Pollinator Academy

Genus: *Dasypoda*

Female

Male

Genus: *Dasypoda* Latreille, 1802

Clade: Anthophila

Family: Melittidae

SubFamily: Dasypodainae

Tribe: Dasypodaini

Number of species of this genus found in Europe: 19

Morphology & diagnosis

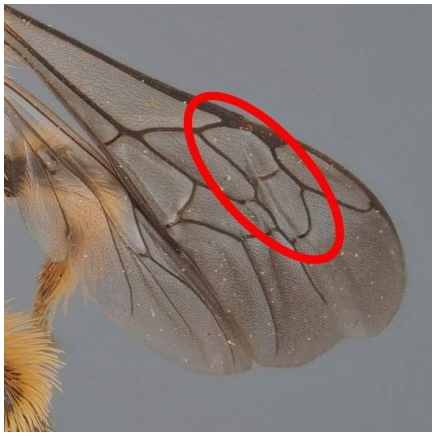
Dasypoda are short-tongued, medium- to large-sized (8-16mm) bees. They have two submarginal cells, the first larger than the second. The females can be recognized by their enormous pollen brushes on the hind tibias and tarsi and the hind tibias are without basal plate. Their metasoma shows a glossy black cuticle with bands of light-coloured hairs, which are more or less interrupted. The metasoma is slightly flattened dorso-ventrally and it is wider at the level of segments 4 and 5. The hairs are variable in colour, sometimes grey-brown, sometimes reddish.

The males are more uniformly coloured with beige pilosity covering the metasoma. The first tarsal segment is characteristic because strongly elongate, appearing very fine, and with very long hairs.

Summary of distinctive traits

- Very long hairs on posterior legs (posterior basitarsus with hairs more than 3x longer than basitarsus width) (a)
- 2 submarginal cells, submarginal cell 2 smaller than submarginal cell 1 (b)
- Small mouthparts (short-tongue morphology), paraglossa without dense pilosity (c)

(a) *Dasypoda sinuata* Female



(b) *Dasypoda cingulata* Male

(c) *Dasypoda michezi* Female

General comments on identification to species level

Species identification requires clean hairs and visible mouthparts. In the male, genitalia and last 3 sternites should be extracted.

Morphologically similar genera, and how to distinguish them

- ***Dasypoda - Melitta***

  Dasypoda species have a 2 submarginal cells, normal last tarsal segment and a bare paraglossa.

  Melitta species have 3 submarginal cells, an enlarged last tarsal segment and densely hairy paraglossa.

- ***Dasypoda - Eucera***

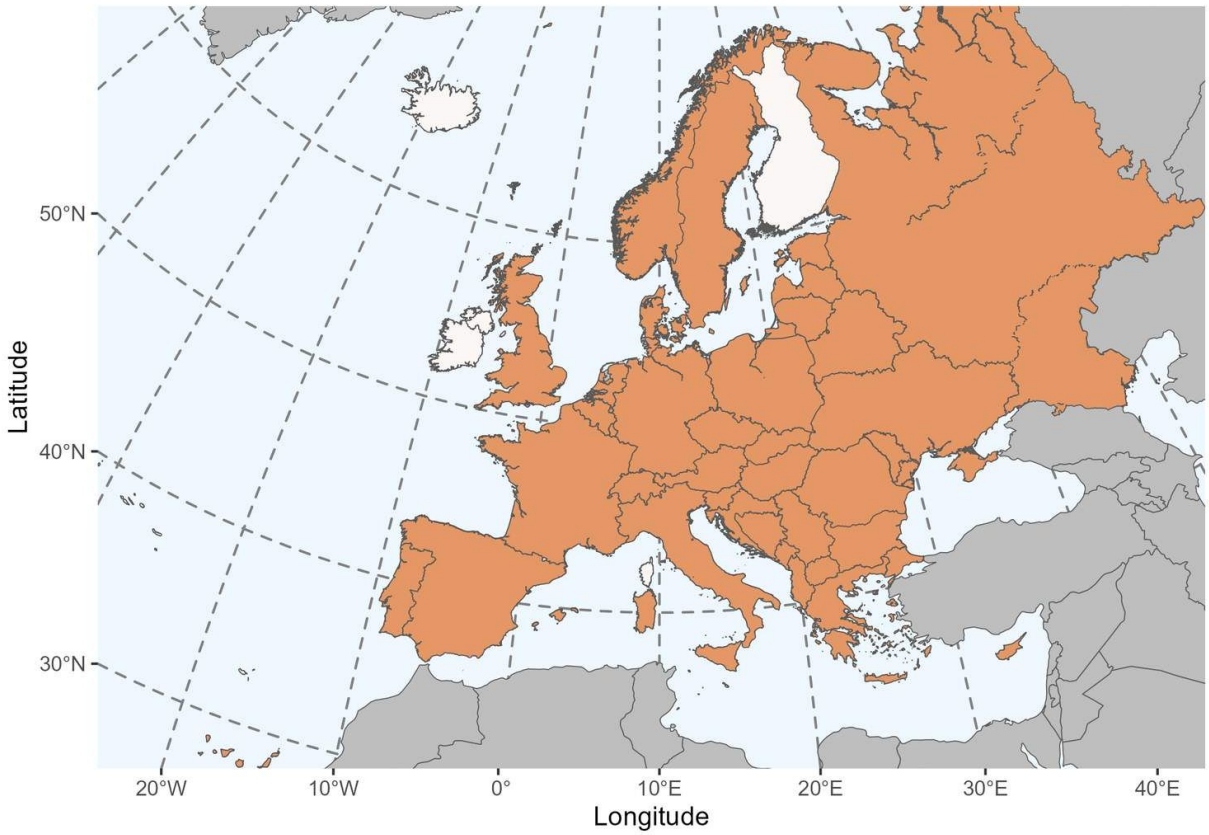
  (some Eucera females have a well-developed scopa that could induce confusions)

  Dasypoda species have a short tongue.

  Eucera species have a long tongue.

Geographical distribution and global diversity

Dasypoda is a Palaearctic genus, known from North Africa and West Europe to Japan. Thirty-four species have been recorded (Baker, 2002), 19 of which are known for Europe. Identification keys have been published by Michez et al. (2004a, b).



Presence in Europe

Albania, Austria, Belarus, Belgium, Bosnia & Herzegovina, Bulgaria, Crete, Croatia, Cyprus, Czech Republic, Denmark, Estonia, France (except Corsica), Germany, Greece, Hungary, Italy (including Sicilia and Sardinia), Latvia, Lithuania, Luxembourg, Moldova, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom, Åland Islands.

Biology

Seasonal life cycle

Dasypoda hirtipes is the most common and known species. Males fly at the beginning of June and females follow one or two weeks later remaining active until the end of August. *Dasypoda morotei* in Spain and other species are active earlier and emerges in April, or in May as *Dasypoda argentata* in Poland (Celary, 2004).

Reproduction

The copula of *Dasypoda hirtipes* lasts only tens of seconds. It takes place near the nesting site, most often on the inflorescences of nearby Asteraceae (Bergmark et al., 1984).

Nesting

The gravid *Dasypoda* females alone build their nest, which is dug underground and usually in the vicinity of their emergence site. Some species of *Dasypoda*, i.e. *Dasypoda hirtipes*, nest in communities, sometimes comprising several hundred, even thousands of nests (Blagovestchenskaya, 1963). In the case of *Dasypoda hirtipes*, the females dig their burrow using their mandibles and hind legs (Vereecken et al., 2006) by moving backwards using their hind legs and the extracted sand forms a tumulus around the nest entrance. According to Michez et al. (2020) it takes 3 to 5 days to elaborate the main gallery and the peripheral galleries, depending on the degree of soil compaction. The females can be found on sand quarries, inland dunes, path margins, and even some urban environments (like paved pathways) where the soil has a sandy texture. They select sites which turn out to be sun-exposed, bare ground, horizontal or weakly sloping.

Parasites

The nests of *Dasypoda* are parasitized by broodparasitic bees of the genus *Sphecodes* and by flies of the genus *Miltogramma*.

Floral preferences

All species of the subgenus *Dasypoda* collect their pollen only from Asteraceae. However, *Dasypoda* usually harvest pollen and nectar from a restricted number of plants. For example, *Megadasypoda* gather pollen and nectar from Dipsacaceae

whereas the other two subgenera, *Heterodasypoda* and *Microdasypoda*, prefer pollen and nectar from Cistaceae (Michez et al. 2008).

Type species: *Andrena hirtipes* Fabricius, 1793 , by designation of Blanchard, 1840: 414.

Synonyms: Podasys Rafinesque, 1815

Etymology: from the Greek *dasy-* = thick (bushy) and *-poda* = foot, referring to the hind legs with enormous brushes of hairs in the females.

Common names:
FR: dasypodes or abeilles à culottes
AT: hosenbienen
NL: pluimvoetbijen
UK: pantaloon bees
DK: buksebier
NO: nuksebier
SW: byxbin

List of species found in Europe:

1. *Dasypoda (Dasypoda) dusmeti* Quilis, 1928
2. *Dasypoda (Dasypoda) hirtipes* (Fabricius, 1793)
3. *Dasypoda (Dasypoda) morawitzi* Radchenko, 2016
4. *Dasypoda (Dasypoda) panzeri* Spinola, 1838
5. *Dasypoda (Dasypoda) pyriformis* Radoszkowski, 1887
6. *Dasypoda (Heterodasypoda) albimana Pérez, 1905*
7. *Dasypoda (Heterodasypoda) michezi Radchenko, 2017*

8. *Dasypoda (Heterodasypoda) morotei* Quilis, 1928
9. *Dasypoda (Heterodasypoda) pyrotrichia* Förster, 1855
10. *Dasypoda (Megadasypoda) argentata* Panzer, 1809
11. *Dasypoda (Megadasypoda) braccata* Eversmann, 1852
12. *Dasypoda (Megadasypoda) frieseana* Schletterer, 1890
13. *Dasypoda (Megadasypoda) spinigera* Kohl, 1905
14. *Dasypoda (Megadasypoda) suripes* (Christ 1791)
15. *Dasypoda (Megadasypoda) toroki* Michez, 2004
16. *Dasypoda (Megadasypoda) visnaga* (Rossi, 1790)
17. *Dasypoda (Microdasypoda) cingulata* Erichson, 1835
18. *Dasypoda (Microdasypoda) crassicornis* Friese, 1896
19. *Dasypoda (Microdasypoda) iberica* Warncke, 1973

Subgenera found in Europe:

- *Dasypoda* s. str. Latreille, 1802
- *Heterodasypoda* Michez, 2004
- Megadasypoda Michez, 2004
- *Microdasypoda* Michez, 2004

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Attributions

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