

Cuticular hydrocarbons in the stingless bee *Schwarziana quadripunctata* (Hymenoptera, Apidae, Meliponini): differences between colonies, castes and age

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ABSTRACT. Chemical communication is of fundamental importance to maintain the integration of insect colonies. In honey bees, cuticular lipids differ in their composition between queens, workers and drones. Little is known, however, about cuticular hydrocarbons in stingless bees. We investigated chemical differences in cuticular hydrocarbons between different colonies, castes and individuals of different ages in *Schwarziana quadripunctata*. The epicuticle of the bees was extracted using the non-polar solvent hexane, and was analyzed by means of a gas chromatograph coupled with a mass spectrometer. The identified compounds were alkanes, branched-alkanes and alkenes with chains of 19 to 33 carbon atoms. Discriminant analyses showed clear differences between all the groups ana-

lyzed. There were significant differences between bees from different colonies, workers of different age and between workers and virgin queens.

Key words: Hydrocarbons; Chemical communication; Social insect; Stingless bees; *Schwarziana quadripunctata*