

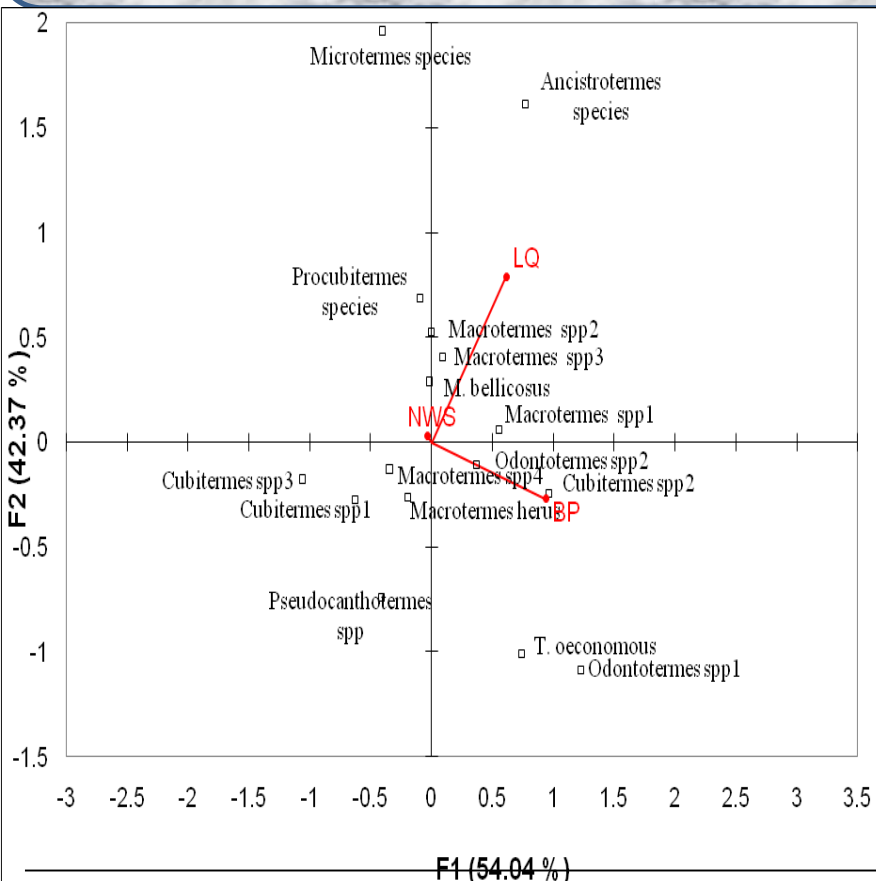


Introduction

Devastation of the herbaceous vegetation by subterranean termites is a major constraint to animal nutrition in the semi-arid ecosystem of Nakasongola District (NEMA, 2007). Although termites' attack severely damages all components of rangeland vegetation, grasses are more susceptible to termite damage. Consequently, there is a remarkable decline in the grass component of the ecosystem which translates into reduced feed availability, poor livestock performance and escalating levels of poverty among pastoral and agro-pastoral communities. Development of sustainable termite management interventions in such ecosystems requires explicit understanding of the ecological interactions between termites and other ecosystem components. The study was conducted to generate information to aid in the formulation of ecologically sustainable termite management interventions in the area. The objectives of the study were: (1) to examine the termite assemblage structure on grazing lands and (2) to analyze the effect of biotic and abiotic on the composition and foraging intensity of subterranean termites in the ecosystem.

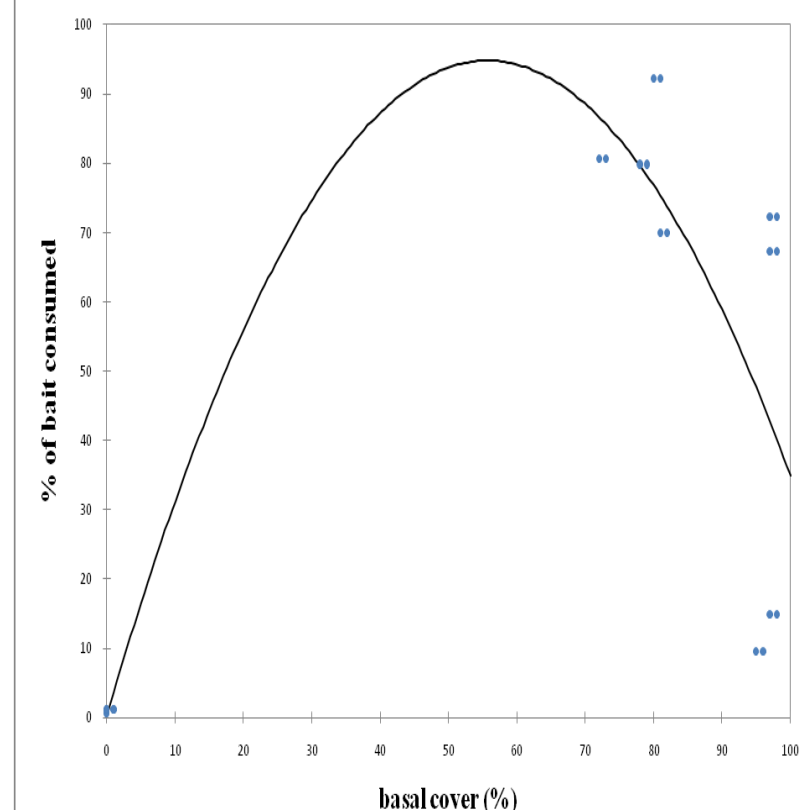
Methods

Belt transects were laid in the study sites and termite samples were collected following a standardized direct search sampling protocol (Dawes-Gromadzki, 2005) to establish the termite assemblage structure. The same sites were also sampled for selected environmental factors to establish the effect of the factors on composition and foraging intensity of subterranean termites. The factor-effect relationships were analyzed using principal component and canonical correspondence analysis, and modeled by non-linear regression in XLSTAT (2011).



Results

Direct searching of termite habitats yielded 16 termite species from eight genera, three sub-families and one family. Members of the genus *Macrotermes* were the dominant species and constituted 38% of the total number of species. The species occurred in sites where the quantity of litter was generally above the mean (778 kg/ha). Results from nonlinear regression of percentage of bait consumed with basal cover indicated that highest consumption of baits (95%) occurred within a range of 55-60% basal cover beyond which the amount of bait consumed reduced.



Conclusion

Rangeland management techniques that enhance accumulation of adequate litter and maintenance of adequate basal cover are critical in mitigating termite damage on rangeland vegetation

