

PP-578 [Pollination and Bee Flora] Pollinating bees of cultivated Myrtaceae

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Myrtaceae is one of the largest botanical family in the Brazilian flora, comprising approximately 1,000 species. Myrtaceae is well-represented in the Atlantic Forest and Cerrado, the two Brazilian biodiversity hot spots. Many species of Myrtaceae are of economic importance and have fleshy fruits also consumed by frugivorous animals, especially birds and mammals. "In Brazil, the estimated value of pollination calculated for Myrtaceae species totals approximately US\$ 58 million, with *Psidium guajava* (guava) having the highest value, followed by *Eugenia uniflora* (pitanga) and *Syzygium malaccense* (jambo)". Many other species are employed in regional cultivation and are also used in urban landscape and reforestation projects, thus having immeasurable cultural and economic values.

There are over 40 species of Myrtaceae used as food crops in Brazil without any information regarding required pollinators. "We investigated the pollination biology and evaluated the potential pollinators of three target species: *Campomanesia guazumifolia* (sete-capotes), *Eugenia brasiliensis* (grumixama) and *E. pyriformis* (uvaia)."

The studied species bloom between August and December. All three species exhibited crepuscular flower opening around 05:00 am, with pollen as the sole floral resource. The flowers are white to yellow and emit sweet fragrances. Analysis of the breeding system indicated that these plants rely on floral visitors for fruiting. Bees were identified as the primary pollinators due to their behavior and frequency in visiting flowers. Social and solitary bees played distinct roles in the reproduction of these species. "*Apis mellifera* was the primary pollinator of *Eugenia* species; conversely, solitary bees took a leading role in the pollination of *C. guazumifolia*".

The attractive olfactory and visual floral traits and morphology for bees, with abundant pollen resources, as well as the sequential flowering of the species ensure the pollination of each of these crops regionally. The honeybee together with native bees play a crucial role in the fruit set of the studied Myrtaceae, guaranteeing the local production.