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Euoniticellus fulvus (Goeze, 1777) (Coleoptera: Scarabaeidae) in south-western Moravia (Czech Republic)

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Peřinková P. & Fischer O. A. 2010: *Euoniticellus fulvus* (Goeze, 1777) (Coleoptera: Scarabaeidae) in south-western Moravia (Czech Republic). *Acta Musei Moraviae, Scientiae biologicae* (Brno) **95(2):** 25–28. – The dung beetle *Euoniticellus fulvus* has been found in equine and bovine faeces at 13 localities in south-western Moravia (Czech Republic). Whereas previous records came largely from South-Moravian localities where the climate is the warmest, and altitudes of no more than 200 m above sea level, recent findings from the Českomoravská vysočina Highlands indicate that this dung beetle species has spread into areas with colder climate and elevations above 400 m.

Key words. Faunistics, Scarabaeidae, Scarabaeinae, Oniticellini, *Euoniticellus fulvus*, south-western Moravia

Introduction

A basic lack of information about the rare dung beetle *Euoniticellus fulvus* (Goeze, 1777) before 2008, when a pilot study was published by Juřena *et al.* (2008), led to the species being considered extinct in Bohemia (Král 1993). In Moravia, recent findings were reported by Juřena *et al.* (2000, 2008) and Chybík (2005). New findings from south-western Moravia are reported in this article.

Material and Methods

Adult *Euoniticellus fulvus* were obtained by individual collection from either equine or bovine faeces in pastures, killed, prepared and determined (Stebnicka 1976). The specimens collected by P. Peřinková and O.A. Fischer were deposited in the institutional entomological collection of the Muzeum Vysočiny in Třebíč (MVT), while two specimens collected by V. Křivan are held in his private entomological collection (PCVK). All specimens were revised. Numbers in brackets after the names of the localities indicate national faunistic mapping grid quadrate codes (Pruner & Míka 1996).

Material examined

A total of 22 specimens were collected at following 13 localities (Tab. 1, Fig. 1):

- Bítovánky [6860], 12. vii. 2009, equine faeces, R. Stejskal leg. and det. (1 ♂, PCVK); 19. vii. 2009, equine faeces, V. Křivan leg. and det. (1 ♂, PCVK)
- Ocmanice [6762], Plackỳ Dvůr farm, 30.vii. 2009, equine faeces, O.A. Fischer leg. and det. (1 ♀, MVT)
- Zňátky [6862], 2.viii. 2009, bovine faeces, O.A. Fischer leg. and det. (1 ♂, MVT); 19. viii. 2009, bovine faeces, P. Peřinková leg. and det. (2 ♀♀, MVT)
- Horní Loučky [6664], 22. viii. 2009, bovine faeces, O.A. Fischer leg. and det. (1 ♀, MVT)
- Třebíč-Podklášteří [6761], 18. ix. 2009, equine faeces, P. Peřinková leg. and det. (1 ♂, 1 ♀, MVT)
- Lažínky [6761], 24. ix. 2009, equine faeces, P. Peřinková leg. and det. (1 ♀, MVT)
- Třebíč-Pocoucov [6761], 1. x. 2009, bovine faeces, P. Peřinková leg. and det. (2 ♂♂, 1 ♀, MVT)
- Ocmanice [6762], large-scale cattle farm, 1. x. 2009, bovine faeces, P. Peřinková leg. and det. (1 ♀, MVT)
- Kralice nad Oslavou [6863] , 4. x. 2009, bovine faeces, O.A. Fischer leg. and det. (1 ♀, MVT)
- Číchov-Hynkov [6760], 5. x. 2009, bovine faeces, P. Peřinková leg. and det. (1 ♂, MVT)
- Třebenice [6862], 7. x. 2009, equine faeces, V. Křivan leg. and det., (1 ♀, MVT)
- Dešná-Plačovice [7059], 22. x. 2009, equine faeces, P. Peřinková leg. and det. (1 ♀, MVT)
- Ptáčov [6761], 8. vi. 2010, bovine faeces, P. Peřinková leg. and det. (2 ♂♂, 1 ♀, MVT); 9. viii. 2010, bovine faeces, P. Peřinková leg. and det. (1 ♀, MVT).

Localities	Faeces	Coordinates	Altitude (m)	Faunistic code
Horní Loučky	bovine	N 49°21′53″ E 16°20′12″	351	6664
Číchov-Hynkov	bovine	N 49°16′26″ E 15°45′47″	493	6760
Ocmanice, large cattle farm	bovine	N 49°14′17″ E 16°06′36″	421	6762
Třebíč-Pocoucov	bovine	N 49°14′10″ E 15°54′43″	432	6761
Ptáčov	bovine	N 49°13′52″ E 15°55′37″	438	6761
Ocmanice, Plackỳ Dvůr farm	equine	N 49°13′05″ E 16°06′50″	420	6762
Třebíč-Podklášteří	equine	N 49°13′01″ E 15°52′01″	432	6761
Zňátky	bovine	N 49°11′36″ E 16°08′53″	411	6862
Kralice nad Oslavou	bovine	N 49°11′28″ E 16°01′58″	437	6863
Třebenice	equine	N 49°09′47″ E 16°01′08″	474	6862
Bítovánky	equine	N 49°08′48″ E 15°41′31″	599	6860
Lažínky	equine	N 49°02′20″ E 15°50′38″	440	6961
Dešná-Plačovice	equine	N 48°57′43″ E 15°32′35″	464	7059

Tab. 1. Review of studied localities. National faunistic mapping grid quadrate codes follow Pruner & Míka (1996).

Discussion

The oldest reliable dated records of the occurrence of *Euoniticellus fulvus* in Bohemia (1901 and 1903) originate from Hluboká nad Vltavou (Kletečka & Křivan 1999). Only one finding from northern Bohemia (Ústí nad Labem-Vaňov) is known, from 1904, and further findings from Bohemia (Malý Bor, 1955; Stříbro, undated; Františkovy lázně 1967) have been sporadic (Juřena *et al.* 2008). No findings have been recorded in Bohemia since 1967. A similar trend has been noted in eastern Belgium, where *E. fulvus* has been found after 111 years of total absence (Miessen & Thieren 1998). The last findings from Poland (Kraków: Częstochowa Upland) date from 1910 (Górz 2007). On the other hand, this species is abundant in Slovakia (Týr 1997).

The earliest Moravian findings come from Znojmo and Havraníky in the years 1927 and 1932 respectively. Most of the recent reports are from Nový Dvůr u Lednice, after 1999 (Juřena *et al.* 2000, 2008, Chybík 2005), where optimal conditions prevail in the form of warm climate, low altitude (173 m) as well as extensive horse pasturing with associated abundance of equine faeces (Chybík 2005). As many as 123 and 168 specimens of *E. fulvus* have been reported from equine faeces in Brno-Soběšice (2005) and Brno-Útěchov (2007), respectively (Juřena *et al.* 2008). *E. fulvus* is not confined to equine and bovine faeces, but also occurs in the droppings of fallow deer and sheep (Juřena *et al.* 2008, Benisch 2010).

Apart from Brno-Soběšice, Brno-Útěchov and Ochoz u Brna, all recent findings originate from the localities situated south of latitude 49° (Juřena *et al.* 2008), whereas 12 of the 13 localities mentioned in this paper are situated in a zone that lies between N 49°02′20″ and 49°21′53″ (Appendix).

Most of findings reported here originate from altitudes of more than 400 m, like those from Germany (Wassmer *et al.* 1994), but the Bítovánky locality is situated even higher, at 599 m (Appendix). According to Tolasz *et al.* (2007), annual average air temperature is 5–6°C in south-western Moravia and 8–10°C in southern Moravia. Relative air humidity is 5% higher in south-western Moravia than in southern Moravia (Tolasz *et al.* 2007). New findings of *E. fulvus* at 13 localities in south-western Moravia indicate a spread of this beetle species from low-altitude localities (173 m) and warm climate to higher localities (351–599 m) with colder climates and higher relative air humidity.

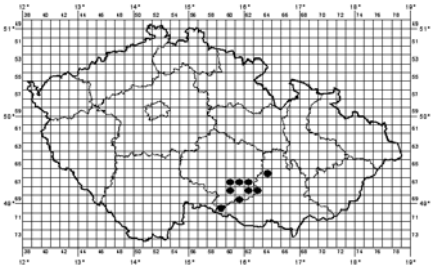

Fig. 1. Distribution of *Euoniticellus fulvus* in nine quadrates of the faunistic mapping grid.

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