

***STOMORHINA LUNATA* (FABRICIUS, 1805) – NEW TO THE FAUNA OF LITHUANIA (DIPTERA: RHINIIDAE)**

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Introduction

The genus *Stomorhina* Rondani belongs to a small family Rhiniidae that traditionally had a subfamily status in the heterogeneous group Calliphoridae (Schumann, 1986; Rognes, 1998), but recently raised to the rank of the family (Kutty *et al.*, 2010; Pape *et al.*, 2011). Striking streaks on the eyes and yellow side patches on abdomen in males, in contrast to grey patches in females, make them distinct from the other genera. Species of this genus are commonly observed feeding on flowers (Kato & Miura, 1996; Mitra *et al.*, 2006), and were found to be effective pollen carriers of some exotic fruit crops (Nurul-Huda *et al.*, 2015; Moophayak & Meeinkuirt, 2017). Their larvae are known as parasitoids on egg-pods of some species of swarming locusts (Rognes, 1998), as well as ectoparasites in nests of ants (Bharti & Bharti, 2016). These feeding habits have important implications for the pest control (Wilps, 1997; Rognes, 1998).

The genus is represented by a single European species (Schumann, 1986; Rognes, 2013). Usually of the Mediterranean origin, *S. lunata* (Fabricius, 1805) has been widely recorded all over Europe, but mostly because of strong migratory trends, and rarely reaching Nordic countries (Rognes, 1991). One of these migratory cases is documented here in this publication, mentioning this species as the member of our fauna for the first time (Pakalniškis *et al.*, 2006).

Material and methods

The material was photographed (Fig. 1) or collected in two localities. The list of Lithuanian species was compiled from Pakalniškis *et al.* (2006). The taxonomy and general distribution followed Schumann (1986), Rognes (2013), Grahn & Knutsson (2015) and Hansen *et al.* (2015). Collected specimens are deposited in the collection of Nature Research Centre (Vilnius).

List of localities

Maigiai	Mažeikiai district	56.286388 N, 22.490833 E;
Nida	Neringa mun.	55.302777 N, 21.005555 E.

Species

Stomorhina lunata (Fabricius, 1805)

Maigiai, 16 09 2018, 1♂, forest clearing, on the foliage (photo R. Kinduris; Fig. 1); Nida, 29 07 2018, 2♀ (more specimens observed), roadside through the forest, on *Achillea millefolium* flowers (leg. E. Lutovinovas).



Figure 1. *Stomorhina lunata* (Fabricius, 1805) from Maigiai (Mažeikiai distr.)

Discussion

We supplement the Lithuanian fauna with a new insect species (Fig. 1), representing the new family (Rhiniidae) for our country (Pakalniškis *et al.*, 2006). The species is widespread in the Palaearctic and the Palaeotropical regions, as well as in Bermuda Island (Schumann, 1986). However, given that it is unable to use any local insects as larval food, it is thought that all Nordic records relate to vagrants that have flown in from the Mediterranean (Rognes, 1991). In the continental Europe this species as far northwards known as to Finland from the year 1844 (Rognes, 1991), but the year 1901 was the first of these noted from Britain (Perry, 2006). The species deeply penetrates into the continent in countries of Central Europe, including the Netherlands (Aartsen, 1997), Germany (Drees, 1998) or Poland (Szpila, 2000), being recorded up to the mountains in the Czech Republic (Šuláková *et al.*, 2014). The records suggests that the species rarely reaches Nordic countries, and all these observations are noted near the Baltic coast, including the record known from the Botanical garden in Helsinki, Finland (Rognes, 1991), the one known from Gotland Island, Sweden (Grahn & Knutsson, 2015), and the few records known from Bornholm, Zealand, Falster, Langeland and

Funen Islands, Denmark (Hansen *et al.*, 2015). Other species of this family living in southern Europe are more thermophilic and have no tendencies to migrate, so they are not expected being found in Central Europe.

We have observed this species in Lithuania both near the Baltic coast and also deeper inland. Insects were observed feeding from flowers, or sunbathing on leaves of shrubs (Fig. 1). This migratory insect is unknown yet from the other Baltic countries, but considering numerous specimens observed in Lithuania in at least one of the localities this year, it seems fair to say that the species might also be common in some localities in the neighboring countries.

References

- Aartsen B. van 1997. Nieuwe en zeldzame vliegen voor de Nederlandse fauna (Diptera). *Nederlandse Faunistische Mededelingen* 7: 7–10.
- Bharti M, Bharti H. 2016. Association and impact of ectoparasitic blowflies (Diptera: Calliphoridae) on Himalayan ants of genus *Myrmica*. *Insectes Sociaux* 63: 477–480.
- Drees M. 1998. Ein aktueller Nachweis von *Stomorhina lunata* (F.) (Diptera: Calliphoridae) im mittlern Ruhrtal. *Decheniana, Bonn* 151: 197.
- Grahn J., Knutsson T. (eds.) 2015. *ArtDatabanken, SLU*, <http://artfakta.artdatabanken.se/> [accessed 09–2018]
- Hansen M.D., Olsen K., Jensen T.S. 2015. *Nye arter i Danmark – Terrestriske arthropoder og vertebrater*, p. 52. Naturhistorisk Museum, Aarhus.
- Kato M., Miura R. 1996. Flowering phenology and anthophilous insect community at a threatened natural lowland marsh at Nakaikemi in Tsuruga, Japan. *Contributions from the Biological Laboratory, Kyoto University* 29: 1–48.
- Kutty S.N., Pape T., Wiegemann B.M., Meier R. 2010. Molecular phylogeny of the Calyptratae (Diptera: Cyclorrhapha) with an emphasis on the superfamily Oestroidea and the position of Mystacinobiidae and McAlpine's fly. *Systematic Entomology* 35(4): 614–635.
- Mitra B., Parui P., Ahmed S., Mukherjee S.P., Sur S., Sinha P. 2006. A preliminary study on the dipteran pollinators of Jessore Sloth Bear and Balaram-Ambaji wildlife sanctuaries, North Gujarat. *Punjabi University Result* 56: 145–148.
- Moophayak K., Meeinkuirt W. 2017. Predominance of blowflies (Diptera: Calliphoridae) among insects visiting flowers of *Buchanania lazan* (Sapindales: Anacardiaceae). *Applied Ecology and Environmental Research* 15(4): 651–659.
- Nurul-Huda A., Che-Salmah M.R., Abu-Hassan A., Hamdan A., Abdul-Razak M.N. 2015. Pollination services of mango flower pollinators. *Journal of Insect Science* 15(1): 113.
- Pakalniškis S., Bernotienė R., Lutovinovas E., Petrašiūnas A., Podėnas S., Rimšaitė J., Sæther O.A., Spungis V. 2006. Checklist of Lithuanian Diptera. *New and Rare for Lithuania Insect Species* 18: 16–154.
- Pape T., Blagoderov V., Mostovski M.B. 2011. Order Diptera Linnaeus, 1758. In Zhang Z.-Q. (ed.). *Animal biodiversity: an outline of higher-level classification and survey of taxonomic richness*. *Zootaxa* 3148: 222–229.
- Perry I. 2006. The Jenkinson records of *Stomorhina lunata* (Fabricius, 1805) (Diptera, Calliphoridae). *Dipterists Digest* 13: 132.
- Rognes K. 1991. Blowflies (Diptera, Calliphoridae) of Fennoscandia and Denmark.

- Fauna entomologica Scandinavica* 24, 248 pp. E.J Brill, Leiden, The Netherlands.
- Rognes K. 1998. Family Calliphoridae. In Papp L., Darvas B. (eds.). *Contributions to a manual of Palaearctic Diptera (with special reference to flies of economic importance). Volume 3: Higher Brachycera*, pp. 617–648. Science Herald, Budapest.
- Rognes K. 2013. Fauna Europaea: Calliphoridae. In Pape T., Beuk P. (eds.). *Diptera: Brachycera. Fauna Europaea version 2.6.2*, <http://www.faunaeur.org> [accessed 09–2018]
- Schumann H. 1986. Family Calliphoridae. In Soós Á., Papp L. (eds.). *Catalogue of Palaearctic Diptera. Volume 12: Calliphoridae–Sarcophagidae*, pp. 11–58. Academy Press, Budapest.
- Szpila K. 2000. Three species of Calliphoridae (Diptera) new to the Polish fauna. *Polskie pismo entomologiczne* 69: 355–361.
- Šuláková H., Barták M., Vaněk J. 2014. Bzučivkovití (Diptera, Calliphoridae) české části Krkonoš. *Opera Corcontica* 51: 145–156.
- Wilps H. 1997. Ecology of *Schistocerca gregaria* (Forskål): observations in West Africa from 1990 to 1994. In Krall S., Peveling R., Diallo BD. (eds.). *New Strategies in Locust Control*, pp. 9–17. Birkhäuser Verlag Basel, Switzerland.

***Stomorhina lunata* (Fabricius, 1805) – nauja Lietuvos faunos rūšis (Diptera: Rhiniidae)**

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Santrauka

Pateikiami duomenys apie pirmą šios rūšies, ir šeimos Rhiniidae, stebėjimą Lietuvoje. Vabzdžiai aptikti Kuršių Nerijoje ir žemyninėje Lietuvos dalyje. Tai yra migruojanti rūšis, retai užklystanti į Šiaurės Europą, o pagrindinis arealas apima Pietų Europą, Afriką ir Pietų Aziją, o taip pat Bermudų salą netoli Šiaurės Amerikos krantų. Tai yra vienintelė šios genties rūšis visoje Europoje, o kitos šios šeimos rūšys, gyvenančios Pietų Europoje, yra labiau termofilinės ir neturi polinkio migruoti, todėl jų rasti mūsų šalyje nesitikima.

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