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NEW LOCALITIES OF *GRAPHODERUS BILINEATUS* ALONG DRAVA RIVER (SW HUNGARY)

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A *GRAPHODERUS BILINEATUS* ÚJ ELŐFORDULÁSAI A DRÁVA MENTÉN

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ABSTRACT: In the area of East Drava Natura 2000 site, 41 waterbodies were studied and six new localities of the species were found in 2014. Further 13 waterbodies were classified as potential site for the species.

Key words: new records, Natura 2000 species, sidearms

KIVONAT: A Kelet-Dráva Natura 2000 területen, 2014 folyamán 41 víztérben végeztünk vizsgálatokat, melyek közül hat esetben találtuk meg a *Graphoderus bilineatus* eddig nem ismert élőhelyeit. A vizsgált vizek közül további 13-at tartunk potenciálisan alkalmasnak a faj előfordulására.

Kulcsszavak: új adatok, Natura 2000 jelölőfaj, mellékágak

Introduction

Graphoderus bilineatus is a charismatic species for insect nature conservation. It has been granted special conservation status and is a Natura 2000 species of community interest and a strictly protected beetle in Hungary with a monetary value of 100 000 HUF per specimen. According to “The IUCN Red List of Threatened Species”, its status is “Vulnerable” and it also has been listed in Bern Convention annexes (II and IV) and CORINE lists. In Hungary, the species has restricted occurrence area along upper and middle parts of Tisza and Bodrog Rivers (NE Hungary). Furthermore, only two recent records have become known from the Drava and lower Danube region (SW Hungary), most probably due to the lack of investigations in this territory focusing on this species and/or aquatic macroinvertebrates as a whole. European and Hungarian distribution of *G.*

bilineatus, our recent knowledge on its habitat requirements, conservation status and threats were recently discussed in detail by CSABAI (2014).

In this study our main aim was to explore new localities and the distributional characteristics of the species in the East-Drava NATURA 2000 site (HUDD20007).

Material and methods

In 2014 samplings were carried out at 57 sampling sites in 41 waterbodies along the eastern part of the Hungarian section of the Drava River (from 133 to 70 river kilometers, Table 1). As exploratory samplings, water netting was carried out at all sampling sites (4 collectors, at least 1 hour time investment per site) in July. Based on these results and field experiences, 14 sites were chosen for further investigations and for bottle-trapping in August. At these selected sites a total of 52 bottle traps (KÁLMÁN et al. 2007) were used, 3-7 per site according to the complexity and mosaic pattern of the aquatic and marshy vegetation.

Results and discussion

Six new localities for *Graphoderus bilineatus* were found along the eastern part of Dráva River. New localities are listed below in the following order: name of the waterbody (administrative unit): date (DD/MM/YYYY), number of captured individuals, method of collection, abbreviations of collectors (CsZ: Zoltán Csabai, KZ: Zoltán Kálmán, MP: Péter Mauchart, PB: Bálint Pernecker, SN: Nándor Soós).

Felsőszentmártoni-holtmeder 2 (Felsőszentmárton): 17/07/2014, 1, water netting, CsZ-MP-PB-SN, – 13/08/2014, 1, bottle trap, CsZ-KZ-MP.

János-szigeti-gödrök 1 (Zaláta): 14/08/2014, 1, water netting, CsZ-KZ-MP.

Majláth-pusztai mellékág (Kisszentmárton): 13/08/2014, 1, water netting, CsZ-KZ-MP.

Szaporcai mellékág 3 (Cún): 20/07/2014, 1, water netting, CsZ-PB-SN – 13/08/2014, 1, bottle trap, CsZ-KZ-MP.

holtág next to Támasós (Tésenfa): 18/07/2014, 1, water netting, CsZ-MP-PB-SN.

Kenderáztató (Dráwapalkonya): 19/07/2014, 1, water netting, CsZ-MP-SN – 13/08/2014, 1, bottle trap, CsZ-KZ-MP.

Studied water-bodies, in which *G. bilineatus* was not found during this project, were classified into three groups based on characteristics of the sampling sites and known ecological requirements of the species: 1) potential sites, where the species is expected to occur due to that these sites were very similar to those where *G. bilineatus* has been collected, (further investigation is strongly recommended), 2) quasi-potential sites, where the species might occur, however the habitats did only partly fit the requirements of the species, 3) and non-potential sites, where *G. bilineatus* cannot be expected to occur due to the habitat characteristics were not appropriate for the species. These site groups were indicated for each waterbody in Table 1. Our results proved that the species has stable population along the whole area of the East-Drava river section, and the formerly known single record was not a result of an accidental long term dispersal activity.

Table 1. List of sampling sites involved in the exploration of *G. bilineatus* distribution along eastern Hungarian section of Dráva River. ID: identification code of the sites, EO V X and Y: geo-coordinates were given using Hungarian Unified National Projection Grid system, UTM: 10×10 kilometer grid codes in Universal Transverse Mercator system. "b" in superscript: besides water netting, bottle trapping was also used. Bold highlight: sites with *G. bilineatus*. ***: potential sites but yet without *G. bilineatus*, *: quasi-potential sites (for more information see the text). In cases of many geographical terms the original Hungarian form were left for the localities being more identifiable: anyaggödör = small manmade pond, morotva = oxbow lake, mellékág = sidearm, holtmeder = oxbow lake, kistó = pond, csatorna = channel, gödrök = small ponds, sziget = island, tó = lake, holtág = oxbow lake, tározó = reservoir, horgásztó = fishpond, víz = (water) = watercourse.

ID	Name of the sites	EOV X	EOV Y	UTM
GB01	Szentborbási-anyaggödör***	541489	58064	YL 08
GB02	Borjanci-morotva***	542540	55888	YL 07
GB03	Felsőszentmártoni-anyaggödör***	544358	55885	YL 07
GB04	Felsőszentmártoni-mellékág***	546009	55497	YL 17
GB05	Mrtvica	546032	56494	YL 18
GB06	Felsőszentmártoni-holtmeder 01***	547331	55221	YL 17
GB07	Felsőszentmártoni-holtmeder 02^b	547636	55088	YL 17
GB08	Kistó, Polada dűlő, Drávakeresztúr	548421	55304	YL 17
GB09	Drávakeresztúri-mellékág*	549015	54469	YL 17
GB10	Zokogai-Holt-Dráva* ^b	551197	53471	YL 17
GB11	Korcsina-csatorna*	551297	53450	YL 17
GB12	Lóka* ^b	551615	53887	YL 17
GB13	Bresztik	555782	52674	YL 27
GB14	Nagy-Vajás	556013	51892	YL 27
GB15	Zalátaí-ó-Dráva 01	557361	50034	YL 27
GB16	Zalátaí-ó-Dráva 02	557361	50034	YL 27
GB17	Zalátaí-ó-Dráva outlet channel*	557400	49708	YL 27
GB18	Zalátaí-ó-Dráva 03	557860	50949	YL 27
GB19	János-szigeti-gödrök 02*	558052	47653	YL 27
GB20	János-szigeti-gödrök 01	558192	48222	YL 27
GB21	Fekete-tó 01	558278	50075	YL 27
GB22	Fekete-tó 02	558377	50172	YL 27
GB23	holtmeder next to Fekete-tó	558895	50219	YL 27
GB24	Gyöngyszigeti-holtág***, ^b	562087	50686	YL 27
GB25	Piskói-tó 01	562803	51563	YL 27
GB26	Piskói-tó 02	563180	50717	YL 27
GB27	Füzesi-holtág***, ^b	566064	50531	YL 37
GB28	Mérnökházi-tó***, ^b	569287	50295	BR 67
GB29	Kisszentmártoni tározó	571648	52413	BR 77
GB30	Majláth-pusztai mellékág	572118	48273	BR 77
GB31	Majláth-pusztai horgásztó	573273	48918	BR 77
GB32	Cúni-kistó	574218	50919	BR 77
GB33	Szilhádi-tó 01	574815	50929	BR 77
GB34	Szilhádi-tó 02	575096	51061	BR 77

(Table 1. Continued)

ID	Name of the sites	EOV X	EOV Y	UTM
GB35	Belső-Hobogy	575668	50736	BR 77
GB36	Külső-Hobogy	576005	50919	BR 77
GB37	Sárga-víz 01	575161	50321	BR 77
GB38	Sárga-víz 02	575356	50101	BR 77
GB39	Sárga-víz 03	575421	49848	BR 77
GB40	Szaporcai-mellékág 01***	574650	47398	BR 77
GB41	Szaporcai-mellékág 02***, b	575514	47281	BR 77
GB42	Szaporcai-mellékág 03^b	575764	47314	BR 77
GB43	Szaporcai-mellékág 04***	575964	47471	BR 77
GB44	Szaporcai-mellékág 05***	576405	47645	BR 77
GB45	Támasós-holtág***, b	578019	49803	BR 77
GB46	holtág next to Támasós^b	578258	50175	BR 77
GB47	Támasós*	578815	49767	BR 77
GB48	Róza-tó 01***, b	579658	50045	BR 77
GB49	Róza-tó 02***, b	579747	49945	BR 77
GB50	Kenderáztató^b	582770	49501	BR 87
GB51	Régi-Fekete-víz***	584884	49379	BR 87
GB52	Dázsonyi-tó*	586216	49087	BR 87
GB53	Hótedra	588340	47599	BR 87
GB54	Reska	591629	47978	BR 87
GB55	Boros-Dráva 01*	594299	45876	BR 97
GB56	Boros-Dráva 02*	594716	45586	BR 97
GB57	Boros-Dráva 03*	594828	45371	BR 96



Figure 1. Habitus of *Graphoderus bilineatus* (pictures: Zoltán Kálmán, 13/08/2014, specimen captured in Majláthpusztai-mellékág)



Figure 2. New localities (red dots) of *Graphoderus bilineatus* along eastern part of Dráva River.

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