Zoosymposia 22: 189–189 (2022)
https://www.mapress.com/j/zs

Abstract

ISSN 1178-9905 (print edition)
ZOOSYMPOSIA
ISSN 1178-9913 (online edition)

https://doi.org/10.11646/zoosymposia.22.1.122

The diversity and distribution of oribatid mites in high altitudinal ecosystems of Great and Lesser Caucasus*

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**In*: Zhang, Z.-Q., Fan, Q.-H., Heath, A.C.G. & Minor, M.A. (Eds) (2022) *Acarological Frontiers: Proceedings of the XVI International Congress of Acarology (1–5 Dec. 2022, Auckland, New Zealand)*. Magnolia Press, Auckland, 328 pp.

The aim of our investigation was to study the community composition and distribution of oribatid mites in high altitudinal ecosystems of Great and Lesser Caucasus mountains.

Sampling was performed during 2016–2021 in multiple locations of the Great and Lesser Caucasus covering altitudinal gradient from 1000 to 3200 m a.s.l. and four different types of ecosystems—forests (broad-leaved, coniferous and mixed), alpine meadows, artificial pine woodlands and sub-nival zones with no or scarce vegetation. 210 species from 128 locations were identified. Ten of them are new records for the country. The highest number of species—127—were identified from only nine locations with natural forests, while 124 species were recorded from 53 locations of alpine meadows; 77 species belonged to 45 locations of artificial pine woodlands, 91 species were recorded from eleven sites with moderate to severe anthropogenic disturbance and 31 species were recorded from subnival zones. Mountain-specific species—*Lepidozetes singularis* Berlese, 1910, *Mycobates* (*Calyptozetes*) *patrius* Shaldybina, 1970 and *Oromurcia bicuspidata* Thor, 1930—were identified from alpine meadows; *Mycobates parmeliae* (Michael, 1884) was found in sub-nival zone of Tetnuldi mountain; *Rhynchobelba inexpectata* Willmann, 1953 was found in fir forests; *Pantelozetes paolii* (Oudemans, 1913) was recorded from all types of studied ecosystems. Oribatid mites from subnival zones grouped distinctly from mites of other ecosystems, while mites of disturbed sites did not show isolation from grassland and forest fauna.

High altitude ecosystems serve as a shelter for diverse and site-specific oribatid fauna, although natural, undisturbed ecosystems become scarce and are replaced mostly by pastures of moderate or high grazing pressure. Disturbed habitats of studied locations still harbour diverse and habitat-specific oribatid fauna.

Keywords: Caucasus, high altitudes, oribatid mites, mountain-specific species

Submitted: 7 Nov. 2022; Accepted by Zhi-Qiang Zhang: 8 Nov. 2022; published: 30 Nov. 2022