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Ground-beetles (Coleoptera: Carabidae) collected by Bulgarian zoologists in Republic of Macedonia

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Material

During the period of 1993-1998 some Bulgarian zoological specialists and students from the Biological Faculty at Kliment Ochridski University of Sofia, the Institute of Zoology (Sofia) and the National Museum of Natural History (Sofia) made some collection trips to Albania through the Republic of Macedonia. One of the most collected groups of animals in both countries were the ground-beetles, the material of which has been committed to the disposal of the author. Some other 24 specimens (a few of them published by BURESCH & KANTARDJIEVA, 1928), collected by I. Buresch, P. Drenski, D. Iltschev and A. Petrov in Vardar Macedonia during the war period of 1912-1919, were found in the collections of the National Museum of Natural History, Sofia (NMNH). Besides both the literature data and unpublished information concerning the carabids collected from three border points along the Bulgarian-Macedonian border of the Osogovo Mt (indicated furhter in the text as M2) were revised. This latter material concerns both the Bulgarian and the Macedonian groung-beetle faunas in view of the mobility of these insects and the relativity of the geographical denominations. The bulk of the new data from the Osogovo Mt were collected by the author on Ruen Peak during the period of VI-VII., V-VII.1996, X.1997, and VI.1998. A few specimens were caught by N. Radev on 21.VI.1926. All the above mentioned ground-beetle material - 923 specimens altogether from 26 different localities in the Republic of Macedonia was studied by the author and is listed in the present paper. All the material is preserved in the NMNH. Carabids were found in the following localities:

EAST MACEDONIA (east of the Vardar River):

M 1. Osogovo Mt, near Kruklya Village, 670 m, 16.VI.1994, along river Kriva Reka, 16.VI.1994, leg. B. Guéorguiev. Xerophytic vegetation on sandy fluvial soils.

M 2. Osogovo Mt, the orophytic zone along the Bulgarian-Macedonian border. The places where the material was collected were three - Bozhderitsa Peak (1583

m), Tash-Tepe Peak (= Kamen Vrah Peak, 1996 m) and Ruen Peak (2251 m). Grass vegetation.

M 3. Kochansko Pole Plain, 7-8 km east of Istibanya Village (the road between Istibanya and Delchevo), 750 m, 13.V., leg. S. Golovach, L. Penev, B. Petrov, P. Stoev.

M 4. Kochansko Pole Plain, Orizare Village, 9.VI.1913, leg. D. Iltschev.

M 5. Stracin Village, 8.X.1994, leg. P. Beron.

M 6. Region Kavadartsi, Udovo Village, „Mravintsi" (Marvintsi), 12.VII.1916, leg. D. Iltschev.

M 7. Bogdantsi Village near Gevgelija, 23.V.1917, leg. D. Iltschew.

M 8. Stari Dojran Village, along the Dojran Lake, 150 m, 27.IX., leg. B. Guéorguiev. Silt.

WEST MACEDONIA (west of the Vardar River):

M 9. River Pchinya (2 km to the north of Katlanovo Village), 230-250 m, 22-23.VI. 1994, leg. B. Guéorguiev. Riverside secondary vegetation.

M 10. Kitka Mt (Jakupitsa Massif), Preslap Place, 900-1000 m, 24.VI.1994, leg. B. Guéorguiev. *Quercus cerris* predominating, also *Carpinus betulus*, *Fagus silvatica*, *Acer* spp., *Cornus mas*, *Corylus avellana*, *Rosa arvensis*, *Crataegus monogyna*, *Lichris coronaria*, *Dactylus glomerata*, etc.

M 11. Kavadartsi, 3.VII.1919, leg. A. Petrow.

M 12. Dren Mt, the road to Belovoditse Village, 650-670 m, 17.VI.1994, leg. B. Guéorguiev. Xerophytic secondary vegetation of semimediterranean type.

M 13. West parts of Kozhuf Mt, 4-6 km west of the resort Negorski Bani (the road between Negorski Bani and Sermenin Village), 500 m, 27.IX., leg. B. Guéorguiev. Vegetation of semimediterranean type.

M 14. Kozhuf Mt, „Kitschi-Kaja", 1500 m, 18.VII.1918, leg. D. Iltschew.

M 15. Region Bitolj, elevation „1248", VI.1918, leg. P. Drenski.

M 16. Baba Mt (Pelister Mt), the northeastern slope, around a canal before Kozhani Village, 800 m, 18.VI.1994, leg. B. Guéorguiev. Orchards.

M 17. Prespa Lake, between Oteshevo Village and Tsarina Village, 760-780 m, 18.VI.1994, leg. B. Guéorguiev. Semimediterranean grass and forest vegetation.

M 18. Galichitsa Mt, east slope, near Leskoets Village, 1000-1050 m, 18.VI.1994, leg. B. Guéorguiev and M. Langourov. Oak forest.

M 19. Galichitsa Mt, Barakite Pass, 1500-1600 m, 19.VI.1994, leg. B. Guéorguiev. Beech forest and meadows. Five species were collected by V. Sakalian in the same place on 31.V. (the date indicated below in the text).

M 20. Galichitsa Mt, west slope, 1250-1300 m, 19.VI.1994, leg. B. Guéorguiev. A spring among wet meadows of semimediterranean type with big stones.

M 21. Foot of the Galichitsa Mt, 3 km NE of the Sveti Naum Monastery, 750 m, leaf litter and *Quercus* shrub, 6.V., leg. S. Golovach, L. Penev, B. Petrov, P. Stoev.

M 22. Around the Samuilova Tvurdina by the Ochrid Lake, 6.V., leg. S.

Golovach, L. Penev, B. Petrov, P. Stoev.

M 23. Near the Sveti Naum Monastery at the Ochrid Lake, 31.V.1994, leg. T. Ivanova.

M 24. Kafasan Village, 1230 m, 23.V.1993, leg. P. Stoev, D. Zapryanova.

M 25. Shar Planina Mts, VII. (all localities from there are indicated explicitly further down in the text), leg. G. Blagoev and V. Sakalian. Some ground-beetles from this expedition were already published (HRISTOVSKI & al., 1996).

M 26. Sucha Gora Mt (= Suva Gora Mt) near Skopje, VIII.1911, leg. I. Buresch.

Abbreviations used in the text: DP = dorsal setiferous puncture(s) of elytra; SP = scutelar setiferous puncture(s) of elytra.

List of the species and subspecies

Cicindela (Eumecus) germanica **Linnaeus, 1758.** M 25 (Jelak Chalet-Leshnitsa Chalet, 1480-2000 m, 20.VII., 1 ♀).

Cicindela (Cicindela) hybrida riparia **Latreille & Dejean, 1822.** New for Macedonia. M 25 (Jelak Chalet, 1850 m, 8-16.VII., 2 ♂♂; Jelak Chalet-Leshnitsa Chalet, 1450-1850 m, 20.VII., 1 ♂, 1 ♀).

Cicindela (Cicindela) campestris campestris **Linnaeus, 1758.** M 2 (KANTARDJIEVA, 1928: 106, sub *C. c.* var. *palustris* Motsch.); M 25 (Popova Shapka Peak, 1550 m, 7.VII., 2 ♂♂, 1 ♀; Tserepashina Peak, 1850-2530 m, 9.VII., 3 ♂♂, 7 ♀♀; Studena River, 1700-1850 m, 10-19.VII., 2 ♂♂; Jelak Chalet -Leshnitsa Chalet, 1450-1850 m, 20.VII., 1 ♂, 1 ♀).

Leistus (Pogonophorus) magnicollis magnicollis **Motschulsky, 1865.** M 25 (Jelak Chalet, 1850 m, 8-16. VII., 1 ♀; Studena River, 1730-1850 m, 10.VII., 2 ♂♂; Leshnitsa Chalet, 1480 m, 16.VII., 1 ♂; 21.VII., 2 ♂♂).

Leistus (Pogonophorus) spinibarbis rufipes **Chaudoir, 1843.** M 2 (GUÉORGUIEV & GUÉORGUIEV, 1995a: 57; GUÉORGUIEV & GUÉORGUIEV, 1995b: 78; more precise data were added in GUÉORGUIEV, 1996: 31; Ruen Peak, 2251 m, 8.VI., 1 ♀, snow spots).

Leistus (Pogonophorus) parvicollis **Chaudoir, 1869.** M 25 (Tserepashina Peak, 1850-2530 m, 9.VII., 1 ♂, ♀ ?; Jelak Chalet - Leshnitsa Chalet, 1450-1850 m, 20.VII., 1 ♂; Leshnitsa Chalet, 1480 m, 21.VII., 1 ♂).

Leistus (Pogonophorus) rufomarginatus **Duftschmid, 1812.** New for Macedonia. M 10 (1 ♂).

Leistus (Leistus) ferrugineus **(Linnaeus, 1758).** New for Macedonia. M 25 (Jelak Chalet, 1850 m, 8.VII., 1 ♀).

Nebria (Nebria) brevicollis **(Fabricius, 1792).** M 10 (6 ♂♂, 7 ♀♀); M 15 (1 ♂); M 21 (1 ♂).

Nebria (Boreonebria) rufescens **(Strøm, 1768).** M 25 (Jelak Chalet, 1850

m, 8-16. VII., 1 ♀; Studena River, 1700-1850 m, 10-19.VII., 1 ♀; Jelak Chalet, 1850 m, 13.VII., 1 ♂; waterfall by the river Krivoshjiska, 21.VII., 1 ♀).

***Nebria (Alpaeus) attemsi* Apfelbeck, 1908.** M 25 (Jelak Chalet, 1850 m, 8-16.VII., 1 ♂, 2 ♀♀; Tserepashina Peak, 1850-2530 m, 9.VII., 2 ♂♂, 1 ♀; Studena River, 1730-1850 m, 10.VII., 2 ♀♀; Titov Vrah Peak, 1850-2747 m, 14.VII., 1 ♀).

***Nebria (Alpaeus) kratteri valonensis* Apfelbeck, 1904.** M 19 (19.VI.1994, 5 ♂♂; 31.V., 1 ♂).

***Notiophilus (Notiophilus) aquaticus* (Linnaeus, 1758).** M 25 (Studena River, 1730 m, 10-19.VII., 1 specimen).

***Notiophilus (Notiophilus) germinyi* Fauvel, 1863.** New for Macedonia. M 25 (Jelak Chalet, 1850 m, 8-16.VII., 2 specimens).

***Notiophilus (Latviaphilus) biguttatus* (Fabricius, 1779).** M 25 (Leshnitsa Chalet, 1480 m, 10.VII., 1 ♀; Studena River, 1730-1850 m, 10.VII., 1 specimen; Jelak Chalet, 1850 m, 8-21.VII., 3 specimens; Jelak Chalet - Leshnitsa Chalet, 1480 m, 21.VII., 1 specimen).

***Calosoma (Calosoma) sycophanta* (Linnaeus, 1758).** M 18 (1 ♂).

***Calosoma (Acalosoma) inquisitor inquisitor* (Linnaeus, 1758).** M 19 (31.V., 1 ♀).

***Callistenes (Microcallistenes) relictus* Apfelbeck, 1918.** M 25 (Jelak Chalet, 1850 m, 8-16. VII., 3 ♂♂, 2 ♀♀; Tserepashina Peak, 1850-2530 m, 9.VII., 3 ♂♂, 1 ♀; Studena River, 1730-1850 m, 10.VII., 1 ♂; Titov Vrah Peak, 2747 m, 14.VII., 3 ♂♂, 2 ♀♀; Tserepashina Peak, 2000 m, 20.VII., 1 ♀; Leshnitsa Chalet, 1480 m, 21.VII., 1 ♂).

***Carabus (Carabus) ullrichi fastuosus* Palliardi, 1825.** M 2 (BURESCH & KANTARDJIEVA, 1928: 92, sub *Eucarabus u. rhilensis* Kr., 1 specimen). This taxon has not been found in the collections of NMNH and is mentioned only from literature data. Needs confirmation.

***Carabus (Archicarabus) montivagus montivagus* Palliardi, 1825.** M 15 (BURESCH & KANTARDJIEVA, 1928: 98-99, sub *Deuterocarabus m.* Pall., 1 ♂).

***Carabus (Oreocarabus) hortensis hortensis* Linnaeus, 1758.** M 25 (Studena River, 1730 m, 10-19. VII., 1 ♀; Jelak Chalet, 1850 m, 13.VII., 1 ♀).

***Carabus (Tomocarabus) convexus dilatatus* Dejean, 1826.** M 25 (Titov Vrah Peak, 2747 m, 14.VII., 2 ♀♀).

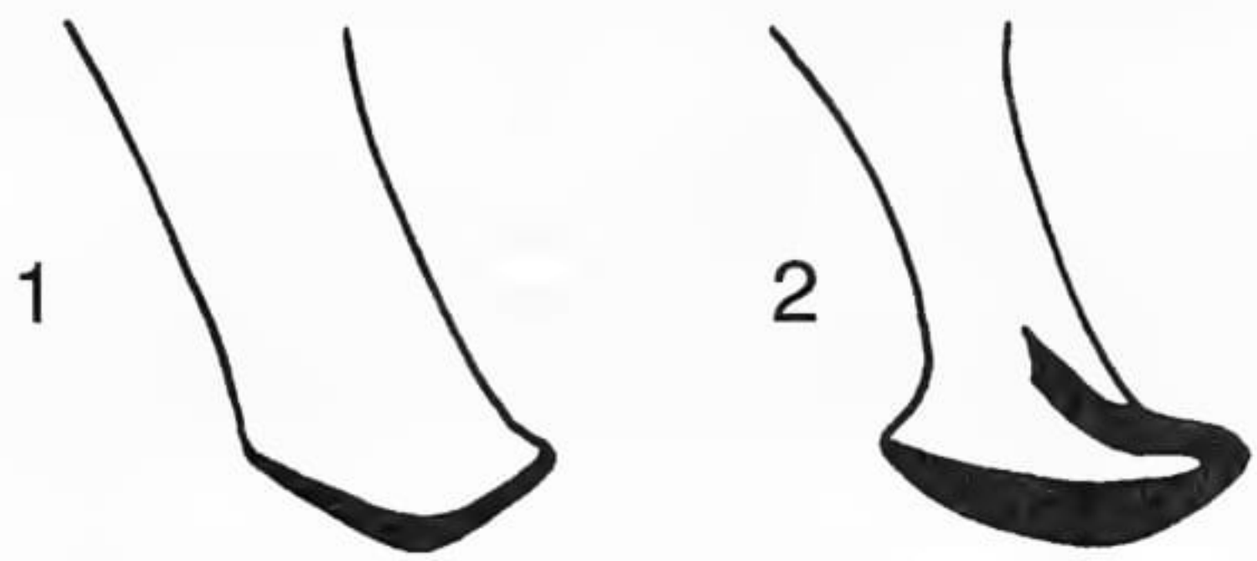
***Carabus (Pachystus) cavernosus cavernosus* Frivaldszky, 1837.** M 2 (DRENSKY, 1928: 17; BURESCH & KANTARDJIEVA, 1928: 76, sub *Pachystus c.* Friv., 1 ♀; HIEKE & WRASE, 1988: 15; Ruen Peak, 2251 m, traps: V.1996, 2 ♂♂, 2 ♀♀; VI-VII.1996, 1 ♂, 1 ♀); M 15 (BURESCH & KANTARDJIEVA, 1928: 76, sub *Pachystus c.* Friv.); M 25 (Leshnitsa Chalet, 1460 m, 21.VII., 1 ♀).

***Carabus (Chaetocarabus) intricatus intricatus* Linnaeus, 1761.** M 25 (Leshnitsa Chalet, 1460-1480 m, 17.VII., 1 ♀; 21.VII., 1 ♂, 1 ♀).

***Carabus (Megodontus) violaceus azurescens* Dejean, 1826.** M 2 (according to DROVENIK & PEKS, 1994: 14, first EIDAM, 1927: 287, 295 mentioned

this taxon from the Osogovo Mt as *C. v. scombrocensis* Eidam; BURESCH & KANTARDJIEVA, 1928: 83, sub *Megodontus v. balcanicus* Lap., 1 ♂; Ruen Peak, 2251 m, 8.VI. , 1 ♀, snow spots; traps: V.1996, 2 ♂♂, 2 ♀♀; VI-VII.1996, 2 ♂♂, 3 ♀♀); M 15 (1 ♂); M 25 (Studena River, 1730 m, 10-19.VII., 1 ♂; Jelak Chalet, 1840 m, 13.VII., 2 ♂♂; 16.VII., 1 ♀; Leshnitsa Chalet, 1480 m, 16-17.VII., 2 ♀♀; Titov Vrah Peak, 2747 m, 14.VII., 2 ♂♂, 1 ♀).

***Carabus (Megodontus) (picenus ?) violaceus korabensis* Csiki, 1944.** M 25 (Studena River, 1730-1850 m, 10.VII., 1 ♂). Mentioned by the following authors for Macedonia: MARAN (1939) as *C. v. azurescens* n. *bartoni* Maran; CSIKI (1944) - *C. v.* var. *korabensis* Csiki; STERBA (1945) - *C. v. (bartoni) marani* Sterba; MANDL (1964) - *C. v. picenus peristericus* Mandl; CLEU (1968; 1969) - *M. picenus peristericus* Mandl; DROVENIK & PEKS (1994) - *C. v. (bartoni) marani* Sterba, HRISTOVSKI (i. l.) - *C. (M.) v. korabensis* Csiki from different localities (including Shar Planina Mts). CASALE & al. (1982) noted that *C. v. picenus* Villa is an Apennine-Balkan taxon with transadriatic distribution. This taxon occurs in Macedonia, Greece and Bulgaria (Slavyanka Mt) on the Balkans. According to CLEU (1968; 1969) the Balkan forms of *C. v. picenus* Villa are more primitive than the Apennine ones. Taxonomically it is possible that the difference between the two syntopic taxa (*C. v. a.* Dej. and *C. v. k.* Csiki) are of a species level (CLEU, 1969). They are clearly distinguished by the form of the apex of the penisi in lateral view in the males (Fig. 1, 2; as well CSIKI, 1944: 50). In *C. v. a.* Dej. the sides are straight or scarcely concave before the apex; apical disc absent; the top is with a negligible thickened part. In *C. (picenus ?) v. k.* Csiki the sides are strongly concave before the apex, forming a shapely apical disc; the disc is with a compact thickened part.



Figs. 1-2. Penisi in lateral view: Fig. 1. *Carabus (M.) violaceus azurescens* Dej. from M 25. Fig. 2. *Carabus (M.) (picenus ?) violaceus korabensis Csiki* from M 25.

***Carabus (Megodontus) croaticus ljubetensis* Apfelbeck, 1918.** M 25 (Jelak Chalet, 1850 m, 8-16.VII., 1 ♂; Tserepashina Peak, 1850-2530 m, 9.VII., 2 ♂♂, 3 ♀♀; Studena River, 1730 m, 10-19.VII., 1 ♀; Leshnitsa Chalet, 1480 m, 12.VII., 1 ♂; Titov Vrah Peak, 2747 m, 14. VII., 2 ♂♂).

***Carabus (Procrustes) coriaceus cerisyi* Dejean, 1826.** M 5 (1 ♀).

***Carabus (Procrustes) coriaceus excavatus* Charp., 1825.** M 15 (BURESCH & KANTARDJIEVA, 1928: 73, sub *Procrustes coriaceus florinensis* Lap., 1 ♀).

***Procerus gigas gigas* (Creutzer, 1799).** M 26 (BURESCH & KANTARDJIEVA, 1928: 66, sub *Procerus gigas* Creutz., 1 specimen). CAVAZZUTI (1989) cited both sub-

species - *P. g. gigas* (Creutz.) and *P. g. parnassicus* Kraatz-Koschlau for the territory of the Republic of Macedonia.

***Cychrus semigranosus montenegrinus* Apfelbeck, 1904.** M 25 (Jelak Chalet, 1730-1850 m, 8-16. VII., 1 ♂, 1 ♀).

***Scarites (Scarites) terricola terricola* Bonelli, 1813.** M 7 (1 ♀); M 8 (1 ♀).

***Perileptus (Perileptus) areolatus areolatus* (Creutzer, 1799).** M 17 (2 specimens).

***Trechus (Trechus) quadristriatus* (Schrank, 1781).** M 8 (3 specimens); M 19 (1 ♀).

***Trechus (Trechus) obtusus obtusus* Erichson, 1837.** M 21 (1 ♂).

***Trechus (Trechus) subnotatus ljubetensis* Apfelbeck, 1908.** M 25 (Jelak Chalet, 1850 m, 8-16. VII., 1 ♂).

***Trechus (Trechus) priapus medius* Meixner, 1939.** New for Macedonia. M 2 (Ruen Peak, 2251 m, 5.VII., 2 specimens; 8.VI.1996, 5 specimens, snow spots). Sciaky (in litt.) determined these specimens as *T. priapus* K. Dan. In a little-known paper MEIXNER (1939) described a new geographical race of *T. p.* inhabiting the area between Morava River and Iskar River. Although this subspecies needs confirmation the latter author is followed for the time being.

***Bembidion (Metallina) lampros* (Herbst, 1784).** M 25 (Jelak Chalet, 1850 m, 8-16.VII., 1 specimen).

***Bembidion (Testedium) bipunctatum nivale* Heer, 1841.** M 25 (Tserepashina Peak, 1850-2530 m, 9.VII., 1 ♂; 2300 m, 14.VII., 1 ♂; Titov Vrah Peak, 2747 m, 14. VII., 2 ♀♀; Leshnitsa Chalet, 1480 m, 17.VII., 1 ♂).

***Bembidion (Notaphus) varium* (Olivier, 1795).** M 17 (1 specimen).

***Bembidion (Emphanes) tenellum tenellum* Erichson, 1837.** New for Macedonia. M 9 (1 ♀). DROVENIK & PEKS (1994) erroneously recorded this species for Macedonia from Mateshevo. This place is situated in the Republic of Montenegro (present Yugoslavia).

***Bembidion (Bembidionetolitzkya) tibiale* (Duftschmid, 1812).** M 10 (1 ♀).

***Bembidion (Bembidionetolitzkya) geniculatum geniculatum* Heer, 1837.** M 10 (6 specimens); M 25 (Jelak Chalet, 1850 m, 8-16.VII., 2 specimens; Studena River, 1730-1850 m, 10.VII., 2 ♂♂, 1 ♀; 10-19.VII., 2 specimens; Jelak Chalet - Titov Vrah, 1850-2747 m, 14.VII., 1 specimen).

***Bembidion (Peryphanes) deletum deletum* Serville, 1821.** M 25 (Jelak Chalet, 1850 m, 13.VII., 1 ♂). Reported for Macedonia as *B. nitidulum* Marsh. (RAMBOUSEK, 1912) and *B. bualei nitidulum* Marsh. (MANDL, 1964).

***Bembidion (Peryphanes) dalmatinum dalmatinum* Dejean, 1831.** M 10 (1 ♀); M 19 (1400 m, 22.VI., 1 ♀, leg. S. Abadjiev).

***Bembidion (Ocyturanes) balcanicum balcanicum* Apfelbeck, 1899.** M 25 (Jelak Chalet, 1850 m, 8-16. VII., 1 ♂, 1 ♀; Tserepashina Peak, 1850-2530 m, 9.VII., 3 ♂♂, 3 ♀♀; Studena River, 1730-1850 m, 10.VII., 1 ♂; 10-19.VII., 1 ♀).

***Deltomerus (Paradeltomerus) paradoxus paradoxus* (Apfelbeck,**

1908). M 25 (Tserepashina Peak, 1850-2530 m, 9.VII., 1 ♂; Jelak Chalet - Titov Vrah, 1850-2747 m, 14.VII., 1 ♂, 1 ♀; Jelak Chalet, 1850 m, 8-16.VII., 1 ♀).

***Poecilus (Poecilus) versicolor* (Sturm, 1824).** M 25 (Jelak Chalet - Leshnitsa Chalet, 1480-2000 m, 20.VII., 1 ♂).

***Pterostichus (Melanius) nigrita* (Fabricius, 1792).** M 1 (GUÉORGUIEV, 1996: 31).

***Pterostichus (Feronidius) melas depressus* (Dejean, 1828).** New for Macedonia. M 21 (1 ♀).

***Pterostichus (Pterostichus) ottomanus ottomanus* Apfelbeck, 1908.** M 25 (Studena River, 1730-1850 m, 10.VII., 1 ♂, 1 ♀; Leshnitsa Chalet, 1480 m; 10.VII., 1 ♂, 2 ♀♀; 10-19. VII., 1 ♂; Jelak Chalet, 1850 m, 8-16.VII., 2 ♀♀; Pena River, 21.VII., 1 ♀♀).

***Pterostichus (Pterostichus) ottomanus kajmakcalensis* Jedlicka, 1939.** M 14 (1 ♂).

***Pterostichus (Pterostichus) brucki* Schaum, 1859.** M 25 (Jelak Chalet, 1850 m, 8-16. VII., 1 ♂; Jelak Chalet - Leshnitsa Chalet, 1450-1850 m, 20.VII., 1 ♂, 1 ♀♀; Leshnitsa Chalet, 1480 m, 20. VII., 1 ♂; 21.VII., 1 ♀; Studena River, 1700-1850 m, 10-19.VII., 4 ♂♂).

***Pterostichus (Pterostichus) lumensis ljubetensis* Apfelbeck, 1906.** M 25 (Tserepashina Peak, 1850-2530 m, 9.VII., 2 ♂♂, 1 ♀; 1600 m, 12.VII., 4 ♂♂, 7 ♀♀; Jelak Chalet, 2300 m, 8-16.VII., 2 ♀♀; Titov Vrah, 2747 m, 14.VII., 2 ♂♂, 2 ♀♀).

***Tapinopterus (Tapinopterus) miridita jakupicensis* Jedlicka, 1935.** M 10 (2 ♂♂, 1 ♀, under deeply sung stones in the roots of old *Quercus* sp.).

***Tapinopterus (Tapinopterus) balcanicus belasicensis* Maran, 1933.** M 2 (Tash-Tepe Peak, 1993 m, 21.VI.1926, 1 specimen, leg. N. Radev, det. Prof. Kryzhanovskij as *T. b. balcanicus* Gglb.; Ruen Peak, 2251 m, 5.VII., 3 ♀♀; traps: V.1996, 1 ♀; VI-VII.1996, 2 ♀♀).

***Tapinopterus (Tapinopterus) dochii* Apfelbeck, 1906.** M 25 (Tserepashina Peak, 1850-2530 m, 9.VII., 1 ♂; Leshnitsa Chalet, 1480 m, 10.VII., 2 ♂♂; 12.VII., 1 ♀; Jelak Chalet, 1850 m, 8-16.VII., 1 ♂; Studena River, 1730 m, 10-19.VII., 1 ♂).

***Molops matchai* Roubal, 1917.** M 10 (1 ♂, 1 ♀).

***Molops rufipes rufipes* Chaudoir, 1843.** M 19 (4 ♂♂, 5 ♀♀).

***Molops rufipes denteletus* Guéorguiev, 1996.** M 2 (GUÉORGUIEV, 1997: 23; Ruen Peak, 2251 m, 8.VI., 1 ♂, snow spots).

***Molops rufipes jacupicensis* Maran, 1939.** M 10 (1 ♂ with 16,5 mm length).

***Molops rufipes steindachneri* Apfelbeck, 1908.** M 25 (Jelak Chalet, 1850 m, 8-16.VII., 21 ♂♂, 4 ♀♀; Tserepashina Peak, 1850-2530 m, 9.VII., 11 ♂♂, 2 ♀♀; 2300 m, 14.VII., 2 ♂♂, 1 ♀; Studena River, 1730-1850 m, 10.VII., 7 ♂♂; 10-19.VII., 6 ♂♂; Leshnitsa Chalet, 1480 m, 12.VII., 3 ♂♂; Titov Vrah Peak, 2747 m, 14.VII., 4 ♂♂).

Platynus (Platynus) assimilis **(Paykull, 1790).** New for Macedonia. M 10 (1 ♂, 1 ♀).

Platynus (Platynidius) scrobiculatus serbicus **Csiki, 1904.** New for Macedonia. M 25 (Jelak Chalet, 1850 m, 8-16.VII., 2 ♀♀; Studena River, 1730-1850 m, 10.VII., 1 ♂; 10-19.VII., 1 ♀).

Agonum (Agonum) sexpunctatum **(Linnaeus, 1758).** M 10 (2 ♀♀).

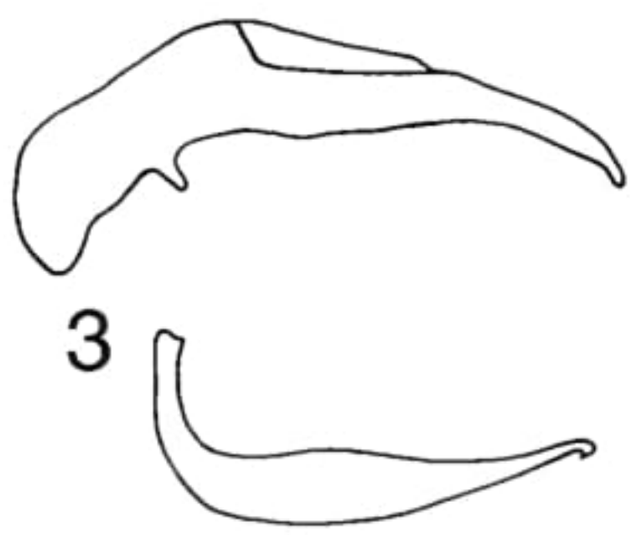
Agonum (Agonum) muelleri **(Herbst, 1784).** M 10 (1 ♂).

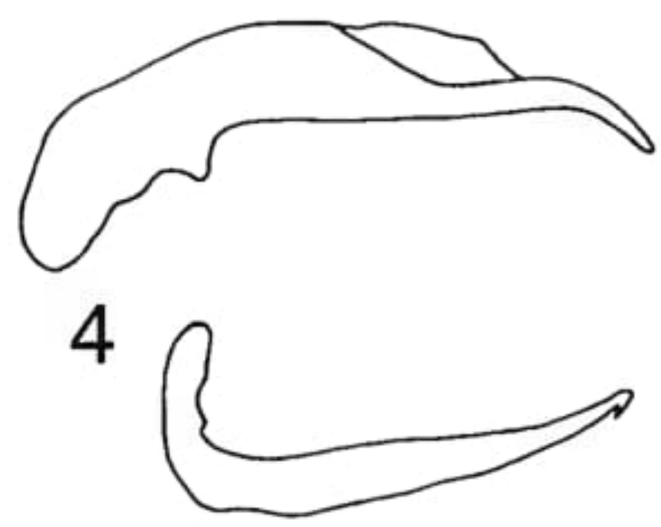
Synuchus (Synuchus) vivalis vivalis **(Illiger, 1798).** M 10 (1 ♂).

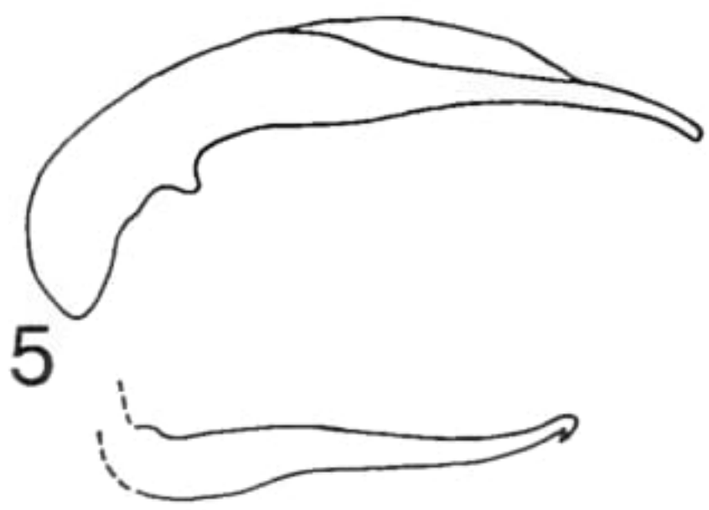
Synuchidius ganglbaueri **Apfelbeck, 1908.** M 25 (Popova Shapka Peak, 1550 m, 7.VII., 5 ♀♀; Tserepashina Peak, 1850-2530 m, 9.VII., 4 ♂♂, 4 ♀♀; Jelak Chalet, 1850 m, 8-16.VII., 5 ♂♂, 24 ♀♀; Studena River, 1730-1850 m, 10.VII., 11 ♂♂, 6 ♀♀; 10-19.VII., 3 ♂♂, 1 ♀; Titov Vrah Peak, 2747 m, 14.VII., 1 ♂).

Platyderus (Platyderus) rufus rufus **(Duftschmid, 1812).** New for Macedonia. M 21 (1 ♂).

Calathus (Calathus) fuscipes fuscipes **(Goeze, 1777).** M 9 (1 ♀); M 10 (1 ♂); M 15 (1 ♂); M 16 (1♂, 1 ♀). In the male of *C. fuscipes* from Kitka Mt the male genitalia (Fig. 5) show a small difference from those of the subspecies *C. f. latus* Serv. from Taygetos Mt, South Greece (Fig. 6, according to BATTONI & VERESCHAGINA, 1984).







Figs. 3-7. Penisi and right parameres in lateral view: Fig. 3. *Calathus (C.) distinguendus* Chd. from M 10. Fig. 4. The same from Olymp Mt (BATTONI & VERESCHAGINA, 1984). Fig. 5. *C. (C.) fuscipes fuscipes* Goeze from M 10. Fig. 6. *C. (C.) fuscipes latus* Serv. from Taygetos Mt (BATTONI & VERESCHAGINA, 1984). Fig. 7. *C. (C.) macedonicus* Mar. from M 25.

***Calathus (Calathus) distinguendus* Chaudoir, 1846.** M 2 (The data published in GUÉORGUIEV & GUÉORGUIEV, 1995a: 149; 1995b: 81 and GUÉORGUIEV, 1996: 32 concern this species and not *C. fuscipes* Goeze. Detailed information from M 2 were published in GUÉORGUIEV, 1996); M 10 (1 ♂); M 12 (1 ♂); M 19 (5 ♂♂, 4 ♀♀); M 20 (3 ♂♂, 2 ♀♀); M 25 (Popova Shapka Peak, 1550 m, 7.VII., 1 ♂, 1 ♀; Jelak Chalet, 1850 m, 8-16.VII., 4 ♂♂, 1 ♀; Tserepashina Peak, 1850-2530 m, 9.VII., 1 ♂, 1 ♀; 2300 m, 14.VII., 1 ♂; Studena River, 1730 m, 10.VII., 3 ♂♂, 1 ♀; Leshnitsa Chalet, 1480 m, 16.VII., 2 ♂♂, 2 ♀♀; 21.VII., 1 ♀). Reported for Macedonia by BATTONI & VERESCHAGINA (1984). The penis and right paramere of this taxon from Kitka Mt (Fig. 3) is nearly equal to these from Olymp Mt, Central Greece (Fig. 4, BATTONI & VERESCHAGINA, 1984).

***Calathus (Calathus) macedonicus* Maran, 1935.** M 25 (Popova Shapka Peak, 1550 m, 7.VII., 2 ♀♀; Jelak Chalet, 1850 m, 8-16.VII., 1 ♂; Studena River, 1700-1850 m, 10-19.VII., 1 ♀). This species differs in the longer and more protruding denticle in the distal end of the penis, as well as the more massive right paramere (Fig. 7) as compared to the above mentioned taxa of *Calathus* (s. str.).

***Calathus (Neocalathus) melanocephalus melanocephalus* (Linnaeus, 1758).** M 2 (GUÉORGUIEV, 1996: 32; Ruen Peak, 2251 m, 8.VI., 2 ♀♀, snow spots; 4.VI.1998, 1 ♂, 1 ♀; traps: VI-VII.1996, 1 ♂); M 8 (1 ♂, 2 ♀♀); M 10 (1 ♂); M 19 (1 ♀); M 25 (Jelak Chalet, 1850 m, 8-16.VII., 3 ♂♂; Studena River, 1730-1850 m, 10.VII., 1 ♂, 1 ♀; 10-19.VII., 1 ♂, 1 ♀; Leshnitsa Chalet, 1480 m, 12.VII., 1 ♂, 1 ♀; Tserepashina Peak, 2300 m, 14.VII., 1 ♂).

***Calathus (Neocalathus) albanicus* Apfelbeck, 1906.** M 25 (Popova Shapka Peak, 1550 m, 7.VII., 1 ♂; Jelak Chalet, 1850 m, 8-16.VII., 3 ♂♂, 2 ♀♀; Tserepashina Peak, 1850-2530 m, 9.VII., 2 ♂♂, 3 ♀♀; 2300 m, 14.VII., 1 ♂, 1 ♀; Studena River, 1730-1850 m, 10.VII., 2 ♂♂, 2 ♀♀; 10-19.VII., 1 ♂, 1 ♀). SCHATZMAYR (1937) separated *C. albanicus* Apf. from *C. melanocephalus* L., *C. mollis* Marsch. and *C. micropterus* Duft. in the presence of DP: 2 + 2 (instead of 3 + 3) in the III elytral stria. The normale first pore, available in the three last taxa, in *C. albanicus* Apf. Is absent. In all the 18 specimens studied, 12 have DP: 2 + 2, 4 - DP: 2 + 3, 1 - DP: 3 + 2, 1 - DP: 3 + 3. The first DP is situated in the III elytral stria and the second in the II elytral stria. In the case of presence of a third DP, the latter is located in the III elytral interval between the indigenous middle and the posterior pore (APFELBECK, 1906). Rarely it is moved close to / in the II or III elytral stria. On the other hand APFELBECK (1906) has not given any information for SP. After studying this feature it was established that 13 of all the specimens have no SP, 2 have SP: 1 + 0, and 3 - SP: 1 + 1. It is most likely that *C. albanicus* Apf. is an alopatric species of *C. micropterus* Duft.

***Calathus (Neocalathus) metallicus aeneus* Putzeus, 1873.** M 2 (GUÉORGUIEV & GUÉORGUIEV, 1995a: 151; 1995b: 81; more precise information was added in GUÉORGUIEV, 1996: 32; Ruen Peak, 2251 m, 8.VI., 3 ♂♂, 1 ♀, snow spots; 5.VII. , 1 ♂, 2 ♀♀; 16.X.1997, 1 specimen was observed; 4.VI.1998, 1 ♂,

1 ♀; traps: V.1996, 25 ♂♂, 34 ♀♀, VI-VII. 1996, 41 ♂♂, 47 ♀♀). MARAN (1934) recorded *C. m. aeneus* Putz. from: „...na bulharsko-reckych hranicich..." (the Bulgarian - Greek border) on the Belasitsa Mt, but not in the Macedonian part of this mountain

***Laemostenus (Pristonychus) terricolla punctatus* (Dejean, 1828).** M 15 (1 ♂).

***Amara (Zezea) tricuspidata tricuspidata* Dejean, 1831.** New for Macedonia. M 19 (1 ♀).

***Amara (Amara) aenea* (Degeer, 1774).** M 1 (GUÉORGUIEV, 1996: 32); M 9 (2 ♂♂); M 10 (1 ♀); M 11 (1 specimen); M 16 (1 ♀); M 20 (1 ♀); M 22 (1 ♀).

***Amara (Amara) eurynota* (Panzer, 1797).** M 25 (Jelak Chalet - Titov Vrah Peak, 1850-2747 m, 14.VII., 1 ♀).

***Amara (Amara) familiaris* (Duftschmid, 1812).** M 19 (1 ♂).

***Amara (Amara) anthobia* Villa, 1833.** M 20 (1 ♂).

***Amara (Amara) tibialis* (Paykull, 1798).** M 25 (Leshnitsa Chalet, 1480 m, 17.VII., 1 specimen).

***Amara (Celia) erratica* (Duftschmid, 1812).** M 2 (Ruen Peak, 2251 m, traps: VI-VII.1996, 1 ♂). Both females were erroneously determinated and mentioned as *A. erratica* Duft. by the author from Osogovo Mt (GUÉORGUIEV, 1996). Later HIEKE (i. l.) established that they belong to *A. messae* Balliani.

***Amara (Celia) bifrons* (Gyllenhal, 1810).** M 25 (Leshnitsa Chalet, 1480 m, 12.VII., 1 specimen; 17.VII., 2 specimens).

***Amara (Paracelia) quenseli* (Schoenherr, 1806).** M 25 (Tserepashina Peak, 1850-2530 m, 9.VII., 1 ♂; Titov Vrah Peak, 2747 m, 14.VII., 2 ♂♂).

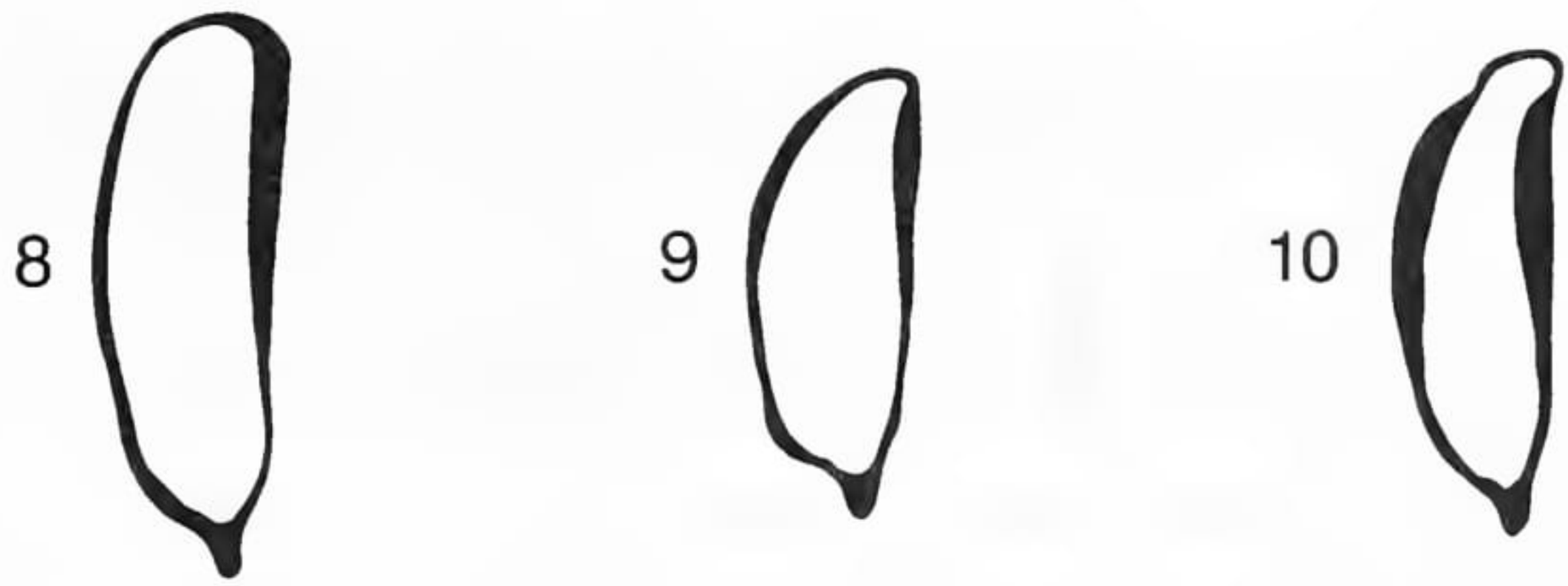
***Amara (Bradytus) apricaria apricaria* (Paykull, 1790).** M 2 (Ruen Peak, 2251 m, 8.VI. , 1 ♀); M 23 (1 ♀); M 25 (Peak Tserepashina, 2300 m, 14.VII., 2 ♂♂, 2 ♀♀; Jelak Chalet - Leshnitsa Chalet, 1480-2000 m, 20.VII., 3 specimens; Leshnitsa Chalet, 1480 m, 21.VII., 1 specimen).

***Amara (Percosia) equestris equestris* (Duftschmid, 1812).** M 25 (Tserepashina Peak, 1850 -2530 m, 9.VII., 2 ♂♂).

***Curtonotus (Curtonotus) aulicus* (Panzer, 1797).** M 25 (Pena River, 1480 m, 21.VII., 1 ♂).

***Zabrus (Pelor) albanicus albanicus* Apfelbeck, 1904.** M 25 (Jelak Chalet, 1850 m, 8.VII., 2 ♂♂; 8-16.VII., 2 ♂♂, 7 ♀♀; Tserepashina Peak, 1850-2530 m, 9.VII., 10 ♂♂, 5 ♀♀; 1600 m, 12.VII., 1 ♂, 1 ♀; 2300 m, 14.VII., 1 ♂, 1 ♂; Studena River, 1730-1850 m, 10.VII., 5 ♂♂, 2 ♀♀; 10-19.VII., 2 ♂♂, 1 ♀; Titov Vrah Peak, 2747 m, 14.VII., 3 ♂♂, 2 ♀♀).

***Zabrus (Pelor) incrassatus incrassatus* (Ahrens, 1814).** New for Macedonia. M 19 (1 ♂); M 20 (1 ♂, 4 ♀♀); M 24 (1 ♂). After comparing the male genitalia with the figures given in FREUDE (1989) and SCHATZMAYR (1943) it was established that all the studied specimens belong to the nominate subspecies (Fig. 8, 9, 10).



Figs. 8-10. Penisi in dorsal view: Fig. 8. *Zabrus (P.) incrassatus incrassatus* Ahrens from M 20. Fig. 9. The same from M 24. Fig. 10. The same from North Greece (FREUDE, 1989).

Zabrus (Pelor) rhodopensis **Apfelbeck, 1904.** M 1 (1 specimen); M 2 (DRENSKY, 1928: 17); M 3 (1 ♂); M 20 (1 ♂, 1 ♀). The comparison of the male penisi from M 1, M 3 and M 20 confirms their species identity. At present the west border of distribution of this species is extended connecting the points of Radusha (HIEKE, 1981) and Galichitsa Mt.

Anisodactylus (Anisodactylus) nemorivagus **(Duftschmid, 1812).** M 10 (5 ♂♂, 2 ♀♀).

Stenolophus (Stenolophus) teutonus **(Schrank, 1781).** M 11 (1 specimen).

Stenolophus (Stenolophus) persicus **Mannerheim, 1844.** M 11 (1 specimen, det. Prof. Kryzhanovskij). HIEKE & WRASE (1988) first recorded this species from Macedonia. BINAGHI (1977) thinks that the West-Mediterranean *S. abdominalis* Gene is the closest species to *S. persicus* Mannh. The first inhabits the east to Tunisia and Sicily, while the second lives from the Apennines in the west to Tian-Shan Mts and Pamir Mts to the east (KRYZHANOVSKIJ & al.). For that reason all records of *S. abdominalis* Gene from Macedonia must be referred to *S. persicus* Mannh.

Stenolophus (Stenolophus) discophorus **(Fischer-Waldheim, 1823).** M 1 (GUÉORGUIEV, 1996: 33).

Trichotichnus laevicollis **(Duftschmid, 1812).** M 25 (Pena River, 1480 m, 21.VII., 1 ♂, 1 ♀; waterfall by the river Krivoshjiska, 21.VII., 4 ♂♂, 1 ♀).

Parophonus (Ophonomimus) hirsutulus **(Dejean, 1829).** M 9 (1 ♂).

Harpalus (Pseudophonus) rufipes **(Degeer, 1774).** M 19 (1 ♂, 1 ♀); M 25 (Leshnitsa Chalet, 1480 m, 20.VII., 1 ♀).

Harpalus (Harpalus) rubripes **(Duftschmid, 1812).** M 10 (1 ♂); M 16 (1 ♀); M 22 (3 ♂♂); M 25 (Jelak Chalet, 1850 m, 8-16.VII., 1 ♂).

Harpalus (Harpalus) attenuatus **Stephens, 1828.** M 18 (1 ♂).

Harpalus (Harpalus) atratus **Latreille, 1804.** New for Macedonia. M 17 (1 ♀).

Harpalus (Harpalus) quadripunctatus quadripunctatus **Dejean, 1829.** M 2 (Ruen Peak, 2251 m, traps: VI-VII.1996, 1 ♂); M 25 (Jelak Chalet,

1850 m, 8.VII., 1 ♀).

***Harpalus (Harpalus) serripes serripes* (Quensel, 1806).** M 1 (GUÉORGUIEV, 1996: 33); M 9 (1 ♂); M 19 (1 ♀); M 25 (Jelak Chalet, 1850 m, 8-16.VII., 1 ♀; Studena River, 1730 m, 10-19.VII., 1 ♂; Tserepashina Peak, 2300 m, 14.VII., 1 ♂; Jelak Chalet - Leshnitsa Chalet, 1450-1850 m, 20.VII., 1 ♂).

***Harpalus (Harpalus) flavicornis flavicornis* Dejean, 1829.** M 19 (1 ♂); M 20 (31.V.1995, 1 ♂).

***Harpalus (Harpalus) pumilus* Sturm, 1818.** M 1 (GUÉORGUIEV, 1996: 33); M 19 (1 ♀); M 24 (1 ♀).

***Harpalus (Harpalus) taciturnus* Dejean, 1829.** M 20 (1 ♂).

***Harpalus (Harpalus) tardus* (Panzer, 1797).** M 19 (1 ♂).

***Harpalus (Harpalus) latus* (Linnaeus, 1758).** New for Macedonia. M 25 (Jelak Chalet - Leshnitsa Chalet, 1450-1850 m, 20.VII., 1 ♀).

***Harpalus (Harpalus) progrediens* Schauberger, 1922.** M 25 (Leshnitsa Chalet, 1480 m, 10.VII., 1 ♂; 17.VII., 1 ♀; Jelak Chalet - Leshnitsa Chalet, 1480-2200 m, 20.VII., 1 ♂; waterfall by the river Krivoshjiska, 21.VII., 1 ♀; Pena River, 21.VII., 1 ♀).

***Harpalus (Harpalus) autumnalis* (Duftschmid, 1812).** M 1 (GUÉORGUIEV, 1996: 33); M 4 (1 ♀).

***Harpalus (Harpalus) dimidiatus* (Rossi, 1790).** M 15 (1 ♀); M 20 (2 ♂♂, 1 ♀).

***Harpalus (Harpalus) affinis* (Schrank, 1781).** M 2 (Ruen Peak, 2251 m, 8.VI. 1995, 1 ♂, snow spots); M 10 (2 ♂♂, 4 ♀♀); M 20 (1 ♀); M 25 (Popova Shapka Peak, 1550 m, 7.VII., 4 ♂♂; Jelak Chalet, 1850 m, 8.VII., 1 ♂; 8-16.VII., 6 ♂♂, 3 ♀♀; 16.VII., 1 ♂; Studena River, 1730 m, 10-19.VII., 2 ♂♂; Tserepashina Peak, 2300 m, 14.VII., 3 ♂♂, 3 ♀♀; Leshnitsa Chalet, 1480 m, 17.VII., 1 ♀; Jelak Chalet - Leshnitsa Chalet, 1480-1850 m, 20.VII., 2 ♂♂, 1 ♀).

***Harpalus (Harpalus) distinguendus distinguendus* (Duftschmid, 1812).** M 2 (Ruen Peak, 2251 m, 8.VI. 1995, 1 ♀, snow spots); M 23 (1 ♀).

***Acinopus (Acinopus) picipes* (Olivier, 1808).** M 4 (2 ♂♂, 1 ♀); M 12 (1 ♂, 4 ♀♀); M 18 (3 ♀♀).

***Ophonus (Metophonus) puncticeps* Stephens, 1828.** M 13 (1 ♂).

***Ophonus (Metophonus) cordicollis* (Dejean, 1829).** M 3 (2 ♀♀). SCIAKY (1987) noted this species from the Ochrid Lake.

***Ophonus (Metophonus) rufibarbis* (Fabricius, 1792).** M 21 (1 ♀).

***Ophonus (Metophonus) parallelus* (Dejean, 1829).** New for Macedonia. M 20 (1 ♂, 1 ♀).

***Ophonus (Hesperophonus) azureus* (Fabricius, 1775).** M 20 (5 ♂♂, 5 ♀♀); M 24 (2 ♂♂, 1 ♀).

***Ophonus (Hesperophonus) cribricollis* (Dejean, 1829).** M 19 (1 ♀); M 24 (1 ♂).

***Ophonus (Ophonus) sabulicola ponticus* Schauberger, 1926.** M 19 (1 ♀).

***Dixus clypeatus* (Rossi, 1790).** M 9 (2 specimens).

***Dixus obscurus* (Dejean, 1825).** M 6 (1 specimen).

***Pachycarus (Mystropterus) cyaneus* (Dejean, 1831).** M 7 (GUÉORGUIEV & GUÉORGUIEV, 1997: 50, 1 ♀, det. Prof. Kryzhanovskij).

***Pachycarus (Mystropterus) macedonicus* Guéorguiev & Guéorguiev, 1997.** M 18 (GUÉORGUIEV & GUÉORGUIEV, 1997: 48, 2 ♂♂).

***Dinodes cruralis skopljensis* Jedlicka, 1963.** M 9 (1 ♀). Var. *maillei* Dej. with black legs occurs in the Balkans and Asia Minor (APFELBECK, 1904). JEDLICKA (1963) described „*Chlaenius (D.) c.* s. *skopljensis* sp. n." by a single male from Skopje. The studied specimen is referred to this form. The present author has not seen the holotype of this subspecies which needs further confirmation of its taxonomic status.

***Dinodes decipiens* (Dufour, 1820).** M 15 (1 ♂, 1 ♀, det. Prof. Kryzhanovskij); M 19 (31.V.1995, 1 ♂, 1 ♀). According to the recent European authors *D. laticollis* Chd. is a synonym of *D. decipiens* Dufour.

***Chlaenius (Chlaenius) festivus* (Panzer, 1796).** M 15 (1 ♂). JEANNEL (1942) reported the race *caspicus* Motsch. which inhabits East Europe and differs by the entirely blackened abdomen.

***Chlaenius (Chlaeniellus) vestitus* (Paykull, 1790).** M 9 (1 ♂, 2 ♀♀); M 15 (1 ♀).

***Lebia (Lebia) cruxminor* (Linnaeus, 1758).** M 2 (Ruen Peak, 2251 m, 4.VI. 1998, 1 ♀).

***Lebia (Lebia) trimaculata* (Villers, 1789).** New for Macedonia. M 19 (31.V. 1995, 1 ♂). This specimen was further destroyed by the larvae of Dermestidae.

***Dromius (Dromius) agilis* (Fabricius, 1787).** New for Macedonia. M 25 (Studena River, 1700-1850 m, 10-19.VII., 1 ♀ in spruce-beech forest).

***Syntomus pallipes* (Dejean, 1825).** M 8 (1 specimen); M 10 (1 ♀); M 22 (1 ♀).

***Syntomus truncatellus truncatellus* (Linnaeus, 1761).** M 21 (1 specimen); M 22 (1 ♀).

***Cymindis (Cymindis) humeralis* (Fourcroy, 1785).** M 2 (GUÉORGUIEV, 1996: 33-34; Tash-Tepe Peak, 1993 m, 21.VI.1926, 1 specimen, leg. N. Radev, det. Prof. Kryzhanovskij); M 25 (Tserepashina Peak, 1850-2530 m, 9.VII., 1 ♂, 1 ♀; Jelak Chalet - Leshnitsa Chalet, 1480-2000 m, 1 ♂, 1 ♀; Jelak Chalet, 1850 m, 8-16.VII., 1 ♂, 2 ♀♀; Studena River, 1730 m, 10-19. VII., 1 ♂, 1 ♀).

***Cymindis (Cymindis) axilaris* (Fabricius, 1794).** M 3 (1 ♀); M 19 (1 ♂).

***Cymindis (Cymindis) lineata* (Quensel, 1806).** M 3 (5 ♀♀).

***Cymindis (Cymindis) scapularis* Schaum, 1860.** New for Macedonia. M 19 (1 ♀).

***Cymindis (Tarulus) vaporariorum* (Linnaeus, 1758).** M 25 (Tserepashina Peak, 1850-2530 m, 9.VII., 2 ♂♂; Studena River, 1730-1850 m, 10.VII., 1 ♀; Jelak Chalet, 1850 m, 8-16. VII., 1 ♂; Tserepashina Peak, 1600 m, 12.VII., 3 ♀♀; Leshnitsa Chalet, 1480 m, 12.VII., 1 ♀).

***Aptinus (Aptinus) merditanus merditanus* Apfelbeck, 1918.** M 10 (1 ♂, 2 ♀♀); M 19 (2 ♂♂). The body range of one of the females from Kitka Mt. is

7,8 mm, while in the remaining 4 specimens it varies - 10,1-10,8 mm.

***Brachinus (Brachynolomus) explodens* Duftschmid, 1812.** M 20 (8 specimens); M 22 (2 ♀♀).

Conclusions

Using DROVENIK & PEKS (1994) and other available literature, and supplementing new taxa and records to the Macedonian ground-beetle fauna, HRISTOVSKI (i. l.) gave about 410 ground-beetles for the territory of this country. This is about 70-75 % of the expected real number of taxa of the species group in Macedonia. Four taxa - *Calathus metallicus aeneus* (GUÉORGUIEV & GUÉORGUIEV, 1995a: 151; 1995b: 81), *Pterostichus nigrita* (GUÉORGUIEV, 1996), *Molops rufipes denteletus* (GUÉORGUIEV, 1997) and *Pachycarus macedonicus* (GUÉORGUIEV & GUÉORGUIEV, 1997) were published for the first time for Macedonia. Total 141 species and subspecies of carabids are listed in the present paper; all of them collected by Bulgarian zoologists during the periods of 1913-1919, 1926 and 1993-1998. One genus (*Platyderus*), five subgenera (*Leistus*, *Feronidius*, *Platynus*, *Platynidius*, *Platyderus*) and eighteen species and subspecies are new for the Macedonian ground-beetle fauna (indicated in the text as „New for Macedonia"). The specific diagnosis of the Balkan endemic *Calathus albanicus* is extended on the basis of the elytral chetotaxia. The range of the other Balkan endemic - *Zabrus rhodopensis* has been extended to the southwestward.

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Бръмбари-бегачи (Coleoptera: Carabidae), събирани от български зоолози в Република Македония

Борислав ГЕОРГИЕВ

(Р е з ю м е)

Определени и съобщени са 923 екз. от 26 различни находища на територията на Република Македония. Материалът е събран от български зоолози през периодите 1911-1919, 1926 и 1993-1998 г. и се съхранява в колекциите на Националния природонаучен музей при ААН. От всичките установени 141 вида и подвида карабиди, нови за фауната на Македония са род *Platyderus*, подродовете *Leistus*, *Feronidius*, *Platynus*, *Platynidius*, *Platyderus*, както и осемнадесет вида и подвида. Видовата диагноза на балканския ендемит *Calathus albanicus* е разширена на базата на хетотаксията на елитрите. Ареалът на друг балкански ендемит - *Zabrus rhodopensis*, е значително разширен на югозапад. Предвид мобилността на изучаваните насекоми и относителността на географските понятия материалът, събран от М 2, се отнася също така и за българската карабидна фауна.