Nature Notes

A colony of the social wasp *Polybia striata* (Hymenoptera: Vespidae) in Trinidad, West Indies

The New World tropics are home to the vespid tribe Epiponini, a monophyletic group of 19 genera of swarm-founding social wasps (Somavilla and Carpenter 2020) commonly known as *marabuntas* or *maribons*. The largest genus *Polybia*, consists of about 57 known species, and is found throughout the continental neotropics, probably with at least one abundant species at every lowland locality. *Polybia striata* is not among the locally abundant species in most of its broad range, which encompasses most of South America north of the Southern Cone and east of the Andes (Richards 1978:47-49). *P. striata* can be distinguished from the other three members of its genus in Trinidad (Starr and Hook 2003) by the presence of yellow marks on the scutellum and metanotum and longitudinal yellow stripes on the mesoscutum against the black ground colour.

Richards's (1978) description of the nest shows it to be typical of the genus: a series of combs, each based on the previous one above it, each comb covered below by an envelope, which serves as the base for the comb below it, a pattern known as *phragmocytarous*. He estimated that a 14-comb nest from Brazil contained 7000 adults. Our purpose here is to describe a second colony of this little-known species.

In March 2013 we encountered an active *P. striata* colony in the Arena Forest Reserve (10º34'N 61º14'W) in Trinidad, West Indies. It was based on a very long, narrow tree branch at a height of about two metres. By means of externally visible traces in the nest envelope, we estimate that it had seven combs at the time (Fig. 1).

Ten weeks later we collected the colony near dusk, when wasps were no longer flying to or from. The colony had grown considerably in the interim and weighed down the substrate branch such that the bottom of the nest was about 40cm from the ground. About half an hour after collecting, we found no more than 50 returned wasps clustered on the nest substrate, indicating that we had collected virtually the entire colony.

The nest comprised 13 combs with an estimated total of 9658 cells. We estimated the number of cells in all but the smallest combs according to the empirical formula $n=(D1+D2+D3)^2/12$, in which D1, D2 and D3 are the three diameters of the comb measured as numbers of cells counted side-to-side across each of the three midlines (Scobie and Starr 2012: Fig. 1). In contrast, the 14-comb nest described by Richards comprised almost 24000 cells.

Fig. 1. Active *Polybia striata* nest with an estimated seven combs.

We estimated the number of adult wasps volumetrically at 1511, plus up to 50 that escaped during collection. All were female, as was a sample of 36 pupae. The absence of males indicates that the colony had not yet reached the reproductive phase in which males and new queens are produced.

Unlike in many other social wasps, we found no entirely reliable way to distinguish newly-emerged from fully mature adults. Dissection of the abdomens of a sample of 100 apparently fully mature females showed that 35 of these had at least moderately developed ovaries. However, we found it difficult to assess the ovaries in this species, as the variation among individuals was more continuous than what we have found in other social wasps, and 35% seems like an uncommonly high fraction of egg-laying females.

In the course of observing the colony on the earlier occasion, one of us (CKS) was treated to one solid sting. This was moderately painful with no sting autotomy and brought on a mild anaphylactic shock.

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