

CONTRIBUTION TO THE CHIRONOMIDAE (DIPTERA) FAUNA OF LAKE BALATON AND ITS CATCHMENT AREA, WITH FIRST RECORDS OF NINE SPECIES FROM HUNGARY

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ADATOK A BALATON ÉS VÍZGYŰJTŐ TERÜLETE ÁRVASZÚNYOG-FAUNÁJÁHOZ (DIPTERA: CHIRONOMIDAE), KILENC FAJ ELSŐ MAGYARORSZÁGI ELŐFORDULÁSÁVAL

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ABSTRACT: Between 2006 and 2013 chironomid larvae and exuviae were occasionally collected at five sites in Lake Balaton and at 23 sites in springs and along watercourses in its catchment area. Altogether 3450 specimens (3140 exuviae and 310 larvae) were identified at species level, belonging to 128 species and two pupal exuvial forms. Nine species proved to be new to the Hungarian fauna (*Chaetocladius insolitus*, *Cladotanytarsus lepidocalcar*, *Eukiefferiella fuldensis*, *Limnophyes asquamatus*, *Metriocnemus tristellus*, *Orthocladius excavatus*, *Polypedilum arundineti*, *Tanytarsus excavatus*, *Tanytarsus glabrescens*). Moreover, seven species were collected in Lake Balaton for the first time, while 34 species were first recorded in its catchment area. In spite of the continuous intensive investigations, the strikingly large number of new species and new occurrences, with the fact that only sporadic collections were carried out, suggests that our knowledge on the chironomid fauna of the studied area is still limited.

Keywords: exuviae, larvae, faunistics, lake, stream, spring, channel

KIVONAT: 2006 és 2013 között árvaszúnyoglárva és exuviumok szórványos gyűjtését végeztük a Balatonon (öt hely) és vízgyűjtő területén (23 mintavételi hely kisvízfolyásokon, csatornákon és forrásokban). Összesen 128 fajba és két exuviumtípusba sorolható 3450 példányt (3140 exuviumot és 310 lárvát) azonosítottunk faji szinten. Kilenc faj előfordulását Magyarország területén először bizonyítottuk (*Chaetocladius insolitus*, *Cladotanytarsus lepidocalcar*, *Eukiefferiella fuldensis*, *Limnophyes asquamatus*, *Metriocnemus tristellus*, *Orthocladius excavatus*, *Polypedilum arundineti*, *Tanytarsus excavatus*, *Tanytarsus glabrescens*). Emellett hét faj a Balatonból, míg 34 faj a tó vízgyűjtő területéről került elő első alkalommal. Az új fajok és előfordulások feltűnően

nagy száma – figyelembe véve, hogy csak szórványgyűjtések történtek – arra utal, hogy a vizsgált terület árvaszűnyog-faunája a folyamatos intenzív felmérések ellenére is kevésbé ismert.

Kulcsszavak: exuvium, lárva, faunisztika, tó, patak, forrás, csatorna

Introduction

The chironomid fauna of Lake Balaton has received much attention: up to date 108 species have been recorded from the lake (MÓRA 2008). However, most of the studies focused on larvae, and therefore faunistical data based on identification of adults or exuviae were published only in few papers (see MÓRA 2008). Since there are several problems with the identification of larvae (e.g. closely related species often cannot be distinguished and larvae of many species are unknown), much more species can be identified as adults and pupal exuviae. Furthermore, larvae are usually collected using methods which are less sensitive to rare species (e.g. benthos samplers, core samplers). Moreover, previous studies were mainly restricted to only the benthic chironomid assemblages of the open-water area of the lake. Accordingly, the use of various sampling methods including collections of larvae (e.g. pond netting in different habitats), exuviae (e.g. Collection of Pupal Exuviae Technique) and adults (e.g. light traps) can increase the number of species recorded from the Lake Balaton.

In contrast with Lake Balaton, relatively little is known about the chironomid fauna of its catchment area. Information on the fauna of the inflows of the lake, as well as those of the most important stagnant waters (e.g. Kis-Balaton, Inner Lake at Tihany, Lake Hévíz) in the catchment area are summarized by MÓRA (2008). In addition, intensive collections were carried out in the sub-catchment area of the River Zala (MÓRA et al. 2008) and in the area of the Balaton Uplands (Káli basin and Fekete hill) (MÓRA et al. 2011), markedly increasing the number of species recorded in the catchment area of Lake Balaton. However, due to the high habitat heterogeneity (e.g. streams, channels, small lakes, fish ponds, marshes) much more species can be expected to occur in this area.

Furthermore, in certain cases checklists have to be reviewed according to new taxonomical results (e.g. VALLENDUUK 2013). Some of the most recent changes (SPIES and BOLTON 2013) concern the fauna of the catchment area of Lake Balaton. Accordingly, data published earlier (MÓRA et al. 2007a) on the occurrence of *Parachironomus* species need a revision.

In this paper new data on the chironomid fauna of Lake Balaton and its catchment area are given, largely based on sporadic samplings. Additionally, details on the Hungarian occurrence of a previously misidentified species, *Parachironomus cinctellus* (Goetghebuer, 1921), are also discussed.

Materials and methods

Between 2006 and 2013 chironomid larvae and pupal exuviae were sporadically collected at five sites in Lake Balaton and at 23 sites in springs and along watercourses in its catchment area (Table 1). For collection both of larvae and pupal exuviae a standard pond-net was used, excluding the open water area of Lake Balaton (at Balatonudvari in 2008 and at Tihany in 2011) where larvae were collected by Ekman benthos sampler.

Table 1. Sampling sites in Lake Balaton and its catchment area with their accurate geo-coordinates (WGS-84), 10×10 km UTM-grid codes and the year of collection. In the case of some geographical terms the original Hungarian form were left for the localities being more identifiable: csatorna, övcsatorna = channel; forrás, kút = spring; kis öböl = small bay; medence, m. = basin; patak, séd, víz = stream. Those sites where chironomids have never been collected before are marked with asterisks (*).

Sampling site	Latitude (N)	Longitude (E)	UTM	year
Balaton, Keszthelyi-medence (Keszthely)	46°44'04.92"	17°16'36.84"	XM77	2006
Balaton, Siófoki-medence (Siófok)	46°56'11.74"	18°06'05.80"	BT70	2006
Balaton, Siófoki-medence, kis öböl (Tihany)	46°54'51.74"	17°53'33.62"	YM29	2006, 2011
Balaton, Szemesi-medence (Zánka)	46°52'24.24"	17°43'32.52"	YM09	2006
Balaton, Szemesi-m., Fövenyes (Balatonudvari)	46°53'32.22"	17°47'26.39"	YM19	2008
Boronkai-patak, Boronka (Marcali)	46°35'06.85"	17°26'42.93"	XM86	2013
*Boronkai-patak (Somogyszénpál)	46°37'58.08"	17°26'33.10"	XM86	2013
*Cserkúti-patak (Szentantalfa)	46°54'54.71"	17°40'16.99"	YM09	2007
Edericsi-patak (Balatonederics)	46°48'02.28"	17°23'16.53"	XM88	2007
*Imremajori-csatorna (Balatonfenyves)	46°42'15.22"	17°28'58.65"	XM87	2013
*Király-kút (Felsőörs)	47°00'50.39"	17°55'51.36"	YN21	2008
Koloska-patak, Balatonarács (Balatonfüred)	46°57'27.40"	17°54'33.97"	YN20	2007
Lesence (Szigliget)	46°48'12.37"	17°24'16.13"	XM88	2007
*Marót-völgyi-csatorna (Szegerdő)	46°38'00.06"	17°15'48.20"	XM76	2009
*Nyugati-övcsatorna, Pálmajor (Balatonfenyves)	46°39'38.33"	17°27'28.36"	XM87	2013
Nyugati-övcsatorna (Balatonkeresztúr)	46°41'57.55"	17°22'53.25"	XM87	2013
*Nyugati-övcsatorna (Kéthely)	46°39'42.77"	17°25'05.86"	XM87	2013
Örvényesi-séd (Örvényes)	46°55'00.13"	17°49'03.47"	YM19	2007
*Pogány-völgyi-víz (Fonyód)	46°45'09.44"	17°34'03.46"	XM98	2013
Pogány-völgyi-víz (Lengyeltóti)	46°39'19.47"	17°36'30.54"	XM97	2013
*Pogány-völgyi-víz (Öreglak)	46°36'27.70"	17°37'54.62"	YM06	2013
*Remete-forrás (Balatnalmádi)	47°02'06.48"	17°59'52.32"	YN21	2008
*Római-forrás (Balatongyörök)	46°46'11.71"	17°21'47.21"	XM88	2009
Tapolca (Raposka)	46°51'00.75"	17°25'18.89"	XM89	2007
Tapolca (Tapolca)	46°51'48.00"	17°26'01.06"	XM89	2007
Tetves-patak (Balatonszemes)	46°48'06.16"	17°44'43.34"	YM08	2013
Tetves-patak (Somogybabod)	46°40'51.61"	17°46'41.11"	YM17	2013
Tetves-patak (Visz)	46°43'50.63"	17°46'32.69"	YM17	2013

All specimens were prepared and mounted on microscope slides for detailed investigations. Larvae were identified using the keys by CRANSTON (1982), JANECEK (1998), KLINK and MOLLER PILLOT (2003), STUR and EKREM (2006) and WIEDERHOLM (1983). Keys and descriptions by EKREM (2004), LANGTON and VISSER (2003), OYEWU and SÆTHER (2008), ROSSARO et al. (2003), SÆTHER (1990), STUR and EKREM (2006) and TANG et al. (2004) were used for identification of exuviae. The nomenclature follows SÆTHER and SPIES (2013) for species names and LANGTON and VISSER (2003) for pupal exuvial forms.

In the species list new records contain the following information: the locality (with administration unit), the date of collection, the total number of individuals identified as larvae (l) or exuviae (e) and the names of collectors in alphabetic order. The dates of collection are listed in Hungarian order (YYYY.MM.DD). The names of

collectors are given by abbreviations: DCs = Csaba Deák, DG = Géza Dobos, IK = Katalin Ihász, MA = Arnold Móra, MB = Beáta Maroskövi, MK = Kristóf Málnás, PL = László Polyák, SA = András Specziár, Szi = Ildikó Szivák.

New occurrences (i.e. the species has not been previously found at the given site) are marked with asterisks (*) in the species list. It must be noted that in the case of some literature data the sampling sites are given only in general (e.g. Nyugati-övcSATORNA, Balaton) without any details (e.g. administration unit, geo-coordinates), making these sites not correctly identifiable. In these cases data published here are regarded as new records. In rare species short notes on their Hungarian distribution are also given.

Results and discussion

General remarks

Altogether 3450 specimens (3140 exuviae and 310 larvae) were identified at species level, belonging to 128 species and two pupal exuvial forms. Subfamily Chironominae was dominant with 75 species, followed by Orthoclaadiinae, Tanypodinae, Prodiamesinae and Diamesinae with 39, 13, 2, 1 species respectively. Most of the species were found at less than five sites, most likely due to sporadic collections (i.e. sites were generally visited once).

Nine species proved to be new to the Hungarian fauna (*Chaetocladius insolitus*, *Cladotanytarsus lepidocalcar*, *Eukiefferiella fuldensis*, *Limnophyes asquamatus*, *Metriocnemus tristellus*, *Orthocladus excavatus*, *Polypedilum arundineti*, *Tanytarsus excavatus*, *Tanytarsus glabrescens*). Seven species were collected in Lake Balaton for the first time (*Chironomus nuditarsis*, *Cladotanytarsus lepidocalcar*, *Cricotopus festivellus*, *Lipiniella moderata*, *Stenochironomus gibbus*, *Stictochironomus crassiforceps*, *Xenochironomus xenolabis*).

In the catchment area of Lake Balaton (excluding the sub-catchment of the River Zala) 34 species were found at first (*Anatopynia plumipes*, *Chaetocladius insolitus*, *Chironomus cingulatus*, *Ch. dorsalis*, *Ch. pseudothummi*, *Chironomus pe24*, *Cladopelma goetghebueri*, *Cricotopus festivellus*, *C. ornatus*, *Dicrotendipes lobiger*, *Eukiefferiella fuldensis*, *Glyptotendipes paripes*, *G. signatus*, *G. viridis*, *Hydrobaenus distylus*, *H. pilipes*, *Labrundinia longipalpis*, *Limnophyes asquamatus*, *Metriocnemus tristellus*, *Orthocladus glabripennis*, *O. pedestris*, *Parachironomus parilis*, *Paratanytarsus grimmii*, *P. tenellulus*, *Polypedilum arundineti*, *Prosilocerus lacustris*, *Synorthocladus semivirens*, *Tanytarsus eminulus*, *T. excavatus*, *T. glabrescens*, *T. medius*, *T. mendax*, *T. pallidicornis*, *Zavreliella marmorata*).

Furthermore, 261 of the 338 new records represent new occurrences, i.e. the species has not been previously found at the given site.

The surprisingly large number of species can be explained in several ways. First of all, large number of species might be due to the high habitat heterogeneity, since different species can be found in springs, streams or lakes (ARMITAGE et al. 1995). Furthermore, the stream-bed of some inflows suffered remarkable modifications resulted in slow-flowing and densely vegetated reaches, which are favorable not only for lotic but for lentic species as well. Additionally, some inflows are closely connected to fish-ponds or marshes, causing the appearance of specimens of lentic species that drifted downstream. On the other hand, our collections were largely carried out in early spring (in March and April), when chironomids have almost never been collected before, especially in the catchment

area of the Lake Balaton. Therefore, the timing of collections might also contribute to the large number of species with new records (particularly Orthoclaadiinae species). Lastly, the majority of new records are based on investigation of pupal exuviae, which is more appropriate to identify species than studying larvae (e.g. MÓRA et al. 2007b).

In spite of the continuous intensive investigations, the strikingly large number of new species and new occurrences, with the fact that only sporadic collections were carried out, suggests that our knowledge on the chironomid fauna of the studied area is still limited. Accordingly, although the Lake Balaton and its catchment area are among the most studied territories of Hungary in terms of Chironomidae fauna, we can assume that it still remained largely uncovered.

On the Hungarian occurrence of *Parachironomus cinctellus* (Goetghebuer, 1921)

The occurrence of *Parachironomus cinctellus* in Hungary was published in the Fauna Europaea database (SÆTHER and SPIES 2013). However, details are presented here for the first time.

As SPIES and BOLTON (2013) stated, the pupal morphotype keyed as *Parachironomus vitiosus* (Goetghebuer, 1921) in LANGTON and VISSER (2003) belongs to *P. cinctellus*. There are three known records on the occurrence of *P. vitiosus* from Hungary. The first record was published in MÓRA et al. (2007a) based on investigation of a single exuviae found in an inflow of Lake Balaton (Eger-víz at Hegyesd). According to the above mentioned works, this exuviae belongs to *P. cinctellus*, representing the first record of this species in Hungary. The second data on the occurrence of *P. vitiosus* from the Kis-Duna at Kismaros (MÓRA et al. 2010a) was also based on identification of exuviae, and therefore considers to *P. cinctellus* too. At the same time, the third Hungarian record of *P. vitiosus* from the reservoir Kiskörei-tározó was based on investigation of adults (CSÉPES et al. 2012), thus this species remained as a member of the Chironomidae fauna of Hungary.

Detailed and annotated list of species

Tanypodinae

Ablabesmyia (Ablabesmyia) longistyla Fittkau, 1962 — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 2e, MA — *Nyugati-övcsatorna, Pálmajor (Balatonfenyves): 2013.07.18., 5e, MA — *Nyugati-övcsatorna (Balatonkeresztúr): 2013.07.18., 1e, MA — *Nyugati-övcsatorna (Kéthely): 2013.07.18., 2e, MA.

Ablabesmyia (Ablabesmyia) phatta (Egger, 1864) — Edericsi-patak (Balatonederics): 2007.04.21., 1e, IK-MA-MB.

Anatopynia plumipes (Fries, 1823) — *Pogány-völgyi-víz (Lengyeltóti): 2013.03.13., 1e, MA. — Only four data on occurrence of this species have been published in Hungary: beside three records older than 50 years (see MÓRA and DÉVAI 2004), *A. plumipes* was more recently found only in an oxbow lake along the River Tisza (TÓTH et al. 2008).

Conchapelopia melanops (Meigen, 1818) — *Király-kút (Felsőörs): 2008.04.20., 1e, MA-Szl — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB.

Guttipelopia guttipennis (van der Wulp, 1861) — *Nyugati-övcsatorna (Kéthely): 2013.07.18., 1e, MA. — The Hungarian distribution of this species is very sporadic: it is only known from the environs of Szeged and from Lake Balaton and two of its inflows (see MÓRA and DÉVAI 2004; MÓRA et al. 2007a).

Labrundinia longipalpis (Goetghebuer, 1921) — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 11e, MA. — This species were previously recorded only from the Szigetköz in Hungary, where larvae were collected (ÁRVA et al. 2011). Thus, this is the first occurrence of the species in the catchment area of Lake Balaton, and the first Hungarian data based on identification of exuviae.

Macropelopia nebulosa (Meigen, 1804) — *Római-forrás (Balatongyörök): 2009.05.13., 1e, IK-MA.

Monopelopia tenuicalcar (Kieffer, 1918) — *Edericsi-patak (Balatonederics): 2007.04.21., 2e, IK-MA-MB – *Lesence (Szigliget): 2007.04.21., 6e, IK-MA-MB – *Marót-völgyi-csatorna (Szegerdő): 2009.05.13., 1e, IK-MA – *Nyugati-övcatorna, Pálmajor (Balatonfenyves): 2013.07.18., 1e, MA.

Paramerina cingulata (Walker, 1856) — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB. — There are only two earlier data of this species from Hungary: a 60-year-old record from Budapest (ZILÁHI-SEBESS 1944), and a more recent one from the Nagymetszés-patak (=Büdös-gáti-víz) in the catchment area of Lake Balaton (PONYI et al. 2001). Moreover, our data is the first Hungarian one based on identification of exuviae.

Procladius (Holotanypus) choreus (Meigen, 1804) — Balaton, Szemesi-medence, Fövenyes (Balatonudvari): 2008.07.16., 3l, DG-MA – Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 8e, DG-MA-SA – Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 15e, MA; 2006.06.27., 11e, MA; 2011.09.06., 30l, DG-MA.

Psectrotanypus varius (Fabricius, 1787) — *Pogány-völgyi-víz (Lengyeltóti): 2013.03.13., 1e, MA.

Tanypus (Tanypus) kraatzi (Kieffer, 1912) — *Edericsi-patak (Balatonederics): 2007.04.21., 9e, IK-MA-MB – *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB – *Nyugati-övcatorna (Balatonkeresztúr): 2013.07.18., 6e, MA – *Nyugati-övcatorna (Kéthely): 2013.07.18., 4e, MA.

Tanypus (Tanypus) punctipennis Meigen, 1818 — Balaton, Szemesi-medence, Fövenyes (Balatonudvari): 2008.07.16., 1l, DG-MA – Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 19e, MA; 2006.06.27., 12e, MA; 2011.09.06., 7l, DG-MA – *Nyugati-övcatorna (Balatonkeresztúr): 2013.07.18., 1e, MA.

Diamesinae

Diamesa (Diamesa) tonsa (Haliday, 1856) — *Koloska-patak, Balatonarács (Balatonfüred): 2007.04.14., 3e, DCs-IK-MA-MK-PL. — In Hungary this species was first collected from the Burnót-patak (MÓRA et al. 2007a) in the catchment area of Lake Balaton. Since then it was only found in the Szentendrei-Duna (MÓRA and FARKAS 2012), a side-arm of the River Danube, thus this new record is the third one from Hungary.

Prodiamesinae

Odontomesa fulva (Kieffer, 1919) — *Tapolca (Raposka): 2007.04.14., 1e, DCs-IK-MA-MK-PL – *Tetves-patak (Somogybabod): 2013.03.13., 1e, MA. — Although only one old record has been known from Hungary for a long time (see MÓRA and DÉVAI 2004), *O. fulva* seems to be a widely distributed species in the hilly and mountainous streams of the Transdanubian region (MÉHES et al. 2012; MÓRA et al. 2007a, 2008).

Prodiamesa olivacea (Meigen, 1818) — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 1e, MA.

Orthocladiinae

Acricotopus lucens (Zetterstedt, 1850) — Edericsi-patak (Balatonederics): 2007.04.21., 10e, IK-MA-MB – *Lesence (Szigliget): 2007.04.21., 28e, IK-MA-MB – *Nyugati-övcSATORNA, Pálmajor (Balatonfenyves): 2013.03.20., 1e, MA.

Brillia bifida (Kieffer, 1909) — Tetves-patak (Somogybabod): 2013.03.13., 1e, MA.

Chaetocladius (Chaetocladius) insolitus Caspers, 1987 — *Pogány-völgyi-víz (Lengyeltóti): 2013.03.13., 1e, MA – *Pogány-völgyi-víz (Öreglak): 2013.03.13., 1e, MA. — This species is new to the Hungarian fauna (see MÓRA 2012). It is known from Austria, Germany, North Ireland, Switzerland and Ukraine (SÆTHER and SPIES 2013), but so far it was not expected to occur in Hungary (MÓRA and DÉVAI 2004). However, the morphological characters of the collected specimens clearly fit in with the description by LANGTON and VISSER (2003).

Chaetocladius (Chaetocladius) piger (Goetghebuer, 1913) — *Tetves-patak (Balatonszemes): 2013.03.13., 1e, MA – *Tetves-patak (Víz): 2013.03.13., 1e, MA. — This species was only recorded from three sites in Hungary: Szalajka-patak, Bükk Mts. (NAGY et al. 2007), Örvényesi-séd, Balaton Uplands (MÓRA and SZIVÁK 2012) and Szigetköz (ÁRVA et al. 2011). All these previous records were based on investigation of larvae, thus our data are the first ones based on identification of exuviae in Hungary.

Corynoneura coronata Edwards, 1924 — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 1e, MA – *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB – *Tetves-patak (Víz): 2013.03.13., 1e, MA. — This species, similarly to other members of the genus, is often overlooked during collections due to its small size, which might cause the very few known occurrences in Hungary: larvae of the species were found only in the Eger-víz in the catchment area of Lake Balaton (MÓRA and BÍRÓ 2007) and in the Gemenc Landscape Protection Area along the River Danube (ÁRVA et al. 2011). Moreover, these new records are the first Hungarian ones based on identification of exuviae.

Corynoneura lobata Edwards, 1924 — *Tapolca (Tapolca): 2007.04.14., 1e, DCs-IK-MA-MK-PL – *Tetves-patak (Víz): 2013.03.13., 3e, MA.

Corynoneura scutellata Winnertz, 1846 — *Edericsi-patak (Balatonederics): 2007.04.21., 1e, IK-MA-MB – *Nyugati-övcSATORNA, Pálmajor (Balatonfenyves): 2013.03.20., 1e, MA – *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.03.20., 1e, MA – *Nyugati-övcSATORNA (Kéthely): 2013.03.20., 29e, MA – *Tetves-patak (Balatonszemes): 2013.03.13., 1e, MA.

Cricotopus (Cricotopus) bicinctus (Meigen, 1818) — Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 27e, MA; 2011.08.31., 4l, MA – *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 1e, MA – Lesence (Szigliget): 2007.04.21., 3e, IK-MA-MB – *Pogány-völgyi-víz (Öreglak): 2013.03.13., 1e, MA – *Tapolca (Raposka): 2007.04.14., 4e, DCs-IK-MA-MK-PL – Tapolca (Tapolca): 2007.04.14., 1e, DCs-IK-MA-MK-PL.

Cricotopus (Cricotopus) festivellus (Kieffer, 1906) — *Balaton, Keszthely-medence (Keszthely): 2006.04.27., 22e, DG-MA-SA – *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 1e, MA; 2006.06.27., 1e, MA – *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 1e, MA – *Lesence (Szigliget): 2007.04.21., 8e, IK-

MA-MB – *Örvényesi-séd (Örvényes): 2007.04.21., 1e, IK-MA-MB. — Previously this species was only collected at one site along the River Tisza (MÓRA et al. 2006) and at two sites in the catchment area of the River Zala (MÓRA et al. 2008). According to that *C. festivellus* was found both in Lake Balaton and its inflows the species seems to be widely distributed in this area.

Cricotopus (Cricotopus) vierriensis Goetghebuer, 1935 — *Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 1e, DG-MA-SA – *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.06.27., 6e, MA. — The first Hungarian occurrence of *C. vierriensis* was mentioned from Lake Balaton (SZÍTÓ et al. 1996), where it most likely to be a common species according to our new results. Despite the few Hungarian data from rivers, such as the Tisza (MÓRA et al. 2006), Zala (MÓRA et al. 2008), Szentendrei-Duna (MÓRA and FARKAS 2012) and Sajó (MÓRA et al. 2013), *C. vierriensis* can be assumed as a characteristic species in Hungarian rivers too.

Cricotopus (Isocladius) intersectus (Stæger, 1839) — Edericsi-patak (Balatonederics): 2007.04.21., 3e, IK-MA-MB – *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 5e, MA.

Cricotopus (Isocladius) ornatus (Meigen, 1818) — *Edericsi-patak (Balatonederics): 2007.04.21., 1e, IK-MA-MB – *Lesence (Szigliget): 2007.04.21., 4e, IK-MA-MB. — There are only two old records on the occurrence of *C. ornatus* in Hungary, from the Mecsek Mts. (GEBHARDT 1962) and the Great Hungarian Plain (SZÍTÓ 1970). Thus, this is the first occurrence of the species in the catchment area of Lake Balaton. Furthermore, these are the first Hungarian data based on identification of exuviae.

Cricotopus (Isocladius) sylvestris (Fabricius, 1794) — *Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 2e, DG-MA-SA – Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 8e, MA; 2006.06.27., 1e, MA; 2011.08.31., 12l, MA; 2011.09.06., 7l, DG-MA – Edericsi-patak (Balatonederics): 2007.04.21., 5e, IK-MA-MB – Lesence (Szigliget): 2007.04.21., 46e, IK-MA-MB – *Marót-völgyi-cSATORNA (Szeged): 2009.05.13., 1e, IK-MA – *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 5e, MA – *Örvényesi-séd (Örvényes): 2007.04.21., 1e, IK-MA-MB.

Diplocladius cultriger Kieffer, 1908 — *Boronkai-patak, Boronka (Marcali): 2013.03.20., 1e, MA – *Pogány-völgyi-víz (Lengyeltóti): 2013.03.13., 1e, MA – *Pogány-völgyi-víz (Öreglak): 2013.03.13., 1e, MA – *Tetves-patak (Somogybabod): 2013.03.13., 39e, MA – *Tetves-patak (Visz): 2013.03.13., 15e, MA. — This species was only recorded from reservoir Kiskőrei-tározó, two inflows of Lake Balaton, the River Zala and one of its tributaries (see MÓRA and DÉVAI 2004; MÓRA et al. 2007a, 2008). According to our new results *D. cultriger* is probably more common than it seemed based on the few earlier data.

Eukiefferiella claripennis (Lundbeck, 1898) — *Edericsi-patak (Balatonederics): 2007.04.21., 1e, IK-MA-MB – *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB – *Tapolca (Raposka): 2007.04.14., 6e, DCs-IK-MA-MK-PL.

Eukiefferiella fuldensis Lehmann, 1972 — *Koloska-patak, Balatonarács (Balatonfüred): 2007.04.14., 1e, DCs-IK-MA-MK-PL – *Tapolca (Raposka): 2007.04.14., 2e, DCs-IK-MA-MK-PL. — This species was found in Hungary for the first time (see MÓRA 2012). Although *E. fuldensis* is a widespread species in Europe, occurring in more neighboring countries, i.e. Austria, Slovakia and Ukraine (SÆTHER and SPIES 2013), it was not listed among the species expected to occur in Hungary (MÓRA and DÉVAI 2004).

Eukiefferiella gracei (Edwards, 1929) — *Koloska-patak, Balatonarács (Balatonfüred): 2007.04.14., 148e, DCs-IK-MA-MK-PL – *Pogány-völgyi-víz (Öreglak): 2013.03.13., 7e, MA – *Tetves-patak (Visz): 2013.03.13., 72e, MA.

Hydrobaenus distylus (Potthast, 1914) — *Boronkai-patak (Somogyszentpál): 2013.03.20., 1e, MA — *Imremajori-csatorna (Balatonfenyves): 2013.03.20., 2e, MA — *Nyugati-övcatorna, Pálmajor (Balatonfenyves): 2013.03.20., 6e, MA — *Nyugati-övcatorna (Balatonkeresztúr): 2013.03.20., 2e, MA — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 14e, MA — *Tetves-patak (Balatonszemes): 2013.03.13., 7e, MA — *Tetves-patak (Visz): 2013.03.13., 5e, MA. — Beside two, more than 30-year-old records (see MÓRA and DÉVAI 2004), this species was recently found only in the River Sajó (MÓRA et al. 2013). In contrast, our results show that this species is common in streams in the catchment area of Lake Balaton, where it was found for the first time.

Hydrobaenus pilipes (Malloch, 1915) — *Boronkai-patak, Boronka (Marcali): 2013.03.20., 13e, MA — *Boronkai-patak (Somogyszentpál): 2013.03.20., 3e, MA — *Imremajori-csatorna (Balatonfenyves): 2013.03.20., 401e, MA — *Nyugati-övcatorna, Pálmajor (Balatonfenyves): 2013.03.20., 114e, MA — *Nyugati-övcatorna (Balatonkeresztúr): 2013.03.20., 48e, MA — *Nyugati-övcatorna (Kéthely): 2013.03.20., 17e, MA — *Pogány-völgyi-víz (Fonyód): 2013.03.13., 34e, MA — *Pogány-völgyi-víz (Lengyeltóti): 2013.03.13., 149e, MA — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 4e, MA — *Tetves-patak (Balatonszemes): 2013.03.13., 91e, MA. — According to our results *H. pilipes* is a quite frequent species in streams in the catchment area of Lake Balaton, although there has been only one unambiguous record for this species in Hungary (see MÓRA and DÉVAI 2004).

Limnophyes asquamatus Andersen, 1937 — *Nyugati-övcatorna (Kéthely): 2013.03.20., 4e, MA — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 1e, MA — *Tetves-patak (Balatonszemes): 2013.03.13., 3e, MA — *Tetves-patak (Visz): 2013.03.13., 3e, MA. — New species in the Hungarian fauna (see MÓRA 2012). Although it is distributed in a large part of Europe (including Austria and Slovakia) (SÆTHER and SPIES 2013), it was not listed among the species expected to occur in Hungary (see MÓRA and DÉVAI 2004).

Metriocnemus (Metriocnemus) tristellus Edwards, 1929 — *Boronkai-patak, Boronka (Marcali): 2013.03.20., 1e, MA — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 1e, MA. — New species in the Hungarian fauna (see MÓRA 2012). It is known from many countries of Europe with the closest occurrence to Hungary in Romania (SÆTHER and SPIES 2013). However, it was not listed among the species expected to occur in our country (see MÓRA and DÉVAI 2004).

Nanocladius (Nanocladius) rectinervis (Kieffer, 1911) — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 26e, MA — *Tapolca (Tapolca): 2007.04.14., 6e, DCs-IK-MA-MK-PL.

Orthocladius (Euorthocladius) thienemanni Kieffer, 1906 — *Pogány-völgyi-víz (Lengyeltóti): 2013.03.13., 2e, MA — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 16e, MA — *Tetves-patak (Somogybabod): 2013.03.13., 2e, MA — *Tetves-patak (Visz): 2013.03.13., 264e, MA.

Orthocladius (Orthocladius) excavatus Brundin, 1947 — *Lesence (Szigliget): 2007.04.21., 3e, IK-MA-MB. — This is the first unambiguous occurrence of *O. excavatus* in Hungary. However, the earlier European records (including Hungarian data as well) of the congeneric *O. obumbratus* Johannsen, 1905 were certainly based on misidentification, and consider to other species, among them *O. excavatus* (see ROSSARO et al. 2003). Accordingly, due to the taxonomical problems, the European distribution of *O. excavatus* is not accurately known and this species was listed in the Fauna Europaea (SÆTHER and SPIES 2013) with questionable Hungarian occurrence. However, pupal exuviae, found in our study, enables clear identification on the basis of the work by ROSSARO et al. (2003).

Orthocladius (Orthocladus) glabripennis (Goetghebuer, 1921) — *Lesence (Szigliget): 2007.04.21., 2e, IK-MA-MB — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.03.20., 2e, MA — *Pogány-völgyi-víz (Fonyód): 2013.03.13., 8e, MA — *Pogány-völgyi-víz (Lengyeltóti): 2013.03.13., 9e, MA — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 5e, MA — *Tetves-patak (Balatonszemes): 2013.03.13., 1e, MA — *Tetves-patak (Visz): 2013.03.13., 59e, MA. — Despite that *O. glabripennis* has only been recorded from a very few sites in Hungary (MÓRA and FARKAS 2012; MÓRA et al. 2008, 2013), it proved to be fairly common in the catchment area of Lake Balaton. On the basis of the occurrences available up to date, a wider Hungarian distribution can be assumed for this species.

Orthocladius (Orthocladus) oblidens (Walker, 1856) — *Tapolca (Raposka): 2007.04.14., 1e, DCs-IK-MA-MK-PL.

Orthocladius (Orthocladus) pedestris Kieffer, 1909 — *Tetves-patak (Visz): 2013.03.13., 19e, MA. — This species was rarely found in Hungary, known only from some streams (see MÓRA and DÉVAI 2004) and the Rivers Zala and Sajó (MÓRA et al. 2008, 2013). Accordingly, this is its first occurrence in the catchment area of Lake Balaton.

Orthocladius (Orthocladus) rhyacobius Kieffer, 1911 — Koloska-patak, Balatonarács (Balatonfüred): 2007.04.14., 146e, DCs-IK-MA-MK-PL — *Tetves-patak (Visz): 2013.03.13., 14e, MA. — Earlier Hungarian records of *O. obumbratus* may be considered to this species, as well as to *O. excavatus* (see above). Exuviae of *O. rhyacobius* can be identified on the basis of the work by ROSSARO et al. (2003). In contrast with *O. excavatus*, *O. rhyacobius* is known from several streams and rivers (inflows of Lake Balaton, Szentendrei-Duna, Rivers Sajó and Tisza) in Hungary (MÓRA and FARKAS 2012; MÓRA et al. 2006, 2007a, 2013).

Orthocladius (Orthocladus) rubicundus (Meigen, 1818) — *Tapolca (Raposka): 2007.04.14., 4e, DCs-IK-MA-MK-PL.

Paracricotopus niger (Kieffer, 1913) — Koloska-patak, Balatonarács (Balatonfüred): 2007.04.14., 10e, DCs-IK-MA-MK-PL.

Parametriocnemus stylatus (Spärck, 1923) — Koloska-patak, Balatonarács (Balatonfüred): 2007.04.14., 3e, DCs-IK-MA-MK-PL — *Tapolca (Raposka): 2007.04.14., 2e, DCs-IK-MA-MK-PL.

Paratrachocladus rufiventris (Meigen, 1830) — *Cserkúti-patak (Szentantalfa): 2007.04.14., 56e, DCs-IK-MA-MK-PL — *Edericsi-patak (Balatonederics): 2007.04.21., 1e, IK-MA-MB — Koloska-patak, Balatonarács (Balatonfüred): 2007.04.14., 71e, DCs-IK-MA-MK-PL — Lesence (Szigliget): 2007.04.21., 6e, IK-MA-MB — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 20e, MA — *Tapolca (Raposka): 2007.04.14., 2e, DCs-IK-MA-MK-PL — *Tapolca (Tapolca): 2007.04.14., 1e, DCs-IK-MA-MK-PL — Tetves-patak (Visz): 2013.03.13., 15e, MA.

Propillocerus lacustris Kieffer, 1923 — *Nyugati-övcSATORNA (Kéthely): 2013.03.20., 1e, MA — *Pogány-völgyi-víz (Lengyeltóti): 2013.03.13., 2e, MA. — The only occurrence of this species in Hungary is known from the River Szamos (SZÍTÓ 2002), based on identification of larvae. Thus, this is the first occurrence of the species in the catchment area of Lake Balaton, and the first Hungarian data based on identification of exuviae.

Psectrocladius (Psectrocladius) limbatellus (Holmgren, 1869) — *Edericsi-patak (Balatonederics): 2007.04.21., 1e, IK-MA-MB — *Lesence (Szigliget): 2007.04.21., 2e, IK-MA-MB.

Psectrocladius (Psectrocladius) sordidellus (Zetterstedt, 1838) — *Imremajori-csatorna (Balatonfenyves): 2013.03.20., 1e, MA — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB — *Nyugati-övcsonna, Pálmajor (Balatonfenyves): 2013.07.18., 1e, MA.

Rheocricotopus (Psilocricotopus) atripes (Kieffer, 1913) — *Király-kút (Felsőörs): 2008.04.20., 1l, MA-Szl.

Rheocricotopus (Rheocricotopus) fuscipes (Kieffer, 1909) — *Koloskapaták, Balatonarács (Balatonfüred): 2007.04.14., 4e, DCs-IK-MA-MK-PL — Örvényesi-séd (Örvényes): 2007.04.21., 6e, IK-MA-MB — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 2e, MA — *Tettes-patak (Visz): 2013.03.13., 1e, MA.

Synorthocladius semivirens (Kieffer, 1909) — *Tapolca (Raposka): 2007.04.14., 1e, DCs-IK-MA-MK-PL. — Although *S. semivirens* is widely distributed in larger streams and rivers of Hungary (MÓRA and DÉVAI 2004; MÓRA and FARKAS 2012; MÓRA et al. 2006, 2008, 2013), this is its first record from the inflows of Lake Balaton.

Thienemanniella pe2b Langton, 1991 — *Pogány-völgyi-víz (Lengyeltóti): 2013.03.13., 1e, MA. — This morphotype containing more species (LANGTON and VISSER 2003) is widely distributed in the catchment area of Lake Balaton (MÓRA et al. 2007a, 2011).

Chironominae

Benthalia carbonaria (Meigen, 1804) — *Balaton, Szemesi-medence, Fövényes (Balatonudvari): 2008.07.16., 1l, DG-MA — Balaton, Siófoki-medence, kis öböl (Tihany): 2011.09.06., 1l, DG-MA.

Chironomus (Chironomus) acidophilus Keyl, 1960 — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 1e, MA. — Up to date this species was only found in Bükk Mts. (MICHAILOVA 1995) and in Balaton Upland (Fekete-hegy) (MÓRA et al. 2011).

Chironomus (Chironomus) annularius Meigen, 1818 — *Boronkai-patak, Boronka (Marcali): 2013.03.20., 1e, MA — *Római-forrás (Balatongyörök): 2009.05.13., 1e, IK-MA.

Chironomus (Chironomus) balatonicus Dévai, Wülker and Scholl, 1983 — Balaton, Szemesi-medence, Fövényes (Balatonudvari): 2008.07.16., 36l + 2e, DG-MA — Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 1e, DG-MA-SA — Balaton, Siófoki-medence (Siófok): 2006.05.04., 1e, DG-MA — Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 6e, MA; 2006.06.27., 2e, MA; 2011.09.06., 18l + 1e, DG-MA — Nyugati-övcsonna (Balatonkeresztúr): 2013.07.18., 3e, MA.

Chironomus (Chironomus) cingulatus Meigen, 1830 — *Nyugati-övcsonna (Balatonkeresztúr): 2013.07.18., 1e, MA. — This species was only recorded from the River Tisza, oxbows along the River Tisza and the reservoir Kiskörei-tározó (CSÉPES et al. 2012; MÓRA and DÉVAI 2004). Accordingly, this is the first occurrence of *Ch. cingulatus* in the Transdanubian region.

Chironomus (Chironomus) luridus Strenzke, 1959 — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 1e, MA.

Chironomus (Chironomus) nudatarsis Keyl, 1961 — *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 2e, MA — *Edericsi-patak (Balatonederics): 2007.04.21., 2e, IK-MA-MB — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB — *Nyugati-övcsonna (Balatonkeresztúr): 2013.03.20., 4e, MA; 2013.07.18., 1e, MA — *Nyugati-övcsonna (Kéthely): 2013.03.20., 5e, MA. — Although *Ch. nudatarsis* is a

widely distributed species in Hungary (e.g. MÓRA and DÉVAI 2004; MÓRA and FARKAS 2012; MÓRA et al. 2006, 2007, 2010, 2011; TÓTH et al. 2006, 2008), it was found in Lake Balaton for the first time.

Chironomus (Chironomus) nudiventris Ryser, Scholl and Wülker, 1983 — *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 12e, MA.

Chironomus (Chironomus) pallidivittatus Edwards, 1929 — *Edericsi-patak (Balatonederics): 2007.04.21., 4e, IK-MA-MB — *Lesence (Szigliget): 2007.04.21., 6e, IK-MA-MB — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 1e, MA. — This species was scarcely found in Hungary (ÁRVA et al. 2009; CSÉPES et al. 2012; MOLDOVÁN 1987), most likely due to problems with identification of its larvae. Although *Ch. pallidivittatus* was earlier collected in the catchment area of Lake Balaton (MOLDOVÁN 1987), our records are the first ones from the inflows of the lake. Moreover, these are the first Hungarian data on the occurrence of the species based on identification of exuviae.

Chironomus (Chironomus) pe24 Langton and Visser, 2003 — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 5e, MA. — Although this morphotype is widespread in Europe (LANGTON and VISSER 2003), it was previously found only in the Szentendrei-Duna in Hungary (MÓRA and FARKAS 2012). Accordingly, this is its first record in the catchment area of Lake Balaton.

Chironomus (Chironomus) plumosus (Linnaeus, 1758) — Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 7e, MA; 2006.06.27., 1e, MA.

Chironomus (Chironomus) pseudothummi Strenzke, 1959 — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.03.20., 2e, MA; 2013.07.18., 1e, MA. — This species was only collected in an oxbow lake along the River Tisza (MÓRA et al. 2004) as well as at two sites along the River Danube (MÓRA and FARKAS 2012; MÓRA et al. 2010a). Thus, the species was found in the catchment area of Lake Balaton at first.

Chironomus (Chironomus) riparius Meigen, 1804 — *Római-forrás (Balatongyörök): 2009.05.13., 12e, IK-MA.

Chironomus (Chironomus) tentans Fabricius, 1805 — *Edericsi-patak (Balatonederics): 2007.04.21., 7e, IK-MA-MB — *Lesence (Szigliget): 2007.04.21., 9e, IK-MA-MB.

Chironomus (Lobochironomus) dorsalis Meigen, 1818 — *Edericsi-patak (Balatonederics): 2007.04.21., 1e, IK-MA-MB. — This species was only found along the River Tisza (ÁRVA et al. 2009; MÓRA et al. 2006) and the River Danube (ÁRVA et al. 2011), therefore this is its first occurrence in the catchment area of Lake Balaton.

Cladopelma goetghebueri Spies and Sæther, 2004 — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 2e, MA. — This is the third record of *C. goetghebueri* (= *lateralis*) from Hungary: earlier larvae were found in a rice-field in the Great Hungarian Plain and in Lake Balaton (see MÓRA and DÉVAI 2004; SZÍTÓ 2004). Thus, this is the first occurrence of the species in the inflows of Lake Balaton, and the first Hungarian data based on identification of exuviae.

Cladopelma virescens (Meigen, 1818) — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 15e, MA.

Cladopelma viridulum (Linnaeus, 1767) — Edericsi-patak (Balatonederics): 2007.04.21., 8e, IK-MA-MB — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB — *Nyugati-övcSATORNA, Pálmajor (Balatonfenyves): 2013.07.18., 3e, MA — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 2e, MA — *Örvényesi-séd (Örvényes): 2007.04.21., 1e, IK-MA-MB.

Cladotanytarsus (Cladotanytarsus) lepidocalcar Krüger, 1938 — *Balaton, Siófoki-medence, kis öböl (Tihany): 2011.08.31., 3e, MA. — New species in the Hungarian fauna (see MÓRA 2012). It is widespread in Europe with the closest occurrence to Hungary in Austria and Slovakia (SÆTHER and SPIES 2013). However, it was not listed among the species expected to occur in our country (see MÓRA and DÉVAI 2004).

Cladotanytarsus (Cladotanytarsus) mancus (Walker, 1856) — Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 1e, MA; 2011.09.06., 1e, DG-MA.

Cryptochironomus obreptans (Walker, 1856) — *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 4e, MA.

Cryptochironomus psittacinus (Meigen, 1830) — *Balaton, Szemesi-medence, Fövenyes (Balatonudvari): 2008.07.16., 1e, DG-MA — *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 4e, MA; 2006.06.27., 9e, MA — *Balaton, Szemesi-medence (Zánka): 2006.05.04., 1e, DG-MA.

Cryptochironomus redekei (Kruseman, 1933) — Balaton, Siófoki-medence, kis öböl (Tihany): 2011.09.06., 2l, DG-MA.

Cryptochironomus supplicans (Meigen, 1830) — *Balaton, Siófoki-medence, kis öböl (Tihany): 2011.08.31., 2l, MA.

Demeijerea rufipes (Linnaeus, 1761) — *Lesence (Szigliget): 2007.04.21., 7e, IK-MA-MB. — Beside some old records from the River Danube (see MÓRA and DÉVAI 2004) and from the Mecsek Mts. (GEBHARDT 1962), more recently this species was only collected in the Edericsi-patak (MÓRA et al. 2007a), which flows very close to the Lesence. Due to that the studied sections of both streams are the outflows of the marsh Nádas-mező, they are very similar to each other in terms of habitat types, including freshwater sponges where the larvae of *D. rufipes* develop. Furthermore, this is the first Hungarian data of the species based on identification of exuviae.

Dicrotendipes lobiger (Kieffer, 1921) — *Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 1e, DG-MA-SA — *Edericsi-patak (Balatonederics): 2007.04.21., 3e, IK-MA-MB — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 1e, MA — *Lesence (Szigliget): 2007.04.21., 7e, IK-MA-MB — *Nyugati-övcsatorna, Pálmajor (Balatonfenyves): 2013.07.18., 11e, MA. — Although *D. lobiger* is widespread in Hungary (e.g. ÁRVA et al. 2009, 2011; CSÉPES et al. 2012; MÓRA et al. 2004, 2010, 2011; TÓTH et al. 2006, 2008) and also known from Lake Balaton (DÉVAI et al. 1984), this is its first record from the catchment area of the lake. Furthermore, this is the first Hungarian data of the species based on identification of exuviae.

Dicrotendipes nervosus (Stæger, 1839) — Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 1e, DG-MA-SA — Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 7e, MA; 2006.06.27., 2e, MA; 2011.08.31., 4l, MA; 2011.09.06., 8l, DG-MA — *Nyugati-övcsatorna (Balatonkeresztúr): 2013.07.18., 1e, MA — *Nyugati-övcsatorna (Kéthely): 2013.07.18., 1e, MA.

Dicrotendipes notatus (Meigen, 1818) — *Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 2e, DG-MA-SA — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 2e, MA.

Endochironomus albipennis (Meigen, 1830) — *Edericsi-patak (Balatonederics): 2007.04.21., 4e, IK-MA-MB — *Lesence (Szigliget): 2007.04.21., 8e, IK-MA-MB — *Nyugati-övcsatorna (Balatonkeresztúr): 2013.07.18., 1e, MA.

Endochironomus tendens (Fabricius, 1775) — *Nyugati-övcsatorna (Kéthely): 2013.07.18., 2e, MA.

Glyptotendipes (Caulochironomus) viridis (Macquart, 1834) — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 1e, MA — *Nyugati-övcSATORNA (Kéthely): 2013.07.18., 4e, MA. — After more than 100 years *G. viridis* was refound in oxbows along the River Tisza (MÓRA et al. 2004), where it proved to be relatively frequent (ÁRVA et al. 2009; CSÉPES et al. 2012; TÓTH et al. 2006, 2008). Furthermore, it was also recorded from West-Hungary (HORVÁTH et al. 2009). Accordingly, this is the first occurrence of the species in the inflows of Lake Balaton, and the first Hungarian data based on identification of exuviae.

Glyptotendipes (Glyptotendipes) barbipes (Stæger, 1839) — Edericsi-patak (Balatonederics): 2007.04.21., 6e, IK-MA-MB — Lesence (Szigliget): 2007.04.21., 6e, IK-MA-MB.

Glyptotendipes (Glyptotendipes) cauliginellus (Kieffer, 1913) — *Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 1e, DG-MA-SA — Edericsi-patak (Balatonederics): 2007.04.21., 2e, IK-MA-MB — Lesence (Szigliget): 2007.04.21., 2e, IK-MA-MB.

Glyptotendipes (Glyptotendipes) pallens (Meigen, 1804) — *Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 15e, DG-MA-SA — *Boronkai-patak (Somogyszénpál): 2013.07.18., 14e, MA — Edericsi-patak (Balatonederics): 2007.04.21., 5e, IK-MA-MB — Lesence (Szigliget): 2007.04.21., 9e, IK-MA-MB — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 20e, MA — *Nyugati-övcSATORNA (Kéthely): 2013.07.18., 17e, MA.

Glyptotendipes (Glyptotendipes) paripes (Edwards, 1929) — *Boronkai-patak (Somogyszénpál): 2013.07.18., 4e, MA — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 11e, MA — *Nyugati-övcSATORNA (Kéthely): 2013.07.18., 1e, MA. — Although *G. paripes* is widespread in Hungary (MÓRA and DÉVAI 2004) and also known from Lake Balaton (DÉVAI et al. 1984), this is its first record from the catchment area of the lake. Furthermore, these are the first Hungarian data of this species based on identification of exuviae.

Glyptotendipes (Heynotendipes) signatus (Kieffer, 1909) — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 2e, MA. — The only Hungarian occurrence of *G. signatus* was reported from the Szigetköz (ÁRVA et al. 2011), where its larvae were found. Accordingly, this is the first occurrence of the species in the inflows of Lake Balaton, and the first Hungarian data based on identification of exuviae.

Harnischia curtilamellata (Malloch, 1915) — *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 11e, MA; 2006.06.27., 3e, MA — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 7e, MA.

Kiefferulus (Kiefferulus) tendipediformis (Goetghebuer, 1921) — Boronkai-patak, Boronka (Marcali): 2013.07.18., 5e, MA — *Imremajori-cSATORNA (Balatonfenyves): 2013.07.18., 6e, MA — *Nyugati-övcSATORNA (Balatonkeresztúr): 2013.07.18., 2e, MA.

Lipiniella moderata Kalugina, 1970 — *Balaton, Szemesi-medence, Fövenyes (Balatonudvari): 2008.07.16., 4l, DG-MA — *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 1e, MA. — This species is frequent along the Rivers Tisza and Danube (e.g. ÁRVA et al. 2011; MÓRA and DÉVAI 2004; MÓRA et al. 2005), and was also found in an inflow of Lake Balaton (MÓRA et al. 2007a), but it is here reported from the lake for the first time.

Microchironomus tener (Kieffer, 1918) — Balaton, Siófoki-medence, kis öböl (Tihany): 2006.06.27., 3e, MA; 2011.08.31., 2l, MA; 2011.09.06., 46l, DG-MA.

Micropsectra atrofasciata (Kieffer, 1911) — *Boronkai-patak, Boronka (Marcali): 2013.03.20., 1e, MA — *Lesence (Szigliget): 2007.04.21., 2e, IK-MA-MB — *Tetves-patak (Visz): 2013.03.13., 9e, MA.

Micropsectra junci (Meigen, 1818) — *Király-kút (Felsőörs): 2008.04.20., 2l, MA-Szl.

Micropsectra notescens (Walker, 1856) — *Pogány-völgyi-víz (Öreglak): 2013.03.13., 12e, MA — *Római-forrás (Balatonyörök): 2009.05.13., 1e, IK-MA.

Microtendipes pedellus (De Geer, 1776) — *Imremajori-csatorna (Balatonfenyves): 2013.03.20., 1e, MA — Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB.

Parachironomus gracilior (Kieffer, 1918) — *Balaton, Keszthelyi-medence (Keszthely): 2006.04.27., 2e, DG-MA-SA — Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 1e, MA — *Boronkai-patak (Somogyszentpál): 2013.07.18., 7e, MA — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 1e, MA — *Lesence (Szigliget): 2007.04.21., 3e, IK-MA-MB — *Nyugati-övcatorna, Pálmajor (Balatonfenyves): 2013.07.18., 3e, MA; 2013.07.18., 13e, MA — *Nyugati-övcatorna (Balatonkeresztúr): 2013.07.18., 9e, MA — *Nyugati-övcatorna (Kéthely): 2013.07.18., 10e, MA.

Parachironomus parilis (Walker, 1856) — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 1e, MA. — Previously this species was only found at two sites in Hungary: the Öreg-tó at Tata (see MÓRA and DÉVAI 2004) and the Kis-Duna at Kismaros (MÓRA et al. 2010a). Therefore, this is its first record from the catchment area of Lake Balaton, and the third occurrence in Hungary.

Parachironomus varus (Goetghebuer, 1921) — *Balaton, Siófoki-medence, kis öböl (Tihany): 2011.08.31., 1l, MA; 2011.09.06., 1l, DG-MA.

Paratanytarsus brevicar (Kieffer, 1909) — Edericsi-patak (Balatonederics): 2007.04.21., 9e, IK-MA-MB — *Lesence (Szigliget): 2007.04.21., 34e, IK-MA-MB. — This species is very rare in Hungary, collected earlier only from the Szalajka-patak in the Bükk Mts. (NAGY et al. 2007) and the Edericsi-patak in the catchment area of Lake Balaton (MÓRA et al. 2007).

Paratanytarsus dissimilis (Johannsen, 1905) — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 6e, MA — *Nyugati-övcatorna, Pálmajor (Balatonfenyves): 2013.07.18., 8e, MA — *Nyugati-övcatorna (Kéthely): 2013.07.18., 1e, MA.

Paratanytarsus grimmii (Schneider, 1885) — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 3e, MA — *Boronkai-patak (Somogyszentpál): 2013.07.18., 1e, MA — *Edericsi-patak (Balatonederics): 2007.04.21., 2e, IK-MA-MB — *Lesence (Szigliget): 2007.04.21., 3e, IK-MA-MB — *Nyugati-övcatorna, Pálmajor (Balatonfenyves): 2013.07.18., 1e, MA — *Nyugati-övcatorna (Kéthely): 2013.07.18., 5e, MA. — In Hungary this species was first reported from the Kis-Duna at Kismaros (MÓRA et al. 2010a), and later was only found in the Szentendrei-Duna (MÓRA and FARKAS 2012). According to our results *P. grimmii* seems to be a frequent species in the catchment area of Lake Balaton, where it was collected for the first time.

Paratanytarsus inopertus (Walker, 1856) — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 2e, MA — *Nyugati-övcatorna, Pálmajor (Balatonfenyves): 2013.07.18., 2e, MA. — This species was collected at only few sites in Hungary: Lake Balaton (see MÓRA and DÉVAI 2004) and an inflow of the lake (MÓRA and BÍRÓ 2007), Szentendrei-Duna (MÓRA and FARKAS 2012), Sajó (MÓRA et al. 2013).

Paratanytarsus laetipes (Zetterstedt, 1850) — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 5e, MA — *Nyugati-övcsatorna, Pálmajor (Balatonfenyves): 2013.07.18., 14e, MA. — The only Hungarian occurrence of this species was reported from a fish-pond in the Balaton Uplands (MÓRA et al. 2011). However, our results suggest that the distribution of *P. laetipes* could be much wider in the catchment area of Lake Balaton.

Paratanytarsus tenellulus (Goetghebuer, 1921) — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 11e, MA. — Data on the occurrence of *P. tenellulus* in Hungary were only published in MÓRA et al. (2011) based on collection of its very characteristic pupal exuviae in the Kis-Duna at Kismaros. Accordingly, this is its first record in the catchment area of Lake Balaton.

Phaenopsectra flavipes (Meigen, 1818) — Boronkai-patak, Boronka (Marcali): 2013.07.18., 1e, MA — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 2e, MA.

Polypedilum (Pentapedilum) sordens (van der Wulp, 1875) — *Boronkai-patak (Somogyszentpál): 2013.07.18., 14e, MA — Edericsi-patak (Balatonederics): 2007.04.21., 1e, IK-MA-MB — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 3e, MA — *Nyugati-övcsatorna (Balatonkeresztúr): 2013.07.18., 16e, MA — *Nyugati-övcsatorna (Kéthely): 2013.07.18., 14e, MA.

Polypedilum (Pentapedilum) uncinatum (Goetghebuer, 1921) — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 1e, MA — *Edericsi-patak (Balatonederics): 2007.04.21., 1e, IK-MA-MB — *Nyugati-övcsatorna (Balatonkeresztúr): 2013.07.18., 3e, MA — *Nyugati-övcsatorna (Kéthely): 2013.07.18., 1e, MA. — Probably due to taxonomical problems in the subgenus and difficulties in identification of larvae and exuviae (OYEWÓ and SÆTHER 2008), this species was only reported from the Kis-Duna at Kismaros (MÓRA et al. 2010a), the ponds of Fekete-hegy in the Balaton Uplands (MÓRA et al. 2011) and a stream in the Mecsek Mts. (MÉHES et al. 2012).

Polypedilum (Polypedilum) albicorne (Meigen, 1838) — Koloska-patak, Balatonarács (Balatonfüred): 2007.04.14., 1e, DCs-IK-MA-MK-PL.

Polypedilum (Polypedilum) arundineti (Goetghebuer, 1921) — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB. — New species in the Hungarian fauna (see MÓRA 2012), which occurs in many countries of Europe with the closest occurrence to Hungary in Austria and Slovakia (SÆTHER and SPIES 2013). However, it was not listed among the species expected to occur in our country (see MÓRA and DÉVAI 2004).

Polypedilum (Polypedilum) nubeculosum (Meigen, 1804) — Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 7e, MA; 2006.06.23., 1e, MA; 2006.06.27., 1e, MA; 2011.08.31., 7l, MA; 2011.09.06., 53l, DG-MA.

Polypedilum (Tripodura) scalaenum (Schränk, 1803) — Balaton, Siófoki-medence, kis öböl (Tihany): 2011.08.31., 6l, MA.

Polypedilum (Uresipedilum) convictum (Walker, 1856) — *Pogány-völgyvíz (Öreglak): 2013.07.17., 1e, MA — *Tetves-patak (Visz): 2013.03.13., 1l, MA.

Rheotanytarsus curtistylus (Goetghebuer, 1921) — *Remete-forrás (Balatonalmádi): 2008.04.20., 1e, MA-Szl — *Tapolca (Raposka): 2007.04.14., 11e, DCs-IK-MA-MK-PL — Tapolca (Tapolca): 2007.04.14., 11e, DCs-IK-MA-MK-PL.

Stenochironomus (Stenochironomus) gibbus (Fabricius, 1794) — *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 1e, MA. — This species was only collected in the Rivers Zagyva, Tisza (MÓRA et al. 2005, 2006) and Szentendrei-Duna (MÓRA and FARKAS 2012) in Hungary. It was also found in the Nyugati-övcsatorna (PONYI et al. 2001), but have not been reported from the lake before.

Stictochironomus crassiforceps (Kieffer, 1922) — *Balaton, Siófoki-medence, kis öböl (Tihany): 2011.09.06., 1l, DG-MA. — The occurrence of *S. crassiforceps* in Hungary was reported from several locations, among them some inflows of Lake Balaton (see MÓRA and DÉVAI 2004). However, it was found in the lake for the first time.

Stictochironomus pictulus (Meigen, 1830) — *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 4e, MA.

Tanytarsus ejuncidus (Walker, 1856) — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB.

Tanytarsus eminulus (Walker, 1856) — *Nyugati-övcsatorna, Pálmajor (Balatonfenyves): 2013.07.18., 1e, MA. — This species was only found in the Szentendrei-Duna (MÓRA and FARKAS 2012) and in the River Sajó and its tributary (MÓRA et al. 2013) in Hungary. Thus, this is its first record in the catchment area of Lake Balaton.

Tanytarsus excavatus Edwards, 1929 — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 10e, MA — *Lesence (Szigliget): 2007.04.21., 2e, IK-MA-MB — *Nyugati-övcsatorna, Pálmajor (Balatonfenyves): 2013.07.18., 6e, MA. — New species in the Hungarian fauna (see MÓRA 2012). It occurs in many countries of Europe with the closest occurrence to Hungary in Austria and Romania (SÆTHER and SPIES 2013). Moreover, it was listed among the species expected to occur in our country (see MÓRA and DÉVAI 2004).

Tanytarsus glabrescens Edwards, 1929 — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB. — New species in the Hungarian fauna (see MÓRA 2012). It is widely distributed in Europe with the closest occurrence to Hungary in Austria and Romania (SÆTHER and SPIES 2013). However, it was not listed among the species expected to occur in our country (see MÓRA and DÉVAI 2004).

Tanytarsus medius Reiss and Fittkau, 1971 — *Nyugati-övcsatorna, Pálmajor (Balatonfenyves): 2013.07.18., 2e, MA. — The only Hungarian occurrence of *T. medius* was reported from the Szentendrei-Duna (MÓRA and FARKAS 2012). Accordingly, this is its first record in the catchment area of Lake Balaton.

Tanytarsus mendax Kieffer, 1925 — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB. — This is the first record of *T. mendax* from the catchment area of Lake Balaton, since previously it was only found in the River Tisza (MÓRA et al. 2006) and the Szentendrei-Duna (MÓRA and FARKAS 2012).

Tanytarsus pallidicornis (Walker, 1856) — *Lesence (Szigliget): 2007.04.21., 1e, IK-MA-MB. — This species was only found at few localities in Hungary: it was collected in the Szentendrei-Duna (MÓRA and FARKAS 2012) and the River Sajó (MÓRA et al. 2013). It was also recorded from the River Zala (MÓRA et al. 2008) and the Bakony Mts. (MÓRA et al. 2010b), near the catchment area of the lake, but it has not been reported from the small watercourses flowing into Lake Balaton before.

Tanytarsus usmaensis Pagast, 1931 — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 7e, MA — *Nyugati-övcsatorna, Pálmajor (Balatonfenyves): 2013.07.18., 10e, MA — *Nyugati-övcsatorna (Kéthely): 2013.07.18., 1e, MA. — According to the known occurrences *T. usmaensis* is a quite rare species in Hungary, which has only been found in some inflows of Lake Balaton (MÓRA et al. 2007a), a tributary of the River Zala (MÓRA et al. 2008) and the Kis-Duna at Kismaros (MÓRA et al. 2010a).

Xenochironomus xenolabis (Kieffer, 1916) — *Balaton, Siófoki-medence, kis öböl (Tihany): 2006.05.10., 1e, MA. — Although *X. xenolabis* is widely distributed in Hungary including the inflows of Lake Balaton (e.g. ÁRVA et al. 2011; CSÉPES et al. 2012; MÓRA et al. 2005, 2006, 2007a), it was found in the lake for the first time.

Zavreliella marmorata (van der Wulp, 1859) — *Boronkai-patak, Boronka (Marcali): 2013.07.18., 1e, MA — *Imremajori-csatorna (Balatonfenyves): 2013.07.18., 1e, MA — *Nyugati-övcsonna, Pálmajor (Balatonfenyves): 2013.07.18., 1l, MA — *Nyugati-övcsonna (Balatonkeresztúr): 2013.07.18., 1e, MA. — This species was relatively rarely found in Hungary (e.g. ÁRVA et al. 2009, 2011; MÓRA et al. 2010a; and see MÓRA and DÉVAI 2004) but might be more frequent as it is suggested by our new results, since *Z. marmorata* seems to be a common species in the catchment area of Lake Balaton.

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