The yellow-legged hornet (*Vespa velutina*)

Questions and Answers for beekeepers

26 November 2025

What should I do if I find a suspected hornet or nest?

The best defence against yellow-legged hornets is to report any suspected hornets or nests. Contact Biosecurity New Zealand as soon as you've found something. Delays can make it harder to investigate.
Photograph it and catch it, if it's safe:

- Use the online report form: https://report.mpi.govt.nz/pest/
- Call the exotic pest and disease hotline on 0800 80 99 66

How do I recognise them?

Hornets are much larger than honeybees and wasps (*Vespula* sp. and *Polistes* sp.). They are distinctive by their large all-round size.

A size chart is available on this pamphlet: Look out for hornets – factsheet. For further information Yellow-legged hornet sightings in Auckland in 2025 | NZ Government

Where are the hornets in New Zealand?

To date all detections have been in an area of Auckland's North Shore in Glenfield and Birkdale.

You can find daily updated hornet detection numbers and a map of the affected area here: **mpi.govt.nz/yellow-legged-hornet-2025**

We believe it's unlikely the hornets are present outside of Auckland. However, Biosecurity New Zealand is closely monitoring the situation and is encouraging people to remain vigilant and report any suspected hornet or nest sightings.

What risk will they pose to my hives? How do they damage a beehive?

Yellow-legged hornets (*Vespa velutina*) are known to cause damage to honeybee colonies in other countries. This is mainly through predation on foraging honeybees at the beehive entrance.

This 'hawking' by the hornets can eventually stop honeybees from collecting pollen and nectar, increasing the risk of starvation. Honeybees in New Zealand (*Apis mellifera*) do not have any adapted defences against hornets.

Do yellow-legged hornets rob honey? Or brood? Workers?They primarily target honeybee workers. If the beehive becomes sufficiently weakened, they may enter the hive and scavenge honey and bee brood.

Can my hive defend itself?

As above, honeybees (*Apis mellifera*) are not good at defending themselves against yellow-legged hornets.

The best defence against the yellow-legged hornets is for beekeepers to report any suspected sightings to Biosecurity New Zealand.

Are weak hives more of a risk?

Weak beehives are at greater risk. This includes nucleus colonies and queen mating nucs. However, both strong and weak colonies can be affected because the hornets kill foraging bees at the hive entrance.

What can I do to protect my hives?

Keep an eye out for hornets that may be visiting your hives. If you see something suspicious photograph it and catch it, if it's safe:

- Use the online report form: https://report.mpi.govt.nz/pest/
- Call the exotic pest and disease hotline on 0800 80 99 66.

What sort of hornet or bee behaviour do I look out for?

At beehives, hornets are usually seen flying in front of the hives, targeting bees during their flight. They may be seen 'hawking' around the hive entrance – hovering in place, then swooping to catch a honeybee in flight.

There are also behavioural signs at the hive that may indicate hornet presence. Bees may hesitate to leave the hive when hornets are nearby. Overseas some beekeepers have observed bees forming a barrier at the hive entrance, possibly as a defensive response.

How should I monitor my hives?

Biosecurity New Zealand is monitoring all hives throughout the central surveillance zone in Auckland's North Shore.

But beekeepers can also help by regularly monitoring their own hives. We recommend watching the hives for at least 20 minutes at least once a week – watching for hornets around the hives.

Carry out this monitoring on warm sunny days. It can be anytime through the day when honeybees are active. If you can watch your hives for longer and more frequently than that, even better. It helps our response to know where hornets are active, so there is no need to try and capture or kill the hornets. Key is to take photos of any suspect hornets and report them to Biosecurity New Zealand.

Should I set traps for hornets?

Biosecurity New Zealand has placed traps at all apiaries within the immediately affected area in Auckland. You may, however, want to set your own trap/s at your property. Full information on trap designs and baits is on our yellow-legged hornet web page. A specific fact sheet for beekeepers on trapping is here. Protecting hives from yellow-legged hornet – beekeepers' action guide to trapping – fact sheet

If you do put out traps, you need to:

- 1) check them regularly – at least once a week, along with watching your hives,
- 2) check any trap contents thoroughly to identify any suspect hornets (see MPI info), and
- 3) take a photo of any suspect hornets and report any to Biosecurity New Zealand.

Note Biosecurity New Zealand is not screening public trap contents.

How effective are the hornet traps? Are they catching queen hornets?

Visual observations of hornets remain the greatest source of detections to date through public reporting and by our response ground survey teams. This is why we are prioritising visual surveillance by teams of field workers in Auckland.

Traps are being used, however, as they work 24/7. They contain a sugar-rich liquid as a food lure, but there is also plentiful food in the wider environment, so the distance a trap may attract a hornet is expected to be quite small. The more traps that are out, the greater chance we have of catching a hornet in one. To date, two of the detections have been in traps.

This is not unexpected as the hornet population is still low through spring and early summer, so the chance of a trap catch is low. As hornet nests grow through summer, and produce more workers, the chance of intercepting them in traps will increase.

Because trapped numbers are so low, it's difficult to know if any type of trap is more effective.

What is Biosecurity New Zealand doing when they locate a hornet nest?

All hornet nests detected have associated queens and other life stages found killed. The nest itself is removed.

Biosecurity New Zealand has a network of traps in a high density 1km out from any find, and in a lower-density 5km out from any detection (queen hornet and/or nest). This network of traps is reviewed and if necessary, expanded with each new detection.

In addition to trapping, there is a widespread public information approach, where we target residents on the North Shore within the areas where these hornets have been found.

Our best current surveillance tool is encouraging people to report any sightings of suspected hornets or hornet nests online or through our pest and disease hotline.

I want to move my hives - can I still do this?

There are no restrictions on hive movements.

I do wasp control - can I get prepared for managing hornets?

Beekeepers perform a helpful service to the environment and public by destroying wasp nests. However, if a beekeeper finds a hornet's nest, they should **not** destroy it. Take a photo and report it online at https://report.mpi.govt.nz/pest/

Are yellow-legged hornets dangerous to humans?

Only female hornets sting. Stings may induce anaphylaxis in people with allergies, similar as with allergies to bee or wasp stings. Generally, they are not aggressive unless you disturb their nest. Beekeepers are not at an increased risk of hornet stings.

Will my bee suit protect me from them?

Only female hornets sting. Their stingers are longer than a honeybee. It is unlikely that a conventional bee suit will provide sufficient protection from hornet stings.

What are yellow-legged hornets doing in other countries?

This hornet has recently been spreading in Asia and Europe where they have caused bee colony losses.

Will this affect the export of my honey products or live bees overseas?

There is no impact on trade or export of honeybee products or live bees.

Was the male Asian hornet found in June/July 2025 related to the queens being caught now?

MPI's Plant Health and Environment Laboratory has determined that the male hornet caught in June 2025 is genetically very similar to the queens being caught on the North Shore of Auckland now. This indicates the male came from the same nest as the queens. In addition, MPI is contracting a genomic laboratory to investigate if genomic analysis can glean any further information that may be useful to eradicating the hornet.

Biology of the yellow-legged hornet

Life Cycle of *Vespa velutina*

The colony life cycle of *Vespa velutina* consists of four distinct stages: foundation (spring), worker (summer), reproductive (autumn), and intermediate (winter) (Figure 1).

Foundation Phase (Spring)

Queens wake up from winter hibernation and start building small nests (Embryo/Primary nests), often inside buildings or other sheltered places.

- **Goal:** Lay eggs that will become the first generation of workers.
- **Development:** It takes about 48 days for an egg to become a worker.

Worker Phase (Summer)

The colony grows quickly, and the predation starts. Workers take over nest duties such as gathering food and defending the nest.

- **Nest Transition:** Colonies often move from the small primary nest to a larger secondary nest, usually in trees.
- **Next step:** The colony starts producing males and new queens.

Reproductive Phase (Autumn)

New queens and males are born. They leave the nest to mate.

- **After mating:** Males die, and queens look for safe places to spend the winter.
- **Colony status:** The colony starts to decline as temperatures drop.

Intermediate Phase (Winter)

Only the fertilized queens survive. They hibernate in protected spots like tree hollows or buildings.

- **Colony:** The old queen and all workers die due to cold and lack of food.
- **Ready for spring:** These queens will start new colonies when spring returns.

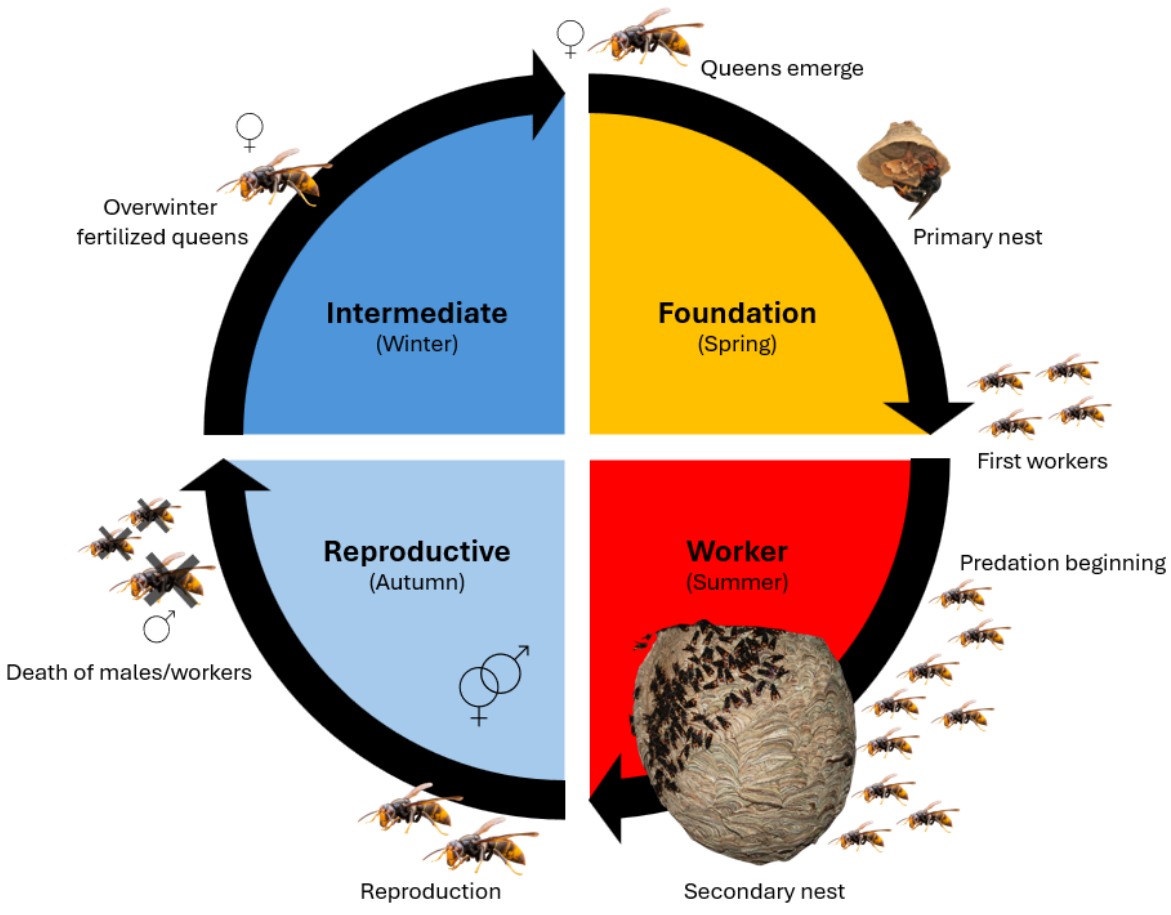
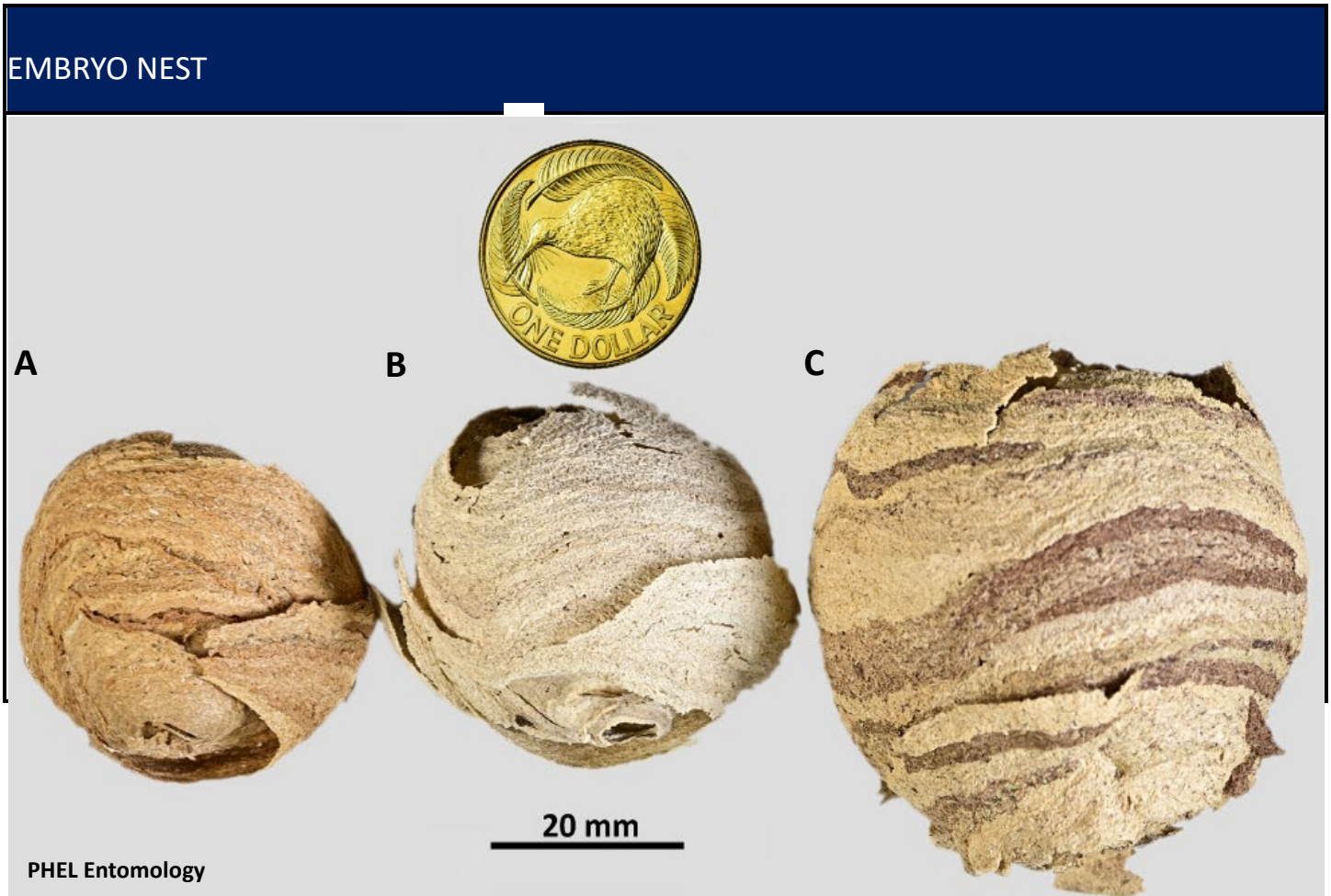


Figure 1. Colony life cycle of *Vespa velutina*

Nests

In spring, a single queen builds a small nest (embryo nest) about **5–10 cm wide**, with one entrance at the bottom. These early nests are often sheltered in human made structures (Figure 2). As the colony grows, workers expand this nest into a larger, irregular primary nest, reaching up to 15 cm, about the size of a grapefruit.

Figure 2. Embryo nest of *Vespa velutina*, showing its characteristic spherical shape and basal entrance opening (Source: Porporato et al. 2014).



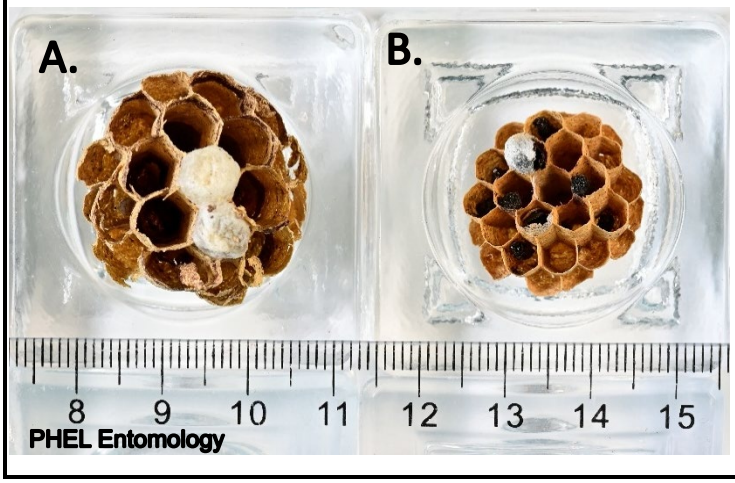
A	B	C
Common Wasp (Local) *Vespula vulgaris*	**German Wasp (Local)** *Vespula germanica*	**Yellow legged hornet (Exotic)** *Vespa velutina*
Size: Similar to a ping pong ball. **Where to find them:** These small nests are often in enclosed spaces, e.g. inside sheds or under roofs, between gaps or cavities in fences, and in wall cavities or other sheltered man-made structures.		**Size:** About 5–10 cm in diameter. **Where to find them:** Nests can be found in sheltered environment; most of the time in human-made structures. As the colony develops, workers expand the nest into a larger, irregular primary nest, up to 15 cm wide, about the size of a grapefruit.

SECONDARY NEST

A	B	C
Common Wasp (Local) *Vespula vulgaris*	**German Wasp (Local)** *Vespula germanica*	**Yellow-legged hornet (Exotic)** *Vespa velutina*

Nest locations: Nests are often found in enclosed spaces, such as inside sheds or under roofs, between fence cavities and underground, like in soil or under tree roots. **Winter Survival:** Unlike hornets, some workers can survive through winter, so secondary nests may not be abandoned during colder months.	**Nest locations:** Usually occur on high tree. **Size:** Approximately 60-80 cm in height.

CELLS FROM EMBRYO NEST



While local and exotic species have similar looking cells, *Vespa velutina* cells are generally slightly larger.

A. *Vespa velutina* (Yellow-legged hornet)

B. *Vespula vulgaris* (Common wasp)