

Occurrence of ants (Hymenoptera: Formicidae) in *Banisteriopsis laevifolia* (A.Juss.) B.Gates (Malpighiaceae) in São Paulo State, Brazil

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Containing approximately 75 genera and 1.300 species, Malpighiaceae is one of the most diverse families of tropical and subtropical lianas and shrubs worldwide, which is predominantly distributed within the neotropics (Anderson, 2013). In Brazil, Malpighiaceae is represented by 44 genera and approximately 561 species distributed throughout the country; however diversity is highest within the Brazilian Savanna, a hotspot for conservation priorities (Mittermeier et al., 2005; Mamede et al., 2015).

Most species of Malpighiaceae have nectar secreting glands in the leaves and bracts, also called extrafloral nectaries (EFNs) (Anderson, 1990). These glands often mediate the ant-plant interaction, both for the food supply to the ants, as well as for the additional benefit of minimizing the adverse effect of herbivores, pathogens and weeds (Fernandes et al., 2005; Trager et al., 2010).

In January 2013, many species of ants were observed on the leaves and bracts of inflorescences of *Banisteriopsis laevifolia* (A.Juss.) B.Gates (Malpighiaceae) in the Biological Reserve of Mogi Guaçu, municipality of Mogi Guaçu, São Paulo State (22° 18' S; 47° 11' W). The ants collected were preserved in 70% alcohol, identified and compared with the Museu de Zoologia da Universidade de São Paulo (MZUSP) collection, municipality of São Paulo, in São Paulo State. Vouchers were collected from *B. laevifolia* specimens, using the standardized protocols for the collection and herborization of botanical material; specimens were deposited in the herbarium of Centro de Ciências Agrárias (CCA) at Universidade Federal de São Carlos (UFSCar, HARA herbarium), municipality of Araras, São Paulo State. The species of ants have been filed in the reference collection at the CCA / UFSCar. After reviewing the samples, it has been found that there are three species of ants in two specimens of *B. laevifolia* (Table 1).

Morais (1980) identified 42 species of ants in the Biological Reserve of Mogi Guaçu, including *Camponotus crassus* (Mayr, 1862) and *Pseudomyrmex gracilis* (Fabricius, 1804), but there are no records for *Cephalotes minutus* (Fabricius, 1804). Alves-Silva et al. (2013) reported that *C. crassus* are generally observed in EFNs and are

Table 1. Ant species present in *Banisteriopsis laevifolia* (A.Juss.) B.Gates (Malpighiaceae) in Mogi Guaçu Biological Reserve, São Paulo State, Brazil.

Ant species	Ant subfamily	Plant voucher
<i>Camponotus crassus</i> (Mayr, 1862)	Formicinae	Sebastiani et al. 414 (HARA)
<i>Pseudomyrmex gracilis</i> (Fabricius, 1804)	Pseudomyrmecinae	Sebastiani et al. 414 (HARA)
<i>Cephalotes minutus</i> (Fabricius, 1804)	Myrmicinae	Sebastiani et al. 433 (HARA)

extremely aggressive against herbivorous insects as well as other predators. According to Dansa (1989), *P. gracilis* preferably uses insects (dead or alive) and nectar as a food source, especially EFNs. *C. minutus* is considered a “generalist Myrmicinae” in relation to resource and habitat use (Andersen, 1995), being less dependent than nectar subdominant ants (Davidson et al., 2003).

In *B. laevifolia*, the occurrence of *C. crassus* is previously known (Torezan-Silingardi, 2007). However, this is the first record of *P. gracilis* and *C. minutus* for this botanical species.

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