

Additions to the Diptera fauna of Hungary

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Abstract – First Hungarian records of 35 species of Limoniidae, Cecidomyiidae, Keroplatidae, Atelestidae, Empididae, Phoridae, Micropezidae, Agromyzidae, Ephydriidae, Drosophilidae and Anthomyiidae are reported with additional data for other rare Diptera. Three genera of Cecidomyiidae (*Anarete*, *Catocha*, *Diallactes*), *Billotia* (Phoridae) and *Paracoxenus* (Drosophilidae) are reported for the first time. Additional first records for other countries: *Spania nigra* MEIGEN, 1830 and *Monocentrotia lundstromi* EDWARDS, 1925 from Romania, *Agromyza flaviceps* FALLÉN, 1823 from Croatia, *Macrorrhyncha ancae* MATILE, 1975 from Austria, *Gymnophytomyza heteroneura* (HENDEL, 1920) from Slovakia and *Aulagromyza populicola* (WALKER, 1853) from Serbia. With 5 figures.

Key words – Limoniidae, Cecidomyiidae, Keroplatidae, Atelestidae, Empididae, Phoridae, Micropezidae, Agromyzidae, Ephydriidae, Drosophilidae, Anthomyiidae, faunistic survey, new record, Hungary, Croatia, Romania, Serbia, Slovakia.

INTRODUCTION

The critical list of the dipterous insects of our country, “*Checklist of the Diptera of Hungary*” was published eight years ago (PAPP *et al.* 2001a). Our project, aiming at the study of the origin and genesis of the fauna of the Carpathian Basin: diversity, biogeographical hotspots and nature conservation significance collection programme was ended. That program from 2005 to 2007 provided new possibilities for collecting and for studies on the formerly captured dipterous specimens in the HNHM. A part of new findings is given in the present paper, which was mainly based on specimens captured from 2006 to 2008.

In the Checklist we listed 5,550 species of Diptera in the Hungarian fauna (all with existing voucher specimens and with checked bibliographical data as for being first records). Since that time I published 16 papers (including the present one) with more than 310 species new to our fauna, including also species new to science (GIBBS & PAPP 2007, PAPP 2002*a, b*, 2003*a, b*, 2004*a, b*, 2005, 2006, 2007, PAPP & FÖLDVÁRI 2002, PAPP & HAENNI 2007, PAPP & ŠEVČÍK 2007, ŠEVČÍK & PAPP 2002, 2003). So I think – together with species first recorded in works of other authors – the total number of the known Hungarian species of Diptera must be over 5900.

It seems like the current progress of research results in one paper per year each time with 15 to 25 species new to our fauna (this is the case with most of the faunistic papers since the checklist), so there will be an unpredictably long period of time until most of the species in Hungary will be detected. There are families where less than half of the potential fauna has hitherto been reported (Cylindrotomidae, **Limoniidae**, Pediciidae, **Ceratopogonidae**, **Chironomidae**, Bolitophilidae, **Phoridae**, **Agromyzidae**, Stenomicrodidae), or only a minor part of species has hitherto been reported (**Simuliidae**, **Lestremiinae**, **Porricondyliinae**, **Sciaridae**). The families whose names are written in bold in the above list may contain as many as 2,500 species expected to occur in Hungary (of the total of 4,500). To capture specimens of those species mostly application of special methods of collection is needed, and their identification is possible only by study of microscopic preparata under high magnification; possibly a variety of molecular methods of identification must be used.

Several corrections, discussion of omissions and misinterpretations are also added to the present paper.

All the specimens whose data are listed below are preserved in the Diptera collection of the Department of Zoology, Hungarian Natural History Museum, Budapest (HNHM). The list of the abbreviations and translations of the Hungarian words on labels were published in the former papers for the project “Large blank spots in the Diptera fauna of Hungary” (e.g. PAPP & FÖLDVÁRI 2000, ŠEVČÍK & PAPP 2001).

LIMONIIDAE

Chionea (Chionea) araneoides DALMAN, 1816 – 1 female: DINP.: Diósjenő, Cigányvár, hóról [on snow], 2006.02.12., leg. DÁNYI L. It is probably the most widespread species of the subgenus (Alps: several countries, Central Europe: Czech Republic, Slovakia, Yugoslavia (?) and northern Europe including the North European territories of Russia.) Its record from “Siberia” should be confirmed. This is the first record of the species from Hungary.

CECIDOMYIIDAE

“Lestremiinae”

In his monograph JASCHHOF (1998) proved that this is not a monophyletic group, so cannot be maintained as a separate subfamily. In my last faunistical paper (PAPP 2007) I summarised the rather short story of the studies on the Hungarian Cecidomyiidae, other than Cecidomyiinae. Now I can add other two genera.

Anarete sp. – 1 male (gen. prep.): Budapest, Pestszentlőrinc, Péterhalmi-erdő, 2006.06.11., leg. PAPP L. This is the first record of the genus from the Carpathian Basin. I did not dare identifying it to species (*cf.* JASCHHOF 1998).

Catocha latipes HALIDAY, 1833 – 1 male (gen. prep.): Budapest, Pestszentlőrinc, Péterhalmi-erdő, 2007.03.15., leg. PAPP L. 1 male: *ibid.*, 2006.04.08. A widespread Holarctic species; the genus and species are new for the Hungarian fauna.

Mycomya lucorum HALIDAY, 1833 – 3 males: Kiskunsági NP: Szabadszállás, Zab-szék, iszapról [from mud], 2006. augusztus 15., leg. PAPP L. & FÖLDVÁRI M. It was first recorded not long ago (RULIK *et al.* 2001) from Hungary. This is probably a more widespread species but it is difficult to identify because of its minute size. All the three specimens above are wholly kept in plastic microvials with glycerol.

PORRICONDYLINAE

Only three questionable records were published in the Checklist (SKUHRVÁ 2001), and there was no voucher specimen of this subfamily in the Diptera Collection of the HNHM before. PAPP (2007) recorded two genera with one species each (*Dirhiza lateritia* LOEW, 1850 and *Holoneurus fulviventris* MAMAEV, 1964). One additional genus and species new for the Hungarian fauna are published below.

Diallactes croceus KIEFFER, 1894 – 1 male: Melegmány TT: Pécs, Melegmányi-patak fölött és mellett, 2006.05.26., leg. PAPP L. This belongs to one of the more readily identifiable species of the subfamily.

KEROPLATIDAE

Macrorrhyncha ancae MATILE, 1975 – 1 male: Zempléni TK: Füzér, Nagy-p. fölött, mellett, 2006.07.03., PAPP L. & FÖLDVÁRI M.; 1 male (HNHM): [Austria] “Heiligenblut 5. 8. 27., Old.bg” coll. OLDENBERG. A rare species, formerly known from France, Switzerland and the Czech Republic. New for the fauna of Austria and Hungary.

Macrorrhyncha ? italica (COSTA, 1857) – 1 male: Gyöngyössolymos, Lajosháza, Nagy-p. fölött és mellett, 360 m, 2008. jún. 12., leg. PAPP L.

Our specimen has wings of 4.2 mm. Metanotal setae numerous (11 setae there), terminal segments of abdomen brown.

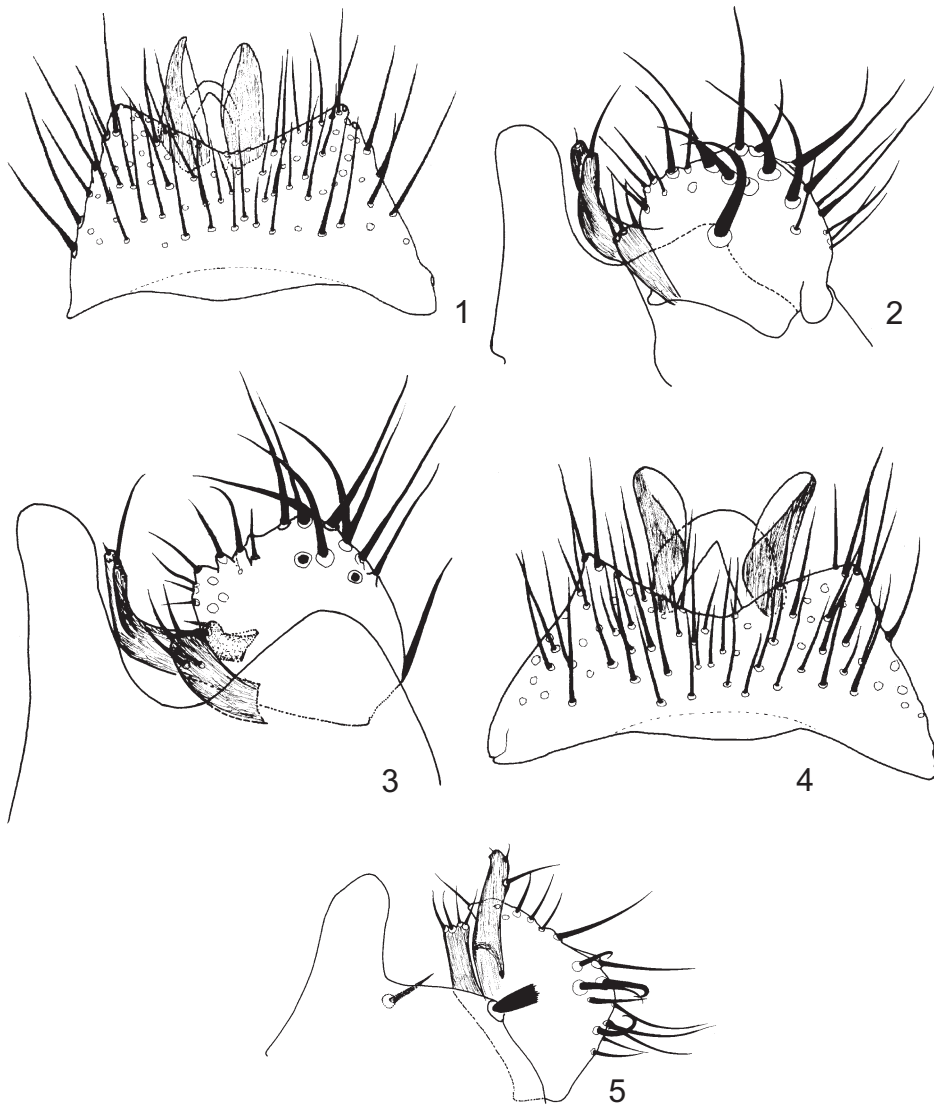
Male tergite 9 is longer than that of *M. flava* WINNERTZ, 1846 the bare cranial part particularly longer (Fig. 1, vs. Fig. 4). Gonostylus (Figs 2–3) though structurally same, as in *M. flava* (Fig. 5), but it is placed closer to the digitiform process. Its apical process is entirely different: while it is simple with long lateral seta in *M. flava* (Fig. 5), that process is curved and slightly bifid in our specimen; in addition, the long seta is apical (Figs 2–3). I would like to note that there is a *fascicle* of compressed black thick setae medially on gonocoxite. That is not a single thick thorn as given in MATILE (1975). It is true that they have a single (common) large socket.

MATILE (1975) studied the holotype female of *M. italica* (COSTA, 1857) carefully. The differences he found were repeated by CHANDLER *et al.* (2005), as follow: “Abdomen entirely yellow. Stem of median fork little more than twice as long as radiomedial fusion”. The coloration of abdomen in *M. flava* females is variable: their abdomen is mostly yellow except for segments 6–7, but in cases also sternite 6 is yellow (I saw 41 females in the HNHM). Stem of median fork 0.40 mm, R-M fusion 0.165 mm on the left side, 0.35 mm vs. 0.20 mm on the right side of our specimen, which shows in itself the uncertainty of this character. I cannot detect any diagnostic difference between fig. 21 (*M. italica*) and fig. 24 (*M. flava*) in MATILE’s figures. The appearance/absence of swelling at base of spermatheca (Fig. 23) is apparently a casual result of preparation. So I do not think that the two species are separable based on the female sex.

Since I am sure that the above specimen is not conspecific with *M. flava*, and there is no closer relative of *M. flava* among the known *Macrorrhyncha* species, I name it tentatively as *M. italica* (COSTA). In any case, it is the first occurrence of this species in Hungary.

Monocentrota lundstromi EDWARDS, 1925 (*M. lundströmi* EDWARDS, 1925, *M. lundstroemi*: incorrect subsequent spelling of authors, incl. PAPP 2001) – 2 males: Romania, Si-ghetu Marmatiei, meadow, orchard, Malaise trap, 369 m, 22–26.05.2006, leg. M. FÖLDVÁRI.

A species new to Romania. A rare species, known from the northern half of Europe, including the Czech Republic, Italy and France. It is expected to occur also in Hungary (cf. PAPP 2001).



Figs 1–5. *Macrorrhyncha* WINNERTZ, 1846 species, male genitalia. 1–3: *M. ? italica* (COSTA, 1857): 1 = tergite 9, ventral view, 2 = gonostylus, inner (medial) view, 3 = gonostylus, lateral view (same as for MATILE 1975: figs 16–20), 4–5: *M. flava* WINNERTZ, 1863: 4 = tergite 9, ventral view, 5 = gonostylus, inner (medial) view

Monocentrotia matilei BECHEV, 1989 – 2 males: Verőce, Magyarkút, Keskenybükkip. fölött és mellett, 2007. június 17., leg. PAPP L. 1 female: Mátrai TK: Parád, Vár-bükk, öreg lucfenyves, 2007.07.03., leg. PAPP L. They were netted over and beside those two old willow trees, where the original voucher specimens (see PAPP 2003b) were captured in the Börzsöny Mts and found it also in an old stand of spruce forest in the Mátra Mts.

RHAGIONIDAE (SPANIIDAE)

Spania nigra (MEIGEN, 1830) – 1 male: Romania, Văleni, Mori Stream, 620 m, 24.05. 2006, No. 6, leg. FÖLDVÁRI M. MAJER (1977) listed and keyed it under Rhagionidae as a species expected to occur in Hungary. It was captured at Pöstyén [Piešťany], Slovakia in the 19th century only. There is morphological evidence, through which *Spania* has been separated, in a distinct family, Spaniidae. New to Romania.

ATHERICIDAE

Ibisia marginata (FABRICIUS, 1781) – 4 females: Mátrai TK: Bátonyterenye, Sebestyénvári-patak, patak fölött, 2006.07.05., leg. PAPP, FÖLDVÁRI. 2 males 1 female: Gyöngyös: Mátraháza, “Kékes észak” erdőrezervátum, 2008.06.11., leg. PAPP LÁSZLÓ. These are the first records from the Mátra Mts. Formerly known from the environs of Sopron, from the Kőszeg Mts (Kőszeg: Hármaspatak, Hétforrás), Zempléni TK (Regéc: Ördög-völgy, Vajda-völgy, Füzér: László-tanya, Nagyhuta: Kemence-patak) and from the Duna-Ipoly NP (Börzsöny Mts: Szokolya: Szén-patak).

MYTHICOMYIIDAE

Platypygus bellus LOEW, 1869 – 13 males, 50 females: Mórahalom, Madarász-tó mellett, fátylvirág [on *Gypsophila*], 2006.6.23., leg. SZAPPANOS A. It was reported twice (PAPP 2003b, 2004b) from the sandy areas of the Kiskunság National Park, mostly collected on *Gypsophila*. The number of specimens above shows that it is not uncommon in some places there.

ATELESTIDAE

Atelestus dissonans COLLIN, 1961 – 2 males: Mátrai TK: Bátonyterenye, Sebestyénvári-patak, patak fölött, mellett, 2006.07.05., leg. PAPP, FÖLDVÁRI. These are the first males from Hungary. Both species of the genus are rare but they occur on mud of brooks of our low mountains. One female of *A. pulicarius* FALLÉN, 1816 from Budapest (Pestszentlőrinc: Péterhalmi-erdő, 2001.05.19.) is the only exception.

Nemedina almirabilis CHANDLER, 1981 – 1 male: Keleti-Mecsek TK, Óbánya, Óbányai-patak fölött és mellett, 2006. jún. 21., leg. PAPP L. & FÖLDVÁRI M.; 1 male: Melegmány TT: Komló, Mánfa, 2006. május 25., leg. PAPP L.; 1 female: Verőce, Magyarkút, Keskenybükki-patak völgye, patak mellett, 2003. június 9., leg. PAPP L. 1 male: Karancs-Medves TK: Somoskőújfalu, gyertyános, 460 m, Tőke-kút közelében, 2008. július 11., leg. PAPP L. SINCLAIR & PAPP (2004) published a redescription including that of the male genitalia based on specimens captured in the Melegmány TT (Pécs). The above data may indicate a wider distribution in Hungary (its type locality and only other occurrence is the Bükk Mts, Tardi [= Lator] stream valley, most likely above Cserépváralja).

Nemedina sp. n. – 1 male: Gyöngyös, Mátraháza, Kőrös-mocsár, Kékes erdőrezervátum, 2008. június 11., leg. PAPP L. This is a specimen without head; its abdomen with genitalia are prepared and preserved in a plastic microvial with glycerol. We will try to capture more specimens of this peculiar and taxonomically important species, whose male genitalia are much different from those of *N. almirabilis*.

BRACHYSTOMATIDAE

Brachystoma vesiculosum (FABRICIUS, 1794) – 1 female: Kelet-Mecsek TK: Komló, Zobákpusztá, Hidasi-völgy, patak fölött és mellett, 2006. május 24., leg. PAPP L.; 1 female: ibid., 2007.06.07. This peculiar genus is now regarded to belong to a separate family. This species was recorded for the first time only in 2003. Formerly it was captured in the inundation areas of the rivers Dráva and Danube.

EMPIDIDAE

Chelifera diversicauda COLLIN, 1927 – 1 male: Kelet-Mecsek TK, Óbánya: Óbányai-patak fölött és mellett, 2006. június 21., PAPP L. & FÖLDVÁRI M. New to Hungary.

Clinocera bipunctata (HALIDAY, 1833) – 1 male: Zempléni TK: Regéc, Vajda-völgy, 2007. június 27., Kemence-patak fölött és mellett, leg. PAPP L.; 1 male: Mátrai TK: Parád, Ilona-völgyi vízesés, 2007.07.04., leg. PAPP L.; 1 male: Gyöngyössolymos, Lajosháza, Nagyp. fölött és mellett, 360 m, 2008. jún. 12., leg. PAPP L. The above ones are the first records of this species from the Zempléni Mts. and from the Mátra Mts.; formerly known only from the Kőszegi Mts.

Ragas unica WALKER, 1837 – 1 female: Kelet-Mecsek TK, Óbánya, Óbányai-p. fölött és mellett, 2006. jún. 21., leg. PAPP & FÖLDVÁRI. This is the second specimen (the first female) of this very rare species from our country. The voucher specimen (a male) is from Jósvaló (Aggteleki NP).

Wiedemannia (Chamaedipsia) thienemanni WAGNER, 1982 – 1 male: B[ükki] NP.: Mályinka, Moldva-v., 425 m, 2003. márc. 19., leg. MURÁNYI D. “*Wiedemannia thienemanni* Wag.” det. B. J. SINCLAIR 2005; 1 female: *ibid.*, 580 m, forrás környéke, 2003.06.19. It is a less known species, formerly known from Austria and Poland only (not listed for the Czech or Slovak Republics). It is new to Hungary.

Wiedemannia (Eucelidia) zetterstedti (FALLÉN, 1826) – 1 male 1 female: Gyöngyösolymos, Lajosháza, Nagy-p. fölött és mellett, 360 m, 2008. jún. 12., leg. PAPP L. 2 females: Bükki NP.: Nagyvisnyó, Ablakoskő-v., patak mellett, 2005.XI.25., leg. FÖLDVÁRI. It is a widespread European species from the Pyrenees to the Caucasus. New for the Hungarian fauna, although I cannot exclude that the female of the “*Wiedemannia sp.*” of PAPP & FÖLDVÁRI (2002) is conspecific. That female was collected below the Bükk Mts (Kács, vízimalom zúgója, 1955.VIII.18., leg. Z. SEBESS).

PHORIDAE

Aenigmatias lubbockii (VERRALL, 1877) – 1 female: Mátrai TK: Parád, Vár-bükk, öreg lucfenyves [an old stand of spruce forest], 2007.07.03., leg. PAPP L. The body length of this specimen is 1.31 mm only, its tergite 5 evenly sclerotized, hind femur almost wholly reddish yellow (except for a small apical part). So I am rather sure of the identity of this specimen. A species new to Hungary.

Billotia inermis SCHMITZ, 1944 – 1 male: Kelet-Mecsek TK, Mecseknádasd, 2001. 05.28., Varasdi-patak fölött és mellett, leg. PAPP L.; 1 male: Verőce, Magyarkút, Keskenybükki-p. fölött és mellett, 2008. aug. 24., leg. PAPP L.; 1 male: *ibid.*, 2005.07.23.; 1 male: *ibid.*, Keskenybükki-p. v. [völgye], ernyősökről, 2001. júl. 26., leg. PAPP L.; 1 male: DINP.: Szokolya, Les-völgy, patak fölött, mellett, 2005.06.25, PAPP L.; 1 female: Hanság, Császárret, 1979.X.22., leg. SOÓS Á.; 1 female: Bükk-hg., Síkfőkút [actually Eger: Szőlőcskepuszta], 1978.VI.15., leg. PAPP L.; 1 female: Nagykovácsi, Júlia-major, talajcsapda, 1980. IX.17.–X.22. LENGYEL (2009) publishes the specimens from the most recent collections in Hungary. Formerly reported from Andorra (CARLES-TOLRÁ 2007), Austria, the Czech Republic and Slovakia only. It represents also a genus new for the Hungarian fauna.

Triphleba flexipalpis STROBL, 1927 – 1 male: Kőszegi TK: Kőszeg, Hétforrás, patak fölött, 2006. okt. 24., PAPP L. & FÖLDVÁRI M. This is the second specimen captured in Hungary, other records are from western and northern Europe.

Tubicera lichtwardti SCHMITZ, 1920 – 1 male: KNP: Fülöpháza, Strázsa-h. környéke, homokbuckás, 2004.06.10., PAPP L. The original voucher specimen from Gyón [now part of Dabas] was annihilated in 1956; reported again on a specimen captured near Pécs. The above specimen was captured not too far from Gyón, in a similar habitat (sand dune area).

MICROPEZIDAE

Neria femoralis (MEIGEN, 1826) – 1 male: Duna–Ipoly NP.: Szokolya, Les-völgy, patak fölött és mellett, 2008.05.11., PAPP L. A rare European species new to Hungary. For a long time it was expected to occur here (PAPP 2001).

STRONGYLOPHTHALMYIIDAE

Strongylophthalmyia ustulata (ZETTERSTEDT, 1847) – 1 female: Kőszegi TK: Kőszeg, Hétforrás, patak fölött, 2006. július 25., PAPP L. & FÖLDVÁRI M. 1 male, 3 females: ANP.: Aggtelek, Ménes-völgy, 2002. júl. 07., patak fölött és mellett, leg. PAPP L.; 1 male 1 female: Verőce, Magyarkút, Keskenybükki-p., patak mellett, 2002. július 24., leg. PAPP L. It was first reported from Verőcemaros [now Verőce], Magyarkút. It must live close to brooks in mountain forests and it must be rare in our country. Capturing several million dipterous specimens in the last 30 years in Hungary resulted only the above mentioned specimens.

PSEUDOPOMYZIDAE

Pseudopomyza atrimana (MEIGEN, 1830) – 1 male 1 female: Zempléni TK: Nagyhuta, Kőkapu, virágokról, 2002. júl. 05., leg. SZAPPANOS A.; 1 female: Kőszegi TK: Kőszeg, Hármaspatak fölött és mellett, 2000.07.25., leg. PAPP L.; 1 male: Kőszegi TK: Velem, Hosszú-völgy, Szerdahelyi-patak, földi bodza virágjáról, 2002. júl. 11., PAPP L. First recorded from the Őrség in Hungary. In the last – nearly 30 – years only these four specimens were captured, in spite of our considerable efforts. There may be some chance to collect it in brook (rivulet) valleys in our higher mountains in July.

AGROMYZIDAE

In 2008 a collection revision was made in the Diptera Collection of the HNHM and representatives of several species were found, which were not recorded from Hungary before. I have to call attention to a point. In the agromyzid part of the Checklist (PAPP & ČERNÝ 2001) we listed species mentioned by HENDEL (1931–36) from “Ungarn”, as valid records for Hungary, irrespective of the fact whether we possessed voucher specimens from the territory of present-day Hungary, or not (in most cases, not). So below I have to make sharp distinction between “first voucher specimen(s) from present-day Hungary” and “first record from Hungary”/”new for the Hungarian fauna”.

Agromyza flaviceps FALLÉN, 1823 – 1 female: Zempléni TK: Nagyhuta, Rostalló, ernyősökről [on umbellifers], 2007. június 26., PAPP L.; 1 female: Kelet-Mecsek TK: Komlói, Zobákpuszta, Hidasi-völgy, Petasitetum, 1999. május 28., leg. PAPP LÁSZLÓ; 1 female

(without head, wings and legs): Ugod KERTÉSZ [on reverse side of label] “1906.VI.2.” – “Agrom. flaviceps Fall.” [handwriting of unknown person]; Croatia, Zágráb, Kertész [on reverse side of label] “1906.VI.27.” – “Agrom. flaviceps” [HENDEL’s handwriting]. HENDEL (1931–36) did not list it from Hungary or Croatia. The Fauna Europaea lists it from middle belt of Europe from a number of countries (Great Britain and Denmark to Moldavia). New to Hungary and Croatia.

Agromyza pulla MEIGEN, 1830 (syn. *A. genistae* HENDEL, 1931: 121) – 1 male: Nagysitke, KERTÉSZ [on reverse side of label] “900.V.23.” – “Agromyza genistae H.” [HENDEL’s handwriting], F. HENDEL det. – [red label, unknown handwriting] “Typus” – [below red-bordered label] “genistae H.”; 1 female: same labels 1–2, but without the “type” labels. Both specimens were among those, which were returned to the HNHM from the Natural History Museum of Vienna decades after F. HENDEL’s death (see PAPP & ČERNÝ 2001).

I am sure that the above male is a syntype of *A. genistae*. HENDEL (1931–36) wrote “Banat” and “Rumänien”. Until receiving an opposing information, I presume, that he misinterpreted Nagysitke as a locality in Romania (it is in fact in Transdanubia, Hungary, now Sitke). In any case, it is the first record of this species from Hungary. In the Checklist it was listed as a species expected to occur, since we did *not* accept SURÁNYI’s (1942) data on mines (“*A. genistae*”) as voucher specimen.

Agromyza sulfuriceps STROBL, 1898 – 1 male: Ugod KERTÉSZ [on reverse side of label] “1906.VI.2.” – “Agromyza” [KERTÉSZ’s or HENDEL’s handwriting] – “Agromyza sulphuriceps Str.” K. A. SPENCER det. “1956”. SPENCER saw this specimen obviously in Vienna, since it was returned to the HNHM in 1988 only. First record for the Hungarian fauna (Fauna Europaea does not list it for Hungary).

Ophiomyia longilingua (HENDEL, 1920) – 1 female: Aranyosgadány, Arányos: Bolya, virágokról, 2007.06.06., PAPP L. Its proboscis is extremely long, if reflected backwards, it would reach 3rd abdominal segment. HENDEL’s (1931–36: 169) “Ungarn” did not specify locality and there was no specimen of this species in the material returned to the HNHM. So this may be regarded as a first record from Hungary. In any case, this is the first voucher specimen from the territory of present-day Hungary.

Ophiomyia rostrata (HENDEL, 1920) – 1 male: Ugod KERTÉSZ [on reverse side of label] “903.VI.1.”. Its male genitalia fit well to Spencer’s figure for *O. rostrata* (SPENCER 1976: fig. 102). A widespread species new to Hungary.

Ophiomyia simplex (LOEW, 1869) – 3 males, 1 female: Tolna, spárgából kelt [reared from asparagus], 2003.06.06., SZEŐKE KÁLMÁN. – “*Ophiomyia simplex* Lw. det. Darvas B.”. It was listed in the Checklist as a species expected to occur in Hungary only (the specimen from Csikszépvíz, Romania was mentioned). SAJÓ (1896) published a pest of asparagus from Hungary, which he named “*Agromyza maura* Meig.”. It was obviously a misidentification of *Ophiomyia simplex*; unfortunately SAJÓ (1896) did not mention any locality of Hungary. BODOR (1965) published the species first from Hungary, but his record was omitted from the Checklist, since we did not know that paper in 2001. In any case, no

voucher specimens from SAJÓ or BODOR have ever been received, so the above specimens are the first ones in the HNHM.

Amauromyza (Amauromyza) lamii (KALTENBACH, 1858) – 1 female (damaged, wings lost probably when returned to Budapest): Gyón KERTÉSZ [on reverse side of label] “1899.VIII.31.” – “Dizygom. lamii Kalt.” [HENDEL’s handwriting], F. HENDEL det. – “Amauromyza ♂ lamii (Kalt.) det J. T. Nowakowski 1958”. In the Checklist it was listed only as a species expected to occur, so this is the first record from present-day Hungary. It is close to *A. morionella* (ZETTERSTEDT, 1848), so I am afraid features of the male genitalia are the only safe base for their identification.

Amauromyza (Cephalomyza) chenopodivora SPENCER, 1971 – 5 males, 1 female: Tompa, park, 1962.VI.14., leg. ZSIRKÓ; 1 male: Budapest, Pestszentlőrinc, Péterhalmi-erdő, szilfacserjéről, 1993.V.31., leg. PAPP L.; 1 female: Csákvár, fennsík, 1961.VI.7., MIHÁLYI; 1 male: Dömsöd, Apajpuszta, láprét, 1973.V.24., BAJZA [ZSUZSA]-PAPP L.; 1 male: Kösze-gi-hegység, SOÓS Á., 938.V.15.; 1 male: Csór, ligetes legelő, 1993.V.12., leg. PAPP L.; 1 female: Dunaliget, ártér, MCs [Malaise trap], 1989.V.4. New to Hungary.

Amauromyza (Cephalomyza) flavifrons (MEIGEN, 1830) – PAPP & ČERNÝ (2001) listed it in the Checklist based on HENDEL’s (1931) “Ungarn”. Nowhere abundant, but actually widespread in Hungary on our low mountains (Aggteleki NP., Börzsöny, Bükk, Mátra, Mecsek Mts); found also at Pestszentlőrinc, a lowland part of Budapest. Collection data are from May 7 to July 31, except for a single specimen (Bükk, Oct 4).

Amauromyza (Cephalomyza) luteiceps (HENDEL, 1920) – 1 male: Hortobágy, halas-tó, 1960.VII.16., leg. TÓTH S. – “Amauromyza luteiceps (Hd.) Zlobin det. 1983”. This specimen was originally double-mounted in a bricklet of kerria but only a small piece of thorax was left on minuten pin. Head lost, all other parts were softened in hydroxide and kept in a plastic holder with a semi-globular impression and a separate plastic cover (a quadrate piece of). I presume that the preparative had been kept originally in a kind of liquid but that has evaporated long ago. The two plastic pieces were covered with minute sawdust like particles of unknown nature. Now it was washed in water and placed in a plastic microvial with glycerol. As far as I am informed, ZLOBIN has never published this specimen. Other specimens in the HNHM: 2 males, 1 female: Nyíregyháza, 1960.VII.26., leg. TÓTH S.; 1 female: Dömsöd, Apajpuszta [now Apaj], szikes legelő, 1958.V.22., leg. ZSIRKÓ. New for the Hungarian fauna.

Amauromyza (Cephalomyza) monfalconensis (STROBL, 1909) – 1 female: Csíkszépvíz FODOR [on reverse side of label] “1917.V.20.” – “Dizygom. monfalco-nensis Str.” [HENDEL’s handwriting] – “♀ monfalconensis (Strobl) det J. T. Nowakowski 1958”; 2 males: Kőszeg, Gyöngyös-p., rét, 1960.VII.10., leg. ZSIRKÓ; 1 male 1 female: Mátra-hegys., Rózsaszállás környéke/Pisztrángos tó, 1955.VI.20–27., MIHÁLYI & KAKASSNÉ; 1 male 1 female: Bükk-hg., 1957.VI.1., Bálvány, rét, leg. MIHÁLYI & ZSIRKÓ; 2 males: Tata, Fényes-forrás, 1963.VII.3., leg. HORVATOVICH; 2 males: Budapest, Látóhegy, 1957.VI.16., leg. SOÓS Á.; 1 male Budapest, Hármashatárhegy, 1970.V.29., leg. MIHÁLYI; 1 male: Tompa, park, 1962.VI.14.,

leg. ZSIRKÓ; 1 male, 2 females: Ócsa, égeres melletti rét/Öreg-Turján, 1958.VI.3/26., leg. KAKASSNÉ; 1 male: Öriszentpéter, Lugosi erdészház, erdei tisztás, 1980.VII.28–31., leg. PAPP L.; 3 females: Csévharaszt, rét, 1971.VI.30./ 1968.VI.19./ 1972. VI.19., leg. MAHUNKA, PAPP J./ SOÓS Á./ PAPP L.; Kis-Balaton, Diás-sziget, 1964. VII.8., leg. SOÓS; 1 female: Dobogókő, 1957.VI.14., leg. ZSIRKÓ; 1 female: Fót, rét, 1960.VII.1., leg. MIHÁLYI; 1 female: Öcs, Nagy-tó környéke, 1974.VII.4., leg. KASPER. We have not found any specimen hitherto, which would materialise HENDEL's (1931–36) "Ungarn" in his list of occurrence, so the above specimens are the voucher specimens from Hungary. Widespread but nowhere abundant in our country

Aulagromyza ENDERLEIN, 1936 – It is a larger genus, where identification in some species groups is difficult. After sorting into genera a good part of the Agromyzidae material, collected from/in Hungary after 1957 (nearly 15,000 individuals, only some 3,500 have been identified to species), I may say that three species seem to be common in our country. *A. orphana* (HENDEL, 1920) lives mainly on lowlands but also in the Börzsöny, Pilis and Bakony Mts. *A. discrepans* (VAN DER WULP, 1871) specimens are from the lowlands and from the Vértes, Börzsöny and Bükk Mts. The third species, *A. trivittata* (LOEW, 1873) seems somewhat rarer but widespread (Hanság, Kiskunság, Bakony, Mecsek, Börzsöny and Bükk Mts). As for this genus, data on our fauna have still been poor: 17 species were reported from the Czech Republic and only seven from Hungary (Checklist: 4, PAPP (2004b): 2, present paper: 1). In addition, an interesting rare species is reported below from Serbia.

Aulagromyza anomala (STROBL, 1893) – 1 male: Ugod KERTÉSZ [on reverse side of label] "1906. VI. 4." – "Phytagromyza anomala Str." [HENDEL's handwriting] F. Hen del det. 1 male: [Bükki NP.: Miskolc] Bükk-fennsík, Nagymező, 1959.IV.26., leg. TÓTH S. The first specimen was obviously identified by FRIEDRICH HENDEL, but he did not publish it. A species new for the Hungarian fauna.

Aulagromyza populicola (WALKER, 1853) – 1 male: Serbia, "Péte rvárad [Petrovaradin] 6.VII." In all probability it was collected in the 19th century. New to Serbia.

Aulagromyza zernyi (HENDEL, 1920) – 1 female: Nagysitke, KERTÉSZ [on reverse side of label] "1909.V.23." – "Zernyi H." [Hendel's handwriting], F. HENDEL det.; 1 female: [Kun]Peszér, KERTÉSZ [on reverse side of label] "1909.IV.25." – "Phytagromyza Zernyi H." [HENDEL's handwriting], F. HENDEL det. Now I found 3 males and 4 females as follow: 1 male, 1 female: Kiskunság NP., Ócsa, Bikarét, 1980.V.12., leg. PAPP L.; 1 male: Kiskunsági NP.: Ágasegyháza, erdő, 1979.V.4., leg. DRASKOVITS; 2 females: ibid., homokbuckás, 1978. V.9., leg. PAPP L./HOLLÓ; 1 male: Hortobágy [NP.], Egyek, Ohati erdő, "1975.IV.24.", fűháló, leg. PAPP L.; 1 female: Hanság, Ujudvar, ligeterdő, 1978.V.15., leg. SOÓS Á. HENDEL (1931–36) recorded it also from "Ungarn" under *Phytagromyza*. It is important to have newly collected material, incl. males, of this rare species.

Xenophytomyza atronitens (HENDEL, 1920) – 1 male: Hortobágyi NP., Egyek, Ohati halastó, 1976.VI.1., leg. PAPP L. An overlooked specimen in our collection. New to Hungary.

Liriomyza approximata (HENDEL, 1920) – 1 female (damaged, without head and left wing): Zircz PÁVEL [on reverse side of label] “VIII.16–20.1896” – “Dizygom. approximata” F. HENDEL det. – “Praspedomyza ♀ approximata (Hend.) det. J. T. Nowakowski 1958” – “Dizygomomyza approximata Hend. det. transcr. F. Hendel” [NOWAKOWSKI’s handwriting]. This species was only listed as expected to occur in Hungary. Now I do not see any reason not to accept the identification of those excellent workers in agromyzids. Of course, newly collected material is also needed from our country.

Liriomyza obliqua HENDEL, 1931 – 1 male: Ugod KERTÉSZ [on reverse side of label] “1906.VI.2.” – coll. Hendel – “Liriomyza obliqua H.” [HENDEL’s handwriting] F. Hendel det.

HENDEL’s (1931–36: 235) “Ungarn” must have been based on the syntype from “Mt. Meszes, Szilagy”, which is in Romania. One of the other syntypes, “Tátraháza, Kertész”, from Slovakia, is in the collection of the HNHM (a female in a bad condition, head and wings lost). Consequently, the above male is the voucher specimen (never published before) for the first record of *L. obliqua* from present-day Hungary. Unfortunately, *L. obliqua* was left out from the Checklist even as a species expected to occur. Otherwise in the HNHM there are representatives of several species of *Liriomyza* (*L. soror*, *L. tanacetii*, *L. taraxaci*), of which we have female specimen(s) identified by HENDEL or even a male but its genitalia do not agree with SPENCER’s (e.g. 1976) figures, so I do not publish them here.

Gymnophytomyza heteroneura (HENDEL, 1920) – 2 males: Budapest, Pestszentlőrinc, Péterhalmi-erdő, nyáras, 2008. május 25., leg. PAPP LÁSZLÓ. 2 males: ibid., nyáras, 2007. május 20.; 1 female: ibid., 2007.05.14.; 1 female: ibid., tölgyes, 2007.05.26. 1 male: Pörböly, Gemenci erdő, 1957.V.18., leg. MIHÁLYI; 1 female: Sarkad, Remetei erdő, 1963.V.29., leg. MIHÁLYI; 1 female: Csévharaszt, nyíres, 1968.VI.19., leg. SOÓS; 2 females: Tard, Sugaró, erdő/gyümölcsös, 1958.VI.9./10., leg. TÓTH S. 1 female: [Slovakia], Bártfa [Bardejov], Csergő h., 1969.VII.5., leg. MIHÁLYI. A small-bodied fly with scattered data on distribution: it was known from mid belt of Europe from Great Britain to Greece (to Spain in the south). Its first Hungarian record was from the Hortobágyi NP. New to Slovakia (see ČERNÝ & VÁLA 2006).

Ptochomyza asparagi HERING, 1942 – 2 females: KNP.: Fülöpháza, homokbuckás, 2006. május 16., PAPP L. & FÖLDVÁRI M. There are considerable difficulties in distinguishing the three species of the genus. In the lack of males, there is some doubt, but it is probable that the above identification is correct.

Phytobia betulivora SPENCER, 1969 – 3 males: Duna–Ipoly NP: Szokolya, Les-v., patak mellett, 2004. ápr. 12., leg. PAPP L.; 1 male: Csévharaszt, nyíres, 1972.IV.8., leg. MIHÁLYI – *Phytobia mallochii* ♂ Hend., det. L. PAPP 2000; 1 male: “Sopron, 1963. IV.26., leg. Ta[illeg.]”. This misidentification is mysterious for me, although I made it (the two species are so massively different). The species was described from North America but it was found also in the Czech Republic (ČERNÝ 2001). New to Hungary.

Phytobia cambii (HENDEL, 1931) – 2 males: Kiskunsági NP.: Kerekegyháza/Bugac, homokbuckás, 1978.V.9./V.11., leg. DRASKOVITS/HOLLÓ; 1 male: Szepesfürdő [an unidentifiable locality in Slovakia], 1961.VII.14., leg. ZSIRKÓ. Formerly I published it from Hargitafürdő [Hargita, Băi] (Romania), which I can confirm now. New to Hungary.

Phytobia carbonaria (ZETTERSTEDT, 1848) – I did not find any more specimens than those four males from Csévharaszt, which I published in 2001. Now I can confirm their identification.

Phytobia cerasiferae (KANGAS, 1935) (*P. errans*: PAPP 1983, misidentification) – 2 males: Hortobágy NP.: Újszentmargita, Malaise csapda, 1975.VI.3., leg. PAPP L.; 1 male: Duna–Ipoly NP.: Szokolya: Les-völgy, patak fölött és mellett, 2007.06.17., PAPP L. New to Hungary. I took measurements of one of the specimens. The ultimate section of vein M3+4 (of SPENCER, HENDEL's M4, vein Cu of authors) is 0.79 mm, its penultimate section is 0.57 mm long, ratio 1.39, contrarily wording in keys, like "Last section of vein M3+4 approximately 1 1/2 times length of penultimate". Of course, this is not an excuse for my misidentification in 1983. Actually, I did not make genitalia preparation that time; in most cases only a study of the male genitalia can be a basis for safe identification.

Phytobia errans (MEIGEN, 1830) – 2 males: Duna–Ipoly NP.: Szokolya, Les-völgy, patak fölött és mellett, 2007.06.17./2005.06.25, PAPP L. 1 male: Égervölgy TT: Pécs, patak fölött és mellett, 2006. június 16., PAPP L., FÖLDVÁRI M. Identification of *Phytobia* species must be done carefully. It occurs that representatives of three closely related species are captured at the same locality and time.

Phytobia lunulata (HENDEL, 1920) – 2 males: Jósavfő, Tengersizem-tó, 1992.VI.1./VII. 3., leg. TÓTH S.; 1 female: Budapest, Csúcshegy, 1972.V.21., leg. MIHÁLYI; 1 male, 1 female: Budapest, Irhásárok, 1957.VI.11., leg. KAKASSNÉ; 1 male: Budapest, Pestszentlőrinc, Péterhalmi-erdő, 2006.05.13., PAPP L.; 1 female: Nógrádszakál, erdő, 1957.VI.25., leg. LIPTHAY; 1 male: Zempléni TK: Füzér, Alsó-p. fölött, mellett, 2005.07.14., PAPP L., FÖLDVÁRI M.; 2 males: Bükk hg., Síkfőkút [actually Eger: Szőlőcskepuszta], 1973.VI.6./1978.VI.15., leg. PAPP L.; 1 female: ibid., 1973.VII.6., BAJZA [ZSUZSA]-PAPP [LÁSZLÓ]; 1 male: Ibafa: Gyűrűfű, kiszáradóban lévő patakmeder, 2007.06.24., TÓTH SÁNDOR; 1 male: Diósvizlő, 1959.V.20., leg. ZSIRKÓ; 1 female: Máriagyűd, 1959.V.20., karsztbokor erdő, leg. ZSIRKÓ; 1 male: Pécs, Misina, erdészház, Malaise csapda, 1999.V.28., leg. MAJER JÓZSEF; 1 female: Valkó, tölgyerdő, 1973. VI. 13., leg. STIEBERNÉ; 1 female: Kállósemjén, 1963.V.23., fénycsapda; 1 female: Őrsz[ent]Miklós, SZIL[ÁDY Z.], 932.V.30.; 1 male, 1 female: Tard, gyümölcsös/konyhakert, 1957.V.18./14., leg. TÓTH S.; 1 female: Slovakia, Szalonca [now Slavnica], Coll. FEKETE. This is the only easily identifiable species of the genus. New to Hungary.

Phytobia mallochi (HENDEL, 1920) – 3 males: Melegmányi TT: Komló, Mánfa, Kőlik környéke, 2007.06.18., PAPP L.; 1 male: DINP.: Szokolya, Les-völgy, patak fölött, mellett, 2005.06.25., PAPP L.; 1 male: Kőszegi TK: Kőszeg, Hétvezér-f. kifolyója, patak fölött, 2005.6.28., PAPP L., FÖLDVÁRI M. My record (PAPP 2001) was based on misidentification,

so only the above specimens are the true voucher specimens for its occurrence in Hungary. In addition, in the HNHM collection there are 16 males of *Phytobia* to be dissected and identified, including specimen(s) of an eighth species.

Phytomyza albiceps MEIGEN, 1830) – 1 male: Zempléni TK: Füzér, Nagy-p. fölött, mellett, 2005.07.12., PAPP L., FÖLDVÁRI M. Its identification based on a study of male genitalia. HENDEL (1931–36: 339) listed also from “Ungarn”, SURÁNYI (1942: 14) found mines, which must not be accepted as voucher specimens. So this is the first voucher specimen from present-day Hungary.

EPHYDRIDAE

Hydrellia frontosa BECKER, 1926 – 1 male: Kelet-Mecsek TK: Komló, Zobákpusztá, Hidasi-völgy, patak fölött és mellett, 2007.06.07., leg. PAPP L. 1 male 1 female: Kelet-Mecsek TK: Mecseknádasd, Varasdi-patak fölött és mellett, 2002.05.28., leg. PAPP L. [on all the three specimens] “*Hydrellia frontosa* Becker, det. ZATWARNICKI 2008”. This is an extremely rare species, formerly known from Slovakia and Romania only. New to Hungary.

Hydrellia parafrontosa L. PAPP, 1983 – 1 male: KNP.: Fülöpszállás, Kelemen-szék, 2006.08.19., PAPP L. & FÖLDVÁRI M. It was described from the Hortobágyi NP., its seems important to find it also from the Kiskunság.

Parydra mitis (CRESSON, 1930) – 1 male: Zempléni TK: Nagyhuta, Rostalló, Kemenec-patak, égeresek, 2000.07.05., PAPP L. – det. ZATWARNICKI 2008. It was described from Austria and it was found in Sweden, Germany, Poland, Czech Republic, Slovakia and Italy. New to Hungary.

Scatella lutosa (HALIDAY, 1833) – 1 male: KNP: Szabadszállás, Zab-szék, 2006. május 16., PAPP L. & FÖLDVÁRI M. New to Hungary; its occurrence has been expected since long (PAPP 1975).

Scatophila cribrata (STENHAMMAR, 1844) – 1 male: Kőszegi TK: Kőszeg, Hétforrás, patak fölött, 2006.03.29., PAPP L. & FÖLDVÁRI M. New to Hungary.

DROSOPHILIDAE

Paracacoxenus sp. – 16 males: Gyöngyös, Mátraháza, Honvéd üdülő, 2008. május 5., leg. L. PAPP & M. FÖLDVÁRI. PAPP (1973) listed it as a genus, which was expected to occur in Hungary. These are the first specimens ever captured in our country. *Paracacoxenus* HARDY, 1960 was mentioned by several authors as a subgenus of *Cacoxenus* LOEW, 1858, but as Dr GERHARD BÄCHLI (Zoological Museum, University Zürich) emphasized (pers. comm.), it deserves a full genus rank. Drs BÄCHLI and VILLELA embarked on a study for a

revision of the species. Dr BÄCHLI was kind enough to send me some figures illustrating the male genitalia of those species that they already resolved. Our specimens fit rather well one of the species they recognise. However, before the publication of their paper, it would be confusing (and unethical) to publish a name. Hopefully, data of our specimens above will be published with their revision. In any case, the genus is new for the Hungarian fauna.

HELEOMYZIDAE

Oldenbergiella calcarifera L. PAPP, 1980 – 1 male: Kőszegi TK: Kőszeg, Hármaspatak, patak fölött és mellett, 2006.03.29., PAPP L. & FÖLDVÁRI M.; 4 males: Mátrai TK: Parád, Ilona-völgy, vízesés környékén, 2007.10.11., leg. PAPP L., FÖLDVÁRI M., NYÁRÁDY K. This species was described from the Bükk Mts, where it is not rare in the late autumn – early winter period. It was found on lowlands on winter exceptionally (Budapest). We went to the Kőszeg Mts in order to capture the endemic species of *Oldenbergiella* CZERNY, 1924 in the Alps (*O. callosa* CZERNY, 1924 or *O. brumalis* CZERNY, 1924), but those two species have not been captured in Hungary.

ANTHOMYIIDAE

Zaphne divisa (MEIGEN, 1826) – 1 female: Kiskunsági NP: Szabadszállás, Zab-szék, iszapról, 2006. augusztus 15., leg. PAPP L. & FÖLDVÁRI M. New to the fauna of Hungary (*cf.* DARVAS 2001).

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Acknowledgements – I am grateful to Dr BRADLEY J. SINCLAIR (Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany) for the identification of the *Wiedemannia* species, to Dr TADEUSZ ZATWARNICKI (University of Opole, Poland) for the identification of some Ephydridae species and for double-checking my identifications. I would like to thank Dr GERHARD BÄCHLI for sending me copies of figures in their work in preparation and for his advice. This research was supported by the National R&D Programme, title: The origin and genesis of the fauna of the Carpathian Basin: diversity, biogeographical hotspots and nature conservation significance; contract no: 3B023-04.

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