Bees, wasps, bumblebees and hornets: what's the difference?

As temperatures start to rise again, insects make their journey home to our gardens, albeit a little numb from the winter cold. We have a lot of prejudices a priori concerning many insects we meet on a daily basis, such as the reportedly dangerous hornets and wasps, the inoffensive bumblebees and the very useful bees. Contrary to what one may think, you should be aware that all of these insects are useful and are not as dangerous as you may believe.

The domestic bee (honey bee): "Apis mellifera"

- 11-13mm, thickset, hairy, and black stripes on its abdomen.
- Not aggressive (unless you approach its nest).
- It is only interested in our food when there is a shortage of nectar.
- It loses its stinger when it stings, and then dies. The male bee is called a drone (larger than the female) and does not sting. Its sole purpose is to fertilize the queen.
- **Protected species.**

The wasp: "Vespula vulgaris" or "Vespula germanica"

- **11-18 mm, it has faint hairs and is bright yellow with defined black stripes.**
- It has much defined shape, from which we get the expression "wasp-like".
- It is a nuisance at the end of summer, when there are too many wasps in the nest and it therefore seeks food on our plates. It is particularly attracted to meat.
- **It feeds off small insects, for which it is valuable to the ecosystem.**
- Wasps change nests each season.
- Only fertilized wasps (the queens) will survive the winter; the rest die.

The hornet: “Vespa Crabro”

- In effect the hornet is a large wasp; it is three times as large with an average of 35 mm. It is slightly hairier, and its head is more orange, with brown legs.
- Its noisy flight and large size make it more frightening than the others; however, its sting is no more dangerous than that of a bee.
- It can cause a lot of damage to orchards as it is very fond of fruit.
- It regulates a number of insect species as it eats flies, wasps, caterpillars, etc.
- As with wasps, hornets change nest each year.
- Contrary to what one may think, it is unobtrusive and not very aggressive, it is even more timid than the bee.
- **It is an endangered species in Europe.**
- Beware of the Asian hornet! Unlike the “Vespa crabro”, we must fight the “Vespa velutina”, as it attacks domestic beehives.

The bumblebee: “Bombus terrestris”

- Around 22 mm, hairy and thickset, it is black and yellow with white and orange patterns.
- It also has a noisy flight which can be impressive.
- Bumblebees make their nest in a cavity and form a colony of several dozen bumblebees.
- Bumblebees are great pollinators; they are very important in the fertilization of numerous plant species.
- They are not aggressive and only sting in self-defence (in case of being crushed) or if the nest is under threat.
- Only the queen of the colony survives winter.

- **The number is constantly declining, with some bumblebee species having totally disappeared.**

And the poison in all of this?

It is important to bear one thing in mind: bees defend their honey against vertebrates such as badgers and mice, whilst hornets and wasps hunt insects to eat, which is why they don't lose their stinger.

The lethal dose 50 (the quantity of poison that leads to death in 50% of cases) teaches us a surprising thing, and puts an end to one of our assumptions:

- From bee stings: 6mg / kg (or 40 stings or 2,400 / 60kg)
- From hornet stings: 10mg / kg to 90mg / kg (or 154-180 stings or 9,240-10,800 / 60kg)

In conclusion, bee venom is 1.7 to 15 times more effective than hornet venom. It is therefore more powerful.

Some people have developed an allergy to these insects' venom. It should be highlighted that an allergy always develops after several stings from the same species, hence only those people who have already been stung can develop an allergic reaction to a new sting.

The Asian hornet: "Vespa velutina"

The Asian hornet is slightly smaller than the European hornet. It is also darker and only the end of its abdomen is yellow-brown. Its legs are bright yellow and its face is orange.

The problem with the Asian hornet is the fact that it reproduces exponentially, and has a much greater need for protein than the European hornet.

It attacks all insects, especially domestic (honey) bees.

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