

#### Status

- ☑ Venomous sting
- ☑ Possible health threat

# Paper Wasps

## General Information

Wasps, ants, and bees belong to an order of insects called Hymenoptera. Over 103,000 species of Hymenoptera are known in the world, with over 17,000 known in the U.S. Some, such as paper wasps, are social and live in colonies. There are over 900 species of social wasps known in the world. Most capture and eat other insects (predators) or feed and grow inside of another insect (parasitoids). Almost every insect species has at least one wasp species that eats it, making wasps critically important in the natural control of other insects.

## What Do They Look Like?

Paper wasps have two pairs of membranous wings, two antennae, and six legs. In most species, the connection between thorax and abdomen is long and narrow. Their hard exoskeleton is smooth and usually hairless. They have two large compound eyes and three or more simple light-sensing eyes (ocelli) that are typically arranged in a triangle on top of the head. Their excellent eyesight allows them to easily track predators while protecting their nests. Females have a stinger, which is actually a modified egg-laying device (ovipositor).

## Health Risks

Paper wasp females have a lance-like

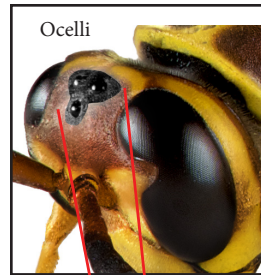
stinger with smooth edges and can sting repeatedly. The venom of a single sting is usually not dangerous; however, the venom of several stings may cause problems. Victims who are allergic to the venom may have an anaphylactic reaction after only one sting. Symptoms of anaphylaxis include pain, tightening airways, difficulty breathing, irregular heartbeat, and unconsciousness; death may result if untreated.

Stinger



## Protect Yourself

- If a wasp lands on you, resist the urge to swat; instead gently blow on it and it will usually fly away.
- If stung, clean the area with soap and cold water, and apply ice. Hydrocortisone ointment may also help calm the reaction.
- Should you experience symptoms of an allergic reaction, such as swelling of your tongue or throat, wheezing, dizziness, shortness of breath, or drop in blood pressure, call 911.



Ocelli



Adult Paper Wasp



Adult Paper Wasp on a Nest

## Life Cycle

Wasps have four stages in their life cycle: egg, larva, pupa, and adult. After mating, a new queen flies off to start a new colony, typically in a tree, a shrub, or under a building eave. She finds dead wood such as bark then chews and mixes it with saliva to form paper-like pulp. She attaches pulp to the nest site and forms a hanging stalk. To the stalk she builds an umbrella-like nest that contains six-sided cells. She then captures a caterpillar, chews it, stuffs it into a cell, and lays an egg on it. A few days later, the larvae hatch from the eggs, remain in the cells, and feed on the caterpillars. As larvae eat and mature, they outgrow their skin, grow a new skin layer, and shed the old one, a process called molting. After the fifth growth-molt cycle, usually two weeks later, the larvae spin a cocoon in the cell and enter the pupal stage. About a week later, the adult worker wasp emerges from the pupal case. The process of changing body forms while maturing is called metamorphosis. This first generation of adult workers enlarge the nest and supply it with caterpillars. After the queen lays more eggs, the workers take care of the young.

