

Nomenclatural notes in Scorpiones (Arachnida)

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Abstract

Several previous nomenclatural corrections are analyzed and the valid name determined for each case. These include (a) emendations and subsequent spellings: *Brachistosternus weijenberghi* (Thorell, 1877a) (Bothriuridae), *Urophonius iheringi* Pocock, 1893 (Bothriuridae), *Lisposoma josehermana* Lamoral, 1979 (Bothriuridae), *Chactas raymondhansi* Francke & Boos, 1986 (Chactidae), *Tityus fuhrmanni* Kraepelin, 1912 (Buthidae), *Parabuthus liosoma* (Ehrenberg, 1828) (Buthidae), *Hadrurus concolorous* Stahnke (Luridae), *Vachoniolus minipectenibus* (Levy, Amitai & Shulov, 1973); (b) incorrect reversal of precedence: *Hadogenes hahni* (Peters, 1862) n. comb. (Liocheilidae); (c) genus and species names that never were available: *Pucha*, *Puchale*, *Repucha* (Francke, 1985; Fet, 1997), *Transbothriurus* (Mello-Leitão, 1945; Lowe & Fet, 2000), *Scorpio maurus punicus* Fet, 2000 (replacement name for *Scorpio maurus tunetanus* Birula, 1910) (Scorpionidae)

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Introduction

While the rules of nomenclature aim that every animal taxon has only one valid name, zoologists often encounter names with 'variations' in the literature. To find out which is the valid version sometimes requires to enter intricate nomenclatural labyrinths, so it is not strange that mistaken interpretations and uses are sometimes uncritically followed. However, the solution of most seemingly difficult cases can be found in the International Code on Zoological Nomenclature (1999) itself. In the most recent world catalog of scorpions, Fet *et al.* (2000) detected and treated a number of nomenclatural problems, though under the 3rd edition of the Code (1985), no longer in force. Some nomenclatural acts proposed therein need a further correction. In this note we discuss and fix those problematic nomen-

clatural issues, in the hope it will be useful to users of scorpion systematics. Headers refer to the valid name we consider is to be applied on each case; unless otherwise indicated, any mention to an 'article' refers to the current edition of the Code (1999). For complete synonymies see Fet *et al.* (2000).

Emendations and subsequent spellings

The original spelling of a name is deemed to be correct, unless one can demonstrate it is not under the Code provisions (Art. 32.2) — only then are emendations justified. Any other deliberate change of the original spelling falls into the category of 'unjustified emendations', which become independently available names and automatically objective junior synonyms of the original name. Inadvertent misspellings have no separate nomenclatural status (they are not available names). To ascertain whether a name is to be corrected or not is hence central to determine its valid spelling.

Brachistosternus weijenberghi (Thorell 1877) (Bothriuridae)

Telegonus weijenberghii Thorell 1877a: 173.

Telegonus weyenberghii: Thorell 1877b: 205. Incorrect subsequent spelling.

Brachistosternus weyenberghii Lowe & Fet 2000: 51; Ojanguren Affilastro 2002: 203; 2003: 320; 2004: 34. Unjustified emendation (junior objective synonym).

Thorell (1877a) dedicated *Telegonus Weijenberghii* to Prof. Hendrik Weyenbergh, who sent him the type specimen from Argentina. Lowe & Fet (2000: 52) stressed that the species name should be constructed using the correct spelling of the person name, and interpreted that such an emendation was already made by Thorell himself: in 1877b, p. 205 (and in the reprinted paper of 1878, p.259) the species and the personal names were spelled *weyenberghii* and Weyenbergh respectively. But as Lowe & Fet (2000) show, almost all subsequent authors ignored Thorell's (1877b, 1878) correction, and no less than 30 citations followed the original spelling using 'ij' instead of 'y'. In the original publication this person is consistently mentioned as 'Prof. Weijenbergh' (p. 143, 172, 173, 175, 177, 182). Surprisingly enough, the person in question initially spelled his own name 'Weijenbergh', and only later changed it to Weyenbergh: the original name was used at least until 1868 (*Tijdschrift voor Entomologie*, vol. 11), but in 1871 (vol. 14) he began to employ the modified name (S. Tiemersma, *in litt.*). In any case, it appears that Thorell was unaware of that change. Only clear evidence of an inadvertent error, contained in the original publication itself, allows to emend an original spelling (Art. 32.5.1). This is not the case with *Telegonus weijenberghii*, since the author was consistent on what he believed was correct. Thorell's (1877b, 1878) subsequent corrections are not evidence for the mistake since they

represent an external source (precluded by Art. 32.5.1). Thorell's (1877b, 1878) versions are not 'emendations' (they do not include an explicit statement of the correction) but 'incorrect subsequent spellings' (Art. 33.3). Weyenbergh himself was the editor of both publications of 1877b and 1878 (*Periódico Zoológico* and *Boletín de la Academia Nacional de Ciencias*), so it is easy to imagine he simply corrected the spellings of his own name! The proposal of Lowe & Fet (2000) was explicitly intentional; therefore *Brachistosternus weyenberghii* Lowe & Fet 2000 is an unjustified emendation, and a junior objective synonym of *Telegonus weijenberghii* Thorell 1877a. This emendation has been adopted by Ojanguren Affilastro (2002, 2003, 2004), while Ochoa & Acosta (2002), Ochoa (2003) and Acosta (2005) maintained the original spelling. Aside, the spelling *weijenberghi* should also be retained because of being more widespread. Another part of the name that suffered some independent 'variation' is the genitive ending 'ii' as in the original, versus 'i', in most subsequent citations (Lowe & Fet 2000). All spellings that use the genitive with one *i* are not more than incorrect subsequent spellings (Art. 33.4), but because of being more used, the single 'i' is to be retained as the correct ending.

***Urophonius iheringi* Pocock 1893 (Bothriuridae)**

Urophonius jheringii Pocock 1893: 101; Acosta 1988: 28. Original spelling, deemed to be incorrect because of prevailing usage of the spelling *iheringi*.

Urophonius iheringi: Mello-Leitão 1931: 99. Subsequent spelling, deemed to be correct because of more widespread use.

Pocock (1893) named *Urophonius Jheringii* honoring the German zoologist H. von Ihering, which he spelled 'Jhering'. Without resource of an external evidence, it should be assumed that Pocock believed that this was the correct spelling of the person. The species remained in the synonymy of *Urophonius brachycentrus* (Thorell 1877a) for more than 30 years (Lowe & Fet 2000), and in that period, when mentioned, the original spelling was used in some occasions (Pocock 1898, Kraepelin 1899), while in others the initial letter was corrected to *Iheringii* (Kraepelin 1894). Mello-Leitão (1931) revalidated the name, spelling it as *iheringi* (note the single *i* genitive instead of double *ii*). There is no statement that renders Kraepelin's (1894) or Mello-Leitão's (1931) actions as emendations, so they fit within the category of incorrect subsequent spellings. The usage of the name shows that authors widely adopted the corrected version of the name, *iheringi*. From 1931 to 1996 most authors followed Mello-Leitão. Lowe & Fet (2000) list 16 citations for *iheringi*, made by seven authors in that period, while only Acosta (1988) reinstated the original spelling. Since the spelling *iheringi* is in prevailing usage, it is to be maintained as the 'correct spelling' (Arts. 33.3.1 and 33.4). Lowe & Fet (2000) adopted *iheringii* as valid, but the prevailing usage also affects the modification of the genitive (correct ending with a single *i*).

***Lisposoma josehermana* Lamoral 1979 (Bothriuridae)**

Lisposoma josehermana Lamoral 1979: 665; Fet, Soleglad & Kovařík 2004: 196.

Lisposoma josehermanorum Lowe & Fet 2000: 34; Prendini 2003: 257. Unjustified emendation (junior objective synonym).

This species name was based on the first names of Lamoral's parents: Marie-Josée and Herman. Lowe & Fet (2000) emended the spelling, both to restore a missing 'e' of the mother's name, and to provide a 'proper' genitive plural ending. Concerning the genitive, the two names cannot be reunited under the collective ending *-orum*, because of referring to different persons; this would be only allowed if the species were dedicated, for example, to 'Mr and Mrs Lamoral' (i.e., 'lamoralorum'). More importantly, it is not clear that Lamoral (1979) intended to use genitive for his species — in fact it seems he did not. The genitive case is only one of four ways to dedicate a species name to persons (Art. 31.1.). The 3rd edition of the Code (1985) includes an Appendix D III, p. 195 (unfortunately not currently included in the 4th edition), showing examples of dedications not ending with the 'classical' genitive suffixes. Lamoral (1979) might have constructed the name as a Latin adjective, by adding the ending 'a' as, for example, in 'linnaeana', 'kurtziana', etc. One may argue that to do it properly he should have used the ending *-iana*, and not just an 'a', but incorrect latinizations are not to be considered 'inadvertent errors' (Art. 32.5.1.). Lamoral's mother's name was 'Marie-Josée', so it appears he also deliberately simplified the name (by not including Marie and deleting one 'e' from Josée). The best solution is to consider 'josehermana' as an arbitrary construct, and as such, an indeclinable word (i.e., no need to agree in gender with *Lisposoma*, neuter). In other words, the original spelling should be retained, as used again by Fet, Soleglad & Kovařík (2004).

***Chactas raymondhansi* Francke & Boos 1986 (Chactidae)**

Chactas (Andinochactas) raymondhansi Francke & Boos 1986: 16.

Chactas raymondhansorum Sissom 2000: 305. Unjustified emendation (junior objective synonym).

As in the former case, Sissom (2000) believed that the species name should be emended to form a plural genitive. But since the names 'Raymond' and 'Hans' refer to different persons, they cannot be combined with the suffix *-orum*. The original name is to be restored, at best regarded as an arbitrary construct; *Chactas raymondhansorum* Sissom 2000 thus becomes an objective synonym.

***Tityus fuhrmanni* Kraepelin 1914 (Buthidae)**

Tityus fuhrmanni Kraepelin 1914: 17.

Tityus fuehrmanni: Fet & Lowe 2000: 246. Unjustified emendation (objective junior synonym).

Fet & Lowe (2000) emended the original spelling, invoking that Art. 32.d.i.2. of the 3rd edition (32.5.2.1. in the current edition) states that names of German origin bearing an 'umlaut' (ä, ö, ü), if used unchanged before 1985 as part of a scientific name, are to be corrected by replacing the vowel by a diphthong (ae, oe, ue). This does not apply in this case, since the personal name (O. Fuhrmann) has no umlaut. The emendation proposed by Fet & Lowe (2000) is unjustified and falls in objective synonymy.

***Parabuthus liosoma* (Ehrenberg 1828) (Buthidae)**

Androctonus (*Prionurus*) *leiosoma* Ehrenberg in Hemprich & Ehrenberg 1828: plate II, fig. 6.

Androctonus liosoma: Hemprich & Ehrenberg 1831: without page number.

Parabuthus leiosoma: Braunwalder & Fet 1998: 32; Fet & Lowe 2000: 205. Incorrect original spelling because of prevailing usage of the spelling *liosoma*.

The name *Androctonus* (*Prionurus*) *leiosoma* was introduced by Ehrenberg (1828) referring to a figure (available under Art. 12.2.7.), and the same spelling was used in a further paper (Hemprich & Ehrenberg 1829). The name was later changed to *liosoma* by Hemprich & Ehrenberg (1831). The latter constitutes an incorrect subsequent spelling, which, nonetheless, won wide acceptance: Fet & Lowe (2000) record about 40 citations using *liosoma* as the valid name of the species. Braunwalder & Fet (1998) detected the long unused spelling of the name, and proposed to restore it, which affected the names of both the species and three subspecies. Since almost all authors adopted the changed name, it represents the prevailing usage: *liosoma* becomes the correct spelling and is to be retained (Art. 33.3.1).

***Vachoniolus minipectenibus* (Levy, Amitai & Shulov 1973) (Buthidae)**

Buthacus minipectenibus Levy, Amitai & Shulov 1973: 128.

Buthacus minipectinibus: Vachon 1974: 948. Subsequent incorrect spelling.

Vachoniolus minipectinatus Fet & Lowe 2000: 278. Unjustified emendation (junior objective synonym)

The species name *minipectenibus* (as in the original) was spelled as *minipectinibus* by Vachon (1974: 948). Although Fet & Lowe (2000) assumed this was a correction, there is no indication that the change was intentional, and thus is to be interpreted as a subsequent incorrect spelling. Fet & Lowe (2000) stressed that both *minipectenibus* and *minipectinibus* were mistakenly formed Latin adjectives, then explicitly proposing *minipectinatus* as the correct word. In fact, the name *minipectenibus* is neither an adjective or a noun in the nominative singular, nor a noun in genitive, as required by Art. 11.9.1, but a compound term in another case instead (dative or ablative plural). Moreover, the correct form of the

plural dative/ablative of 'pecten' is not 'pectenibus' but 'pectinibus', as used by Vachon (1974). Nevertheless, improper use of Latin itself does not make a name incorrect (Art. 32.5.1). And more importantly, words forming a species-group name must be, *or be treated as* the mentioned adjectives or nouns (Art. 11.9.1). No matter that *minipectenibus* is none of the categories listed in Art. 11.9.1, the name of Levy *et al.* (1973) is to be accepted in its original spelling. The easiest solution is to treat it as an arbitrary combination of letters, and as such, a noun in apposition. *Vachoniolus minipectinatus* is therefore an unjustified emendation and a junior objective synonym of *Buthacus minipectenibus*.

***Hadrurus concolorous* Stahnke 1969 (Caraboctonidae)**

Hadrurus concolorous Stahnke 1969: 59.

Hadrurus concolor Sissom & Fet 2000: 416. Unjustified emendation (junior objective synonym).

Sissom & Fet (2000) emended the species name *concolorous* to *concolor*, because the original spelling is not a proper Latin word, but an English adjective with the same meaning. It is not mandatory, however, that authors use only Latin words, as any language is allowed (Art. 11.3) provided that the name is constructed using the Latin alphabet (Art. 11.2). Therefore, this emendation is unjustified, and the original name is to be restored.

Incorrect reversal of precedence

***Hadogenes hahni* (Peters 1862) comb. n. (Liochelidae)**

Ischnurus hahni Peters 1862: 26.

Ischnurus taeniurus Thorell 1877a: 254.

Hadogenes taeniurus: Fet 2000a: 389 [= *Ischnurus hahni*]

Fet (2000a: 389) formally stressed that *Hadogenes taeniurus* (Thorell 1877) [1877a] and the long forgotten species *Ischnurus hahni* Peters 1862 are synonyms. But because the latter has not been cited since its original description, and *H. taeniurus* was the only name used for the species since 1876, Fet (2000a) gave precedence to Thorell's binomen. This action, made by an individual researcher, is not allowed by the Code, and only the strict use of the Principle of Priority is to be primarily used. The nearest provision is the Reversal of Precedence (introduced in the 4th ed., Art. 29.3), in which individual authors can reverse priority when long unused names are involved, but only if several quite strict conditions are met. While the first condition is fulfilled (Art. 23.9.1.1, the senior synonym not being used as valid after 1899), the second is clearly not: in the immediately preceding 50 years there are only nine citations for *H. taeniurus* (Fet 2000a), far from the 25 works required by Art. 23.9.1.2. Thus, the valid name is *Hadogenes hahni* (Peters 1862) comb. n.

Genus and species names never available

Pucha, *Puchale*, *Repucha* (Buthidae)

In his conspectus of the available generic names, Francke (1985) detected three genus-group names in the Buthidae, which, aside of being under synonymy since long ago, were also junior homonyms. For all three he provided replacement names, in order to remove the homonymy.

Phassus Thorell 1877a, a monotypic genus containing only *Phassus columbianus* Thorell 1877a, was placed under the synonymy of *Tityus* C.L. Koch 1836 by Kraepelin (1899). It is also a junior homonym of *Phassus* Walker 1856 (Lepidoptera); Francke (1985) accordingly introduced the replacement name *Pucha*.

Androctonus (*Prionurus*) Ehrenberg in Hemprich & Ehrenberg 1828 was placed in the synonymy of *Androctonus* Ehrenberg 1828 by Vachon (1948). Francke (1985) found *Prionurus* Ehrenberg to be a junior homonym of *Prionurus* Lacépède 1804 (Osteichthyes) and *Prionurus* Rafinesque 1815 (Reptilia). Despite further complications involving the other names (Fet & Lowe 2000), Francke (1985) proposed *Puchale* as a replacement name for *Prionurus* Ehrenberg.

Pilumnus C.L. Koch 1837 was put by C.L. Koch (1850) in the synonymy of *Lychas* C.L. Koch 1845. The name *Pilumnus* C.L. Koch was also preoccupied by *Pilumnus* Leach 1815 (Crustacea), and Francke (1985) proposed the replacement name *Repucha*. Fet (1997) pointed out that, since Francke (1985) did not designate a type species for *Repucha*, the name was not thereby made available. He then designated *Lychas scutilus* C.L. Koch 1845 as the type species of *Repucha*, assuming the name to become available from that date and attributed to his authorship (*Repucha* Fet 1997).

In all three cases no revalidation of the junior synonyms (*Phassus* Thorell, *Prionurus* Ehrenberg, *Pilumnus* C.L. Koch) was made. Articles 11.5 and 11.6 indicate that to be available, any name must be treated as valid when first proposed. Moreover, Art. 11.6.3 states very clearly that "a name first published after 1960 and treated as a junior synonym on that occasion cannot be made available from that act". These provisions are relevant to *Pucha*, *Puchale* and the two versions of *Repucha*, since the long accepted synonymies were never removed. All three names simply never became available.

Transbothriurus (Bothriuridae)

In a revision of the genus *Bothriurus* Peters 1861, Mello-Leitão (1934) recognized a species group, "Grupo B - *Bothriurus dorbignyi*", containing the old name *Scorpio D'Orbigny* Guérin-Méneville 1843 and *Bothriurus elegans* Mello-Leitão 1931. This two-species assemblage was given a formal subgeneric status by Mello-Leitão (1945), who gave the name *Bothriurus* (*Transbothriurus*) to the former "Grupo B". But he did not designate a

type species, so the genus-group name did not become available (Art. 13.3). Bücherl (1959) proposed that *B. elegans* was a junior synonym of *B. dorbignyi*, reducing the 'subgenus' to a single species. This simple procedure of 'elimination' does not constitute a valid designation of type species (Art. 69.4), so the name *Transbothriurus* still remained unavailable. Bücherl *et al.* (1963) continued to recognize the monotypic 'subgenus' *Transbothriurus* and to assign authorship to Mello-Leitão (1945). Finally, Maury & San Martin (1973) discovered that an available name for this assemblage already existed: the long forgotten but valid genus name *Timogenes* Simon 1880. They then placed *Transbothriurus* in the 'synonymy' of *Timogenes*, without ever acknowledging that the former was still unavailable. Lowe & Fet (2000) noticed the status of *Transbothriurus*, and then proposed *Scorpio dorbignyi* as the type species, in order to make it available. They (p. 13, 40) denoted their nomenclatural act as "nomen novum", as if it were a replacement name because of homonymy, while the right notation should have been "gen. nov." (they just wanted to make the name available). Lowe & Fet (2000) never used *Transbothriurus* as valid, since it remained as junior synonym of *Timogenes*, in accordance with the preceding taxonomic concepts. Thus, *Transbothriurus* was not thereby made available (Art. 11.6.3).

***Scorpio maurus tunetanus* Birula 1910 (Scorpionidae)**

Scorpio maurus tunetanus Birula 1910: 161. Junior primary homonym of *Scorpio tunetanus* Herbst 1800, currently *Buthus occitanus tunetanus* (Buthidae)

Scorpio maurus punicus Fet 2000b: 479. Proposed as replacement name for *Scorpio maurus tunetanus* Birula 1910, but not currently available.

Fet (2000b) considered *Scorpio maurus tunetanus* Birula 1910 to be an "objective" junior homonym (properly said, junior *primary* homonym) of *Scorpio tunetanus* Herbst 1800, currently *Buthus occitanus tunetanus* (Buthidae). He was right in pointing out that primary homonyms are permanently invalid names, and must normally be replaced (Art. 53.3.). Therefore he introduced the replacement name *Scorpio maurus punicus* Fet 2000b (in the synonymy, the status of the replaced name was incorrectly indicated as "new synonymy"). However, Art. 23.9.5 gives a particular provision for the case that the involved names apply to taxa not considered congeneric after 1899. This is our case, since *Scorpio tunetanus* Herbst was removed from that genus as early as 1829 (*Androctonus tunetanus* sensu Hemprich & Ehrenberg 1829: 354). In that situation, the author must not replace the name automatically, but he should refer the case to the Commission for a ruling under the plenary powers. This provision was not included in the 3rd edition of the Code, but Fet's (2000) action was made when the 4th edition was already in force.

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