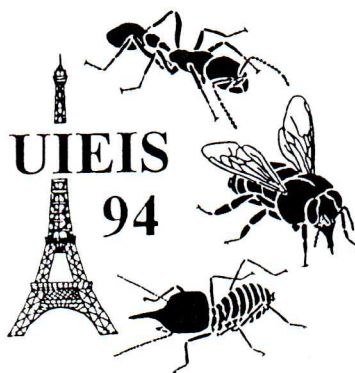


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BROOD ATTRACTIVITY OF THE ATTINE ANT

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Discrimination and recognition form the basis of the structure of ant societies. Brood recognition is fundamental in these societies. This study investigates the capacity of *Acromyrmex subterraneus subterraneus* workers to recognize nest mates or non-nestmates in the laboratory and in the field. The different behavioural steps leading from discovery to transport to the colony of objects encountered outside the nest are used to characterize chemical signals involved in recognition by workers. Tests were performed with larvae and pupae either homospecific (from other nests); heterospecific; homospecific (from their own nests; frozen and washed with pentane) and artificial baits (with cuticular larval extracts or solvent as the control). The laboratory bioassays were conducted as follows : 1) offering larvae and pupae in the nest area; 2) offering brood and artificial baits in the foraging area. In the nest area the workers can discriminate exactly between the nestmates and non-nestmates. On average, 90% of homocolonial brood items were readily picked up and carried them back to the fungus garden. The alien brood were always rejected. This contrasts with the tests in the foraging area and field bioassays : workers cannot tell the brood apart. All kinds of larvae, pupae and impregnated artificial baits extracts were carried to the nest. Worker castes behaved differently and had different capacities for brood discrimination.

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