

Recently concerns have been raised on this interesting but uncommon insect. Hornets are wasps that bodily are among the largest eusocial insects. The Oriental Hornet (*Vespa orientalis*) has a similar appearance to the more widespread European hornet; but it has distinct features.

The Oriental Hornet (Żunżan Baġħal) is distributed in the semi-dry sub-Mediterranean basin, the Middle East, the United Arab Emirates, India and Madagascar. However, due to human introduction, its habitat has spread to South America up to Mexico. It is considered as indigenous to the Maltese islands.

Although recorded in the Maltese islands in the 1950s by Anthony Valletta in his autobiography (*Mit-Tfulija man-Natura*, 1983), the species seems to have disappeared by the 1970s. From 1997 to 2010 only individuals were noticed and recorded everywhere throughout Malta. In 2003 and 2011, one of the authors (Sciberras) identified a nest in a farm and the first recorded colony in Floriana in a private house respectively, and by 2014 the species was recorded in Valletta and Ħamrun.

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Locally there are several species of wasps. Most are beneficial but some colonies living in close proximity to humans are considered as casual intruders and may need to be controlled. They are not thought to be problematic to agriculture; however, one farm in 2003 was reported to have had two chickens that died after venturing close to a nest.

Nests can be formed closer to human habitats in sheltered places. Nests are generally made by digging and expanding crevices of old buildings. External wall coverings and linings of old buildings may suffer from further deterioration if nests are formed in this manner.

The wasp's body is slender, with a narrow waist connecting the thorax and abdomen. The hornet is characterised by a proportionately large head and abdomen. They are reddish brown in colour and appear smooth and shiny with slender legs, while in contrast, bees are robust with hairy bodies.

The Oriental Hornet has a distinctive yellow discoloration on its head and a similarly coloured strip on the back. They appear from May to October, whereas during the wintry months the surviving queens hibernate in secluded areas. Wasps are about 25mm in length and therefore easily noticeable. They are very active during periods of intense sunlight and are agile flyers.

Unlike bees, wasps are generally more aggressive and likely to stalk public gatherings in search of human food. Bees are more mild-mannered; they focus on flowers. Also unlike bees, wasps are predators and kill large insects such as bees, grasshoppers and particularly flies

The victim is masticated and then fed down in the form of slurry to the developing larvae in the nest. Given that some of their prey are considered pests, hornets may be considered as beneficial. Wasps are protective of their colony and will attack and sting humans if threatened, so care should be taken around wasps and their nests. Wasp nests found in public places should be reported to the local council for pest control removal.

Hornet stings are used to kill prey and defend themselves. The stings are more painful to humans than typical wasp stings because hornet venom is potent, containing large amounts of (but not only)

acetylcholine (a powerful pain stimulant). Unlike honey bees, wasps do not die after stinging because their stingers are not barbed and consequently not pulled out of their bodies.

Hornets can mobilise the entire nest to sting in defence and this can be dangerous to humans. It is not advisable to kill a hornet anywhere near a nest, as the distress signal (a pheromone) can trigger the entire colony to attack. Materials that come in contact with pheromone, such as clothes, skin, dead prey, or hornets, must be removed from the vicinity of the hornets' nest.

Perfumes and other volatile chemicals can be falsely identified as pheromone by the hornets and trigger an attack.

Actions to avoid include:

- Disturbing a nest;
- Being within a few metres of a nest;
- Disturbing or killing a hornet within a few metres of a nest;
- Blocking the path of a hornet;
- Breathing on the nest or hornet;
- Rapid air movements.

Never attempt to remove a nest without professional help. Pest control professionals can take the necessary precautions and prevent human endangerment.

Single or multiple stings can cause local severely painful reactions with swelling and redness. These symptoms can be relieved by ice packs, painkillers, antihistamines and rest. It is best to consult a doctor. Multiple stings, however, can prove life-threatening.

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More severe and systemic potentially life-threatening allergic anaphylactic reactions can rarely occur. These reactions occur in particularly sensitive and susceptible individuals, usually those who were already primed from previous stings, and require urgent life-saving medical attention with epinephrine.

Anaphylactic reactions may occur rapidly after a sting, with an urticarial rash, facial swelling and difficulty in breathing, shortness of breath and wheezing. Low blood pressure and a fast heartbeat may occur, as well as a more generalised swelling termed angioedema. These reactions are a medical emergency.

The general advice would therefore be to leave wasps undisturbed and avoid exposure to these insects; approaching nests could be dangerous. If they are problematic or encroaching on human habitat one is to seek professional assistance for pest control.