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**BIODIVERSITY OF TERRESTRIAL SMALL MAMMALS ALONG AN ALTITUDINAL
TRANSECT IN THE WESTERN SOUTPANSBERG, LIMPOPO PROVINCE, SOUTH
AFRICA**

BY

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ABSTRACT

This study was aimed to investigate patterns and causes of changes of terrestrial small mammal species diversity, richness and abundance with increasing elevation in the Soutpanberg Mountains. Capture mark recapture method was conducted at five altitudinal sites ranging from 1000-1747m above sea level in the southern slopes of the western Soutpansberg. Data on different environmental variables (Microhabitat and climate) were collected. Twelve small mammal species was recorded, of these two species of shrew, nine rodents and one species of Sengi. Three rodent species e.g. *Micaelamys namaquensis*, *Aethomys ineptus* and *Rhabdomys pumilio* were the most abundant species occurring in almost all altitudinal sites. Six models were built to test influence of different environmental variables on small mammal. Akaike's information criterion (AIC) was used to assess the best model that explained variation in species richness, diversity and abundance. Model has shown that variation small mammal species richness and diversity was attributed to rockiness of the area. Small mammal species richness significantly increase with increase in altitude, species diversity also increase with altitude but it was not statistically significant dominance of *R. pumilio* at high altitude. Rock cover significantly influences the variation of three small mammal species (*Rhabdomys pumilio*, *Aethomys ineptus* and *Elephantulus myurus*). Analysis of variance (ANOVA) was performed to test if there any significant difference of four small mammal (*A. ineptus*, *M. namaquensis*, *R. pumilio* and *E. myurus*) body mass with changes in altitude. Altitude significantly influences variation of *A. ineptus* body mass but not in way predicted by Bergmanns' Rule. The results have shown that all four small mammals tested did not conform to Bergmann rule.

Keyword: *Small mammal, species richness, species diversity, altitude*