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Some corrections and remarks regarding the nomenclature of Neotropical Athyreini, Passalini, Phanaeini, Rutelini, Cyclocephalini, Dynastini and Oryctini (Coleoptera: Scarabaeoidea)

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Abstract. A number of nomenclatural issues regarding Neotropical Scarabaeoidea are addressed. *Athyreus soesilae* Makhan, 2008 is synonymized with *Neoathyreus* (*Neoathyreus*) *excavatus* (Laporte, 1840) (Geotrupidae: Bolboceratinae: Athyreini). *Scalmus* Zang, 1905 is replaced with its senior synonym *Neleuops* Kuwert, 1891, nec *Neleurops* Kuwert, 1891, and the four species it presently contains are thus transferred to *Neleuops* (Passalidae: Passalinae: Passalini). The spelling of the name *Oxysternon oberthueri* Olsoufieff, 1924, a junior synonym of *Oxysternon* (*Oxysternon*) *conspicillatum* (Weber, 1801), is fixed (Scarabaeidae: Scarabaeinae: Phanaeini). The year of description of *Oxysternon* (*Oxysternon*) *festivum* (Linnaeus, 1758) is corrected, its existing lectotype invalidated, and a new lectotype designated (Scarabaeidae: Scarabaeinae: Phanaeini). The correct spelling of *Phanaeus* (*Phanaeus*) *prasinus trinidadens* Arnaud, 2001 and *Phanaeus* (*Phanaeus*) *prasinus joliyi* Arnaud, 2001 is discussed (Scarabaeidae: Scarabaeinae: Phanaeini). The seniority of *Chlorota aulica* Burmeister, 1844 over *Chlorota metallica* Burmeister, 1844 is restored (Scarabaeidae: Rutelinae: Rutelini). The year of description of *Rutela lineola* (Linnaeus, 1758) is corrected and a lectotype is designated (Scarabaeidae: Rutelinae: Rutelini). *Cyclocephala aulustjaorum* nomen novum is proposed as a replacement name for the preoccupied name *Cyclocephala brevis* Höhne, 1923 (Scarabaeidae: Dynastinae: Cyclocephalini). The spelling of the generic name *Harposceles* Burmeister, 1847 is fixed (Scarabaeidae: Dynastinae: Cyclocephalini). The incorrect subsequent spelling *Stenocrates haackae* Ratcliffe, 1977 is preserved (Scarabaeidae: Dynastinae: Cyclocephalini). The name *Scarabaeus simson* Linnaeus, 1767 is invalidated as a synonym of *Megasoma actaeon* (Linnaeus, 1758) (Scarabaeidae: Dynastinae: Dynastini). The spelling of the generic name *Coelosis* Hope, 1837 is found to be correct (Scarabaeidae: Dynastinae: Oryctini). The validity of Steyskal's emendation of the name *Megaceropsis quadridentata* Dechambre, 1976 is confirmed (Scarabaeidae: Dynastinae: Oryctini). The lectotype of *Podischnus agenor* (Olivier, 1789) is invalidated and a new lectotype is designated (Scarabaeidae: Dynastinae: Oryctini).

Key Words. Lectotype, synonym, nomen novum, seniority, year of description, spelling, Geotrupidae, Passalidae, Scarabaeidae.

Introduction

While working with Meindert Hielkema on a checklist regarding the Scarabaeoidea of the Guianas, I found and resolved some nomenclatural issues. The first of these was the true identity of the longtime nomen inquirendum *Scarabaeus valgus* Linnaeus, 1758, namely a senior synonym of *Phanaeus vindex* MacLeay, 1819. This information was shared with B. C. Ratcliffe to obtain expert confirmation of my findings. Before I could publish on the subject myself, it was published (uncredited) in Ratcliffe and Cave (2015: 265). In that publication, nomenclatural stability was preserved by suppressing *Scarabaeus valgus* Linnaeus, 1758 as a nomen oblitum and making its junior homonym, *Scarabaeus valgus* Olivier, 1789 (now *Phileurus valgus*), a nomen protectum by applying a reversal of precedence. The present paper addresses the remaining issues I have been able to resolve so far.

For the forthcoming checklist mentioned above, Meindert Hielkema and I have checked all the original descriptions of relevant species and genera. Although such an approach on a project of this scale (with hundreds of often very old or obscure documents to be checked) was virtually impossible to execute only 25 years ago, the advent of the internet and PDF-format documents have made it feasible. It should perhaps come as no surprise that the careful comparisons of multiple papers, which deal with a single species over the course of sometimes hundreds of years, may yield errors in spelling, identification, nomenclatural priority etc. This holds especially true when, next to the often-problematic access to publications, it is also taken into consideration that scientific publications were written in various languages and with various typesets (like blackletter) with which researchers may have been unfamiliar. In addition, very succinct descriptions and sometimes rather poor drawings by many of the early authors, limited availability to type specimens, printing errors, unfamiliarity with some of the articles

of the International Code of Zoological Nomenclature (ICZN), and other issues may have contributed to errors. Rather than addressing these issues in the aforementioned checklist, where they risk going unnoticed, I will treat them in the following chapters. For ease of reference, relevant page numbers from cited publications are included throughout.

Materials and Methods

After reviewing a large number of PDF-format publications, over 120 of these were found to contain relevant and useful information, and they are included in the Literature Cited. Most of the more recent publications were already in my possession due to my work on a checklist of the Guianan Scarabaeoidea. Additional volumes, especially some very old ones, were obtained through various websites. Most important in this perspective were the freely accessible Biodiversity Heritage Library (BHL), which is an international consortium of natural history and botanical libraries, and AnimalBase, which is a free service provided by the Zoological Institute of the University of Göttingen in Germany. The public website of the International Commission on Zoological Nomenclature (ICZN) was accessed to find the applicable articles on the basis of which I have executed the various nomenclatural acts. The following abbreviations of collections, following Evenhuis (2017), are used in the text: MNHN - Muséum National d'Histoire Naturelle, Paris, France; NHRS - Naturhistoriska riksmuseet, Stockholm, Sweden; NZCS - Nationale Zoölogische Collectie van Suriname, Paramaribo, Suriname.

Synonymization of *Athyreus soesilae* Makhan, 2008 with *Neoathyreus* (*Neoathyreus*) *excavatus* (Laporte, 1840) (Geotrupidae: Bolboceratinae: Athyreini)

Makhan (2008: 1) describes the species *Athyreus soesilae* based on a type series of one male and four female specimens that was collected in Suriname. Judging by the rather short description, accompanying pictures and stated type locality, I suspected this species to be synonymous with a previously described species. Makhan (2008) states that the holotype of *A. soesilae* is deposited in the University of Suriname, Department of Entomology (= National Zoological Collection of Suriname, NZCS). However, upon my request to examine the holotype, Mr. Anielkoemar Gangadin, the long-serving Assistant Curator of Invertebrates of the NZCS, assured me they never received either the holotype or a paratype of this species. Regardless, I am confident that the following narrative amounts to a solid case for synonymization.

Howden and Martínez (1963: 348) split the genus *Athyreus* MacLeay, 1819 (p. 123) in four different genera, three of which occur in the Neotropics. Of these, the genus *Parathyreus* Howden and Martínez, 1963 (p. 348) has never been found north of the Amazon / Rio Madeira main stem (Howden 1985b: 171). This leaves two relevant genera to consider here, namely *Athyreus* and *Neoathyreus* Howden and Martínez, 1963 (p. 350), both of which have several representatives in the Guianas. The characters mentioned in the generic key in Howden and Martínez (1963: 348) which are relevant with respect to Makhan's brief description, are sexual dimorphism and size. The genus *Athyreus* is defined as having dissimilar sexes and a length of over 15 mm (Howden and Martínez 1963: 348, 350; 1978: 2), while *Neoathyreus* has similar sexes and a length below 15 mm (Howden and Martínez 1963: 348, 350; Howden 1985a: 3).

According to Makhan (2008), the sexes of *A. soesilae* are similar, with the male holotype having a length of 11 mm (no information is given regarding the four paratypes, except that they do not differ from the holotype and are all female). This clearly puts *A. soesilae* within the genus *Neoathyreus*, the existence of which was apparently unknown to Makhan. It is noteworthy that the only publication cited by Makhan is Howden and Martínez (1978), which does not cite the name *Neoathyreus*. However, in its introduction this publication does refer to Howden and Martínez (1963) and notes that the genus *Athyreus* is restricted "to include only a group of relatively large, sexually dimorphic species." Evidently, Makhan did not notice this statement or chose to disregard it.

At present, seven species of *Neoathyreus* are known from the Guianas (Boilly 2011: 24, 2014: 308), four of which have been found in Suriname (A. J. Hielkema, unpublished data). Makhan (2008) states

his specimens were caught in "the north of Suriname," later specifying "District Suriname." In fact, the District Suriname was abrogated during the rearrangement of the Surinamese administrative regions, which took place several years before Makhan collected his specimens. The district was situated around the country's capital Paramaribo and along both shores of the lower Suriname River. All of it was located in the coastal zone and the northern savanna belt (Stichting Planbureau Suriname 1988: C1). Of the four known Surinamese species of *Neoathyreus*, two appear to be restricted to the forests of the interior, one (*N.* (*Neoathyreus*) *excavatus* (Laporte, 1840) (p. 103)) has as yet only been found in the coastal area and the northern savanna belt and one (likely *N.* (*N.*) *lanuginosus* (Klug, 1845) (p. 28)) is found in the interior while a singleton of it was recently found in a flight interception trap in an old secondary forest in the coastal area (A. J. Hielkema, unpublished data).

Neoathyreus (*N.*) *excavatus* is relatively commonly collected at lights and in flight interception traps in the present districts Paramaribo and Para, which makes it the best candidate for Makhan's specimens. In fact, *N.* (*N.*) *excavatus* was first reported for Suriname in Howden (1985a) and is at present still the only valid species published for Suriname. According to Makhan, at least one of his specimens was "collected on cow dung." This substrate is not unusual for *N.* (*N.*) *excavatus*, as I once found a specimen of this widespread species in a tunnel under cow dung in Guatemala.

Makhan's picture of the habitus of his type specimen is unfortunately too low-quality to clearly distinguish the species. However, when comparing his picture of the aedeagus of *A. soesilae* with the aedeagi of other Guianan Athyreini (see e.g. Boilly 2011: 30), a striking resemblance with that of *N. excavatus* can be seen, while it differs significantly from those of all the other possible species.

Based on the provided pictures and corroborated by the description and the type locality, and in accordance with ICZN (2012) Article 23.3, I therefore synonymize *Athyreus soesilae* Makhan, 2008 with *Neoathyreus* (*Neoathyreus*) *excavatus* (Laporte, 1840).

After his description of *A. soesilae*, Makhan (2008) comments that he believes that the Surinamese specimen of *A. bellator* Westwood, 1848 (p. 387) mentioned in Howden and Martínez (1978: 42) is probably a specimen of *A. soesilae*. Makhan acknowledges that he has not seen the specimen and remarks that the males of these two species differ externally as well as with regards to their genitalia. He does not mention the difference in size between his specimens (11 mm) and the size of *A. bellator* (17–22 mm) as mentioned in Howden and Martínez (1978). I am aware of three more specimens of *A. bellator* from Suriname, one of which I collected myself. Given Makhan's clear lack of knowledge of the Athyreini, his disregard of the differences he mentions and the fact that Howden was at the time already a renowned specialist of world Geotrupidae, it may be concluded that Makhan's remark is entirely unfounded.

Replacement of *Scalmus* Zang, 1905 with its senior synonym *Neleuops* Kuwert, 1891, nec *Neleurops* Kuwert, 1891 (Passalidae: Passsalinae: Passalini)

As part of his extensive and ongoing overhaul of the Neotropical Passalidae, Boucher (2015: 116) revives the genus *Scalmus* Zang, 1905 (p. 154) to accommodate several species previously placed in *Passalus* Fabricius, 1792 (p. 240). While doing this, he also places the genus *Neleuops* Kuwert, 1891 (p. 179) (spelled by him as *Neleurops*) in synonymy with *Scalmus*. According to Boucher (personal communication, 2015), this latter action is taken because Zang explicitly created *Scalmus* as a substitute name for *Ninus* Kaup, 1871 (p. 89), nec *Ninus* Stål, 1859 (p. 252) (Hemiptera). However, as Boucher (2015) considers *Neleuops* and *Scalmus* synonymous, ICZN (2012) Article 60.2 requires that the senior synonym, in this case *Neleuops*, takes priority, regardless of the fact that the junior synonym, here *Scalmus*, is created with the explicit goal to serve as a substitute name.

Regarding the spelling variant *Neleurops*, it should be stated that the original spelling of the genus in Kuwert (1891) is *Neleuops* and that there are no indications that Kuwert intended a different spelling. The spelling *Neleuops* is subsequently used as a valid genus name in Kuwert (1896: 222, 1898a: 142) and as a synonym of *Passalus* in Gravely (1918: 51) and Luederwaldt (1931: 79). The later authors Hincks and Dibb (1935: 39), Blackwelder (1944: 192) and Fonseca and Reyes-Castillo (2004: 14) use the spelling *Neleurops* as a synonym of Passalus. I am unaware of the use or the mentioning of this genus in any other publication. Given the very limited number of authors who have used the genus in either spelling, it is not possible to speak of a prevalent use of the subsequent incorrect spelling. Thus,

according to Article 32.2, *Neleuops* is the correct original spelling. There is no compelling reason to preserve the incorrect subsequent spelling as per Article 33.3.1.

Because *Scalmus* is synonymized with *Neleuops*, the following four species, all transferred from *Passalus* to *Scalmus* in Boucher (2015), change from genus accordingly: *Scalmus interstitialis* (Eschscholtz, 1829) (p. 18) becomes *Neleuops interstitialis* (Eschscholtz, 1829), *Scalmus huebneri* (Kuwert, 1898) (1898b: 277) becomes *Neleuops huebneri* (Kuwert, 1898), *Scalmus kaupi* (Boucher, 2004) (p. 113) becomes *Neleuops kaupi* (Boucher, 2004), and *Scalmus rhodocanthopoides* (Kuwert, 1891) (p. 179) returns to the genus it was originally described in and becomes *Neleuops rhodocanthopoides* Kuwert, 1891.

Fixation of the spelling of *Oxysternon oberthueri* Olsoufieff, 1924, a junior synonym of *Oxysternon* (*Oxysternon*) *conspicillatum* (Weber, 1801) (Scarabaeidae: Scarabaeinae: Phanaeini)

In Olsoufieff (1924), the new species *Oxysternon oberthüri* (written with an umlaut) is first named in a key for the genus on page 47. On page 114 of the same publication the species is described more extensively, but the name is here written without an umlaut. As explained in the description, the species is dedicated to Mr. René Oberthür (a French entomologist, 1852–1944), but his name, too, is written here without an umlaut. As far as I know, neither of these two spellings has been selected by a First Reviser as detailed in ICZN (2012) Article 24.2.3, and the case remains open. It should be noted, however, that after the original description three different spellings have been used so far: *oberthüri* (Blackwelder 1944: 210, to be corrected as required by Article 32.5.2.1), *oberthueri* (Vaz-de-Mello 2000: 194, with corrected spelling according to Article 32.5.2.1) and *oberthuri* (Arnaud 2002: 68; Edmonds and Zídek 2004: 18).

Although this name is synonymized with *O.* (*O.*) *conspicillatum* (Weber, 1801) (p. 36) by Edmonds and Zídek (2004: 18), it seems prudent to fix the spelling, so as to prevent multiple spellings in case the name gets moved out of synonymy. Given that the name is meant to be an honorific of Mr. Oberthür, it seems best to use the spelling *oberthüri*, and to then correct this following Article 32.5.2.1, which dictates that "in a name published before 1985 and based upon a German word, the umlaut sign is deleted from a vowel and the letter "e" is to be inserted after that vowel (if there is any doubt that the name is based upon a German word, it is to be so treated)." Thus, hereby acting as First Reviser, I select *Oxysternon oberthueri* as the correct spelling.

Correction of the year of description of *Oxysternon* (*Oxysternon*) *festivum* (Linnaeus, 1758), invalidation of its present lectotype, and designation of a new lectotype (Scarabaeidae: Scarabaeinae: Phanaeini)

In the famed 10th edition of his Systema Naturae, Linnaeus (1758) describes the species *Scarabaeus festivus* on page 350. This species is presently known as *Oxysternon* (*Oxysternon*) *festivum* and has two recognized subspecies. It is noteworthy that Linnaeus' description details a female specimen, as it does not mention the large cephalic horn and prominent thoracic protuberances, which define the males of this species.

Besides the name and the description, Linnaeus only provides the distribution of the species ("Habitat in America") and the name of the collector of the specimen(s) he used for study ("Rolander"). On page 552 of the revised 12th edition of the Systema Naturae (Linnaeus 1767), he literally repeats his description except for three added non-consequential words, while he includes references to two publications. These publications are Rösel von Rosenhof (1749) and Gronovius (1764). The former contains a description and colored drawing of a male specimen (p. 23, pl. B, fig. 8), while the latter describes both male and female specimens (p. 149, species no. 452), albeit without mentioning the name assigned to it by Linnaeus, and refers to both Rösel von Rosenhof (1749) and Linnaeus (1758).

Although Linnaeus must have been aware of the appearance of the males of this species while writing the 10th edition, as he refers to Rösel von Rosenhof (1749) in various other species descriptions, he clearly chose not to describe those but to content himself with the female(s) to which he apparently had direct access. Even though he does not alter the description in the 12th edition to include the features of the male, he explicitly mentions that Rösel von Rosenhof's (1749) publication depicts one.

It is accepted knowledge that Linnaeus had a falling-out with his "apostle" Daniel Rolander and did not receive the insect specimens that the latter had collected during his stay from 1755 to 1756 in Suriname and St. Eustatius (see Dobreff 2010: 14). Still, Linnaeus somehow managed to describe many of the species collected by Rolander. Recent research by Dobreff has shed light on this subject, and it is now known that Rolander sent a crate of insects to his benefactor De Geer, and that Linnaeus was granted access to De Geer's collection to study these specimens (Dobreff 2010: 16). Indeed, De Geer (1774: 315), regarding this species, writes "se trouve à Suriname; mais je n'en ai eu que la femelle, dont je ferai ici la description" ("it is found in Suriname; but I have had only the female, which I shall describe here"), thus confirming that Linnaeus had, through De Geer, only direct access to a female. At the end of his personal description of the female, De Geer (1774) notes that according to other authors the male has a horn on its head.

It is interesting to see that apparently all early authors (Fabricius 1781: 23; Olivier 1789: 110; MacLeay 1819: 131) have opted not to cite Linnaeus (1758) but instead Linnaeus (1767). This may be because of the lack of references for this species in the former edition. Later authors (Gillet 1911: 87; Olsoufieff 1924: 112; Blackwelder 1944: 210; Feer 2000: 32; Vaz-de-Mello 2000: 194; Medina et al. 2001: 140; Edmonds and Zídek 2004: 12; Quintero and Roslin 2005: appendix A; Ferrer-Paris et al. 2013: 110; Boilly et al. 2016: 95) have copied this citation, with possibly the only exception being Landin (1956: 11), who states that the correct year is 1758.

Edmonds and Zídek (2004: 13) designate the illustration in Rösel von Rosenhof (1749: pl. B, fig. 8) as the lectotype for the nominal subspecies. This is incorrect for two reasons. First, ICZN (2012) Article 72.5.6 clearly states that the name-bearing type is the specimen illustrated, not the illustration itself. However, this is easily solved as Article 74.4 states that a designation of an illustration is to be treated as a designation of the specimen that was illustrated. More important, however, is that Edmonds and Zídek (2004) consider 1767 as the year of description, while this is in fact 1758. This is demonstrated by the fact that the 1758 description fulfills the requirements of Articles 11 and 12.1 and is thus valid. The absence of references to physical specimens or illustrations in other publications in the 1758 description is not prohibitive, as this prerequisite is only mandatory for species described after 1999, as described in Articles 16.4 and 72.3.

Given the reasons Edmonds and Zídek (2004) mention for the necessity of designating a lectotype and the fact that their lectotype is now invalidated, it seems prudent to designate a new lectotype. As outlined in Article 72.4.1.1, any published or unpublished evidence may be taken into account to determine what specimens constitute the type series if the species was described before 2000. This means that the specimen illustrated in De Geer (1774: pl. 18, fig. 15) is eligible as lectotype, for it is this specimen, as explained above, that was used by Linnaeus to describe the present *O.* (*Oxysternon*) *festivum festivum*. I hereby thus select this specimen as the lectotype of *Scarabaeus festivum* Linnaeus, 1758.

According to Dobreff (2010: 16), the collection of De Geer is now preserved in the Swedish Museum of Natural History in Stockholm, Sweden (NHRS). In an attempt to locate the physical lectotype I have made contact with Johannes Bergsten, presently the Senior Curator of Coleoptera of the Department of Zoology of the NHRS. At my request, he has checked the separately curated insect collection of De Geer as well as the museum's general collection of Coleoptera. Unfortunately, he was not able to find any specimens of *O. festivum* in the collection of De Geer. In the general collection three specimens could be found, of which two are more recent additions. The pin on the older specimen contains, next to two newer labels with collection numbers (NHRS-JLKB / 000017182 // 6384 / E92 +), two old labels. One of these bears the typed word "Cayen," while the other has a short, handwritten word which I could not decipher but what is presumably the name of the collector. The word "Cayen" is doubtless short for Cayenne, the name of the capital and eastern arrondissement of present-day French Guiana. As Rolander never visited Cayenne (see Rolander 2008) this specimen was clearly not collected by him and is thus not the lectotype. Given the absence of any other old specimens of this species at the NHRS, the lectotype must be assumed lost, with only its depiction in De Geer's publication remaining. Edmonds and Zídek (2004) see no reason to designate a neotype in the absence of a physical lectotype of this species, and I have no reason to decide otherwise.

The spelling of *Phanaeus* (*Phanaeus*) *prasinus trinidadens* Arnaud, 2001 and *P. prasinus joliyi* Arnaud, 2001 (Scarabaeidae: Scarabaeinae: Phanaeini)

In Arnaud (2001: 8) two new subspecies of *Phanaeus* (*Phanaeus*) *prasinus* are described. The names of these subspecies are spelled as "*trinidadens*" and "*joliyi*." These spellings appear to be erroneous, as the former subspecies stems from Trinidad and the latter, which is found in Venezuela, is likely an honorific of the Venezuelan scarab researcher J. L. Joly. However, no etymology for either name is provided with the description, which means there is no "clear evidence of an inadvertent error," as required under ICZN (2012) Article 32.5.1, to justify a correction of the spelling. Still, in Arnaud (2002: 100, 102) these names are spelled as "*trinidadensis*" and "*jolyi*," respectively. The original spelling is maintained in Krajcik (2012: 204). Edmonds and Zídek (2012: 17), like Arnaud 2002, again use the spellings "*trinidadensis*" and "*jolyi*" while synonymizing both subspecies with *P. prasinus*. Given that each name is only mentioned a single time in the original description, there are no conflicting spellings in the describing paper. As these names are not to be mandatorily corrected under Article 32.5, and the incorrect subsequent spellings are not in prevailing usage as meant in Article 33.3.1, the original spellings are to be maintained following Article 32.2.

Restoration of the priority of *Chlorota aulica* Burmeister, 1844 over *Chlorota metallica* Burmeister, 1844 (Scarabaeidae: Rutelinae: Rutelini)

In Burmeister (1844), the species *Chlorota metallica* is described on page 363 while the species *C. aulica* is described on the subsequent page 364. In Soula (2002a: 135) these species are formally synonymized. In this synonymization Soula mentions page priority ("priorité de page"), but decides to make *C. aulica* the valid name and *C. metallica* the synonym because the original description of *C. aulica* is based on both a male and a female while that of *C. metallica* is based on a female only. However, in Soula (2005: 384) this decision is reversed, citing page priority as the reason to do so.

It should be noted that the Principle of Priority, as detailed in ICZN (2012) Article 23.1, only deals with the date of publication and that there is no such thing as "page priority." When two synonymous names are published on the same date and in the same publication, it is the First Reviser, as detailed in Article 24.2, who decides what becomes the valid name and what becomes the synonym.

Based on the preceding, it is clear that the choice in Soula (2002a) of *C. aulica* as a valid name and *C. metallica* as a synonym is in compliance with the relevant articles, and the reversal of this decision in Soula (2005) is not. Thus, the valid name should be *C. aulica*. I am only aware of three other publications using either name after Soula (2002a). The first one of these is Soula (2002b: 27), in which a photo and short description of *C. aulica* are given, the second one is Krajcik (2012: 72), in which the name *C. aulica* is used in a checklist of world Scarabaeoidea, while the third one is Moore et al. (2014: 7). In the latter publication Soula's designation of *C. aulica* as the type species of the genus *Chlorota* Burmeister 1844 (p. 359) is reversed to Ohaus' (1934: 125) original type species designation of *C. terminata* (Lepeletier and Serville, 1825) (p. 317). To my knowledge no other publications since 2002 have dealt with the taxonomy or nomenclature of the genus *Chlorota*, and if there are any other publications using either specific name, these will most likely be regional checklists. This means nomenclatural stability is not threatened by acts regarding this taxon. In compliance with the Code, I thus hereby reverse the decision in Soula (2005) and reinstate *Chlorota aulica* Burmeister, 1844 as the valid name with *Chlorota metallica* Burmeister, 1844 as its synonym.

Correction of the year of description of *Rutela lineola* (Linnaeus, 1758) and designation of its lectotype (Scarabaeidae: Rutelinae: Rutelini)

In the 10th edition of his Systema Naturae, Linnaeus (1758) describes on page 350 the species *Scarabaeus lineola*, which is presently known as *Rutela lineola*. This species is now the type species for the genus *Rutela* Latreille, 1802 (p. 151) and by extension also for the subfamily Rutelinae MacLeay, 1819 (p. 69). Besides the name and the description, Linnaeus (1758) only provides the type locality ("Habitat in America") and the name of the collector of the specimen(s) he used for study ("Rolander"). On page 552 of the revised 12th edition of the Systema Naturae, Linnaeus (1767) literally repeats his

description but adds a reference to Rösel von Rosenhof (1749). This publication contains a description and colored drawing of a specimen (p. 23, pl. B, fig. 7).

It is interesting to see that early authors (Fabricius 1781: 55; Olivier 1789: 77) have opted not to cite Linnaeus (1758) but instead Linnaeus (1767). This may be because of the lack of references for this species in the former edition. Later authors (Ohaus 1934: 116; Blackwelder 1944: 239; Machatschke 1972: 50; Jameson 1998: 92; Soula 2010: 55) have copied this citation. Landin (1956: 11) is the only publication I have found that does not cite 1767 as the year of description of *R. lineola*. Instead, Landin (1956) gives the year 1758, which is correct as the 1758 description fulfills the requirements of ICZN (2012) Articles 11 and 12.1 and is thus valid. The absence of references to physical specimens or illustrations in other publications in the 1758 description is not prohibitive, as this prerequisite is only mandatory for species described after 1999, as described in Articles 16.4 and 72.3.

Because *R. lineola* forms the basis of the subfamily Rutelinae, it seems prudent to locate and secure its type material. Landin (1956: 11) states that "Probably the specimen from Cayenne [in the collection of the Linnean Society] could be an authentic Rolander specimen." This is not true. Daniel Rolander never visited the present French Guiana (which was then a Dutch colony called Cayenne), nor is there any account of him having contact with people who did. During his only visit to the New World he lived in Suriname from June 19, 1755 until his return to Europe on January 20, 1756. He variously stayed in the city of Paramaribo, on some plantations east of Paramaribo along the Commewijne River/Cottica Creek/Perica Creek and at Jodensavanne along the Suriname River south of Paramaribo. From these locations, he made several daylong excursions to collect plant and animal specimens. As Cayenne could back then only be reached over sea and Rolander only travelled the Suriname River and the Commewijne River and its tributaries, he never came close to Cayenne. The only other place he visited in the Americas was St. Eustatius, from February 13 to 23, 1756, on his journey back to Europe. See Rolander (2008) for his detailed diary. Landin (1956) also wrote "It is further not quite unlikely that even the two specimens of var. *Surinama* L. et auct. [in the collection of the Linnean Society] are collected by Rolander." As these specimens are by Landin's own account not labeled, this is impossible to prove. Jameson (1998: 92) has revised the genus *Rutela*, but she, too, states that the holotype could not be located. Recent discoveries have shed new light on the possible whereabouts of this species' type material though, and I have taken an effort to trace the material studied by Linnaeus.

The relationship between Daniel Rolander and his mentor, Linnaeus, had become contentious following Rolander's return to Sweden from Suriname and St. Eustatius. Because of this, Rolander refused Linnaeus access to the insect specimens he had collected during his journey (see Dobreff 2010: 14). Until recently, it was unknown how Linnaeus was still able to describe the species that Rolander collected. Dobreff (2010: 16) shows that Linnaeus was granted access to the collection of De Geer, who had received a crate of insects from Rolander as payment for his earlier support. This story is substantiated by the account of De Geer (1774: 320): "M. Rolander m'a envoyé ces Scarabés de Surinam." ("Mr. Rolander sent me these scarabs from Suriname."), thereby referencing plate 19, figure 5 in the same book, which unmistakably shows a specimen of *R. lineola*.

According to Dobreff (2010: 16), the collection of De Geer is now preserved in the Swedish Museum of Natural History in Stockholm, Sweden (NHRS). In an attempt to locate Linnaeus' type material I have made contact with Johannes Bergsten, presently the Senior Curator of Coleoptera of the Department of Zoology of the NHRS. At my request, he has checked the separately curated insect collection of De Geer as well as the museum's general collection of Coleoptera. He was able to locate two specimens of *R. lineola* in the collection of De Geer. These were both placed under a fixed label with the written text "13. *Sc. lineola* p.320," which clearly signifies the corresponding location in De Geer (1774), as *Scarabaeus lineola* is numbered in this book as species 13, and treated in it on page 320. These specimens bear otherwise only two labels each: the first one has a small blank label and a larger label with the recent collection number "NHRS-JLKB / 000017183" while the second one has a small label with the written text "Sp." and a larger label with the recent collection number "NHRS-JLKB / 000017184." The absence of any indication of both the collecting locality and the name of the collector makes these specimens ineligible as lectotype. The two specimens from the general collection bear respectively five and four labels. In each of these specimens one of the labels has the typed collecting locality "Cayen" and each can thus, as explained above, be disregarded as potential lectotype. Based on the previous, it is inevitable to conclude that there is no definite syntype remaining.

As outlined in Article 72.4.1.1, any published or unpublished evidence may be taken into account to determine what specimens constitute the type series if the species was described before 2000. This means that the specimen illustrated in De Geer (1774) on plate 19 as figure 5 is eligible as lectotype, for it is this specimen, as explained above, that was used by Linnaeus to describe the present *R. lineola*. Although the actual specimen on which De Geer's drawing is based no longer exists, this does not make it impossible to designate it as the lectotype. This follows from Article 74.4, which states that the "designation of an illustration or description of a syntype as a lectotype is to be treated as designation of the specimen illustrated or described; the fact that the specimen no longer exists or cannot be traced does not of itself invalidate the designation." I hereby thus select this specimen as the lectotype of *Scarabaeus lineola* Linnaeus, 1758. As this species is otherwise well-characterized, the lack of a physical lectotype does not in and of itself necessitate the designation of a neotype, as the conditions required under Article 75 are not met.

Cyclocephala aulustjaorum, a replacement name for the preoccupied name _Cyclocephala brevis_ Höhne, 1923 (Scarabaeidae: Dynastinae: Cyclocephalini)

In his treatise of the Dynastinae of Costa Rica and Panama, Ratcliffe (2003: 93, 96) observed *Cyclocephala pubescens* Burmeister, 1847 (p. 68) to be a junior homonym of *C. pubescens* Erichson, 1847 (p. 96), which itself is a junior synonym of *C. sexpunctata* Laporte, 1840 (p. 125). Because of this observation, he needed a replacement name for Burmeister's species. After he concluded that the only available synonym was *C. pubescens brevis* Höhne, 1923 (p. 373) and that Höhne's syntypes of this taxon were conspecific with Burmeister's *C. pubescens*, he proceeded to elevate this name to specific rank.

However, it appears to have escaped Ratcliffe's attention that the name *C. brevis* Höhne, 1923 is itself a junior homonym of *C. brevis* Perty, 1830 (p. 46) which, despite the fact that its type is presumed to be lost or destroyed, is usually considered to be a synonym of *Euetheola bidentata* (Burmeister, 1847) (p. 81). In fact, this is even mentioned by Ratcliffe in the same publication (p. 276) in which he elevated Höhne's *C. brevis*.

In agreement with Ratcliffe's comment, there appear to be no other synonymic names for this taxon, and ICZN (2012) Article 60.3 therefore requires the homonym to be replaced with a new name. Thus, the replacement name *Cyclocephala aulustjaorum* nomen novum is here proposed for *C. brevis* Höhne, 1923. This name is an honorific of my grandparents and created from the first letters of their names.

Fixation of the spelling of the genus _Harposceles_ Burmeister, 1847 (Scarabaeidae: Dynastinae: Cyclocephalini)

The genus *Harposceles* Burmeister, 1847 has alternatively been spelled *Harposcelis*. The reason for this confusion starts in Burmeister (1847) with the inclusion of the genus in the key on page 22 and the original description of the genus on page 34, both in which the spelling *Harposcelis* is used. On page 571 of the same publication, in the "Berichtigungen" (corrections), Burmeister explicitly states that the correct spelling is *Harposceles*, not *Harposcelis*: "Seite 22. Zeile 7. v. o. ließ *Harposceles* statt *Harposcelis*," literally "page 22, line 7 from top, read *Harposceles* instead of *Harposcelis*." This statement is repeated for page 34, line 8 from below.

Apparently, not all subsequent authors writing about the genus were aware of either this correction or its validity. Thus, the spelling *Harposcelis* is used by some authors (Lacordaire 1856: 398; Endrödi and Dechambre 1976: 21; Dechambre 1979: 167; Lachaume 1992: 20; Touroult et al. 2010: 13; Brûlé et al. 2011: 191; Duranton 2011: 20; Ponchel 2011: 60; Saltin and Ratcliffe 2012a: 147, 2012b: 10; Brûlé et al. 2014: 182) while the spelling *Harposceles* is used by others (Arrow 1937: 5; Blackwelder 1944: 250; Endrödi 1966: 439, 1985: 186; Andreazze 2001: 434; Andreazze and Motta 2002: 726; Jameson et al. 2002: 11; Krajcik 2012: 119, 2013: 111).

In Endrödi and Dechambre (1976) it is stated on page 24 that Burmeister's correction of the original name is invalid, as the name was not preoccupied ("Remarquons que le genre ne doit pas s'appeler *Harposceles* mais *Harposcelis* ainsi que l'a nommé Burmeister pour la première fois (1847, p. 34). La correction de cet auteur en *Harposceles* (1847, p. 571, par erreur p. 34 in Endrödi, 1966, p. 439) est inutile, ce nom n'étant pas préoccupé."). Saltin and Ratcliffe (2012a: 147) refer to this statement regard-

ing their use of the spelling *Harposcelis*. This statement, however, is incorrect, as ICZN (2012) Article 32.5.1 states that "if there is in the original publication itself, without recourse to any external source of information, clear evidence of an inadvertent error, such as a lapsus calami or a copyist's or printer's error, it must be corrected," while article 32.5.1.1 adds that "the correction of a spelling of a name in a publisher's or author's corrigendum issued simultaneously with the original work or as a circulated slip to be inserted in the work (or if in a journal, or work issued in parts, in one of the parts of the same volume) is to be accepted as clear evidence of an inadvertent error." As shown above, Burmeister (1847) did, in fact, include such a corrigendum in his original work, therefore satisfying the latter provision. With each spelling recently being used by several authors, there is also no basis to invoke Article 33.3.1 regarding prevailing usage. Accordingly, the correct original spelling of the genus is *Harposceles*, as indicated by Burmeister in his corrections, and, following Article 33.3, *Harposcelis* is an incorrect subsequent spelling and an unavailable name.

The spelling *Stenocrates haackae* Ratcliffe, 1977 is preserved and deemed to be the correct original spelling (Scarabaeidae: Dynastinae: Cyclocephalini)

The etymology of the species originally named *Stenocrates haacki* Ratcliffe, 1977 (p. 433) is, in the describing publication, given as "This species is named after Martha J. Haack, Scientific Illustrator at the University of Nebraska State Museum, Lincoln, Nebraska, U.S.A., in recognition of her superb renditions of entomological subjects." Obviously, if not by the name "Martha" then by the possessive determiner "her," the person honored with the name *S. haacki* is a woman. As is explained in ICZN (2012) Article 31.1.2, the suffix "i" behind a name's stem refers to a man, while the correct way to refer to a woman is by adding the letters "ae" to the stem. Thus, the name is unfortunately malformed for its intended purpose, but does not correspond to any of the categories of mandatory corrections listed under Article 32, and thus cannot be corrected under the ICZN.

In a paper published in 1978 (p. 494), Ratcliffe describes additional species of the genus *Stenocrates*, as well as the female of the species *S. haacki*, which he lacked while writing the original description. Interestingly, he spells the name here as *S. haackae*, presumably because he was made aware of his earlier error. He does not, however, allude to the difference in spelling. The species is again mentioned by Endrödi (1985: 178), who refers to it as "*Stenocrates haacki* (recte *haackae*, because Martha Haack) Ratcliffe, 1978." The other uses I have found of the name are in Krajcik (2012: 247, 2013: 110), Ratcliffe (2015: 778) and Ratcliffe et al. (2015: 202). The latter four publications all exclusively use the spelling *S. haackae*.

It should be noted that the spelling used in the describing publication from 1977 is the "correct original spelling" as defined in Article 32.2. The amended spelling is, according to Article 33.3, an "incorrect subsequent spelling," and thus not to be used as a substitute name except if the conditions of Article 33.3.1 are met. Accordingly, it must be noted that six out of seven publications, written by a total of three authors (and eight coauthors), use the incorrect subsequent spelling. It can thus be argued that the latter name is in prevailing usage, defined in the Glossary of the Code as "that usage of the name which is adopted by at least a substantial majority of the most recent authors concerned with the relevant taxon, irrespective of how long ago their work was published." Given the prevailing usage of the spelling *S. haackae*, I hereby invoke Article 33.3.1 and deem the subsequent spelling as the correct original spelling, to be used as the only valid spelling from now on.

Invalidation of *Scarabaeus simson* Linnaeus, 1758 as a synonym of *Megasoma actaeon* (Linnaeus, 1758) (Scarabaeidae: Dynastinae: Dynastini)

Linnaeus (1758: 345) gives a short description of the new species *Scarabaeus simson*, referencing Sloane (1725: 205, pl. 237, fig. 4, 5) and Browne (1756: 428, pl. 43, fig. 6). In Linnaeus (1764: 5) the first description is expanded upon, and this is done again in Linnaeus (1767: 542), albeit with different wordings. It is important to notice that in both later publications, the exact same references are used as in 1758. In all three publications are allusions to the similarities of *Sc. simson* with *Sc. actaeon*, which in each publication is the preceding species.

At present, *Strategus simson* (Linnaeus, 1758) is the valid name of a species of Oryctini endemic to Jamaica, the Caribbean island that is mentioned by Sloane (1725) and Browne (1756) as the source of their specimens. Publications using this name include Ratcliffe (1976: 141) and Endrödi (1976: 155).

Curiously, the name *Sc. simson* Linnaeus, 1758 (also cited as *Sc. simson* Linnaeus, 1764 or 1767 or *Geotrupes simson* Fabricius, 1801) also appears in various old and new publications as a junior synonym of *Megasoma actaeon* (Linnaeus, 1758) (between 1847 and 1915 as *Megalosoma actaeon*), a species belonging to the Dynastini and occurring exclusively on the mainland of South America and southern Central America. Publications mentioning this synonymy include Endrödi (1941: 69, 1977: 41), Voirin (1978: 4) and Lachaume (1985: 34).

Indeed, several authors working extensively with Dynastinae actually use the specific epithet *simson* (albeit with different assigned years of description) both as a synonym or valid name in *Strategus* and as a synonym in *Megasoma* (see Burmeister 1847: 136 vs. 274; Arrow 1937: 76 vs. 99; Blackwelder 1944: 257 vs. 259; Endrödi 1985: 611 vs. 637; Ratcliffe and Cave 2015: 209 vs. Ratcliffe 2003: 461), suggesting that older literature, though commonly cited, is rarely critically read. The oldest publication I have found which attributes both uses of the name unambiguously to Linnaeus is Arrow (1937).

To elucidate the dual use of this name, it is necessary to look at some of the older post-Linnean publications.

Drury (1770: 81, pl. 36: fig. 3, 4) refers to Linnaeus (1767), Sloane (1725) and Browne (1756) in his text regarding the drawings of his Jamaican specimens. Fabricius (1775: 7, 10) appears to be the first to create a rift by using the name *Sc. simson* for a species allied to *Sc. actaeon* (with reference to Linnaeus (1767)) as well as mentioning the name in the description of his new *Sc. titanus* (with references to Sloane (1725) and Drury (1770)). The rift is continued in Goeze (1777), where on page 6 *Sc. simson* is mentioned, and on page 59 *Sc. titanus* "der Drurysche *simson*." Importantly, both entries use the references Sloane (1725) and Drury (1770) next to other references, even though Goeze mentions that Fabricius (1775) was probably right in dismissing these references for *simson* "close to *actaeon*." Each of the treatments even links to the other one, demonstrating that this dual use of references is not done accidentally. Strangely enough, Goeze also appears to say that *simson* "synonym of *titanus*" is larger than *simson* "close to *actaeon*." The first after Fabricius (1775) to consider the *simson* "close to *actaeon*" as a completely different species than the *simson* "synonym of *titanus*" is Herbst (1785), who treats the former on page 251 and the latter on page 282. He explicitly states that he does not understand why Goeze (1777) uses the references to Sloane (1725) and Browne (1756) for both species, while Fabricius (1775) excludes them from his *simson* "close to *actaeon*" treatment. It appears that Herbst lacked access to at least some of the relevant publications, for otherwise he would likely have noticed that both "species" were in fact based on the same material. I believe it was Herbst's text that completed the split between the two uses of the name *Sc. simson*. Olivier (1789) appears to be the first author to depict an actual minor male of *M. actaeon* with the name *Sc. simson* (p. 13, pl. 15, fig. 142) while showing an actual *St. simson* under the name *Sc. titanus* (p. 26, pl. 5, fig. 38).

Hope (1837: 87) places *Sc. titanus* in his new genus *Strategus*. Burmeister (1847: 136) upholds this placement and Fabricius' vision of *Sc. simson* as a synonym of *St. titanus*. Chapin (1932: 449) applies the principle of priority and makes *Sc. titanus* a synonym of *St. simson* instead of vice versa. All later authors also treat *St. simson* as a valid species and *Sc. titanus* as its synonym.

In conclusion, I restate that Sloane (1725) and Browne (1756), the references used by Linnaeus, both mention a species with a length of about 3 to 4 cm living on Jamaica. This applies to *St. simson* but not to *M. actaeon*, which has a minimum length of over 5 cm and is strictly continental. It is thus clear that Linnaeus' description of *Sc. simson* concerns the Jamaican species *Strategus simson*. The other use of the name, as a synonym of *Megasoma actaeon*, is clearly erroneous and a relic of a time in which zoological taxonomy and nomenclature were less developed. From the texts in the various early taxonomic works it can be concluded that the superficial similarities between these species, especially the convergent characters of two forward-protruding thoracic horns, the recurved and bifurcate cephalic horn and the uniform blackish color, have been the source of the misapplications of the name *Sc. simson* and the eventual schism of this name. I consider Olivier's (1789) application of the name *Sc. simson* for a minor male of the present *M. actaeon* as a misidentification. As is evident from the various recent publications using both present meanings of the name *Sc. simson*, the dual application of this name has not yet been rectified. I hereby therefore invalidate the use of the name *Scarabaeus simson* Linnaeus,

1758 (also 1764, 1767 and *Geotrupes simson* Fabricius, 1801) as a synonym of *Megasoma actaeon* (Linnaeus, 1758).

The selection and fixation of the spelling *Coelosis* Hope, 1837 over the spelling *Caelosis* Hope, 1837 (Scarabaeidae: Dynastinae: Oryctini)

The genus *Coelosis* Hope, 1837 is spelled in two different ways in the original description. The spelling *Caelosis* appears in both the original description on page 88, as well as under figure 6 on Plate II in the back of that publication. However, the spelling *Coelosis* is in the same publication on page 30 used in a list of species named by Fabricius, as well as in the description of the plates (unnumbered, page 122). In the errata (unnumbered, page 123) nothing is said about the spelling of this new genus.

The only printed publications, other than the original description, in which the spelling *Caelosis* could be found are Oken (1844: 868), Bates (1859: 6352) and Krell (1996: 17). This spelling is not even mentioned in the revisions of the genus by Bourgin (1944) and Iannuzzi and Marinoni (1995). Krell (1996) is the only one mentioning both spellings, referring to *Caelosis* as the correct one because of its use in the original description, but in a footnote erroneously attributing the spelling *Coelosis* to Agassiz (1846: 41). His mentioning of both spellings and selecting one of those might appear to make Krell (1996) the First Reviser according to ICZN (2012) Article 24.2.3, even though he is evidently under the incorrect impression that only the spelling *Caelosis* is used in the describing publication.

According to Article 32.2.1, if a name is spelled in more than one way in the work in which it was established, the correct original spelling is the one chosen by the First Reviser. Given that the fourth underlying principle of the ICZN, as detailed in its Introduction, is to provide the maximum stability compatible with taxonomic freedom, Krell's action would contravene the purpose of the ICZN by reviving a long-since dormant name, and it would therefore be correct and appropriate to invoke instead Article 33.3.1 to preserve the spelling *Coelosis* and deem it to be the correct original spelling because of it being in prevailing usage. However, this is not even necessary. A year after his original description, Hope (1838: 313) mentions the genus again. This time he uses the spelling *Coelosis* (twice), while he nowhere refers to the spelling *Caelosis*. Following Article 24.2.4, this makes Hope de facto the First Reviser, rather than Krell, because the original author does not need to cite both names, but merely has to use one of the original spellings to validate that one as the correct original spelling. As such, the spelling *Coelosis* has been selected and fixed as the only correct spelling since 1838, with Oken (1844), Bates (1859) and Krell (1996) thus using *Caelosis* as an incorrect and therefore unavailable spelling as detailed in Article 24.2.3.

Confirmation of the correct spelling of *Megaceropsis quadridentata* Dechambre, 1976 (Scarabaeidae: Dynastinae: Oryctini)

Dechambre (1976: 129) describes a new species with the name *Megaceropsis quadridentatus*, and this spelling has remained the same in all later publications mentioning the species (Endrödi 1985: 572; Dechambre 1996: 56; Brûlé et al. 2011: 191; Duranton 2011: 21; Gasca-Álvarez and Ratcliffe 2011: 31; Ponchel 2011: 61; Brûlé et al. 2014: 182; Dupuis 2016: 110). However, Steyskal (1988: 52) points out that the generic name *Megaceropsis* is feminine as determined by the suffix -opsis. This is also mentioned in the Examples of ICZN (2012) Article 30.1.2. Because the specific epithet must be in accordance with the gender of the generic name as detailed in Article 31.2, it should in this case have the feminine suffix -a, instead of the masculine suffix -us. Hence, the correct spelling is *Megaceropsis quadridentata*, as already mentioned by Steyskal (1988).

Invalidation of the present lectotype of *Podischnus agenor* (Olivier, 1789) and designation of a new lectotype (Scarabaeidae: Dynastinae: Oryctini)

The species *Podischnus agenor* is first described by Olivier (1789: 178, pl. 27, fig. 241) as *Scarabaeus agenor*. He ends his description of the species with the phrases "Il se trouve ...." and "Du Cabinet de M. Gevers." The first sentence means as much as "It is found [in] ... [unknown provenance]" while the second sentence says "In the collection of Mr. Gevers."

Dechambre (1975: 85) remarks that the type could not be found, as it belonged to the collection of Mr. Gevers "dont aucune trace ne subsiste" ("of which no trace remains"). He therefore designates a Panamanian neotype which, according to his research, is the specimen depicted in Bates' Biologia Centrali-Americana (1888: 331, pl. 19, fig. 16) and which was kept in "MP," now the Muséum National d'Histoire Naturelle in Paris, France (MNHN). This neotype seems to be invalid with respect to ICZN (2012) Article 75.3.1, which requires a statement is given that the neotype "is designated with the express purpose of clarifying the taxonomic status or the type locality of a nominal taxon." Such a statement was not given by Dechambre (1975).

Endrödi (1976: 56) is apparently unaware of Dechambre's (1975) designation of a neotype, as he does not refer to it but designates one himself. His neotype originates from Colombia but is invalid too, because of it being part of his private collection ("aus meiner Sammlung") and thus not fulfilling Article 75.3.7, which requires each neotype to be in an expressly-named scientific or educational institution. His designation also falls short of Articles 75.3.1 and 75.3.4, with the latter Article asking for the reasons why all earlier types are believed to be lost or destroyed.

Dupuis and Mantilleri (2012: 177), without referring to the neotypes designated by Dechambre (1975) and Endrödi (1976), designate a lectotype from Colombia that they found in the collection of Olivier. They mention that it is a heavily-damaged male (with head and abdomen missing) but claim there is no doubt about its status as type, because it is the only specimen of *Podischnus* present in Olivier's collection: "Il n'y a pas de doute quant à son statut de type car c'est le seul exemplaire de *Podischnus* présent dans la collection Olivier." Although that observation may be correct, the conclusion is false, as Olivier (1789) clearly states that he used a specimen from Gevers' collection without locality data. Either Olivier's specimen was in his possession at the time of description but he decided to disregard it, or he must have added it to his collection on a later date. Either way, this specimen cannot be a lectotype for the simple fact that it was clearly not a syntype. It is thus unavoidable that this specimen loses its status as lectotype as stipulated in Article 74.2.

With both neotypes and the lectotype being invalid, and without a clear reason for the designation of a valid neotype as required under Article 75.3.1, this species stays without extant type material. However, it should be noted that the depiction of a specimen in Olivier (1789) is, in fact, a depiction of the type material. According to Article 74.4, the depicted specimen can still be designated as a lectotype, even though it does not exist any longer. Thus, I hereby select this specimen as the lectotype of *Scarabaeus agenor* Olivier, 1789.

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