

Key to the British genera of family Scarabaeidae

Source Material

This key is a composite from various sources including:

Krell & Fery (1992) *Die Käfer Mitteleuropas*, Vol. 13, Supplement 2: 200-243).

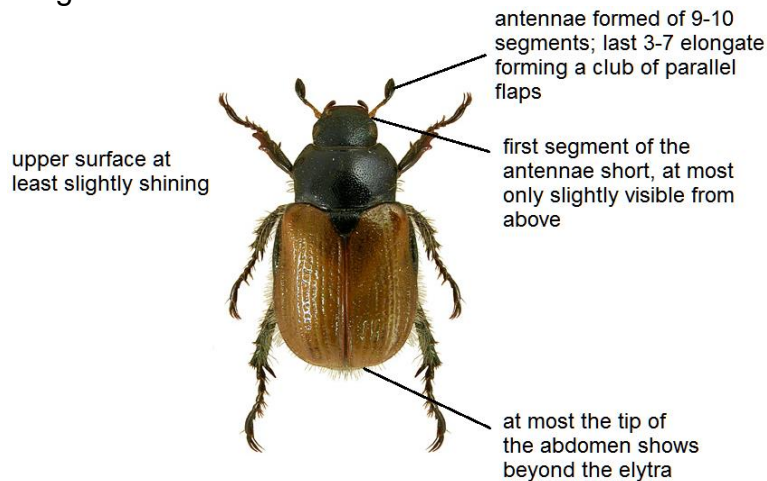
Joy (1932) *A Practical Handbook of British Beetles*

Schmidt (1922) *Coleoptera. Aphodiinae. Das Tierreich*. 45

Arved Lompe's online keys at <http://www.coleo-net.de/coleo/texte/scarabaeidae.htm>

Have I got a beetle from family Scarabaeidae?

Look for the following combination of features.



Terminology

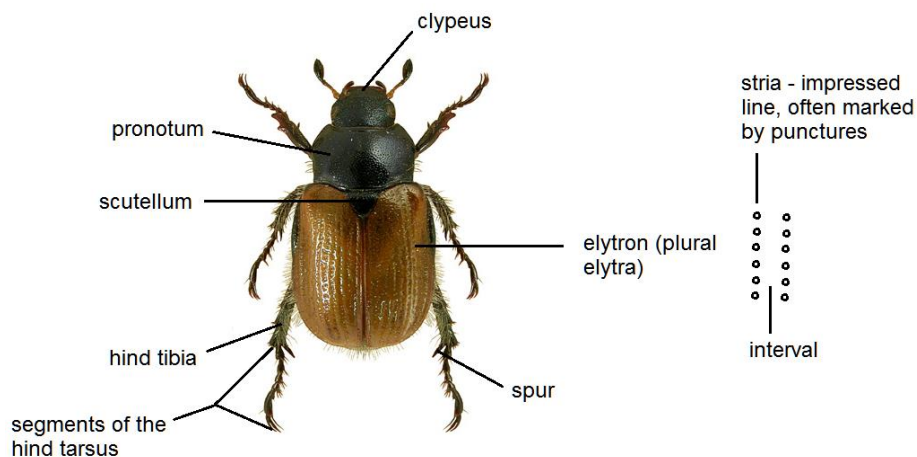


Image Credits

Unless otherwise attributed, the illustrations in this key are reproduced from the *Iconographia Coleopterorum Poloniae*, with permission kindly granted by Lech Borowiec.

Checklist from the Checklist of Beetles of the British Isles, 2012 edition, edited by A. G. Duff, (available from www.coleopterist.org.uk/checklist.htm).

Subfamily AEGIALIINAE

- Aegialia* Latreille, 1807
arenaria (Fabricius, 1787)
insularis Pittino, 2006
rufa (Fabricius, 1792)

Subfamily APHODIINAE

- Aphodius* Illiger, 1798
Euheptaulacus Dellacasa, G., 1983
sus (Herbst, 1783)
villosus (Gyllenhal, 1806)
Heptaulacus Mulsant, 1842
testudinarius (Fabricius, 1775)
Oxyomus Dejean, 1833
sylvestris (Scopoli, 1763)
Saprosites Redtenbacher, 1858
mendax (Blackburn, 1892)
natalensis (Peringuey, 1901)
Brindalus Landin, 1960
porcicollis (Illiger, 1803)
Diastictus Mulsant, 1842
vulneratus (Sturm, 1805)
Psammodius Fallén, 1807
asper (Fabricius, 1775)
Tesarius Rakovic, 1981
caelatus (LeConte, 1857)
mcclayi (Cartwright, 1955)
Pleurophorus Mulsant, 1842
caesus (Creutzer, 1796)
Rhyssemus Mulsant, 1842
germanus (Linnaeus, 1767)

Subfamily SCARABAEINAE

- Copris* Geoffroy, 1762
lunaris (Linnaeus, 1758)
Onthophagus Latreille, 1802
coenobita (Herbst, 1783)
fracticornis (Preyssler, 1790)
joannae Goljan, 1953
nuchicornis (Linnaeus, 1758)
similis (Scriba, 1790)
taurus (Schreber, 1759)
vacca (Linnaeus, 1767)
verticicornis (Laicharting, 1781)

Subfamily MELOLONTHINAE

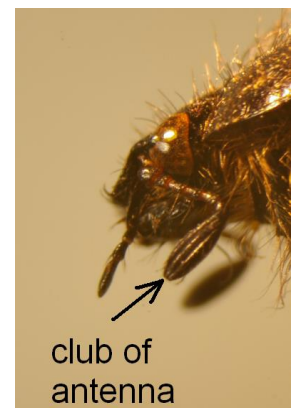
- Hoplia* Illiger, 1803
philanthus (Füessly, 1775)
Melolontha Fabricius, 1775
hippocastani Fabricius, 1801
melolontha (Linnaeus, 1758)
Polyphylla Harris, 1842
fullo (Linnaeus, 1758)
Amphimallon Latreille, 1825
ochraceum (Knoch, 1801)
solstitiale (Linnaeus, 1758)
Omaloplia Schönherr, 1817
ruricola (Fabricius, 1775)
Serica MacLeay, 1819
brunnea (Linnaeus, 1758)
Subfamily RUTELINAE
Anomala Samouelle, 1819
dubia (Scopoli, 1763)
Phyllopertha Stephens, 1830
horticola (Linnaeus, 1758)
Subfamily CETONIINAE
Cetonia Fabricius, 1775
aurata (Linnaeus, 1758)
Protaetia Burmeister, 1842
metallica (Herbst, 1782)
Gnorimus Le Peletier & Audinet-Serville, 1828
nobilis (Linnaeus, 1758)
variabilis (Linnaeus, 1758)
Trichius Fabricius, 1775
fasciatus (Linnaeus, 1758)
rosaceus (Voët, 1769)



Keys to the British genera and species of family Scarabaeidae (except *Aphodius*)

- 1 Last segment of abdomen completely covered by the elytra, only visible if viewed from behind. Antennae with the club generally short, broad and dull, due to a uniform covering of minute hairs. Natural habitat dung.2

Last segment of abdomen usually completely exposed - ensure that the beetle is tilted downwards at the front so that the rear of the elytra can be seen (as in photograph). Antennae generally with the club long and narrow, or if short, somewhat shining – without a uniform covering of hairs but sometimes with bristles. Natural habitat trees and shrubs.12



- 2 Elytra as broad as long, or broader than long; length 5-26 mm.
Hind tibiae each with a single spur. Scutellum not visible.
(Subfamily Scarabaeinae).3



Elytra longer than broad or if as broad as long then length 3.5-5 mm. Hind tibiae
each with two spurs. Scutellum visible.4

- 3 Front margin of pronotum very strongly notched. Each elytron with eight striae (including the marginal groove). Length 7-10 mm.
..... [Genus *Onthophagus*](#)



Front margin of pronotum not, or slightly notched. Each elytron with nine longitudinal striae (including the marginal groove). Length 14-20 mm.
..... ***Copris lunaris***

Formerly widespread but has declined drastically – not recorded since a 1974 record from Somerset



- 4 Pronotum at least three transverse impressions.5
Antennae and legs reddish; sandy places on the coast.



Pronotum with at most two transverse lines marked by punctures.6

- 5 Black species with the elytra more elongate and slightly broadened behind. Pronotum broader compared to its length. Striae 1 and 2 of elytra separate to apex. Thick longest spur on the hind tibia longer than the first two segments of the hind tarsus combined. Tenth interval of the elytra extends into the rear half. Length 2.6-3.2 mm.



..... ***Psammodius asper***

Found almost exclusively in sandy coastal areas, including dunes, sand-hills and sandpits (and rarely on inland gravel pits). Adults are nocturnal occurring in and on sand at the roots of plants, under debris and have been found under seaweed on the strand-line. Occasionally found in numbers trapped in dune blowouts in spring. Localities are widely spread but occurrence is local – Lancashire, south of the Humber estuary, Pembrokeshire, North Devon (Northam Burrows) Merthyr Mawr burrows in Glamorgan and Dungeness, Kent.

Blackish-red species with the elytra less elongate and much more broadened behind. Elytra with striae 1 and 2 joined together just before the apex; tenth interval ends before reaching half way along the elytra. Pronotum with five or six strongly impressed transverse furrows. Hind tibia with the thick longest spur being longer than the combined length of the first two segments of the hind tarsus. Length 3.2-4 mm.

..... ***Brindalus porcicollis***

Only known in Britain from a small area of beach at Whitsand Bay, East Cornwall.

Black species with the elytra more elongate than *asper*. Pronotum not as broad compared to its length.

..... ***Rhyssemus germanus***



6 Pronotum fringed with hairs at the sides and base.7

Pronotum quite hairless.9



- 7 Elytra hairless, except at the sides. Tibiae much broadened at the apex. Pronotum without punctures or with the punctures randomly distributed; front of pronotum more flat and extended forwards at the front angles. Head with erect hairs.
 [Genus *Aegialia*](#)



Elytra somewhat hairy. Tibiae much narrower. Pronotum hairy. Legs reddish.
8

Elytra hairless. Tibiae much broadened at the apex and with minute tarsal segments. Pronotum with the punctures tending to form transverse lines at least near the front; pronotum evenly rounded. Head hairless with tiny eyes.
 ***Tesarius caelatus***



A second species *Tesarius mcclayi* (photographed right) is also on the British list. Introduced species from the United States.

Tesarius mcclayi - Length 2.8–3.4 mm; width 1.1–1.2 mm. Colour reddish-brown. Clypeus moderately and deeply notched. Eyes very small and degenerate. Posterior angles (and base) of pronotum weakly crenate and fringed with hairs; base and sides margined; surface with moderately coarse punctures arranged for the most part in two shallow, transverse grooves; median line shallow but distinct over basal half. Elytra nearly globular; shoulders not toothed; sides fringed with long, fine bristles. Underneath the segments of the abdomen are minutely crenate in front, each with a medially interrupted anterior row of well-separated, punctures bearing long fine bristles. Middle and hind femora with distinct marginal line. Middle and hind tibiae with complete oblique ridges.



Tesarius caelatus

- 8 Head and pronotum black and densely punctured; elytra with very short hairs at the sides with raised longitudinal lines, much narrower than the spaces between which have a double row of punctures. Elytra black with obscure paler marks, or brown with obscure dark markings. Length 2.5-4 mm.

..... ***Heptaulacus testudinarius***

Formerly widespread. Not recorded since 1979 from a horse-grazed slope near Lyndhurst, so **probably extinct**.



Head and pronotum brown; pronotum darker on top with the punctures rather scattered. Elytra with longer hairs at the sides with raised lines as broad as, or very slightly narrower than the spaces between.

..... [Genus *Euheptaulacus*](#)

- 9 Elytra with the gaps between the rows of punctures forming ridges, much narrower than the strips containing the punctures. Pronotum with a central longitudinal furrow towards the base.

..... ***Oxyomus sylvestris***

Dull black species with the front margin and the angles of the pronotum, antennae, palps and legs reddish; elytra sometimes with a slight reddish reflection; pronotum strongly punctured. Length 2.5-3 mm. England and Scotland, local in vegetable refuse



Elytra with the areas between the lines of punctures flat, or somewhat convex, not narrower than the lines of punctures.10

- 10 Pronotum closely and very strongly punctured, there being about 10 punctures between the front and hind margins; pronotum with a more or less distinct longitudinal impression in the middle.

..... ***Diastictus vulneratus***

Combines lack of transverse ridges on the outer edge of the hind tibiae, lack of transverse ridges and depressions on the pronotum and hind tarsi being only half the length of the hind tibiae. Almost exclusively in exposed sites on sandy soils. In Britain, restricted to about five locations in the Breckland area of Norfolk and Suffolk.



Pronotum without an impression, much less strongly punctured.11

- 11 Head slightly narrower than the hind margin of the pronotum; hind angle of the pronotum terminating in a right-angled tooth. Spur at the apex of the middle and hind tibiae as long as first or second tarsal segments.
 Genus *Saprosites*



- Head much narrower than the hind margin of the pronotum; hind angle of the pronotum not toothed. Spur at the apex of the middle and hind tibiae less than the length of the first and second segments or the tarsus.
 Genus *Aphodius*
 Key to species in a separate document.



- Head slightly narrower than the hind margin of the pronotum; hind angle of the pronotum gently rounded. Spur at the apex of the middle and hind tibiae about as long as the first segment of the tarsus.
 *Pleurophorus caesus*
 Presumed extinct in Britain, and possibly never a true native species. May be imported on plant material.



12 Apex of abdomen extending into a long blunt tooth.
..... [Genus *Melolontha*](#)



Apex of abdomen rounded, or nearly so.13



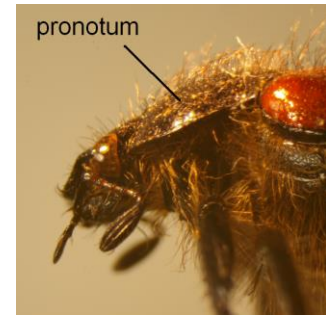
13 Pronotum and elytra patterned black and creamy white; legs black.
..... ***Polyphylla fullo***

Recorded on the Kent coast up until the 1860s, most on the Deal and Sandwich dune systems. Occurs on dunes in northern France. A strong flyer so may turn up as a vagrant in the south east, but there is no evidence of breeding populations at present.



Pronotum and elytra otherwise coloured.14

14 Pronotum and the last exposed segment of the abdomen with outstanding hairs throughout, sometimes more distinct at the sides.15



Pronotum and last segment of abdomen hairless or with scales or with hairs/short bristles restricted to the sides.18

15 Elytra orange brown to reddish, with distinct black marks.
..... [Genus *Trichius*](#)



Elytra reddish yellow or reddish or black.16

16 Entirely reddish yellow species. Elytra more elongate.
..... Genus *Amphimallon*



Head and pronotum black or green.17

- 17 Pronotum dull black, broadest at the base. Elytra with the suture and sides black or rarely entirely black.
..... ***Omalopia ruricola***

Pronotum densely punctured; male with the pubescence on the elytra black, female grey; length 5-7 mm. England northwards to Norfolk, very local mainly on flowers



Pronotum shining black with a greenish or bluish tinge from some angles e.g. on the front or hind border viewed from the side with illumination from above; pronotum broadest at the middle tapering towards the hind angles but concave just before the angle making the hind angle triangular. Elytra entirely brownish, except sometimes the suture may be darker and base of side borders which may be black. .

..... ***Phyllopertha horticola***

Elytra with strongly punctured striae; length 8-11 mm.; formerly very common in grassland and gardens, now less so.



- 18 Entirely dull reddish yellow species, except for the head which is black or dark brown. Pronotum comparatively broader compared to its length. Elytra more elongate. Male with the club of the antennae formed of very long parallel flaps.

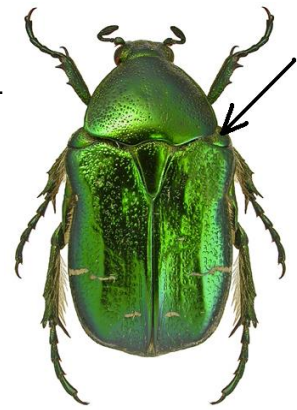
..... ***Serica brunnea***

Common and widespread.



Not entirely reddish yellow. Pronotum comparatively narrower compared to the length. Elytra less elongate. Flaps of the antennae shorter.19

19 Mesothorax visible from above by the hind angles of the pronotum.20
Pronotum very diffusely punctured on top; length 14-20 mm. mainly on flowers.



Mesothorax not visible from above.21

20 Shining bright green species, coppery-golden or rarely black. Mesosternum (under the thorax between the front and middle legs) without punctures in the middle.

..... ***Cetonia aurata***

Very local species in England and Scotland.



Dull coppery green species. Mesosternum with a wrinkled texture throughout.

..... ***Protaetia metallica***

Northern England and Scotland, local.



21 Pronotum narrower in proportion to the elytra and the elytra more dilated at the sides.
..... Genus [Gnorimus](#)



Pronotum broader in proportion to the elytra and the elytra less dilated at the sides.22

22 Elytra with more or less distinct striae. Pronotum and tip of abdomen without scales, with hairs at the sides. Length 10-14 mm.

..... ***Anomala dubia***

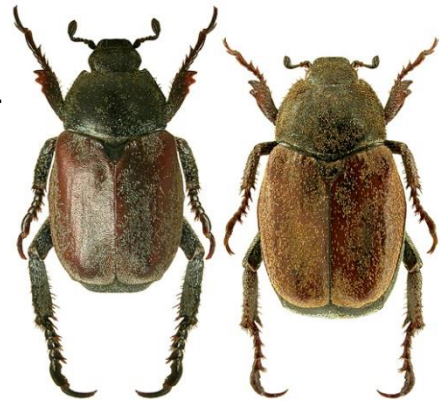
Most records from near the coast; quite common in England and Wales but becoming rare northwards.



Elytra without striae. Pronotum and tip of abdomen with scales; pronotum with setae at the sides. Length 6-5-8.6 mm.

..... ***Hoplia philanthus***

Male (left) entirely black or nearly so, or with the elytra reddish; legs black. Female (right) always with elytra and legs reddish. Pronotum dull, with a leathery texture. Local in England and Scotland on flowers etc.



Genus *Trichius*

- 1 Front two black spots on the elytra broadly touching the pronotum; hairs on the abdomen white. Outer side of middle tibia with a strong tooth.

..... *Trichius fasciatus*

Most records from upland habitats in Wales and Scotland.



Front two black spots on the elytra well-separated; hairs on abdomen brownish. Outer side of the middle tibia with a weak tooth.

..... *Trichius rosaceus*

Very rare.



Genus *Onthophagus*

1 Entirely black species, or very slightly metallic. Males with or without a horn at the base of the head.2

Elytra more or less pale. Males with a long horn on the base of the head.3



- 2 Front of head evenly rounded; male with a curved horn on the head.

..... ***Onthophagus verticicornis/taurus***

Onthophagus taurus is illustrated. Only *verticicornis* was included by Joy and he describes it as rare in southern England and south Wales – there have in fact been no certain records for over 90 years and the species is now **presumed extinct**. The horn on the male head is evenly curved in *taurus* and S-shaped in *verticicornis*. *O. taurus* is included on the basis of nineteenth century records only and is also **presumed extinct**.



Front of head slightly sinuate in the middle; male with a raised transverse margin in front of the eyes. Length 3.5-5.5 mm.

..... ***Onthophagus joannae***

Local but widespread in England and Wales.



- 3 Elytra relatively bright tawny brown, without or with small dark marks. Head and pronotum rather bright metallic green. Length 6-9 mm.
..... ***Onthophagus coenobita***
Local in England northwards to Derbyshire.



Elytra darker brown, with irregular black or green markings.4

- 4 Head and pronotum strongly metallic bronze-green or coppery. Front margin of pronotum more widely notched. Length 8-12 mm.

..... ***Onthophagus vacca***

Most records from near the coast in southern England.



Head and pronotum dull black or with a slight greenish reflection; front margin of pronotum less notched. Length 5-8 mm.5

- 5 Pronotum slightly sinuate just behind the front angles, comparatively broad compared to its length and more rounded at the sides.6



Pronotum evenly rounded from the front angles, not as broad compared to its length and less rounded at the sides. Strong mottled markings on the elytra usually extending to the base of the fifth interval.

..... ***Onthophagus nuchicornis***

Found in Breckland grassland and coastal dune systems on sandy soils where it is associated with the dung of cattle, rabbit, horse, dog and sheep. Since 1990, known only from coastal dune sites in Wales, North Devon (Northam Burrows) and East Kent (Greatstone-on-Sea) and inland, from Lyndhurst in the New Forest and from two localities in the West Suffolk Breck.



- 6 More slender species. Base of male horn narrower and not angled. Parameres broadened towards the tips and club-shaped. Female cephalic carina always obtusely angled; frontal carina flat.

..... ***Onthophagus similis***

Local in England and Ireland



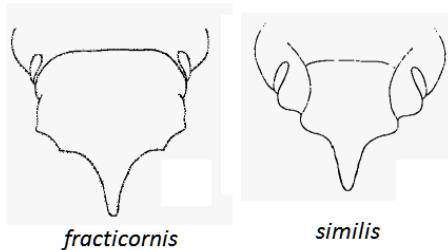
Broader and larger species. Male horn distinctly angled at the base and often dilated. Parameres tapering to points and with wing-like chitinous ridges at the sides. Female with the cephalic carina longer than the frontal carina and gently sloping; frontal carina clearly raised.

..... ***Onthophagus fracticornis***

Often misidentified in the literature and collections as *similis*. Open unimproved to semi-improved hillside pasture on well-drained soils in The Mendips.



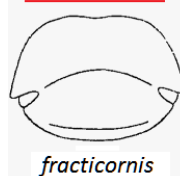
frontal horns in males



fracticornis

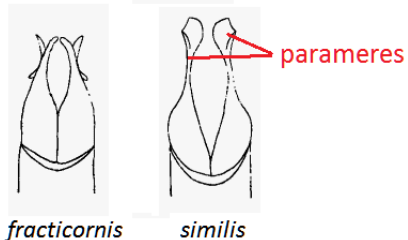
similis

female head



fracticornis

Male aedeagus and parameres



fracticornis

similis

Genus *Aegialia*

Adapted from Britton (1956)

- 1 Pronotum smooth and without punctures; base of pronotum lacking a slightly raised margin. Elytra as long as broad with the striae fine and without punctures.
..... ***Aegialia arenaria***
Local on sandy coasts



Pronotum roughened or with a granular texture; base of pronotum with a raised margin. Striae of the elytra with clear or indistinct punctures.2

2 Pronotum with a granular texture but without clear punctures. Hind tibia with a broad, blade-like spur. Elytra with the striae very indistinctly punctured. Length 3.5-4.5 mm.

..... ***Aegialia rufa***

Sand dunes from Lancashire southwards to Cheshire, South Wales (Merthyr Mawr Warren and Kenfig Burrows). Very difficult to find; appears to be nocturnal; rare and declining.

Pronotum covered with coarse punctures. Hind tibia with a narrow spur. Elytra with the striae deep and strongly punctured.

..... ***Aegialia sabuleti***

Local on the sandy banks of rivers and on coasts.



Genus *Euheptaulacus*

- 1 Angle in front of eyes blunt. Pronotum broader in comparison to its length and shorter in proportion to the elytra; elytra more or less entirely pale brown. Length 3.5-4.5 mm.

..... *Euheptaulacus villosus*

Very local but widespread.



Angle in front of eyes sharp. Pronotum not as broad compared to its length and longer in proportion to the elytra; elytra yellow-brown each with two rows of small dark abrupt marks. Pronotum and elytra hairy. Length 4.0-4.5 mm.

..... *Euheptaulacus sus*

Mostly on exposed sites with sandy soils. All of the recent records have been associated with free-draining soils on sandy semi-improved pasture or sand dune systems. Greatly declined. Main stronghold now is Northam Burrows NR in North Devon in an area of sheep-grazed coastal grassland covering less than 2 square kilometres. One recent site each in East Kent, Norfolk and Suffolk.



Genus *Saprosites*

(Translated from Schmidt 1922)

- 1 Black or black brown species. Head paler on the front. Pronotum somewhat widening towards the front and not very densely punctured with both finer and stronger punctures; hind angles distinct. Elytra with the striae strongly punctured and as broad as the slightly convex interstices. Mesosternum and metasternum at the same level and punctured. Length 3 mm.

..... ***Saprosites mendax***

Very local in Sussex under bark. The mesosternum is between the bases of the front and middle legs and the metasternum is between the middle and hind legs.



Shining pale chestnut-brown species. Clypeus not broadly bordered. Pronotum without a longitudinal furrow, densely and finely punctured and without lateral transverse indentations. Elytra striate and punctured, the punctures extending laterally onto the edges of the more or less flush interstices. First tarsal segment of the hind tibia shorter than the claws which are very long. Length 3-3.75 mm.

..... ***Saprosites natalensis***

Genus *Melolontha*

Entirely reddish yellow species or with the pronotum often black. Pronotum pubescent. Elytra with scale-like pubescence. Female with much shorter lamellae on the club of the antennae than the males. Length 20-25 mm.

- 1 Elytra slightly narrower and less dilated at the sides; last segment of the abdomen longer and gradually narrowed to the apex. Hairs on the pronotum shorter. Flaps of the antennal club in males about 3.5 mm. long and third segment of the antennae without a spur.

..... ***Melolontha melolontha***



Elytra slightly broader and more dilated at the sides. Last segment of the abdomen shorter and slightly widened at the apex. Pubescence on the pronotum longer. Flaps of the antennal club in males about 4 mm. long and third segment of the antennae with a forwardly-directed spur.

..... ***Melolontha hippocastani***

Very local and rare in northern England, Scotland and Ireland. Only recorded at six locations since 1990 but quite possibly under-recorded as it lives in upland woodland and forest.



Genus *Amphimallon*

(Translated from Machatschke (1969))

- 1 Sides of the elytra with rows of larger, longer thin bristles. Shining brown species; central part of the pronotum often darker, often with a paler central stripe. Hairs around the scutellum denser and those on the side of the pronotum longer. In females the hairs on the pronotum and last segment of the abdomen are shorter and sparser. Head with a clear ridge on the frons which is interrupted by a long furrow on the vertex. The ridges on the elytra are smooth or are sparsely punctured. Larger species, 14-16 mm.



..... ***Amphimallon solstitiale***
 Flying at dusk, mainly around trees. Local, England.

Sides of the elytra without longer outstanding hairs. Sides of the pronotum bordered in front of the hind angles. Darker in colour. Hairs on the pronotum only dense towards the edge. Elytra with isolated hairs; last segment of the abdomen more densely hairy. Head with dense and robust punctures. Pronotum with dense punctures. Scutellum with a shining middle line. Smaller on average - 12-15 mm.



..... ***Amphimallon ochraceum***
 Declining greatly and probably now only frequent in Caernarvonshire and Pembrokeshire. Restricted to high quality unimproved grasslands. In Britain associated with coastal grassland and downland (e.g. cliff-tops), and rarely inland downs. Requires undisturbed and unimproved grassland. The soil dwelling larvae feed at the roots of grasses. Adults have been recorded between June and August and are most often seen in mid-day flight in warm weather.

Genus *Gnorimus*

- 1 Entirely black species except for white marks on the elytra (which are sometimes very small or absent). Length 16-20 mm.

..... ***Gnorimus variabilis***

Very rare - populations persist at two localities. These are Windsor Forest (and Great Park), where the species is widely dispersed but infrequent. The other modern site is Parham Park, West Sussex.



Bright green species with darker antennae and legs. Length 14-18 mm.

..... ***Gnorimus nobilis***

Currently very locally distributed in Midlands and southern England with post-1990 records from Herefordshire, Gloucestershire, Worcestershire, Warwickshire, Buckinghamshire, Berkshire, Oxfordshire, Hampshire and Kent. Primarily associated with orchards where the larvae develop in the wood mould or heartwood of old hollow fruit trees. Plum is most favoured, but it is also regularly recorded from apple, pear, damson and cherry. The species also inhabits woodland and there are reports of larval development in willow and possibly oak.

