



Paper Wasps

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Identification

There are over 20 species of paper wasps (*Polistes* spp.) found in North America. Not all of these species are found in Virginia. The European paper wasp (*P. dominula*) was accidentally introduced from Europe around the 1980s.

Paper wasps are large, elongated insects with long legs, antennae, and wings. Their bodies are slender, with a distinct constriction between the thorax and the abdomen (“wasp waisted”) (Fig. 1). The wings are narrowly folded and held over the back at rest. The adults typically measure 2-3 cm (about 1.0”) in length.



Figure 1. Adult paper wasp gathering wood fibers for nest construction (Jon Yuschock, Bugwood.org).

Many adult paper wasps are reddish-brown in color with varying yellow or dark markings. Some species of paper wasps have striking patterns of stripes while others are more uniformly colored. The wings can vary in color from light brown to almost black. Some individuals of the same species may appear lighter in color while others are very dark. The invasive European paper wasp has black and yellow coloration and is often mistaken for a yellow jacket.

Hymenoptera: Vespidae, *Polistes* spp.

Life History

Paper wasps are social insects that build papery nests out of chewed plant fibers. Worker wasps collect these fibers from exposed wood and dry, woody plant stalks (Fig. 1). Paper wasps are sometimes a nuisance when collecting these fibers from wood decking, outdoor furniture, or even tool handles left outside. Paper wasps are also known to use fibers from cardboard, newspaper, or even cloth material. Most paper wasp nests show striped shades of tan, gray, and brown, but some nests can be quite colorful if the wasps used colored paper to make them.

The nest begins as several hexagonal cells hanging from a stalk (Fig. 2). Paper wasps readily build nests around manmade structures, usually in a protected site such as under eaves or in the void behind a loose board. Some homeowners have been surprised to find paper wasp nests around outdoor light fixtures, in unused grills, or in bird houses. Other nesting sites may include inside hollow trees or old snags, under rock overhangs, under large tree branches, and similar locations. Nests can hang either horizontally or vertically as space allows. The workers expand the nest outward in size as the colony grows larger. A large paper wasp nest may take the form of a disc or a flattened cap. Paper wasp nests do not have a papery covering as seen with bald-faced or European hornet nests.

Paper wasp larvae are robust, creamy white grubs with brown head capsules and chewing mouthparts. They develop from eggs laid in individual cells within the nest. They remain in their cells, eating food brought to them by the worker wasps. When the wasp larva is mature, workers cap the larval cell with papery material before the larva pupates. Adult wasps chew through the capped cells after pupation and emerge to contribute to the colony.



Figure 2. Adult paper wasps on a small nest (Ansel Ooman, Bugwood.org).

Fertilized paper wasp queens overwinter in sheltered locations and start new colonies in the spring. In most species of paper wasps, all the workers die with cold weather. Our native species of *Polistes* build new nests each year, but European paper wasps will reuse old nests.

Description of Damage

Adult paper wasps feed on plant nectar, the juice of ripe fruits, and other sugary liquids. They can be a frequent nuisance around trash cans that contain spilled soda or hummingbird feeders with nectar.

Adult paper wasps are often seen feeding on nectar and pollen from flowering plants. Their presence in the garden should be tolerated as they are excellent predators of caterpillars and sometimes other soft-bodied insects. Paper wasps chew up large numbers of prey insects into small pellets to transport back to the nest to feed the developing wasp larvae.

Paper wasp stings can be very painful, but they do not appear to be particularly aggressive or vicious unless defending their nest. However, a stinging wasp can release an alarm pheromone to recruit other nearby wasps to attack a threat to the nest. Unlike honey bees, a paper wasp can sting repeatedly without permanent damage to its body. People sensitive to bee and wasp stings should seek medical attention if stung by paper wasps.

Control

Paper wasp nests should be removed when located in areas where human contact is likely. These sites include near doorways and windows, along heavily traveled paths, around trash cans, and areas where children play. Paper wasps return to their nest at night. Saturate the nest with an aerosol insecticide; a wasp and hornet spray that shoots from a safe distance is ideal. Consider using a flashlight with a red light to limit attraction by the wasps, and wear protective clothing to protect against stings. Never use gasoline on a nest, and do not set the nest on fire.

Individual wasps in homes can be killed using a fly swatter or an aerosol insecticide spray. Discourage paper wasps from frequenting trash cans by secure tight-sealing lids on the containers and emptying them on a regular basis. Promptly clean up any spilled food or drink in outdoor eating areas. Over-ripe fruit in the garden should be raked up and removed to prevent attracting wasps.

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