

Notes from a Rogue entomologist

The sting of summer: Yellow jackets and paper wasps

BY RICHARD J. HILTON

There is nothing like having a large black and yellow insect buzz by at eye level to get one's attention. I am not talking about a warm and fuzzy bumblebee, but a cold and steely yellow jacket, one of the banes of summer. That combination of black and yellow is a signal that we readily recognize, informing us that this insect is capable of inflicting a painful sting to defend itself or its nest. Yellow jackets are members of a group of stinging insects known as the social wasps or vespids. One sting is more than sufficient to instill a measure of respect for these insects, and for the one or two people in a thousand who are severely allergic to the venom, one sting can be a potentially life-threatening event.

Entomologists have tried to quantify the pain inflicted by various insect stings. The Schmidt Sting Pain Index is a 5-point pain scale, numbered from 0 to 4. The sting from a honeybee, yellow jacket, and bald-faced hornet all rate a 2, which is classified as simply painful. The paper wasp sting rates a 3, or very painful. The rating of 4, extremely or excruciatingly painful, is reserved for the likes of the tarantula hawk or the bullet ant, neither of which, luckily, are inhabitants of southern Oregon. Of course, pain is a subjective response and there is good evidence that one's pain tolerance is to a significant degree genetically determined. So if you have a low pain tolerance, it is not that you lack courage or fortitude, you were most likely born that way.

The social wasps that we contend with locally are several species of yellow jackets, including the bald-faced hornet and a number of paper wasps. Most of these insects are beneficial in that they are predators and consume a variety of other insects and spiders. When encountered away from their nest, they do not usually sting except when harassed. In our region, yellow jackets are generally ground nesters, using an abandoned burrow in which to build their nest, although they may occasionally use a wall void or similar cavity. Bald-faced hornets, although technically yellow jackets, are black

and white and build their nests above ground, usually in shrubs. This is a large football-shaped nest with an entry hole at the bottom that is often mistakenly depicted in children's books as a honeybee hive. Paper wasps are most familiar as the wasps that build their relatively small nests under eaves. Paper wasps are rather inappropriately named since all the social wasps build their nests using paper, i.e., masticated plant material. In fact, while the yellow jacket and bald-faced hornet nests are encased in paper, the nests of the paper wasps are open and you can see the cells of the nest from below. One entomologist tried to introduce the name "umbrella wasp," which describes their open nest, but old habits die hard.

According to the aforementioned Schmidt scale and other sources (including my wife, who recently had an unfortunate encounter with some paper wasps in the pump house), the paper wasp sting is more painful than a yellow jacket or bald-faced hornet, but the good news is that paper wasps are generally nonaggressive and sting only when their nest is actively threatened. (Note: Always check the pump house for paper wasp nests). As is often the case, if you leave them alone, they will leave you alone. However, yellow jackets and bald-faced hornets tend to be more aggressive in protecting their nests, and that is usually when people get stung.

All these wasp nests are used only for a single year and are started by a queen in the spring, so the nests start out very small and increase in size over the summer. By the end of summer, the nests of some species, such as the western yellow jacket and the bald-faced hornet, may have gotten very large, so there can be a lot of workers around and they will defend the nest vigorously. In late summer it is not uncommon to walk by a yellow jacket ground nest unawares and suddenly find yourself under attack. Plus, the stinger of social wasps, unlike a honeybee, is not barbed, allowing them to sting repeatedly. The western yellow jacket (*Vespula*

pennsylvanica) is by far the worst offender in our area. This species has adapted to become a scavenger, particularly late in the summer, and this is the yellow jacket that is commonly a nuisance at picnics and barbecues. Since it is a scavenger, it is generally able to find ample food through the summer, and the nests continue to grow so that you can eventually have thousands of individuals in a single nest.

As these social wasps do sting and can be a nuisance, the question of how best to control them is a common one, but do not forget that these insects are primarily predators and are beneficial. Avoidance is always the first option, but trapping and nest elimination may be needed in some cases. Trapping the yellow jacket queens in the spring may be helpful in reducing the number of nests in an area, and trapping in the summer to reduce the overall number of yellow jackets may be of some benefit, especially in areas that get a lot of recreational use. As for nest elimination, this is done most easily for paper wasps and bald-faced hornets, whose nests are usually visible and accessible. However, since paper wasps are not very aggressive, their nests should be left alone unless they are in an area where they are likely to be disturbed (such as a pump house). As for ground nests, they are often discovered late in the summer when the nest is large. If avoidance is not possible, it is generally advisable to consult a professional, since spraying nests, particularly ground nests, can be both tricky and risky.

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Photos, top to bottom: paper wasp; nest of paper wasp; yellow jacket; bald-faced hornet; and nest of bald-faced hornet. Photo credits, top to bottom: www.sutter-yubamvcd.org; www.lawestvector.org; www.beneficialbugs.org; www.indianahoney.com; www.sierrapotomac.org.



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