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First record of *Ripidius quadriceps*,
and data of other wedge-shaped beetles in Hungary
(Coleoptera: Ripiphoridae)

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Abstract – *Ripidius quadriceps* ABEILLE DE PERRIN, 1872 is recorded for the first time in Hungary. A survey of the Hungarian records of Ripiphoridae is given. With 2 figures.

Key words – Ripiphoridae, Hungary, new record, faunistics.

INTRODUCTION

Until now, four species were known to represent the tenebrionoid family Ripiphoridae in Hungary (KASZAB 1956, BATELKA 2007, MERKL & VIG 2009). In 2011, a specimen of the fifth species was found in the western part of the country, and the main goal of this paper is to publish this remarkable finding. However, this opportunity is taken to present a faunistic survey of all species of wedge-shaped beetles occurring in Hungary.

Life history, synonymies, general distribution and important references about the Central European species were thoroughly summarised by BATELKA (2007), so these are not repeated here.

Notes on locality listings – Names of the counties of Hungary and the capital city Budapest are in **bold** type. Words on the Hungarian labels were translated wherever pertinent, and written in brackets. Lack of date of collecting and/or name of the collector means that these were not indicated on

the specimen labels. The number of specimens investigated and the codens of the specimen depositories are in parentheses. Specimen data and literature records with inexact localities (eg. "Hungaria", "Hungaria mer." or similarly vague) are omitted.

Abbreviations of collections – BNHM = Bakony Natural History Museum, Zirc, Hungary (curator: CSABA KUTASI); CBS = collection of BÉLA SZELENCEZY, Győr, Hungary; CDS = collection of DEZSÖ SZALÓKI, Budapest, Hungary; CKS = collection of KÁLMÁN SZÉKELY, Budapest, Hungary; CSI = collection of SÁNDOR ILNICZKY, Budapest, Hungary; HNHM = Hungarian Natural History Museum, Budapest, Hungary (curator: OTTÓ MERKL); KFM = Kazinczy Ferenc Museum, Sátoraljaújhely, Hungary (curator: GÁBOR HEGYESSY); MM = Mátra Museum, Gyöngyös, Hungary (curator: TIBOR KOVÁCS).

Ripidius quadriceps ABEILLE DE PERRIN, 1872
(Figs 1–2)

Collection data – Győr-Moson-Sopron m.: Sopron, Új-hegy, fénycsapda N47° 39.412', E16°31.765', [= light trap], 22.VI.2011, leg. B. HORVÁTH & D. SZALÓKI (1, CDS).

Remarks – The larvae of *Ripidius quadriceps*, as those of the other species of the genus, are ecto- then endoparasitoids of cockroaches of the genus *Ectobius* STEPHENS, 1835. Males are capable of flight, have well-developed compound eyes and antennae, and sometimes fly to artificial light sources, while females are apterous with much less developed eyes and antennae. The adults do not feed at all, so are not attracted by flowers or any bait; they are extremely short-lived, with life span probably less than three days (ADLBAUER 2000). These circumstances make chances of collecting this species rather low. The species is distributed in several countries of Europe as well as in North Africa, Turkey and Armenia (BATELKA 2007), but considered very rare all over its range.

The second author (BH) operated light traps to capture and study Macrolepidoptera of the oak forests. The beetles attracted by these traps were at disposal of the first author (DS) of this paper. The single male specimen of *Ripidius quadriceps* (Fig. 1), representing the first record of the species in Hungary, was found in one of these traps set up in a young managed hornbeam- sessile oak forest (Fig. 2).

Pelecotoma fennica (PAYKULL, 1799)

Pelecotoma fennica: KUTHY (1897), KASZAB (1956), SZÉL *et al.* (2010).

Literature data – Zirc (KUTHY 1897, KASZAB 1956); Ásványráró, Dunaremete, Zirc (SZÉL *et al.* 2010).



Figs 1–2. 1 = *Ripidius quadriceps* ABEILLE DE PERRIN, 1872, the first specimen from Hungary; 2 = Collecting site of *Ripidius quadriceps* ABEILLE DE PERRIN, 1872 at Sopron, Új-hegy

Collection data – Győr-Moson-Sopron county: Ásványráró, Duna-ártér [= inundation area of Duna], nyárfarakásról [= from stacked wood of poplar], 29.VI.1993, leg. O. MERKL (41, HNHM, 3, CDS); Dunaremete, telepített nyáras [= poplar plantation], egyelés [= singled], 29.VI.1996, leg. O. MERKL & O. FEGYVERES (2, HNHM); Fertőd, volt orosz laktanya [= former Russian army barracks], 47°37'15.52"N, 16°53'17.56"E, 1.VI. 2010, singled on *Populus* sp. trunk infested by *Ptilinus fuscus*, leg. B. SZELENCZEY (1, CBS); Győr, Kunszigeti út, Holt-Rábca part [= bank of Holt-Rábca], 47°41'20.74"N, 17°36'19.02"E, singled on *Salix fragilis* trunk at dusk, 13.VI.2009, leg. B. SZELENCZEY (2, CBS); Győr-Sziget, Püspök-erdő, 47°42'32.13"N, 17°37'27.05"E, reared from *Populus* sp. infested by *Ptilinus fuscus*, 8.IV.2010, leg. B. SZELENCZEY (1, CBS). – **Heves county:** Gyöngyös-solymos, Vérc-verés, 3.VI.2011, A. KOTÁN, T. KOVÁCS & T. NÉMETH (1, HNHM). – **Vas county:** Sárvár, Kanotapuszta, kopogtatva, egyelve [= beaten and singled], 8.VII.2011, leg. T. NÉMETH & A. KOTÁN (2, HNHM).

Remarks – This species is endo- then ectoparasitoid of the larvae of *Ptilinus fuscus* GEOFFROY, 1785, an anobiid beetle associated with poplar and willow trees; consequently, most specimens were collected in soft-wood alluvial forests. However, recent capture in Heves and Vas counties suggest that *Ptilinus pectinicornis* (LINNAEUS, 1758), associated with hardwood (mainly oak and beech) may also act as larval host.

Ptilophorus dufourii (LATREILLE, 1817)

Evaniocera dufouri: I. FRIVALDSZKY (1865), J. FRIVALDSZKY (1879), TÓTH (1973), KASZAB (1956), PAPP (1977).

Literature data – Budapest (Sas-hegy) (I. FRIVALDSZKY 1865, J. FRIVALDSZKY 1879, KUTHY 1897, PAPP 1977); Budapest (Csiki-hegyek, Sas-hegy) (KASZAB 1956); Budapest (Buda, Csiki-hegyek, Sas-hegy), Nyírség [without closer locality] (TÓTH 1973).

Collection data – **Budapest**: no closer locality, 13.V.1909, leg. E. CSIKI (1, CDS); no closer locality, 4.V.1910, leg. F. WACHSMANN (1, HNHM); no closer locality, 26.IV.1910 (2, HNHM); no closer locality (1, HNHM); no closer locality, leg. J. PÁVEL (7, HNHM); no closer locality, leg. Gy. KOVÁTS (1, HNHM); no closer locality, leg. L. GEITNER (4, HNHM); no closer locality, leg. E. [= I.] FRIVALDSZKY (1, HNHM); Buda, leg. I. FRIVALDSZKY (5, HNHM); Csiki-hegyek, IV.1928, coll. H. DIENER (1, HNHM); Sas-hegy, 19.V.1908 (1, HNHM, 1, CDS); Sas-hegy, 1909 (1, HNHM); Sas-hegy, 13.V.1909, leg. R. STREDA (3, HNHM); Sas-hegy, 15.V.1909, leg. R. STREDA (2, HNHM); Sas-hegy, 26.IV.1916 (1, HNHM); Sas-hegy, 17.IV.1918 (1, HNHM). – **Szabolcs-Szatmár-Bereg county**: Nyírség, leg. F. EHMANN [doubtful locality] (2, HNHM).

Remarks – The species was considered extinct by KASZAB (1990), because it was not found in Hungary since the first third of the 20th century. However, the lack of more recent specimens may be due to the lower intensity of collecting. Several specimens were captured in the Sas-hegy, a dolomite hill in Budapest, covered with xerothermic vegetation, now strictly protected. It is quite probable that most of the specimens labelled as “Budapest” without closer locality also originate from that place. I. FRIVALDSZKY (1865: 118) mentioned its occurrence from here: “A Sashegy délnyugati meredek lejtőjén” [on the steep south-western slope of the Sas-hegy], while J. FRIVALDSZKY (1879: 62) stated that “A Sashegy déli oldalán áprilisi derült napokon repül s a száraz növénykörökra száll” [On the southern side of the Sas-hegy it flies in bright April days and lands on dry herbaceous plants]. The Sas-hegy is the northernmost known locality of this species, which is widely distributed in the Mediterranean. The last specimen was collected in 1928 in the Csiki-hegyek (Csiki Hills), a dolomite ridge a few kilometres south-west of the Sas-hegy, with partly similar vegetation.

The labelling of a specimen with “Nyírség” (a sandy region in the north-eastern part of Hungary) is highly questionable.

This species is protected by law in Hungary.

Macrosiagon bimaculata (FABRICIUS, 1787)

Emenadia larvata (SCHRANK, 1789): I. FRIVALDSZKY (1879), KUTHY (1897)

Macrosiagon tricuspidatum (GMELIN, 1785): KASZAB (1956), TÓTH (1973), SZALÓKI (1986, 1997).

Macrosiagon bimaculata: MERKL & VIG (2009).

Literature data – Budapest (Rákos, Palota, Szentlőrinc), Peszér (FRIVALDSZKY 1879); Budapest (Csepel, Szentlőrinc), Peszér, Pécel (KUTHY 1897); Ágasegyháza, Budapest (Csepel, Rákos, Szentlőrinc), Dabas, Gyón [now part of Dabas], Izsák, Ócsa, Örszentmiklós [now part of Örbottyán], Pécel (TÓTH 1973); Ágasegyháza, Dabas, Fülpöháza, Ócsa (SZALÓKI 1986); Fülpöháza (SZALÓKI 1997); Fülpöháza, Kunpeszér, Örkény, Paks (MERKL & VIG 2009).

Collection data – **Budapest**: no closer locality, leg. E. CSIKI (1, HNHM); no closer locality, leg. J. GYÖRFFY (1, HNHM); no closer locality, leg. J. HAJÓSS (1, HNHM); no closer locality, leg. O. MIHÓK (1, HNHM); no closer locality, leg. K. UHL (4, HNHM); no closer locality, VIII.1899, leg. K. UHL (1, HNHM); no closer locality, 1903, leg. L. BÍRÓ (1, HNHM); Rákos, leg. H. DIENER (2, HNHM); Szentlőrinc [now Pestszentlőrinc], 5.VII.1908 (1, HNHM); Szentlőrinc [now Pestszentlőrinc], 12.VII.1908 (2, HNHM). – **Bács-Kiskun county**: Ágasegyháza, homokbuckás [= sand dunes], 17.VII.1956, leg. Z. KASZAB (1, HNHM); Ágasegyháza, 28–30.VII.1956, leg. M. MÓCZÁR (8, HNHM); Fülpöháza, 19.V.1994, leg. L. MOLNÁR (1, MM); Fülpöháza, 4.VII.1994, leg. L. MOLNÁR (1, MM); Fülpöháza, 9.VII.2005, leg. L. MOLNÁR (3, MM); Fülpöháza, homokbuckás [= sand dunes], *Eryngium campestre*, 16.VII.1981, leg. D. SZALÓKI (33, CDS); Fülpöháza, homokbuckás [= sand dunes], *Eryngium virágján*, 13.VII.1983, leg. T. VÁSÁRHELYI (1, HNHM); Fülpöháza, N46.88948, E19.41623, *Eryngium campestre*, 14.VII.2003, leg. G. SZÖVÉNYI (1, HNHM); Fülpöháza, Fehér-hegy, *Eryngium campestre*, 16.VII.1981, leg. L. ÁDÁM (51, HNHM); Fülpöháza, Fehér-hegy, 24.VI.1983, leg. K. SZÉKELY (1, CKS); Fülpöháza, Fehér-hegy, *Eryngium campestre*, 2.VII.1983, leg. D. SZALÓKI (31, CDS, 8, MM); Fülpöháza, Fehér-hegy, 100 m, *Festucetum vaginatae*, *Eryngium campestre*, 2.VII.1983, leg. L. ÁDÁM (75, HNHM); Fülpöháza, Fehér-hegy, *Eryngium campestre*, 21.VII.1983, leg. D. SZALÓKI (4, CDS); Fülpöháza, Fehér-hegy, *Eryngium campestre*, 28.VII.1985, leg. D. SZALÓKI (9, CDS); Fülpöháza, Fehér-hegy, 28.VII.1985, leg. L. ÁDÁM (12, HNHM); Fülpöháza, Fehér-hegy, 120 m, *Festucetum vaginatae danubiale*, *Eryngium campestre*, 30.VI.1993, leg. L. ÁDÁM (7, HNHM); Fülpöháza, Strázsa-hegy, *Eryngium campestre*, 16.VII.1981, leg. L. ÁDÁM (4, HNHM); Izsák, UHL (1, HNHM); Kunpeszér, Felsőpeszéri buckák, fuhálózás [= swept], 22.VII.2005, leg. A. MÁTÉ, O. MERKL, A. GRABANT & Z. GYÖRGY (2, HNHM); Kunpeszér, Zombor-hegy, egyelés [= singled], leg. A. MÁTÉ, O. MERKL, A. GRABANT & Z. GYÖRGY, 22.VII.2005, (4, HNHM). – **Pest county**: Dabas (3, HNHM); Csepel-sziget, Sz. telep, leg. I. PEREGI (4, HNHM); Dabas, 1855, F. METELKA (4, HNHM); Dabas, Gyón, K. ÚJHELYI (2, HNHM); Dabas, Gyón, N47°8'52.82", E19°18'40.02", *Eryngium campestre*, 6.VII.2012, leg. O. MERKL (1, HNHM); Ócsa, 7.VIII.1954, leg. J. PAPP (1, HNHM); Örkény, 29.VI.1994, leg. K. SZÉKELY (2, CKS); Örkény, 16.VII.1997, leg. K. SZÉKELY (1, CKS); Örkény, homokpuszta [= sandy meadow], fuhálózás [= swept], 3–5.VII.1994, leg. O. MERKL (1, HNHM); Örkény, homokpuszta [= sandy grassland], egyelés iringóról [= singled from field eryngo], 7.VII.1996, leg. GY. SZÉL (13, HNHM, 1, KFM); Örkény, 18.VII. 2005, leg. S. ILNICZKY (1, CSI); Örkény, homokpuszta, fuhálózás [= swept], 19.VII.2010, leg. O. MERKL (2, HNHM); Örkény, homoki gyep [= sand sward], N47°5'45", E19°24'14",

fűhálózás, egyelés [= swept & singled], 26.VI.2011, leg. O. MERKL & N. BÁLINT (1, HNHM); Örkény, homoki gyep [= sand sward], N47°5'45", E19°24'14", fűhálózás, egyelés [= swept & singled], 9.VII.2011, leg. O. MERKL (3, HNHM); Örkény, Gyóni-földek, *Eryngium campestre*, 3.VII.2010, leg. D. SZALÓKI (2, CDS); Örkény, Ilonamajor, homokpusztáréte [= sandy meadow], *Eryngium campestre*, 30.VI.1994, leg. D. SZALÓKI (6, CDS, 7, HNHM); Örkény, Ilonamajor, *Eryngium campestre*, 20.VII.1994, leg. D. SZALÓKI (1, CDS); Örkény, Ilonamajor, 8.VII.1995, D. SZALÓKI (3, CDS); Örkény, Ilonamajor, *Eryngium campestre*, 13.VII.1998, leg. D. SZALÓKI (2, CDS); Örkény, Ilonamajor, 100 m, *Festucetum vaginatae danubiale*, *Eryngium campestre*, 8.VII.1995, leg. L. ÁDÁM (1, CDS); Örszentmiklós [now part of Őrbottyán], Nyáras, leg. K. SAJÓ (1, HNHM); Pécel, leg. D. KUTHY (1, HNHM); Táborfalva, N47°5'54.2", E19°25'33.1", egyelés [singled], 6.VII.2012, leg. O. MERKL (2, HNHM); Táborfalva, N47°5'54.6", E19°24' 15.1", fűhálózás, egyelés [= swept & singled], 15.VII.2012, leg. O. MERKL (2, HNHM).—Tolna county: Paks, Úrge-mező, homokpusztagyep [= sand sward], *Eryngium campestre*, 17.VII. 2006, leg. L. SOMAY (3, HNHM); Paks, Úrge-mező, N46°36'49.57", E18°49'5.88", homoki gyep, egyelés [= sand sward, singled], 22.VI.2011, leg. GY. SZÉL & G. PUSKÁS (5, HNHM); Paks, Úrge- mező, N46°36'55.9", E18°48'58.8", homoki gyep, [= sand sward], *Eryngium*, 18.VII.2011, leg. O. MERKL (3, HNHM); Paks, Záttony, VII.1939 (5, HNHM).

Remarks – This is the most frequently collected species of Ripiphoridae in Hungary, yet its distribution in the country is limited to a few isolated patches. Since the 1950s the majority of the specimens were captured in the Homokhátság, a sandy region in the northern part of the Danube–Tisza Interfluve, Central Hungary. Another viable population exists in the Southern Mezőföld Landscape Protection Area at Paks (SOMAY 2007). Although the species is mentioned from various localities in Budapest by earlier authors, it is almost certainly extinct there because development eliminated or deteriorated its habitats. As the record from the Netherlands was proved to be erroneous, and the records from Germany, Austria and Poland are considered doubtful (references see in BATELKA 2007), the Pannonian biogeographical region – and Central Hungary within it – constitutes the northernmost part of the range of this Mediterranean species.

Adults are usually collected from inflorescences of field eryngo (*Eryngium campestre*). This plant is common all over Hungary in dry rocky or sandy grasslands and overgrazed pastures, but the beetle occurs only in nearly pristine sand swards. The aposematically coloured, sluggish adults usually sit motionless on the blooming umbels, and slowly fly short distances if provoked. Larval development is thought to take place in the nests of solitary vespid wasps (*Eumenes* LATREILLE, 1802 and *Odynerus* LATREILLE, 1802) or leaf-cutter bees (Megachilidae), but details are unknown. However, these hymenopterans are not at all characteristic in the Hungarian localities where *Macrosiagon bimaculata* is relatively numerous, so existence of other host species cannot be ruled out.

This species is protected by law in Hungary.

Metoecus paradoxus (LINNAEUS, 1760)

Cyttarocetus paradoxus: TÓTH (1973), KASZAB (1956)

Rhipiphorus paradoxus: KUTHY (1897), SZALÓKI (1997)

Ripiphorus paradoxus: SZALÓKI (1999)

Metoecus paradoxus: MERKL (2010)

Literature data – Budapest, Debrecen, Mátra Mts, Pécs (KUTHY 1897); Sopron (KASZAB 1956); Budapest (Buda, Kamaraerdő, Szépjuhászné), Gerla, Gödöllő, Pécs, Sopron, Szigetcsép (TÓTH 1973); Tar (SZALÓKI 1997); Jósvafő (SZALÓKI 1999); Vác (Naszály) (MERKL 2010).

Collection data – Budapest: no closer locality, leg. I. PEREGI (3, HNHM); Buda, leg. K. SACHER (1, HNHM); Kamaraerdő, VI.1893, leg. H. DIENER (1, HNHM); Kőbánya, Felső-Rákosi rétek, N47.49196°, E19.19351°, 21.IX.2012, leg. N. RAHMÉ (1, HNHM); Szépjuhászné, V.1895, leg. H. DIENER (1, HNHM). – **Baranya county**: Pécs vidéke [= surroundings], leg. E. CSIKI (1, HNHM); Pécs, leg. F. EHMANN (1, HNHM). – **Békés county**: Gerla, fénycsapda [= light trap], 12.X.1964 (1, HNHM). – **Borsod-Abaúj-Zemplén county**: Cserépfalu, Odorvár, 21.VII.1979, leg. I. GYULAI (1, KFM); Jósvafő, Nagy-Tohonya-forrás, *Veronica-Glycerietum plicatae*, vízinövényekről [= from water plants], 10.X.1989, leg. L. ÁDÁM (1, HNHM); Telkibánya, Ósva-völgy, 10.VIII.1992, leg. G. HEGYESSY (1, KFM). – **Heves county**: Tar, Fenyvespuszta, földi darázs fészkekürege mellől [= near nest of ground-dwelling wasps], 23.IX.1995, leg. T. KOVÁCS; Tar, Fenyvespuszta, 27.VII.1996, leg. T. KOVÁCS sr. & T. KOVÁCS. – **Győr-Moson-Sopron county**: Dénesfa, wood pasture, 47°27'12.41"N, 17°02'26.94"E, netted on *Quercus robur*, 2.VII.2007, leg. N. RAHMÉ & B. SZELENCEZY (1, CBS); Sopron, VIII.1900, leg. F. EHMANN (1, HNHM); Sopron, 1–15.X.1944, leg. E. DUDICH (1, HNHM). – **Pest county**: Budakeszi, Máriamakk, szobában [= in room], 26.VII.1999, D. SZALÓKI (1, CDS); Gödöllő, 11.VIII.1954, leg. L. TÓTH (1, HNHM); Szentendre, Sztaravoda, vine trap, 20–29.VII. 2005, leg. K. SZÉKELY (1, CKS); Szigetcsép, leg. I. PEREGI (1, HNHM); Vác, Naszály, Sejcei kőbánya [= quarry], fényre [= at light], 30.VI.2007, leg. Cs. SZABÓKY (1, HNHM); Vác, Naszály, Sejcei kőbánya [= quarry], fényre [= at light], 9.VII.2007, leg. Cs. SZABÓKY (1, HNHM). – **Vas county**: Szentgothárd, Máriaújfalu, Máriaújfalu víztározó, fénycsapda [= light trap], 14.IX.1992, leg. T. KOVÁCS (1, HNHM). – **Veszprém county**: Pula, 23.VII.1978, leg. A. OROSZ (1, CDS); Zánka, Pál-hegy, Kopaszok, holtfás, tölgyes, boroscsapda [= oak forest with much dead wood, vine trap], 8.VIII.2011, leg. Cs. KUTASI (1, BNHM), Zirc, Arborétum, 11.X.1981, leg. K. SZÉKELY (1, CKS).

Remarks – Larval development of this widely distributed species is associated with eusocial vespid wasps (*Dolichovespula* ROHWER, 1916 and *Vespula* THOMSON, 1869). Adults are short-lived and usually do not leave the vicinity of the wasps' nest. These facts combined with lack of aimed search may explain why relatively few records are known from Hungary. The specimens were found mostly by chance, in a few cases they were attracted by light or bottle traps baited with vine.

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