

Fact sheet:

Yellow-legged Hornet (*Vespa velutina*)



The Yellow-legged hornet, is an invasive predatory pest that originates from Asia.

There are a dozen known sub-species and while all hornets are typically predators of insect species, the Yellow-legged hornet has been a significant problem for beekeepers due to its aggressive and effective predation of the European honeybees and wild bee populations. Yellow-legged hornets have a direct impact on honeybee colonies by killing the bees and their eggs, larvae and pupae, to feed their own brood.

Identification

The Yellow-legged hornet is highly variable in colour and there have been numerous sub-species identified over the years. The sub-species invading Europe has distinctive yellow legs. The thorax is a velvety brown or black with a brown abdomen with yellow stripes. The head appears dark from above, and yellow/orange from the front.

Typically, queens are 30mm long and, and males about 24mm. Workers measure slightly smaller at about 20mm. They are significantly larger than honeybees.

The Yellow-legged hornet commonly builds two nests in a season. Primary nests are often found in or on man-made structures while secondary nests are more likely to be found on natural structures such as in tree canopies. Nests are round, up to 90cm in height and beige or brown in colour.

Photos: The yellow face of the Yellow-legged hornet (top); male Yellow-legged hornet with distinctive yellow legs (bottom right); Yellow-legged hornet nest (bottom left). Image credit: Gilles San Martin, Namur, Belgium.



Impacts

The Yellow-legged hornet is a predator of medium-large sized insects.

The most significant impact it has is on honeybee populations, where a single hornet can catch 25-50 bees per day and rob brood nests to feed their own larvae. While this is unlikely to result in whole nest destruction, it severely impacts the ability of honeybee nest survival in the winter.

Reports from France suggest up to 30% colony destruction by this species. This sort of impact can have major implications on the ability of honeybees to effectively pollinate crops.

Honeybees are already facing numerous threats in New Zealand without the risk of further impacts from pests such as the Yellow-legged hornet. Furthermore, by nesting in urban areas, the Yellow-legged hornet (which is well known for its aggressive behavior), is a potential threat to human activities also.

Photo: Hunting behaviour of the Yellow-legged hornet, showing the size difference between hornets and honeybees. Image credit: French Agency for Food, Environmental and Occupational Health and Safety.



Distribution and climate change

The Yellow-legged hornet originates from Southeast Asia, particularly the tropical regions.

Now an invasive species in France, it is believed to have first arrived there in 2004 in boxes of pottery from China. In subsequent years it continued its invasion into Spain, Portugal, Belgium and Italy and is now found through much of Europe. In Asia it invaded South Korea and Japan in the early 2010's and is now considered an invasive species.

The Yellow-legged hornet can survive long distance transport and enter as a hitchhiker on several pathways including containers, vehicles, and machinery.



Control

Once established, total eradication is generally considered unachievable, but there are number of management techniques that can be utilised which are aimed at different life cycles of the hornet. These can include nest destruction, bait trapping of workers and queens, and biological control.

Nest destruction is the most commonly used technique, and the most expensive. It must be undertaken at night when all hornets have returned to the nest, otherwise in the day, returning hornets will simply set up a new nest.

Photo: Often nesting in the top of tree canopies, nest destruction can be difficult.



What should you do if you think you have seen this pest?

If you think you've seen an Yellow-legged hornet, or their nests, phone the Biosecurity New Zealand hotline on 0800 80 99 66 or contact KVH on 0800 665 825.

If not detected early, chances of eradication or effective control of a pest or disease is severely reduced. Anything unusual should be reported immediately so we are able to minimise the impacts on people's livelihoods, communities, and environments.