

**TERRITORIAL STRUCTURE AND SOCIAL ORGANIZATION
OF TWO SUBSPECIES OF THE MIDDAY GERBIL
(*MERIONES MERIDIANUS NOGAIORUM*,
M. M. PSAMMOPHILUS) (MURIDAE, MAMMALIA)
UNDER SEMI-NATURAL CONDITIONS**

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Received 19 January 2018, accepted 26 February 2018

Gromov V. S. Territorial Structure and Social Organization of Two Subspecies of the Midday Gerbil (*Meriones meridianus nogaiorum*, *M. m. psammophilus*) (Muridae, Mammalia) Under Semi-Natural Conditions. *Povolzhskiy Journal of Ecology*, 2018, no. 2, pp. 197–206 (in Russian). DOI: 10.18500/1684-7318-2018-2-197-206

The territorial structure and social organization of artificial groups of two subspecies of the midday gerbil (*Meriones meridianus nogaiorum*, *M. m. psammophilus*) were studied under semi-natural conditions. No significant differences in the space usage system of the subspecies under comparison were found. The structure of social interactions was found to be identical in females but different in males: *M. m. nogaiorum* males exhibited dominance hierarchy, whilst a despotic dominance was found in *M. m. psammophilus* males. *M. m. psammophilus* females also exhibited dominance hierarchy. Besides, avoiding same-sex conspecifics seems to be a typical behavioral strategy of *M. m. psammophilus*. These findings support our suggestion that *M. m. psammophilus* should be treated as a distinct species.

Key words: midday gerbil, subspecies, space use, social organization.

DOI: 10.18500/1684-7318-2018-2-197-206

REFERENCES

- Goltsman M. E., Paskhina N. M. Social acts and postures in the great gerbil. *Bull. of Moscow Society of Naturalists. Biological Ser.*, 1974, vol. 79, iss. 2, pp. 29–38 (in Russian).
- Gromov V. S. The social organization of family groups of the Mongolian gerbil in its natural colonies. *Zoologicheskii zhurnal*, 1981, vol. 60, iss. 11, pp. 1683–1693 (in Russian).
- Gromov V. S. To Analysis of Spatial Structure in Small Mammal Populations: Some Methodical Problems. *Zoologicheskii zhurnal*, 1996, vol. 75, iss. 11, pp. 602–607 (in Russian).
- Gromov V. S. *Ethological Mechanisms of Population Homeostasis in Gerbils* (Mammalia, Rodentia). Moscow, A. N. Severtsov Institute of Ecology and Evolution of RAS Publ., 2000. 392 p. (in Russian).
- Gromov V. S. The spatial-and-ethological population structure in rodents. Moscow, KMK Scientific Press Ltd., 2008. 581 p. (in Russian).
- Gromov V. S. Vorob'eva T. V. Behaviour of midday gerbils (*Meriones meridianus* Pall.) under semi-natural conditions. 1. The social organization and use of spa. *Zoologicheskii zhurnal*, 1995, vol. 74, iss. 11, pp. 94–109 (in Russian).

Neronov V. M., Abramson N. I., Warshavsky A. A., Karimova T. Yu., Khlyap L. A. Chorological Structure of the Range and Genetic Variation of the Midday Gerbil (*Meriones meridianus* Pallas, 1773). *Doklady Akademii Nauk*, 2009, vol. 425, pp. 135–137.

Popov S. V., Il'chenko O. G. *The Methodical Recommendations to Ethological Observations of Captive Mammals*. Moscow, Moscow Zoo Publ., 1990. 76 p. (in Russian).

Popov S. V., Tchabovsky A. V., Shilova S. A., Shchipanov N. A. The mechanisms of formation of the spatial-and-ethological population structure in colonies of the midday gerbil under normal conditions and after artificial population depression. *Fauna and Ecology of Rodents*, 1989, iss. 17, pp. 5–58 (in Russian).

Alho C. J. R. Relative exclusiveness of use of space as a measure of spatial distribution of mammal populations. *Revista Brasileira de Biologia*, 1979, vol. 39, pp. 275–279.

Altmann J. Observational study of behaviour: Sampling methods. *Behaviour*. 1974, vol. 49, no. 3–4, pp. 227–265.

Nanova O. Geographical variation in the cranial measurements of the midday jird *Meriones meridianus* (Rodentia: Muridae) and its taxonomic implications. *J. Zoological Systematics and Evolutionary Research*, 2014, vol. 52, iss. 1, pp. 75–85.

Sokal R. R., Rohlf F. J. *Biometry: The Principles and Practice of Statistics in Biological Research*. 3rd ed. New York, W. H. Freeman and Co., 1995. 887 p.

Zou G., Zhou L., Zha X., Zhang B., Zhao T., Liang J. Geographical pattern and historical demography of midday gerbil *Meriones meridianus* (Gerbillidae, Rodentia) inferred from the sequences of the mitochondrial DNA control region. *Russian J. Theriology*, 2008, vol. 7, no. 1, pp. 25–32.