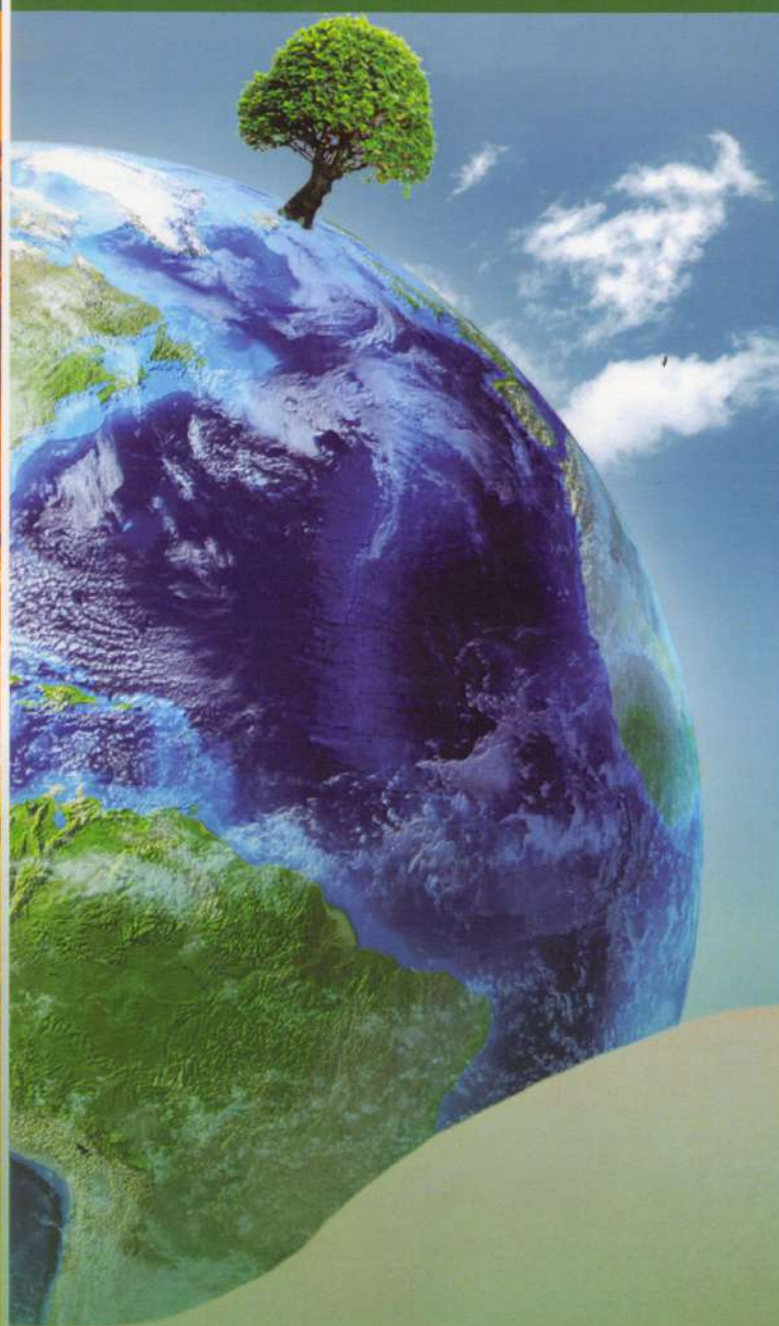


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The climatic response of ground beetles (Carabidae, Coleoptera) in the Northern Baikal (Barguzin State Nature Reserve)

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Climate variability is a regulator of natural systems. The analysis of the climate in the Barguzinsky Reserve for the period 1955-2015 was carried out. A stable positive trend of the average annual air temperature and the length of the frost-free period with a stable level of atmospheric precipitation noted. Temperatures of air at the end of winter, in spring, summer and autumn months have grown. The arrival of winter became later, and the onset of spring was early. Snow cover is ahead of the average long-term date. To understand the adaptive capacity of ecosystems to climate change, there is a need for a quantitative analysis of the flora and fauna indicator species reactivity. The quantitative calculations of ground beetles in the Barguzin Range high-altitude transect in 1988-2015 were carried out. The statistical method Poisson regression on the logarithmic scale "meteorological factors-the number of ground beetles" is applied. The interaction of calculated group indices is considered: the sum of the active air temperatures; the level of summer and winter precipitation, the duration of the frost-free period; longitude of snow cover, the Rubtsov hydrothermal coefficient, the final occurrence of maximum temperatures above 10° C (spring), the stable transition of minimum temperatures above 5° C (summer) and the decisive transition of minimum temperatures below 0° C (autumn), the establishment of a snow cover. The Poisson regression analysis made it possible to quantify the communications "meteorological factors-the ground beetles number" to compile an ecological scale characterizing the tolerance of ground beetles to environmental factors.

Biography

Tatiana Ananina graduated from Tomsk State University in 1980, Chair of Zoology of Vertebrates. 1980-1982 - Researcher at the Tomsk University Zoological Museum. 1982-1987 - Senior Engineer of the Monitoring Station in Barguzinsky Reserve. Since 1988 she has been senior researcher, entomologist in State Nature Barguzinsky reserve. In 1999 she defended the thesis "Ground beetles of barguzin ridge" at the Candidate of Biological Sciences. He has published more than 200 papers in the journals, participated in 45 scientific conferences. She took part in expedition work in the southern and northern part of Lake Baikal.

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