



NCDA&CS

Plant Industry Division Plant Protection Section

PEST WATCH

Asian giant hornet

Vespa mandarinia Smith
(Hymenoptera: Vespidae)



Photo by Alpaidake

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. One of these, the European hornet, is 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.

Sizing up the Asian giant hornet



Sphecius sp.
cicada killer



Sphech ichneumoneus
great golden digger wasp



Vespa crabro
European hornet
(does not occur in WA)



Cimbex americana
elm sawfly



Vespa mandarinia
Asian giant hornet



Vespa pensylvanica
western yellowjacket



Polistes dominula
European paper wasp



Apis mellifera
western honey bee



Dolichovespula maculata
bald-faced hornet



Tremex columba
pigeon tremex



Bombus flavifrons
yellow head bumble bee

Please note: This is a to-scale comparison of the Asian giant hornet alongside several other insects known to occur in the United States. This was created by the Washington State Dept. of Agriculture.