

**P O L I S H   J O U R N A L   O F   E N T O M O L O G Y**  
P O L S K I E   P I S M O   E N T O M O L O G I C Z N E

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VOL. 83: 201–206

Lublin

30 September 2014

DOI: 10.2478/pjen-2014-0015

***Chalybion omissum* (KOHL, 1889) (Hymenoptera: Sphecidae,  
Sceliphronini): new records from the Balkan Peninsula (southern  
Bulgaria)**

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**ABSTRACT.** The paper presents new information about the occurrence of *Chalybion omissum* (KOHL, 1889) in central part of Balkan Peninsula (southern Bulgaria). Seven specimens were caught at 4 sites: N of Kurdzhali (UTM: LG61), Usstrem village (MG55), NE of Kalimantsi village (GL09), NE of Madzharovo (MG01).

**KEY WORDS:** Hymenoptera, Sphecidae, *Chalybion omissum*, new records, Balkan Peninsula.

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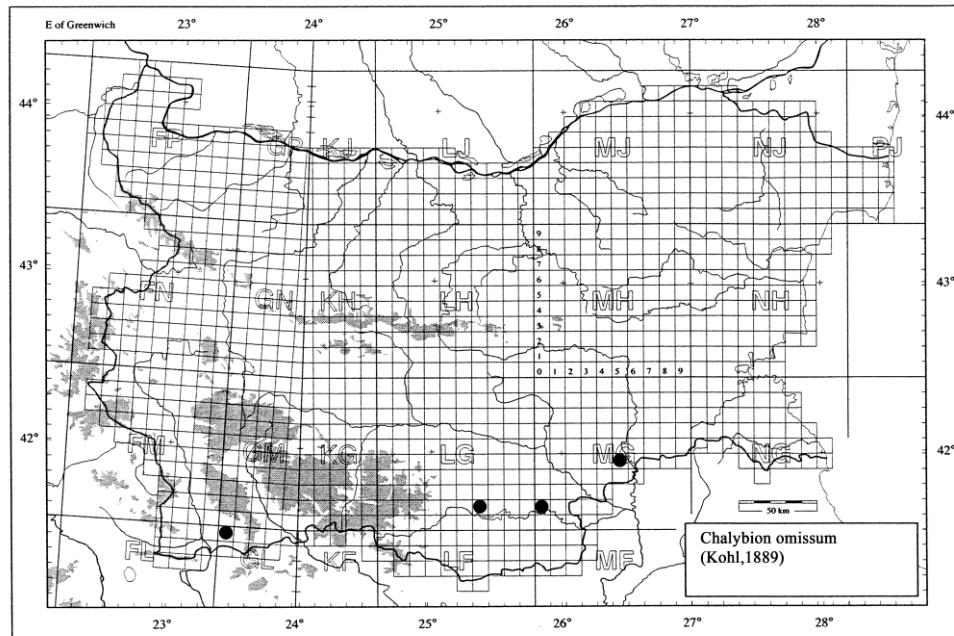
INTRODUCTION

A total of 46 species have been described to date in the genus *Chalybion* DAHLBOM, 1843. Their highest diversity occurs in the Old World. In Europe, 6 species have been recorded (BOHART & MENKE 1976, MEI et al. 2012, PULAWSKI 2013), including *Chalybion bengalense* (DAHLBOM, 1845), which was brought to Europe from the Oriental realm (the Indomalayan ecozone) as a result of human activity (MEI et al. 2012).

Species from the genus *Chalybion* are of average or large body size, ranging from 11 to 32 mm. Their body is blue or dark metallic blue, hence they resemble species from the genera *Stangeella* MENKE, 1962 and *Chlorion* LATREILLE, 1809. They differ, however, in the wing venation (BOHART & MENKE 1984). The forewings of the genus *Chalybion* have two discoidal cells, and both recurrent veins join the second submarginal cell (BOHART & MENKE 1976). Furthermore, the genus is distinguished by the dorsal region, referred to as the propodeum, without a U-shaped edge, and the equal length of the third and the fourth segment of the flagellum (HENSEN 1988).

#### MATERIAL AND METHODS

Specimens of *Chalybion omissum* (KOHL, 1889) were collected using entomological nets, yellow bowls and a Malaise trap in four different localities in southern Bulgaria (Fig. 1).



**Fig. 1.** Distribution of *Chalybion omissum* in Bulgaria.

## RESULTS AND DISCUSSION

As a result, seven individuals (4♀♀ and 3♂♂) were collected:

- **xerothermic mountain slope of the Arda river valley** (41°39'8"N, 25°22'21"E, UTM: LG61), 25 VI 1980 – 1♀ (Fig. 2), entomological net, T. BARCZAK leg.
- **Usstrem village, Tundzha river valley** (42°01'24"N, 26°27'40"E, MG55), 23 V 1995 – 2♂, Moericke trap, I. STOYANOV leg.
- **NE of Kalimantsi village, southern foothills of Pirin Mountain** (41°27'51.88"N, 23°29'19.30"E, GL09), 1-10 VI 2002 – 1♂ 1♀, 21 V – 1 VI 2002 – 1♀, Malaise trap, M. LANGOUROV leg.
- **NE of Madzharovo, Arda river valley** (41°38'36.94"N, 25°52'15.87"E, MG01), 8-22 VI 2001 – 1♀, Malaise trap, H. ETURSKA leg.

*Chalybion omissum* is known mainly from the south-central and southern parts of Europe. This species is reported from Albania, Croatia, Serbia, Greece, Italy, Slovenia, the western half of Asiatic Turkey and Israel (BAYINDIR et al. 2013; BITSCH 2010; DE BEAUMONT 1965, 1967; GOGALA 2011; GÜLMEZ & TÜZÜN 2005; HENSEN 1988; JÓZAN 2009; LJUBOMIROV & YILDIRIM 2008; MAIDL 1922; MOCSÁRY 1897; PAGLIANO 2009; SCHLETTTERER 1894; STANDFUSS & STANDFUSS 2006; SZILÁDY 1914; YILDIRIM 2014).

The morphological characteristics of *C. omissum* were presented by HENSEN (1988). The dorsal surface of the propodeum is transversely striate (Fig. 3a). The important feature in *C. omissum* females is the presence of a large patch of micropubescent on the posterior half of sternite 4, which distinguishes it from the morphologically related *C. bengalense* (DAHLBOM, 1845).

The female differs from the closely related *C. japonicum* (GRIBODO, 1883) in the metasomal sternum 1 almost straight in the lateral view (rather than strongly curved) and from *C. turanicum* (GUSSAKOVSKIJ, 1935) in the median lobe of the clypeal free margin, which is much narrower than the submedian lobe (Fig. 3b) (rather than about as wide as the submedian lobes) and by the presence of a basal tooth on the hind tarsal claw.

The male of *C. omissum* is unique in having the following combination of characters: eighth metasomal sternite narrow (Fig. 3c), metasomal sternum 1 almost straight in the lateral view and shorter than hind basitarsus and flagellomeres 8- 9 only.

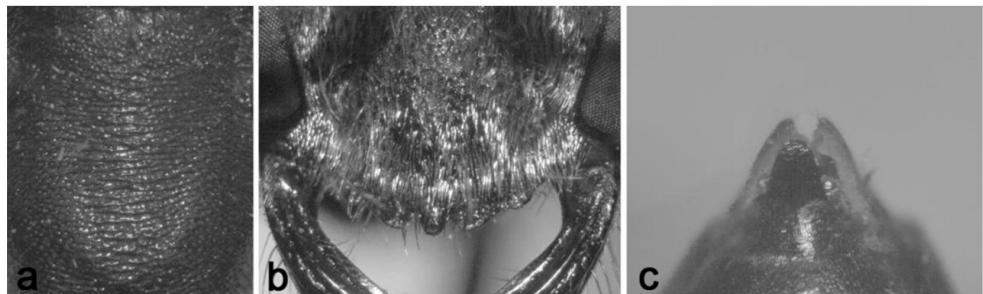
Females of all species of *Chalybion* prey on spiders and place them in their nests as food for larvae. They build nests in abandoned larval galleries in the woody stems of plants, wall crevices, or abandoned nests of other Apoidea e.g. *Sceliphron* KLUG, 1801 or *Trypoxylon* LATREILLE, 1796 (BOHART & MENKE 1976; MEI et al. 2012). They use mud for building walls inside a nest or for sealing. The method of constructing nests is similar to that of *Sceliphron*, except that water is first brought to the place from where the building

material is collected. They lay their eggs on the spider's abdomen (BOHART & MENKE 1976) and they often form of imagines clusters in adverse weather conditions.

Since the beginning of the 21<sup>st</sup> century, a growing number of localities of *C. omissum* in Europe has been recorded. The species nests in sheltered places, often on human artifacts, enabling its easy transport over considerable distances (MEI et al. 2012). This may partly explain its frequent occurrence in urban areas.



**Fig. 2.** Habitus of female *Chalybion omissum*, dorsal view.



**Fig. 3.** *Chalybion omissum*: male propodeum (a); female clypeus (b); male eighth sternite (c).

#### ACKNOWLEDGEMENTS

We would like to express our cordial thanks to Ms H. ETURSKA, Mr M. LANGOUROV and Mr I. STOYANOV for providing the material. We are grateful to Prof. K. SZPILA and Dr A. GRZYWACZ (Nicolaus Copernicus University, Toruń) for their help with taking the photographs.

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Received: 13 May 2014

Accepted: 30 May 2014