PEST ALERT

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Florida Department of Agriculture and Consumer Services
Division of Plant Industry

Yellow-Legged Hornet, *Vespa velutina*

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INTRODUCTION

In August 2023, the presence of two live *Vespa velutina* specimens, known as the yellow-legged hornet (YLH) and formerly Asian hornet, was reported near Savannah, Georgia (https://agr.georgia.gov/yellow-legged-hornet), approximately 100 miles from the northern border of Florida. It is unknown if YLH is established in Georgia but due to this detection, the Florida Department of Agriculture and Consumer Services-Division of Plant Industry (FDACS-DPI) is actively surveying for this hornet and monitoring the situation in Georgia. This hornet is known to preferentially prey on honey bees (*Apis mellifera*) and other pollinator species. As such, they pose a significant threat to pollinator fauna that benefits Florida agriculture. These hornets typically establish hunting territories above honey bee hives and patrol those areas for returning bees. Due to honey bees' lack of exposure and co-evolution with this hornet, they fail to take adequate preventative measures against the hornet and are easy prey.

DESCRIPTION

The yellow-legged hornet belongs to the subfamily Vespinae (Hymenoptera: Vespidae), that includes yellow jackets and hornets. This group can generally be identified by the combination of two characters: the wings are longitudinally folded at rest (Figs. 3, 5, 6) and the anterior end of the abdomen has a blocky shape (compare Fig. 1). In Florida, there are three native species of Vespinae: the southern yellow jacket (*Vespula squamosa*), the eastern yellow jacket (*Vespula maculifrons*), and the bald-faced hornet (*Dolichovespula maculata*) (Figures 3–6). In some cases, the color forms of some species of vespine wasps can be variable. For example, *V. maculifrons* is typically yellow and black (Fig. 6), but in Florida can be pink and black (Fig. 5). *Vespa velutina* exhibits significant variation in its native distribution (Fig. 7). Yellow-legged hornets are large, about 1 inch long. Queens and workers are the same size.

BIOLOGY

The yellow-legged hornet builds paper nests in trees, shrubs and human-made structures. Nests are egg-shaped and similar in appearance to nests of the bald-faced hornet. Colonies have an annual cycle and each spring, a single queen will start a nest from scratch. The nests grow rapidly during the warmer months and at the end of season new queens mate and disperse. This makes locating and destroying nests prior to the dispersal of potential foundresses a priority.

DISTRIBUTION

The yellow-legged hornet is native to southeast Asia and became an invasive pest in Europe during the past two decades.

SURVEY

The yellow-legged hornet can sting, please use caution when collecting or approaching wasps. Specimens must be sent to FDACS-DPI's Entomology section for positive identification and documentation. Live specimens should be photographed before collection. Specimens should be placed in 70–95 percent alcohol. Forms and instructions for sample submission can be found at www.FDACS.gov/DPIsamples.

REFERENCES

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Figures 1–2. *Vespa velutina*, worker. Fig. 1 Lateral view. Fig. 2. Dorsal view.
Photos by Jonathan S. Bremer, FDACS-DPI

Figures 3–6. Vespinae found in Florida, dorsal views. Fig. 3. *Dolichovespula maculata* (bald-faced hornet). Fig. 4. *Vespula squamosa* (southern yellow jacket). Fig. 5. *Vespula maculifrons* (eastern yellow jacket), Florida color morph. Fig. 6. *Vespula maculifrons* (eastern yellow jacket), common color morph.
Photos by Jonathan S. Bremer, FDACS-DPI

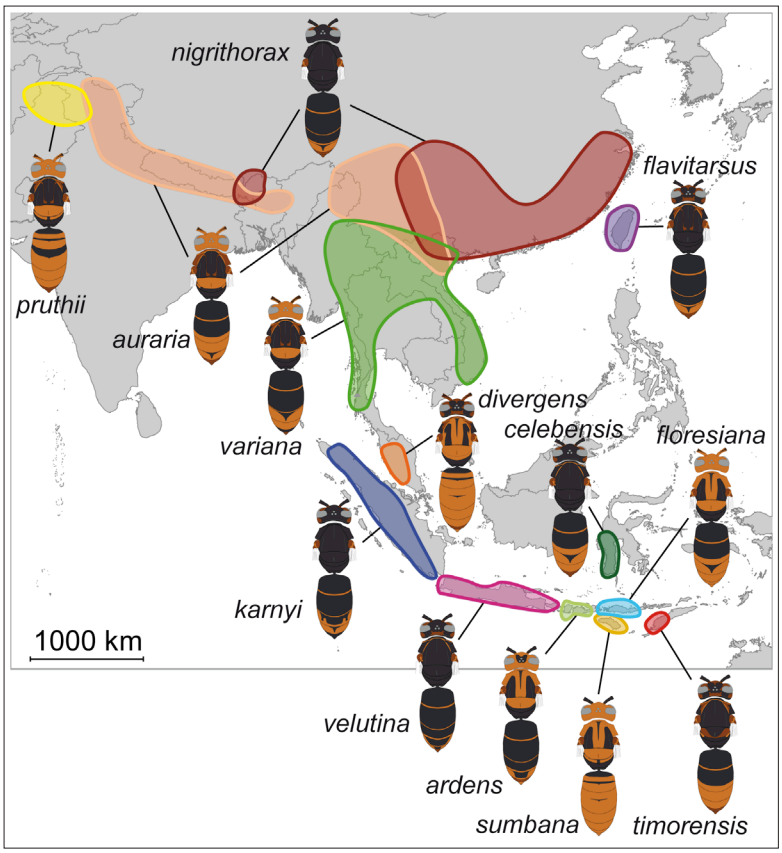

Figure 7. Known distribution of the different color morphs of *Vespa velutina* across Southeast Asia.
Image from https://doi.org/10.1371/journal.pone.0094162