Pollinator Academy

Genus: *Ammobatoides*

Female

Male

Genus: *Ammobatoides* Radoszkowski, 1967

Clade: Anthophila

Family: Apidae

SubFamily: Nomadinae

Tribe: Ammobatoidini

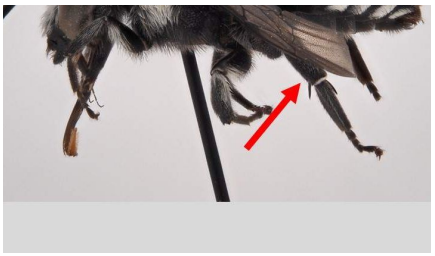
Number of species of this genus found in Europe: 4

Morphology & diagnosis

As members of the family Apidae, they have a long-tongue morphology. They are brood parasite medium-sized species (10-14mm). They are « pasitiforms », which means that they are morphologically similar to the genus *Pasites*. As the etymology of the genus *Pasites* means « similar to others », in this case similar to other brood parasitic bees of the Ammobatini tribe which also includes the genus *Ammobates*. They have two rounded submarginal cells, diverging in relation to the wings' anterior margin. The strongly browned wings have a longer radial cell without an appendage. The clypeus is prominent. The labrum is longer than broad in all cases. This genus show a strong sexual dimorphism. The females of *Ammobatoides* show a very clear and visible pygidial plate; and the sternite 6 is ornamented with small blunt projections on its lateral lobes and it is strongly notched at the tip. They show a reddish cuticle and a black mesosoma, with a short white pilosity. The males show uniform brown or black body, the colour of the pilosity dependends on the species and ranged from golden to white. The eyes of the males show a distinct convergence on the dorsal side of the head, being the only genera showing this trait within the subfamily Nomadinae.

Summary of distinctive traits

- 2 submarginal cells (a)
- Pointed / rounded marginal cell (not truncate) (b)
- No scopa (brood parasitic bees) (c)
- Medium-size black and red or brown bees (c)
- Females with slightly concave inner margins of the eyes (d)
- Male eyes strongly converging dorsally (e)



(d) *Ammobatoides scripta* Female

(e) *Ammobatoides scripta* Male

General comments on identification to species level

The identification of both males and females must be carried out under the microscope. The elements to examine are the last sterna, the structure of the (micro-)pilosity, the punctuations of the mesosoma, the maxillary palpus, and the three-dimensional structure of the genitalia for the males.

Morphologically similar genera, and how to distinguish them

- ***Ammobatoides - Schmiedeknechtia***

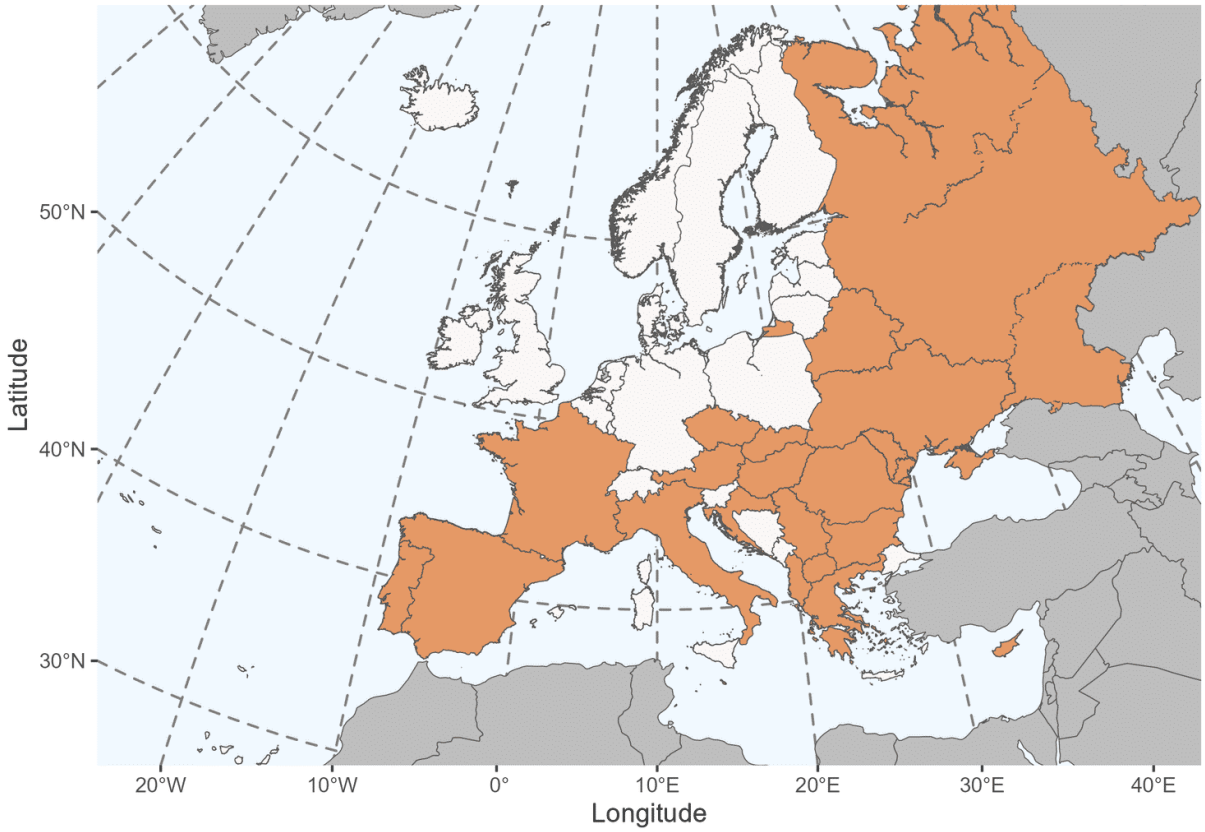
  Ammobatoides body size is > 10mm, inner margin of the eyes concave, males with converging eyes, legs black. *Schmiedeknechtia* body size is < 7mm, inner margin of the eyes straight, males with non-converging eyes, legs yellow.

- ***Ammobatoides - Ammobates, Biastes, Chiasmognathus, Parammobatodes & Pasites***

  Ammobatoides has an oval or pointed marginal cell, basal part of submarginal cell 1 is around twice as long as that of submarginal cell 2. Males have strongly converging eyes. *Ammobates, Biastes, Chiasmognathus, Parammobatodes & Pasites* have a truncated marginal cell, basal part submarginal cell 1 is about as long as that of submarginal cell 2. Males have non-converging eyes.

Geographical distribution and global diversity

The genus *Ammobatoides* contains 8 species, their distribution extending from Morocco and Spain westwards up to Russia and China in the east, notably their distribution encompassing Turkey. Interestingly, the distribution of this genus is disjunct at the global scale, being recorded in Cape Province, South Africa (Bischoff, 1923). In Europe there occur 4 species of *Ammobatoides*. The genus in the Palaearctic region has been reviewed by Popov (1933) and posteriorly by Warncke (1982).



Presence in Europe

Albania, Austria, Belarus, Bulgaria, Croatia, Cyprus, Czech Republic, France (mainland), Germany, Greece (mainland), Hungary, Italy (mainland), Malta, Moldova, North Macedonia, Portugal (mainland), Romania, Russian Federation, Serbia, Slovakia, Spain (mainland), Ukraine.

Biology

Seasonal life cycle

The species of the genus *Ammobatoides* are brood parasitic bees, and they are strictly linked to the seasonality of their host species. They fly essentially in spring and summer.

Reproduction

As in most cases in solitary bees, the copula occurs close to where the individuals emerge, commonly on vegetation or on the ground (Bergmark et al., 1984), and it lasts a few seconds.

Nesting

The *Ammobatoides* never build their own nest: they exclusively depend on ground-nesting bees and their nests for reproduction. Then, the females are constantly patrolling the area searching nests of their host species. Once the hosts leave their nest to forage, they infiltrate into the host nests where they lay an egg on the reserves of food that the host has prepared for its own descendants. As most brood parasitic bees, have a tough cuticle and a strong sting which can potentially use against their hosts if they encounter each other in the nest or in the vicinity. Both sexes spend the nights by attaching themselves with their mandibles on a stalk with their mandibles.

Host species

Ammobatoides are parasites specific to wild ground-dwelling bees of the genus *Melitturga* (and *Meliturgula* outside Europe) (Andrenidae, Panurginae) (Popov 1933).

Floral preferences

As brood parasitic bees, the females do not actively collect pollen to feed their larvae. Males and females are then seen visiting a diversity of flowers from which they collect the nectar and a small quantity of pollen for their own consumption. However, certain known hosts are oligolectic. Thus, *Ammobatoides* are therefore also automatically specialized on these plants, as their larvae only consumes the food resources accumulated by their hosts.

Type species: *Phileremus abdominalis* Eversmann 1852, by designation of Sandhouse *1943*.

Synonyms: *Phiarus Gerstaecker,* 1869*; Euglages Gerstaecker,* 1869*; Paidia Radoszkowski,* 1872*; Paedia Dalla Torre,* 1891

Etymology: The name of the genus derives from *Ammobates*, coming from the Greek *ammo-* = sand and *bate-* = walk, battre (tramp about, as in 'travel all around'). The suffix -oides refers to a morphological similarity, in this case to *Ammobates*.

Common names: The common names in German and Dutch mean "the bees which run on sand".

List of species found in Europe:

1. *Ammobatoides (Ammobatoides) abdominalis* (Eversmann, 1852)
2. *Ammobatoides (Ammobatoides) luctuosus* (Friese, 1911)
3. *Ammobatoides (Ammobatoides) okalii* (Kocourek, 1990)
4. *Ammobatoides (Ammobatoides) scriptus* (Gerstaecker, 1869)

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Attributions

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Funded by the European Commission