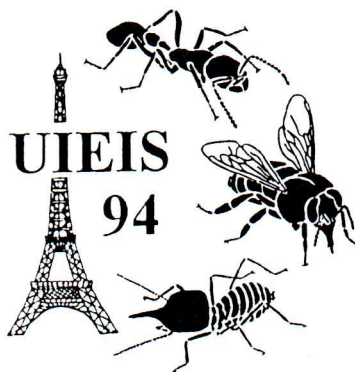


LES INSECTES SOCIAUX



*12^{ème} Congrès de l'Union Internationale pour l'Etude
des Insectes Sociaux UIEIS
Paris, Sorbonne, 21-27 Août 1994*

*12th Congress of the International Union for the Study
of Social Insects IUSSI
Paris, Sorbonne, 21-27 August 1994*

Alain LENOIR, Gérard ARNOLD & Michel LEPAGE (Eds)

*Publications Université Paris Nord, 1994
Published by Université Paris Nord, 1994*

RESPONSES TO NOVEL INSECT PREY IN THE MYRMECIINE
ANT *MYRMECIA NIGRICEPS* MAYR

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Predatory behaviour of myrmecine ants is very little known. The data obtained so far suggest that these ants are hunting strictly solitarily, and that they are detecting their prey visually. We studied the responses to various novel species of insects in captive colonies of *Myrmecia nigriceps* kept in large observation nests. In the majority of our tests we used a small colony of *M. nigriceps* in which all workers were marked individually. We used three species of novel potential prey: larvae of the Colorado Beetle (*Leptinotarsa decemlineata* Say), adults of the red firebug (*Pyrrhocoris apterus* L.), and larvae of the cockroach *Gromadorrhina* sp. The first two species are known to be well protected chemically against predators; the larvae of *Gromadorrhina* sp. are accepted readily as food by the ants. Insects belonging to a novel species were always very quickly attacked and retrieved to the nest by *M. nigriceps*. Inside the nest, the prey was always inspected by numerous ants. The larvae of *Gromadorrhina* sp. were relatively quickly given as food to the larvae of *M. nigriceps*, but Colorado beetles and firebugs were transported again out of the nest. Our data demonstrate thus that although *M. nigriceps* are hunting solitarily, the final decision whether to accept or to reject a given prey item is carried out on the society level: the prey brought to the nest by one worker may be transported away by another one. *M. nigriceps* were learning very rapidly to reject insects protected chemically against predators. That aversive learning was not visual, but involved the perception of chemical stimuli. Our data suggest also that *Myrmecia* ants may learn to avoid chemically protected insects inside their nest, as a consequence of contacts with the prey items retrieved by their nestmates.