



Photo credit: Jennifer L. Snyder

Top row: Mud dauber nest and mud dauber (*Sceliphron* sp.).

Middle row: Paper wasp nest and paper wasp (*Polistes dominula*).

Bottom row: Aerial yellowjacket (*Dolichovespula arenaria*) nest under an eave, and a western yellowjacket (*Vespula pensylvanica*) queen whose nest is below ground.

IPM: Identification First!

To safely, efficiently, and effectively manage wasps in school environments, identification of the wasp must first be made. The most common wasps have very different nests and appearances as seen here. Getting a look at the nest or at the wasp will allow you to decide whether management action should be taken and what that action should be.

Wasps are among the most feared and controversial insects in school environments. The three most common types of wasp around schools are mud daubers, paper wasps, and yellowjackets. Each of these wasp types has different nesting and feeding habits, and varies widely in their level of aggressiveness toward humans. Dealing with these wasps as though they are the same or similar can result in stinging incidents, unnecessary use of pesticides, lost time, and alarmed students and staff.

Each of these three wasp types includes species that are mostly yellow and black in coloration. Their activity begins in spring with a queen who produces anywhere from a few to hundreds of female offspring throughout the spring and summer months, along with a small number of males in mid-to-late summer. They are efficient predators and/or scavengers of spiders, caterpillars, and many other insects. This is where most of the similarities end.

Mud daubers are mostly dark with some yellow in their mid-section and legs. They have a very long, slender body, an obvious threadlike waist, and long legs that hang in flight. Mud daubers are solitary wasps (one queen, no workers). They build a single mud nest that is a combination of dirt, water, and saliva. The nest is often tucked into the upper or lower corners of entryways, usually close to a water source (a leaky faucet, over-irrigated beds, etc.). These wasps are voracious predators of spiders, and are often considered beneficial. Pacific Northwest mud daubers are extremely unlikely to sting, in spite of their aggressive appearance. Mud dauber populations decline in August and September.

Paper wasps usually have yellow antennae, and their body has yellow and black stripes and patterning. Their long, relatively narrow body and long legs that hang in flight make them appear similar to a mud dauber. But paper wasp nests are quite different from a mud dauber's. Nests are begun by the queen in March or April and consist of a single layer of open-faced papery comb that is not enclosed. The nest faces outward or downward, and is often built on the underside of wood materials (playground structures, wood beams, underside of eaves, etc.) or attached to metal (vents, electrical panels, uncapped pipes and handrails, bike stands, etc.). By summer, the paper wasp nest may be oblong or round in shape, up to six inches wide, and may contain up to about 75 workers, in addition to the queen. These workers often prey on tree and turfgrass pests, and are considered beneficial. Paper wasp queens may sometimes overwinter in attics and structural eaves, so it is common to find them indoors the following spring as they try to escape outside. Once a nest is established, paper wasps may sting to defend it.

TIPS FOR DETECTING AND MANAGING COMMON WASPS IN YOUR SCHOOL

School staff and students can help to discourage wasps in school environments and reduce stinging incidents.

1. Report large numbers of wasps seen in a specific area, which suggests a nest or a food source needs to be removed. If a nest is seen, include its description in your report.
2. Notify facilities & maintenance of outdoor water leaks (faucets, hoses, standing water, etc).
3. Pick up rotting fruit from trees to discourage foraging paper wasps and yellowjackets.
4. Use containers with lids and straws for outdoor drinks in late summer and early fall. Keep cheese and meat snacks in a container when outside. Yellowjackets love these snacks as much as kids do.
5. Avoid wearing brightly colored clothing, especially yellow, orange, or red, and using scented lotions and sprays, which may attract paper wasps and yellowjackets.
6. Exercise good judgment. Wasp numbers are highest during late summer and early fall. Be aware of nests and give individual wasps their space. Do not swat at wasps, but do move away from them. The three wasp types discussed here abandon their nest each winter and die or become inactive when cold weather arrives.

A queen rarely stings before her nest is built, and workers do not readily sting when they are far from their nest or without some provocation when near the nest. Paper wasp populations typically decline in August and September.

Yellowjackets have black antennae, and a body that is marked by yellow and black stripes and patterning, similar to the paper wasp. Unlike the mud dauber and paper wasp, yellowjackets have a robust, compact body and fly rapidly with their legs tucked underneath, making them appear more bee-like. One species, the baldfaced hornet, is actually a yellowjacket that is mostly black with a small amount of white patterning. Yellowjacket nests are multiple layers of comb encased in a paper envelope that is round or heart-shaped. Nests grow in both physical size and number of wasps throughout the summer. Yellowjackets build their nest underground, often in old rodent burrows, as well as in rotted logs, railroad ties, and other protected areas at or below ground level. They may also nest above ground in shrubs, trees, or attached to the underside of structural eaves. Less often, they nest in wall voids, attics, garages, or abandoned cars. Nests may be up to a foot or more across by September and contain over a thousand wasps. Yellowjackets begin foraging heavily for carbohydrates (sugar) in late summer and early fall, often feeding on decaying tree fruit. In school environments, yellowjackets get their sweet fix and protein needs from school lunches and beverages, trashcans, etc. Yellowjackets are social and the workers may defend the nest, and may sting bystanders several feet away from the nest without provocation. Yellowjacket populations may persist into late November.

FOR MORE INFORMATION ON WASP MANAGEMENT:

- *Bechinski E, F. Merickel, L. Stoltman, and H. Homan. Homeowner Guide to Yellowjackets, Bald-Faced Hornets, and Paper Wasps. University of Idaho Extension. Found at: www.cals.uidaho.edu/ed-comm/pdf/BUL/BUL0852.pdf*
- *Antonelli, A. and P. Landolt. Yellowjackets and Paper Wasps, Washington State University Extension Bulletin EB0643. Found at: <https://pubs.wsu.edu/ItemDetail.aspx?ProductID=13332&SeriesCode=&CategoryID=&Keyword=eb0643>*
- *The National Pesticide Information Center (NPIC) provides objective, science-based information about pesticides and related topics to enable people to make informed decisions. To contact NPIC, call 1-800-858-7378 or visit <http://npic.orst.edu>.*



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