

4 5 9

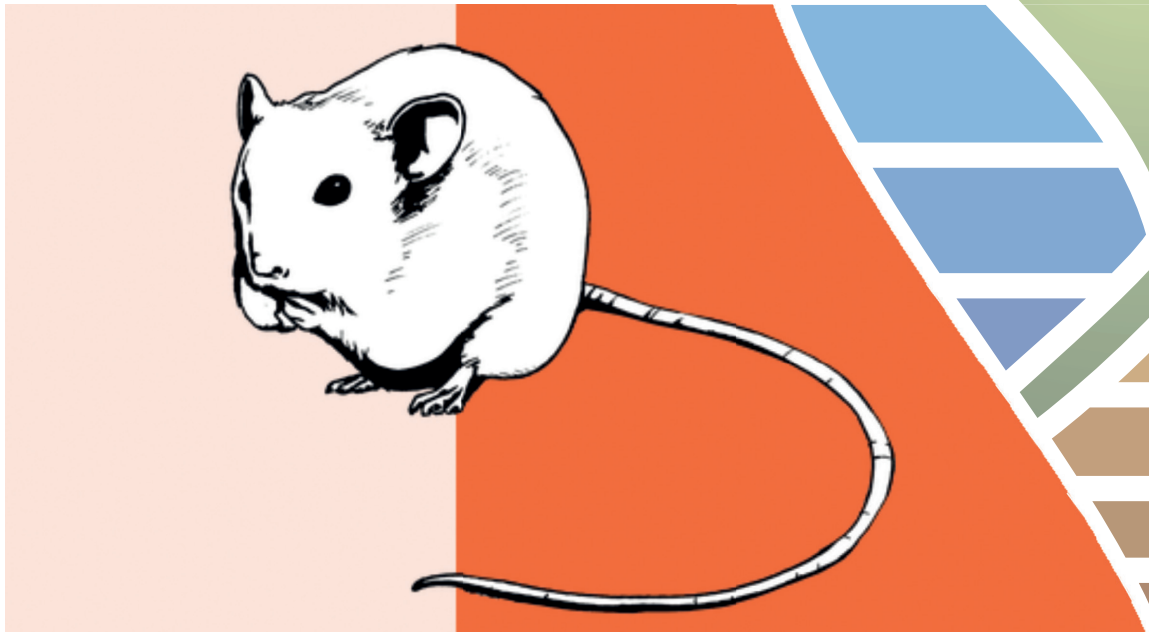
Julius-Kühn-Archiv

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

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,
Toppheideweg 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.

Poster Session 2 – Taxonomy Genetics

92 Taxonomic separation of the red-cheeked ground squirrel from South-East Kazakhstan

Elena V. Volodina¹, Vera A. Matrosova², Anastasia D. Ivanova³, Ilya A. Volodin³, Dmitry Y. Alexandrov⁴, Olga V. Sibiryakova³, Oleg A. Ermakov⁵

¹Moscow Zoo, Moscow, Russia, volodinsvoc@mail.ru

²Engelhardt Institute of Molecular Biology RAS, Moscow, Russia

³Lomonosov Moscow State University, Moscow, Russia

⁴Severtsov Institute of Ecology and Evolution RAS, Moscow, Russia

⁵Penza State University, Penza, Russia

At least three species of ground squirrels are known from south-east Kazakhstan. These species are often considered as one wide-range polymorphic species, the red-cheeked ground squirrel *Spermophilus erythrogeus* sensu lato. The distribution area and taxonomic borders of this combined species remain questionable. We used molecular and bioacoustic tools for taxonomic separation of ground squirrels inhabiting the Dzungarian Alatau region of south-east Kazakhstan and adjacent territories. We examined 30 live-trapped individuals from three different populations (10 individuals per population) for acoustic structure of their alarm calls and for nucleotide polymorphism of the mtDNA C-region (1005-1006 bp) and cytb (1140 bp). We also examined DNA of eight museum specimens of *Spermophilus brevicauda*, *Spermophilus intermedius*, *Spermophilus carruthersi* and *Spermophilus iliensis* originating from the species complex distribution area. Additionally, six cytb sequences from Genbank were used (*Spermophilus iliensis* AF157856, AF157857; *Spermophilus relictus* AF157876; *Spermophilus pallidicauda* AF157866, AF157869; *Spermophilus erythrogeus* AF157875). The alarm call variables were similar between the three study populations and distinctive by their maximum fundamental frequencies (8.46 ± 0.75 kHz) from those of *Spermophilus erythrogeus* from the Kurgan region of Russia (5.62 ± 0.06 kHz). The study animals were conservative in the structure of mtDNA (variation in C-region 3%, in cytb - 2.5%). On the phylogenetic tree based on the cytb polymorphism, the ground squirrels from south-east Kazakhstan and adjacent territories divided on three clades with high (98–100%) bootstrap support: 1) *Spermophilus iliensis* (west of species area); 2) *Spermophilus intermedius* (center); 3) *Spermophilus brevicauda* (= *Spermophilus carruthersi*) (south-east). Study populations of *Spermophilus intermedius* probably deserve the species-level taxonomic rank. These data suggest that *Spermophilus erythrogeus* represents a paraphyletic taxon on both genetic (mtDNA) and phenotypic (alarm call) traits. A new taxonomic revision is needed. Supported by the RFBR grant 18-04-00400.