Journal of Vertebrate Biology

Open Access

J. Vertebr. Biol. 2020, 69(2): 20021 DOI: 10.25225/jvb.20021

SPECIAL ISSUE: AFRICAN SMALL MAMMALS

Rodent species composition, relative abundance, and habitat association in the Mabira Central Forest Reserve, Uganda

James SSUUNA[1,2,3,4*], Rhodes H. MAKUNDI[1], Moses ISABIRYE[2], Christopher A. SABUNI[1], Waswa S. BABYESIZA[1,3,4] and Loth S. MULUNGU[4]

[1] *The African Centre of Excellence for Innovative Rodent Pest Management and Biosensor Technology Development, Morogoro, Tanzania; e-mail: j.ssuuna.james@gmail.com, rmakundi@yahoo.com, sabunic03@gmail.com, waswasadic@gmail.com*

[2] *Department of Natural Resources Economics, Busitema University, Tororo, Uganda; e-mail: j.ssuuna.james@gmail.com, isabiryemoseswb@gmail.com*

[3] *Department of Wildlife Management, Sokoine University of Agriculture, Morogoro, Tanzania; e-mail: j.ssuuna.james@gmail.com, waswasadic@gmail.com*

[4] *Pest Management Centre, Sokoine University of Agriculture, Morogoro, Tanzania; e-mail: lothmulungu@yahoo.com*

Received 28 February 2020; Accepted 9 July 2020; Published online 15 October 2020

Abstract. A study was conducted in Mabira Central Forest Reserve in Uganda to determine rodent species composition, relative abundance, and habitat association. A total of 1,030 rodents belonging to 14 species were captured on 10,584 trap nights. Rodent species recorded include: *Lophuromys stanleyi*, *Hylomyscus stella*, *Praomys jacksoni*, *Mastomys natalensis*, *Lophuromys ansorgei*, *Lemniscomys striatus*, *Aethomys hindei*, *Mus triton*, *Mus minutoides*, *Deomys ferrugineus*, *Gerbilliscus kempi*, *Rattus rattus*, *Grammomys kuru*, and *Hybomys univittatus*. Overall, *L. stanleyi* (23.7%) was the most dominant species followed by *H. stella*, *P. jacksoni*, and *M. natalensis*. Species richness and evenness was highest in the regenerating forest habitat and least in the intact forest habitat. Rodent abundance was significantly affected by habitat type. The regenerating forest habitat had the highest number of animals, while the lowest numbers were observed in the depleted forest habitat. Species diversity was higher in regenerating forest habitat and lowest in the intact forest. The three habitats appeared distinct in terms of rodent species composition and there was a strong association between the two trapping grids in the same habitat type. All ordination plots showed that different rodent species consistently associated with distinct habitats. Habitat type and seasonal changes influenced rodent composition, relative abundance and habitat association. Composition of rodent community reflected the level of habitat degradation and can be used as a proxy for evaluating the biodiversity of lowland tropical forests.

Key words: African ecology, small mammal community, lowland tropical forest, Rodentia

Introduction

The government of Uganda has shown commitment to conserve its forest resources through investment in a variety of initiatives, including gazetting national tree planting days, and creation of the National Forestry Authority (NFA). However, a trend of tree loss has worsened due to continued

* *Corresponding Author*