Ground beetles (Coleoptera: Carabidae) from the Sarnena Sredna Gora Mts.

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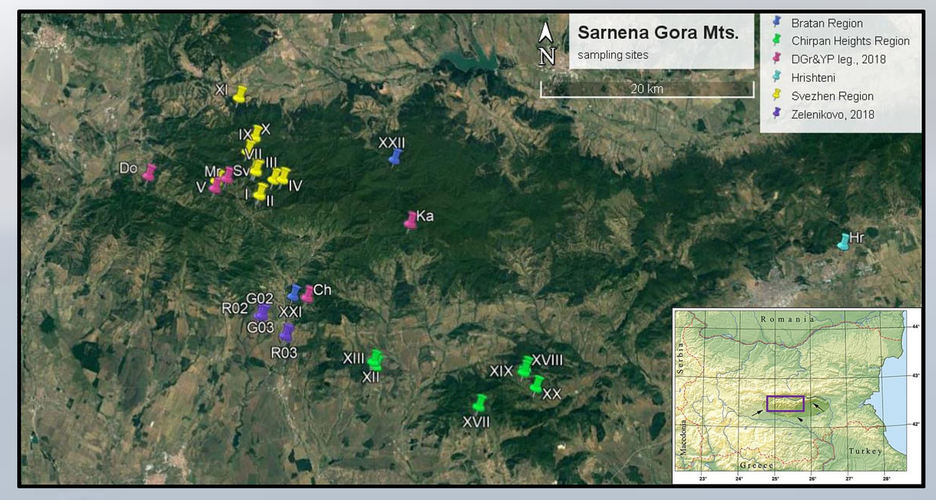
ФОНД НАУЧНИ ИЗСЛЕДВАНИЯ
МИНИСТЕРСТВО НА ОБРАЗОВАНИЕТО И НАУКАТА

Introduction

Sarnena Sredna Gora Mts. falls on the border of two biogeographical regions and three sub-regions. Geographical location, relief, edaphic conditions and specific climatic factors suggest an exceptional variety of habitats and an occurrence of different ground beetles forms and complexes.

The data about the ground beetles in Sarnena Sredna Gora Mts. are very scarce and include records of only 36 species.

The **aim** of the present study is to compile a list of Carabidae species from the Sarnena Gora, a region that has never been subjected to detailed faunal investigations.



Map of the locations of the main sampling sites (handpicking localities are not included)

Material and Methods

The species list is completed on the basis of the material collected during field trips in 2018 – 2020 and the available bibliographic data. Ground beetles were collected in various habitats with pitfall traps, hand picking and light attraction.

Results and Discussion

The results from the study revealed that in Sarnena Sredna Gora Mts. **175 species** of ground beetles occur. They belong to 59 genera and 21 tribes. This represents, respectively, 23% of all established for Bulgarian carabid fauna species, 47% of the genera and 57% of the tribes.

Only 36 species are known for Sarnena Gora from the literature. During the field work we collected almost all of them, with the exception of 11 species.

All other species are new for this part of the Sredna Gora Mts.

The richest tribes are Harpalini (50 species), Pterostichini (25 species), Amarini (18 species), Lebiini (15 species), and Carabini (12 species).

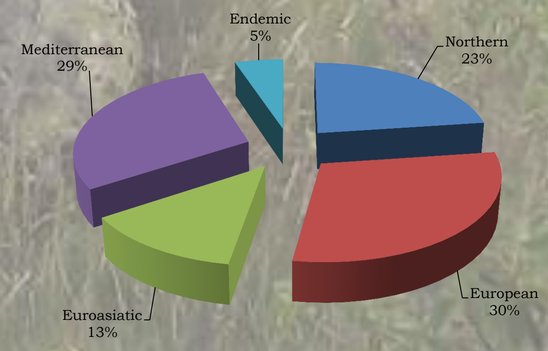
Currently 3 relicts (*Carabus hortensis*, *Myas chalybaeus*, and *Xenion ignitum*) and 14 endemic species and subspecies are known. *Carabus intricatus* is included in the IUCN Red List as “Near Threatened”. *Carabus scabrosus* is included in the Red Data Book of Bulgaria as “Vulnerable”.

List of the endemic carabids in Sarnena Gora Mts.

Species	Level
Molops alpestris kalofericus	Regional Bulgarian
Molops dilatatus angulicollis	Regional Bulgarian
Pterostichus vecors	Bulgarian
Pterostichus merklii	Bulgarian
Tapinopterus cognatus kalofirensis	Bulgarian
Carabus scabrosus scabrosus	Balkan
Carabus violaceus azuresens	Balkan
Cychrus semigranosus balcanicus	Balkan
Molops piceus bulgaricus	Balkan
Laemostenus cimmerius weiratheri	Balkan
Pterostichus melas depressus	Balkan
Trechus irenis	Balkan
Myas chalybaeus	Balkan subendemic
Xenion ignitum	Balkan subendemic

Some rare and stenotopic species also occur in the studied region: *Abax parallelus*, *Amara communis*, *Aptinus bombarda*, some *Bembidion* spp. *Carabus cancellatus*, *C. granulatus*, *C. scabrosus*, *Cychrus semigranosus*, most of the *Molops* spp., *Pterostichus merkli*, *Pt. vecors*, *Tapinopterus cognatus*, *Xenion ignitum*, etc. Some of the species (e.g. *Calosoma inquisitor*, and many of the *Carabus* spp.) have become rare under the influence of anthropogenic pressures, changes in their primary habitats, and the use chemical agents in the agriculture. In most cases these species are attached to a limited type of biotope and require specific abiotic and biotic conditions, making them vulnerable to destruction of their habitats. A major factor in the preservation of the stenotopic species is the conservation of their primary habitats.

Zoogeographical analysis on species level showed that the European complex (52 species, 30% of all) and Mediterranean (*sensu lato*) complex (51 species, 29% of all) prevail. They are closely followed by the Northern Holarctic and European-Siberian complex with 40 species (23%). European-Asiatic complex has 23 species (13%), and Endemic complex consists of 8 species (5%)



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