

**PSILOTA ATRA (LOEW, 1817) – NEW TO THE FAUNA OF LITHUANIA  
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**Introduction**

The genus *Psilota* Meigen comprises of shiny-metallic, black or bluish hoverflies, rather similar to the species-rich genus *Cheilosia* Meigen in their appearance, but not much related to them and generally considered of an uncertain taxonomic position within this large family (Moran *et al.*, 2022); they could be easily recognized from species of the aforementioned genus by the flat face, though projecting mouth edge, and also, by the absence of spurious vein in their wings, which is a rare feature among other hoverflies (Veen, 2004). This moderate genus with about a fifty of recognized species has a widespread distribution in the world, though relatively species-rich only in the Australasian region, which is the center of its diversity (34 species) (Young *et al.*, 2020); the genus is poorly represented in other parts of the world, including the Nearctic (three species), Palaearctic (nine species) and Oriental (five species) regions (Pape & Evenhuis, 2022; Zhao *et al.*, 2022). Their larvae were found under the bark, inside crevices, hollows or rot holes of different kinds of harmed trees, and considered as filter feeders on yeasts and other microorganisms associated with the decaying sap in certain conditions (Ball & Morris, 2014).

The European fauna comprises of six species, belonging to *Psilota atra* (Loew) and *P. innupta* Rondani species-groups (Smit & Vijić, 2008; Radenković *et al.*, 2020). Altogether, four species including two species-groups recently recognized from Poland (Żóralski, 2018), but only two of these species belonging to different species-groups have been confirmed from northern Europe (Speight, 2020). None of the species of this genus have been recognized from Lithuania (Pakalniškis *et al.*, 2006), and therefore, first observations are presented herewith.

**Material and methods**

The material has been collected from southeastern and central parts of our country in the environs of coniferous trees growing nearby water bodies. The identification, taxonomy and general distribution followed Bartsch *et al.* (2009), Speight & Sarthou (2017), Żóralski (2018) and Speight (2020). The list of Lithuanian species of the hoverflies was compiled from Pakalniškis *et al.* (2006). The material is deposited in the entomological collection of Nature Research Centre (Vilnius, Lithuania).

## List of localities

Locality, State Protected Area	Administrative District	Coordinates (LAT, LONG)
Dabinta, Kauno Marios RP	Kaišiadorys distr.	54.811926, 24.160425
Rūdninkai	Šalčininkai distr.	54.424834, 25.146366

**Result*****Psilota atra* (Loew, 1817)**

Dabinta, 15 06 2021, 1 ♀, forested island in Kaunas Reservoir, on a trunk of old *Pinus sylvestris* (photos & leg. Ž. Pūtys, Fig. 1 [A–B]); Rūdninkai, 10 06 2022, 1 ♀, roadside in the glade within coniferous forest, at the bank of a tiny brook crossing the road, on flowers of *Anthriscus sylvestris* (leg. E. Lutovinovas).



Figure 1 (A–B). *Psilota atra* from Dabinta Island, Kaunas Reservoir, resting on a trunk of old Scots Pine: A – dorsal, and B – lateral views (photos: Ž. Pūtys).

**Discussion**

The Lithuanian fauna is supplemented with a new hoverfly genus and species, representing the *Psilota atra* species-group (Smit & Vijić, 2008). The collected species (Fig. 1 [A–B]) has been erroneously considered synonymous with the less widespread *P. anthracina* Meigen, 1822 in the older literature (Bańkowska, 1963; Stackelberg, 1970) and their identities have been confused afterwards (Veen, 2004), until the study of Smit & Zeegers (2005), who finally corrected this mistake and stabilized nomenclature. Based on the latest revisions of the Scandinavian material (Nielsen, 2005; Bartsch *et al.*, 2009) and the recent study from Poland (Żóralski, 2018), *P. anthracina* has been excluded from the Scandinavian fauna and recorded from Poland as far northwards as to central

part of this country, so its occurrence in the Baltic Republics is highly improbable, leaving the sole confirmed species of the *P. atra* species-group in this region of Europe (Speight, 2020). These data are favorable with our identifications of *P. atra* in this publication, but raising a need of the revision of the Latvian material, where only *P. anthracina* has been recorded (Kuznetsov, 1993). *Psilota atra* is also absent in the recent checklist of Russian hoverflies, whereas *P. anthracina* has been included (Barkalov & Mutin, 2018). Therefore, the global distribution of this species requires re-appraisal, due to confusion with *P. anthracina* on one hand, but also, with the recently described *P. exilistyla* Smit & Vujić, 2008 on the other, which is very close to these species and has not been included in the checklist of Russian hoverflies (Barkalov & Mutin, 2018).

Lithuanian records of this species consist of sole specimens from two different localities in the environs of coniferous trees. This species is rarely detected and most often observed in large forests or small glades within such forests, and therefore, having some conservation value even in those countries where forests prevail (Mazánek & Barták, 2005; Cederberg *et al.*, 2010). However, it is also known that during a period of couple of hours as many as twenty specimens could be collected at certain localities (Smit, 2006), which suggests that the species could be locally common, though most probably not at environs of its distribution edge, where our country is situated. It is thought that this species is probably confined to coniferous forest in contrast to *P. anthracina* which is restricted to deciduous forest, but different habitats yielded more than one species in several cases (Smit & Vujić, 2008).

The other congener species occurring at the similar latitudes near the northern edge of distribution of this genus in Europe is *Psilota innupta* Rondani, 1857 (Speight, 2020), which is the second species, having chances of being recorded in the fauna of our country in the future. However, this species has been considered regionally extinct from Sweden and has not been observed during a period of several decades in northern part of Poland (Bartsch *et al.*, 2009; Żóralski, 2018), which should diminish these chances. In contrast to the former species, it is associated with mature and veteran oak trees in thermophilous oak forests (Aracil *et al.*, 2021), and therefore, could be suspected in southwestern part of our country, where such type of habitats has been recognized (Rašomavičius *et al.*, 2001).

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***Psilota atra* (Loew, 1817) – nauja Lietuvos faunos rūšis (Diptera: Syrphidae)**

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**Santrauka**

Pateikiami duomenys apie pirmus žiedmusės *Psilota atra* stebėjimus Lietuvoje, šalies pietrytinėje ir centrinėje dalyse. Tai yra vienos šiauriausių šios genties ir rūšies radviečių Rytų Europoje, o anksčiau Latvijoje aptiktoms šios genties žiedmusėms reikalinga revizija. Rūšis yra patikimai apibūdinama naudojantis naujausiais literatūros šaltiniais, nes ankstesniuose buvo klaidingai sinonimizuota su kita rūšimi, kuri šiaurės Europoje neturėtų būti aptinkama, arba dar kituose šaltiniuose šių dviejų rūšių vardai buvo supainioti ir jais remiantis registruotos klaidingos radvietės. Vabzdžiai stebėti ant senos pušies kamieno Kauno marių saloje ir spygliuočių miško proskynoje prie nedidelio upelio. Vienu atveju paminėtas mitybinis augalas. Žiedmusė yra susijusi su senų spygliuočių medžių žaizdomis, kuriose susikaupia skysčio, ir dažniausiai yra retai sutinkama, todėl kai kuriose šalyse yra saugoma. Tai yra vienintelė šios genties rūšis Lietuvoje, tačiau išlieka nedidelė tikimybė ateityje aptikti antrą rūšį.

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