

## Ground beetles (Coleoptera: Carabidae) in the collection of the National Museum Dr. Nikola Nezlobinski in Struga, Republic of North Macedonia

Slavčo Hristovski<sup>1</sup>, Branislava Mihajlova<sup>2</sup>

<sup>1</sup>Institute of Biology, Faculty of Natural Sciences and Mathematics, Ss. Cyril and Methodius University, Arhimedova 3, 1000 Skopje, North Macedonia ([slavco\\_h@pmf.ukim.mk](mailto:slavco_h@pmf.ukim.mk))

<sup>2</sup>Macedonian Natural History Museum, blvd. Ilindenska 86, 1000 Skopje, North Macedonia ([b\\_mihajlova@yahoo.com](mailto:b_mihajlova@yahoo.com))

### Abstract

The collection of ground beetles (Coleoptera: Carabidae) in the National Museum „Dr. Nikola Nezlobinski“ of Struga (North Macedonia) was reviewed in 2011 and 2013. The collection was established by Dr. Nikola Nezlobinski. Most of the specimens were collected in the period 1924-1935. A total of 130 species were identified originating from the surroundings of Struga town, Jablanica mountain, Korab mountain, Bistra mountain, Ohrid city, etc. Specimens from former Struga wetland give special value to the collection.

**Key words:** ground beetles, Carabidae, collection, museum, Nikola Nezlobinski, Struga

### Introduction

The collection of the museum in Struga was initiated by Dr. Nikola Nezlobinski (Nezlobinsky in Russian transliteration). Nikola Nezlobinski was born in Pyatigorsk (Russia) on 14.05.1885. He lived in Kriva Palanka from 1921 to 1924 and moved to Struga in August 1924 as a medical doctor in the hospital unit for fighting of malaria (Cvetkovski and Joseska, 2012). The first exhibitions of his zoological collection were held in 1927 and 1928. The year of the establishment of the museum is considered to be 1928 (Georgievski, 1976) while the formal foundation of the museum was in 1937 as a Zoological museum of the Health department in Struga. The present formal name of the museum is National Museum „Dr. Nikola Nezlobinski“.

The number of preserved specimens of ground beetles in the collection is small (436) but with great historic and paleoecological value. This collection holds the oldest ground beetle material preserved in the museum collections in North Macedonia. It is interesting that large part of the collection consisted of specimens from the former Struga wetland which was completely dried out in 1960s.

### Materials and methods

The determination of the ground beetle species in the collection of the National Museum „Dr. Nikola Nezlobinski“ in Struga was carried out during several visits in 2011 and 2013. A Lomo MBS10 stereomicroscope was used.

The original labels in the collection (sometimes referring to several specimens) are glued under the specimens. These labels were kept as they were. New labels with the correct species names were placed on each of the pinned specimens (Fig. 1).



Figure 1 Part of the collection of ground beetles (Box #1)

## Results and discussion

The collection contains 436 specimens and all of them are displayed for visitors. They are placed in nine boxes (#1, #3, #5, #11, #12, #15, #17, #20 and #21)

The oldest specimen collected (*Bembidion fumigatum*) dates from March 1922 whereas the oldest specimen in the collection of Macedonian Natural History Museum in Skopje dates from 12.06.1928 (Hristovski et al., 2016). The last collected specimen dates from October 1952 (the only specimen collected after the death of Nikola Nezlobinski). The majority of specimens were collected in the period 1924-1935 (Fig. 2).

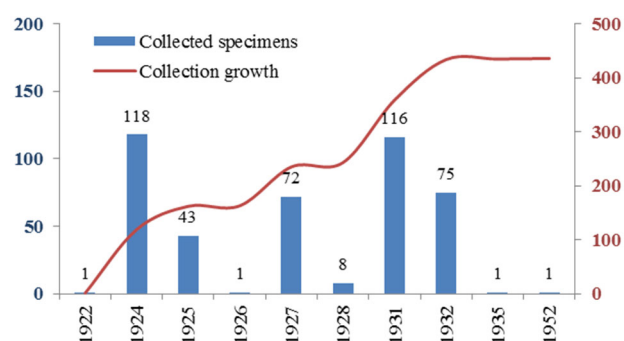


Figure 2. Number of the collected specimens per year in the Carabidae collection of the National Museum Dr. Nikola Nezlobinski in Struga

None of the labels has the name of the collector. However, all of the labels have the same handwriting, except for the above mentioned specimen from 1952. Based on the original handwriting of Nezlobinsky presented in his biography (Cvetkovski and Joseska, 2012) we believe that all of these labels were written by Nikola Nezlobinski.

However, it remains uncertain who was the original collector of the specimens since some labels show dates between March 1922 and June 1924. According to his biography he moved to Struga in August 1924 (Cvetkovski and Joseska, 2012).

The majority of specimens were collected from Struga area. In total, 235 specimens were collected from "Struga" and 108 from "Jablanica" mountain (including the area of "Rujan" in the south part of the mountain) which consist 78.7% of the whole collection. The rest of the specimens originate from Korab, Bistra, Ohrid, etc. (Fig. 3).

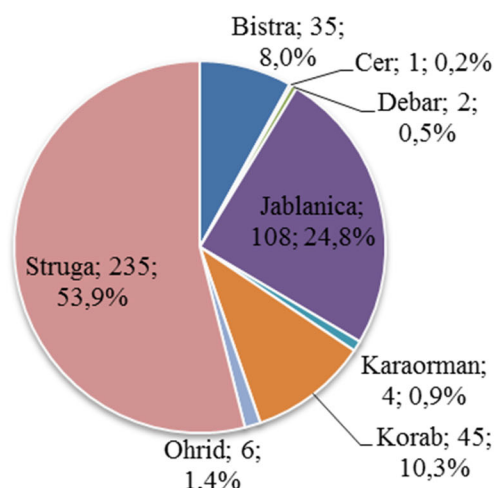


Figure 3. Origin of the collected specimens in the Carabidae collection of the National Museum Dr. Nikola Nezlobinski in Struga

Some of the labels contain the name of the genus (e.g. *Carabus* sp., *Procerus* sp., *Calosoma* sp., *Ophonus* sp., *Amara* sp.), however many of them incorrect.

Many of the specimens of ground beetles are in poor condition due to mould or missing body parts. This disabled the determination of 17 specimens (belonging to eight genera). Out of the remaining 419 specimens we identified 130 species.

The ground beetles from "Struga" are represented by 85 species. Most of them are characteristic for wetland habitats. Thus, we can assume that most of them were collected in the former Struga wetlands. The exceptions are some mountainous and xerothermic species which were probably mislabelled or collected from the surrounding habitats (*Tapinopterus rambousekianus*, *Cymindis axillaris* and *Cymindis lineata*).

There are 42 species from Jablanica mountain. All of them were already reported for this mountain (Hristovski et al., 2010; Hristovski and Guéorguiev, 2015). There are also 15 and 13 species from Korab and Bistra mountains, respectively. Other regions are represented by fewer species: Ohrid (5), Karaorman (2), Cer (1) and Debar (1).

The following species can be considered as very rare in the Macedonian fauna since they were reported solely on the specimens from the collection of the museum in Struga: *Elaphrus weissii*, *Chlaenius tristis*, *Ophonus rupicola*, *Philorhizus sigma* and *Amara majuscula*. However, some of them are already found in

other regions in North Macedonia (unpublished data).

**Checklist of ground beetle species in the collection of the Museum Dr. Nikola Nezlobinski in Struga**

The following is the list of species and localities of the ground beetle specimens deposited in the Museum Dr. Nikola Nezlobinski in Struga. Already published data (Hristovski and Guéorguiev, 2015) are marked with an asterisk (\*).

***Leistus rufomarginatus* (Duftschmid, 1812)**

Jablanica, IV.1927, 1 s., leg. N. Nezlobinsky; sub: *Ophonus* sp. (Box #17)\*

***Nebria brevicollis* (Fabricius, 1792)**

Struga, IV.1924, 1 s., leg. N. Nezlobinsky (Box #12)\*

Struga, VI.1925, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Nebria kratteri kratteri* Dejean, 1831**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky (Box #3)

Jablanica, Rujan, IX.1931, 7 s., leg. N. Nezlobinsky (Box #3)

***Nebria macedonia rambouseki* Mařan, 1938**

Jablanica, IX.1931, 2 s., leg. N. Nezlobinsky (Box #3)

Jablanica, VII.1931, 1 s., leg. N. Nezlobinsky (Box #3)

***Cicindela campestris* Linnaeus, 1758**

Bistra, VII.1932, 1 s., leg. N. Nezlobinsky; sub: *Cicindela* sp. (Box #11)

Jablanica, Rujan, VIII.1924, 1 s., leg. N. Nezlobinsky; sub: *Cicindela* sp. (Box #11)

Jablanica, Rujan, VIII.1924, 2 s., leg. N. Nezlobinsky; sub: *Cicindela* sp. (Box #11)

Karaorman, VI.1927, 2 s., leg. N. Nezlobinsky; sub: *Cicindela* sp. (Box #11)

Karaorman, VII.1928, 1 s., leg. N. Nezlobinsky; sub: *Cicindela* sp. (Box #11)

Korab, VII.1932, 1 s., leg. N. Nezlobinsky; sub: *Cicindela* sp. (Box #11)

Struga, II.1924, 1 s., leg. N. Nezlobinsky; sub: *Cicindela* sp. (Box #11)

Struga, IV.1924, 2 s., leg. N. Nezlobinsky; sub: *Cicindela* sp. (Box #11)

Struga, VII.1925, 1 s., leg. N. Nezlobinsky; sub: *Cicindela* sp. (Box #11)

***Calosoma relictum* Apfelbeck, 1918**

Korab, VII.1931, 16 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #15)

Korab, VII.1932, 3 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #15)

***Calosoma sycophanta* (Linnaeus, 1758)**

Jablanica, Rujan, VI.1924, 3 s., leg. N. Nezlobinsky; sub: *Calosoma* sp. (Box #20)\*

***Carabus cavernosus cavernosus* I. Frivaldszky von Frivald, 1838**

Korab, VII.1932, 3 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)\*

***Carabus convexus dilatatus* Dejean, 1826**

Jablanica, Rujan, IX.1931, 5 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #15)

Struga, VI.1925, 2 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #15)

***Carabus coriaceus excavatus* Charpentier, 1825**

Jablanica, IX.1931, 3 s., leg. N. Nezlobinsky; sub:

*Carabus* sp. (Box #20)

Jablanica, Vevchani, X.1952, 1 s., leg. unknown; sub:

*Carabus* sp. (Box #20)

Struga, V.1924, 3 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)

Struga, VI.1925, 1 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)

Struga, VII.1925, 1 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)

***Carabus gigas* Creutzer, 1799**

Jablanica, V.1924, 1 s., leg. N. Nezlobinsky; sub: *Procerus* sp. (Box #20)

***Carabus granulatus interstitialis* Duftschmid, 1812**

Struga, X.1924, 2 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #15)\*

***Carabus intricatus* Linnaeus, 1761**

Jablanica, IX.1931, 2 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)

Jablanica, Rujan, X.1924, 1 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)

Jablanica, Rujan, X.1924, 3 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)

***Carabus neumeyeri* Schaum, 1856**

Jablanica, Rujan, IX.1931, 3 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)

Korab, VII.1932, 1 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)\*

***Carabus scabriusculus bulgarus* Lapouge, 1908**

Struga, VII.1925, 1 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #15)\*

***Carabus violaceus dryas* Gistel, 1857**

Jablanica, VIII.1925, 1 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)

***Cychrus semigranosus albanicus* Hopp, 1929**

Jablanica, Rujan, IX.1931, 2 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #20)

***Elaphrus weissii* Dostal, 1996**

Struga, V.1927, 3 s., leg. N. Nezlobinsky; sub: *Elaphrus* sp. (Box #15)\*

***Omophron limbatus* (Fabricius, 1777)**

Struga, VI.1932, 1 s., leg. N. Nezlobinsky; sub: *Omophron* sp. (Box #11)\*

***Aptinus merditanus merditanus* Apfelbeck, 1918**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky (Box #3)

***Brachinus explodens* Duftschmid, 1812**

Bistra, VIII.1932, 1 s., leg. N. Nezlobinsky; sub: *Brachynus* sp. (Box #21)\*

Struga, VI.1925, 1 s., leg. N. Nezlobinsky; sub: *Brachynus* sp. (Box #21)\*

Struga, VI.1932, 1 s., leg. N. Nezlobinsky; sub: *Brachynus* sp. (Box #21)\*

***Dyschirius globosus* (Herbst, 1784)**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

***Asaphidion flavipes* (Linnaeus, 1761)**

Struga, X.1924, 1 s., leg. N. Nezlobinsky; sub: *Elaphrus* sp. (Box #15)\*

Struga, X.1924, 2 s., leg. N. Nezlobinsky; sub: *Elaphrus* sp. (Box #15)

***Bembidion assimile* Gyllenhal, 1810**

Struga, III.1927, 1 s., leg. N. Nezlobinsky (Box #5)

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)

Struga, X.1924, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)

***Bembidion balcanicum* Apfelbeck, 1899**

Bistra, VII.1932, 2 s., leg. N. Nezlobinsky (Box #5)

***Bembidion biguttatum* (Fabricius, 1779)**

Struga, V.1928, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

***Bembidion caucasicum* (Motschulsky, 1844)**

Jablanica, VII.1931, 8 s., leg. N. Nezlobinsky (Box #5)

***Bembidion dalmatinum dalmatinum* Dejean, 1831**

Jablanica, IX.1931, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Paecilus* sp. (Box #21)

***Bembidion deletum deletum* Audinet-Serville, 1821**

Korab, VII.1932, 1 s., leg. N. Nezlobinsky (Box #3)\*

***Bembidion fumigatum* (Duftschmid, 1812)**

Struga, III.1922, 1 s., leg. N. Nezlobinsky; sub: *Diachromus* sp. (Box #17)\*

***Bembidion lampros* (Herbst, 1784)**

Jablanica, IX.1932, 2 s., leg. N. Nezlobinsky (Box #5)

***Bembidion properans* (Stephens, 1828)**

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Paecilus* sp. (Box #21)\*

Struga, X.1924, 1 s., leg. N. Nezlobinsky; sub: *Elaphrus* sp. (Box #15)\*

***Bembidion subcostatum vau* Netolitzky, 1913**

Bistra, VII.1932, 14 s., leg. N. Nezlobinsky; sub: *Diachromus* sp. (Box #17)

Bistra, VIII.1932, 2 s., leg. N. Nezlobinsky; sub: *Diachromus* sp. (Box #17)

***Bembidion tetracolum tetracolum* Say, 1823**

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Diachromus* sp. (Box #17)\*

***Bembidion vseteckai dissimile* (G. Müller, 1943)**

Struga, III.1927, 1 s., leg. N. Nezlobinsky (Box #15)\*

Struga, VI.1932, 3 s., leg. N. Nezlobinsky (Box #15)\*

***Bembidion* sp.**

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Paecilus* sp. (Box #21)

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)

Struga, X.1924, 1 s., leg. N. Nezlobinsky; sub: *Diachromus* sp. (Box #17)

***Paratachys bistriatus* (Duftschmid, 1812)**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

***Trechus priapus priapus* K. Daniel, 1902**

Korab, VII.1932, 1 s., leg. N. Nezlobinsky (Box #3)

***Trechus quadristriatus* (Schrank, 1781)**

Jablanica, IX.1932, 1 s., leg. N. Nezlobinsky (Box #5)

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)

***Trechus* sp.**

Bistra, VII.1932, 1 s., leg. N. Nezlobinsky (Box #5)

***Callistus lunatus lunatus* (Fabricius, 1775)**

Struga, II.1924, 1 s., leg. N. Nezlobinsky; sub: *Callistus* sp. (Box #15)\*

***Chlaenius tristis* (Schaller, 1783)**

Struga, VIII.1931, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Chlaenius vestitus* (Paykull, 1790)**

Struga, IV.1925, 1 s., leg. N. Nezlobinsky; sub: *Chlaenius* sp. (Box #21)

***Anisodactylus binotatus* (Fabricius, 1787)**

Korab, VII.1932, 1 s., leg. N. Nezlobinsky (Box #3)\*

Struga, II.1927, 1 s., leg. N. Nezlobinsky (Box #3)\*

Struga, II.1927, 2 s., leg. N. Nezlobinsky (Box #12)

***Anisodactylus nemorivagus* (Duftschmid, 1812)**

Jablanica, IX.1931, 1 s., leg. N. Nezlobinsky (Box #3)

***Diachromus germanus* (Linnaeus, 1758)**

Korab, VII.1932, 3 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)\*

Struga, IV.1927, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)\****Carterus dama* (Rossi, 1792)**

Struga, VIII.1925, 1 s., leg. N. Nezlobinsky (Box #12)\*

Struga, XI.1931, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Acinopus picipes* (Olivier, 1795)**Struga, VIII.1925, 1 s., leg. N. Nezlobinsky; sub: *Percus*

sp. (Box #21)

***Gynandromorphus etruscus* (Quensel, 1806)**

Struga, XI.1931, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)***Harpalus affinis* (Schrank, 1781)**Bistra, VIII.1932, 2 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

Jablanica, IX.1931, 1 s., leg. N. Nezlobinsky (Box #3)

Struga, I.1927, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, VI.1925, 1 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

***Harpalus dimidiatus* (P. Rossi, 1790)**Ohrid, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Ophonus*

sp. (Box #17)

Struga, II.1924, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, VI.1931, 1 s., leg. N. Nezlobinsky (Box #12)

***Harpalus distinguendus distinguendus* (Duftschmid, 1812)**Ohrid, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)

Struga, II.1924, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, II.1924, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)Struga, III.1924, 3 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

Struga, III.1927, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

Struga, III.1927, 2 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

Struga, V.1928, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)Struga, VI.1925, 1 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

Struga, VI.1927, 1 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

Struga, VIII.1925, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, VIII.1925, 1 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

Struga, XI.1931, 1 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

Struga, XI.1931, 2 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

***Harpalus pumilus* Sturm, 1818**

Struga, IV.1924, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Harpalus rubripes* (Duftschmid, 1812)**Struga, X.1924, 1 s., leg. N. Nezlobinsky; sub: *Ophonus*

sp. (Box #17)

***Harpalus rufipes* (DeGeer, 1774)**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, II.1924, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, VIII.1925, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, VIII.1931, 1 s., leg. N. Nezlobinsky (Box #12)

***Harpalus saxicola* Dejean, 1829**

Bistra, VIII.1932, 1 s., leg. N. Nezlobinsky (Box #3)\*

***Harpalus serripes* (Quensel, 1806)**

Bistra, VIII.1932, 1 s., leg. N. Nezlobinsky (Box #3)

Struga, IV.1927, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, IX.1931, 1 s., leg. N. Nezlobinsky (Box #3)

***Harpalus smaragdinus* (Duftschmid, 1812)**

Struga, III.1927, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Harpalus taciturnus* Dejean, 1829**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Harpalus* sp.**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky (Box #12)

***Ophonus azureus* (Fabricius, 1775)**Cer, IX.1928, 1 s., leg. N. Nezlobinsky; sub: *Ophonus* sp.

(Box #17)

Struga, II.1924, 1 s., leg. N. Nezlobinsky; sub: *Ophonus*

sp. (Box #17)

Struga, XI.1931, 1 s., leg. N. Nezlobinsky; sub: *Ophonus*

sp. (Box #17)

***Ophonus cribricollis* (Dejean, 1829)**Korab, VII.1932, 1 s., leg. N. Nezlobinsky; sub: *Amara*

sp. (Box #1)

***Ophonus diffinis* Dejean, 1829**

Struga, V.1925, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Ophonus puncticeps* Stephens, 1828**

Jablanica, III.1927, 1 s., leg. N. Nezlobinsky (Box #12)\*

Jablanica, IV.1927, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Ophonus puncticollis* (Paykull, 1798)**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Ophonus rufibarbis* (Fabricius, 1792)**

Jablanica, IV.1927, 1 s., leg. N. Nezlobinsky; sub:

*Calathus* sp. (Box #15)\*

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Calathus* sp. (Box #15)\*

Struga, VI.1925, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Ophonus rupicola* (Sturm, 1818)**

Struga, III.1927, 1 s., leg. N. Nezlobinsky (Box #12)\*

Struga, IX.1924, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Ophonus sabulicola* (Panzer, 1796)**

Struga, VII.1925, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)\*

***Ophonus subquadratus* (Dejean, 1829)**

Bistra, VIII.1932, 1 s., leg. N. Nezlobinsky (Box #3)\*

Ohrid, VII.1925, 1 s., leg. N. Nezlobinsky (Box #12)\*

Struga, IX.1925, 1 s., leg. N. Nezlobinsky (Box #21)\*

***Ophonus* sp.**

Struga, II.1924, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, IX.1925, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

***Parophonus maculicornis* (Duftschmid, 1812)**

Struga, III.1927, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, V.1925, 1 s., leg. N. Nezlobinsky (Box #12)

***Acupalpus maculatus* (Schaum, 1860)**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)

Struga, X.1924, 2 s., leg. N. Nezlobinsky (Box #5)

***Acupalpus meridianus* (Linnaeus, 1761)**

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)\*

***Anthraxus longicornis* Schaum, 1857**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

***Stenolophus abdominalis persicus* Mannerheim, 1844**

Struga, I.1927, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, II.1927, 1 s., leg. N. Nezlobinsky (Box #12)

***Stenolophus discophorus* (Fischer von Waldheim, 1823)**

Struga, IV.1926, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

***Stenolophus mixtus* (Herbst, 1784)**

Struga, II.1927, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, VIII.1931, 3 s., leg. N. Nezlobinsky (Box #12)

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)

Struga, X.1924, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)

Struga, X.1924, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

***Stenolophus steveni* Krynicki, 1832**

Struga, II.1927, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Stenolophus teutonius* (Schränk, 1781)**

Struga, II.1924, 1 s., leg. N. Nezlobinsky; sub: *Ophonus*

sp. (Box #17)

***Stenolophus* sp.**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #12)

***Cymindis axillaris axillaris* (Fabricius, 1794)**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

Struga, IV.1927, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #21)

***Cymindis humeralis* (Geoffroy, 1785)**

Jablanica, VII.1931, 1 s., leg. N. Nezlobinsky (Box #12)

***Cymindis lineata* (Quensel, 1806)**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)\*

Struga, III.1932, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)\*

Struga, IV.1924, 1 s., leg. N. Nezlobinsky (Box #12)

***Cymindis miliaris* (Fabricius, 1801)**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky; sub:

*Broscus* sp. (Box #21)\*

***Cymindis scapularis* Schaum, 1857**

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)\*

***Demetrias atricapillus* Linnaeus, 1758**

Struga, X.1924, 3 s., leg. N. Nezlobinsky; sub: *Demetrias* sp. (Box #21)\*

***Philorhizus sigma* P. Rossi, 1790**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

***Lebia cyanocephala* (Linnaeus, 1758)**

Karaorman, VI.1927, 1 s., leg. N. Nezlobinsky; sub: *Lebia* sp. (Box #21)\*

***Syntomus obscuroguttatus* (Duftschmid, 1812)**

Bistra, VII.1932, 1 s., leg. N. Nezlobinsky (Box #5)\*

Struga, III.1927, 1 s., leg. N. Nezlobinsky (Box #5)\*

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

Struga, X.1924, 2 s., leg. N. Nezlobinsky (Box #5)\*

***Badister collaris* Motschulsky, 1844**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

***Badister peltatus* (Panzer, 1796)**

Struga, III.1927, 1 s., leg. N. Nezlobinsky (Box #5)\*

Struga, III.1931, 1 s., leg. N. Nezlobinsky (Box #3)\*

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)

***Badister sodalis* Duftschmid, 1812**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

***Licinus silphoides* (P. Rossi, 1790)**

Ohrid, VII.1928, 1 s., leg. N. Nezlobinsky; sub: *Carabus* sp. (Box #15)\*

Struga, XI.1931, 1 s., leg. N. Nezlobinsky (Box #3)\*

***Odacantha melanura* (Linnaeus, 1767)**

Struga, II.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

***Panagaeus cruxmajor* (Linnaeus, 1758)**

Jablanica, IV.1927, 1 s., leg. N. Nezlobinsky (Box #21)\*

***Agonum antennarium* (Duftschmid, 1812)**

Jablanica, IX.1931, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)

***Agonum hypocrita* (Apfelbeck, 1904)**

Struga, I.1927, 1 s., leg. N. Nezlobinsky (Box #3)\*

Struga, II.1924, 1 s., leg. N. Nezlobinsky (Box #12)\*

Struga, II.1927, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

Struga, IV.1924, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Agonum lugens* Duftschmid, 1812**

Struga, IX.1931, 1 s., leg. N. Nezlobinsky (Box #12)\*

***Agonum monachum* (Duftschmid, 1812)**

Korab, VII.1932, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

***Agonum muelleri* (Herbst, 1784)**

Jablanica, IX.1931, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

Struga, X.1924, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

***Agonum sexpunctatum* (Linnaeus, 1758)**

Struga, V.1928, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

***Agonum thoreyi* (Dejean, 1828)**

Struga, II.1927, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, III.1927, 1 s., leg. N. Nezlobinsky (Box #12)\*

Struga, III.1927, 2 s., leg. N. Nezlobinsky (Box #12)\*

***Agonum viridicupreum viridicupreum* (Goeze, 1777)**

Bistra, VIII.1932, 2 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

***Agonum* sp.**

Bistra, VIII.1932, 1 s., leg. N. Nezlobinsky (Box #12)

Jablanica, IX.1931, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)

Jablanica, VI.1932, 1 s., leg. N. Nezlobinsky (Box #12)

Jablanica, VII.1932, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, VII.1927, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, X.1924, 2 s., leg. N. Nezlobinsky (Box #12)

***Anchomenus dorsalis* (Pontoppidan, 1763)**

Jablanica, VIII.1932, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, II.1924, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

Struga, III.1927, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

Struga, VIII.1935, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

***Oxypselaphus obscurus* (Herbst, 1784)**

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #5)\*

Struga, X.1924, 2 s., leg. N. Nezlobinsky (Box #5)\*

***Limodromus assimilis* (Paykull, 1790)**

Jablanica, VII.1931, 5 s., leg. N. Nezlobinsky (Box #3)

***Molops rufipes* Chaudoir, 1843 ssp. ?**

Korab, VII.1932, 1 s., leg. N. Nezlobinsky; sub: *Broscus* sp. (Box #21)

Korab, VII.1932, 2 s., leg. N. Nezlobinsky; sub: *Broscus* sp. (Box #21)

***Molops rufipes steindachneri* Apfelbeck, 1908**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky (Box #3)

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky; sub: *Broscus* sp. (Box #21)

***Myas chalybaeus* (Palliard, 1825)**

Jablanica, Rujan, VI.1925, 6 s., leg. N. Nezlobinsky; sub: *Myas* sp. (Box #15)

***Poecilus cupreus* (Linnaeus, 1758)**

Ohrid, III.1927, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

Struga, II.1927, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

Struga, IV.1925, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)\*

Struga, IX.1925, 1 s., leg. N. Nezlobinsky; sub: *Amara* sp. (Box #1)

Struga, VI.1927, 1 s., leg. N. Nezlobinsky; sub:

*Diachromus* sp. (Box #17)

***Poecilus lepidus* (Leske, 1785)**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky (Box #3)\*

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nezlobinsky; sub: *Ophonus* sp. (Box #17)

***Pterostichus anthracinus anthracinus* (Illiger, 1798)**

Struga, II.1924, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, II.1927, 1 s., leg. N. Nezlobinsky (Box #12)

***Pterostichus leonisi* Apfelbeck, 1904**

Struga, I.1927, 1 s., leg. N. Nezlobinsky (Box #3)\*

Struga, II.1924, 1 s., leg. N. Nezlobinsky (Box #12)

Struga, X.1924, 1 s., leg. N. Nezlobinsky (Box #12)

***Pterostichus lumensis litae* Csiki, 1940**

Korab, VII.1932, 3 s., leg. N. Nezlobinsky; sub: *Broscus* sp. (Box #21)

***Pterostichus niger niger* (Schaller, 1783)**

Struga, V.1927, 1 s., leg. N. Nežlobinsky; sub: *Carabus* sp. (Box #15)

***Pterostichus nigrita* (Paykull, 1790)**

Bistra, VII.1932, 1 s., leg. N. Nežlobinsky; sub: *Broscus* sp. (Box #21)

***Tapinopterus dochii* (Apfelbeck, 1906)**

Bistra, VIII.1932, 1 s., leg. N. Nežlobinsky (Box #3)

***Tapinopterus rambousekianus* (Apfelbeck, 1906)**

Struga, IV.1924, 1 s., leg. N. Nežlobinsky; sub: *Broscus* sp. (Box #21)

***Calathus albanicus* Apfelbeck, 1906**

Jablanica, VII.1931, 1 s., leg. N. Nežlobinsky (Box #12)

***Calathus ambiguus* (Paykull, 1790)**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nežlobinsky (Box #12)\*

Struga, IV.1927, 1 s., leg. N. Nežlobinsky (Box #12)\*

***Calathus distinguendus* Chaudoir, 1846**

Jablanica, Rujan, IX.1931, 2 s., leg. N. Nežlobinsky (Box #3)

***Calathus fuscipes fuscipes* (Goeze, 1777)**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nežlobinsky (Box #3)

Jablanica, Rujan, IX.1931, 2 s., leg. N. Nežlobinsky (Box #3)

Korab, VII.1931, 1 s., leg. N. Nežlobinsky (Box #12)

Struga, II.1927, 1 s., leg. N. Nežlobinsky (Box #12)

Struga, IX.1931, 1 s., leg. N. Nežlobinsky (Box #12)

Struga, VII.1925, 1 s., leg. N. Nežlobinsky (Box #12)

Struga, VII.1927, 1 s., leg. N. Nežlobinsky (Box #12)

Struga, VII.1931, 1 s., leg. N. Nežlobinsky (Box #12)

Struga, VIII.1925, 1 s., leg. N. Nežlobinsky (Box #12)

Struga, X.1924, 2 s., leg. N. Nežlobinsky (Box #12)

***Calathus melanocephalus melanocephalus* (Linnaeus, 1758)**

Jablanica, IX.1931, 2 s., leg. N. Nežlobinsky; sub:

*Calathus* sp. (Box #15)

Jablanica, IX.1931, 3 s., leg. N. Nežlobinsky; sub:

*Calathus* sp. (Box #15)

Jablanica, VI.1932, 1 s., leg. N. Nežlobinsky (Box #12)

Struga, II.1925, 1 s., leg. N. Nežlobinsky; sub: *Calathus* sp. (Box #15)

Struga, VIII.1925, 1 s., leg. N. Nežlobinsky; sub: *Calathus* sp. (Box #15)

Struga, X.1924, 5 s., leg. N. Nežlobinsky; sub: *Calathus* sp. (Box #15)

***Amara aenea* (DeGeer, 1774)**

Struga, II.1924, 1 s., leg. N. Nežlobinsky; sub: *Amara* sp.

(Box #1)

Struga, III.1927, 1 s., leg. N. Nežlobinsky; sub: *Amara* sp. (Box #1)

Struga, IX.1931, 1 s., leg. N. Nežlobinsky (Box #3)

Struga, VI.1925, 1 s., leg. N. Nežlobinsky; sub: *Amara* sp. (Box #1)

***Amara anthobia* A. Villa & G. B. Villa, 1833**

Struga, VII.1927, 2 s., leg. N. Nežlobinsky; sub: *Amara* sp. (Box #1)

Struga, VIII.1932, 1 s., leg. N. Nežlobinsky; sub: *Amara* sp. (Box #1)

***Amara apricaria* (Paykull, 1790)**

Jablanica, Rujan, IX.1931, 1 s., leg. N. Nežlobinsky (Box #3)

Jablanica, Rujan, IX.1931, 2 s., leg. N. Nežlobinsky (Box #12)

***Amara consularis* (Duftschmid, 1812)**

Bistra, VIII.1932, 1 s., leg. N. Nežlobinsky; sub: *Amara* sp. (Box #1)\*

***Amara equestris equestris* (Duftschmid, 1812)**

Korab, VII.1931, 1 s., leg. N. Nežlobinsky (Box #12)\*

Korab, VII.1932, 1 s., leg. N. Nežlobinsky (Box #3)

***Amara fulva* (O. F. Müller, 1776)**

Struga, XI.1931, 2 s., leg. N. Nežlobinsky (Box #3)\*

***Amara lucida* (Duftschmid, 1812)**

Jablanica, Rujan, VII.1927, 1 s., leg. N. Nežlobinsky; sub: *Amara* sp. (Box #1)\*

***Amara majuscula* Chaudoir, 1850**

Korab, VII.1932, 1 s., leg. N. Nežlobinsky (Box #3)\*

***Amara nitida* Sturm, 1825**

Struga, VI.1925, 1 s., leg. N. Nežlobinsky; sub: *Amara* sp. (Box #1)\*

***Amara proxima* Putzeys, 1866**

Struga, II.1927, 1 s., leg. N. Nežlobinsky (Box #3)\*

***Amara* sp.**

Korab, VII.1931, 1 s., leg. N. Nežlobinsky (Box #12)

***Zabrus albanicus jablanicensis* Mařan, 1939**

Jablanica, VII.1931, 1 s., leg. N. Nežlobinsky (Box #12)

***Zabrus incrassatus incrassatus* (Ahrens, 1814)**

Debar, VII.1928, 2 s., leg. N. Nežlobinsky; sub: *Zabrus* sp. (Box #21)\*

Struga, IV.1924, 1 s., leg. N. Nežlobinsky; sub: *Zabrus* sp. (Box #21)\*

Struga, IX.1924, 1 s., leg. N. Nežlobinsky (Box #21)\*

Struga, VI.1925, 4 s., leg. N. Nežlobinsky; sub: *Zabrus* sp. (Box #21)\*

***Zabrus* sp.**

Struga, IV.1924, 1 s., leg. N. Nežlobinsky (Box #12)

## Conclusions

The collection of ground beetles (Coleoptera: Carabidae) in the National Museum „Dr. Nikola Nezlobinski“ in Struga (North Macedonia) was reviewed in 2011 and 2013. The collection holds a total of 436 specimens, mostly collected from Struga wetland area and Jablanica mountain. Most of the specimens were collected in the period 1924-1935. A total of 130 species were identified originating from the surroundings of Struga (85), Jablanica mountain (42), Korab mountain (15), Bistra mountain (13), Ohrid (5), etc. Species from former Struga wetland give special value to the collection. The following species in the Macedonian fauna were reported solely on the specimens from the collection of the museum in Struga: *Elaphrus weissii*, *Chlaenius tristis*, *Ophonus rupicola*, *Philorhizus sigma* and *Amara majuscula*.

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The review of the ground beetles in the zoological collection of the National Museum „Dr. Nikola Nezlobinski“ in Struga was financially supported by the Ministry of Culture of the Republic of North Macedonia.

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