Pollinator Academy

Genus: *Tetralonia*

Female

Male

Genus: *Tetralonia* Spinola, 1838

Clade: Anthophila

Family: Apidae

SubFamily: Apinae

Tribe: Eucerini

Number of species of this genus found in Europe: 21

Morphology & diagnosis

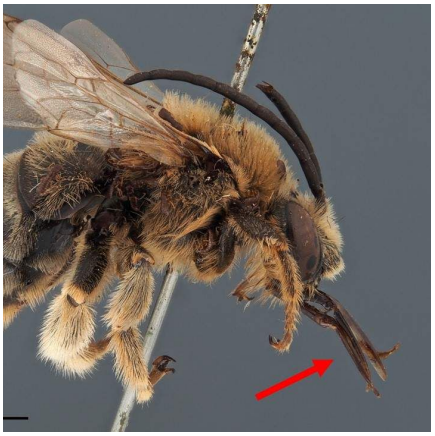
Tetralonia are long-tongued bees. They are mainly medium-sized (7-12mm), robust species with oval body shape, and a dense pilosity. The clypeus is flattened or weakly convex, typically showing a conspicuous yellow maculation in the males, and a smaller maculation in the females, although immaculate and dark in some species. The malar space is usually linear and narrow, the upper and lower malar distances being subequal, and in females the upper malar distance about as long as or conspicuously shorter than the basal width of the first flagellar segment. They have three submarginal cells. The females typically have thick scopa made of branched or plumose hairs on the hind legs, particularly on the tibia and first tarsal segment, but the scopa is unusually sparse in some species, such as, incidentally, in the type species. Males are easily recognized by their characteristically long antennae, and the comparatively simple structure of sternum 6, with the converging lateral carinae oblique or smoothly curved basally (or occasionally reduced and short), without lateral branch carina running onto conspicuous anterolateral projection or lobe.

Summary of distinctive traits

- Males with very long antennae (a)
- Females with basitibial plate (b)
- Long mouthparts (c)
- 3 submarginal cells (d)
- Scopal hairs frequently branched to highly plumose (e)
- Malar space usually linear and narrow (f)

(a) *Tetralonia malvae* Male

(b) *Tetralonia malvae* Female



(c) *Tetralonia nigrifacies* Male

(d) *Tetralonia nigrifacies* Male

(e) *Tetralonia malvae* Female

(f) *Tetralonia nigrifacies* Female

General comments on identification to species level

In absence of a revision of the European species, we lack proper criteria for species identification, and putting a species name on specimens without having proper

reference specimens compared to type material is not recommended. Unless you are in species poor regions, an expert's eye will be required to sort out the specimens. Preparation of specimens for laboratory identification requires several manipulations. For all specimens, the legs should be pulled away from the body in order to ensure the visibility of secondary sexual characteristics. For the males the genitalia should be extracted, and the associated sternites (S6-S8) exposed. Females should be pinned on one side of the scutum, and the wings stretched apart in order to expose the informative surface sculpture of the medial region of the scutum.

Morphologically similar genera, and how to distinguish them

- ***Tetralonia - Eucera***

  Tetralonia species have three submarginal cells, a flat clypeus, a linear malar space and almost always plumose scopal hairs.

  Eucera species have two or three submarginal cells, a usually protuberant clypeus and nonlinear malar space, and in most species unbranched scopal hairs.

- ***Tetralonia - Anthophora, Amegilla & Habropoda***

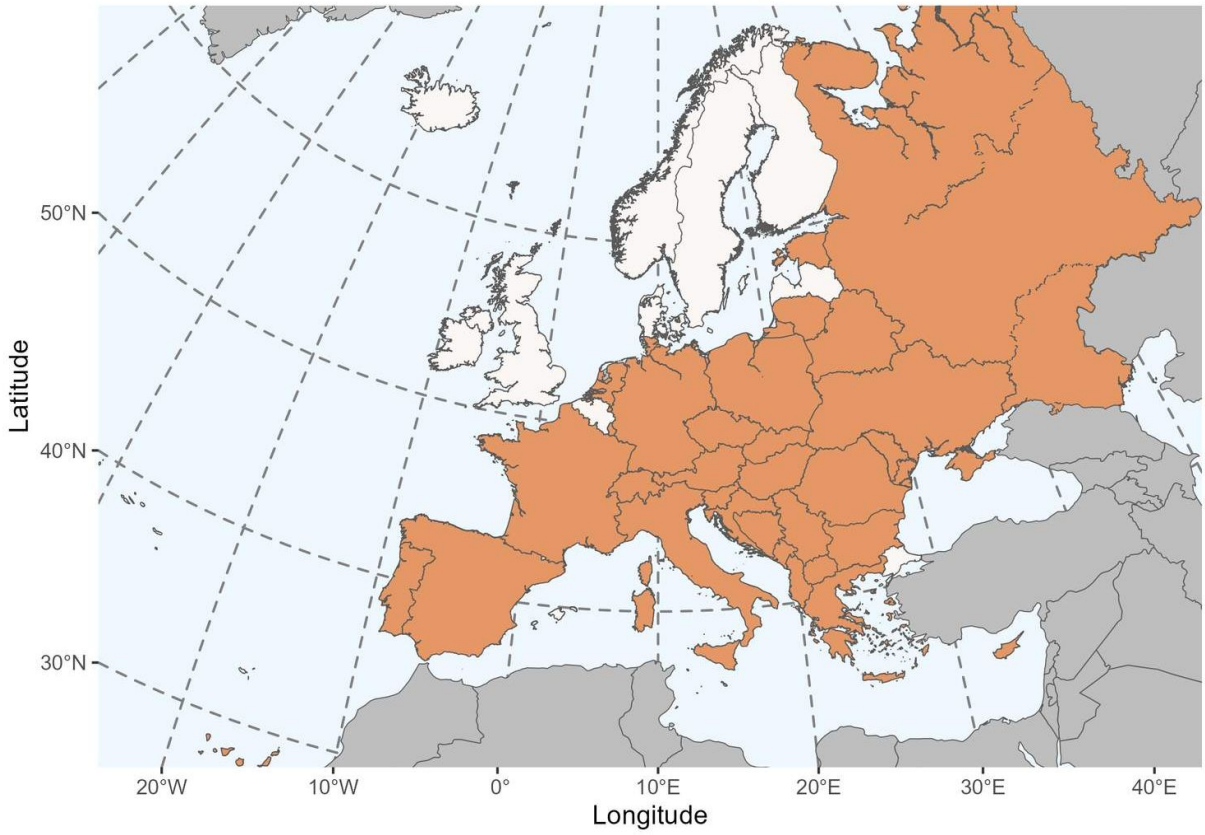
  Tetralonia species have submarginal cells of different sizes in the forewing, submarginal cell 2 being rectangular.

  Anthophora, *Amegilla* & *Habropoda* have submarginal cells of equivalent sizes, where submarginal cell 2 is pentagonal, with posteromedial angle in most species.

Geographical distribution and global diversity

Tetralonia has a cosmopolite distribution except for Australia (Michener 2007). The genus consists of around 100 species described in the world, with the highest number of species around the Mediterranean basin and Central Asia, and in semiarid regions of

Africa. In Europe, the genus consists of 20 described species, distributed in the southern Euromediterrnean countries.



Presence in Europe

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

Biology

Seasonal life cycle

They are univoltine, and are typically active in the late spring and summer.

Reproduction

Some males exhibit patrolling behaviour, targeting the host plant or plants of the females of their species. When a female appears, they perform approach flights, and if those are accepted they start the copula with the male positioned at almost right angle to the female's body.

Nesting

They are ground-dwelling, and sometimes can nest in aggregations.

Parasites

They have several cleptoparasitic species, including species of the genera *Coelioxys* and *Nomada*.

Floral preferences

The majority of the species are oligolectic, associated with different groups of the plant family Asteraceae, but some others are specialists of Malvaceae, Dipsacaceae, and other families.

Type species: *Eucera antennata* Fabricius, 1793, by designation of Latreille, 1810: 439.

Synonyms: *Macrocera* Latreille, 1810 ; *Tetraloniella* Ashmead, 1899; *Anthophora (Eucara)* Friese, 1905; *Thygatina* Cockerell, 1911; *Melissina* Cockerell, 1911; *Notolonia* Popov, 1962; *Glazunovia* Baker, 1998; *Ulugombakia* Baker, 2003

Etymology: a combination of the words ‘tetra’ and ‘areola’ from Greek, meaning ‘four interstices’ and pointing to the three submarginal crossveins plus the basal vein that together delineate the three submarginal cells of the forewing, the first diagnostic characteristic of the genus.

Common names:
EN: longhorn bees (used collectively for species that were originally placed in the related genus *Eucera*)

List of species found in Europe:

1. *Tetralonia (Tetralonia) alticincta* (Lepeletier, 1841)
2. *Tetralonia (Tetralonia) cinctella* Saunders, 1908
3. *Tetralonia (Tetralonia) dentata* (Germar, 1839)
4. *Tetralonia (Tetralonia) fulvescens* Giraud, 1863
5. *Tetralonia (Tetralonia) gennargentui* (Nobile, Catania & Bella, 2021)
6. *Tetralonia (Tetralonia) glauca* (Fabricius, 1775)
7. *Tetralonia (Tetralonia) graja* (Eversmann, 1852)
8. *Tetralonia (Tetralonia) hohmanni* Tkalců, 1993
9. *Tetralonia (Tetralonia) iberica* Dusmet y Alonso, 1926
10. *Tetralonia (Tetralonia) inulae* Tkalců, 1979
11. *Tetralonia (Tetralonia) julliani* (Pérez, 1879)
12. *Tetralonia (Tetralonia) lanzarotensis* Tkalců, 1993
13. *Tetralonia (Tetralonia) lyncea* Mocsáry, 1879
14. *Tetralonia (Tetralonia) malvae* (Rossi, 1790)
15. *Tetralonia (Tetralonia) nana* Morawitz, 1874
16. *Tetralonia (Tetralonia) pollinosa* (Lepeletier, 1841)

17. *Tetralonia (Tetralonia) ruficornis* (Fabricius, 1804)
18. *Tetralonia (Tetralonia) salicariae* (Lepeletier, 1841)
19. *Tetralonia (Tetralonia) scabiosae* Mocsáry, 1881
20. *Tetralonia (Tetralonia) strigata* (Lepeletier, 1841)
21. *Tetralonia (Tetralonia) vicina* Morawitz, 1876

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Attributions

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