Pollinator Academy

Genus: *Pasites*

Female

Male

Genus: *Pasites* Jurine, 1807

Clade: Anthophila

Family: Apidae

SubFamily: Nomadinae

Tribe: Ammobatini

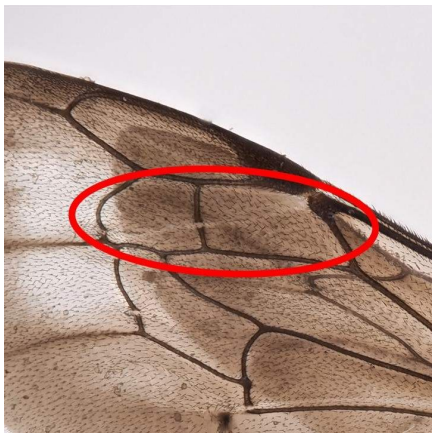
Number of species of this genus found in Europe: 1

Morphology & diagnosis

Pasites are small brood parasitic bees (5-6mm), with long tongues and 2 submarginal cells. Their metanotum is flat. Females can be distinguished from other similar genera by the form of sternites 5 and 6. In *Pasites,* sternite 6 is string-like and is surrounded totally by the apical margin of sternite 5. The males of this genus have 12 antennal segments. They can be recognized in the field by their red metasoma and legs, and by the pilosity of the terminal terga that forms small spots of white pilosity.

Summary of distinctive traits

- 2 submarginal cells (a)
- Truncate marginal cell (b)
- Normal scapus (c)
- Unidentate mandible (d)
- Faint propodeal triangle (e)

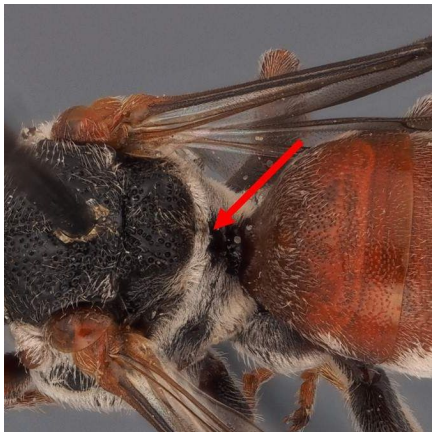


(a) *Pasites maculatus* Male

(b) *Pasites maculatus* Male

(c) *Pasites maculatus* Male

(d) *Pasites maculatus* Male



(e) *Pasites maculatus* Male

General comments on identification to species level

Pasites is represented by only one species in Europe.

Morphologically similar genera, and how to distinguish them

- ***Pasites - Ammobates***
  Pasites and *Ammobates* are morphologically very close. *Pasites* species have a flat metanotum, tergite 1 much longer than tergite 2, sternite 5 surrounds entirely the basal part of sternite 6, sternite 6 is long and sting-like. Males have 12-segmented antennae. *Ammobates* species have a protruding metanotum, tergite 1 about the same size as tergite 2, sternite 5 surrounds only partially the basal part of sternite 6, sternite 6 is short and clearly bidentate. Males have 13-segmented antennae.

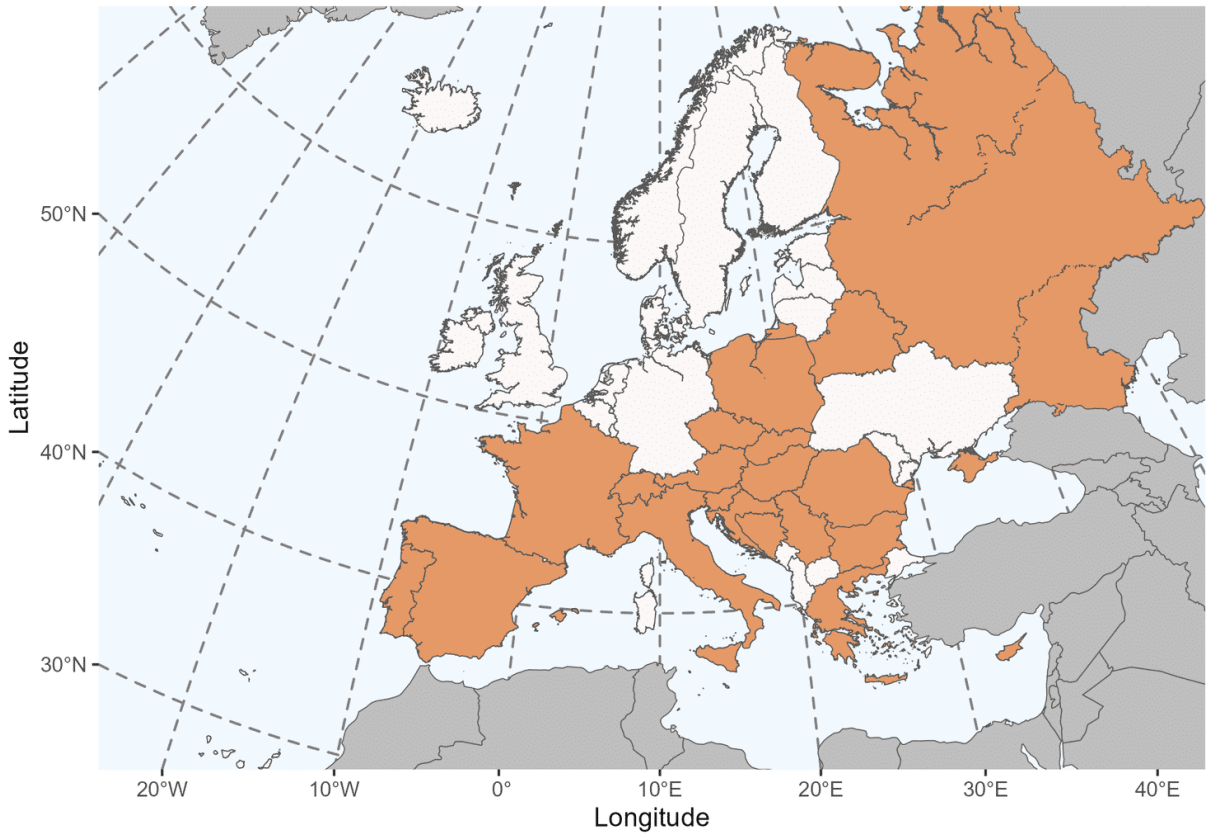
- ***Pasites - Biastes***
  Pasites species have a normal scapus, longer. Females have a propodeal triangle faint and a unidentate mandible. Males have 12-segmented antennae.
  Biastes species have a short and wide scapus, less than twice as long as wide. Females have a clear propodeal triangle and a bidentate mandible. Males have 13-segmented antennae.

- ***Pasites - Ammobatoides & Schmiedeknechtia***
  Pasites species 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.
  Ammobatoides & Schmiedeknechtia species have 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.

- ***Pasites - Clavipanurgus, Flavipanurgus, Panurginus, Panurgus & Simpanurgus***
  Pasites species have a somewhat protruding clypeus and a long-tongue morphology (segments 1 and 2 of maxillary palpi are strongly elongated).
  Clavipanurgus, Flavipanurgus, Panurginus, Panurgus & Simpanurgus species have a flat clypeus and a short-tongue morphology of mouthparts (short maxillary palpi).

Geographical distribution and global diversity

The genus *Pasites* is represented by a single species in Europe with a southern distribution, Pasites maculatus Jurine, 1807. At the global scale, there are 21 described. Their distribution range goes from Portugal and Morocco in the west side, to Mongolia and Japan in the east side, encompassing India and a most of Africa, including Madagascar (Michener 2007).



Presence in Europe

Austria, Belarus, Bosnia & Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, France (mainland), Greece, Hungary, Italy (except Sardinia), Poland, Portugal (mainland), Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain (except Canary Islands), Switzerland, Ukraine.

Biology

Seasonal life cycle

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

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. Mating on this genus has been observed in very rare occasions, as these insects are highly inconspicuous and difficult to spot except where there are aggregations of nest of the host species.

Nesting

The females of *Pasites* 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.

Host species

Pasites is specialist on solitary ground-dwelling bees, of the genera *Dufourea* (Halictidae, Rophitinae) and *Pseudapis* (Halictidae, Nomiinae).

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, as their host bee is in some cases specialized on certain plant species, the concerned species of *Pasites* are therefore also automatically specialized on this plant, as their larvae only consumes the food resources accumulated by its hosts.

Type species: *Pasites maculata,* 1807, by original designation

Synonyms: *Morgania* Smith, 1854*; Omachthes* Gerstaecker, 1869*; Homachthes* Dalla Torre, 1896*; Omachtes* Friese, 1909*;*

Pasitomachthes Bischoff, 1923*; Pasitomachtes* Sandhouse 1943.

Etymology: There is no clear origin from the etymology of the genus Pasites. The only information in this respect is their common name in German, meaning « bees with short antennae».

Common names:
FR: les pasites
GER: der Kurzhornbienen

List of species found in Europe:

1. *Pasites (Pasites) maculatus* Jurine, 1807

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Attributions

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