



Authorship and date of publication of the name *Scarabaeus stercorosus* (currently *Anoplotrupes stercorosus*) (Coleoptera: Scarabaeoidea: Geotrupidae)

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The scientific literature shows no consistency in attributing the authorship of the name for the dor beetle, *Anoplotrupes stercorosus* (Coleoptera: Geotrupidae: Geotrupinae: Geotrupini). The species is widespread all over Europe, Siberia, Turkey (Nikolajev *et al.* 2016), and Iran (Samin *et al.* 2018), feeding on dung, carrion, mushrooms, mouldy litter, heaps of marc, and tree sap (Koch [1991]: 351; Byk & Semkiw 2010). Most authors who dealt with the taxon credited its authorship to Ludwig Gottlieb Scriba, the author of the paper in which the taxon was described, while few others stated that Hartmann—cited by Scriba himself in the same paper—is responsible for the name. There has been no agreement even on the publication year of the original description, although the majority of authors dated it to 1791. The aim of this paper is to establish once and for all the authorship of the specific name and the publication date of the paper in which the taxon was first described.

Scarabaeus stercorosus was first described in Scriba's article "Entomologische Bemerkungen und Erfahrungen", included in the third issue of the first volume of Scriba's own magazine "Journal für die Liebhaber der Entomologie" (Fig. 1). However, Scriba integrated text from Hartmann in the form of long quotes (see below) into that paper.

As far as we know, the first author who assigned authorship of the name to Hartmann alone in a scientific publication was Hoppe (1795) who wrote on page 9, "*Scarabaeus stercorosus* Hartm.". Previously, the reporter who wrote a review of the third issue of Scriba's journal for the "Allgemeine Literatur-Zeitung", an exhaustive magazine on German and European cultural production at the time, had spoken of the "Hartmannsche *Scarabaeus stercorosus*" [Hartmann's *Scarabaeus stercorosus*] (Anonymous 1792). During the 19th century the specific name *stercorosus*, as *Geotrupes stercorosus*, was credited to Hartmann by only a few authors, such as Mulsant (1842), Erichson (1848), Murray (1853), Mulsant & Rey (1871), and Bertolini (1872), whereas the vast majority of authors assigned the authorship of the name to Scriba.

This situation had not changed until the end of the 20th century. The authorship of *stercorosus*, first still in *Geotrupes*, later as *Anoplotrupes stercorosus*, continued to be assigned to Scriba, at least until the 1980s, when some authors, particularly in Poland (for example, Stebnicka 1983; Bunalski 1997; Bunalski & Piotrowski 1998; Skłodowski *et al.* 1998; Bunalski 2000), but also others (including Král 1989; Růžička 1996; Cunev & Majzlan 1998; Mathison & Ditrich 1999), credited the name to Hartmann or to Hartmann in Scriba.

In the last 20 years the authorship "Hartmann in Scriba" has been used increasingly, including on websites (*e.g.*, https://en.wikipedia.org/wiki/Anoplotrupes_stercorosus), but never with any justification or explanation for this choice. Nevertheless, most authors have continued to cite Scriba as author of the name, including those of both editions of the Catalogue of Palaearctic Coleoptera (Löbl *et al.* 2006; Nikolajev *et al.* 2016).

Date of publication of Scriba's article

There are no doubts that *Anoplotrupes stercorosus*, as *Scarabaeus stercorosus*, was first described in Scriba's above-mentioned article. Some subsequent authors dated this publication as 1796 (*e.g.*, Janssens 1960; Baraud 1977; Salgado & Delgado 1982; Carpaneto 1983; Lumaret 1990; Lobo 1992; Carpaneto & Piattella 1995; Ziani 1995; Palestrini *et al.* 1996; Borghesio *et al.* 2001; Cianferoni *et al.* 2009), others as 1790 (*e.g.*, López-Colón 2000; Kočárek 2003; Baselga &

Novoa 2004; Colomba *et al.* 2004; Verdù *et al.* 2004; Lobo & Hortal 2006; Echave 2012), 1761 (Niogret *et al.* 2007), or even as 1719 (Enyedi 2004) and 1726 (Melloni 2003). The latter two are not only erroneous but would also violate the regulations of the International Code of Zoological Nomenclature (1999) Article 3, which determines that zoological nomenclature begins in 1758.

While the first issue (“Erstes Stück”) of this journal was published in 1790 as stated on its wrapper, which often was used as the “title page” in bound volumes, on the wrapper of the magazine’s third issue (“Drittes Stück”), which contains Scriba’s paper of interest, we find the year 1791 (Fig. 1).

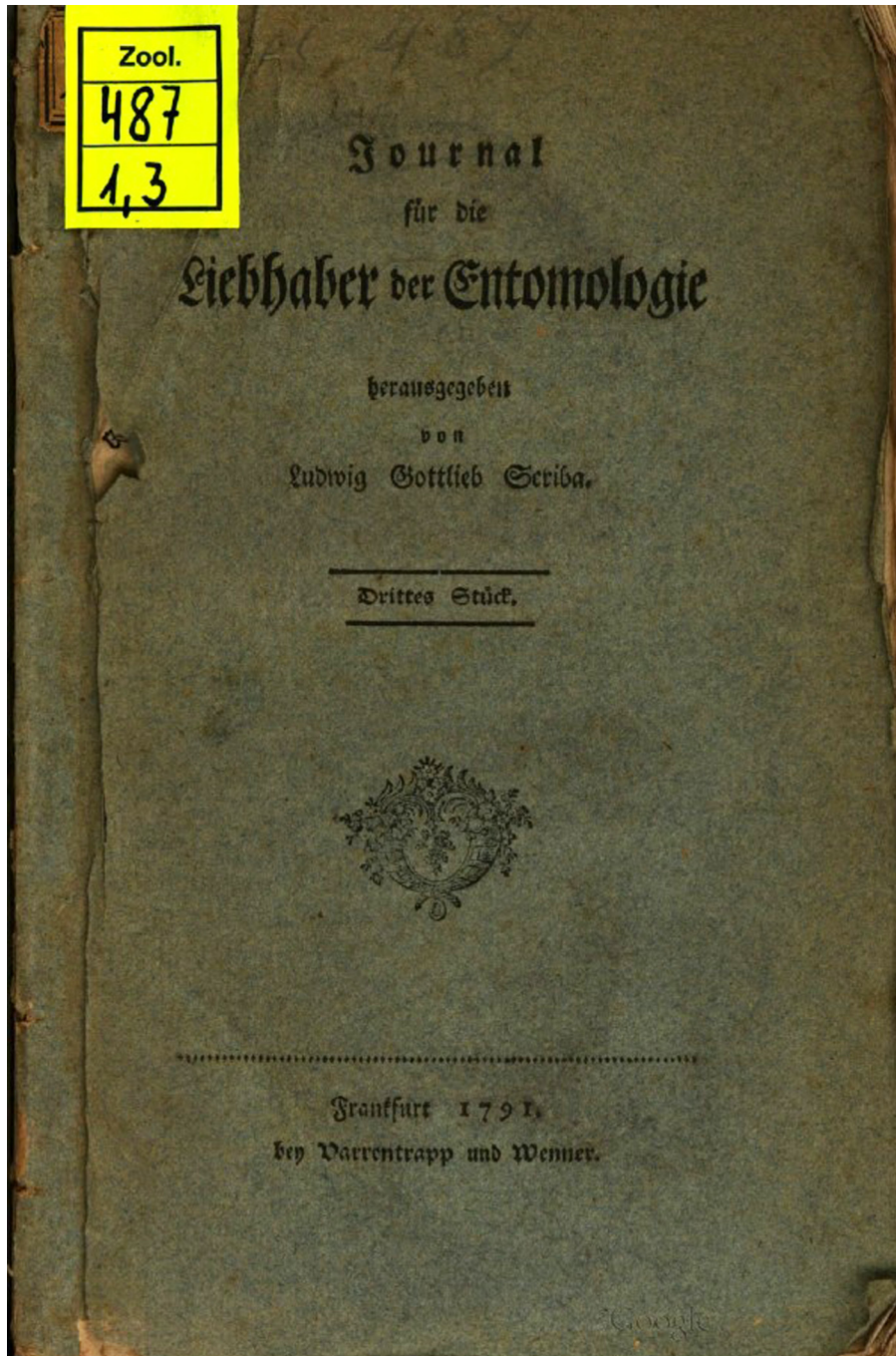


FIGURE 1. Wrapper of the third issue of “Journal für die Liebhaber der Entomologie”, held by the Bayerische Staatsbibliothek, Munich, Germany.

On 7 September 1792, the “Allgemeine Literatur-Zeitung” reports the third issue of Scriba’s journal to be published in 1791 (Anonymous 1792), According to Article 21.2 of the International Code of Zoological Nomenclature (International Code of Zoological Nomenclature 1999), in absence of evidence to the contrary, the year on the cover of an issue must be considered the date of publication of that issue, hence the date at which the name became available.

Who was Hartmann?

Although much is known about Karl Ludwig Gottlieb Scriba, a German entomologist, clergyman, and theologian (Bousquet 2016), editor of “Journal für die Liebhaber der Entomologie”, very little is known about Hartmann cited by Scriba (1791). Scriba stated at the beginning of his article (Fig. 2) that “Mr. Hartmann [was] a devotee of medical science from Stuttgart”, presently Stuttgart, Germany. Nothing else about Hartmann is mentioned, not even the first name. Furthermore, the surname Hartmann was—and is—very common in Germany. This, along with the scarcity of personal information, has made it very difficult to determine his identity.

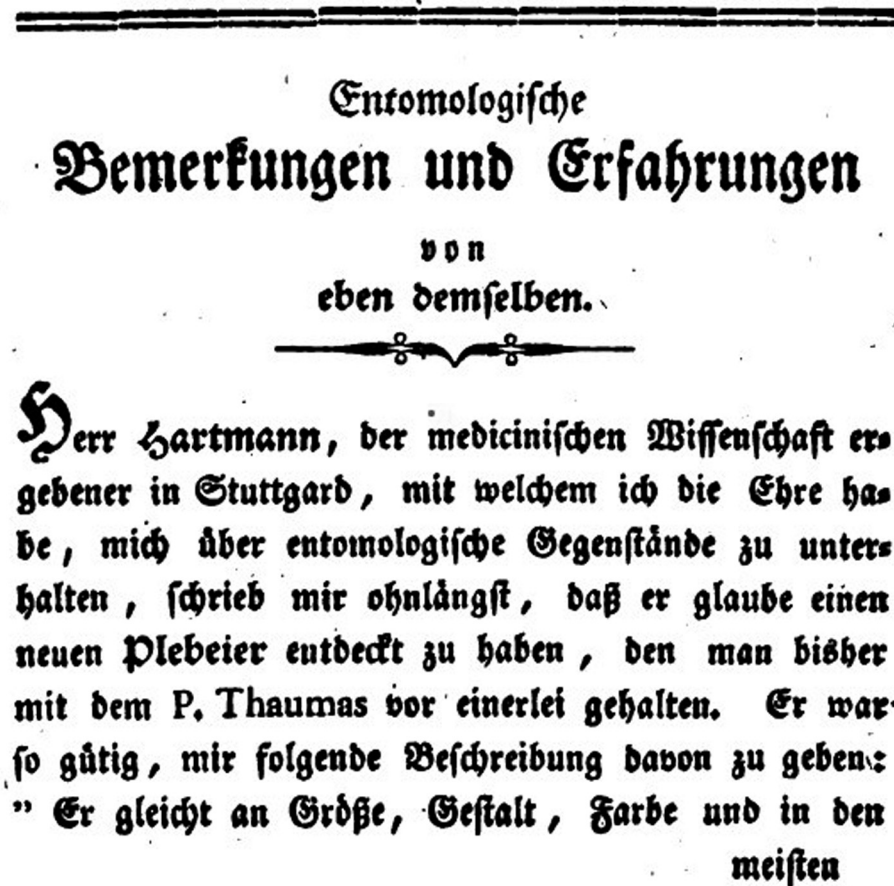


FIGURE 2. Scriba's (1791) article: first lines (page 244).

Nevertheless, we became aware of a medical doctor from Stuttgart, Wilhelm Hartmann, who in 1794 had submitted a doctoral thesis on botanical topics under the Latinised name Guilielmus Hartmann (Hartmann 1794). In the last paragraph of the preface of this thesis, the author specified that he had studied a wide variety of natural history subjects. As naturalists at that time were not specialised, Wilhelm Hartmann could well have been interested in entomology. While not ultimately proven, a Hartmann in the right place, at the right period of time, who became a medical doctor with a thesis in botany, and was interested in natural history, is a very likely candidate for Scriba's correspondent from Stuttgart.

Authorship of *Scarabaeus stercorosus* (currently *Anoplotrupes stercorosus*)

Who is the author of *Scarabaeus stercorosus*, Scriba or Hartmann? At the beginning of his article, Scriba (1791) mentioned that he had some conversations on entomological topics with “Mr Hartmann”. Furthermore, on pages 250 and 251 of the article (Fig. 3), Scriba (1791), using quotation marks, mentioned a communication by Hartmann, most probably a letter, about a probably new species:

“Noch füge ich die Beschreibung eines *Scarabaeus* bey [bei], welche ich gleichfalls der Güte des Herrn Hartmanns zu danken habe, “Dieser Käfer ist eine Mittelart zwischen *Scar. stercorarius* und *vernalis*, von beiden aber wesentlich unter-

schieden. Er hat Größe und Farbe des *Sc. vernalis*. Das Bruststück ist weit weniger gewölbt als bey [bei] dem *vernalis*, und hierinnen dem *stercorarius* ähnlich, über und über mit vertieften Punkten besät [besät = bedeckt], und hat in der Mitte eine vertiefte Längslinie. Bey [bei] dem *vernalis* sind weder deutliche Punkte, noch eine Längslinie auf dem thorax [Thorax] vorhanden, und bey [bei] dem *stercorarius* ist zwar letztre [letztere] da, die vertieften Punkte sind aber blo auf die äuserste [äußersten] Seiten des thorax [Thorax] eingeschränkt, und nur wenige sind an der Längsinie herumgestreut. Die Flügeldecken sind deutlich gestreift, die Streifen aber weit feiner als bey [bei] dem *stercorarius*, und es ziehen sich noch außerdem über dieselbe feine verworrene, unregelmäßig netzförmig communicierende [kommunizierende] Linien. Die Keule der Fühlhörner ist an der Spitze braunröthlich [braunrötlich]. Diese Art bleibt sich immer gleich, und lebt mit dem *vernalis* in Viehdung:” Ich habe den nämlichen Käfer auch hier, und an demselben alle angezeigte [angezeigten] Kennzeichen gefunden. Herr Hartmann nennt ihn *Scar. stercorosus*”.

Noch füge ich die Beschreibung eines Scarabæus bey, welche ich gleichfalls der Güte des Herrn Hartmanns zu danken habe. “Dieser Käfer ist eine Mittelart zwischen *Scar. stercorarius* und *vernalis*, von beiden aber wesentlich unterschieden. Er hat Größe und Farbe des *Sc. vernalis*. Das Bruststück ist weit weniger gewölbt als bey dem *vernalis*, und hierinnen dem *stercorarius* ähnlich, über und über mit vertieften Punkten besät, und hat in der Mitte eine vertiefte Längslinie. Bey dem *vernalis* sind weder deutliche Punkte, noch eine Längslinie auf dem thorax vorhanden, und bey dem *stercorarius* ist zwar letztre da, die vertieften Punkte sind aber bloß auf die äuserste Seiten des thorax eingeschränkt, und nur wenige sind an der Längslinie herumgestreut. Die Flügeldecken sind deutlich gestreift, die Streifen aber weit feiner als bey dem *stercorarius*, und es ziehen sich noch außerdem über dieselbe feine verworrene, unregelmäßig netzförmig untereinander communicierende Linien. Die Keule der Fühlhörner ist an der Spitze braunröthlich. Diese Art bleibt sich immer gleich, und lebt mit dem *vernalis* in Viehdung:,, Ich habe den nämlichen Käfer auch hier, und an demselben alle angezeigte Kennzeichen gefunden. Herr Hartmann nennt ihn *Scar. stercorosus*.

FIGURE 3. Scriba's (1791) article: description of *Scarabæus stercorosus* (pages 250–251).

The English translation from Scriba's old German follows:

“Moreover, I add the description of a *Scarabaeus*, which I also have Mr Hartmann's kindness to thank for. “*This beetle is a species in-between Scar. stercorarius and vernalis, but substantially different from both. It has size and colouration of Sc. vernalis. The pronotum is much less convex than in vernalis and similar to stercorarius, and is over and over covered with deep punctures, and has in the middle an impressed longitudinal line. In vernalis neither distinct punctures nor a longitudinal line on the thorax are present, and in stercorarius, the latter is present, but the deep punctures are limited to only the extreme sides of the thorax, and only a few are scattered at the longitudinal line. The wing cases are distinctly striped, but the stripes are much finer than in stercorarius; and also, fine irregular reticulate interconnected lines stretch across them [i.e., the elytra]. The club of the antennae has a reddish-brown tip. This species always stays the same [? is not very variable], and lives with vernalis in cattle dung.*” I have this beetle here also, and found all indicated characters on it. Mr Hartmann names it *Scar. stercorosus*”.

This wording clearly indicates, that Hartmann alone is responsible both for the name and for satisfying the criteria of availability other than actual publication, hence is the author of the name (International Code of Zoological Nomenclature 1999: Article 50.1.1). We therefore suggest the taxon to be referred as *Anoplotrupes stercorosus* (Hartmann in Scriba, 1791).

Note: Type material from Hartmann is not among the historical material in the Staatliches Museum für Naturkunde Stuttgart (Arnaud Faille, personal communication, July 2021). Potential material originating from Scriba is irrelevant for determining syntypes as Hartmann alone is the author of this species.

Acknowledgements

We are grateful to Marek Bunalski (University of Life Sciences, Poznan) and Adam Byk (Warsaw University of Life Sciences, Warsaw) for providing literature, to Anna Faltýnková (Biology Centre CAS, České Budějovice) who kindly helped the senior author with the first translation of old German text. We also thank Yves Bousquet (Gatineau, Quebec), Hans Fery (Berlin), and Tomáš Lackner (Zoologische Staatssammlung, München) who helped us to better understand Hartmann's identity. Arnaud Faille (Staatliches Museum für Naturkunde Stuttgart) unsuccessfully searched for historical material that might be associated with Hartmann. The work of David Sommer was supported by the Institutional Research Support grant of the Charles University, Prague (number SVV 260571/2021).

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