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## Poster Session 1 – Rodent Management

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### **32 Developing ecologically-based rodent management for smallholder farmers in Zambia**

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Rodent pests have significant negative effects on smallholder farming communities in Zambia. Currently, farmers often do nothing to control rodent pests and sometimes use rodenticides when problems become severe. As the use of rodenticides is both expensive for smallholders and a danger to wildlife and farmers, there is an urgent need to develop humane and ecologically based rodent management strategies. The current study seeks to understand the effect of habitat fragmentation on the diversity of rodents and their small mammal predators; understand rodent population dynamics in Zambian maize fields; understand how landscape issues may affect anti-predator and foraging behaviours of rodents; and to compare the effects of using fertility control vs. mortality control on rodent population dynamics and maize crop damage. Sherman live traps will be used to capture rodents while rodent predators will be surveyed using camera traps, stratified across a range of habitats and seasons. The population dynamics of rodents in smallholder maize farms will be assessed using capture-mark-recapture (CMR) techniques. Foraging behavior of rodents in relation to different habitats and predator abundance will be assessed using giving-up densities to assess the landscape of fear. To compare the effect of fertility and mortality control on rodent populations in maize farms, three trapping grid treatments (replicated twice across two seasons) will be established in different maize fields. After a baseline population assessment, each grid will be exposed to a different treatment (contraceptive bait, rodenticide bait and untreated bait). The population of rodents will be monitored monthly during the maize growing season using CMR, and rodent damage assessments will be taken using standard methods. Outcomes of this study will help enable the development of ecologically sustainable and humane methods for controlling rodent pest populations in Zambia.

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# Julius-Kühn-Archiv

Jens Jacob, Jana Eccard (Editors)

6<sup>th</sup> International Conference of Rodent  
Biology and Management  
and  
16<sup>th</sup> Rodens et Spatium

Potsdam, Germany, 3-7 September 2018

Book of Abstracts



Julius Kühn-Institut  
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