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A review of genus-group names in Diptera (Insecta) that J.C. Fabricius “borrowed” from other dipterists and proposed as new in his systematic works from 1775 to 1805

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Abstract

It is shown that a total of eight pre-existing genus-group names in Diptera were “borrowed” and deliberately given new identities in the systematic works of J.C. Fabricius: Bibio Fabricius, 1775, Ceria Fabricius, 1794, Hirtea Fabricius, 1798, Mulio Fabricius, 1798, Scatophaga Fabricius, 1805, Sicus Fabricius, 1798, Thereva Fabricius, 1798 and Volucella Fabricius, 1794. These names are reviewed from the standpoint that they are nomenclaturally available as intentional homonymous proposals of names for new genus-group taxa. New type-species designations are made for Bibio Fabricius, Mulio Fabricius, and Scatophaga Fabricius. Bibio Fabricius, 1775 is recognized as a senior synonym of Thereva Latreille, 1797, syn. n., but is invalid as it is a junior homonym of Bibio Geoffroy, 1762. Scatophaga Fabricius, 1805 is recognized as a junior synonym of Psila Meigen, 1803, syn. n. The nominal species Musca suilla Fabricius, 1794 has been misinterpreted as a species of Scatophaga Meigen, 1803 by subsequent authors. Scatophaga spurca Meigen, 1826 is revived as the valid name for Scatophaga suilla auct. nec (Fabricius, 1794), stat. rev. A lectotype is designated for Musca suilla Fabricius and it is shown to belong to the scathophagid Norellisoma spinimanum (Fallén, 1819), syn. n. In order to maintain stability of nomenclature and prevailing usage, reversal of precedence is invoked to declare Cordylura spinimana Fallén, 1819 as a nomen protectum and Musca suilla Fabricius, 1794 as a nomen oblitum.

Key words: Nomenclature, taxonomy, Bibionidae, Bombyliidae, Psilidae, Scathophagidae, Syrphidae, Tachinidae, Theristidae, Xylophagidae

Introduction

Johann Christian Fabricius (1745–1808), acknowledged for his pioneering early post-Linnaean classification of insects, had the strange habit of occasionally proposing new genera in Diptera (and probably other insects) with names already published by other authors for entirely different groups of Diptera. He did so openly and intentionally, as he often cited the earlier usage of such names under the appropriate genus in his own classification. Even if this habit appears strange and confusing today, we should keep in mind that Fabricius worked at a time without any constraints, in terms of Code regulations, such as the Principles of Priority and Homonymy. Opinions have been and still are dividing dipterists, whether these names should be formally dismissed as misidentifications (e.g., Holston et al. 2003) or treated as separate proposals as was clearly intended by Fabricius himself (e.g., Michelsen 2004). As these names satisfy the criteria of availability, i.e., the provisions of Articles 10 to 20 in the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature 1999), hereafter simply the Code, there is no formal hindrance to treating them as proper genus-group names with their own authorship and date.

It is widely accepted that unintentional homonymous proposals of names for new taxa make such names nomenclaturally available with their own authorship and date. Fabricius’s generic names dealt with in the present paper may be categorized as intentional homonymous proposals of names for new genus-group taxa. Michelsen (2004) gave several reasons for preferably treating these names as nomenclaturally available with their own
authorship and date. Firstly, in the spirit of the Code (p. xix), one should refrain from ‘infringing upon taxonomic judgment, which must not be made subject to regulation or restraint.’ In other words, one should preferably not set aside Fabricius’s clear intentions by dismissal of his alternative usages of certain genus-group names. Secondly, because of the Principle of Homonymy, this is the safest and simplest way to promote nomenclatural stability. Finally, in treating Fabricius’s usage of these names as nominal taxa in their own right rather than misidentifications we do not obscure the intentions and results of the first major post-Linnaean proposal of a generic classification of Diptera.

The idea that Fabricius’s altered usages of generic names in Diptera are preferably to be treated as separate proposals rather than misidentifications is implicit in several decisions of the International Commission on Zoological Nomenclature (1957: 88; 1997: 133; 2006: 72), where some of these names are categorized as homonymous proposals. Commission member Dr M. Alonzo-Zarazaga stated (2006: 73) that ‘... the problem of Fabrician altered usages of generic names proposed by other authors under the principle of his authority (the ‘Prince of Entomology’) should be addressed by the Commission once and for all. Considering them available junior homonyms could be the best procedure, in my opinion’.

The alternative proposals of genus-group names in Diptera found in the systematic works of Fabricius are treated alphabetically in the following catalogue. It is further documented that the species-group name Musca suilla Fabricius, 1794 (Scathophagidae) has been misinterpreted by all subsequent authors. The nomenclatural implications are settled by invoking reversal of precedence for the names Musca suilla Fabricius, 1794 and Cordylura spinimana Fallén, 1819.

**Catalogue**

**Bibio Fabricius, 1775: [31], 756.**

**Type species:** Musca plebeja Linnaeus, 1758 (the 4th of 14 originally included species), by present designation. Junior homonym of Bibio Geoffroy, 1762. Objective synonym of Thereva Latreille, 1797 (see below), syn. n. (Therevidae).

**Remarks.** The name Bibio Geoffroy, 1762, originally proposed mainly for species of Bibionidae, was cited under Tipula hortulana Linnaeus by Fabricius (1775: 754, 1794: 248). In the same work Fabricius (1775) made his own proposal of the name Bibio for 14 species belonging to the families Bombyliidae (8), Therevidae (4), Myididae (1) and Stratiomyidae (1). Fabricius (1805) later refined his concept of Bibio to consist of 10 Therevidae and 1 species each of the families Athericidae, Phoridae and Syrphidae. Fabricius’s usage of Bibio for therivid flies became widely accepted in the pre-1815 literature (J.W. Meigen, C.F. Fallén, etc.), but was later replaced by the name Thereva Latreille, 1797. The type species of Thereva Latreille, 1797 was designated by the International Commission on Zoological Nomenclature (2006: 72) as Musca plebeja Linnaeus, 1758 under their Plenary Powers. The present fixation of a type species for Bibio Fabricius, 1775 places at long last this name into formal (and objective) synonymy with Thereva Latreille. Incidentally, the International Commission on Zoological Nomenclature (1957: 88) placed Bibio Fabricius, 1775 on the Official Index of Rejected and Invalid Generic Names in Zoology (Name No. 841).

**Ceria Fabricius, 1794: 277.**

**Type species:** Ceria clavicornis Weber, 1795 [= Musca conopsoides Linnaeus, 1758], by subsequent monotypy (Weber 1795). Junior homonym of Ceria Scopoli, 1763. Replaced by Ceriana Rafinesque, 1815, nomen novum for Ceria Fabricius, 1794 (Syrphidae).

**Remarks.** The name Ceria Scopoli, 1763 was originally proposed for two species of Scatopsidae. Fabricius (1794) proposed the name Ceria for a species of Syrphidae and his usage of the name became widely accepted in pre-1902 literature (P.A. Latreille, J.W. Meigen, J.W. Zetterstedt, G.H. Verrall, etc.).

A description of the only included species was given by Fabricius (1794), but inadvertently the specific name
[clavicornis] was omitted. It first appeared in an index to the four volumes (1792–1794) of Fabricius’s Entomologia systematica emendata et aucta prepared by Weber (1795). Accordingly, the authorship of Ceria clavicornis is correctly attributed to Weber (1795) rather than Fabricius (1794). This interpretation of type fixation of Ceria Fabricius, 1794 is the same as that of Sabrosky (1999: 79) except that authorship of Ceria clavicornis was attributed in that work to Fabricius, 1795 not Weber, 1795.

Hirtea Fabricius, 1798: 547, 551.

**Type species:** Tipula marci Linnaeus, 1758 (cited by Fabricius in synonymy with Tipula hortulana Linnaeus, 1758, the 2nd of 13 originally included species), by subsequent designation of Zetterstedt (1850: 3368). Junior homonym of Hirtea Scopoli, 1763. Junior subjective synonym of Bibio Geoffroy, 1762 (type species: Tipula hortulana Linnaeus, 1758) (Bibionidae).

**Remarks.** Hirtea Scopoli, 1763 was originally proposed for a species of the family Stratiomyidae. Fabricius (1798) made his own proposal of the name Hirtea for 13 species belonging to the families Bibionidae (8), Sciaridae (2), Cecidomyiidae (1), Scatopsidae (1) and Therevidae (1). In his final classification, Fabricius (1805) included in Hirtea 14 Bibionidae, 1 Sciaridae and 1 Therevidae. Fabricius’s usage of the name Hirtea for bibionid flies became widely accepted in the pre-1850 literature (J.W. Meigen, G.W.F. Panzer, J.W. Zetterstedt, etc.), but was gradually replaced by the older name Bibio Geoffroy, 1762. Incidentally, the International Commission on Zoological Nomenclature (1957: 88) placed Hirtea Fabricius, 1798 on the Official Index of Rejected and Invalid Generic Names in Zoology (Name No. 840).

Mulio Fabricius, 1798: 548, 557.

**Type species:** Musca bicincta Linnaeus, 1758 (the 1st of nine originally included species), by present designation. Junior homonym of Mulio Latreille, 1797. Senior but invalid objective synonym of Chrysotoxum Meigen, 1803 (type species: Musca bicincta Linnaeus, 1758) (Syrphidae).

**Remarks.** The first usage of the name Mulio by Latreille (1797) was for species of the family Bombyliidae. Fabricius (1798) proposed Mulio for nine species belonging to the families Syrphidae (7), Psilidae (1) and Sciomyzidae (1), but subsequently (1805) exclusively for 12 species of Syrphidae. Fabricius’s usage of Mulio received limited acceptance in the early literature (e.g., by C.F. Fallén), probably because Meigen (1803) transferred species recognized in Mulio by Fabricius (1798) to two new genera of Syrphidae (Microdon Meigen, Chrysotoxum) and one new genus of Psilidae (Loxocera Meigen).

Scatophaga Fabricius, 1805: x, 203.

**Type species:** Musca fimetaria Linnaeus, 1761 (the 5th of 31 originally included species), by present designation. Junior objective synonym of Psila Meigen, 1803 (type species: Musca fimetaria Linnaeus, 1761), syn. n. (Psilidae).

**Remarks.** Scatophaga Meigen, 1803, originally proposed for dung flies (“Musca merdaria etc. Fabricius”) of the family Scathophagidae, was cited by Fabricius (1805: 306, misspelled as Scatophaga) under Musca merdaria Fabricius, 1794 (= Musca stercoraria Linnaeus, 1758). Other species of the current genus Scatophaga Meigen (e.g., scybalaria Linnaeus, 1758 and lutaria Fabricius, 1794) were also consistently classified in Musca Linnaeus, 1758 by Fabricius (1805). However, Fabricius (1805: 203–210) proposed a different usage of the name Scatophaga for 31 species of mostly testaceous acalyptrate flies with a short, porrect antennal postpedicel. Most of the included species belong to the families Sciomyzidae, Lauxaniidae and Ulidiidae. Species of Scatophaga Meigen are different in having antennae with a longer, deflexed postpedicel. Only a single species (Musca suilla Fabricius, 1794) among the 31 species originally included in Scatophaga Fabricius belongs to the Scatophagidae. The identity of that nominal species is treated below.

The different usage of the name Scatophaga introduced by Fabricius (1805), which embraces a poorly defined
assemblage of mostly acalyptrate flies, has consistently been overlooked (or ignored?) by dipterists up to the present. Adding to the confusion, Meigen (1826) adopted Fabricius’s spelling “Scatophaga” for his own genus of dung flies without, of course, adopting Fabricius’s usage of the name. This should be categorized as an “incorrect subsequent spelling” of Scatophaga Meigen, even though it may well have been done deliberately.

The present fixation of a type species refers Scatophaga Fabricius to the Psilidae. Note that Scatophaga Fabricius, 1805 and Scathophaga Meigen, 1803 are not homonyms according to the Code Article 56.2 (one letter difference).

**Sicus** Fabricius, 1798: 547, 554.

**Type species:** *Musca ferruginea* Scopoli, 1763, as a consequence of a ruling by the International Commission on Zoological Nomenclature (1997: 133). By the same ruling, *Sicus* Fabricius, 1798 was placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* and declared a junior objective synonym of *Coenomyia* Latreille, 1797 (Xylophagidae). Junior homonym of *Sicus* Scopoli, 1763 and *Sicus* Latreille, 1797.

**Remarks.** The first usage of the name *Sicus* was by Scopoli (1763) for species of Conopidae, the second usage was by Latreille (1797) for a species of Hybotidae, and the third usage was by Fabricius (1798) for five nominal species of Xylophagidae. These five nominal species of *Sicus* Fabricius are all, with varying confidence, regarded as junior synonyms of one variable species, *Coenomyia ferruginea* (Scopoli, 1763). Although one of Fabricius’s species was named *Sicus ferruginea* and has subsequently been established as a synonym of *Musca ferruginea* Scopoli, 1763, there was no indication by Fabricius that his *ferruginea* was used in the sense of *ferruginea* Scopoli. We contend that the Fabricius name was a separate proposal and should have been interpreted by subsequent authors as *ferruginea* Fabricius, 1798, not as *ferruginea* Scopoli, 1763. Under such an interpretation, Sabrosky (1961: 228) could not have designated *Musca ferruginea* Scopoli as the type species of *Sicus* Fabricius. We will not elaborate on the nomenclatural ramifications this would have had on the type species of *Coenomyia* Latreille, 1797 and *Sicus* Fabricius, 1798 because the International Commission on Zoological Nomenclature (1997: 133) ruled that *Sicus* Fabricius, 1798 is a junior objective synonym of *Coenomyia* Latreille, 1797, thereby effectively upholding the type species of *Sicus* Fabricius as *Musca ferruginea* Scopoli, 1763. The name *Sicus* Fabricius, 1798 was placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* following an application by Holston et al. (2003). “A work, name or nomenclatural act entered in an *Official Index* has the status attributed to it in the relevant ruling(s)”

**Thereva** Fabricius, 1798: 548, 560.


**Remarks.** The first usage of the name *Thereva* by Latreille (1797) was for species of Therevidae and thus equals the earlier usage of *Bibio* by Fabricius (1775). Fabricius (1798) first proposed the name *Thereva* for six species of Tachinidae, and subsequently (Fabricius, 1805) for 13 Tachinidae and one Syrphidae. Fabricius’s usage of *Thereva* for species of phasine Tachinidae became widely accepted in the pre-1820 literature (J.W. Meigen, G.W.F. Panzer, C.F. Fallén, etc.), but his name was replaced later by *Phasia* Latreille, 1804.

**Volucella** Fabricius, 1794: 412.

**Type species:** *Volucella florea* Fabricius, 1794 (the 1st of three originally included species), automatic as the result of Latreille’s (1810) designation of *Volucella florea* Fabricius as type species for *Usia* Latreille, 1802, an unnecessary new replacement name for *Volucella* Fabricius, 1794. *Volucella* Fabricius, 1794 was placed on the
Official Index of Rejected and Invalid Generic Names in Zoology (Name No. 844) by the International Commission on Zoological Nomenclature (1957: 88) and is therefore a senior but invalid synonym of *Usia* Latreille (Bombyliidae).

**Remarks.** The name *Volucella* Geoffroy, 1762, as originally proposed for species of Syrphidae, was cited under *Musca pellucens* Linnaeus, 1758 by Fabricius (1775: 773, misspelled as *Volucella*; 1781: 435, as *Volucella*), and under *Syrrhus pellucens* (Linnaeus, 1758) by Fabricius (1794: 279, as *Volucella*; 1805: 224, as *Volucella*).

Fabricius (1794: 412) deliberately proposed a different usage of the name *Volucella* for three species of the family Bombyliidae, and this usage qualifies as a new available name. Two original spellings of the name were given in Fabricius (1794): *Volucella* (p. 412) and *Volvicella* (p. [5] of the unnumbered index). Acting as First Reviser, Fabricius (1805) selected *Volucella* as the correct original spelling (Code Article 24.2.4). Fabricius (1805: 114–116) included six species of the Bombyliidae in his *Volucella*. Meigen (1804) initially adopted the usage of *Volucella* proposed by Fabricius, but the name was subsequently replaced by *Usia* Latreille.

*Volucella* Geoffroy and *Volucella* Fabricius are not homonyms because the names differ by one letter (Code Article 56.2). Evenhuis & Greathead (2003: 10–11) understood this and believed therefore that the widely used generic name *Usia* Latreille, 1802 in Bombyliidae, originally proposed as a replacement name for *Volucella* Fabricius, 1794, was threatened as a junior synonym. These authors were aware that *Volucella* Fabricius was invalid as the result of a ruling by the International Commission on Zoological Nomenclature (1957: 88) (see Evenhuis 1991: 77) but were concerned that this ruling could be challenged and potentially overturned (as allowed under Code Article 80.4) because it was based on the misinterpretation of *Volucella* as a misspelling of *Volucella* Geoffroy (N. Evenhuis, pers. comm.). To permanently fix the priority of *Usia* Latreille, 1802 over *Volucella* Fabricius, 1794, Evenhuis & Greathead (2003) declared the former as a nomen protectum and the latter as a nomen oblitum.

The identity of *Musca suilla* Fabricius, 1794

*Musca suilla* Fabricius, 1794: 343.

**Type material** (Figs. 1–3). Fabricius (1794) stated only the origin ‘in Germaniae’ [= in Germany], and collector ‘Smidt’ [= A. L. Smidt?] of the type material of *Musca suilla*. Accordingly, the only specimen (1♀) found in Coll. Fabricius [= ‘Kiel’ of Zimsen 1964: 475] of the Natural History Museum of Denmark, Copenhagen, may be regarded as a syntype. It is here designated as lectotype and labelled as such, in order to fix the identity of the name *suilla*. Only the wings, posterior part of the mesonotum and distal part of the coxa + trochanter + basal part of femur of the left hind leg remain of the lectotype, attached to a short pin with a Fabrician label reading ‘suilla’.

**Identity.** *Musca suilla* Fabricius, 1794 is not a species of *Scathophaga* Meigen, 1803 as first surmised by Fallén’s (1819) placement of the species in his equivalent genus *Scatomyza* Fallén, 1810. Accordingly, *Musca suilla* is not a senior synonym of *Scathophaga spurca* Meigen, 1826 (published as “Scathophaga spurca”) as first proposed by Becker (1894: 167) and accepted by subsequent authors (e.g., Thompson & Pont 1994). The colour, the pale setae on the hind leg fragment, the scutellum with only one pair of strong setae (two pairs in relevant species of *Scathophaga*), the wing venation including a costal vein with humeral and subcostal breaks and uniform, fine setulae leave no doubt that the remains of the lectotype (Figs. 1, 2) belong to a common European scathophagid originally described as *Cordylura spinimana* Fallén, 1819 and currently known as *Norellisoma spinimanum* (Fallén), syn. n. The presence of a black seta among the pale setae on the distal part of the hind coxa further indicates that the lectotype remains belong to a female.

The nominal species *Musca suilla* Fabricius, 1794 has not previously been synonymized with *Norellisoma spinimanum* (Fallén, 1819), but has since 1894 consistently been misinterpreted as a species of *Scathophaga* Meigen. The junior synonym *Cordylura spinimana* Fallén, 1819 has been used as valid as either *Norellia* (*Norellisoma*) *spinimana* (Fallén) or *Norellisoma spinimanum* (Fallén) in more than 25 works by at least 10 authors in the last 50 years and encompassing a span of not less than 10 years as documented in Appendix 1. We hereby invoke, in the interests of nomenclatural stability, reversal of precedence (Code Article 23.9), and declare *Musca suilla* Fabricius, 1794 as a nomen oblitum and *Cordylura spinimana* Fallén, 1819 as a nomen protectum.
As discussed in the above catalogue, Fabricius (1805) proposed the name *Scatophaga* for species of Sciomyzidae and similar flies with a short and porrect antennal postpedicel. Meigen (1803) proposed the name *Scathophaga* [misspelled later by Meigen (1826) as *Scatophaga*], for scathophagid dung flies: i.e., hairy species with a longer and deflexed postpedicel. Fabricius consistently classified species of scathophagid dung flies in the genus *Musca* Linnaeus.

![FIGURES 1–3. *Musca suilla* Fabricius, 1794: lectotype ♀. 1. Remains of mesonotum, left distal part of coxa + trochanter + basal part of femur and basal half of wings in lateral view. 2. Remains of mesonotum and wings in dorsal view. 3. Original label in Fabricius’s hand reading “suilla”. Scale bars (1, 2) = 1 mm.](image)

The nomenclatural summary of this situation is as follows:

Family SCATHOPHAGIDAE

Genus *Norellisoma* Wahlgren, 1917

*Norellisoma spinimanum* (Fallén, 1819)

*Musca suilla* Fabricius, 1794: 343, *nomen oblitum, syn. n.*

*Scatophaga suilla* (Fabricius); Fabricius (1805: 206).

*Cordylura spinimana* Fallén, 1819: 7, *nomen protectum.*

Genus *Scathophaga* Meigen, 1803

*Scathophaga spurca* Meigen, 1826 (*Scatophaga*), *stat. rev.*

*Scatomyza suilla* (Fabricius); Fallén (1819: 5). Misidentification.
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APPENDIX I

List of publications treating Cordylura spinimana Fallén, 1819 as a valid species-group name


