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The type species of genus *Malthodes* Kiesenwetter, 1852. An explanatory note (Coleoptera, Cantharidae)

Abstract: Doubts have been recently raised (Bouchard *et al.* 2024) on the type species fixation by Desmarest (1860: 5) of “*M. sanguinolentus* Linné” (sic, no date) for genus *Malthodes* Kiesenwetter, 1852.

The reason for the doubts is that *Cantharis sanguinolenta* Linné, 1767 [= *Meloe cinnaberina* Scopoli 1763 (now in genus *Cucujus* Fabricius 1775)] has nothing to do with the genus *Malthodes*.

The study of these ancient authors’ papers leads to the conclusion that “*M. sanguinolentus*” – in the Desmarest meaning [namely *Cantharis sanguinolenta* Gyllenhal, 1808 (not Linné, 1767)] – was perfectly representative of the Kiesenwetter concept of genus *Malthodes*.

Desmarest indeed “mistook” authorship: the type species “should have” been ascribed to Gyllenhal, 1808, not to Linné; the homonymy between *Cantharis sanguinolenta* Gyllenhal, 1808 [= *Malthodes minimus* (Linné, 1758)] and *Cantharis sanguinolenta* Linné, 1767 [= *Cucujus cinnaberinus* (Scopoli, 1763)] was, no doubt, among the reasons for the misquote.

As a consequence, the type species of the genus *Malthodes* is *Cantharis sanguinolenta* Gyllenhal, 1808 (as *M. sanguinolentus* Linné) (currently a junior synonym of *Malthodes minimus* Linné, 1758) by subsequent designation.

Riassunto: La specie tipo del genere *Malthodes* Kiesenwetter, 1852. Nota esplicativa (Coleoptera, Cantharidae)

Recentemente sono stati sollevati dubbi (Bouchard *et al.* 2024) sulla specie tipo fissata da Desmarest (1860: 5) di “*M. sanguinolentus* Linné” (sic, senza data) per il genere *Malthodes* Kiesenwetter, 1852.

Tali dubbi erano motivati dal fatto che *Cantharis sanguinolenta* Linné, 1767 [= *Meloe cinnaberina* Scopoli 1763 (ora inserita nel genere *Cucujus* Fabricius 1775)] nulla ha a che vedere con il genere *Malthodes*.

Lo studio dei testi di tali antichi Autori ha evidenziato come “*Malthodes sanguinolentus*”, nel significato inteso da Desmarest [cioè *Cantharis sanguinolenta* Gyllenhal, 1808 (non Linné, 1767)] fosse perfettamente rappresentativo del concetto di *Malthodes* di Kiesenwetter.

Desmarest “sbagliò” Autore: “avrebbe dovuto” attribuire la specie tipo a Gyllenhal, 1808, non a Linné; l’omonimia fra *Cantharis sanguinolenta* Gyllenhal, 1808 [= *Malthodes minimus* (Linné, 1758)] e *Cantharis sanguinolenta* Linné, 1767 [= *Cucujus cinnaberinus* (Scopoli, 1763)] fu certo fra le cause dell’errore.

In conclusione, la specie tipo del genere *Malthodes* è *Cantharis sanguinolenta* Gyllenhal, 1808 (come *M. sanguinolentus* Linné) [attualmente sinonimo iunior di *Malthodes minimus* Linné, 1758] per designazione successiva.

Key words: Malthinini, Malthodini, *marginatus*, *minimus*, *sanguinolentus*

INTRODUCTION

Genus *Malthodes* was created by Kiesenwetter, in 1852: 271, by the separation of a few (7-8) *Malthinus* Latreille, 1806 species, with the addition of many others just described by him.

The currently (and wrongly) accepted type species of genus *Malthodes* is *Malthinus marginatus* Latreille, 1806, designated by Brancucci (1980: 307), who overlooked the senior, valid designation of Desmarest (1860: 5) of *Cantharis sanguinolenta* Linné, 1767 (sub “*Malthodes sanguinolentus* Linné [without date]”).

Bouchard *et al.* (2024: 311), in their recent encyclopaedic paper, raised the problem that *Cantharis sanguinolenta* Linné, 1767 is not a Cantharidae: it was

indeed first included in the genus *Cucujus* Fabricius 1775 (Coleoptera Cucujidae) by Latreille (1804: 255) and later listed as a synonym of *Meloe cinnaberina* Scopoli, 1763 (now *Cucujus cinnaberinus*) by Heyden *et al.* (1891: 162). Such synonymy has been accepted by all successive Authors (see, for example, Wegrzynowicz 2006: 502).

Malthodes is now a large, mainly palaearctic genus: the Löbl and Smetana catalogue (Kazantsev & Brancucci 2007: 284-295) lists approximately 500 species [plus about 150 species which have been described from Nearctic and Oriental regions (Delkeskamp 1977: 417)]. A number of important papers recently appeared, dealing with *Malthodes* species (both extant and in amber) by several Authors

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(such as, for example, Brancucci, Costantin, Delkeskamp, Fanti, Kazantsev, Liberti, Takahashi, Wittmer). Many “faunistic” papers have also been recently published reporting long lists of species (often including *Malthodes*) observed in biotopes of particular interest, such as National Parks and other protected areas.

Both the size of the genus and the amount of existing literature critically require nomenclature stability: a suitable definition of the type species of the genus is therefore a paramount prerequisite.

THE DESMAREST DESIGNATION

Desmarest (1860), in his valid designation – eight years after the genus *Malthodes* creation – wisely (see under “History”) selected the second species listed by Kiesenwetter (1852: 275), namely *Malthodes sanguinolentus*, as the type species of *Malthodes*. Dealing with this species, Kiesenwetter explained indeed his doubts on the name *Cantharis minima* Linné, 1758 and used instead *Cantharis sanguinolenta* (by him reputed “safer” name) ascribing it to **Linné (1746: 189)** (not 1767: see here below under “History”) but also reporting, as successive authors, Fallén (1807) (wrongly) and Gyllenhal (1808) (correctly).

A point of further confusion is that *Cantharis sanguinolenta* Gyllenhal 1808: 343 turns out to be a junior homonym of *Cantharis sanguinolenta* Linné, 1767. A case of homonymy, likely overlooked by Kiesenwetter as well as by Desmarest, that explains why the Desmarest designation is deceiving.

In a nutshell, the Desmarest “error” simply was a misquote of authorship: Linné instead of Gyllenhal. A kind of mistake rather common in old literature [just as an example, please see Bousquet & Bouchard (2013: 6) discussing mistaken authors in the second Dejean Catalogue].

It is therefore possible to state that *Cantharis sanguinolenta* Gyllenhal, 1808 (as “*M. sanguinolentus*, Linné”) [currently junior synonym of *Malthodes minimus* (Linné, 1758)] is the type species of genus *Malthodes* by subsequent valid designation (Desmarest 1860: 5).

It must be added that – with the adoption of *Cantharis sanguinolenta* Gyllenhal, 1808 [= *Malthodes minimus* (Linné, 1758)] as type species of genus *Malthodes* – stability and universality of usage of the

name *Malthodes* in zoological nomenclature are safeguarded. *M. minimus* (Linné, 1758) and *M. marginatus* (Latreille, 1806) are rather close to each other, and none of the existing *Malthodes* subgenera has *Malthodes minimus* as type species.

HISTORY

A detailed understanding of the above-synthesized situation requires a short historical account.

Four names are involved: two of Linné, one of Fallén and one of Gyllenhal:

- *Cantharis minima* Linné, 1758: 402 – a valid species, now transferred to genus *Malthodes* Kiesenwetter, 1852.
- *Cantharis sanguinolenta* Linné, 1767: 647 – a junior synonym of *Meloe cinnaberina* Scopoli, 1763 (now *Cucujus cinnaberinus*).
- *Cantharis sanguinicollis* Fallén, 1807 – a junior synonym of *Cantharis minima* Linné, 1758.
- *Cantharis sanguinolenta* Gyllenhal, 1808 (not Linné) – a junior synonym of *Cantharis minima* Linné, 1758.

Paykull (1798: 268) saw two different pronotum color patterns in *Cantharis minima* Linné, 1758, by him named var. α (pronotum with a yellow margin, namely a dark spot in the middle) and var. β (pronotum entirely reddish).

Fallén (1807: 15) considered the two varieties of Paykull as different species: var. α retained the name *Cantharis minima* Linné, 1758 and var. β was re-named *Cantharis sanguinicollis*.

Gyllenhal (1808: 343) emended the Fallén name *Cantharis sanguinicollis* to *Cantharis sanguinolenta*, so generating a primary junior homonym of *Cantharis sanguinolenta* Linné, 1767.

Kiesenwetter (1852: 271), creating genus *Malthodes*, included in it also *Cantharis minima* Linné, 1757 but preferred to use, as the valid name for it, the Gyllenhal name (in masculine gender): *Malthodes sanguinolentus* (overlooking the homonymy).

The Kiesenwetter meaning of *Malthodes sanguinolentus* is, anyway, very clear because, under such a name, he gives:

- i) a detailed account of his own (reasonable) doubts on the name *Cantharis minima* Linné, 1758, explaining why he chose to use the name *Malthodes sanguinolentus* instead. But, “surprisingly” he quotes, for this name, the author-

ship “**Linné, 1746, pag. 189, no. 592 et 598**” (please note that, in the Linné 1746 book, genera names are present, but species names are often replaced by progressive numbers, as indeed happens for numbers 592 and 598 quoted by Kiesenwetter). Understanding what really was under “Linné eyes” when he described “*Cantharis* 592” and “*Necydalis* 598” in 1746 might perhaps have been possible to Kiesenwetter in 1852, but it is an impossible task today;

- ii) a rather long list of the previously used, equivalent names – such a list including *Cantharis sanguinolenta* Fallén [sic!], *Cantharis sanguinolenta* Gyllenhal, *Cantharis minima* Linné, *Malthinus ruficollis* Latreille, and others.

When Desmarest (1860: 5) designated the type species of genus *Malthodes* Kiesenwetter, 1852 he wisely selected (other choices might have been unappropriated) “*M. sanguinolentus* Linné” (without date), no doubt taking for good name and authorship supplied by Kiesenwetter. Easy to believe that both

Kiesenwetter and Desmarest overlooked the existence of the Linné senior homonym of the Gyllenhal (1808: 343) name.

Twenty years later, Kiesenwetter (1872: 371) cleared all doubts and, under the heading *Malthodes minimus*, recognized the Linné authorship (as *Cantharis minima* Linné, 1758) and synonymized with it (among others) both *Cantharis sanguinolenta* Gyllenhal, 1808 and *Malthodes sanguinolentus* Kiesenwetter, 1852.

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