

Images to support Jessop's RES key to *Aphodius* dung beetles (Coleoptera: Scarabaeidae)

Version 1 at 10 February 2015, compiled by Martin C. Harvey

The superb images in this document are by Darren Mann of [Oxford University Museum of Natural History](http://www.oxford-natural-history.com/). I am most grateful to him for permission to circulate these, and also to include his draft key to *Aphodius* subgenus *Melinopterus* (which allows separation of *A. sphacelatus* and *A. punctatosulcatus*). Any credit for this document should go primarily to Darren, all I have done is assemble his information in one place. His images can also be seen at: www.coleoptera.org.uk/photo-gallery

It is **strongly recommended** that you do not try to identify *Aphodius* beetles from this document alone! The document is intended to support the [Royal Entomological Society](http://www.royal-entomological-society.org/) key by L. Jessop:

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

Jessop's key is available as a free download from the RES: www.royensoc.co.uk/sites/default/files/Vol05_Part11.pdf

The images below are presented in the order in which the species appear in Jessop's key to genus *Aphodius* (see page 20 of the above download). The numbering of the images (2a, 3a etc.) refers to the numbering of the couplets in the key: 2a is the first half of couplet 2, 2b is the second half, etc.

Note that the colours of *Aphodius* dung beetles, especially their elytra, can vary quite considerably, so don't be misled by the colour patterns shown by the single specimens below. Always check with the other features described in the key, and check the shape, puncturation and distribution of hairs on the body of any specimen you are seeking to identify.

Two species (*A. pedellus* and *A. punctatosulcatus*) have been added to the British list since Jessop's key was written, and details of both are given below.

Additional images and helpful advice for identifying *Aphodius* beetles can be found on the Watford Coleoptera Group website: www.thewcgroup.org.uk/pages/scarabaeidae.htm#Aphodiinae

Darren Mann runs the national recording scheme for Scarabaeoidea (dung beetles and chafers). For more on beetle recording see: www.coleoptera.org.uk/home

2a. *haemorrhoidalis*



3a. *erraticus*



4a. *fossor*



4b. *subterraneus*



5a. *rufipes*



6a. *brevis*



7a. *arenarius* (= *putridus*)



8a *quadrifasciatus*



9a. *coenosus*



10a. *scrofa*

There have been no British records of this species since the 19th century, and it is regarded as a non-established introduction by Duff (2012, *Checklist of Beetles of the British Isles* (2nd Edition), Pemberley Books). It is distinctive for having short hairs scattered over the entire surface of the pronotum. An image is available at:

www.colpolon.biol.uni.wroc.pl/aphodius%20scrofa.htm

12a. *fimetarius* and *pedellus*

Since Jessop's key, *Aphodius pedellus* has been separated from *fimetarius* on the basis of chromosome analysis and morphological differences. See:

- Wilson, C.R. 2001. *Aphodius pedellus* (DeGeer), a species distinct from *A. fimetarius* (Linnaeus) (Coleoptera: Aphodiidae). *Tijdschrift voor Entomologie* **144**: 137-143.

To distinguish these species, you first need to sex your specimen: males have a 'dimple' in the middle of the anterior edge of the pronotum, and more prominent tubercles on the head. Females have an evenly curved anterior edge to the pronotum, and less prominent tubercles on the head.

Male *pedellus* to show 'dimple' at front of pronotum:



Males are best distinguished by dissection, although there is a small difference in the angle of the sides of the clypeus at the base: *fimetarius* has the two outer edges almost parallel, *pedellus* has them divergent.

Females can be distinguished by the amount of coarse puncturation on the pronotum: *fimetarius* has less well-developed coarse puncturation, with some areas almost free of punctures, at least on either side of the centre-line of the pronotum; *pedellus* has stronger coarse puncturation over most of the pronotum, without distinct areas free of punctures.

See images for females on next two pages.

fimetarius female:



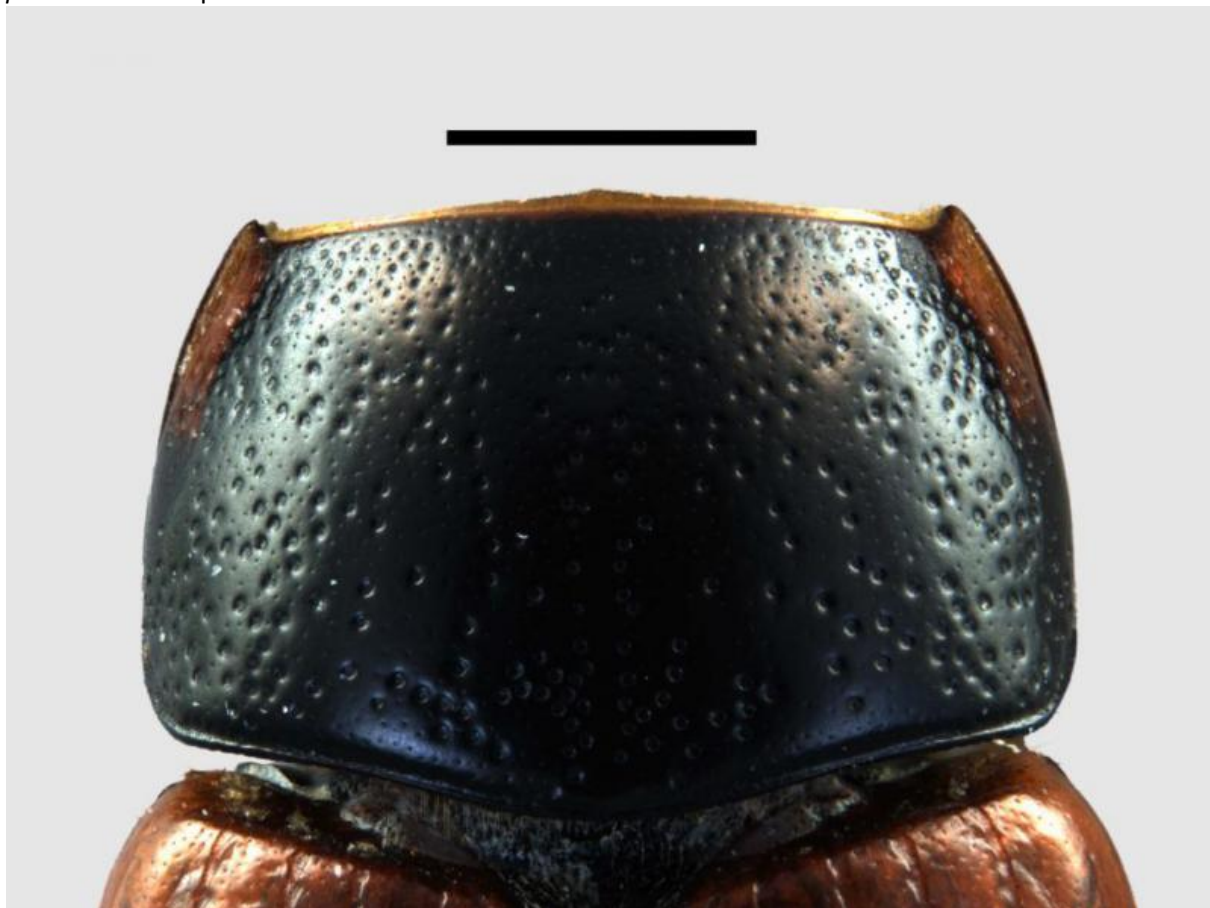
pedellus female:



fimetarius female pronotum:



pedellus female pronotum:



12b. *foetens*



15a. *foetidus*



16a. *depressus* (see also 32b)



16b. *luridus* (see also 32a)



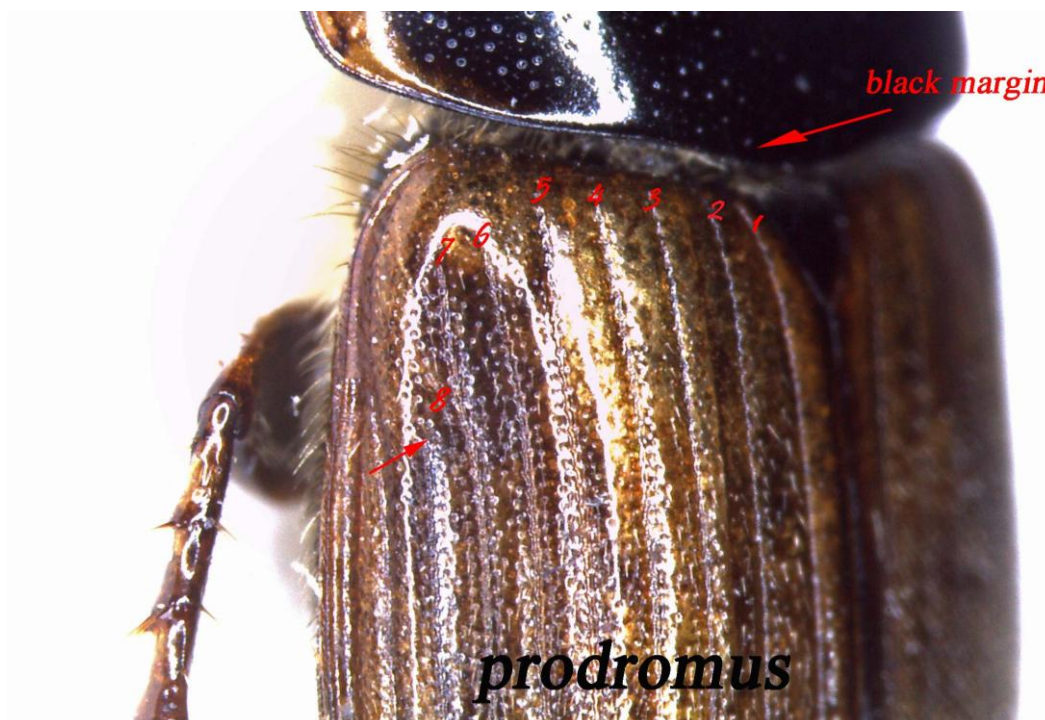
19a. *sphacelatus* and *punctatosulcatus*

Missing from Jessop's key is *Aphodius punctatosulcatus*, added to the British list in 1999 by Darren Mann. It is similar to *sphacelatus*. Here is Darren's draft key to *Aphodius* subgenus *Melinopterus*:

- 1** The 8th elytra stria continues almost to the base, where it often joins the 7th elytral stria behind the humeral callus by a series of punctures. Basal margin of pronotum yellow or black. → 2



- The 8th elytral stria ends abruptly, at least 1.5 scutellum lengths from the base, with at most with a few punctures continuing towards the base. Basal margin of pronotum mostly dark. → 3



- 2** Base of pronotum always with a yellow border (this may sometimes be obscured due to post-mortem discolouration).
 Elytra yellow with a central dull mark.
 Punctuation of pronotum and of elytra stronger and denser.
 First segment of the hind tarsi as long as the superior apical spur of the metatarsi.
 Male aedeagus characteristic. *sphacelatus* (Panzer)
- Base of pronotum black.
 Elytra darker, often brown, with the disc duller.
 Punctuation of the pronotum and elytra sparse and weak.
 First segment of the hind tarsi longer than the superior apical spur of the metatarsi.
 Male aedeagus characteristic. *punctatosulcatus* Sturm
- 3** Clypeus with a yellow spot well separated from each side and with fine evenly distributed punctuation.
 Frontal suture in the male with tubercles.
 Elytral apex very finely pubescent in the male, glabrous in the female.
 Apical spur of protibia in male pointed.
 Male aedeagus characteristic. *consputus* Creutzer
- Clypeus with at most some pale colouration (often reddish), but never with clear yellow patches, punctuation always irregular, with a mixture of large and small punctures.
 Elytra distinctly pubescent in males, weakly pubescent in females.
 Apical spur of protibiae truncated in the male, with a tooth on the apex inner margin.
 Male aedeagus characteristic. *prodromus* (Brahm)
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See next page for photos of *sphacelatus* and *punctatosulcatus*; *prodromus* is at couplet 19b below; *consputus* is at couplet 21b below.

sphacelatus:



punctatosulcatus:



19b. *prodromus*



21a. *lividus*



21b. *consputus*



22a. *merdarius*



23a. *ictericus*



24a. *sordidus*



24b. *rufus* (see also 41a)



26a. *contaminatus*



26b. *obliteratus*



27a. *sticticus* (= *equestris*)



28a. *zenkeri* (see also 33a)



29a. *conspurcatus*



30a. *paykulli*



30b. *distinctus*



32a. *luridus* (see also 16b)



32b. *depressus* (see also 16a)



33a. *zenkeri* (see also 28a)



34a. *porcus*



35a. *granarius*



37a. *niger*



37b. *plagiatus*



39a. *ater*



39b. *borealis*



40a *nemoralis*



41a. *rufus* (see also 24b)



43a. *pusillus*



43b. *constans*



44a. *lapponum*



44b. *fasciatus*



Four further species were mentioned in Jessop's key but omitted as they were considered doubtfully British: *obscurus*, *satellitius*, *sturmi*, *varians*. None of these is on the current British checklist (*A. scrofa* has also been dropped from the checklist, see couplet 10a above).