

Mistaken Identity

The Cicada Killer Wasp and the Asian Giant Hornet

W. Eugene Hall¹, Peter C. Ellsworth², Naomi Pier¹,

¹University of Arizona, ¹Assistants in Extension & ²IPM Specialist

Transitioning from spring to summer in Arizona, we see and hear cicadas (Fig. 1b) in the desert landscape as adults emerge from underground after several years feeding on plant roots while in the immature or 'nymph' stage.

During courtship, males produce loud mating calls to attract females. But other insects notice, too, looking to interact with cicadas in a much different way.

The large and colorful cicada killer wasp hunts cicadas (Fig. 1a), which they use as a meal to feed their developing grub or larva. Two species of these wasps occur in Arizona, Pacific cicada killer (*Sphecius convallis*) and the Western cicada killer (*S. grandis*) (Fig. 3).

The cicada killer wasp hunts her prey, paralyzes the cicada with her sting, and carries her cicada payload on the wing back to her nesting site.

Asian Giant Hornet



Figure 2. Asian giant hornet (*Vespa mandarinia*) is also predatory and will feed on a variety of insects, including bees. This hornet has not established itself in Arizona or other parts of the southwest, as they prefer moist forested habitat.

A PDF of this publication is available on-line at:

<https://acis.cals.arizona.edu/docs/default-source/ipm-short/CicadaKiller.pdf>



Cicada Killer Wasp

Figure 1. (a) Pacific cicada killer wasp (*Sphecius convallis*) in the process of moving her adult cicada catch back to her underground nesting site. The immobilized cicada adult will provide food for her young. Cicada killer wasps pose no threat to humans. They are seen primarily in the summer months when adult cicadas are present (b).



Cicada

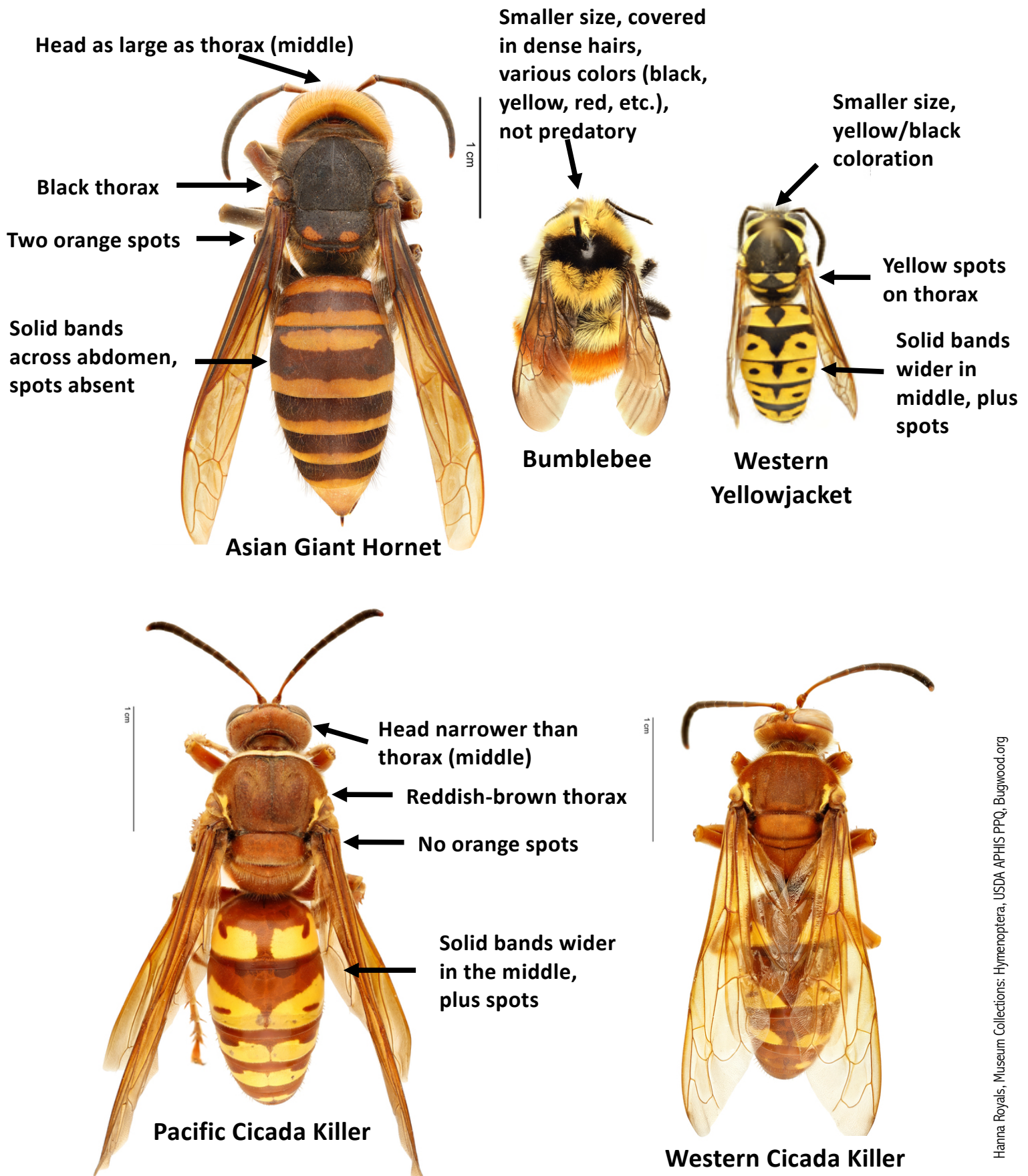
After laying an egg with the cadaver-like cicada, she seals up the underground chamber. The hatched cicada killer wasp grub feeds on the immobilized cicada until ready to pupate, later emerging as an adult wasp. This gentle giant of the wasps interacts with cicadas on a level that while on the surface might appear gruesome, is a part of the delicate balance of nature. The cicada killer wasp is another example of the great diversity of insect species inhabiting Arizona, and how all species are interconnected to each other to maintain the balance of nature.

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While native to our region and unique in its own way, the cicada killer wasp has gained prominence because it is sometimes confused with a much more ferocious wasp, the Asian giant hornet (Figs. 2-3), whose current invasive range in North America includes Washington State and British Columbia.

The likelihood of this invasive hornet getting established in Arizona and other parts of the southwest is low, because it prefers a moist forested habitat and other conditions that we don't have in Arizona. Still, be aware of this invasive species, and contact us with suspect specimens or photos for species verification (www.uainsectcollection.com/insect-identification.html).

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Hanna Royals, Museum Collections: Hymenoptera, USDA APHIS PPQ, Bugwood.org

Figure 3. Big wasps! Clockwise from top to bottom the Asian Giant Hornet (*Vespa mandarinia*) in comparison with a Bumblebee (*Bombus huntii*) and Western Yellowjacket (*Vespula pensylvanica*), Pacific Cicada Killer (*Sphecius convallis*), Western Cicada Killer (*Sphecius grandis*). All photos courtesy of Hanna Royals, Museum Collections: Hymenoptera, USDA APHIS PPQ, [Bugwood.org](https://bugwood.org).