Melolontha Fabricius, 1775

Taxonomy

Sub family: Melolonthinae / Tribe: Melolonthini / Genus: *Melolontha*

Distinguishing Features

Large cylindrical beetles, body length 20-34mm. Body covered in short decumbent grey or brownish setae. Body colouration: head, pronotum and abdomen black or brown, elytra light yellowish brown to dark reddish brown, rarely light olive green. Legs reddish brown. The sides of the abdomen with triangular white patches of setae on each segment. Patches of scale like setae can be present on the head, pronotum and elytra. Clypeus with apex subquadrate and slightly emarginate. Labrum located under clypeus, clearly separated and deeply incised medially, commonly with medially directed setae on each lobe. Antennae with 10 segments. Males with a 7-segmented elongated club. Females with a shorter 6-segmented club. Pygidium significantly extended posteriorly. Mesometasternal process developed. Elytral costae well developed. Foretibia tridentate. Mid and hind tarsal claws with a basal tooth.

Melolontha melolontha dorsal view
Photographer:
Pia Scanlon

Melolontha melolontha lateral view
Photographer:
Pia Scanlon

Melolontha melolontha ventral view
Photographer:
Pia Scanlon

Related and Similar Species

Melolontha is a small cockchafer genus comprising of around 20 species. There are two main pest species of quarantine significance: The European cockchafer *M. melolontha* and the forest cockchafer *M. hippocastani*. A key separating feature between the two is the size and shape of the pygidium, being long and slender in *M. melolontha*, and somewhat shorter and bulbous in *H. hippocastani*.
The genus is placed within the tribe Melolonthini which share the following features: Abdominal sternites at least partially fused, sutural lines present between sternites, even when fused. Meso and metatibia with 2 spurs. Tarsal claws usually equal. Antennae 9-10 segmented (rarely 8), Antennal lamellae 3-7 segmented. Labrum located below clypeus, distinct. 5th abdominal sternite and propygidium separated by a suture. Protibia with apical spurs.
The presence of a variably developed mesometacoxal process should separate *Melolontha* from the other related Melolonthini within the key.

Melolontha melolontha female clypeus
Photographer:
Pia Scanlon

Melolontha melolontha female head front
Photographer:
Pia Scanlon

Biological Data

Both of the species detailed here are significant orchard pests. *M. melolontha* is also a significant pest of horticultural crops, while *M. hippocastani* is a pest of closed forests where it may cause extensive damage in young plantations. Along with *M. melolontha* having been recorded damaging Eucalyptus leaves, there are records that an otherwise non-pestiferous species, *Melolontha papposa* larvae can feed on the roots of Eucalyptus.
Adults lay their eggs in the soil. The emerging C-shaped larvae first feed on the thin roots and later with maturity on increasingly thick roots. This can occasionally cause the death of trees, even those that are old and otherwise healthy. Their development time is dependent on the climate and can vary from three to five years.
The foliage feeding of adults may lead to the partial or complete skeletonising of mature trees. In the case of young trees, the feeding damage of larvae followed by the foliage feeding of the adults may lead to large-scale tree loss. Large numbers of larvae in the last developmental stage may attract mammal predators, such as feral pigs, causing secondary damage when searching for larvae.

Melolontha melolontha female antennae
Photographer:
Pia Scanlon

Melolontha melolontha male clypeus
Photographer:
Pia Scanlon

Distribution

Melolontha are present throughout the Palearctic and Oriental regions. The Genus is absent from Australia.

Useful Links

Detailed Wikipedia page: https://en.wikipedia.org/wiki/Cockchafer#Taxonomy
CABI Datasheet: https://www.cabi.org/isc/datasheet/33326
UK Beetles: https://www.ukbeetles.co.uk/melolontha-hippocastani

References

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Vlug, H.J. 1996. Occurrence and biocontrol of grass grubs, especially of *Melolontha melolontha*. Bulletin OILB/SROP, 19(2):35-36.

Melolontha melolontha male pygidium
Photographer:
Pia Scanlon

Melolontha melolontha male antennae
Photographer:
Pia Scanlon

Melolontha hippocastani male dorsal view
Photographer:
Pia Scanlon

Melolontha hippocastani male lateral view
Photographer:
Pia Scanlon

Melolontha hippocastani male ventral view
Photographer:
Pia Scanlon

Melolontha hippocastani male clypeus
Photographer:
Pia Scanlon

Melolontha hippocastani male head front
Photographer:
Pia Scanlon

Melolontha hippocastani male pygidium
Photographer:
Pia Scanlon

Melolontha hippocastani male antennae
Photographer:
Pia Scanlon

Melolontha hippocastani female antennae
Photographer:
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Melolontha hippocastani male hind tibial spurs
Photographer:
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