

P150*Nestmate recognition in a ponerine ant* *Cryptopone sauteri*

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Eusocial insects discriminate nestmates from non-nestmates by cuticular hydrocarbon cues. When two adult individuals encounter each other in the field, two individuals have proved to cuticular hydrocarbon (CHC) components of each other, and show aggressive behavior toward non-nestmates. Many ant species exhibit polydomy in which the colony occupy in at least two spatially separated nests, but connected socially by the exchange of colony members. Although there are growing evidences on nestmate recognition and the role of CHCs in ants, the very limited number of studies has been known in the polydomous ant species. In this study, we investigated nestmate recognition and the role of CHCs in the polydomous ant *Cryptopone sauteri*. We conducted two designs of laboratory experiments to investigate whether workers showed aggressive behavior against non- nestmates. Firstly, a pair of nestmates and non-nestmates was placed in a glass Petri dish, and behavioral interactions between the pairs were observed. Workers did not show aggressive behavior more frequently against non-nestmate workers. Next, when a single worker was picked up from a donor nest and introduced it into either her or alien nest, the worker was aggressively attacked by workers of the alien nest. We identified 57 hydrocarbons, consisting of n-alkanes, dienes and triene on the cuticle of *C. sauteri* workers and conducted a bioassay whereby a glass bead was used as a surrogate ant. Aggression against non-nestmate compounds was significantly higher than against nestmate compounds. Our results suggest that workers of *C. sauteri* discriminate the nestmates from non-nestmates by the CHCs cues, and show aggressive behavior toward non-nestmates.