Polistes versicolor (Yellow Paper Wasp or Maribone)

Order: Hymenoptera (Ants, Wasps and Bees)
Class: Insecta (Insects)
Phylum: Arthropoda (Arthropods)

Fig. 1. Maribone, *Polistes versicolor*.

[https://c2.staticflickr.com/2/1353/4724577903_bcdf942681.jpg, downloaded 7 April 2015]

TRAITS. In its general morphology the yellow paper wasp *Polistes versicolor* resembles other members of the *Polistes* genus such as the jack spaniard (*P. lanio*), but its colour sets it apart. *Polistes versicolor* has a distinct orange, yellow, brown and black colouring that is described by the name *versicolor*, latin for multi-coloured (Fig. 1).

DISTRIBUTION. *Polistes versicolor* is a social wasp that occurs in the southern Caribbean and most parts of South America, being found in Brazil, Chile, Argentina and Venezuela and Trinidad and Tobago. It is the most widespread *Polistes* species in South America (Wikipedia, 2015).

HABITAT AND ACTIVITY. Known to inhabit many environments which can range from highly forested areas to sub urban environments but there is a preference towards suburban environments with an adequate amount of vegetation the in surroundings (De Oliveira et al., 2010). The feeding behaviour of *P. versicolor* is not well known but it is known that they are usually predatory wasps which primarily feed on other insects such as ants, termites, small caterpillars and other small insects. They also feed on nectar from flowers making them excellent pollinators, it has also been observed they may occasionally feed on a unique version of honey produced by the workers themselves (Kohler, 2008). But, their ability as efficient predators have seen them being utilized as natural pest control agents (Prezoto et al., 2006).

SOCIAL ORGANIZATION. *P. versicolor* belongs to the category known as social insects. These social insects are individuals of the same species that dwell and engage with each other in various activities such as feeding, foraging and mating (Starr, 1990). In relation to colony size *P. versicolor* is unique because it is often seen nesting in large groups of 100 plus individuals. While smaller colonies may be observed, they are usually foundresses colonies and don't stay that size for long (De Oliveira et al., 2010). In the colony the hierarchy is organized with an egg laying-queen at the top of the hierarchy, subordinate foundresses, normal female workers and males at the bottom of the hierarchy. The queen is usually allocated most of the colonies' resources and holds dominion over the right to mate and lay eggs. But unlike bees in which the scent of the queen makes other females infertile this is not so in the wasps. Non-queen females can mate and lay eggs but finding free cells in the nest to lay eggs can pose a challenge. Studies done by a group of scientists studying the behaviour of *P. versicolor* in 1971 observed that non-queen females tend to lay their eggs in abandoned compartments of the nest or in the cells near to the top of the nest where the queen may not venture. Also, a foundress can challenge for the right to be queen by battling with the queen whereas in other insects the queen stays the queen until death.

NESTING BIOLOGY. A nest of *P. versicolor* can be initiated in several ways. When a nest is getting too small for the population currently dwelling in the nest, half of the colony may leave and build a nest in a new location or the whole colony may abandon the nest altogether in favour of building a larger nest in a different location (De Oliveira et al., 2010). Also several individuals can leave the nest to become foundresses of a new colony some of these individuals may consist of females that have been ousted for engaging in non-queen mating activities. Ousted females can choose to build a new nest or occupy an abandoned nest if they stumble upon one. If they choose to build a new nest it is made from a material they derive from chewed vegetation mixed with saliva, the nest takes on a spherical shape with the exterior being a protective covering from the elements while the inside of the nest are usually compartmentalized, containing compartments for egg laying, food storage and the queen nesting quarters. Once a new nest is initiated, egg laying duties may be designated to a female or the foundresses may fight one another for the right to lay eggs.

BEHAVIOUR. These wasps communicate via wagging the gaster (abdomen) in a horizontal direction and different wagging patterns are used to signal an intruder or predator nearby or the return of a foraging party to the nest. These wagging movements may be used to indicate class as dominant individuals display more wagging movements (Esch, 1971).

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