



# NCDA&CS

## Plant Industry Division

### Plant Protection Section

# PEST WATCH

## Asian giant hornet

*Vespa mandarinia* Smith  
(Hymenoptera: Vespidae)



Photo by Alpscalk

The Asian giant hornet, *Vespa mandarinia* Smith, is an invasive hornet that was first detected in the United States in Washington State near the Canadian border in December 2019. The pest is native to Asia and is a major threat to honeybees. This pest is not known to occur in North Carolina, but early detection is critical for protecting North Carolina honeybees and agriculture.



a)



b)



c)

a) Asian giant hornet face; b) dorsal (overhead) view of Asian giant hornet body; c) lateral (side) view of Asian giant hornet. Photos by Quin Baine, Washington State Department of Agriculture.

### THREAT:

This insect is major pest of honeybees. A few hornets can rapidly destroy an entire beehive and occasionally they will attack other insects as well. They generally do not attack people or pets but can sting so exercise caution around unknown wasps and hornets. They are social insects but only the queen can disperse and spread populations.

### IDENTIFICATION:

Asian giant hornets are the largest species of hornet in the world. They are 1.5-2 inches in length. Their heads are yellow-orange with prominent eyes. They have a black thorax (the area where the wings and legs attach) and an abdomen with black and yellow stripes. Please see the back of this document for common look-alikes.

### SIGNS AND SYMPTOMS:

These hornets decapitate honeybees and destroy entire hives. If you see piles of dead bees that is potentially a sign of this pest. Asian giant hornets nest underground which can make locating nests challenging. Nests can also be found under leaves, brush, in tree trunks, and other hidden locations.

### WHAT TO DO:

**Collect a specimen.** If you suspect you have found an Asian giant hornet and can safely collect a specimen you can submit them to the NCSU Plant Disease and Insect Clinic.

**Take a picture:** Rather than trying to collect a specimen you can take a photo. If possible, include a size reference like a coin when submitting photos. Please exercise caution when approaching stinging insects.

**How to submit:** Details on submitting insects and photos can be found at:  
<https://projects.ncsu.edu/cals/plantpath/extension/clinic/>

**Please note:** There are many look-alike species that do occur in North Carolina and do not convey the same threat as this species of hornet. Two of these, the European hornet and the cicada killer, are commonly mistaken for the Asian giant hornet. Please see the backside of this document for to-scale photos of common look-alikes of the Asian giant hornet or visit <https://entomology.ces.ncsu.edu/murder-hornet-comparison/> for a side-by-side comparison of AGH to common look-alikes.

The following are some insects that might be confused for the Asian giant hornet (top left) which is not in North Carolina at this time. The remaining insects are native or established in NC and many surrounding states. Proper identification is crucial as it is not necessary to kill these insects.



**Asian giant hornet**  
*(Vespa mandarinia)*



**European hornet**  
*(Vespa crabro)*



**bald-faced hornet**  
*(Dolichovespula maculata)*



**Eastern cicada killer**  
*(Spheg speciosus)*



**Southern yellowjacket**  
*(Vespula squamosa)*



**paper wasp**  
*(Polistes sp.)*



**bumble bees**  
*(Bombus impatiens)*



**carpenter bee**  
*(Xylocopa virginica)*



**honey bee**  
*(Apis mellifera)*



**pigeon horntail**  
*(Tremex columba)*



**great golden digger wasp**  
*(Spheg ichneumoneus)*



**elm sawflies**  
*(Cimbex americana)*



**hover fly**  
*(Milesia virginiensis)*



**bee robber fly**  
*(Mallophora sp.)*



**giant robber fly**  
*(Promachus rufipes)*

