Polyphylla Harris, 1841

Taxonomy

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

Distinguishing Features

Large cylindrical beetles, body length 30-35mm. Body colouration black to dark reddish brown. Elytra commonly lighter than the head and pronotum. Scales present on clypeus, head, pronotum and as either scattered patches or longitudonal stripes on the elytra. Clypeus with rounded margins and apex subquadrate, with an upturned margin. Frontoclypeal suture present and straight. Labrum located under clypeus, clearly separated and deeply incised medially, commonly with medially directed setae on each lobe. Antennae with 10 segments. Males with an extremely elongated and curved lamellate club of 7 segments. Female club much shorter and 5-segmented. Anterior pronotal margin without membraneous border. Mesometasternal process absent. Metasternum setose. Metepisternum wide. Foretibia of males bidentate. Tarsal claws with a basal tooth.

Polyphylla fullo dorsal view
Photographer:
Pia Scanlon

Polyphylla fullo lateral view
Photographer:
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Polyphylla fullo ventral view
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Polyphylla fullo clypeus
Photographer:
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Polyphylla fullo hind claws
Photographer:
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Polyphylla fullo head front
Photographer:
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Related and Similar Species

There are around 85 species within the genus *Polyphylla*. Species level identification is regional based, with no complete worldwide revision undertaken. Two species of economic significance are the European pine chafer *P. fullo*, and the American 10-lined June beetle, *P. decemlineata*. These two species can be separated by the elytral scales that are scattered on *P. fullo*, while in distinct lines on *P. decemlineata*.
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 or 10 segmented (rarely 8), Antennal club 3-7 segmented. Labrum located below clypeus, distinct. 5th abdominal sternite and propygidium separated by a suture. Protibia with apical spurs.
The curved and elongated 7-segmented antennal club on the males, body scales and the wide metepisternum should separate *Polyphylla* from other beetles in the key.

Biological Data

P. fullo is an important pest of orchards, vineyards, potato and turf. Larvae feed on the healthy roots causing significant damage and potential mortality, especially in sandy soil areas. Adults feed on the foliage of pine trees. The species has a 3-4 year life cycle. The adult beetles are nocturnal, are strong fliers and attracted to lights.
P. decemlineata can be a significant pest of mature orchard trees, and has also been recorded damaging poplar, almonds, walnuts, apples, and various berry, vegetable and cane fruit crops. Similar to *P. fullo*, the mature larvae inflict the most damage. Adults are foliage feeders, but are not considered damaging.

Distribution

The genus is widespread around the world, with representatives in Europe, Northern Africa, North and Central America and across Asia. It is absent from Australia.
P. fullo is widespread from Middle and Southern Europe to North Africa and Asia Minor, while *P. decemlineata* is present over North and Central America.

Useful Links

UK Beetles - *Polyphylla fullo*: https://www.ukbeetles.co.uk/polyphylla-fullo
WSU - *Polyphylla decemlineata* IPM in Poplar: https://research.wsulibs.wsu.edu:8443/xmlui/bitstream/handle/2376/12202/FS272E.pdf?sequence=1&isAllowed=y

References

Ratcliffe, B.C., Jameson, M.L., Smith, A.B.T. 2002. Chapter 34. Scarabaeidae Latreille1802, pp. 39–81 (in part). In: Arnett, R. H., M. C. Thomas, P. E. Skelley, and J. H. Frank (eds.), American Beetles, Volume 2. CRC Press, Boca Raton, FL. 861 pp.

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