

PHORTICA SEMIVIRGO (MÁCA, 1977) – NEW TO THE FAUNA OF LITHUANIA (DIPTERA: DROSOPHILIDAE)*ERIKAS LUTOVINOVAS*¹, *POVILAS IVINSKIS*², *JOLANTA RIMŠAITĖ*²

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E-mails: ¹wohlfahrtia@gmail.com, ²entlab@gmail.com**Introduction**

The genus *Phortica* Schiner includes the vinegar flies (Drosophilidae) that may be recognized by the mesonotum bearing a pollinose pattern and each tibia with three dark transverse bands (Máca, 1977; 2003). The genus with almost a hundred of species has a widespread distribution in the Old World, but especially diverse in mountainous areas of the Oriental Region, where many sibling species occur (Huang *et al.*, 2019). Alike the other related genera (subfamily Steganinae), these flies display a necrophilic attitude, as inferred by the relatively high attractiveness of protein traps containing dead mice (Máca, 2009). Most of the species of this genus (subgenus *Phortica s.str.*) have adapted to feed on ocular secretions of mammals, and are known to be an intermediate hosts of the eye worm – *Thelazia callipaeda* Railliet & Henry (Spirurida: Thelaziidae) – which also infects humans (Otranto *et al.*, 2005; 2009; 2013). The larvae of different species are found in fermenting tree sap, as well as decaying fruits, but they may be partly zoophagous, as fruit breeding media do not seem optimal in supporting their development under laboratory conditions (Otranto *et al.*, 2012; Máca & Otranto, 2014).

This large genus is represented by only four species in the European fauna, with three species recognized in Central Europe and two species presented in Northern Europe (Bächli *et al.*, 2004; 2013). Because of the similarity and presence of only one of the two widespread species in the older identification literature (e.g. Stackelberg, 1970), records of both species should be treated with a caution (Cantacessi *et al.*, 2008). However, none of the species were previously recorded in the Baltic States (Escher *et al.*, 2002; 2004; 2006), and the first observation is presented in this publication.

Material and methods

The research was carried out in Kalniškės, Maišiagala eldership, Vilnius distr. (54.846707, 25.176463). The collecting site is situated in the upper reaches of the Dūkšta brook, where it takes sources from the forested marshes with old deciduous trees. The material was attracted to the UV lamp light and then fixed in a solvent. The list of the vinegar flies (Drosophilidae) of Lithuania was compiled from Escher *et al.* (2004) and Pakalniškis *et al.* (2006). The identification, taxonomy and general distribution followed Máca (1977; 2003) and Bächli *et al.* (2004; 2013). The single specimen of the fly is deposited in the entomological collection of Nature Research Centre (Vilnius, Lithuania).

The Record***Phortica (Phortica) semivirgo* (Máca, 1977)**

Kalniškės, Maišiagala eldership, 27–31 10 2019, 1♂, attracted to UV light (leg. P. Ivinskis & J. Rimšaitė; Fig. 1 [A–C]).

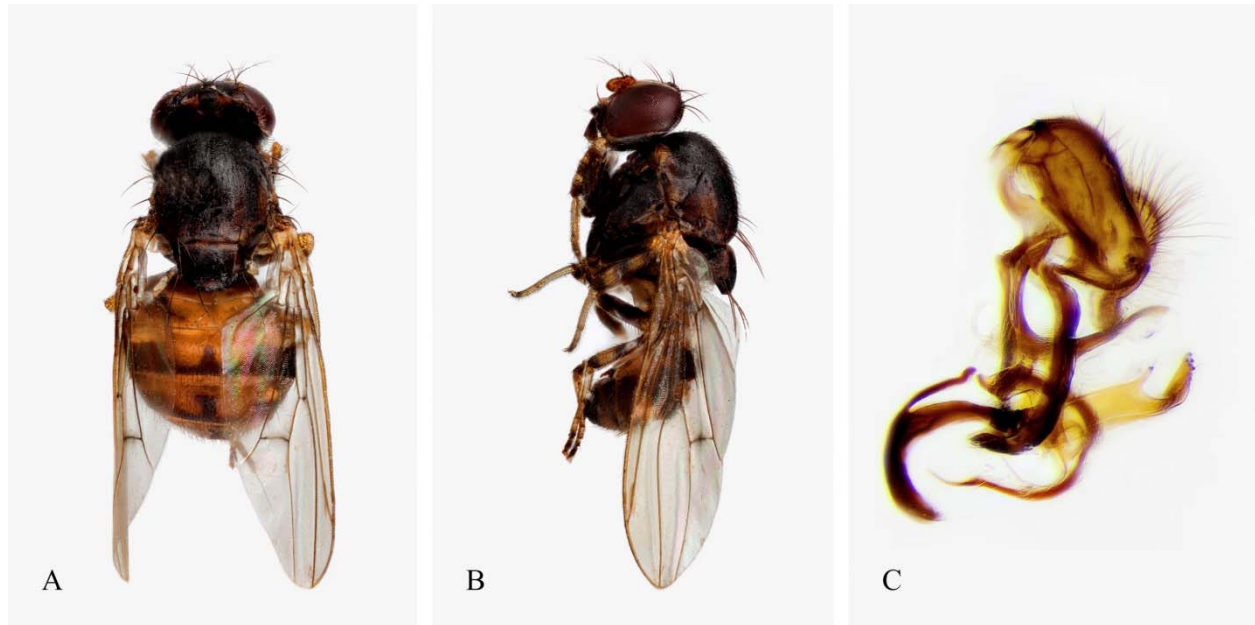


Figure 1 (A–C). *Phortica semivirgo*, recorded from Kalniškės, Maišiagala eldership (Vilnius distr.): A – dorsal, and B – lateral views; C – male genitalia (photos: Ž. Pūtys).

Discussion

The Lithuanian fauna is supplemented by a new species of the vinegar fly, representing the *P. variegata* (Fallén, 1823) species-complex. Characters on the male genitalia were utilized for the species identification (Máca, 1977; Bächli *et al.*, 2004). The collected species (Fig. 1 [A–C]) is known to occur from major part of our continent, as well as from adjacent areas of Transcaucasia and Turkey (Bächli *et al.*, 2013). The records of both similar species that occur in Northern Europe suggest that *P. semivirgo* (Máca) is usually less common than *P. variegata* (Fallén) in North-Western and Central Europe (Bächli *et al.*, 2004; Máca *et al.*, 2005), as well as in mountainous areas of Southern Europe (Otranto *et al.*, 2006; 2012), but most of records from the East European plain correspond to the former species (Bächli *et al.*, 2013), which is in favor to our identification. The record provided in this publication does not expand the knowledge about the overall distribution of this species, but is still noteworthy, as a new record for the Baltic States (Bächli *et al.*, 2013). The vinegar flies of this region have received the certain attention from researchers in the past (Escher *et al.*, 2002; 2004; 2006), and cannot be considered as the neglected group, when compared to some other dipterous families, what also indicates that the presented species is uncommon in this region. The site where the species was collected is a usual habitat for this species in Central Europe (Máca *et al.*, 2005). The species is being regarded as a vector of the thelaziasis of mammals (Otranto *et al.*, 2005; 2009; 2013); the

parasitic worm responsible for the disease does not occur in Northern Europe, but its spreading trend in Central Europe has been identified (Roggero *et al.*, 2010; Palfreyman *et al.*, 2018).

Altogether, the number of species of the vinegar flies of the Lithuanian fauna has increased to thirty-six (Escher *et al.*, 2004; Pakalniškis *et al.*, 2006). In spite of the certain attention, received from both foreign and local researchers, the number of recorded species stays incomplete, when compared to the fauna of some Nordic countries (Bächli *et al.*, 2004), and about twenty more species candidates are suspected to be added in the future publications. However, the second species of the *P. variegata* (Fallén) species-complex, which occurs in Northern Europe – *P. variegata* (Fallén) itself – may be suspected to occur in Lithuania with a smaller probability based on the faunistic records of this species, as they are much less numerous and more scattered in the East European plain in comparison with its sister-species (Bächli *et al.*, 2013), though the predicted distribution of this species based on the ecological niche modeling method also includes parts of the territory of our country (Otranto *et al.*, 2006; Palfreyman *et al.*, 2018).

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Phortica semivirgo* (Máca, 1977) – nauja Lietuvos faunos rūšis (Diptera: Drosophilidae)E. LUTOVINOVAS, P. IVINSKIS, J. RIMŠAITĖ***Santrauka**

Pateikiama informacija apie pirmą šios rūšies vaismusės (Drosophilidae) stebėjimą Lietuvoje, ir tai yra vienintelis stebėjimas Baltijos šalyse. Rūšis yra patikimai apibūdinama tiksliai pagal patino ir patelės genitalijų preparatus, o identifikavimui naudojant senesnius literatūros šaltinius, gali būti supainiota su kita, jai gimininga rūšimi. Vaismusė buvo priviliota UV lempos šviesos ir fiksuota tirpiklyje. Literatūros duomenimis, abiejų giminingų rūšių vaismusės (kaip ir visos pogentės rūšys) yra prisitaikiusios maitintis žinduolių akių išskyromis, ir yra žinomos, kaip parazitinio nematodo, sutinkamo šių gyvūnų akyse – *Thelazia callipaeda* Railliet & Henry (Spirurida: Thelaziidae) – tarpiniai šeimininkai. Šios rūšies nematodai Šiaurės Europoje neaptikti, tačiau plečia savo arealą Centrinėje Europoje. Lietuvos faunos vaismusių skaičius išaugo iki trisdešimt šešių rūšių; maždaug dvidešimt rūšių, sutinkamų gretimose šalyse, lieka ieškotinos.

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