

POTENTIAL POLLINATORS OF UNDERSTORY POPULATIONS OF *SYMPHONIA GLOBULIFERA* IN THE NEOTROPICS.

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One difference between the forest canopy and the understory is that animals pollinate the majority of understory species in the tropical wet forests. Pollinators active in the understory are also different from those in the forest canopy and are adapted to the mesic conditions underneath the canopy. In this study we identified the animals that visited flowers of *Symphonia globulifera* (Clusiaceae) in the Caribbean lowlands of Costa Rica. *Symphonia globulifera* has a broad distribution, being found throughout the Neotropics and in Africa. Perching birds and hummingbirds have been suggested to be the most important pollinators, at least in observations of populations in which adults reach the canopy. We surveyed understory *S. globulifera* flowering trees in mature lowland TWF forest sites of Costa Rica, using video cameras to identify flower visitors.

Symphonia globulifera occurs only as an understory tree in our study area, while in other regions it is a canopy tree. Thus, we hypothesized that flower visitors of understory populations would be different from those of the canopy populations. We quantified the timing, frequency and behaviour of flower visitors. Visitation frequency and foraging behaviour are examined to explore the potential contribution to pollination by the observed flower visitors. We also discuss differences between the results of our study and those of studies of canopy populations of *S. globulifera*.



Stingless bee *Tetragonisca angustula* visiting *Symphonia globulifera* flower.

The most frequent flower visitors were the stingless bee *Tetragonisca angustula* and the hummingbird *Phaethornis longirostris*; both came in contact with anther and stigma during visits. We observed different flower visitors from those reported for canopy populations of *S. globulifera*. Insects predominated, in contrast to observations in canopy populations of *S. globulifera*, wherein perching birds predominated. We also documented the consumption of pollen by visiting insects. These findings highlight differences in flower visitors between the forest canopy and the understory for the same tree species and contribute to better understanding of the pollination ecology of understory tropical wet forest specie.