

On Nomenclature and Synonymy of Old World Dynastinae (Coleoptera, Scarabaeidae)

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Abstract: The valid type species of *Allonyrina* ARROW, 1911 (Dynastini), is *A. pfeifferi* (REDTENBACHER, 1867), not *A. dichotom* (LINNÉ, 1771). *A. dichotom* (LINNÉ, 1771) is designated as the type species of *Trypoxylus* MINCK, 1920 (Dynastini). *A. dichotom* is the correct original spelling of *A. dichotomus* auct. The lectotype of *Chalcosoma chiron* (OLIVIER, 1789) (Dynastini) is designated. It is a senior synonym of *C. caucanus* (FABRICIUS, 1801) and, therefore, the valid name of this species. *Oryctes laevigatus* HEER, 1841, is a junior synonym of *O. corniculatus* VILLA & VILLA, 1833 (Oryctini); hence, the northern Italian, Croatian, Slovenian and southeastern French populations get the name *Oryctes nasicornis corniculatus*. The type species of *Heteronychus* DEJEAN, 1833 (Pentodontini), is *H. cricetus* (HAUSMANN) by present designation, not *H. arator* (FABRICIUS). *Pentodon cribratellus* (FAIRMAIRE, 1893) is a junior synonym of *P. algerinus algerinus* (FUESSLY, 1778). *Pentodon caminaris semenovi* JAKOWLEFF, 1902, from the Caucasus, is a junior synonym of *P. caminaris elatus* KÜSTER, 1847 (Pentodontini). *Calicnemis atlantica* MOSCONI, 1996 (Pentodontini), is a junior synonym of *C. obesa* (ERICHSON, 1841).

Zusammenfassung: Zur Nomenklatur und Synonymie altweltlicher Dynastinae (Coleoptera: Scarabaeidae). – Die valide Typusart der Gattung *Allonyrina* ARROW, 1911 (Dynastini), ist *A. pfeifferi* (REDTENBACHER, 1867), nicht *A. dichotom* (LINNÉ, 1771). *A. dichotom* (LINNÉ, 1771) wird als Typusart der Gattung *Trypoxylus* MINCK, 1920 (Dynastini), designiert. *A. dichotom* ist die korrekte ursprüngliche Schreibweise von *A. dichotomus* auct. Der Lectotypus von *Chalcosoma chiron* (OLIVIER, 1789) (Dynastini) wird designiert. *C. chiron* ist ein älteres Synonym von *C. caucanus* (FABRICIUS, 1801) und damit der valide Name dieser Species. *Oryctes laevigatus* HEER, 1841, ist ein jüngeres Synonym von *O. corniculatus* VILLA & VILLA, 1833 (Oryctini); damit heißen die norditalienischen, kroatischen, slowenischen und südostfranzösischen Nashornkäfer-Populationen *Oryctes nasicornis corniculatus*. Als Typusart von *Heteronychus* DEJEAN, 1833 (Pentodontini), wird *H. cricetus* (HAUSMANN) designiert. Die bisherige Typusart *H. arator* (FABRICIUS) erfüllt nicht die Voraussetzungen einer Typusart. *Pentodon cribratellus* (FAIRMAIRE, 1893) ist ein jüngeres Synonym von *P. algerinus algerinus* (FUESSLY, 1778). *Pentodon caminaris semenovi* JAKOWLEFF, 1902, aus dem Kaukasus ist ein jüngeres Synonym von *P. caminaris elatus* KÜSTER, 1847 (Pentodontini). *Calicnemis atlantica* MOSCONI, 1996 (Pentodontini), ist ein jüngeres Synonym von *C. obesa* (ERICHSON, 1841).

Keywords: Coleoptera, Scarabaeidae, Dynastinae, nomenclature, lectotype designation, type species designation, synonymy

While preparing the Dynastinae part for the new Catalogue of Palearctic Coleoptera, some nomenclatural problems turned up. In the following paper I will try to solve them in a way that allows correct cataloguing without unnecessary changes of established names. Two more difficult cases were submitted to the International Commission on Zoological Commission (KRELL, 2002, in press).

The type species of *Allomyrina* ARROW, 1911 (Dynastini)

Allomyrina ARROW, 1911, is a replacement name for *Myrina* REDTENBACHER, 1867, which is preoccupied by the lepidopterous name *Myrina* FABRICIUS, 1807. REDTENBACHER described *Myrina* as a monotypical genus from Borneo. Therefore *Myrina pfeifferi* REDTENBACHER, 1867, the only species originally included, has to be the type species of this genus. The later designation of "*Xylotrupes dichotomus* LINNE, 1756" [= *Allomyrina dichotom* (LINNE, 1771)] by PAULIAN (1945: 193) is not valid.

ENDRÓDI (1976: 236) emended the name *A. pfeifferi* to "*A. pfeifferae*", because he considered the species to be dedicated to IDA PFEIFFER. This was probably intended by REDTENBACHER, but not explicitly stated. He wrote: "Das einzige männliche Exemplar wurde von der kühnen österreichischen Reisenden Ida Pfeiffer auf Borneo gesammelt." (REDTENBACHER 1867: 79) which means only that she collected the specimen. No dedication is included in this statement, therefore, ENDRÓDI's emendation is not necessary.

The type species of *Trypoxylus* MINCK, 1920 (Dynastini)

The type species of *Trypoxylus* MINCK, 1920, has not yet been designated. MINCK originally included "*dichotomus* OLIV. und *dauidis* FAIRM". I herewith designate the first as type species of the genus: *Allomyrina dichotom* (LINNÉ, 1771). The genus name is currently considered a (subjective) synonym of *Allomyrina* ARROW, 1911. *A. dichotom* is the correct original spelling (LINNÉ 1771: 529) of *A. dichotomus* auct./*A. dichotoma* auct.

Designation of the lectotype of *Chalcosoma chiron* (OLIVIER, 1789) (Dynastini)

Chalcosoma chiron (OLIVIER, 1789) has been considered to be a synonym of *Ch. cancasus* (FABRICIUS, 1801) (ENDRÓDI 1976: 251). Although the latter was described 12 years later, it has always been treated as the valid name (JANSSENS 1933, ENDRÓDI 1976: 251). However, *Ch. chiron* has not fallen into oblivion but has been known as the infrasubspecific name for rather small individuals (JANSSENS 1933: 388) or, close to the original description, for the form with a paired subapical denticle on the horn of the head (ENDRÓDI 1976: 252). ENDRÓDI (1976: 252) claimed the type of *Ch. chiron* to be missing ("verschollen") and designated a neotype from Java. However, the probable type specimen is not missing. OLIVIER (1789: Scarabée 18) described *Scarabaeus chiron* from a specimen without collecting locality from the DUFRESNE collection which was deposited in the Royal Museum of Scotland in Edinburgh in 1818 (HORN et al. 1990: 101). It was not listed by GRIMSHAW (1897) in the catalogue of type specimens of the DUFRESNE collection, probably because it has always been on display where it has now been rediscovered, and not in the scientific collections. This specimen agrees with the description (OLIVIER 1789) and resembles the figure of the type in OLIVIER (1808: pl. 25, fig. 217; see Fig. 1), taking into consideration that the illustrations in OLIVIER (1808) are not exact. The tarsi on fig. 217 are too short for any *Chalcosoma* specimen and the leg structures inaccurate. However, the length of the pronotal horns and the structure of

the cranial horn resemble the specimen from the Edinburgh Museum (Fig. 2). Both these characters are individual and highly variable within *Chalcosoma* species. The specimen is here-with designated as the lectotype to clarify the identity of the species. The designation of the neotype by ENDRÓDI (1976) is invalid according to the Code Art. 75.8.

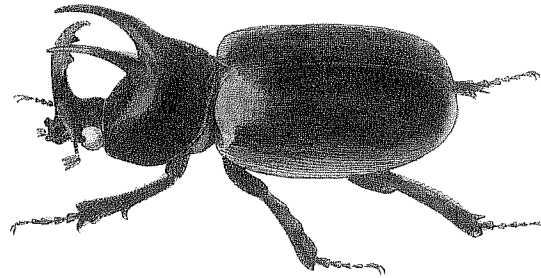


Fig. 1: Original figure of *Scarabaeus chiron* from OLIVIER's "Entomologie" (1808) (reproduced from the copy of the library of The Natural History Museum; publication approved by the Trustees of The Natural History Museum, London).

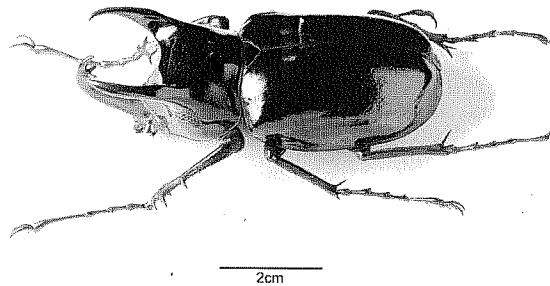


Fig. 2: Lectotype of *Scarabaeus chiron* OLIVIER, 1789, from the DUFRESNE collection in the Royal Museums of Scotland, Edinburgh. The left pronotal horn covers the proximal tooth of the cranial horn, which is correctly shown in Fig. 1 (diagnostic character of *Chalcosoma chiron*).

The lectotype shows all diagnostic specific characters of *Chalcosoma caucasus* (F.) as given by JANSSENS (1933), DECHAMBRE (1976) and ENDRÓDI (1976): strongly punctate ventral sides of the profemora, denticle in the middle of the posterior side of cranial horn, epipleura concave, labium with an anterior furrow. Therefore, I propose the following synonymy:

Chalcosoma chiron (OLIVIER, 1789) HOPE, 1837

= *Chalcosoma caucasicus* (FABRICIUS, 1801) HOPE, 1837 (syn. nov.)

The Italian populations of *Oryctes nasicornis* (LINNAEUS, 1758) (Oryctini)

The populations of *Oryctes nasicornis* from southern Italy (Calabria, Sicilia) and Sardinia are currently classified as belonging to the Iberian and North African subspecies *O. nasicornis grypus* ILLIGER, whereas the populations from northern and central Italy are named *O. nasicornis laevigatus* HEER. The latter was originally described as distributed all over Italy ("per totam Italiam"). However, there is an older name for the Italian populations: *Oryctes corniculatus* VILLA & VILLA, 1833, which was described from Italy without any further data. The short description itself does not help to identify the taxon. Since the authors VILLA & VILLA lived in Milano, and the collection of A. VILLA consisted especially of beetles from Lombardia (HORN et al. 1990: 407), I tentatively attribute this name to the populations from northern Italy. That is in accordance with the current interpretation (established since ENDRÖDI 1938: 59). Therefore, I propose the following synonymy:

Oryctes corniculatus VILLA & VILLA, 1833

= *Oryctes laevigatus* HEER, 1841 (syn. nov.)

Taxonomically, we treat *O. nasicornis corniculatus* as the valid name for the populations of Northern Italy, Croatia, southeastern France and Slovenia. This synonymy is only a formal nomenclatural act to satisfy cataloguing requirements and says nothing about the taxonomic value or rank of the Italian forms of *O. nasicornis*. Since the subspecific classification of *Oryctes nasicornis* is rarely referred to in the literature, this change will cause only little confusion.

The type species of *Heteronychus* DEJEAN, 1833 (Pentodontini)

The name *Heteronychus* was introduced by DEJEAN (1833: 152) without description but with an indication, i.e. a list of at least five available species names. The genus was later described by BURMEISTER (1847: 90) who explicitly referred to DEJEAN's genus but included more species. Since then, BURMEISTER has generally been considered to be the author of *Heteronychus*. ARROW (1910: 294) designated subsequently the type species for *Heteronychus* BURMEISTER by choosing "*Geotrupes arator* FABRICIUS" (*Scarabaenus arator* FABRICIUS, 1775: 18), a species which had been included in this genus by BURMEISTER, but not originally by DEJEAN. Therefore, this type species designation is invalid. The only species included originally in *Heteronychus* DEJEAN and still in this genus is *Geotrupes cricetus* HAUSMANN, 1807, from southern Africa which is hereby designated as the type species.

Two taxa named *Heteronychus cribratellus* by FAIRMAIRE, 1893 (Pentodontini)

In 1893, FAIRMAIRE described two different species giving them the same name: *Heteronychus cribratellus* FAIRMAIRE, 1893a (p. CXLVI) from “Haute-Égypte” (Upper Egypt) and *Heteronychus cribratellus* FAIRMAIRE, 1893b (p. 313) from Cambodia. The former has been considered as a junior synonym of *Pentodon algerinum dispar* BAUDI A SELVE, 1870. The latter was transferred to the genus *Alissonotum* ARROW, 1908, when this genus was established. It has remained there and been treated as valid since. However, the two names are primary homonyms. The Egyptian species was published in the second issue (“deuxième trimestre”) of volume 62 of the *Annales de la Société Entomologique de France*, which was published on October 25, 1893 (according to the wrapper). The Cambodian species was published in the sixth issue of volume 37 of the *Annales de la Société Entomologique de Belgique*. I was not able to find out the date of publication of this issue, but its arrival in the library of the Société Entomologique de France was announced by LÉVEILLÉ (1893) in the society’s session on July 12, 1893. Hence, the date of publication must be before July 12, 1893. Therefore, the Cambodian species is the senior homonym and valid. The Egyptian species is a synonym anyway and has to be renamed only if it will be considered a species propria in the future. Since it is described from Upper Egypt, it is a synonym of the North African subspecies of *Pentodon algerinus* rather than of *Pentodon algerinus dispar* BAUDI A SELVE from south-eastern Europe and Asia.

Therefore the following synonymy is proposed:

Pentodon algerinus algerinus (FUESSLY, 1778) MULSANT, 1842

= *Pentodon cribratellus* (FAIRMAIRE, 1893) BEDEL, 1894 (**syn. nov.**)

Note: *Pentodon* is masculine not neuter because it is derived from οδόντος (odontos = tooth) which is masculine. Other generic names ending with -odon have also been treated as masculine by the ICZN, such as *Carcharodon*, *Cyprinodon*, *Cynodon*, *Procoptodon*, *Raphiodon*, *Sphenodon* (A. GENTRY, in litt. 2001).

The Caucasian populations of *Pentodon caminarius* FALDERMANN, 1835 (Pentodontini)

According to ENDRÓDI (1967: 177; 1969: 163), the Caucasian populations of *Pentodon caminarius* are classified as a subspecies which is named *Pentodon caminarius semenovi* JAKOWLEFF, 1902. However, ENDRÓDI himself doubted its status as a subspecies (ENDRÓDI 1967: 177; 1969: 163 “Umfangreicheres Material müßte entscheiden, ob die Population wirklich eine eigene Rasse bildet oder nicht.”). If the Caucasian populations form a justifiable subspecies indeed, we should use KÜSTER’s (1847: no. 60) older name *Pentodon elatus* for it since this taxon was described from the Caucasus and can, therefore, not be considered as a synonym of the nominal race of *Pentodon caminarius*, which occurs in Syria, Iran and Iraq. I propose the following synonymy:

Pentodon elatus KÜSTER, 1847

= *Pentodon semenovi* JAKOWLEFF, 1902 (**syn. nov.**).

Taxonomically we have to treat it as follows: *Pentodon caminarius elatus* KÜSTER, 1847 = *Pentodon semenovi* JAKOWLEFF, 1902. This is only a formal, geographically founded synonymy to satisfy cataloguing requirements, which has to be proved by studying the type of *P. semenovi* and a vast amount of material from the Caucasus.

The species of the genus *Calicnemis* LAPORTE [DE CASTELNAU], 1832 (Pentodontini)

MOSCONI (1996: 704) described the new species "*Calicnemis atlanticus*" (correct: *atlantica*) to separate the Atlantic coast populations of *Calicnemis* from *Calicnemis latreillii* LAPORTE, 1832. These two parapatric taxa may be subspecies but this cannot be solved here. However, ERICHSON (1841) had already described a *Calicnemis* from Algeria under the name *Colorbinus obesus*. The Algerian populations are quite similar to the Atlantic ones. Most individuals have a slightly darker pronotum than the holotype of *C. atlantica* (in MNHN), but the apical tooth of the protibiae is sharp and the paramera are widened apically. Since they resemble more *C. atlantica* than *C. latreillii*, *C. obesa* (ERICHSON, 1841) is the oldest available synonym for the Atlantic and North African populations.

I propose the following synonymy:

Calicnemis obesa (ERICHSON, 1841) BURMEISTER, 1847

= *Calicnemis atlantica* MOSCONI, 1996 (syn. nov.)

Calicnemis is feminine, since it bases on the Greek ἡ κνημις (knemis; greave, leggings).

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