



Oral Communications

13-024

LIFE-HISTORY STRATEGIES IN ARBOREAL TERMITES FROM NEW GUINEA

M. Leponce¹, Y. Roisin, J.M. Pasteels

Laboratoire de Biologie animale et cellulaire, Université Libre de Bruxelles, Belgium - ¹Institut Royal des Sciences Naturelles, Bruxelles, Belgium

In coconut plantations on the north coast of New Guinea, three species of arboreal-nesting termites compete for food and space: *Nasutitermes princeps*, *N. novarumhebridarum* and *Microcerotermes biroi*. The three species build their nest on coconut tree trunks and forage for dead plant material on trees and on the ground. We investigated whether the three species display different life-history strategies. The number and morphology of the functional reproductives found in unmanipulated nests or obtained after orphaning experiments differ among species and suggest that *M. biroi* and *N. novarumhebridarum* are best adapted for colonizing trees by independent founders, whereas *N. princeps* would more easily spread by budding. Long-term field studies indeed showed that *Microcerotermes biroi* is very efficient at establishing new colonies in a virgin habitat, by means of nuptial flights. *Nasutitermes novarumhebridarum* also relies on nuptial flights to colonize new sites, but is more commonly associated with dead trees. By contrast, *N. princeps* seems to be a poorer colonizer, but established colonies are able to expand their territories by budding and form large unicolonial systems. Their fighting capacities allow *N. princeps* workers and soldiers to kill colonies of *M. biroi* and invade their territory. We suggest that differences in life-history strategies may account for the frequent co-occurrence of the three species in coconut plantations, in spite of the obvious competition between them.