



Pollinator Academy

Genus: *Thyreus*



Female



Male

Genus: *Thyreus* Panzer 1806

Clade: Anthophila

Family: Apidae

SubFamily: Apinae

Tribe: Melectini

Number of species of this genus found in Europe: 11

Morphology & diagnosis

Thyreus are small to large-sized broodparasitic bees (7-17mm) with long tongues. They have three submarginal cells and their cuticle is black with very conspicuous white spots of short hair. In *Thyreus*, the pilosity is short on the anterior part of the body and the scutellum is flat, elongated, shiny and in most cases terminated by two lateral spines, and overhangs the hind part of the thorax. Males and females show a similar morphology. As cuckoo bees, they have no scopa. As cuckoo bees, they have no scopa.

Summary of distinctive traits

- Black bees with patterns of short and appressed white hairs
- 3 submarginal cells (a)
- Flat scutellum that extends posteriorly to overhand the propodeum (b)
- No pollen collecting hairs (scopa) in females (c)
- No arolia present between the tarsal claws (d)



(a) *Thyreus histrionicus*
Female



(b) *Thyreus histrionicus*
Female



(c) *Thyreus orbatus* Female



(d) *Thyreus orbatus* Male

General comments on identification to species level

Identification to the species level must always be performed under a microscope. Male identification requires extraction of the genitalia; this is mandatory and species cannot be identified with any level of confidence without genital inspection except in northern countries where only one or two species are present. For some species it is necessary to also see the internal sternites (most importantly S7+8) and prepare them, which has to be done with caution. Some important traits include the shape of the hair spots of the three first terga, the colour of the pilosity of the face, the shape of the impressions present in the internal side of the male antenna (the rhinaria), and the shape of the scutellum and of the pygidial plate.

Morphologically similar genera, and how to distinguish them

- *Melecta* - *Thyreus*

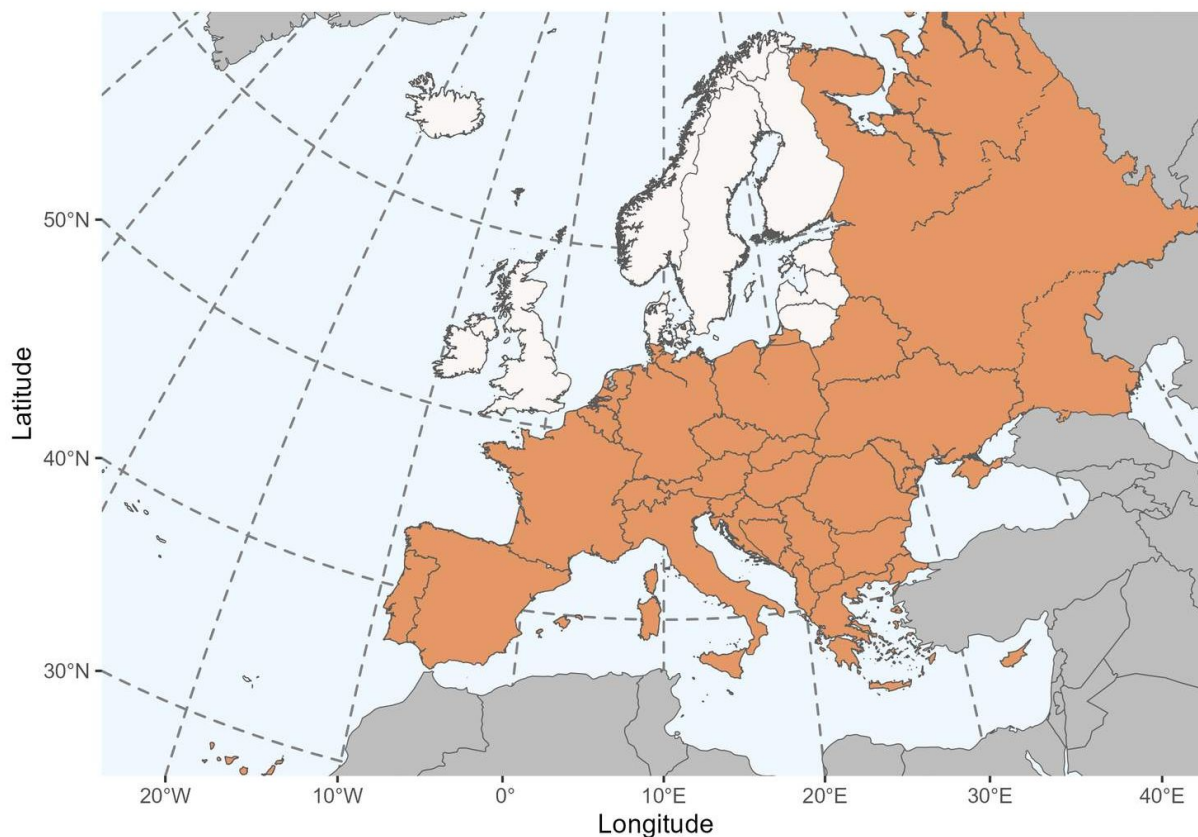
Thyreus species have short and appressed hairs on the scutum and scutellum, and the scutellum is flattened and extends posteriorly to overhang the propodeum. Arolia are absent between the tarsal claws.

Melecta species typically have long hairs without appressed hairs on the scutum and scutellum, and two spines on the scutellum which does not form a posteriorly projecting flattened plate. Arolia are present between the tarsal claws.

Geographical distribution and global diversity

Thyreus have a very wide distribution. They are present throughout the entire Old World, from Europe and Africa to Japan, extending south to Australia. Most of the species diversity is found in the Afrotropics and the Indomalayan regions. The genus

consists of around 120 species at the global scale, most of which are rare or difficult to find. At the European scale, 11 species are recognised.



Presence in Europe

Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, France, Germany, Greece, Hungary, Italy, Luxembourg, Malta, Moldova, Montenegro, Netherlands, North Macedonia, Poland, Portugal, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Switzerland, Ukraine.

Biology

Seasonal life cycle

They fly essentially in summer and all the species are univoltine.

Nesting

They never build their own nest: they exclusively depend on host species and their nests for reproduction. The females will patrolling areas searching for 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. Males tend to spend the night in groups or by their own hanging from plant stems which they bite.

Host species

Most *Thyreus* are suspected to be parasites of *Amegilla* but some species also parasitize *Anthophora* (for example, *T. orbatus* on *Anthophora quadrimaculata* and *T. hirtus* on *Anthophora femorata*). The level of specialisation is unclear due to a lack of precise study for most species; some may be precisely host-specific, but others may attack a range of related hosts.

Floral preferences

As parasitic bees, they do not collect pollen themselves. For nectar, they have been mostly observed visiting flowers of the family Boraginaceae (*Echium*, *Anchusa*) and Lamiaceae (*Lamium*, *Lavandula*).



Type species: *Nomada scutellaris* Fabricius, 1781, monobasic.

Synonyms: None

Etymology: *Thyreus* comes from the Greek root *thyr*, meaning shield, as a reference to their dorsum elongated lamella which

can perform as a blade to protect those bees from any attack from their hosts.

Common names:

FR : les crocises

GER : der Fleckenbienen

NL : de vlekkenbijen (NL) (= spotted bees)

List of species found in Europe:

1. *Thyreus affinis* (Morawitz, 1874)
2. *Thyreus elegans* (Morawitz, 1877)
3. *Thyreus hellenicus* Lieftinck, 1968
4. *Thyreus hirtus* (De Beaumont, 1940)
5. *Thyreus histrionicus* (Illiger, 1806)
6. *Thyreus hohmanni* Schwarz, 1993
7. *Thyreus orbatus* (Lepeletier, 1841)
8. *Thyreus picaron* Lieftinck, 1968
9. *Thyreus ramosus* (Lepeletier, 1841)
10. *Thyreus scutellaris* (Fabricius, 1781)
11. *Thyreus truncatus* (Pérez, 1883)

References

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Lieftinck M.A. 1968. A review of Old World Species of *Thyreus* Panzer (=Crocisa Jurine) (Hym., Apoidea, Anthophoridae) Part 4. Palearctic Species. Zoologische Verhandelingen, 98: 1-139, 4 pls.

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Attributions

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