

The British *Amphimallon ochraceum* (Knoch) is *A. fallenii* (Gyllenhal) (Scarabaeidae: Melolonthinae)

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Abstract

Examination of type material revealed that *Amphimallon ochraceum* (Knoch) and *A. fallenii* (Gyllenhal) are distinct allopatric species. The northern species occurring in Britain is *A. fallenii*. British records of *A. ochraceum* (or *Rhizotrogus ochraceus*) refer to *A. fallenii*.

The diurnal relative of the common June beetle or summer chafer, *Amphimallon solstitiale* (Linnaeus), has traditionally been called *A. ochraceum* (Knoch, 1801) or *Rhizotrogus ochraceus* in Britain (Newman, 1855; Joy, 1905; Mann, 2008). It has been recorded from Cornwall, Pembrokeshire, Devon, and Berkshire (Jessop, 1986; Smith, 1990) and probably, without voucher, from Gloucestershire (Allen, 1978b). Old records included "North Wales" (Newman, 1855) and Derbyshire (with question mark; Stephens, 1839, who called it *Rhisotrogus fallenii*). During a project on the *Amphimallon solstitiale*-group (Rössner & Krell, 2009), we studied 21 males and two females of this diurnal species from Britain (detailed data in Rössner & Krell, 2009), that were collected, if specified, between 1811 and 1911 in Cornwall, Pembrokeshire, and Berkshire at the classical localities listed by Allen (1978a). Most of these specimens are deposited in The Natural History Museum, London, and were reported as *Rhizotrogus ochraceus* or *Amphimallon ochraceum* by Lamb (1917) and Allen (1978a), respectively.

After comparing type material of the two diurnal taxa of the *A. solstitiale*-group, *A. ochraceum* and *A. fallenii* (Gyllenhal, 1817) it became obvious that the former is a southern species occurring from southern Russia and Asia Minor to southern and southern central Europe whereas the latter is a species from northern and northern central Europe. The 21 British specimens we studied belong entirely to *A. fallenii*. We suppose that all records of *A. ochraceum* from Britain refer to *A. fallenii*, since it is unlikely that *A. ochraceum* has an isolated northern population in Britain.

The following key helps to separate males of *Amphimallon solstitiale*, *A. ochraceum* and *A. fallenii*:

- 1 Lateral margin of elytra with short, robust, stiff setae; hairs on pronotum less dense, pronotal surface well visible; hairs on scutellum mostly short leaving the scutellum visible; pygidium with short or without hairs, rarely with longer

- hairs. Swarms from morning to noon, rarely in the afternoon, but always well before dusk. (Southern Europe from Spain to Greece; southern central Europe, Asia Minor, Caucasus, southern Russia)*ochraceum*
- Lateral margin of elytra with long, soft bristles; pronotum mostly with dense and long hairs; scutellum with long hairs concealing most to all of the scutellum; pygidium with distinct, often long hairs. Swarms during the day or at dusk2
- 2 Clavus short, at most 1.55mm long; pygidium with simple to slightly rasp-like punctures; protibia mostly with two or three denticles. Swarms in the morning to midday. (Southern Sweden, Denmark, Germany, UK)*fallenii*
- Clavus elongated, mostly longer than 1.57 up to over 2.0mm; punctures of pygidium mostly rasp-like or wrinkled, rarely simple; protibia mostly with one denticle. Swarms normally at dusk. (Eurasia)*solstitiale* (s. l.)

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References

- ALLEN, A.A. 1978a. *Amphimallon ochraceum* Knoch (Col.: Scarabaeidae): recent captures in Wales and Sussex, with a brief survey of earlier records. *Entomologist's Record and Journal of Variation* **90**: 17.
- ALLEN, A.A. 1978b. *Amphimallon ochraceum* Knoch (Col.: Scarabaeidae): an addendum. *Entomologist's Record and Journal of Variation* **90**: 278.
- JESSOP, L. 1986. Dung beetles and chafers. Coleoptera: Scarabaeoidea. *Handbooks for the Identification of British Insects* **5 (11)**: 53 pp.
- JOY, N.H. 1905. *Rhizotrogus ochraceus*, Knoch, a good species. *Entomologist's Monthly Magazine* **41**: 16-17.
- LAMB, M.A. 1917. A note on *Rhizotrogus ochraceus* Knoch. *Entomologist's Monthly Magazine* **53**: 210-212.
- MANN, D.J. 2008. Family Scarabaeidae Latreille, 1802. Pp. 56-58 in Duff, A.G. (ed.): Checklist of the Beetles of the British Isles 2008 Edition. Wells, Somerset: Duff.
- NEWMAN, E. 1855. Capture of *Rhizotrogus ochraceus* in Wales. *Zoologist* **13**: 4906.
- RÖSSNER, E. & KRELL, F.-T. 2009. Identität und taxonomischer Status von *Amphimallon ochraceum* (Knoch, 1801) und *A. fallenii* (Gyllenhal, 1817) sowie weiterer mit *A. solstitiale* (Linnaeus, 1758) verwandter Taxa (Coleoptera: Scarabaeidae: Melolonthinae). *VERNATE (Veröffentlichungen des Naturkundemuseums Erfurt)* **27**: 221-261.
- SMITH, K.G.V. 1990. An old record of *Amphimallon ochraceus* (Knoch) (Col., Scarabaeidae) from Devon. *Entomologist's Monthly Magazine* **126**: 155.
- STEPHENS, J.F. 1839. *Manual of British Coleoptera or Beetles*. London: Longman etc.