FIRST RECORDS OF MEGACHILE ROTUNDATA (FABRICIUS, 1787) AND ANDRENA FULVA (MÜLLER, 1766) IN LITHUANIA (HYMENOPTERA: MEGACHILIDAE, ANDRENIDAE)

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Introduction

Over 1500 described species are included in the genus Megachile Latreille, 1802, accounting for a third of all bees in the family Megachilidae (Michener, 2007). Bees from this genus can live in various types of habitats (rainforests, deserts, mountains), thus they are found worldwide and are only absent from Antarctica (Gonzalez et al., 2012). Megachile rotundata are relatively small (60-90 mm), dark grey or black in colour.

Andrena Fabricius, 1775 is the largest genus in the bee family Andrenidae; it consists of about 1500 described species worldwide (Hazir et al., 2014), 931 of which are known from the Palearctic region (Gusenleitner & Schwarz, 2002). Most of the genus biodiversity can be found in the Holarctic region; species richness is very small in Africa and Andrena bees are not known from Australia, South America or Southeast Asia (Gusenleitner & Schwarz, 2002; Dubitzky 2006; Michener, 2007). Females of Andrena fulva are large and colourful (Fitzpatrick et al. 2006), with distinct dense reddish-brown dorsal hairs on their thorax and abdomen that contrast with the rest of the body hair that is black to blackish brown. Males are much harder to distinguish from similar Andrena species; they have a large tooth at the base of the mandible, second segment of the flagellum is almost the length of third and fourth segments combined (Gusenleitner & Schwarz, 2002) and less dense lighter reddish-brown thorax hairs as well as long white hairs on the clypeus are noticeable on fresh specimens (BWARS, 2011).

The aim of the publication is to document the first-time records of these two bee species in Lithuania.

Material and Methods

The bees were collected using an entomological net by E. Budrys (abbreviated as E.B.), or observed and photographed in the field by Romas Ferenca (R.F.) and Gintautas Steiblys (G.S.). The collected specimen is deposited in the Nature Research Centre (Vilnius, Lithuania).
Figs. 1–2. 1 – *Megachile rotundata* ♀ (foto E. Budrys); 2 – *Andrena fulva* ♀ (foto R. Ferenca)

List of localities

<table>
<thead>
<tr>
<th>Locality</th>
<th>Administrative district</th>
<th>Coordinates (LAT, LONG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petrašiūnai</td>
<td>Kaunas mun.</td>
<td>54.8932, 24.0220</td>
</tr>
<tr>
<td>Šančiai</td>
<td>Kaunas mun.</td>
<td>54.8729, 23.9363</td>
</tr>
<tr>
<td>Tirkiliškiai</td>
<td>Kaunas mun.</td>
<td>54.8609, 23.8574</td>
</tr>
<tr>
<td>Žaliakalnis</td>
<td>Kaunas mun.</td>
<td>54.9042, 23.9039</td>
</tr>
</tbody>
</table>

List of species

**MEGACHILIDAE**

*Megachile rotundata* (Fabricius, 1787) (Fig. 1)

Tirkiliškiai, 12 08 2017, 1♀ (E.B.).

**ANDRENIDAE**

*Andrena fulva* (Müller, 1766) (Fig. 2)

Petrašiūnai, 06 05 2021, 1♀ (G.S.); Šančiai, 05 05 2021, 1♀ (R.F.); Žaliakalnis, on flowers of *Prunus cerasifera*, 21 04 2018, 1♀ (E.B.).

Discussion

*Megachile rotundata* is native to eastern Europe and western Asia (Osgood, 1964; Kemp & Bosh, 2000), though it has been introduced to other continents, such as North America and Australia, to be used as a specialist pollinator of alfalfa (Mitchell, 1962; Brewer, 1995; Michener, 2007; Pitts-Singer & Cane, 2011). In the neighbouring countries, *M. rotundata* has been recorded in Poland (Ptacek, 1982), Belarus (Ascher & Pickering, 2020) and Estonia; in the latter country the species is assessed as near threatened (NT) (eElurikkus, 2020). The species is also found in Finland (Laji.fi, 2021) and Denmark (Holm, 1982). *M. rotundata* is considered as data deficient (DD) according to the IUCN criteria in Europe (Nieto *et al.*, 2014) and worldwide (Dewulf & Praz, 2014), thus abundance and distribution of the species need to be further studied to determine its conservation status.
Andrena fulva is widespread in western and central Europe, but has also been found in northern and southern Europe as well as the Balkans, Turkey, Caucasus, Ural and Siberia. Closest previous records to Lithuania were in Kaliningrad Oblast (Russia) and Poland; no data is available in Belarus or Latvia (Rasmont et al., 2013; Ascher & Pickering, 2020; Tomozei, 2014; Proshchalykin et al., 2017). In Ireland, the species is included in the National Red List as regionally extinct (RE) (Fitzpatrick et al. 2006). Abundance, distribution and threats to populations of A. fulva need further investigation to assess its conservation status as the species is currently regarded as Data Deficient (DD) in Europe (Nieto et al., 2014) and worldwide (Tomozei, 2014).

Acknowledgements

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References


Pirmieji bičių Megachile rotundata (Fabricius, 1787) ir Andrena fulva (Müller, 1766) (Hymenoptera: Megachilidae, Andrenidae) stebėjimai Lietuvoje

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Santrauka

Pirmą kartą Lietuvoje aptiktos dvi bičių rūšys: liucerninė bičė-lapkirpė (Megachile rotundata (Fabricius, 1787)) ir rūdžiagaurė smėliabitė (Andrena fulva (Müller, 1766)), priklausiantys atitinkamai pilvarinkių bičių (Megachilidae) ir smėliabičių (Andrenidae) šeimoms. Pateikiamos kiekvienos bičių sugavimo ar stebėjimo vietos bei datos, individų skaičius ir jų lytis, rinkikai. Abiejų bičių bitės yra plačiai paplitusios Europoje, jos stebėtos kai kuriose kaimyninėse šalyse, tačiau aptikimas Lietuvoje buvo tikėtinas.

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