DISTRIBUTION AND POST-SETTLEMENT SURVIVAL IN THE FIELD BY REPRODUCTIVE PAIRS OF Hodotermes mossambicus Hagen (Isoptera, Hodotermitidae)

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SUMMARY

Debris-piles made by Hodotermes mossambicus dealates digging-in after a nuptial flight were found in bushed grassland in central Kenya following unseasonal rain. Their density and survival were estimated, and their distribution examined. These are the first records of post-flight settlement density and survival in the field.

RÉSUMÉ

Distribution et survie sur le terrain des couples reproducteurs d'Hodotermes mossambicus Hagen (Isoptera, Hodotermitidae) après leur installation dans le sol.

A la suite d'une chute de pluie survenue hors saison, on a trouvé, dans une prairie arbustive du centre du Kenya, des tas de déblais jetés par des Hodotermes mossambicus desalés lors de leur enfouissement après le vol nuptial. On a estimé la densité et la survie de ces Termites et examiné leur distribution. Ce sont les premières données enregistrées sur la densité et la survie sur le terrain des couples reproducteurs lors de leur installation dans le sol après le vol nuptial.

INTRODUCTION

On 25th and 26th January 1975 we visited an area approximately 13 km SSW of Kajiado town in the Rift Valley Province of Kenya. The site was at an altitude of about 1,770 m on the NE facing slopes of the Ilemelépo (or Lemelébbu) Hills. The vegetation was bushed grassland with an incomplete ground cover.
On bare patches of soil we noticed many small piles of earth. These proved to be the digging-in piles of de-alate pairs of Hodotermes mossambicus Hagen which had flown in response to unseasonal rain showers. Normally the digging-in places of termite alates are obliterated rapidly by rain, but in this case no subsequent rain fell and the piles remained fresh and clear. They continued to be visible, though increasingly degraded, until 19th February when a further heavy shower fell.

Because of these unusual conditions it was possible to estimate in the field the initial settlement density and early post-settlement mortality. This has not been reported previously for any termite species, and in view of the rarity of such opportunities, the data, though sketchy, are worth recording.

DESCRIPTION OF DIGGING IN PILES

The piles (fig. 1) were found on soils ranging from red to black, through brown and grey intermediates. They were about 5 cm in diameter and irregular in shape, consisting of small soil pellets weakly coherent in lumps. Although the pellets were about the same size as those used by Macrotermes michaelseni (Sjostedt) to build foraging galleries in the vicinity, the piles were quite unlike those strongly cemented structures (fig. 2). They also differed from the fecal pellets of established Hodotermes mossambicus colonies, deposited nearby in loose and friable conical piles, which were usually larger and darker coloured, with a cemented central pipe. Circular piles of soil were also made by some small species of ant, but in these the particles were smaller and completely loose, dumped in a crater-shape around a small central hole (fig. 3). Debris-piles of a similar size were made by some larger predatory camponotine ants, but adjacent to an exit hole, and always loose in texture (fig. 4). The burrows of a small tenebrionid beetle were also surrounded by a debris-crater (fig. 5).

In making the counts of Hodotermes digging-in piles care was therefore essential to exclude any that did not correspond exactly to the typical form. Consequently the density of piles may have been slightly underestimated.

Figs. 1 to 6. — Burrows and associated soil debris-piles found in Kenya grassland.
1. Digging-in pile of de-alate pair of Hodotermes mossambicus. 2. Cemented foraging cover of Macrotermes michaelseni. 3. Debris pile of small ant species. 4. Debris pile of larger camponotine ants. 5. Crater made by small tenebrionid beetle. 6. Dealate H. mossambicus exposed by excavating copularium cell beneath digging-in pile.

Fig. 1 à 6. — Les galeries et les tas de déblais qui sont associés dans une prairie au Kenya.