

THE PURDUE LANDSCAPE REPORT

New Invasive Predator of Honeybees

By: Bob Bruner, rb Bruner@purdue.edu, By: Tom Creswell, creswell@purdue.edu & By: Cliff Sadof, csadof@purdue.edu

A new invasive insect of concern has been identified in the state of Georgia. In August of 2023, Georgia's Department of Agriculture, along with the USDA, confirmed the presence of the yellow-legged hornet, *Vespa velutina*, outside of the city of Savannah. To date, this is the only confirmed identification of this insect in the United States; it has already established in Europe, the Middle East, and parts of Asia outside of its native range. *V. velutina* is a native of the subtropical and tropical regions of southeast Asia, and it is not yet clear how it arrived in North America. Much like the northern giant hornet, previously known as the Asian giant hornet or 'murder hornet', this insect will attack honeybee hives in search of food and represents a potential danger to the beekeeping industry.



Figure 1. Yellow-Leg Hornet. Image Credit: Allan Smith-Pardo, Invasive Hornets, USDA APHIS PPQ, Bugwood.org

Yellow-legged hornets are predators and will regularly attack honeybees to provide food for their young, though it is possible they could attack other, similar species. Since honeybees concentrate their numbers in hives with a lot of in-and-out traffic, they provide an excellent opportunity for the hornets to hunt and provide food for their young. The hornets are effectively ambush predators, waiting in front of hive entrances and capturing workers with their legs as they leave the hive. The hornets then dismember the bees, returning to their young with only the thorax, which contains the largest amount of protein. However, it is believed that yellow-legged hornets only represent a lethal

threat to weaker hives that are already experiencing problems; it is also too early to tell how already-existing honeybee issues, such as mite and disease issues, will interact with the presence of this insect.

The yellow-legged hornet, much like other members of Order Hymenoptera, is a social insect. They create oval or egg-shaped nests in trees that can house as many as 6,000 individuals. Colonies are composed of a foundress and her young, who become the workers within the colony. Female hornets will overwinter within tree hollows, leaf litter, or other environmentally stable locations, and once spring arrives, they start their own colony and give birth to new workers who care for young and hunt.

As with any new invasive species, it is critical to successfully identify it and differentiate it from other species of wasps and hornets that we experience in the Midwest. At a glance, the yellow-legged hornet is barely discernable from European hornets, yellowjackets, and similar insects; they possess aerodynamic shapes with heavy yellow and black color patterns like many of their cousins. The most easily identified trait is their namesake: the legs of this insect tend to be black closer to the body, with the lower half of the leg bright yellow. The segments of the abdomen follow a similar pattern, with those segments closer to the center of the body being dominated by black, steadily becoming more yellow as you reach the tip of the abdomen. The yellow-legged hornet is also approximately an inch in length, with reproductive individuals sometimes reaching an inch and a half.

While remaining observant will be critical to reporting any invasive species, there are a few things to keep in mind about the yellow-legged hornet. This insect has only been found in one location in Georgia; no other states have any sightings or confirmed reports of this insect. There is also no evidence the insect has established a population in Georgia, there is only one confirmed sighting. The best course of action for now is to be vigilant and report any potential sightings by calling 1-866-NOEXOTIC, or you can contact our local Purdue Extension educator for assistance.

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