

# Polistes versicolor (Olivier, 1791)

Carlos Henrique Marchiori<sup>1</sup>

<sup>1</sup> Instituto Federal Goiano

**Potential competing interests:** No potential competing interests to declare.

**CCo-authors:** Marco Vinícios de Oliveira Santana<sup>2</sup> and Klebert de Paula Malheiros<sup>3</sup>.

<sup>2-3</sup>Instituto Marco Santana, Goiânia, Goiás, Brazil.

This is the most common and popular among the known wasp species. It can also be defined as a species of subtropical wasp, with characteristics of a social type, member of the genus *Polistes* Latreille, 1802, the most distributed in South America. Mainly in southeastern Brazil, it is one of the representatives of the fauna, also known as the “yellow paper wasp”, due to its color and the characteristic of building colonies using cellulose. Urban areas appear to be the preferred habitat of this species and the places where groups of females tend to begin building their colonies, often in abandoned buildings, buildings under construction, ruins, and wherever they can be properly maintained (Figure 1) [1-5].



**Figure 1.** Marimbondo-Carijó *Polistes versicolor* (Olivier, 1791). Sources: Photo 103332953, (c) David Torres and <https://www.biodiversity4all.org/photos/103332953>.

*Polistes versicolor* usually maintains its nests in life cycles of between 3 and 10 months, with a rigid dominance hierarchy, in which the other females find themselves dealing with one of the most aggressive queens within this community of

Hymenoptera, with the right to very aggressive attacks. hard. confrontations. , of which, of course, the queen always wins. Physically, the *P. versicolor* wasp has a body between black and brownish, with yellow friezes across the thorax and abdomen, wings that draw attention due to their transparency, in addition to the size of its queen, much larger than other genera (Figure 2) [6-8].



**Figure 2.** Ninho (A) e exemplar (B e C) *Polistes versicolor* (Olivier, 1791). Source:

[https://www.researchgate.net/figure/Nest-A-and-specimen-B-and-C-of-Polistes-versicolor-Olivier-1791\\_fig31\\_288630603](https://www.researchgate.net/figure/Nest-A-and-specimen-B-and-C-of-Polistes-versicolor-Olivier-1791_fig31_288630603).

Females, as we know, are responsible for gathering in sufficient numbers to build colonies in this community. Half of the *P. versicolor* colonies are the result of this association, while the rest are due to the fundamental initiative of the workers mainly responsible for maintaining the wasp nests. This construction does not happen in such a hasty and hurried way. Before construction, the queen will be responsible for recognizing the location of her new home in the company of some brave warriors. They will analyze the entire location: the proximity of possible predators, the constitution of the trees, or other structures where they will settle. He will see if there is an abundance of floral species from which he can drink delicious nectar; as well as remove resins, buds, herbs, wax, and cellulose, among other materials that will be properly chewed for use in the construction of each compartment of your homes [9-12].

## References

- [1] Elisei T, et al. Use of social wasp *Polistes versicolor* on eucalyptus caterpillar control. Brazilian Agricultural Research. 2010; 45(9): 958-964.
- [2] Zara F, Balestieri J. Behavioural Catalogue of *Polistes versicolor* Olivier (Vespidae: Polistinae) Post-emergent

Colonies. *Naturalia*. 2000; 25: 301-319.

[3] Gobbi N, Noll FB, Penna MAH. Winter aggregations, colony cycle, and seasonal phenotypic change in the paper wasp *Polistes versicolor* in Subtropical Brazil. *Natural Sciences*. 2006; 93(10): 487-94.

[4] Parent CE, et al. *Polistes versicolor* (Hymenoptera: Vespidae), an introduced wasp in the Galapagos Islands: Its life cycle and ecological impact. *Environmental Entomology*. 2020; 20(20): 12–21.

[5] Somavilla A, et al. Record of parasitoids in nests of social wasps (Hymenoptera: Vespidae: Polistinae). *Sociobiology*. 2015; 62: 92–98.

[6] Somavilla A, Barboza BC, Prezoto F, Oliveira ML. Infection and behavior manipulation of social wasps (Vespidae: Polistinae) by *Ophiocordyceps humbertii* in Neotropical forests: new records of wasp-zombification by a fungus. *Studies on Neotropical Fauna and Environment*. 2020; 55: 23–28.

[7] Souza T, et al. *Pachysomoides* sp. (Hymenoptera: Ichneumonidae: Cryptinae) parasitizing *Polistes versicolor* (Hymenoptera: Vespidae) in Viçosa, Minas Gerais State, Brazil. *Entomologica Americana*. 2013; 119: 80–84.

[8] Dvorak M, et al. Conservation status of landbirds on Floreana: the smallest inhabited Galápagos Island. *Journal of Field Ornithology*. 2017; 88: 132–145.

[9] Hervías-Parejo S, Traveset A. Pollination effectiveness of opportunistic Galápagos birds compared to that of insects: from fruit set to seedling emergence. *Journal of Field Ornithology*. 2018; 105: 1142–1153.

[10] Jacques GC, Souza MM, Coelho HJ, Vicente LO, Silveira LCP. Diversity of social wasps (Hymenoptera: Vespidae: Polistinae) in an agricultural environment in Bambuí, Minas Gerais, Brazil. *Sociobiology*. 2015; 62(3): 439-445.

[11] Vicente LO. Diversity of social wasps (Hymenoptera, Vespidae, Polistinae) from the Serra da Canastra national park, in the municipality of São Roque De Minas, Bambuí-MG [Internet]. Bambuí\; Federal Institute of Education, Science and Technology of Minas Gerais; @ 2019 [2024 Mar 21]. Available from <https://repositorio.bambui.ifmg.edu.br/index.php/mpsta/article/view/64/57>.

[12] Jacques GC, Souza MM, Coelho HJ, Vicente LO, Silveira LCP. Diversity of social wasps (Hymenoptera: Vespidae: Polistinae) in an agricultural environment in Bambuí, Minas Gerais, Brazil. *Sociobiology*. 2015; 62(3): 439-445.