

Northern Giant Hornet

Vespa mandarinia

Not known to be present in Hawaii

The world's largest hornet can exceed 2 inches in length. These large, striped hornets have a painful sting. Pose a severe threat to honeybee colonies and native insects. Their deadly threat to bee colonies has given them the nickname of "murder hornets".



Photo: Karla Salp, Washington State Department of Agriculture, www.bugwood.org

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Adult *V. mandarinia* worker.



Impacts

- Pest of honey bees and other pollinators. Predation can cause complete loss of bee colonies.
- Stings are potent and can cause severe reactions, especially in people with bee allergies. Have been known to cause deaths in Japan and China.
- Predatory on bees and insects and pose a threat to Hawaii's threatened and endangered species.
- According to HDOA Plant Industry Division: <https://hdoa.hawaii.gov/pi/program-info/>
 - Honey production in Hawaii: \$4.1 million/yr., queen bee production: \$10million/yr., agriculture pollination value: \$212 million/yr.



Identification

- Large hornets. Workers are 1in-1.5in (2.5-3.8 cm) long, and queens can exceed 1.75 in (4.5cm) in length.
- Worker body size increases through the season as the nest grows larger.
- Overall black and yellow, striped appearance.
 - The head is entirely yellow/orange with dark eyes; the thorax is dark brown or black, and the abdomen is striped brown or black and yellow or orange.
- Coloration can vary geographically through its native range.
- Painful stings causing welts/blistering.
- Nests are formed in the ground in pre-existing cavities, as well as tree and or tree root cavities.



Photo: Karla Salp, Washington State Department of Agriculture, www.bugwood.org

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Adult female *V. mandarinia*.



Photo: Karla Salp, Washington State Department of Agriculture, www.bugwood.org

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Adult *V. mandarinia* sizes.



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Vectors/Commodities

- Soil, rotting logs, straw: queens overwinter alone in these materials in which they create hibernating chambers.
- Sap producing trees. Adults are known to forage on fermented sap.
- Smuggling: *V. mandarinia* larvae and pupae are consumed as a seasonal delicacy and used as a traditional medicine.



V. mandarinia foraging adults.



Distribution

- Native range: Asia: They have records in China, India, Bhutan, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Russia, Taiwan, and Thailand. In China, distribution is mainly in the southern portions of the county.
- Introduced range: North America
 - Canada: southwest British Columbia, Vancouver Island (detected August 2019)
 - USA: Washington State (detected Dec 2019)
 - US Distribution Map: <https://pest.ceris.purdue.edu/map.php?code=ISBIBWA>
 - Pacific NW Map public reports and confirmed detection locations: <https://agr.wa.gov/departments/insects-pests-and-weeds/insects/hornets/data>



Best Management Practices

- Consider pest distribution when sourcing plant material.
- Carefully inspect all material coming from areas where northern giant hornets are established.
- Report suspect hornets to 643pest.org, or by phone to 643-PEST (7378).



Selected References:

- USDA Pest Response for Vespa Mandarinina: [https://cms.agr.wa.gov/WSDAKentico/Documents/PP/PestProgram/Vespa_mandarinia_NPRG_10Feb2020-\(002\).pdf](https://cms.agr.wa.gov/WSDAKentico/Documents/PP/PestProgram/Vespa_mandarinia_NPRG_10Feb2020-(002).pdf)

This material was made possible, in part, by a Cooperative Agreement from the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS). It may not necessarily express APHIS's views.



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