

The most famous types of wasps.

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Wasp horse

The horse marimbondo or hunter marimbondo has different names and can be known, depending on the region of Brazil, even as a dog horse, a wasp hunter, and a spider hunter. The horse wasp has two characteristics that make it quite feared: it is considered by many to be the insect with the most painful sting in the world. The other is that it hunts spiders so that they become hosts and, later, food for their larvae. This type of wasp is, on average, 5 centimeters long, but some individuals can reach 11 centimeters. (Figure 1) [1-7].



Figura 1. Vespa Cavalo Guarda - *Stictia carolina* (Fabricius 1793). Sources: National Museum of Natural History and USNM Number EO21995.

Wasp

Like most wasps, the yellow wasp is another dangerous insect due to its sting. In addition to a lot of pain, it can cause allergic reactions and inflammation. The yellow wasp *Vespula germanica* (Fabricius, 1793), inhabits mainly the northern hemisphere of the world, being present in Europe, Southeast Asia, and North Africa. Its abdomen is made up of yellow and black layers and its antennae are solid black. Nests are usually made of cellulose and look like paper balls on the ground, but they can also be built on the ceiling or inside wall cavities. This type of wasp is very aggressive, so it is important to avoid approaching both the animal and its nest (Figure 2) [1-7].



Figure 2. *Vespula germanica* (Fabricius, 1793) . a, habitus; b, head, frontal view; c, head and mesosoma, dorsal view; d, metasoma, dorsal view. Sources: DOI: <https://doi.org/10.5281/zenodo.6166497> <https://treatment.plazi.org/id/827E6B37-FFDE-FF9E-FF47-FA42FB4EFED1>.

Common wasp

Its scientific name is *Vespula vulgaris* (Linnaeus, 1758), and it is an insect native to Eurasia. However, it has been introduced by humans to New Zealand and Australia. The common wasp on its body has yellow and black stripes on the lower part of the abdomen. The upper part is black with yellowish spots. Furthermore, there are almost no differences between males and females. (Figure 3) [1-7].



Figure 3. *Vespula vulgaris* (Linnaeus, 1758). Source: https://br.freepik.com/fotos-premium/vespula-vulgaris-e-uma-especie-de-formiga-da-familia-vespula_139517399.htm.

Asian wasp

It is also called the 'murder wasp' because it is the most aggressive of all wasp species. It feeds on other insects, including aphids, butterflies, bees, and ants. The Asian hornet has almost its entire body black, except for the edges of its legs, wings, and thin lines on its tail, which are yellow. She lived from northern India to the mountains of China and arrived in Europe after traveling by boat. This incursion into France and Spain, where it is considered invasive, has been very harmful to local wasps and bees. (Figure 4) [1-7].



Figure 4. Asian wasp *Vespa velutina* Lepeletier 1836. Source: <https://www.inia.v.pt/plano-acao-vespa-velutina>.

Germanic *Vespula*

This hymenopteran is of Mediterranean origin and can currently be found in North Africa, throughout Europe, temperate zones in Asia, South America, North America, New Zealand, and Australia. In addition, it is considered a pest in many countries in the southern hemisphere. *Vespula germanica* (Fabricius, 1793) has yellow legs, black antennae, and a body with yellow and black bands. The sting inoculates a highly toxic poison that in people can produce from swelling to anaphylactic shock. Also, to catch its prey, it bites them, as its jaws are very powerful and it can grind its victims without any problems (Figure 5) [1-7].



Figure 5. Germanic vespula *Vespula germanica* (Fabricius, 1793). Sources: Matthias Lenke and https://www.flickr.com/photos/matthias_lenke/8163596637.

Wasp cartonera

Also considered a pest in several countries due to its negative impact on agriculture, it is a species native to Eurasia and North Africa that was later introduced to North America, South America, and Australia. The cartonera wasp builds its nests on the roofs of buildings, under rocks, or in trees. As an adult, it feeds on ripe fruits. On the other hand, the larvae are fed on carrion and insects. It only attacks when its nest is in danger or self-defense. It can bite someone who wears a very strong perfume or if they make sudden movements around them (Figure 6) [1-7].



Figure 6. Wasp cartonera *Mischocyttarus drewseni* Saussure, 1857. Source: https://www.insetologia.com.br/2020/03/marimbondos-de-sao-paulo.html#google_vignette.

Vasp crab

The last of the wasp species on this list is impressive because of its large size: the queen can reach 35 millimeters, although the workers are smaller, like the rest of the family. The crab has reddish wings and a brown abdomen with yellow or orange lines. In addition, their antennae have 12 segments in females and more in males [1-7].

References

- [1] Ban CM. Contributions to the knowledge of the apoid hymenopterans (Hymenoptera: Apoidea) from Piatra Craiului National Park. Research in Piatra Craiului National Park. 2005; 3: 150-155.
- [2] Sarmiento CE, Carpenter JM. Introduction to the Hymenoptera of the Neotropical Region. In: Fernandez F, Sharkey M, eds. Family Vespidae. 1st ed Granada: Universidad Nacional de Colombia; 2006. p. 539-556.
- [3] Steiner KE, Whitehead VB. Oil flowers and oil bees: Further evidence for pollinator adaptation. Evolution. 1991; 45: 1493-1501.
- [4] Langley L. We haven't seen a quarter of known bee species since the 1990s [Internet]. washington: National Geographic; @ 2021 [cited em 2023 Jun 06]. Available from <https://www.nationalgeographicbrasil.com/animais/2021/01/nao-vemos-um-quarto-das-especies-conhecidas-de-abelhas-desde-a-decada-de-1990>.

- [5] Mahmood K. To the knowledge of Vespidae (Hymenoptera) of Pakistan, Zootaxa.2012; 3318(26): 50 -32.
- [6] Barbosa BC. Social wasps (Vespidae: Polistinae) in an urban fragment: richness, stratification and interaction networks [Internet]. Juiz de Fora: Master's Dissertation Federal University; 2015.
- [7] Barbosa BC, Detoni M, Maciel TT, Prezoto F. Studies of social wasp diversity in Brazil: Over 30 years of research, advancements, and priorities. Sociobiology. 2016; 63(3): 858-880.