

# A DUMP Guide to Dung beetles - Key to the species 'Aphodius'



This key is based on Jessop (1986) with added images, corrections and updates in nomenclature and taxonomy.

- 1 - Scutellum long, one third to one fifth length of elytral suture ..... 2  
 - Scutellum short, one eighth to one tenth length of elytral suture ..... 5



Long



Short

- 2(1) - Small, length less than 6mm. Elytra black with posterior third red and often an ill-defined red spot at the shoulder. Length 3-6mm, Mar-Sept. Widespread in Eng & Wales, absent Scot. Open habitats ..... ***Otophorus haemorrhoidalis***



- Large, length greater than 6 mm, colour not as above ..... 3

- 3(2) - Pronotum evenly covered with punctures. Head and pronotum black, elytra dark yellow to brown with the first interval darker. Elytral intervals finely punctured. Length 6-9 mm, Apr-Sept. Widespread in Eng & Wales, absent Scot. Open habitats ..... ***Colobopterus erraticus***



- Pronotum with scattered coarse punctures. Elytral intervals without punctures, colour not as above ..... 4

- 4(3) - Broad, convex body width 4-6 mm. Elytral striae (lines) narrow, about one tenth as wide as intervals. Elytral intervals are broad and not strongly convex. Uniformly shining black or rarely dark red. Length 6-12 mm (rarely ≤9 mm), Apr-Sept. Widespread in UK. Open habitats ..... ***Teuchestes fossor***

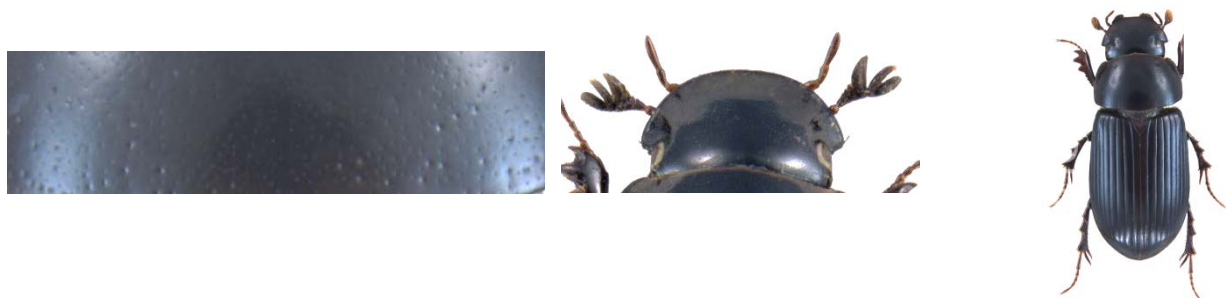


- Narrow, width 2 – 3 mm. Elytral striae wide, as wide as intervals. Elytral intervals strongly convex. Head and pronotum black, elytra dark red to black. Length 6-8 mm, Mar-Sept. Regionally Extinct, once widespread in S. Eng., rare in Wales & Scot. Open habitats ..... ***Eupleurus subterraneus***

NOTE: This species is very rare and has not been recorded for over 50 years. Retain voucher if seen.



**5(1)** - Large, length 9-13mm. Pronotum with few scattered coarse punctures as well as regularly distributed fine punctures. Colour dark reddish brown to black. Front of head (clypeus) semi-circular. (Only *A. luridus* & *A. depressus* have a similar semi-circular head shape). Length 9-13 mm, widespread in UK, often comes to light. Most habitats ..... ***Acrossus rufipes***



- Smaller, length 2-9 mm. If as large as 9 mm (e.g. some specimens of *A. luridus* and *A. depressus*) then pronotum evenly punctuate and uniformly black or elytra pale brown with dark markings ..... 6

**6(5)** - Head strongly convex with a transverse ridge in the anterior third, without tubercles (bumps). Anterior three-quarters of the head dull and without punctures, posterior one-quarter with a shining, finely punctured band. Front of head black, often with a narrow red margin, antennae yellow. Length 3-5 mm, Apr-July, Sefton Coast sand dunes only ..... ***Ammoecius brevis***

NOTE: This species is very rare and only found in Ainsdale, Merseyside on sand dunes. If this is where you found it, please retain a voucher specimen for confirmation.



- Not with the above combination of characters ..... 7

**7(6)** - 9<sup>th</sup> elytral interval ridged and joining with the 7<sup>th</sup> interval posteriorly. Head and pronotum black, elytra dark red to black. Length 2-4 mm, Apr-Aug, Local in S Eng. Open habitats (usually sand or chalk soils)

..... ***Plagiogonus arenarius***



- 9<sup>th</sup> elytral interval not ridged, even if it joins with the 7<sup>th</sup> ..... 8

**8(7)** - Colour black with two sharply defined red spots on each elytra, a large spot near the apex and a much smaller one near the shoulder. Length 3-4 mm, Apr-Jun. Rare in S Eng. Open habitats on well drained soils

..... ***Phalacronthus quadrimaculatus***

NOTE: Sometimes confused with well-marked *O. haemorrhoidalis*, see couplet 2.



- Elytra without two distinct red spots each ..... 9

**9(8)** - First tarsomere of hind leg short and strongly widening apically. Male hind tibia flattened and blade like. Pronotum strongly punctured. Head and pronotum black, elytra dark red to black. Length 3-5 mm, Apr-Jul. Local in S Eng. Open habitats on well drained soils (e.g. sandy heaths) ..... ***Euorodalus coenosus***



- First tarsomere of hind leg not strongly widened apically ..... 10



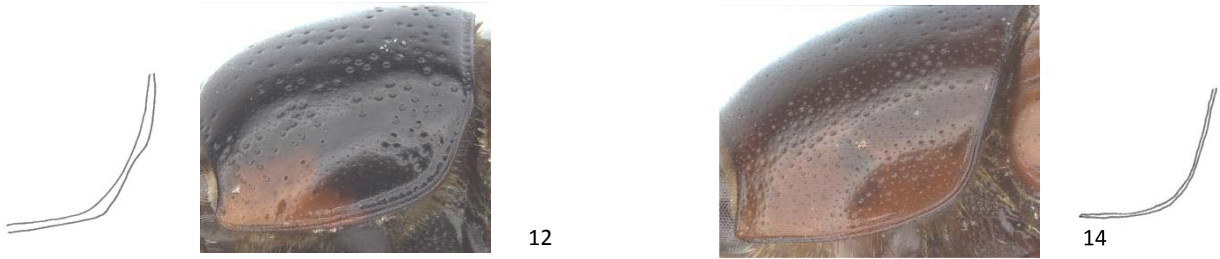
**10(9)** - Surface of pronotum and elytra covered with short backwardly facing pale hairs. Dark brown to black. Length 3-4 mm, Apr-Jun. Regionally Extinct. Open habitats ..... ***Trichonotulus scrofa***

NOTE: This species is very rare in the UK, with recent records from the Channel Islands only. If your beetle looks similar, it could be *Euheptaulacus villosus*, *E. sus* or *Heptaulacus testudinarius*. Please retain a voucher specimen for confirmation.

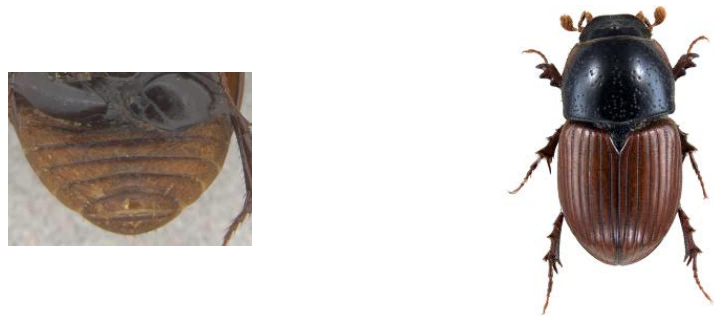


- Surface of pronotum without hairs (a fringe of hairs may be present along the lateral sides) ..... 11

- 11(10)** - Posterolateral angles of pronotum sinuous (wavy). Head black, pronotum black with yellow edges anteriorly, elytra orange to reddish brown without dark markings (if posterolateral angles of pronotum slightly sinuous but pronotum all black see *A. foetidus* couplet 16) ..... 12  
 - Posterolateral angles of pronotum not curved or if slightly curved colour not as above ..... 14



- 12(11)** - Abdominal sternites reddish yellow to light brown, strongly contrasting with rest of the underside. Anterior Lateral raised border of pronotum continuing to the anterior margin. Length 6-9 mm, Jun-Oct. Widespread in UK. Open habitats ..... ***Rhodaphodius foetens***



- Abdominal sternites black or dark down. Lateral raised border of pronotum not continuing to the anterior margin ..... 13



- 13(12)** - Tip of elytra with dense, fine micro punctures and an overall smooth appearance. Length 5-8 mm, Mar-Oct. Widespread in UK, becoming local in N. Open habitats ..... ***Aphodius fimetarius***  
 - Tip of elytra with fine and coarse micro punctures and an overall rough appearance. Length 5-8 mm, Mar-Oct. Widespread in UK. Open habitats ..... ***Aphodius pedellus***

Note: *A. pedellus* was split from *A. fimetarius* based on chromosomal analysis and recent morphological characters (see Fery, & Rössner, 2015; Miraldo *et al.*, 2014). The above character works well, but requires close examination..



- 14(11)** - Elytra brown to light brown, yellow-orange or light red, always much lighter than head and pronotum, often with dark spots or with sutural interval darker than the rest of elytra (best seen with the naked eye) .....15  
 - Elytra dark red or black, not or only slightly lighter than head and pronotum (if elytra black with a red streak see couplet 40) ..... 33

- 15(14) - Pronotum all the same colour - not at all lighter laterally ..... 16
- Pronotum lighter laterally ..... 18

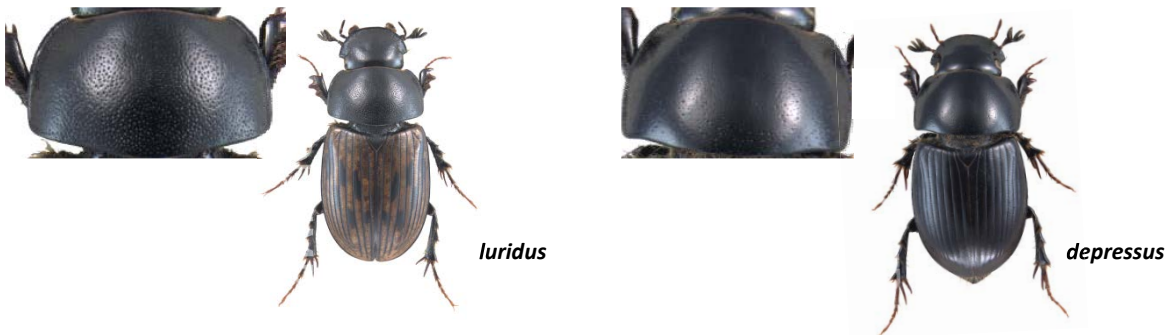
16(15) - Sides of head sinuous, scarcely angled in front of the eye. Front of head (clypeus) sinuate (with a shallow dip at front). Head often with small tubercles (bumps) Punctures on pronotum irregularly scattered. Abdominal sternites black. Elytra lacking discrete markings, colour light yellow brown, often with darker patches at the sides but all black forms exist. Length 5-8 mm, Apr-Aug. Widespread in UK. Open habitats especially on well drained soils ..... **Aphodius foetidus**



- Sides of head strongly angled in front of the eye. Front of head (clypeus) semi-circular. Head lacking tubercles (bumps). Punctures on pronotum evenly distributed ..... 17



- 17(16) - Elytral intervals matt with sparse hairs on the apical third. Elytra pale or mid brown, with discrete dark markings, sometimes all black. Disc of pronotum densely covered with coarse and fine punctures. Length 6-9 mm, Apr-Jun. Widespread in UK, becoming local in the N, scarce in Scot. Open habitats, especially well-drained soils ..... **Acrossus luridus**
- Elytral intervals shining and hairless. Elytra black or red without discrete markings. Disc of pronotum finely and evenly punctured. Length 6-9 mm, May-Oct. Widespread in UK, scarce in SE Eng. Open habitats ..... **Acrossus depressus**



- 18(15) - Elytra with large patches of darker colour or first interval darker than remaining intervals. Often giving the appearance of a V shape lighter area pointing towards the posterior ..... 19



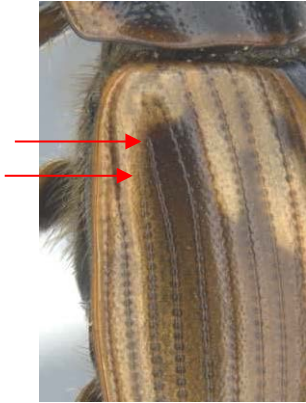
- Elytra with dark colour present as discrete dashes on elytral intervals. First interval not darker than remaining intervals ..... 27



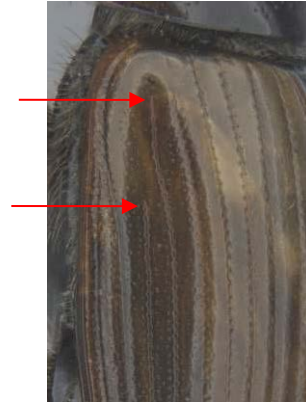
- 19(18) - Elytra with hairs, mostly in the posterior half ..... 20  
 - Elytra without hairs, even at high magnification..... 23

**Note:** This couplet from Jessop should be used with caution. It works well for males but not some females, since these have micro hairs only. Careful examination is required.

- 20(19) - Elytra with 8<sup>th</sup> stria continuing almost to the base where it almost joins the 7<sup>th</sup> stria as a series of punctures ..... 21  
 - Elytra with 8<sup>th</sup> stria ending abruptly, at least 1.5 scutellum lengths from the base with a few punctures towards the base only ..... 22

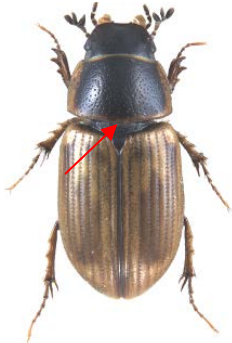


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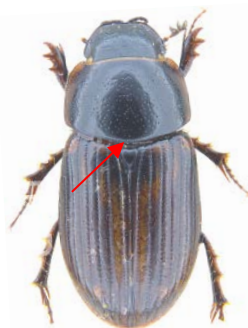


22

- 21(20) - Posterior margin of pronotum yellow. Length 4-6 mm, Sept-May (Autumn to Spring). Widespread in UK. All habitats. .... **Melinopterus sphacelatus**  
 - Posterior margin of pronotum black. Length 4-6 mm, Sept-May (Autumn to Spring). Rare, Kent only. Open habitats ..... **Melinopterus punctatosulcatus**



*sphacelatus*



*punctatosulcatus*

NOTE: This species is very rare in the UK, with records from Kent only. Please retain a voucher specimen for confirmation.

- 22(20) - Clypeus with a yellow spot well separated from each side and with fine evenly distributed punctures. Apical spur of front tibia in male pointed. Length 3-6 mm, Sept-May (Autumn to Spring). Local in S Eng. Open habitats, especially well drained soils ..... **Melinopterus consputus**  
 - Clypeus with at most some pale colouration (often reddish), but never with clear yellow patches, punctuation always irregular, with a mix of large and small punctures. Apical spur of front tibiae truncated in the male, with a tooth on the apex inner margin. Length 4-7 mm, Sept-May (Autumn to Spring). Widespread in UK. All habitats ..... **Melinopterus prodromus**



*consputus*



*prodromus*

**23(19)** - Pronotum with a broad yellow margin at the base and sides. Scutellum constricted in the basal half. Maxillary palps light brown. Length 3-6 mm, May-Sept. Widespread but very local in Eng. Open habitats, especially well drained soils ..... ***Labarrus lividus***



- Without the above combination of characters ..... 24

**24(23)** - Legs, abdominal sternites, antennae and maxillary palps black or dark brown although the tip of the palps may be lighter. Head black, pronotum black with pale anterior-lateral margin, elytra orange with a dark sutural line (middle). Length 4-5 mm, Apr-Jun. Widespread but local in UK. Open habitats ..... ***Esymus merdarius***



- Legs, antennae and maxillary palps lighter brown ..... 25

**25(24)** - Smaller, length 3-6 mm. Head brown, pronotum dark with a broad pale lateral margin, elytra pale orange with a dark sutural line (middle). Length 3-6 mm, Jun-Sept. Widespread but local in UK. Open habitats ..... ***Bodiloides ictericus***



- Larger, length 5-8 mm, colour variable ..... 26

**26. (25)** - Apex of elytra dull, duller than the rest of the elytra and without punctures. Colour pale brown, occasionally with four discrete dashes. Length 5-8 mm, Jun-Sept. Widespread but very local in UK. Open habitats

..... ***Bodilopsis sordida***

- Apex of elytra shining and with fine punctures. Colour variable, from pale to dark brown, almost black. Length 5-8 mm, Jun-Sept. Widespread in UK. All habitats ..... ***Bodilopsis rufa***



*sordida*

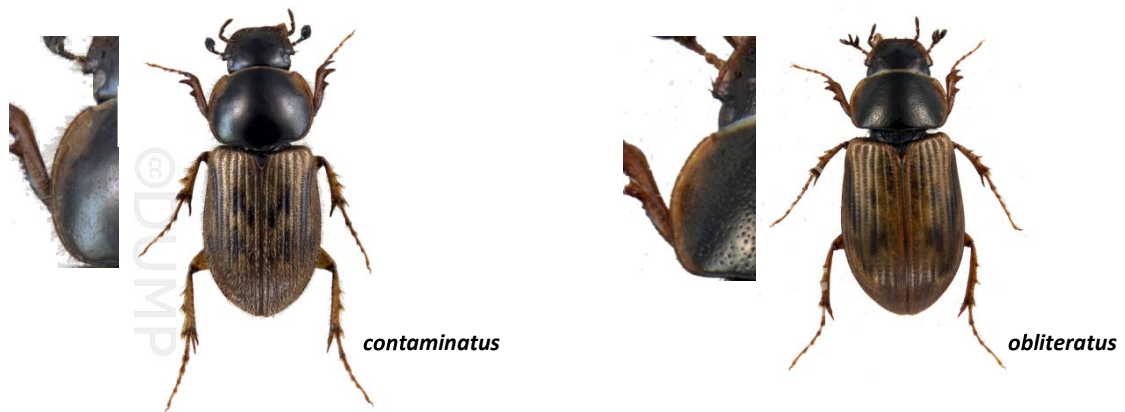


*rufa*

- 27(18) - Elytra with pale hairs, at least in the apical half. Front angles of clypeus with long hairs ..... 28
- Elytra lacking hairs, or at most with small hairs on apical third. Front angles of clypeus lacking long hairs .. 29



- 28(27) - Pronotum fringed with long hairs. Elytra with hairs to the base and dark spots well defined, clearly demarcated from the background colour. Length 5-7 mm, Aug-Oct (rarely otherwise). Widespread in UK. All habitats ..... ***Nimbus contaminatus***
- Pronotum not fringed with long hairs. Elytra lacking hairs at the base and dark spots not well defined, poorly demarcated from the background colour. Length 4-7 mm, Sept-Apr (Autumn – Early Spring). Widespread but local in UK. Woodland - scrub habitats ..... ***Nimbus obliterated***



- 29(27) - Sides of the head near eyes slightly rounded. Clypeus with fine punctures and smooth surface, black with yellow patches in front of the eye on both sides. Length 4-6 mm. Apr-Sept. Widespread in UK, absent Scot. Woodland - scrub habitats ..... ***Violinus sticticus***



- Sides of the head near eyes project laterally. Clypeus with coarse punctures and a rough surface ..... 30





**30(29)** - Elytra reddish in colour, with a poorly defined pattern dark marks, none in the anterior third. Elytral striae with a row of punctures on each side. Pronotum densely covered with coarse punctures. Anterior margin of clypeus with a distinct obtuse incision. Length 4-6 mm, Jun-Sept. Widespread but local in Eng & Wales, absent Scot. Woodland habitats ..... *Limarus zenkeri*



- Colour pattern of elytra with dark markings in the anterior third, and more clearly defined Elytral striae without a row of punctures on each side. Pronotum less densely covered with punctures. Clypeus with a broadly rounded incision, without distinct angles ..... **31**

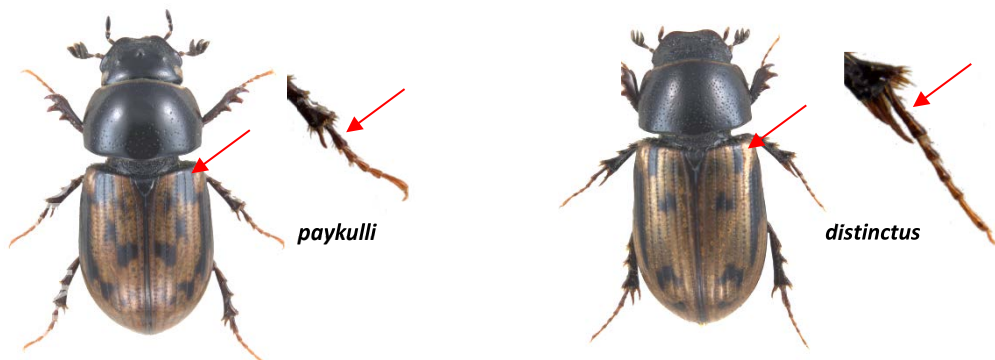
**31(30)** - Clypeus with a red patch in front of the eye. Yellow lateral margins on pronotum complete. Elytra with a characteristic pattern of rectangular marks. Length 4-5 mm, Sept-Apr (Autumn to Spring). Widespread but local in UK. Woodland and scrub habitats ..... *Chilothorax conspurcatus*



- Clypeus black, lacking a red patch in front of the eyes. Yellow lateral margins on pronotum restricted to the anterolateral margin .....  
32

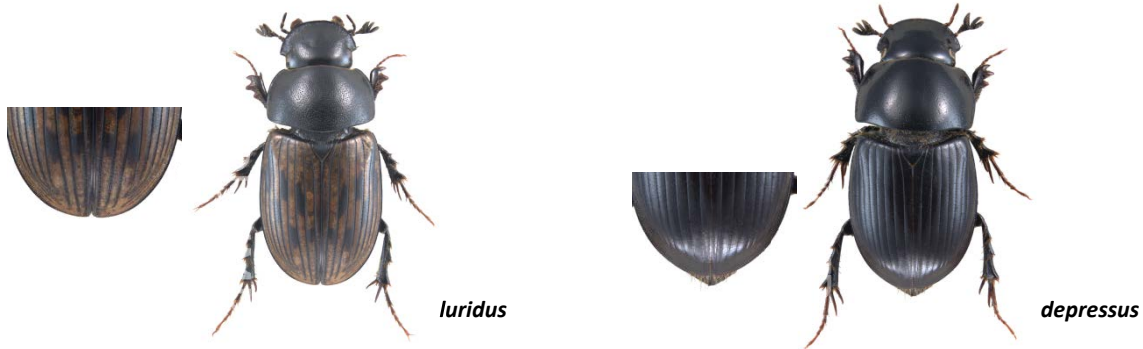
**32(31)** - Dark pattern on elytra extends to the base of 4<sup>th</sup> and 5<sup>th</sup> intervals. Basal tarsomere of middle leg shorter, as long as the next two segments together. Length 3-5 mm, Sept-Apr (Autumn to Spring). Widespread but very local in UK. Open habitats, especially well-drained soils (e.g. chalk) ..... *Chilothorax paykulli*  
- Dark pattern on elytra includes base of 5<sup>th</sup> interval only and pattern generally less extensive. Basal tarsomere of middle leg longer, as long as the next three segments together. Length 3-6 mm, Sept-Apr (Autumn to Spring). Widespread but local in UK. Open habitats, especially well-drained soils (e.g. sand)

..... *Chilothorax distinctus*

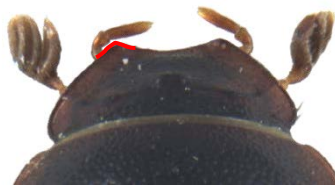


- 33(14) - Large size, length 6-9 mm. Sides of head angled in front of the eyes, clypeus semi-circular ..... 34  
 - Smaller, if as long as 6 mm then either sides of the head not strongly angled in front of the eyes and clypeus sinuous in front ..... 35

- 34(33) - Elytral intervals in apical third matt with sparse hairs on the apical third. Elytra black, occasionally with paler markings. Disc of pronotum densely covered with coarse and fine punctures. Length 6-9 mm, Apr-Jun. Widespread in UK, becoming local in the N, scarce in Scot. Open habitats, especially well-drained soils (see also couplet 17) ..... ***Acrossus luridus***  
 - Elytral intervals in apical third shining and hairless. Elytra black or red without markings. Disc of pronotum finely and evenly punctured. Length 6-9 mm, May-Oct. Widespread in UK, scarce in SE Eng. Open habitats (see also couplet 17) ..... ***Acrossus depressus***



- 35(33) - Clypeus with obtuse anterior angles ..... 36



- Clypeus with anterior angles rounded ..... 37



- 36(35) - Pronotum black, lighter anteriorly and laterally and densely covered with coarse punctures. Elytra dark red, striae with a row of punctures on each side. Length 4-6 mm, Jun-Sept. Widespread in Eng, local in Wales, absent Scot. Woodland habitats ..... ***Limarus zenkeri***

- Head, pronotum and elytra shining black. Pronotum often with faint red anterolateral markings. Elytral intervals with fine irregularly scattered punctures. Clypeus with a transverse ridge. Length 4-6 mm, Apr-May, Sept. Widespread but very local in N Eng, N Wales & Scot. Woodland and scrub habitats ..... ***Agoliinus nemoralis***



**37(35)** - Elytral striae broad, often as broad as intervals. Intervals concave, bounded laterally on each side by a carina (ridge). Head and pronotum all black, elytra dark red. Length 4-6 mm. Sept-Oct. Widespread but very local in UK. Open habitats ..... ***Sigorus porcus***



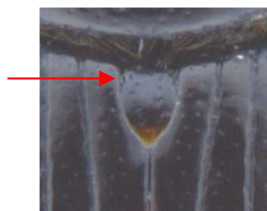
- Elytral striae narrow, one tenth to one fifth as broad as intervals. Intervals not concave or bounded laterally by a ridge ..... 38

**38(37)** - Apex of elytra with a raised margin about twice as wide as 2<sup>nd</sup> elytral stria near its apex. Head and pronotum black, pronotum finely and sparsely punctured. Elytra black, sometimes dark red. Length 3-5 mm, Mar-Jul. Widespread in Eng & Wales, absent Scot. Open habitats ..... ***Calamosternus granarius***

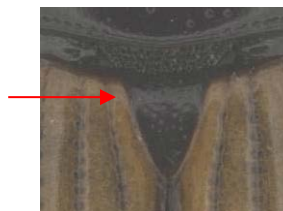


- Apex of elytra with a raised margin narrow, narrower than 2<sup>nd</sup> elytral stria near its apex ..... 39

**39(38)** - Scutellum constricted in the basal half ..... 40  
 - Scutellum triangular, regularly narrowed from base to apex ..... 41

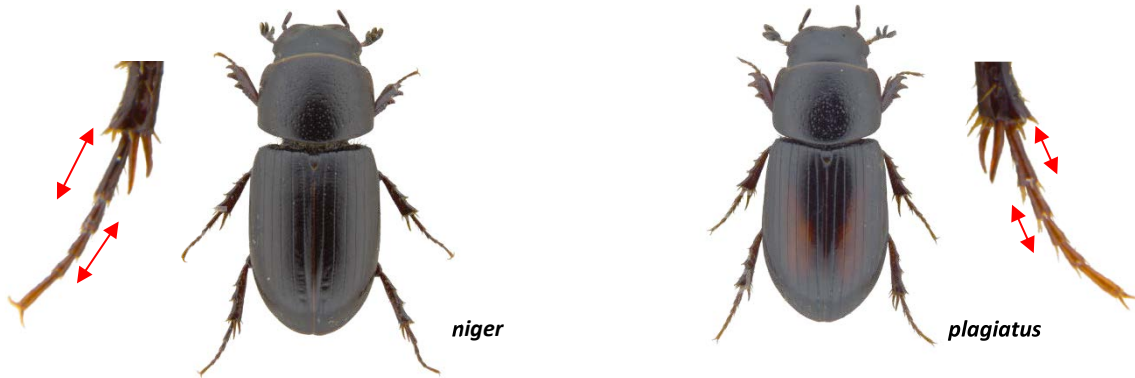


40



41

- 40(39)** - First tarsomere on hind legs long, as long as the next three segments together. Elytral striae with strong punctures. Colour all black. Length 4-5 mm, Mar-Jun. Very local, associated with pool edge debris on wet heathland (Hants, Berks, Dorset) ..... ***Liothorax niger***
- First tarsomere on hind legs short, as long as the next two segments together. Elytral striae less strongly punctured. Colour all black, with a slight metallic sheen, sometimes with reddish mark on elytra. Length 4-5 mm, Apr-Jun. Widespread in UK, associated with pool edge debris on coastal dunes & saltmarshes ..... ***Liothorax plagiatus***



- 41(39)** - Apex of elytra with a matt surface (due to strong microsculpture). Striae strongly shining, more so than the intervals, at least in the apical third ..... 42
- Apex of elytra a shining surface. Striae not shining more than the intervals ..... 43

- 42(41)** - Elytra matt black or occasionally dark red, but without pattern. Pronotum black, more shining than elytra. Broader, width 2-2.5 mm. Length 4-6 mm, Mar-Jul. Widespread in UK. All habitats ..... ***Agrilinus ater***
- Elytra dark red with ill-defined brighter red marks near the apex and base. Pronotum black with red anterolateral angles. Narrower, width 1.5 mm. Length 3-5 mm, May-Sept. Widespread but local in UK. Woodland – Scrub habitats, occasionally on sand dunes ..... ***Planolinus borealis***



- 43(41)** - Clypeus with a transverse ridge and obtuse anterior angles. Head, pronotum and elytra shining black. Pronotum often with faint red anterolateral markings. Elytral intervals with fine irregularly scattered punctures. Length 4-6 mm, Apr-May, Sept. Widespread but very local in N Eng, N Wales & Scot. Woodland – scrub habitats ..... ***Agoliinus nemoralis***



- Clypeus usually without a transverse ridge. Anterior margin of the head broadly rounded, lacking distinct angles ..... 44

44(43) - Antennae and maxillary palps light brown. Colour variable, from pale to dark brown, almost black.  
 Length 5-8 mm, Jun-Sept. Widespread in UK. All habitats (see also couplet 26) ..... **Bodilopsis rufa**



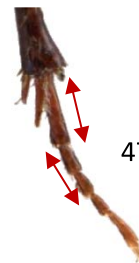
- Antennae and maxillary palps dark brown (antennal club sometimes black) ..... 45

45(44) - First segment of hind tarsi as long as segments two and three together ..... 46

- First segment of hind tarsi longer, about 1.3 times segments two and three together ..... 47



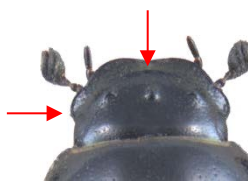
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47

46(45) - Head with distinct angled protrusion near eye. Head with three distinct tubercles and a distinct ridge in front. Pronotum black, rarely with faint red markings anterolaterally. Elytral striae narrow. Elytra black to dark red, rarely paler apically. Length 5-6 mm, Mar-May. Widespread but local in UK. Open habitats  
 ..... **Agriolus constans**

- Head near eye rounded, barely protruding. Head lacking distinct tubercles and ridge. Pronotum black with faint red markings anterolaterally. Elytral striae broad. Elytra black to dark red but usually paler apically.  
 Length 3-5mm, Apr-Jun. Widespread in UK. All habitats ..... **Esymus pusillus**



*constans*

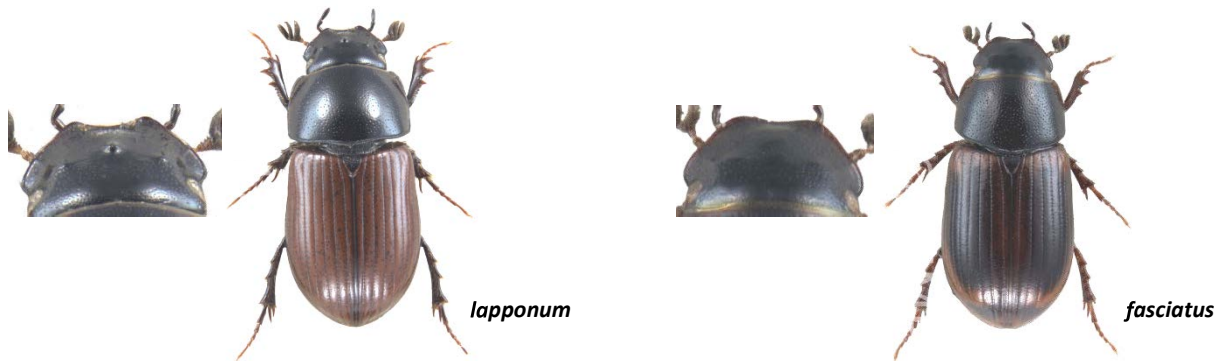


*pusillus*

**47(45)** - Clypeus with anterior margin broadly sinuate with obtuse angles. Head black, with three dorsal tubercles. Pronotum black, sometimes with anterolateral yellow markings. Elytra dark red to black. Length 4-6 mm, May-Aug. Widespread in N Eng, Wales & Scot. Open upland habitats

..... ***Agoliinus lapponum***

- Clypeus with anterior margin broadly sinuate but not obtusely angled. Head lacking tubercles. Pronotum black with red markings anterolaterally. Elytra dark red with a slightly darker patch in the middle, rarely with more extensive and much darker red to black patches. Length 3-5 mm, Apr-Sept. Widespread but local in N Eng, Wales & Scot. Woodland and open upland habitats ..... ***Planolinus fasciatus***



#### References

- Jessop, L. 1986. *Dung beetles and chafers – Coleoptera: Scarabaeoidea*. Handbooks for the Identification of British Insects, **5**(11) Royal Entomological Society of London.
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