

**NEW RECORDS OF GROUND BEETLES (COLEOPTERA, CARABIDAE)
FOR THE FAUNA OF THE REPUBLIC OF MACEDONIA**

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Abstract - First records of 15 ground beetle species (Coleoptera: Carabidae) for the fauna of the Republic of Macedonia are presented. These species are *Loricera pilicornis*, *Tachyta nana*, *Pterostichus elongatus*, *Pterostichus quadriveolatus*, *Abax carinatus*, *Amara convexiuscula*, *Harpalus modestus*, *Harpalus metallinus*, *Ophonus schaubergerianus*, *Ophonus puncticollis*, *Stenolophus proximus*, *Stenolophus skrimshiranus*, *Oodes helopioides*, *Demetrias imperialis* and *Cymindis miliaris*. Three genera (*Loricera*, *Tachyta* and *Oodes*) are new to the Macedonian fauna as well.

KEY WORDS: Coleoptera, Carabidae, fauna, Republic of Macedonia

**Izveček – NOVI PODATKI O KREŠIČIH (COLEOPTERA: CARABIDAE) V
REPUBLIKI MAKEDONIJI**

Predstavljeni so prvi podatki o 15 vrstah krešičev (Coleoptera: Carabidae) v favni Republike Makedonije. Te vrste so *Loricera pilicornis*, *Tachyta nana*, *Pterostichus elongatus*, *Pterostichus quadriveolatus*, *Abax carinatus*, *Amara convexiuscula*, *Harpalus modestus*, *Harpalus metallinus*, *Ophonus schaubergerianus*, *Ophonus puncticollis*, *Stenolophus proximus*, *Stenolophus skrimshiranus*, *Oodes helopioides*, *Demetrias imperialis* in *Cymindis miliaris*. Tudi trije rodovi (*Loricera*, *Tachyta* in *Oodes*) so novi za makedonsko favno.

KLJUČNE BESEDE: Coleoptera, Carabidae, favna, Republika Makedonija

Introduction

The most comprehensive, but still incomplete publication dealing with Macedonian ground beetles (Coleoptera, Carabidae) is the catalogue by Drovenik & Peks (1994)

and its 2nd edition (Drovenik & Peks 1999). This catalogue was supplemented by the works of Hristovski et al. (1996, 2002, 2003), Guèorguiev (1998) and Brajković et al. (2004). The number of ground-beetle species in Macedonia is about 450, excluding a great number of additional subspecies. During various investigations conducted in different regions of Macedonia several species of Carabidae were recorded for the first time for the country.

Materials and methods

The specimens were collected “by hand” in different regions of Macedonia and in different habitat types. The material studied is deposited in the author’s private collection.

In nomenclature and systematics I followed Löbl & Smetana (2003).

Results and discussion

In total, 15 ground beetle species were recorded for the first time for the Macedonian fauna. The following list presents the newly recorded species, locality, altitude, habitat type, date and number of collected specimens.

1. *Loricera (Loricera) pilicornis pilicornis* Fabricius, 1775

Shar Planina: Belo Ezero, 1950 m, wet habitat with mosses, 08.09.2004: 1 ex.

This is the first record of the genus and species for Macedonia. In Europe the genus *Loricera* is represented by a single species (Löbl & Smetana 2003). On the Balkan Peninsula it was known from Slovenia, Croatia, Bosnia and Herzegovina and Bulgaria (Drovenik & Peks 1999; Guèorguiev & Guèorguiev 1995, Löbl & Smetana 2003).

2. *Tachyta (Tachyta) nana nana* Gyllenhal, 1810

Kozhuf Mt., Asan Cheshma, 1350 m, wet meadow, 11.07. and 13.07.2004: 2 ex.

Genus *Tachyta* is represented in Europe by a single species (Löbl & Smetana 2003). This is the first record of the genus *Tachyta* and the species from Macedonia.

3. *Pterostichus (Melanius) elongatus* Duftschmid, 1812

Ohrid swamp, 700 m, swampy arable field, 30.04.1997: 3 ex.; 22.03.1997: 2 ex.

Subgenus *Melanius* and the species *Pterostichus elongatus* are new for Macedonia. This species is widely distributed on the Balkan Peninsula and cited for all other countries (Löbl & Smetana 2003).

4. *Pterostichus (Bothriopterus) quadrifoveolatus* Letzner, 1852

Old border watch-tower “Zelenbreg” Kozhuf Mt., 2050, 19.07.2004: 1 ex.

Only one specimen was collected on Kozhuf Mt. together with numerous specimens of *P. oblongopunctatus bosnicus* Apfelbeck, 1904, of the same subgenus.

5. *Abax (Abacopercus) carinatus* Duftschmid, 1812

Gazi Baba, Skopje, 250 m, 09.1996: 1 ex.; Stara Shuma, Kitka Mt., 800 m, beech forest, 24.05.1997: 1 ex.

Genus *Abax* is represented in Macedonia by *Abax (Abax) ovalis* from Ljuboten - Šar Planina Mt. (Drovenik 1984; Hristovski et al. 2002). *Abax carinatus* is second species of the genus reported for Macedonia. It is widely distributed in the whole Balkan region. The subgenus *Abacopercus* is recorded for the first time in Macedonia.

6. *Amara (Curtonotus) convexiuscula* (Marsham, 1802)

Ohrid swamp, 700 m, swampy arable field, 30.04.1997: 1 ex.

So far, only one species of the subgenus - *Amara (Curtonotus) aulica* (Panzer, 1797) - has been recorded for the Macedonian fauna from Matka, Bistra, Shar Planina and Struga (Hieke 1981; Guèorguiev 1998; Hristovski et al. 2003). On the Balkans, *A. convexiuscula* is distributed in Croatia, Bosnia and Herzegovina, Bulgaria and Greece (Löbl & Smetana 2003).

7. *Harpalus (Harpalus) modestus* Dejean, 1829

Vodno Mt., 700 m, grassland, 16.05.1997: 1 ex.; river Podolga, Jablanica Mt., 1150 m, clearing in a oak forest, 11-21.07.2006 (traps): 1 ex., village Gorna Belica, Jablanica Mt., 1420 m, meadow, 08-21.07.2006 (traps): 1 ex.; Dushman (village Vishni), Jablanica Mt., 1000 m, 09-21.07.2006 (traps): 14 ex.

This is widely spread species in the Palaearctic (Löbl & Smetana 2003). On the Balkan Peninsula it is known from Croatia, Bosnia and Herzegovina and Bulgaria (Drovenik & Peks 1999; Guèorguiev & Guèorguiev 1995). The presence of this species in Bulgaria is questionable and needs confirmation (B. Gueorguiev, personal communication).

8. *Harpalus (Harpalus) metallinus metallinus* Ménériés, 1836

Slan Dol, Gradsko, grassland, 16.03.2005: 3 ex. (leg. Lj. Stefanov)

Widely spread species in the Palaearctic (Löbl & Smetana 2003). On the Balkan Peninsula it is known from Croatia, Bosnia and Herzegovina and Bulgaria (Drovenik & Peks 1999; Guèorguiev & Guèorguiev 1995).

9. *Ophonus (Metophonus) schaubergerianus* Puel, 1937

Lukar, Kozhuf Mt., 860, clearing in beech forest, 17.07.2005, 1 ex.; Chuma-Malo Sedlo, Jablanica Mt., 1950, mountain pasture, 12.07.2006, 1 ex.; village Vishni, Jablanica Mt., 1000 m, hornbeam (*Ostrya carpinifolia*) forest, 14.07.2006, 1 ex.

This species has a wide distribution in Europe and is known from most Balkan countries (Löbl & Smetana 2003).

10. *Ophonus (Metophonus) puncticollis* Paykull, 1798

Ohrid swamp, 700 m, swampy arable field, 30.04.1997: 1 ex.; Smrdliva Voda, Kozhuf Mt., meadow, 09-21.07.2004 (traps): 1 ex.; peak Chumin Vrv, Jablanica Mt., 1900 m, limestone rocky site, 10.07.2006: 1 ex.; Malo Sedlo, Jablanica Mt., 1950 m, mountain pasture, 15.07.2006, 1 ex.; peak Mechnika Dupka (E38/I), Jablanica Mt., 1900 m, mountain pasture, 15.07.2006: 1 ex.; Mali Kokal, Jablanica Mt., 1900 m, mountain pasture, 15.07.2006: 2 ex.; Krivi Viroj, Jablanica Mt., 1700 m, mountain pasture, 20.07.2006: 2 ex.

It has wide distribution in the Palaearctic region (Löbl & Smetana 2003) and probably a wider distribution in Macedonia.

11. *Stenolophus (Stenolophus) proximus* Dejean, 1829

Ohrid, Bejbnar, 750 m, near spring in wet meadow, 30.04.1997: 1 ex.

This Palaearctic species is widely distributed in the Balkan Peninsula (Löbl & Smetana 2003).

12. *Stenolophus (Stenolophus) skrimshiranus* Stephens, 1828

Ohrid, Bejbnar, near spring in wet meadow, 29.04.1997: 2 ex.

Stenolophus skrimshiranus was caught at the same locality as *S. proximus*, *S. mixtus* and *S. teutonius*.

13. *Oodes helopioides helopioides* Fabricius, 1792

Ohrid swamp, 700 m, swampy arable field, 30.04.1997: 2 ex.

Oodes is the only genus of the tribe Oodini represented in the European fauna. The tribe Oodini is for the first time mentioned for the ground beetle fauna of Macedonia, as well as the genus *Oodes* and the species *O. helopioides*. This Palaearctic species is widely distributed in the Balkan Peninsula (Löbl & Smetana 2003).

14. *Demetrias (Aetophorus) imperialis* Germar, 1824

Katlanovo Spa, Skopje region, 250 m, 05.07.2005: 1 ex. (leg. M. Komnenov)

In Macedonia the genus *Demetrias* is represented by *Demetrias (Demetrias) monostigma* Samouelle, 1819 (Brajković et al. 2004). *D. monostigma* was recorded at the village Petrovec, which is in the vicinity of Katlanovo Spa. The species *D. imperialis* and the subgenus *Aetophorus* are new to the Macedonian fauna.

15. *Cymindis (Menas) miliaris* (Fabricius, 1801)

Galichica, Cero Pole (Glajsho), 1030 m, clearing in oak forest, 17.08.1996: 1 ex.; village Gradeshnica, Mariovo region, 850 m, ruderal site, 12.07.2001: 1 ex.

Subgenus *Menas* and the species *Cymindis miliaris* are for the first time recorded for the Macedonian ground beetle fauna. *Cymindis miliaris* is known from most countries of the Balkan Peninsula (Löbl & Smetana 2003).

Conclusions

In total, 15 ground beetle species (Coleoptera: Carabidae) were recorded for the first time for the fauna of the Republic of Macedonia. These species are *Loricera pilicornis pilicornis*, *Tachyta nana nana*, *Pterostichus elongatus*, *Pterostichus quadrioveolatus*, *Abax carinatus*, *Amara convexiuscula*, *Harpalus modestus*, *Harpalus metallinus*, *Ophonus schaubergerianus*, *Ophonus puncticollis*, *Stenolophus proximus*, *Stenolophus skrimshiranus*, *Oodes helopioides*, *Demetrias imperialis* and *Cymindis variolosa*. Six subgenera (*Loricera*, *Tachyta*, *Melanius*, *Abacopercus*, *Aetophorus* and *Menas*), three genera (*Loricera*, *Tachyta* and *Oodes*) and one tribe (Oodini) are new to the Macedonian fauna as well.

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