
Poster Session 1 – Population Dynamics

55 Population fluctuation and breeding patterns of multimammate mouse, *Mastomys natalensis* (Smith 1834), in maize associated cropping system in Eastern Uganda

Alex Mayamba¹, Moses Isabirye¹, David Kifumba¹, Didas N. Kimaro², Apia W. Massawe², Rhodes H. Makundi², Loth S. Mulungu²

¹Busitema University Tororo, Uganda, alexmayamba@gmail.com

²Sokoine University of Agriculture, Morogoro, Tanzania

Multimammate mice (*Mastomys natalensis*) continue to constrain farmers efforts towards obtaining optimum outputs from cereal crops production in sub-Saharan Africa through their pre and post-harvest damage they inflict. They are by far the most involved species in most rodent outbreaks reported in the region and once they occur, often they result into crop damage and may cause heavy losses. This study thus aimed at establishing the population dynamics and breeding patterns of *Mastomys natalensis* in maize associated cropping systems Eastern Uganda. The population of the multimammate mouse varied significantly ($F_{10,0.705} = 7.838$, $P < 0.0001$) with months. The highest population peaks were recovered in the second rain season (September to October) but specifically in October 2015, where 73 animals/0.5 ha and 66 animals/0.5 ha were captured in fallow and maize fields respectively. Also, *Mastomys natalensis* was observed to be sexually active throughout the year in the study area, with some breeding peaks noted towards end of first rainy season towards maize harvesting stage (May- July). This suggests that breeding is constantly occurring but with an increase during maize harvesting periods. The higher population abundance recorded in September to October is an indication of a buildup population from breeding in previous months. In conclusion higher population abundances of multimammate mice in both habitats were observed to be driven by rainfall patterns but peaking in the second yearly season. This could be as a result of continued population build up from first rainy season which is followed by a short dry period and then another second rainy season. This phenomenon played a role in providing food and vegetation cover which allowed continuous breeding and survival thus population peaking in October. It is therefore advisable that control should be initiated in the first planting season to break the buildup of populations to higher numbers.

4 5 9

Julius-Kühn-Archiv

Jens Jacob, Jana Eccard (Editors)

6th International Conference of Rodent
Biology and Management
and
16th Rodens et Spatium

Potsdam, Germany, 3-7 September 2018

Book of Abstracts



Julius Kühn-Institut
Bundesforschungsinstitut für Kulturpflanzen

4 5 9

Julius-Kühn-Archiv

Jens Jacob, Jana Eccard (Editors)

6th International Conference of Rodent
Biology and Management
and
16th Rodens et Spatium

Potsdam, Germany, 3-7 September 2018

Book of Abstracts



Editors:

Jens Jacob¹ and Jana Eccard²

¹Julius Kühn Institute, Federal Research Centre for Cultivated Plants,
Institute for Plant Protection in Horticulture and Forests, Vertebrate Research,
Toppeideweg 88, 48161 Münster, Germany

²University of Potsdam, Institute of Biochemistry and Biology,
Animal Ecology Group, Maulbeerallee 1,
14469 Potsdam, Germany

Local Organizing Committee:

Jana Eccard, University of Potsdam

Jens Jacob, Julius Kühn Institute, Federal Research Centre for Cultivated Plants, Münster

Daniela Reil, Julius Kühn Institute, Federal Research Centre for Cultivated Plants, Münster

Christiane Scheffler, University of Potsdam

Elke Seydewitz, University of Potsdam

Scientific organising committee:

Emil Tkadlec (Czech Republic); Frauke Ecke (Sweden); Grant Singleton (Philippines); Heikki Henttonen (Finland); Jana Eccard (Germany); Jens Jacob (Germany); Lyn Hinds (Australia); Prince Kaleme (Congo); Xavier Lambin (UK); Zhibin Zhang (China)

International Steering Committee Rodens et Spatium:

Abraham Haim (Israel); Alexey Surov (Russia); Ana Maria Benedek (Romania); Boris Krasnov (Israel);

Emil Tkadlec (Czech Republic); Éric Le Boulengé (Belgium); Farida Khammar (Algeria);

František Sedláček (Czech Republic); Gert Olsson (Sweden); Grant Singleton (Australia);

Heikki Henttonen (Finland); Jan Zima (Czech Republic); Jean-François Cosson (France); Linas Balčiauskas

(Lithuania); Maria da Luz Mathias (Portugal); Molly McDonough (USA); Mustafa Sözen (Turkey);

Nigel Yoccoz (Norway); Olga Osipova (Russia); Takuya Shimada (Japan); Victor Sánchez Cordero (Mexico);

Xavier Lambin (United Kingdom); Yasmina Dahmani (Algeria)

International Steering Committee**International Conference of Rodent Biology and Management:**

Andrea Byrom (New Zealand); Charley Krebs (Canada); Grant Singleton (Philippines); Jens Jacob (Germany);

Jiqi Lu (China); Lyn Hinds (Australia); Nico Avenant (South Africa); Peter Banks (Australia);

Peter Brown (Australia); Regino Cavia (Argentina); Rhodes Makundi (Tanzania); Roger Pech (New Zealand);

Steven Belmain (UK); Sudarmaji (Indonesia); Zhibin Zhang (China)

Bibliografische Information der Deutschen Nationalbibliothek

Die Deutsche Nationalbibliothek verzeichnet diese Publikation

In der Deutschen Nationalbibliografie: detaillierte bibliografische

Daten sind im Internet über <http://dnb.d-nb.de> abrufbar.

ISSN 1868-9892

ISBN 978-3-95547-059-3

DOI 10.5073/jka.2018.459.000



Alle Beiträge im Julius-Kühn-Archiv sind unter einer

Creative Commons - Namensnennung - Weitergabe unter gleichen Bedingungen -

4.0 Lizenz veröffentlicht.

Printed in Germany by Arno Brynda GmbH, Berlin.