

Coexistence and Habitat Sharing Between Two Endangered Species in Armenian: Dwarf Lizard and the Asian Minor Ground Squirrel

Angin Grigoryan^{1*}, Astghik Ghazaryan², Tigran Hayrapetyan², George Papov², Marine Arakelyan²

¹ Faculty of Biology, Shirak State University, Gyumri, Armenia

² Faculty of Biology, Yerevan State University, Yerevan, Armenia

ABSTRACT

The dwarf lizard (*Parvilacerta parva*) and the Anatolian ground squirrel (*Spermophilus xanthoprymnus*) exhibit a remarkable ecological association in the arid, rocky mountain steppes of Shirak Province, Armenia. The distribution of the two species is highly fragmented. "Field surveys conducted in the Shirak region over the past four years revealed co-occurrence of *P. parva* and *S. xanthoprymnus* at five locations, while three sites inhabited by lizards lacked squirrel presence. Additionally, we recorded *S. xanthoprymnus* in three localities where *P. parva* was not detected. This overlap supports an earlier hypothesis regarding shelter-sharing between lizards and ground squirrels in steppe ecosystems. *S. xanthoprymnus* constructs extensive burrow systems in loose, stony soils that provide protection from predators and temperature extremes. While *P. parva* does not build burrows, it frequently utilizes squirrel burrows for thermoregulation and predator avoidance. This commensal relationship benefits the lizards without creating direct competition for resources. The two species further minimize competition through dietary separation. Notably, both species are listed as endangered in the Red Book of Armenia, with *P. parva* classified as Critically Endangered (CR) and *S. xanthoprymnus* as Endangered (EN). Consequently, protecting intact mountain steppe habitats in Shirak is crucial for the conservation of these species, highlighting the ecological importance of their co-occurrence sites.

Keywords: *Parvilacerta parva*, *Spermophilus xanthoprymnus*, habitat sharing, rocky steppe, Armenia, conservation

References:

1. Arakelyan, M.; Tadevosyan, T.; Petrosyan, R.; Ghrejyan, T.; Grigoryan, A. Status of the Dwarf Lizard (*Parvilacerta parva*) at the edge of its range in Armenia. *Zool. the Middle East* **2023**, *69*, 232–242.
2. Darevsky, I.S.; Danielyan, F.D. Dwarf lizard is disappearing from the fauna of the USSR. *Priroda* **1986**, *6*, 41–43

*Corresponding Author:

Angin Grigoryan, Chair of Biology and Chemistry at the "M. Nalbandyan State University of Shirak" Foundation, Address – P. Sevak 4, Gyumri, 3126, Armenia.

Email: anginrigoryan70@gmail.com