
Poster Session 1 – Population Dynamics

59 Kinship analysis revealed reproductive success skewed toward overwintered Brandt's voles in semi-natural enclosures

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Age structure and seasonality influence the population fluctuation of small rodents. Age determines body weight and social experience, while seasonality regulates the duration of breeding season and sexual maturity of newborn offspring. Therefore, reproductive success and skew usually occur in different age groups. Brandt's vole (*Lasiopodomys brandtii*) is a social, short lifespan, and seasonal breeding small rodent with a dramatic seasonal population fluctuation. However, it is still not clear about reproductive skew in this species. In present study, we studied the kinship in semi-natural enclosure populations by microsatellite marker based on genotyping, analyzed the reproductive skew between genders and between overwintered and newborn voles, and monitored variation of male reproductive activity by testing fecal testosterone levels around the year. Our results showed that the majority of overwintered voles had reproductive success along with striking increase of the population size in three enclosures; and all biological fathers and 77.8% biological mothers were overwintered voles and they have all and 87% offspring, respectively. Compared to overwintered voles, reproductive skews were significantly higher in potential overwintered and newborn parents, implying the possible reproductive suppression of newborn voles from dominant overwintered voles. Moreover, both heavier body weight and higher testosterone levels of overwintered males supported their potential social status in the population. Therefore, our study provided some new evidence for reproductive skew and differentiation of postnatal gonadal development patterns of different age groups in Brandt's vole.

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Julius-Kühn-Archiv

Jens Jacob, Jana Eccard (Editors)

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

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Book of Abstracts



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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



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