DERU reprint

PROCEEDINGS

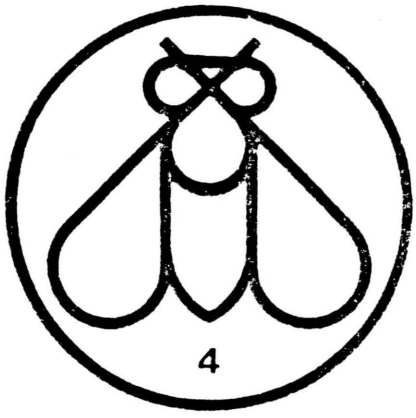
of the

FOURTH

ENTOMOLOGICAL CONGRESS

organized by the

ENTOMOLOGICAL SOCIETY OF SOUTHERN AFRICA



JOHANNESBURG, 6 — 8 SEPTEMBER 1983

Published by the Society
P.O. Box 103, Pretoria, Republic of South Africa
Price R3

6072

(especially ocelli and flight sclerites) in the different castes of some species provides additional support for these findings.

An attempt is made to identify an evolutionary pattern of reproductive adaptations in the subfamily; the information on the different reproductive systems is superimposed onto the latest phylogenetic scheme relating the various genera, especially within the subtribe Ponerini.

STRUCTURE AND FUNCTION OF A NAMIB DESERT ANT (HYMENOPTERA: FORMICIDAE) COMMUNITY

A.C. Marsh 1983

DESERT ECOLOGICAL RESEARCH UNIT, SWAKOPMUND, SWA/NAMIBIA

Thirteen ant species coexist on the flat, barren gravel plains at Ganab in the Namib desert. Each species can be assigned to one of four trophic groups, honeydew foragers, seed harvesters, arthropod scavengers and omnivores. Within the latter three groups food resources are partially subdivided amongst the species according to particle size and class. With some minor exceptions most species have crepuscular to nocturnal foraging activities. The community is dominated numerically and in terms of biomass by two harvester species, *Messor denticornis* and *Tetramorium rufescens*. These two species comprise 58,6 per cent of the community numerically and 91,1 per cent in terms of biomass. In view of their importance in the ant community the foraging ecology of these two species has been investigated in detail.

M. denticornis is a relatively large polymorphic species where *T. rufescens* is a medium-sized monomorphic species. In the months following a good rainfall both species concentrated on the same food resources, particularly seeds of the grass *Enneapogon brachstachyus*. *M. denticornis* is a trunk-trail forager and tended to forage intensively in specific areas up to 60 m from the nest. By contrast, *T. rufescens* is a diffuse forager and its foraging effort was more evenly distributed within a radius of approximately 6 m around the nest. Dietary differences became apparent as *E. brachstachyus* seed reserves declined. *M denticornis* took progressively more as yet unidentified grass seeds which occur in large clusters whereas *T. rufescens* collected more non-seed vegetative matter. *T. rufescens* is apparently too small to individually collect seed clusters and co-operative food retrieval is rare in this species. Thus both species are opportunists but apparently prefer grass seed. Provided seed is superabundant they can utilise the same resource. When food resources are in short supply, however, resource partitioning is more apparent and under these circumstances is facilitated by differences in body size.

Die verande
die wyfies
respektiewe
van klein h
ting van re
hidrate.

Wyfies verb