

## Pollination of tomatoes by the stingless bee *Melipona quadrifasciata* and the honey bee *Apis mellifera* (Hymenoptera, Apidae)

S.A. Bispo dos Santos, A.C. Roselino, M. Hrnčir and L.R. Bego

Departamento de Biologia, Faculdade de Filosofia,  
Ciências e Letras de Ribeirão Preto,  
Universidade de São Paulo, Ribeirão Preto, SP, Brasil

Corresponding author: S.A. Bispo dos Santos  
E-mail: sbispo@usp.br

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**ABSTRACT.** The pollination effectiveness of the stingless bee *Melipona quadrifasciata* and the honey bee *Apis mellifera* was tested in tomato plots. The experiment was conducted in four greenhouses as well as in an external open plot in Ribeirão Preto, SP, Brazil. The tomato plants were exposed to visits by *M. quadrifasciata* in one greenhouse and to *A. mellifera* in another; two greenhouses were maintained without bees (controls) and an open field plot was exposed to pollinators in an area where both honey bee and stingless bee colonies are abundant. We counted the number of tomatoes produced in each plot. Two hundred tomatoes from each plot were weighed, their vertical and transversal circumferences were measured, and the seeds were counted. We collected 253 Chrysomelidae, 17 Halictidae, one *Paratrigona* sp, and one honey bee from the flowers of the tomato plants in the open area. The largest number of fruits (1414 tomatoes), the heaviest and largest tomatoes, and the ones with the most seed were collected from the greenhouse with stingless bees. Fruits cultivated in the greenhouse with honey bees had the same weight and size as those produced in one of the control greenhouses. The stingless bee, *M. quadrifasciata*, was significantly more ef-

ficient than honey bees in pollinating greenhouse tomatoes.

**Key words:** Greenhouse; *Lycopersicon esculentum*; Fruit production; Meliponini