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Current distribution of the bumble bee *Bombus haematurus* (Hymenoptera: Apidae, Bombini) in Slovakia

Súčasné rozšírenie čmeľa druhu *Bombus haematurus* (Hymenoptera: Apidae, Bombini) na Slovensku

Peter ŠIMA[1)] & Vladimír SMETANA[2)]

[1)] Koppert s.r.o., Komárňanská cesta 13, SK-940 53 Nové Zámky;
e-mail: psima@koppert.sk
[2)] Tekovské múzeum, Sv. Michala 40, SK-934 69 Levice;
e-mail: vladimir.smetana@muzeumlevice.sk

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Abstract. This paper summarizes the distribution of *Bombus haematurus* Kriechbaumer, 1870 in Slovakia. Currently, twelve localities are known, all of them in southwestern Slovakia. The recent spreading of this species in eastern part of Central Europe is discussed.

INTRODUCTION

The bumble bee *Bombus haematurus* Kriechbaumer, 1870 is the latest arrival to the relatively rich bumble bee fauna of Slovakia, which currenly comprises 36 species (Straka et al. 2007). The distribution area of this species extends from Turkey (Reinig 1971; Yilmaz & Uğurtaş 2004), Greece (Atanassov 1965) and the Balkans (Pittioni 1939) to Hungary (Józan 1996a,b, 2001; Sárospataki et al. 2003, 2005), Austria (Neumayer 2004) and Slovakia (Smetana & Šima 2005). The first record of *B. haematurus* in Slovakia dates back to 2003 and since then we have collected this species at several new sites. Localities in southwestern Slovakia and northern Hungary form the northern limit of its current distribution range.

In this paper we list all known localities of *Bombus haematurus* from Slovakia that were recorded during several faunistic surveys in 2003-2008.

MATERIAL AND METHODS

All localities are supplemented with the following information: the number of faunistic code of the Central European mapping grid system (Ehrendorfer & Hamann 1965), short characteristics of the site, date of collection or observation, number of specimens, sex (♂ = male, ♀ = female) and caste (worker) of the recorded specimens, altitude (in m a.s.l.), collector (leg.), author of identification (det.), deposition of the specimens (coll.) and references if the data has been published. During our survey some of the specimens were released immediately after their determination. These are mentioned as observed = leg. (observ.).

RESULTS

Bombus haematurus Kriechbaumer, 1870

Material examined. Slovakia: ***Podunajská pahorkatina***: Čifáre-Pata (7776), edge of oak forest, 30.v.2003, 1 worker, 170-227 m a.s.l., V. Smetana leg., det. et coll. (Smetana & Šima

2005). ***Podunajská rovina***: Nové Zámky (8074), garden, 12.vi.2005, 1 worker, 113 m a.s.l., P. Šima leg., V. Smetana det., P. Šima coll. (Smetana & Šima 2005); Nové Zámky (8074), deciduous forest, 27.iii.2007, 1 ♀, 113 m a.s.l., P. Šima leg. (observ.) et det., 20.v.2007, 1 worker, 113 m a s.l., P. Šima leg. (observ.) et det., 3 ♂♂, P. Šima leg., det. et coll. (2 spec.), L. Dvořák coll. (1 spec.); Nové Zámky (8074), clearing in deciduous forest, 17.vi.2007, 3 ♂♂, 113 m a.s.l., P. Šima leg., det. et coll. (2 spec.), V. Smetana coll (1 spec.). ***Burda***: Chľaba-Leľa (8178), oak forest, 9.iv.2007, 1♀, 280 m a.s.l., P. Šima leg. (observ.) et det.; Chľaba-Leľa (8178), edge of oak forest, 1.iv.2008, 4 ♀♀, 290 m a.s.l., P. Šima leg. (observ.) et det.; Chľaba (8178), deciduous forest – bed of the Dona stream, 28.iv.2007, 14 workers, 160 m a.s.l., P. Šima det., leg. et. coll. (13 spec.), L. Dvořák coll. (1 spec.); 8.v.2008, 1 ♀, 2 workers, 160 m a.s.l., P. Šima leg. (observ.) et det.; Chľaba (8178), edge of deciduous forest, 23.vi.2007, 2 ♂♂, 200-220 m a.s.l., P. Šima leg., det. et. coll.; Chľaba (8178), garden, 1.iv.2008, 1 ♀, 140 m a.s.l., P. Šima leg. (observ.) et det.; Kamenica nad Hronom (8178), oak forest, 31.iii.2007, 1 ♀, 320 m a.s.l., P. Šima leg. (observ.) et det.; 1.iv.2008, 3 ♀♀, 320 m a.s.l., P. Šima leg. (observ.) et det.; 12.iv.2008, 9 ♀♀, 320 m a.s.l., P. Šima leg. (observ.) et det.; Kamenica nad Hronom (8178), by roadside, southeast of the village, 31.iii.2007, 2 ♀♀, 105 m a.s.l., P. Šima leg., det., et coll.; 1.iv.2008, 2 ♀♀, 105 m a.s.l., P. Šima leg. (observ.) et det.; Kamenica nad Hronom (8178), steppe on a hillside, 21.vi.2008, 5 ♂♂, 300 m a.s.l., P. Šima leg. (observ.) et det.

DISCUSSION

The first detailed record of *Bombus haematurus* from Slovakia dates back to 2003 (Smetana & Šima 2005). Since then we have continuously monitored the presence of *B. haematurus* in southwestern Slovakia. So far, this species has been observed or collected at 12 localities, totalling 57 specimens (25 females, 13 males and 19 workers). The localities are situated at relatively low altitudes between 105 m a.s.l and 320 m a.s.l. (both the extremes reached in Burda, southern Slovakia). The bumble bees visited mainly the flowers of *Lamium maculatum*, *Lamium purpureum*, *Corydalis cava*, *Viola odorata*, *Galeobdolon luteum*, *Prunus spinosa*, *Prunus* sp., *Teucrium chamaedrys*, *Rubus idaeus* and *Rubus* sp., and occassionally the flowers of *Forsythia intermedia*, *Levandula angustifolia*, *Symphytum officinale* and *Stachys officinalis*. Although some males were present at a dry and warm site, the majority of our observations come from mostly humid habitats (e.g., deciduous forests, forest edges, localities near watercourses etc.). This is in accordance with Tkalců (1969) and Reinig (1971), who classify this bumble bee as a hylophilous forest species with a quite narrow ecological valence.

It seems that the species has been spreading towards northwest over the last few decades. In Hungary a substantial expansion of its range since the early 1980s has been reported; before 1980 this species was not found in Hungary (Sárospataki et al. 2005; M. Sárospataki, pers. comm. 2007).

During the past years more records have been reported from Austria, where the species was found for the first time in 2002 (Neumayer 2004; J. Neumayer, pers. comm. 2006). However, no reports are known from Czech Republic (A. Přidal, pers. comm. 2007).

It seems that *Bombus haematurus* is now a stable member of the bumble bee fauna of Slovakia. It was also included in the recent checklist of the Apoidea of the Czech Republic and Slovakia (Straka et al. 2007). In order to obtain better knowledge on the distribution of *B. haematurus* in Slovakia, further monitoring of appropriate localities will be needed.

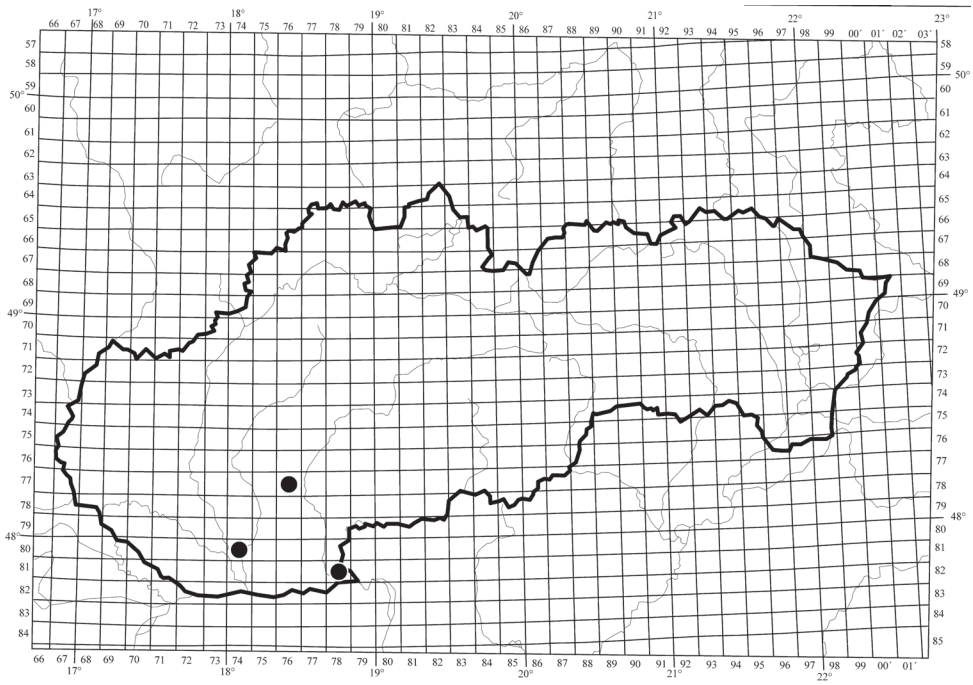

Fig. 1. Distribution of *Bombus haematurus* Kriechbaumer in Slovakia.
Obr. 1. Rozšírenie *Bombus haematurus* Kriechbaumer na Slovensku.

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SÚHRN

Druh *Bombus haematurus* Kriechbaumer, 1870 bol z územia Slovenska po prvý krát spoľahlivo potvrdený v roku 2003 (Smetana & Šima 2005). Od tohto prvého nálezu nepretržite pozorujeme jeho prítomnosť v najjužnejších častiach západného Slovenska. Do dnešných dní sa nám podarilo zaznamenať prítomnosť tohto druhu na 12 lokalitách v celkovom počte 57 exemplárov. *B. haematurus* bol doposiaľ registrovaný prevažne na stanovištiach vlhšieho charakteru (akými sú napríklad lesy, lesné okraje, stanovištia v blízkosti vodných tokov a podobne), v nadmorských výškach v rozmedzí od 105 až 320 m n.m. Na miestach svôjho výskytu navštevovali zaznamenané exempláre najmä kvety *Lamium maculatum*, *Lamium purpureum*, *Corydalis cava*, *Viola odorata*, *Galeobdolon luteum*, *Prunus spinosa*, *Prunus* sp., *Teucrium chamaedrys*, *Rubus idaeus*, *Rubus* sp. no príležitostne sme ich pozorovali i na kvetoch *Forsythia intermedia*, *Levandula angustifolia*, *Symphytum officinale* a *Stachys officinalis*. Na základe poznatkov získaných z faunistických prác zaoberajúcich sa faunou čmeľov Maďarska (Józan 1996a,b, 2001; Sárospataki et al. 2003, 2005) a Rakúska (Neumayer 2004), ale i z našich vlastných pozorovaní je zrejmé, že v posledných desaťročiach rozširuje tento druh svoj existujúci areál rozšírenia, a to v severozápadnom smere.