

---

## Plenary Talks

---

### 5 critical areas for rodent population biology

Charles J. Krebs

University of British Columbia, Vancouver, Canada, krebs@zoology.ubc.ca

I will review briefly the strong inference approach that has characterized the great progress population ecology has maintained for the last 60 years. Population ecology is the cornerstone of all ecological studies, and without good population studies we cannot make progress in answering the scientific problems that confront us today. I concentrate my talk on 5 areas of rodent population ecology - population dynamics, the problem of rarity, pest management, the economic impacts of rodents, and landscape ecology. I will highlight the progress we have made and the major questions that are not yet resolved, including the impacts of climate change, the regulation of breeding seasons, the problem of infanticide, and the role of chronic stress in rodent demography. The problem of rarity in rodents is rarely discussed, and yet is so critical for the conservation of rare species. We have no clear ideas about why so many species are so rare. I will cover some highlights of progress in pest management, with an overview of fertility control issues and the use of poisons. The economic impacts of rodents in forestry are important in many countries, as are landscape ecology issues that are most difficult to study yet most important in our human-modified landscapes. The importance of long-term monitoring underlies much of what we need to do in our future research. All these areas of rodent population biology will be addressed in more detail in the plenary talks and in many of the presentations at this conference. Much has been achieved and much remains to be done.

# 459

## 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  
Bundesforschungsinstitut für Kulturpflanzen

# 459

## 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



**Editors:**

Jens Jacob<sup>1</sup> and Jana Eccard<sup>2</sup>

<sup>1</sup>Julius Kuehn Institute, Federal Research Centre for Cultivated Plants,  
Institute for Plant Protection in Horticulture and Forests, Vertebrate Research,  
Toppheideweg 88, 48161 Münster, Germany

<sup>2</sup>University 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.