Pollinator Academy

Genus: *Heriades*

Female

Male

Genus: *Heriades* Spinola, 1808

Clade: Anthophila

Family: Megachilidae

SubFamily: Megachilinae

Tribe: Osmiini

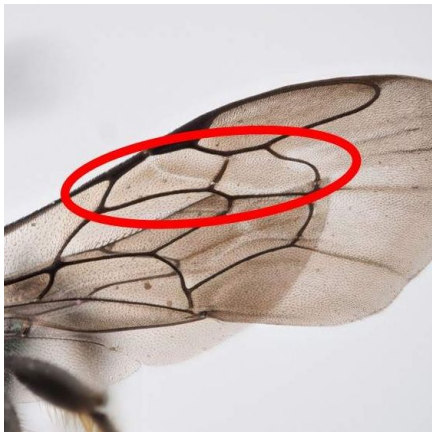
Number of species of this genus found in Europe: 5

Morphology & diagnosis

Heriades are small to medium sized black bees (6-8mm) with a cylindrical body. They can be immediately recognized by the combination of the spined axillae, the carina transverse carina of the T1 separating the declive part from the horizontal part. The propodeal enclosure is clearly visible and bordered by a posterior carina. The gaster of the male is curved inwards, so that only a few segments. The tergum 7 of the male is weakly sclerotized and hidden by the tergum 6.

Summary of distinctive traits

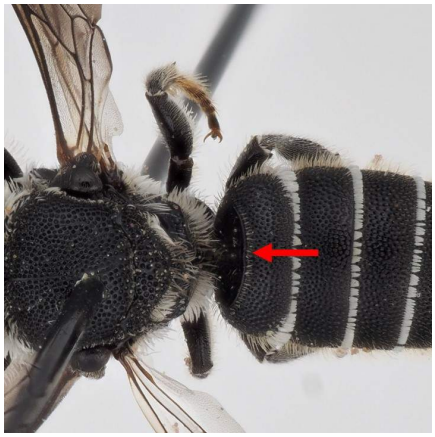
- 2 submarginal cells (a)
- Ventral scopa in females (b)
- Arolium present (c)
- Transverse carina on T1 (d)
- Tooth-like axillae (e)



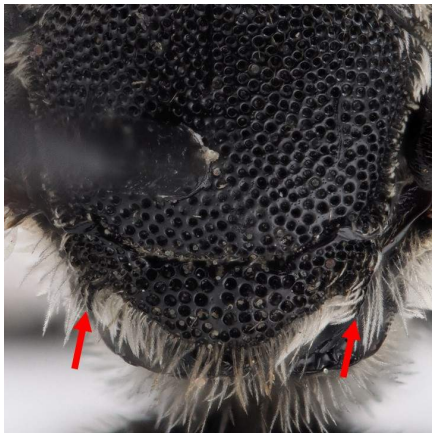
(a) *Heriades crenulata* Female

(b) *Heriades crenulata* Female

(a) *Heriades crenulata* Female



(d) *Heriades crenulata* Female



(e) *Heriades crenulata* Female

General comments on identification to species level

Females can be identified by the shape of the clypeus free margin and by the punctation of the body. Important diagnostic characters in males are located on the last tergitas, on the sterna and genitalia, thus they have to be made clearly visible.

Morphologically similar genera, and how to distinguish them

- ***Heriades - Hofferia***

  Heriades species have tooth-like axillae.

  Hofferia species have rounded axillae.

- ***Heriades - Stenoheriades***

  Heriades species have tooth-like axillae. The tergum 7 of the male is weakly sclerotized and hidden by the tergum 6.

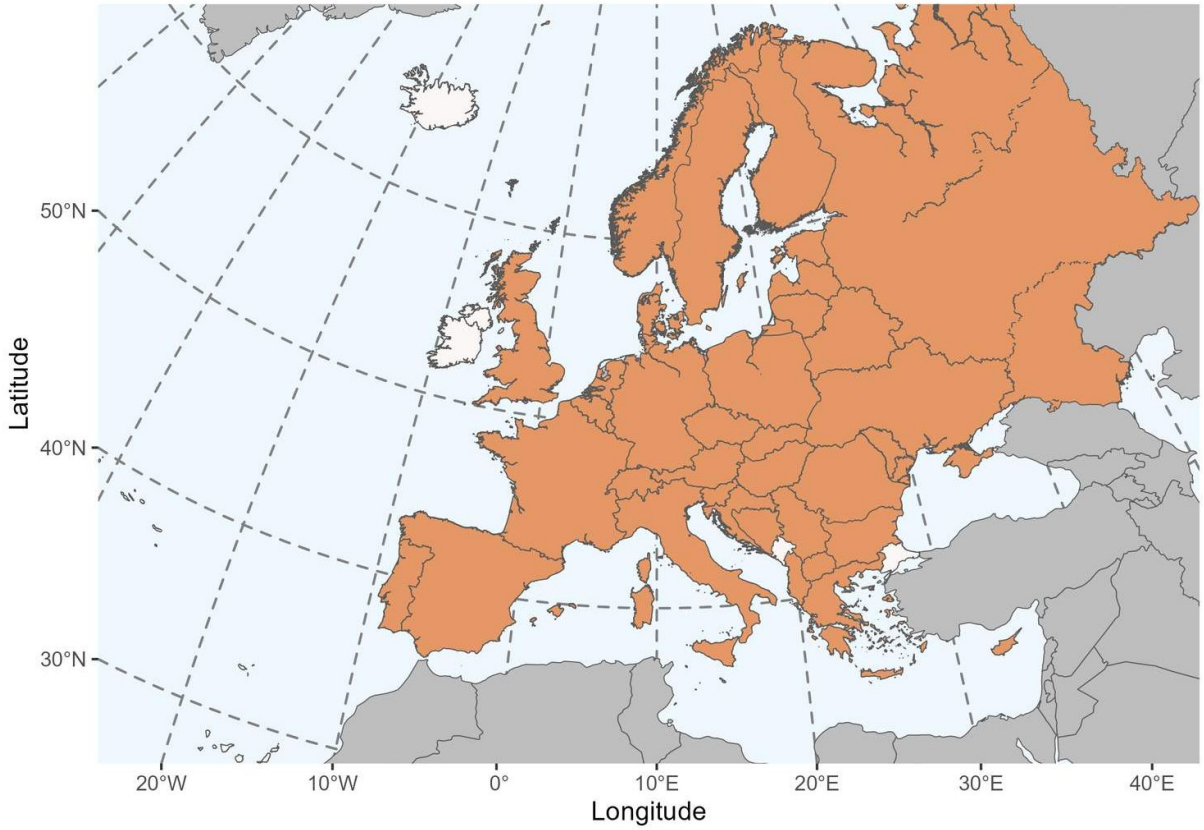
Stenoheriades species do not have spined axillae. The tergum 7 of the male is sclerotized and visible.

- ***Heriades - Chelostoma, Haetosmia, Hoplitis & Osmia***
  Heriades species have a transverse carina on T1 and tooth-like axillae.
  Chelostoma, *Haetosmia*, *Hoplitis* & *Osmia* don't have a transverse carina on T1 and have rounded axillae (except for axillae of Osmia (Hoplosmia)).

- ***Heriades - Protosmia***
  Heriades species have a carina bordering the posterior margin of the propodeal basal area. They have a transverse carina on T1
  Protosmia species don’t have a distinct carina bordering the posterior margin of the propodeal basal area. They don't have a transverse carina on the T1.

Geographical distribution and global diversity

This genus shows an extensive geographical distribution. They are present in Europe, Africa including Madagascar, Asia, North and Central America. They are absent from South America and Oceania. The total number of described species of this genus is around 140 divided into 8 subgenera, with the greatest diversity being in Africa.



Presence in Europe

Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Russian Federation - European Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom.

Biology

Seasonal life cycle

They are univoltine summer species. They overwinter as a prepupa.

Reproduction

Males patrol along flowers and nest sites, and the copula takes place right after the females emerge.

Nesting

They are solitary and nest in pre-existing cavities, mainly in plant stems or dead wood. Nest cells are separated by resin that females collect from the trees.

Parasites

Known bee cleptoparasites include bees of the genus *Stelis*.

Floral preferences

They are oligolectic on plants of the family Asteraceae. Females show a remarkable foraging behaviour. Using the hind legs, they grab the anthers and rub them over their ventral scopa, while collecting the nectar at the same time.

Type species: *Apis truncorum* Linnaeus, 1758, designated by Latreille, 1810: 439.

Synonyms: *Trypetes* Schenck, 1861; *Eriades* Dalla Torre and Friese, 1895; *Orientoheriades* Gupta, 1987.

Etymology: the origin of the name comes from the Greek root ‘eriou’, meaning ‘wool’, as a reference to the bands of long hairs on the apical margins of the tergae

Common names:
FR: les Hériades
EB: resine bees

GER: der Löcherbienen
NL: de tronkenbijen

List of species found in Europe:

1. *Heriades (Rhopaloheriades) clavicornis* Morawitz, 1875
2. *Heriades (Heriades) crenulata* Nylander, 1856
3. *Heriades (Michenerella) punctulifera* Schletterer, 1889
4. *Heriades (Heriades) rubicola* Pérez, 1890
5. *Heriades (Heriades) truncorum* (Linnaeus, 1758)

Subgenera found in Europe:

- *Heriades* s.str. Spinola, 1808
- *Michenerella* Krombein, 1950
- *Rhopaloheriades* Griswold and Michener, 1998

References

Almeira Correia M. de, Lourdes M. de. 1979. Étude de la biologie de l'abeille solitaire *Heriades truncorum* L. (Hymenoptera, Apoidea, Megachilidae) Université Pierre et Marie Curie Paris 6. Thèse n°424.51.

Benoist R. 1929. Les *Heriades* de la faune française (Hym. Apidae). *Annales de la Société entomologique de France*, 98 : 131-141.

Attributions

This factsheet was created by ORBIT and is one of the outputs from a network of European Initiatives dedicated to pollinators, such as the EU Pollinator Monitoring Scheme (EUPoMS), the Preparatory Action for EU Pollinator Monitoring Scheme and Indicators (SPRING project), the Horizon 2020 Europe research projects (POSHBEE, SAFEGUARD), and European National action plans for pollinators.

Authors

Photographs: Paolo Rosa (ORBIT consortium)

Text: ORBIT consortium

Reviewers: Romain Le Divelec (ORBIT consortium)

Funded by the European Commission