a preferred, host plant on which they deposit their eggs. Visit the large "milkweed meadows "

of Thompson Park or Dorbrook Recreation Area to see Monarchs during summer.

Eastern Tiger Swallowtail (3-6")



Black Swallowtail (3-6")



Cabbage White (1 1/2")



Varigated Fritillary (2-4")



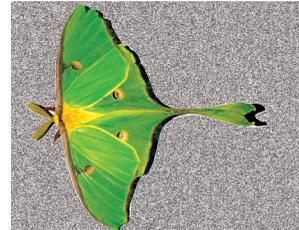
Common Buckeye (2 1/2")



American Lady (1 3/4-2 5/8")



Luna Moth (3-7")



Source: TG Barnes fws.gov

Walnut Sphinx Moth (1 1/2-3")



Seeing Bees

Honey bees, brought over here from Europe in the late 1600s, 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.

Honey Bee



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.

They range in color from red (with or without black spots) to pink, yellow, striped, black or white.

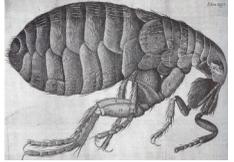
Ladybug



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 and can carry disease. About the size of a sesame seed, fleas can also live in carpet and furniture fibers.

Flea (enlarged)



Source: Robert Hock 1665 engraving, Wikimedia Commons

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, and feed by piercing the outer covering of their prey—which may be plant or animal. 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, can emit a strong odor to repel enemies; note the "armor" like plates. Do not confuse with the non-native (Asian) marmorated stink bug, which has stripes, bands and/or dots along it's outer edges and antennae.

Some true bugs are found in fresh water such as ponds and lakes. 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.

Native Stink Bug



Source: www.uniprot.org/taxonomy/29025

Non-Native Stink Bug



Water Strider

