

New records of ground beetles (*Coleoptera, Carabidae*) from the old river valley of the Gauja National Park near Sigulda

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Abstract

The ground beetles (*Coleoptera, Carabidae*) were collected by author in the old valley of the Gauja river near the town Sigulda in the Gauja National Park from 1990 to 1993. Altogether 63 species were found, 15 species of them were recorded from the valley for the first time, 48 species were recorded also before. Among them *Omophron limbatum* F., *Carabus coriaceus* L., *Leistus piceus* Frolich, *Elaphrus aureus* Muller and *Bembidion stephensi* Crotch are rare species.

Key words: *Carabidae*, river valley, fauna.

Introduction

The old valley of Gauja river is situated in the central part of Latvia. The depth of the valley at the town Sigulda reaches 80 m and the width is about 570 m. There are many springs, brooks, small lakes and wet places. Deciduous forests dominate and in some places there are also mixed forests with fir, meadows are comparatively few. The willow growth and sandy areas cover the banks of Gauja river.

Up to now 110 species of ground beetles were recorded there (Spuris, Lipska, 1971; Spuris, 1975).

Material and Methods

The beetles were collected in 7 km long area of the old valley located between the Vējupīte river (left inlet) and the farm Ziedlejas (down Gauja river at the mouth of Lorupe river). All the material has been collected by the author during 1990-1993.

The following methods have been applied to collect beetles: inspection of soil, mainly on sand banks of Gauja; observation of hiding places during daytime, mainly under stones and fallen trunks; arranging of pit fall traps; observation of hibernation places (tree trunks, under the old bark).

The ground beetles of the genus *Dromius* were collected only in the places of their hibernation because from the end of March they inhabit the canopy of trees and can not be found easily. The largest part of the material is housed in the author's collection, the smaller one in the collection of Institute of Biology in Salaspils.

List of new species for the Gauja river valley

1. *Carabus cancellatus* Illiger

In the slope near the town Sigulda 10.10.1990 (1 specimen). Open landscapes and farmland are the typical habitat for species, the species is frequent in Latvia.

2. *Nebria livida* L.

On the bank of Gauja opposite village Turaida 18.7.1992 (1), 6.8.1992 (2), 18.7-21. 8.1992 (4). Typical habitat: banks of rivers, lakes and flooded areas are the for species. Rather rare.

3. *Metallina properans* Stephens

On the slope near the village Turaida 14.4.1993 (3). Typical habitat: open landscapes and farmland. Frequent.

4. *Agonum dorsale* Pontoppidan

In the slope near the town Sigulda 10.10.1991 (1). Typical habitat open landscapes and farmland. Rather frequent.

5. *Calathus erratus* Sahlberg

At the river mouth of the Lorupe 6.8.1992 (1). Typical habitat: dry forests. Frequent.

6. *Amara convexior* Stephens

Near the cave "Gútmađu ala". 14.4.93 (1). Typical habitat: open landscapes and farmland. Very rare.

7. *Amara ovata* F.

At Lorupe river mouth 19.10.1991 (3). Typical habitat: open landscapes and farmland, also forests. Rare.

8. *Ophonus punctatulus* Duftschmid

On the slope at the Krimulda castle 14.4.1993 (2). Typical habitat: open landscapes, farmland and sandy places. Very frequent.

9. *Pseudoophonus rufipes* De Geer

On the slope near the town Sigulda 17.5.1992 (1). Typical habitat: open landscapes and farmland. Very frequent.

10. *Badister lacertosus* Sturm

Near the bridge over the Gauja 14.4-5.6.1993 (3), on flooded sites of Gauja opposite Turaida 18.7-21.8.1992 (3). Typical habitat: deciduous forests. Earlier this species was confused with other similar species therefore there is little precise information on distribution.

11. *Dromius agilis* F.

In the ravine "Paparžu grava" 6.12.1992 (6), on the slope near the town Sigulda 14.11.1992 (7), 6.12.1992 (2). Typical habitats: deciduous or mixed forests. Since the species of this genus are very difficult to collect, they were

regarded earlier as rare or very rare species. However, according to the recent investigations the mentioned species in fact are frequent or even very frequent. It can be referred also to other species mentioned below.

12. *Dromius fenestratus* F.

On the slope near the town Sigulda 6.12.1992 (2), 14.11.1992 (2).

13. *Dromius quadraticollis* Morawitz

In the slope near the town Sigulda 14.11.1992 (1).

14. *Dromius quadrimaculatus* L.

In ravine 'Paparžu grava' 26.12.1992 (5).

15. *Dromius spilotus* Illiger

In the slope near the town Sigulda 14.11.1992 (2), 6.12.1992 (4).

The following 48 species have been found also before: *Omophron limbatum* F. (1 specimen), *Carabus coriaceus* L. (5), *C. glabratus* Paykull (1), *C. granulatus* L. (14), *C. hortensis* L. (17), *C. nemoralis* Müller (23), *Cychrus caraboides* L. (6), *Leistus piceus* Frolich (4), *L. rufescens* F. (3), *Nebria rufescens* Strom (135), *Elaphrus aureus* Muller (2), *E. riparius* L. (12), *Loricera pilicornis* F. (16), *Clivina fossor* L. (2), *Dyschirius obscurus* Gyllenhal (1), *Patrobis excavatus* Paykull (5), *Lasiotrechus discus* F. (12), *Trechus secalis* Paykull (1), *Asaphidion flavipes* L. (2), *Bembidion andreae* F. (1), *B. argenteolum* Ahrens (1), *B. dentellum* Thunberg (1), *B. lampros* Herbst (3), *B. litorale* Olivier (7), *B. obliquum* Sturm (2), *B. punctulatum* Drapiez (1), *B. ruficollis* Panzer (7), *B. rupestre* L. (6), *B. semipunctatum* Donovan (2), *B. stephensi* Crotch (1), *B. striatum* F. (3), *B. ustulatum* L. (6), *B. velox* L. (3), *Agonum assimile* Paykull (8), *A. micans* Nicolai (5), *A. obscurum* Herbst (14), *A. viduum* Panzer (1), *Europhilus fuliginosum* Panzer (2), *Calathus micropterus* Duftschmidt (3), *Pterostichus aethiops* Panzer (10), *P. anthracinus* Illiger (2), *P. oblongopunctatus* F. (1), *P. niger* Schaller (2), *P. melanarius* Illiger (14), *Stomis pumicatus* Panzer (3), *Amara aenea* De Geer (2), *A. communis* Panzer (1), *A. fulva* De Geer (6).

Discussion

Totally, the author has found 63 species of ground beetles, of them 15 were found there for the first time and supplemented with detailed information, of them 48 were found also before and listed only and supported with number of specimens collected.

Among the species referred above the following should be considered as rare: *Omophron limbatum* (found in a number of places on sand banks of the Gauja), *Carabus coriaceus* (Red Date Book species), *Leistus piceus* (found before only in some places in Latvia), *Elaphrus aureus* (found before only in some places in Latvia), *Bembidion stephensi* (found before only in two places in Latvia).

Since one third or 5 species of the 15 new ones have been found on the slope of the old valley it can be assumed that these species can not be permanent inhabitants there.

It is interesting to mention that previously abundant species *Bembidion azurescens* (Spuris, 1975) was not discovered during our investigation. The increased number of species of *Carabus* in comparison with the earlier investigations provided by Z. Spuris were found, among them *C. coriaceus* (5 specimens) was more abundant. *Leistus piceus* (5 specimens) were found more abundant among the genus. The genera *Dyschirius* and *Harpalus* have been scarcely investigated. It would be possible to find more new species. The investigations should be continued and the old valley should be investigated in details in a whole length taking into consideration the diversity of biotopes.

Conclusions

Totally there are 125 established species in the old valley of Gauja river.

Acknowledgments

I am grateful to Dr. V. Spužāis for help in preparing of manuscript, to F. Saviàs and F. Kovalevsky for help in determination of species.

Kopsavilkums

Rakstā aplūkota skrejvaboļu fauna Gaujas senlejā pie Siguldas. Līdz šim senlejā konstatētas 110 skrejvaboļu sugas. Autors no 1990. līdz 1993. gadam ievācis 63 skrejvaboļu sugas, no tām 15 sugas ir jaunas senlejas faunai. Visbagātāk pārstāvēta ģints *Dromius* - ar 5 sugām. No agrāk konstatētajām 110 skrejvaboļu sugām atkārtoti atrastas 48 sugas, starp tām arī vairākas retas: *Omophron limbatum*, *Carabus coriaceus*, *Leistus piceus*, *Elaphrus aureus*, *Bembidion stephensi*. Maz pētītas ģinšu *Dyschirius* un *Harpalus* skrejvaboles. Iespējams, ka varētu vēl atrast jaunas senlejai skrejvaboļu sugas.

References

- Spuris Z. 1975. Die Laufkäfer im Urstromtal des Flusses Gauja bei Sigulda. - Latv. Entomol., 17: 36-49 (in Latvian, German abstract).
- Spuris Z., Lipska S. 1971. [The genus *Bembidion* Latr. ground beetles in primeval hollow of the Gauja river at the town Sigulda.] - Latv. Entomol., 13: 51-55 (in Latvian).

Received: March, 1995.