Nomenclatural notes on fossil spiders

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Summary

The fossil spider genus *Protolycosa* Gourret, 1887 from Aix-en-Provence, France is a junior homonym of *Protolycosa* Römer, 1866 from the Coal Measures of Silesia, Poland and is replaced here with *Paralycosa* nom. nov. The fossil spider genus *Testudinaria* Zhang, Sun & Zhang, 1994 from the Miocene of Shanwang, China is a junior homonym of the extant genus *Testudinaria* Taczanowski, 1879 and is replaced here with *Testudinaroides* nom. nov. The fossil spider genus *Corynitis* Menge, 1854 is a junior homonym of the extant lepidopteran genus *Corynitis* Geyer, 1833 and is replaced here with *Corynitoides* nom. nov. Generic synonymies proposed by Wunderlich (1986) mean that the Baltic amber spider *Eogonatium* [=*Acrometa*] *robustum* Petrunkevitch, 1946 is a junior homonym of another Baltic amber species *Theridiometa* [=*Acrometa*] *robusta* Petrunkevitch, 1942. The younger name is replaced here with *Acrometa pseudorobusta* nom. nov. The fossil species *Araneus indistinctus* (Petrunkevitch, 1922) from Florissant, USA is a junior homonym of the Recent Javan species *Araneus indistinctus* (Doleschall, 1859). The younger name is replaced here with *Araneus kinchloeae* nom. nov., although its generic affinities merit revision. The Recent Sri Lankan spider *Theridion annulipes* O. Pickard-Cambridge, 1869 is a junior homonym of the fossil species *Theridion annulipes* Heer, 1864 from the Miocene of Germany. The extant species is renamed *Theridion ceylonicus* nom. nov. Some further names proposed for both fossil and Recent taxa — but which do not require immediate replacement — are briefly discussed. To avoid a homonym the amber species *Philodromus dubius* Koch & Berendt, 1854 is formally recognised as a junior synonym of *Gnaphosa affinis* (Koch & Berendt, 1854).

Introduction

Dunlop *et al*. (2008b) presented a summary of the total number of published species of fossil arachnids and their relatives. The full dataset for fossil spiders — the most species-rich order in the arachnid fossil record — is now available online (Dunlop *et al*., 2008a) as an appendix to the catalogue of Platnick (2008). During the compilation of the lists on which these studies were based, a number of nomenclatural problems were identified relating to fossil spiders. These we seek to address here, with a view toward the eventual goal of making a complete and accurate list of all fossil Arachnida available, either as an online or published resource.

Taxonomy

Paralycosa nom. nov.

Protolycosa Gourret, 1887: 444 [junior homonym of *Protolycosa* Römer. 1866: 136]; Petrunkevitch, 1955: 153.

Etymology: From the Greek *para* (near) and the genus name *Lycosa*.

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Paralycosa attiformis (Gourret, 1887) comb. nov.

Protolycosa attiformis Gourret, 1887: 444–445, pl. 20, fig. 7; Petrunkevitch, 1955: 153.

Remarks: The fossil spider genus *Protolycosa* Gourret, 1887 was erected for a specimen from the Palaeogene of Aix-en-Provence in south-eastern France. It is a junior homonym of *Protolycosa* Römer, 1866, erected for a spider from the Carboniferous Coal Measures of Silesia in south-western Poland and later used by Laurentiaux-Viera & Laurentiaux (1963) for a further fossil spider from the Coal Measures of France. Petrunkevitch (1955: 153) listed Gourret's genus under "Araneida *incertae sedis*". He further recognised that the name was a homonym of Römer's, citing it as "*non* Römer 1866", but did not formally propose a replacement. Gourret's original drawings are not of sufficient quality to allow his species to be placed unequivocally from the description, but his material is apparently still available in the Muséum d'Histoire Naturelle de Marseille (Silvie Pichard, pers. comm.). Since Gourret's *Protolycosa* is potentially a valid taxon, albeit one meriting restudy, it is formally replaced here with *Paralycosa* gen. nov. Note that the title page of the whole volume including Gourret's paper bears the date 1888, but part three (including Gourret's paper) is listed in the contents as 1887. Petrunkevitch's (1955) citation of the publication date as 1886 is erroneous.

Testudinaroides nom. nov.

Testudinaria Zhang, Sun & Zhang, 1994: 209 (English: 287) [junior homonym of *Testudinaria* Taczanowski, 1879: 131].

Etymology: From its similarity to the original name *Testudinaria*.

Testudinaroides papposa (Zhang, Sun & Zhang, 1994) comb. nov.

Testudinaria papposa Zhang, Sun & Zhang, 1994: 209 (English: 287).

Remarks: The fossil spider genus *Testudinaria* Zhang, Sun & Zhang, 1994 was erected for an orb-weaver from the Neogene shales of Shanwang, Shandong Province, PR China. It is a junior homonym of the Recent spider genus *Testudinaria* Taczanowski, 1879, accommodating nine species of orb-weaver (Araneidae) from South America (Platnick, 2008). It is formally replaced here with *Testudinaroides* gen. nov. In accordance with the recommendations of Appendix A of the ICZN, we attempted to contact Dr Zhang to see if he wished to replace the name himself, but we were unsuccessful in our efforts to reach him. Note that the name *Testudinaria* has also been used for plants; specifically for wild yams (Dioscoreaceae) — commonly called elephant's foot, hottentot bread or tortoise plant — although it has recently (Caddick *et al*., 2002) been synonymised with *Dioscorea*. Since the zoological and botanical codes are independent this does not impact on its usage for spiders; see also ICZN Article 52.7.

Corynitoides nom. nov. (*nomen dubium*)

Corynitis Menge, 1854: 30 [junior homonym of *Corynitis* Geyer, 1833: no pagination (Lepidoptera)]; Petrunkevitch 1955: 152 (as *incertae sedis*); Marusik & Penney, 2004: 215 (as *nomen dubium*).

Etymology: From its similarity to the genus name *Corynitis*.

Corynitoides spinosa (Menge, 1854) comb. nov. (*nomen dubium*)

Corynitis spinosa Menge, 1854: 30; Keilbach, 1982: 176 (as *nomen nudum*); Marusik & Penney, 2004: 215 (as *nomen dubium*); Wunderlich, 2004a: 1261 (as *nomen nudum*).

Corynitoides undulata (Menge, 1854) comb. nov. (*nomen dubium*)

Corynitis undulata Menge, 1854: 30; Keilbach, 1982: 176 (as *nomen nudum*); Marusik & Penney, 2004: 215 (as *nomen dubium*); Wunderlich, 2004a: 1261 (as *nomen nudum*).

Remarks: The fossil spider genus *Corynitis* Menge, 1854 was proposed for two Baltic amber species. It was listed as *incertae sedis* by Petrunkevitch (1955) and the two species have been regarded either as possible theridiids, or perhaps mimetids, and explicitly treated as *nomina dubia* (Marusik & Penney, 2004) or even *nomina nuda* (Keilbach, 1982; Wunderlich, 2004a). Menge's types are probably lost and this, coupled with his extremely brief descriptions and the lack of illustrations, makes placement of these species very difficult. The generic name is preoccupied by a noctuid moth genus *Corynitis* Geyer, 1833. The same name was also proposed for a hydroid (Coelenterata), but here the homonym has already been recognised and dealt with; see e.g. Petersen (1990). Although there is a question about the need to replace a homonym that is also probably an invalid taxon, the ICZN rules do not permit taxa to share the same name and there is precedence for this in the recent study by Özdiknem (2007) who replaced another poorly-defined, but preoccupied, Menge fossil spider name.

Acrometa pseudorobusta nom. nov.

Eogonatium robustum Petrunkevitch, 1946: 3–4, figs. 7–10, 71 [junior homonym of *Theridiometa robusta* Petrunkevitch, 1942, as a result of the transfer of both species to *Acrometa* through Wunderlich's (1986) generic synonymies].

Etymology: From the Greek *pseudo* (false) and the Latin *robustus* (strong, robust).

Remarks: Petrunkevitch created a series of genera for Baltic amber spiders, including *Acrometa* Petrunkevitch, 1942 and *Theridiometa* Petrunkevitch, 1942 (both under Araneidae as Argiopidae: Metinae) as well as *Eogonatium* Petrunkevitch, 1942 (under Linyphiidae as Erigonidae). Among the species erected in 1942 was *Theridiometa robusta* Petrunkevitch, 1942. Four years later an *Eogonatium* species was erected: *Eogonatium robustum* Petrunkevitch, 1946. In his revision of amber spiders, Wunderlich (1986: 131) synonymised *Theridiometa*, *Eogonatium* and two further genera with *Acrometa*, but did not list the species involved and thus did not recognise the homonym created with respect to Petrunkevitch's 1946 species name. Here, we replace this preoccupied name with *Acrometa pseudorobusta* nom. nov. (Synotaxidae).

Araneus kinchloeae nom. nov.

Epeira indistincta Petrunkevitch, 1922: 271–273, fig. 35 [junior homonym of *Epeira indistincta* Doleschall, 1859].

Araneus indistinctus (Petrunkevitch): Bonnet, 1955: 522 [junior homonym of *Araneus indistinctus* (Doleschall, 1859)].

Etymology: In memory of April Kinchloe Roberts (USA) who worked on Florissant spiders.

Remarks: Doleschall (1859) created the name *Epeira* (later *Araneus*) *indistincta* for a Recent species of orb-weaving spider from Java. This species is still considered a valid member of *Araneus* (cf. Platnick, 2008). The same name was introduced by Petrunkevitch (1922), again initially under *Epeira*, for a fossil spider species from the Palaeogene (Eocene) Florissant fossil beds, south of Florissant, Teller Co., Colorado, USA. Both names were listed together by Bonnet (1955: 522) in his catalogue, but he did not replace the homonym. Here we formally replace Petrunkevitch's younger name with *Araneus kinchloeae* nom. nov. (Araneidae), but suggest that this assignment to both the genus and family should be treated — like much of Petrunkevitch's palaeontological work — with caution and that the entire Florissant spider fauna merits revision.

Theridion ceylonicus nom. nov.

Theridium annulipes O. Pickard-Cambridge, 1869: 384 [junior homonym of *Theridion annulipes* Heer, 1865]; Bonnet, 1959: 4447.

Etymology: From Ceylon (Sri Lanka), the place of origin.

Remarks: The name of the Recent spider species *Theridion annulipes* O. Pickard-Cambridge, 1869 from Sri Lanka is preoccupied by an older fossil species *Theridion annulipes* Heer, 1865 from the Neogene (Miocene) of Öhningen in southern Germany. *Theridium* is an invalid emendation of *Theridion* and both names were listed (as *Theridium*) in Bonnet (1959), but no attempt was made there to replace the homonym. Note that Heer's original publication was titled "Die Urwelt der Schweiz", but that the locality itself does not lie within the boundaries of Switzerland. The modern species, *T. annulipes* O. Pickard-Cambridge, has only been mentioned in catalogues since its original description, thus there seems little reason to conserve this preoccupied name, which we replace here with *T. ceylonicus* nom. nov. (Theridiidae). Other nomenclatural problems involving fossil theridiids were addressed by Marusik & Penney (2004), but since they concentrated on species in amber the problem with the Öhningen name was not considered.

Discussion

The following names can also be found in the literature for both fossil and Recent spiders, or in one

case for a spider and crustacean. Subsequent transfers or synonymies mean that they do not currently require replacement, or in one case need to be referred to the ICZN, and they are noted here for completeness.

Araneus emertoni

The fossil species *Epeira emertoni* Scudder, 1890 from Florissant, USA (see above) is a senior primary homonym of the Recent species *Epeira emertoni* Banks, 1904 from North and Central America. They were both listed under *Araneus* in Bonnet (1955), but the homonym issue was not addressed. The assignment of Florissant taxa to common Recent genera is in any case questionable, and Banks' species was subsequently transferred to *Eustala* Simon, 1895 by Archer (1940); see Platnick (2008). Thus ICZN Article 23.9.5 can be applied, whereby Banks' name is a junior primary homonym of the fossil species, but of a taxon not considered congeneric after 1899. In this situation the younger name should not automatically be replaced, but should be referred to the ICZN for a ruling under its plenary powers.

Tegenaria obscura

The fossil species *Tegenaria obscura* Koch & Berendt, 1854 from Baltic amber is a senior homonym of the Recent species *Tegenaria obscura* Banks, 1898 originally described from Mexico. Both names were listed (under *Tegenaria*) by Bonnet (1959), but the homonym issue was not addressed. The fossil species was listed by Wunderlich (2004b: 1422) as ''*Tegenaria*'' *obscura*, as a probable member of the Hahniidae. Banks's Recent species is currently considered a junior synonym of the widespread agelenid species *Malthonica pagana* (Koch, 1840) (see Platnick, 2008), thus a replacement name is not necessary.

Clubiona serica

A fossil species, *Clubiona serica* Koch & Berendt, 1854, was described from Baltic amber. Octavius Pickard-Cambridge described a Recent Central American species as *Elaver serica* O. Pickard-Cambridge, 1898. This was transferred to *Clubiona* by F. O. Pickard-Cambridge (1900), which would make it a junior homonym of the fossil taxon. Both names were listed (under *Clubiona*) by Bonnet (1956), but the homonym issue was not addressed. The fossil species is still retained in *Clubiona*, but was regarded as questionable by Wunderlich (2004c) who noted that the descriptions of this and other amber *Clubiona* species were based on females and that they might belong in other families. The Recent species has subsequently been returned to its original genus *Elaver* (see Platnick, 2008), thus a replacement name is no longer needed.

Philodromus dubius

The fossil species *Philodromus dubius* Koch & Berendt, 1854 from Baltic amber is a senior homonym of *Philodromus dubius* Caporiacco, 1933 from Libya. Caporiacco's species is still valid (Platnick, 2008), thus there could be a case for replacing the younger name. However, Menge (1854) briefly suggested in footnotes to Koch & Berendt's monograph that their species *P. dubius* was a synonym of another amber spider, *Pythonissa* (now *Gnaphosa*) *affinis* Koch & Berendt, 1854. Wunderlich (2004d: 1691) also listed *P. dubius* under ''questionable taxa''. This illustrates an unfortunate problem among amber spiders in that synonymies and transfers have sometimes been proposed in a rather tentative and half-hearted fashion, which can leave the current status and affinities of some species names open to question. In order to preserve Caporiacco's name we formally accept Menge's taxonomic act and treat the fossil *P. dubius* as a junior synonym of *Gnaphosa affinis* (Koch & Berendt), thus avoiding the need for a replacement name for the Recent species.

Schellenbergia

The fossil spider genus name *Schellenbergia* Heer, 1865 was proposed for an Öhningen fossil and listed as *incertae sedis* by Petrunkevitch (1955). It is a senior homonym of an anystid mite (Acari) genus — *Schellenbergia* Oudemans, 1936 — which was recognised as a junior homonym and replaced by Oudemans (1937). *Schellenbergia* Heer is also a senior homonym of a recently proposed amphipod (Crustacea) genus *Schellenbergia* Berge & Vader, 2001, although in this case the crustacean genus has subsequently been recognised as a synonym (Berge & Vader, 2004) of another amphipod and the name does not require replacement. The name has also been used for a plant.

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