VOLUCELLA ZONARIA (PODA, 1761) – NEW TO THE FAUNA OF LITHUANIA (DIPTERA: SYRPHIDAE)

ERIKAS LUTOVINOVAS[1], *OSKARAS VENCKUS*[2]

[1]Nature Research Centre, Akademijos 2, LT-08412 Vilnius, Lithuania.
E-mails: wohlfahrtia@gmail.com, erikas.lutovinovas@gamtostyrimai.lt
[2]Lithuanian Entomological Society, Akademijos 2, LT-08412 Vilnius, Lithuania.
E-mail: wworas@gmail.com

Introduction

Volucella Geoffroy is the genus of large and robust hoverflies, easily recognized by widely plumose gorgeous aristas. The genus is subdivided into three species groups, namely *bombylans*, *pellucens* and *zonaria* groups; representatives of each of these groups are recorded over most of Europe, being more diverse in southern latitudes (Barkalov, 2003). Species of the *bombylans* group are longhaired hoverflies (bumblebee mimics), those of the *pellucens* group are mostly black species with pale abdominal bases, whereas those of the *zonaria* group have striped abdomens (wasp mimics). Different feeding modes are found among larvae of this genus, those obtained from wounds, initiated by Goat moths in old deciduous trees, are feeding on wet material which accumulates after workings of the moths, while those recorded from nests of bumblebees and social wasps, are either acting as detritus feeders, or represented as scavengers and facultative or obligatory predators or ectoparasitoids (Rotheray, 1999).

Out of six species presented in the European fauna, only three of them were previously trustfully recorded in the Northern Europe; five species were recorded in the Central and Southern Europe, and all six were presented only in the Iberian Peninsula (Steenis, 1998; Speight, 2013). The three Northern European species were also recorded in Lithuania (Pakalniškis *et al.*, 2006); the fourth species, before that unknown in the Northern Europe and the Baltic States was recently recorded from Denmark (Hansen *et al.*, 2015), and it is also presented in this publication from Lithuania.

Material and methods

The material was photographed in the garden on the Baltic Coastal Lowland, the Western Lithuania (Fig. 1). The elevation of studied sight is about the few meters above the sea level and the habitat is characterized as the urbanized locality (the town Center). The list of Lithuanian species was compiled from recently incoming sources (Pakalniškis *et al.*, 2006; Lutovinovas, 2007; 2012; Lutovinovas & Kinduris, 2013; 2015). The taxonomy, the overall distribution and information on larval ecology were taken from Speight (2013; 2014) and Hansen *et al.* (2015).

Locality

Šilutė	Šilutė district	55°21′15″N, 21°29′19″E.

Species

***Volucella zonaria* (Poda, 1761)**

Šilutė, 01 08 2015, 1♀ (photo O. Venckus; Fig. 1).

Palaearctic, immature stages are recorded from nests of larger social wasps (*Vespa crabro, Vespula* spp.) acting as scavengers and facultative larval predators (Speight, 2014).

Figure 1. *Volucella zonaria* (Poda, 1761) feeding on flowers of the cultivated onion

Discussion

The Lithuanian fauna is supplemented by the second species of the *V. zonaria* group. This large and impressive hoverfly (Fig. 1) is known from England, Denmark, Poland, and the South of Russia in the North, to the Northern Africa, the Near East, and the Central and Eastern Asia in the South, being absent in northern parts of the Palaearctic (Speight, 2013; 2014; Hansen *et al.*, 2015). The species is characterized as highly thermophylic, and even in countries of southern Europe being restricted to relatively low altitudes (Groot, 2012), sometimes also recorded on the Baltic coast in Poland (Kaczorowska, 2006). Being associated with hornets and related wasps, it is commonly found in greeneries of cities and gardens, where these wasps are common (Nedelović *et al.*, 2003; Trzciński *et al.*, 2014). This data coincide with our observation of this species in Lithuania on the Baltic Coastal Lowland, in the urbanized locality.

The Lithuanian record falls amongst the northernmost known distributional points of this species in the continent (Speight, 2013). It is hardly possible to imagine that this large and impressive hoverfly was overlooked in Lithuania during previous decades, and it is more likely that the species has spread from more southern areas relatively recently. As highly migratory species, it usually creates populations beyond the northern limit of its range, which stabilizes thanks to the ability of these hoverflies for a long hibernation (Speight, 2014). This species is well-known as expanding its distributional range in Europe, because only in the middle of the last century being settled in the south of England, while gradually spread throughout the Midlands later (Morris & Ball, 2004; Ball *et al.*, 2011), and also known as markedly increased in number during the few last decades in the Netherlands (Reemer *et al.*, 2003; 2009), only recently recorded in the Eastern part of Poland (Sałapa & Czarniawski, 2012) and Denmark (Hansen *et al.*, 2015). It is likely that the species will not stop spreading further northwards and sooner or later will also be found in Sweden and other Northern European countries, how it had happen with the few other species in the past that naturally spread in Lithuania (Ivinskis *et al.*, 2009).

Altogether, four species of this wonderful genus in Lithuania are recorded, which is higher than numbers in most of other countries of the Northern Europe (except of Denmark) and the Baltic States (Speight, 2013). *V. inflata* have a similar distributional range with the species presented here, but the latter is a rather local species unknown in the Northern part of Poland (Soszyński, 2007), which decreases the probability of the finding of the fifth species in our country in future. The number of all hoverfly species recorded in Lithuania is now 281 (Pakalniškis *et al.*, 2006; Lutovinovas, 2007; 2012; Lutovinovas & Kinduris, 2013; 2015), but about a thirty of other species are thought to be added in future.

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Volucella zonaria (Poda, 1761) – nauja Lietuvos faunos rūšis (Diptera: Syrphidae)

E. LUTOVINOVAS, O. VENCKUS

Santrauka

Pateikiami duomenys apie pirmą šios rūšies stebėjimą Lietuvoje, šalies vakarinėje dalyje. Žiedmusė fiksuota ant žydinčių svogūnų, augančių darže. Tai yra viena šiauriausių šios rūšies radviečių Europoje, o pagrindinis arealas siekia Angliją, Daniją, Lenkiją ir Pietų Rusiją šiaurėje, ir Šiaurinę Afriką, Artimuosius Rytus, bei Centrinę ir Rytų Aziją pietuose. Neabejojama, kad šios rūšies aptikimas mūsų šalyje yra susijęs su jos plitimu dėl klimato kaitos. Tai jau ketvirtoji šios įspūdingos žiedmusių genties rūšis Lietuvoje ir tikimybė aptikti daugiau rūšių mūsų šalyje išlieka nedidelė. Šiuo metu Lietuvoje yra rasta 281 žiedmusių rūšis, tačiau dar apie trisdešimt rūšių lieka ieškotinos.

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