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RESUMENES

COLONIAL FUNGUS RECOGNITION OF THE ANT Acromyrmex subterraneus (HYMENOPTERA FORMICIDAE)

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We investigated the capacity of the fungus-growing ant Acromyrmex subterraneus subterraneus, Forel 1893, to recognise nestmate and non-nestmate brood. As brood is reared in the fungus which is a full part of the nest, we investigated also the specificity of the fungus. The different behavioural steps leading from discovery to transport into the nest, or reject in the dump of items encountered outside the nest were used to characterise the colonial recognition by workers. Tests were performed with larvae, pupae and fungus pellets. Nestmates (from the same colony: homocolonial), and non-nestmates, either heterocolonial (different colony) or heterospecific (other Acromyrmex species) items were used. Workers can easily discriminate between nestmates and non-nestmates. Homocolonial items were readily picked up and carried into the nest and placed in the fungus garden. Non-nestmate items (alien brood or fungus) were always rejected. The fungus is treated exactly like the brood, accepted or rejected according to its origin. The colonial identity, a characteristic of eusocial insects, extends to the fungus. We discuss evolutionary mechanisms for this remarkable coevolution between an ant and a fungus.