

Case 3533***Neobisium* Chamberlin, 1930 (Arachnida, Pseudoscorpiones): proposed precedence over *Blothrus* Schiödte, 1847**

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Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the widely used pseudoscorpion generic name *Neobisium* Chamberlin, 1930 by giving it precedence over the genus-group name *Blothrus* Schiödte, 1847, which is currently used as a subgenus or synonym of *Neobisium*. The name *Neobisium* is in widespread use for a group of pseudoscorpions found in the western Palaearctic region.

Keywords. Nomenclature; taxonomy; Arachnida; Pseudoscorpiones; NEOBISIIDAE; *Neobisium*; *Blothrus*; pseudoscorpions; Palaearctic.

1. The genus-group name *Blothrus* was proposed by Schiödte (1847, p. 80) for a large cave-dwelling pseudoscorpion from Slovenia, *B. spelaeus* Schiödte, 1847, which is the type species by monotypy. Although the original descriptions of both the genus and species were fairly brief and undiagnostic, Schiödte (1851a, p. 23) subsequently provided a longer description as well as five illustrations. Schiödte's second paper was translated into English (Schiödte, 1851b, p. 148), although the taxonomic descriptions were only partly included and only a small subset of the illustrations, which were redrafted, were included. Schiödte's (1847) specimens were apparently taken from Luegger Grotte and Adelsberger Grotte (Schiödte stated 'Luegger- og Adelsberger-Hulen' in Danish), which are nowadays situated in Slovenia. Adelsberger Grotte is the German term for an extensive cave system which is nowadays referred to by its Slovenian name, Postojnska Jama. The cave is located on the outskirts of Postojna village. Luegger Grotte is also known as Lueger Höhle, and is situated near Predjama (Kempe et al., 2006), which is situated 8 km WNW of Postojnska Jama. The total number of specimens examined by Schiödte (1847) was not stated but we are aware of type specimens of *B. spelaeus* that are lodged in two institutions. The Zoological Museum of the University of Copenhagen, Denmark has seven large specimens, which are probably adults, and a nymph labelled 'Adelsberger hulen' stored in ethanol (N. Scharff, in litt.) (ZMUC accession number 8/45) of which Chamberlin (1930, p. 11) apparently examined a single female. The Natural History Museum, London, U.K. has a single specimen from Adelsberger Grotte with

the registration number BMNH 1907.3.18.63 (Judson, 1997). A modern description of this species was provided by Čurčić (1988, p. 52) based on new material from Croatia.

2. The genus *Neobisium* Chamberlin, 1930 (p. 11) was proposed for a group of species that were previously placed within *Obisium* Illiger, 1798 with the type species *Obisium muscorum* Leach, 1817 (p. 78), by original designation. Chamberlin suggested that the name was a 'nom. nov.' for *Obisium* but in the modern sense this is not the case. *Obisium* had been used as a valid genus-group name during much of the 19th and early 20th centuries but had been found by Westwood (1836, p. 10) and Kew (1911, p. 52) to be synonymous with *Chelifer* Geoffroy, 1762, since both claim *Acarus cancroides* Linnaeus, 1758 as their type species. Usage of the name *Obisium* effectively ceased in 1930 with the adoption of the name *Neobisium*.

3. Chamberlin (1930) considered *Blothrus* and *Neobisium* to be separate genera, but Beier (1932) and most subsequent authors have treated *Blothrus* as a subgenus of *Neobisium* (e.g. Rafalski, 1937, 1967; Beier, 1939, 1953, 1955a, 1956, 1963; Hadži, 1940; Vachon, 1947, 1966, 1976; Verner, 1958, 1971; Vachon and Gabbutt, 1964; Heurtault-Rossi, 1966; Heurtault, 1968, 1971, 1994; Čurčić, 1972; Mahnert, 1972, 1988; Gulička, 1977; Leclerc, 1982, 1989; Krumpál, 1983; Harvey, 1991; Ducháč, 1996; Gardini, 2000; Steup, 2006; Zaragoza, 2007), even though *Blothrus* antedates *Neobisium* by more than 80 years.

4. The genus *Neobisium* is currently the largest known genus of pseudoscorpions and contains 227 Recent species and 37 Recent subspecies (Harvey, 2009b), as well as two species described from Eocene Baltic amber deposits (Beier, 1955b; Judson, 2003). It has been divided into six subgenera, *N.* (*Neobisium*), *N.* (*Blothrus*), *N.* (*Ommatoblothrus*) Beier, 1956, *N.* (*Heoblothrus*) Beier, 1963, *N.* (*Neoccitanobisium*) Callaini, 1981 and *N.* (*Pennobisium*) Čurčić, 1988 (e.g. Beier, 1963; Čurčić, 1988; Judson, 1992). Čurčić (1984) abandoned the use of subgenera within *Neobisium*, arguing that the characters used to define the subgenera were ambiguous and subjective, based mostly on perceived levels of troglomorphy. He has been followed by other authors (e.g. Schawaller, 1985a, 1989; Schawaller and Dashdamirov, 1988; Judson, 2003; Dimitrijević, 2004, 2009). The abandonment of a subgeneric classification, however, does not affect the present case, as *Blothrus* remains a senior synonym of *Neobisium* whenever the type species of each genus-group name are deemed to be congeneric.

5. Species of the genus *Neobisium* are widespread over the western Palaearctic region (Harvey, 2009b) including much of continental Europe, various off-shore islands such as the Azores and Iceland (e.g. Beier, 1961; Agnarsson, 1998) and north-western Africa (e.g. Beier, 1930; Callaini, 1988; Leclerc, 1989; Heurtault, 1990). They occur as far east as Kazakhstan and Turkmenistan (Redikorzev, 1949; Schawaller, 1989) and the Russian provinces of Krasnoyarskiy Kray and Respublika Altay (Schawaller, 1985b), and there is also an introduced population of *N. carcinoides* Hermann, 1804 (p. 118) in Kenya (Mahnert, 1981).

6. *Neobisium* has been used as a valid generic name instead of *Blothrus* by many different authors in numerous publications. We have found 135 publications with 39 senior authors that use the name *Neobisium* in the title of the publication. These papers include taxonomic, ecological and morphological studies; this list is held by the Secretariat. Of the more comprehensive reviews of European pseudoscorpions,

Neobisium has been used for the faunas of Europe (Beier, 1963), Austria (Mahnert, 2004), Belgium (Henderickx, 1999), Croatia (Ozimec, 2004), Czech Republic and Slovakia (Verner, 1960, 1971), Estonia (Talvi, 2010), mainland France (Delfosse, 2003), Hungary (Kárpáthegyí, 2007), Iceland (Agnarsson, 1998), Ireland (Jones, 1980; Legg & Jones, 1988), Italy (Gardini, 2000), Macedonia (Ćurčić et al., 2004), Montenegro (Ćurčić et al., 2004), The Netherlands (Tooren, 2005), Poland (Rafalski, 1967), Serbia (Ćurčić et al., 2004), Spain and Portugal (Zaragoza, 2007), Sweden (Lohmander, 1939), Turkey (Kunt et al., 2008) and the United Kingdom (Jones, 1980; Legg & Jones, 1988), and in general publications dealing with subterranean fauna (e.g. Ćurčić, 1988; Heurtault, 1994). *Neobisium* is also used as a valid name on various websites including *Pseudoscorpions of the World* (Harvey, 2009b), *Fauna Europaea* (Harvey, 2010) and the *Species 2000 Catalogue of Life Checklist* (Harvey, 2009a).

7. In addition to being a widely used generic name, *Neobisium* is the type genus of NEOBISIIDAE Chamberlin, 1930 and of the superfamily NEOBISIOIDEA Chamberlin, 1930. As in the situation with *Neobisium*, Chamberlin (1930) proposed NEOBISIIDAE as a replacement name for OBISIIDAE Sundevall, 1833, although OBISIIDAE is a synonym of CHELIFERIDAE, due to the synonymy of *Obisium* with *Chelifer*.

8. Article 23.1 of the International Code of Zoological Nomenclature clearly states that the valid name resulting from the synonymy of two or more genus-group names is the oldest valid name among those of its components. Harvey (1985) attempted to rectify the situation and proposed that *Blothrus* be given priority over *Neobisium*, as specified by the Code. This suggestion was met with resounding opposition from other pseudoscorpion specialists and Harvey later reverted to the traditional usage of *Neobisium* in his world catalogues of pseudoscorpions (Harvey, 1991, 2009b). Article 23.9 has provisions for the reversal of precedence without approaching the Commission, but in this case Article 23.9.1 does not apply as the senior synonym has been used as a valid name since 1899, either at the generic (Chamberlin, 1930, 1931; Caporiacco, 1948; Lapschoff, 1940) or subgeneric level (e.g. Beier, 1932, 1963; Roewer, 1937; Harvey, 1991; Heurtault, 1994; Gardini, 2000; Zaragoza, 2007). We believe that the strict application of the Principle of Priority would cause undue confusion, with over 200 species requiring transfer from *Neobisium* to *Blothrus*. An alternative scenario, to suppress the name *Blothrus*, would require the transfer of 90 species into a new subgenus, thus causing considerable nomenclatural instability. Therefore, as required by Article 23.9.3, we refer the matter to the Commission to give precedence to the younger synonym.

9. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to give the name *Neobisium* Chamberlin, 1930 precedence over the name *Blothrus* Schiödte, 1847 whenever the two are considered to be congeneric;
- (2) to place on the Official List of Generic Names in Zoology the following names:
 - (a) *Neobisium* Chamberlin, 1930 (gender: neuter), type species *Obisium muscorum* Leach, 1817 (a junior subjective synonym of *Chelifer carcinoides* Hermann, 1804) by original designation, with the endorsement that it is to be given precedence over *Blothrus* Schiödte, 1847, whenever the two are considered to be congeneric;

- (b) *Blothrurus* Schiödte, 1847 (gender: masculine), type species *Blothrurus spelaeus* Schiödte, 1847 by monotypy, with the endorsement that it is not to be given precedence over *Neobisium* Chamberlin, 1930, whenever the two are considered to be congeneric;
- (3) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *spelaeus* Schiödte, 1847, as published in the binomen *Blothrurus spelaeus* (specific name of the type species of *Blothrurus* Schiödte, 1847);
 - (b) *carcinoides* Hermann, 1804, as published in the binomen *Chelifer carcinoides*, the valid specific name of the type species of *Neobisium* Chamberlin, 1930 (a senior subjective synonym of *Obisium muscorum* Leach, 1817).

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