

A review of the type designations of the genus *Salticus* Latreille, genus *Attus* Walckenaer, and the family Salticidae Blackwall (Arachnida: Araneae), with special reference to historical connections with the Genus *Myrmarachne* MacLeay¹

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Abstract. The designation of the type species of *Salticus* Latreille 1804, type genus of the family Salticidae Blackwall 1841, is confirmed to be *Araneus scenicus* Clerck 1757. The type species of *Attus* Walckenaer 1805 is confirmed to be the same species, *A. scenicus*. Therefore, *Attus* is an objective synonym of *Salticus*. The background of the competition between these genera for precedence is reviewed, and historical ramifications of these type species designations are explored. Special reference is given to potential effects on the genus *Myrmarachne* MacLeay 1839.

Key Words: *Aranea*, *Araneus*, Attidae, *cinnaberinus*, *Eresus*, *formicaria*, *scenicus*.

Introduction

Most people who work on Salticidae are aware of the fact that some authors once referred to it as Attidae, but fewer people are aware that the history of the family, genera *Salticus* Latreille 1804 and *Attus* Walckenaer 1805, and species involved in defining these taxa, was somewhat controversial. In my recent work with the genus *Myrmarachne* MacLeay 1839 (e.g., Edwards and Benjamin 2009, and more recent projects, in prep.), I realized that this controversy over the type species of the genus *Salticus*, if the alternative had been implemented, would have affected the nomenclature of both genera. A similar problem potentially involved *Attus* and *Myrmarachne*. I decided to write this review of the situation for future reference to other researchers, as the literature involved is rare and some of it is difficult to acquire.

Methods

Some older literature is now available online, such as at the Biodiversity Heritage Library (BHL) website (<http://biodiversitylibrary.org>), and Google Books (<http://books.google.com>). While the list of available publications is far from complete, additional publications are being added at a steady rate.

In the following discussion, dates and references are enclosed in parentheses (...), whereas insertions and comments are enclosed in brackets [...]. Much of the text referring to older papers attempts to mimic the form in which it was originally written, with summary outlines included for clarity. Articles and Recommendations cited refer to the latest version of the Code of the International Commission on Zoological Nomenclature (ICZN).

Discussion

An important concept to realize before looking at the details of the various accounts is that the hierarchy of categories presented in these works is different than that presently used. An example can be seen in the title of Walckenaer (1805) [see Literature Cited]. What makes it even more difficult to follow is that the historical period discussed here covers a good part of the transition from the older styles of hierarchy to the modern style. Often different authors used different styles, and sometimes the same author used different styles in different papers. It is, therefore, important to take notice of the included comments concerning the particular account under discussion. The difficulty as I see it is retaining the perspective of the older classifications compared to modern taxonomic categories, while applying modern rules to the actual nomenclature, which at times is counterintuitive. This is particularly confounded by the tendency of these early authors to use vernacular words rather than scientific designations when organizing their various classifications.

Perusing the Bibliography link of the World Spider Catalog online (Platnick 2011), one can see that, around the beginning of the 19th century, there were relatively few authors publishing taxonomically significant papers on arachnids. Two of these authors [with years of birth and death] are particularly significant in regard to the subject of the present paper: Pierre André Latreille (1762-1833) and Charles Athanase Walckenaer (1771-1852), aka, Monsieur le Baron Walckenaer.

Early Walckenaer

Walckenaer (1802) wrote "*Faune parisienne. Insectes. ou Histoire abrégée des insectes de environs de Paris* [brief history of the insects in the environs of Paris]," for which he gives the subtitle "Classés d'après Le Système de Fabricius [classified after the system of Fabricius]." Presumably he was referring to Fabricius (1775) and subsequent additions and emendations. In this paper, Walckenaer (1802: beginning p. 183) provides a list of the Septième Classe, Unogates, followed by I. Trombidion. (*Trombidium*.) which are mites, and on p. 187 lists II. Araignée. (*Aranea*.) Araignée is the French word for spider. So, among other things, here we have a list of the spiders known near Paris at that time, all under *Aranea* [which in this context is essentially equivalent to the order Araneae, *i.e.*, all spiders belong to the genus *Aranea*]. There are two more main sections which list a few harvestmen and pseudoscorpions, but they are not pertinent here. For those who might want to look up this reference, I note that this is the second volume in the series, the first volume from the same year being nearly identical in length and mostly concerning beetles.

Within *Aranea*, Walckenaer (1802) lists 18 "Familles" [families]. Since *Aranea*, as noted above, is essentially equivalent to the modern order Araneae, his families seem to be true families in his sense. The species are numbered consecutively [presumably since they are all considered *Aranea* spp.] 1-131 in a particular order, with the families inserted along the way as appropriate. Some of these have familiar names, such as the very first family I. Orbiformes (Orbiculariae), but the families we are concerned with are the last three. These are XVI. Voyageuses (Viatoriae), XVII. Sauteuses (Saltatoriae), and XVIII. Chercheuses (Erraticae). The family Voyageuses includes three species: *A. formicaria* DeGeer 1778, and two new species, *A. encarpata* and *A. depressa*. The family Sauteuses contains 18 species including *A. scenica* Linnaeus 1758. The family Chercheuses includes only one species, *A. cinnaberinus* Olivier 1789. Why Walckenaer chose to separate Voyageuses from Sauteuses is open to speculation, but he did. This is an important distinction, as we shall see.

Pertinent aspects of Walckenaer's (1802) proposal can be summarized in outline form:

Insectes

Septième Classe, Unogates

II. Araignée (*Aranea*)

XVI. Famille Voyageuses: *Aranea formicaria* + 2 new species

XVII. Famille Sauteuses: 18 species including *Aranea scenica*

XVIII. Famille Chercheuses: *Aranea cinnaberinus*

Latreille, *Salticus*, and its type

Latreille (1804a: beginning p. 144) gave a discussion and classification of Arachnides, and stated (p. 214) that his method corresponded to Walckenaer (1802), although it is obviously more complex. In his species accounts (beginning p. 215), he proceeded to modify Walckenaer's (1802) classification. He divided Araignées into seven sections based on the general type of spider [numbered I-VII]. The last of these is VII. Araignées Sauteuses (p. 297), which included, in order, three Divisions: les chercheuses contained *Aranea cinnaberinus*, les sauteuses contained 19 species of jumping spiders including *Aranea scenica*, and les voyageuses contained *Aranea formicaria* and the two other species attributed to it previously. Latreille evidently considered that Walckenaer's (1802) last three families should be combined, and took the first step in this direction.

Outline of Latreille (1804a) corresponding to Walckenaer (1802):

Classe Insecta

Sous-Classe Troisième, Acères

Order Premier, Chelodontes

Famille Seconde, Arachnides

Septième Genre, Araignées (*Aranea*)

Seizième Famille, Voyageuses (*viatoriae*)

Dix-Septième Famille, Sauteuses (*saltatoriae*)

Dix-Huitième Famille, Chercheuses (*erraticae*)

Note in the classification above that "Famille" is used in two different contexts, and that the higher levels of this classification are remarkably modern in their hierarchy. However, the contents of each taxon are as much as two major levels different than modern classifications.

Outline of Latreille (1804a) modifications as they relate to pertinent taxa under discussion [note that section VII... corresponds to the lower ranked "Famille" above under Araignées (*Aranea*)]:

VII. Araignées Sauteuses

Division Chercheuses: *Aranea cinnaberinus*

Division Sauteuses: 19 species including *A. scenica*

Division Voyageuses: 3 species including *A. formicaria*

Later that same year, Latreille (1804b: *Aranea* beginning p. 133) described *Salticus*, including three species in two sections, under the heading "A[raignées]. Sauteuses." Section A again included *Aranea cinnaberinus*, while section B included *Aranea scenica* and *Aranea formicaria*, but in separate subsections [see below]. Latreille (1806) subsequently concurred that *Aranea cinnaberinus* belonged in the genus *Eresus* Walckenaer 1805. It is easy for modern workers who have access to modern morphological and molecular techniques to understand that eresids and salticids have convergent body forms, but two

centuries ago near the dawn of our formal type of nomenclature and understanding of phylogenetic relationships, it wasn't that obvious that the two types of spider were not closely related. There is no controversy over the association of an eresid with the salticid genus *Salticus*, so we can put this aside for now [but see further discussion below].

What is potentially a problem is the type species of *Salticus*. There are two remaining candidates, *A. scenica* [actually *Araneus scenicus* Clerck 1757], now *Salticus scenicus*, and *A. formicaria*, now *Myrmarachne formicaria*. Clearly the possibility that *A. formicaria* would be designated as type of *Salticus* is a threat not only to the present understanding of the genus, but also to the status of *Myrmarachne*. If *Aranea formicaria* was designated as the type species of *Salticus*, then *Myrmarachne* would be a synonym of *Salticus*, and *Salticus scenicus* would have defaulted to the next available generic name in which it was placed, *Attus* Walckenaer 1805 [see discussion on type species of *Attus*].

Various authors, including Simon (1901) and later Bonnet (1958), stated that *S. scenicus* is type species of *Salticus*, but no details are given of when and who designated it. Latreille (1804b), as noted previously, gave two jumping spider species as belonging to *Salticus* when he described it: *A. scenica* and *A. formicaria*. The clue here is provided by what comes before in the same publication. First, to clarify its original status, *Salticus* is actually described as a subcategory, essentially a subgenus, of *GENRE ARAIGNÉE, Aranea* [spider genus *Aranea*]. Second, the section in which *Salticus* is described is headed "6. A[raignée]. Sauteuses," followed by a descriptive paragraph, and at the end of the paragraph "... (SALTIQUE, *Salticus*)." Third, of the three species listed under "A. Sauteuses," and hence under *Salticus*, each has its own category based on further modifications of Latreille's (1804a) reorganization of the previous work of Walckenaer (1802), who considered each a different "Famille." Latreille (1804b) used the same classification he introduced earlier (Latreille 1804a), so higher taxa not included in this discussion will not be repeated in the outline.

Outline of Latreille (1804b):

II. Genre Araignées (*Aranea*)

6. Araignées Sauteuses (*Salticus*)

A. Les chercheuses: *Aranea cinnaberinus*

B.

A. Les sauteuses: *Aranea scenica*

B. Les voyageuses: *Aranea formicaria*

Walckenaer (1802), as we have already seen, did not consider "les voyageuses" to be the same "famille" as "les sauteuses," in which he was followed with a somewhat different organization by Latreille (1804a, 1804b). More than two centuries ago, many groups of organisms were interpreted differently than at present, and no formal rules for designation of types existed. However, two things seem clear from this summary: (1) Latreille, like Walckenaer, was aware at some level of the difference between an eresid and a salticid; and (2) he himself, in the same paper (Latreille 1804b), appears to have designated *Aranea scenica* as the type species of "Sauteuses" [*i.e.*, *Salticus*], supported by the following argument:

It is reasonable to assume that Latreille (1804a) originally chose Sauteuses as his "famille" based on his idea of what was typical among this group of spiders. It is also possible that he chose "Sauteuses" from among the three choices presented by Walckenaer (1802) because "Sauteuses" by far was represented by the most number of species compared to "Chercheuses" or "Voyageuses" [which would be in agreement with modern Recommendation 69A.5]. He also retained the name "Sauteuses" as a "Division" within his "Famille Sauteuses," which seems to support either assumption.

Latreille (1804b), by using “les sauteuses” as a subsection of “Sauteuses,” essentially repeated this duplication. There doesn’t seem to be any question that he intended *A. scenica* as the type species of Subsection BA (les sauteuses) of *Salticus* (Sauteuses). An obvious way to interpret this is that Latreille was indicating he considered *A. scenica* to be most representative of that largest group of jumping spiders on which he based “Sauteuses,” *i.e.*, it is “the typical sauteuse,” in other words, it is the type of that subgenus [*Salticus*] of *Aranea*. As well, *A. scenica* is taken directly from Walckenaer’s (1802) and Latreille’s (1804a) list of species of “sauteuses,” as it should be [Article 67.2]. This does not appear to be a situation simply mentioning it as an example of the genus [Article 67.5.1], rather it is a deliberate choice of a type species from among the known species at the time of description of the genus. Therefore, *A. scenica* would be the type of *Salticus* by original designation [Article 68.2]. This seems to be the most parsimonious way to interpret the intentions of Latreille. If accepted [and it appears that all modern authors have done so], it would eliminate both *A. cinnaberinus* and *A. formicaria* from consideration as type species of *Salticus*. However, *A. formicaria* is also designated as type of a subsection of “Sauteuses” [albeit under “les voyageuses”], so it does leave some room for doubt about its status.

Another, similar, way to look at it is to consider that the situation is essentially comparable to the modern Principle of Coordination [Article 43]. It is reasonable to assume Latreille (1804b) intended Subsection BA to be the typical subsection of *Salticus*, since they were both referred to by the word “sauteuses” [regardless of case, and they were the same case in Latreille 1804a]. Article 43.1 states: A name established for a taxon at either rank in the genus group is deemed to have been simultaneously established by the same author for a nominal taxon at the other rank in the group; both nominal taxa have the same type species... Article 43.2 states: When a nominal taxon in the genus group is raised or lowered in rank its type species remains the same... In other words, nomenclatorial hierarchies at the genus level consisting of the same word, such as the genus *Salticus* and the subgenus *Salticus*, have the same type species. The genus *Salticus* was originally described as a subgenus, and when elevated to genus (Latreille 1806), its nominotypical subgenus retained the same type species. The reverse can be stated as well: the type species of the subgenus *Salticus*, when that subgenus was elevated to genus, remained the same. While somewhat irregular in presentation in a modern sense, Latreille (1804b) clearly equated the vernacular word “Sauteuses” to the genus *Salticus*, and there is no reason to assume that he intended “les sauteuses” to have any meaning other than “the nominotypical subset of *Salticus*.” Since “Sauteuses (*Salticus*)” was originally applied as the equivalent of a subgenus, “les sauteuses (*Salticus*)” would be a subdivision of a subgenus, and by extension, the Principle of Coordination would apply to it as well. In my opinion, this resolves the issue. “Les voyageuses,” in Latreille’s terminology, has no comparable scientific name that can be substituted for it.

In a final and conclusive addendum to this discussion, Latreille (1810), in his “Table de Genres avec l’indication des espèce qui leur sert de type” [table of genera with an indication of the species which serve them as type] (p. 421), gives the type of Saltique [= *Salticus*] as *Aranea scenica*, Fab. [Fabricius’ (1775) nomenclature followed Linnaeus (1758)]. As he indicated in a footnote (Latreille 1810: 421), this was a genus that he described, so it seems obvious that he was confirming that he had previously designated *A. scenica* as the type of *Salticus*.

The Controversy

Walckenaer (1805) subsequently reorganized his list of species more in agreement with Latreille (1804b), although he confusingly continued to use “famille” as a subset of “genre.” He listed ... V. Les Chercheuses (Erraticae), G[enre] Erèse (*Eresus*), its description, and two species including *E. cinnaberinus*, followed by VI. Les Voyageuses (Viatoriae). Under the latter heading, he gave G[enre] Atte (*Attus*), followed by its description, and then a list of 46 numbered species which included three “familles:” (1st) Les Sauteuses (Saltatoriae) with two races, the first race [Les Courtes (Abbreviatae)] with

34 species including 1. *Att[us] morsitans* [*nomen nudum*] and 15. *Att[us] scenicus*, and the second race [Les Alongées (Elongatae)] with three species including first listed *Att[us] tardigradus* Walckenaer 1805; (2nd) Les Voltigeuses (Volatiliae) including as first listed *Att[us] formicarius* and seven more species; and (3rd) Les Paresseuses (Pigrae) which only included *Att[us] depressus*. In the latter case, Walckenaer evidently decided he needed a third category because *A. depressus* no longer fit his concept of the group including *A. formicaria* where it was originally described (Walckenaer 1802). Each group was defined by relative proportions of body, legs, and palps, whether they were short/long, broad/narrow, or hairy/hairless. So Walckenaer (1805) chose Les Voyageuses to be the representative name [at this time, relegating *A. formicaria* to the subgroup Les Voltigeuses], whereas Latreille (1804b) had chosen Les Sauteuses to be the representative name, basing his designations on Walckenaer (1802) and Latreille (1804a). Walckenaer (1805) did, however, reorganize his subcategories so that Les Sauteuses was the first “famille” under the genus *Attus*.

Outline of Walckenaer (1805):

Aranéïdes

II. Araignées (*Aranea*)

V. Les Chercheuses

Genre Erèse (*Eresus*): *Eresus cinnaberinus* + 1 sp.

VI. Les Voyageuses

Genre Atte (*Attus*)

Première Famille. Les Sauteuses (*Saltatoriae*)

Première Race: 34 sp. including *Attus scenicus*

[Species 1-9 are *nomen nuda*]

Deuxième Race: 3 sp. + 1 fossil sp.

Deuxième Famille. Les Voltigeuses (*Volatiliae*)

8 sp. including *Attus formicarius*

Troisième Famille. Les Parasseuses (*Pigrae*)

Attus depressus

It is worth noting here that some authors (*e.g.*, Lucas 1839) considered Atte (*Attus*) to be preoccupied by the ant genus *Atta* Fabricius 1804. Spellings of generic names do not have the same flexibility to change endings as spellings of specific epithets, so this is not a true homonym. Even one letter difference makes them different names [Article 56.2].

In 1806 [the year after Walckenaer described *Attus*], Latreille elevated *Salticus* to genus rank, and at the same time, he listed *Attus* as a synonym of *Salticus*. Lucas (1833) was another author besides Latreille to associate the two genera with preference to *Salticus*. Bonnet (1958: 3900) indicated the earliest association of these names was by Latreille (1819), but this does not appear to be correct. A controversy began over which genus name to use, with many authors using *Salticus*, while less than half as many other authors used *Attus* (see Bonnet 1958: 3900-3901). Besides the controversy between *Attus* and *Salticus*, there was a time period when both were used as valid genera. This would be reasonable only if they were thought to have had different type species [*i.e.*, *sensu* Walckenaer, belonged to different “familles”]. It seems apparent that some authors (*e.g.*, Sundevall 1833, Simon 1864) thought this way. Among authors subsequent to Latreille, Hahn (1832) described or redescribed 17 species of jumping spiders under the genus *Salticus*, including *S. scenicus*, but not including *Attus formicarius*. This was different than Sundevall (1833), who used *Salticus* and *Attus* in the opposite sense.

Simon (1864) considered there were five genera in his Famille Saltiformes: *Rhanis* C. Koch, *Atta* Walck, *Cyrtanota* Sim., *Heliophana* C. Koch, and *Saltica* (Latr.). Unfortunately, for whatever reason, he changed the spelling of three of these genera, further confusing the issue. For *Saltica*, he listed *Aranea formicaria*

first. Perhaps he was influenced by Sundevall (1833), who previously had separated *Attus* and *Salticus* [using the latter for *A. formicaria*]. Simon himself later corrected this error, noting that the type species of *Myrmarachne* is "*M. melanocephala* MacLeay" (Simon 1901: 505) and of *Salticus* is "*S. scenicus* Clerck" (Simon 1901: 606). Bonnet (1958) considered the first listed *A. formicaria* to be the type species of *Saltica* [if not previously designated, Article 69.1.2 would apply, and Bonnet would be considered to have made this designation]. The designation of *A. formicaria* as type species of *Saltica* validates that spelling as a separate genus, resulting in its synonymy with *Myrmarachne* MacLeay 1839 (see Bonnet 1958: 3896).

Some authors seem to have been influenced by Simon [in his early career] or Sundevall, *e.g.*, Peckham and Peckham (1883, 1892, 1909), who described several species of *Myrmarachne* in the genus *Salticus*, in their early work described many species in the genus *Attus*, and who used Attidae as the family name. Peckham and Peckham (1885) reviewed the genera created up to that time. They state, "From Latreille to Walcken[a]er, inclusively, the whole family constitutes but one genus, *Salticus* Latr. or *Attus* Walck." They go on to give a long discussion of subsequent genera, authors, and dates, including preoccupied names, and seem to acknowledge priority. Interestingly, they do not acknowledge the priority of *Salticus* over *Attus*, even though they considered *Salticus* to be a valid genus [*sensu* Sundevall 1833]. However, in their opening statement quoted above, and in the following statement, they clearly attribute *Salticus* to Latreille, "In 1864, Simon combined the Attid genera to form five [see previous paragraph]: ... This arrangement, which was not generally adopted, seems not to have satisfied its author, as in 1869, Simon made an entirely new classification of the Attidae, ..." Apparently the Peckhams decided to adopt Simon's original system. It is not clear why they did not consider that *Salticus* had priority over *Attus*.

Walckenaer, *Attus*, and its type

There remains the question: what is the type species of *Attus* Walckenaer 1805? There are two ways to consider how to designate the type of *Attus*: (1) there were 46 species listed under *Attus* in three groups [one of which has two subgroups], any of which could be designated the type [minus the first nine species listed under Les Sauteuses: Première Race that were not described, therefore are *nomena nuda*], or (2) the type species of *Attus* should come from the particular group [les voyageuses] that was chosen by Walckenaer as representative of his family group, Voyageuses, both before (Walckenaer 1802) and after (Walckenaer 1826, 1837) he described *Attus*. Walckenaer consistently listed *A. formicaria* first under Les Voyageuses in these three publications [Recommendation 69A.9: type species denoted by position ("first species rule")]. This also would be consistent with how Latreille (1804b) chose the type of Sauteuses from les sauteuses. In addition, it may have influenced subsequent authors that chose to treat *A. formicaria* as the type species of *Attus*.

The problem is that Walckenaer did not associate *A. formicaria* directly with Les Voyageuses when he described *Attus* (Walckenaer 1805) [see outline above]. Instead [and only on this occasion], he put it under a new subgroup, Les Voltigeuses. He might be considered (Walckenaer 1826, 1837) to have subsequently designated *A. formicaria* as type species of *Attus* based on the fact that later he consistently listed this species first (*e.g.*, Walckenaer 1837: 470) under "Famille Les Voyageuses," as he had done in 1802 [see Recommendations 69A.8, 69A.10]. As shown below, it is not necessary to consider Recommendation 69A [which has no official standing] in this discussion.

According to Bonnet (1955: 781), Walckenaer himself recognized that his *Attus* was the same as *Salticus* Latreille 1804. However, Walckenaer (1805) neither recognized *Salticus* nor designated a type species when he first described *Attus*. Also, Walckenaer (1826, 1837) does not mention *Salticus* other than listing synonyms using this name. In Walckenaer (1833: 438 in Table; 1841: 464-468), *Salticus* is nowhere to be found, whereas in Walckenaer (1847: 408-430), it is barely noted, again mostly under synonymical

listings. Walckenaer (1847) does recognize *Salticus distinctus* Blackwall 1841, placing it under *Attus*. Apparently Bonnet's statement is based on Walckenaer's transfer of species of *Salticus* into his own *Attus* at various times.

Bonnet (1955) goes on to discuss other possibilities for type species of *Attus*, including *Attus formicarius* and *Attus quinquepartitus* Walckenaer 1805 [= *Aelurillus v-insignitus* (Clerck 1757)]. In either case, the seniority of a well-known genus could come into question. *Myrmarachne* again would be threatened by the designation of *Aranea formicaria* as type of an older generic name. One could argue that Latreille (1804b) designated *A. formicaria* as type of "Voyageuses" Walckenaer (1802) and that Walckenaer (1805) used "Les Voyageuses (*Attus*)" as the genus name to represent all jumping spiders. The argument would be similar to that used for Latreille's (1804b) designation of a type for "Les Sauteuses (*Salticus*)." However, poor timing makes this invalid, as it is not possible to designate a type species for a genus that was not yet created!

Under Les Sauteuses, Walckenaer (1826, 1837) lists *Attus quinquepartitus* first. Walckenaer consistently used Les Voyageuses for his family name, therefore if we followed the second option for type designation above, the species he subsequently listed first under Les Sauteuses would not be considered a potential type species for *Attus*, and *Aelurillus* Simon 1884 would not be threatened. On the other hand, since no subsection "les voyageuses" was given [therefore no type was designated when *Attus* was described (Walckenaer 1805)], any of the species originally listed [minus the *nomen nuda*] could be considered as type species. This includes 30. *Attus quinquepartitus*, which was described as a new species in this publication. Like *A. formicaria*, *A. quinquepartitus* might be considered the type by subsequent designation. However, *A. quinquepartitus* was not the first valid species listed under Les Sauteuses when *Attus* was described (Walckenaer 1805).

The first listed valid species for "familles" of the genus *Attus* (Walckenaer 1805), in order are, for Les Sauteuses: Première Race – 10. *Attus fulvatus* (Fabricius 1787) [= *Salticus scenicus* (Clerck 1757), which is also listed as species 15. *Attus scenicus*]; for Les Sauteuses: Deuxième Race – 35. *Attus tardigradus* Walckenaer 1805 [= *Marpissa muscosa* (Clerck 1757)]; for Les Voltigeuses – 38. *Attus formicarius* (Degeer 1778) [= *Myrmarachne formicaria*]; and for Les Paresseuses – 46. *Attus depressus* (Walckenaer 1802) [= *Ballus chalybeius* (Walckenaer 1802)]. In this publication, therefore, the first valid species listed [as noted above, the first nine species listed are *nomen nuda*] is *Attus fulvatus*, which turns out to be a synonym of *Salticus scenicus*. Unfortunately, this by itself does not constitute designation of a type species, so we must look to the first subsequent author to designate a type. This author appears to be Sundevall (1823). The following account comes from Prof. H. Don Cameron (personal communication, 2011), who kindly translated the Latin from Sundevall's paper:

The important passage in Sundevall's 1823 paper is on the first page. He says, "In this small work we will attempt to refer the species which are up to now known in Sweden to their genera, and to propose some very common species as types of genera." [In hocce opusculo, species quae in Suecia hactenus sunt cognitae, ad sua Genera referre & nonnullas maxime vulgares, ut typos Generum proponere conabimur.] Beginning on page 5 he gives a very elegant, succinct and complete description of the form and habits of the Araneae.

With each genus there is a mysterious abbreviation: Sp. Sv. plus a number. This means Species Sueciae 'Swedish species.' For instance, under *Lycosa* he says there are 24 known from Sweden of which he describes two, numbered 1. and 2., namely 1. *saccata* Latr. and 2. *rusticola* De Geer. Or, *Theridion* has 12 of which he describes 1. *sisyphium* and 2. *lineatum*. When he only describes one species, as with *scenicus* under *Attus* and says there are 13 Swedish species, we are perhaps justified in regarding *scenicus* as the type in the modern sense. Or one could argue that where he lists two species that number 1 is a type.

Prof. Cameron goes on to state that the interpretation might be considered ‘typical’ rather than ‘type’ [in the sense of Article 67.5.1], but he confirmed that the literal translation is ‘type,’ and it appears from the quote on the first page that this was Sundevall’s intent. There seems to be no question, therefore, that Sundevall (1823) subsequently designated *Attus scenicus* as type of *Attus* [Article 69.1]. Since this pre-dates Walckenaer’s (1826) premier listing of *A. formicarius* under *Attus*, it seems clear that the type of *Attus* is *A. scenicus*. Ironically, Sundevall (1833) [as previously noted] later seems to have considered *A. formicarius* to belong to *Salticus*, and perhaps considered it the type, as it is the only species he listed under this genus. This is not possible for reasons that have already been discussed.

The Family Salticidae

Bonnet (1958: 3899) states that the identity of *Attus* Walckenaer 1805 and *Salticus* Latreille 1804 was established with priority to *Salticus*, therefore the family name should be Salticidae. This is certainly true based on their respective description dates, and especially since both *Salticus* and *Attus* have the same type species, *Araneus scenicus* Clerck; one genus is automatically an objective synonym of the other [Articles 61.3.3, 67.11].

Bonnet (1958) goes on to state that he did not see why certain authors continued to use Attidae for this family. There is no debate about that today. However, recall that *Salticus* was first described as a “subgenus,” which is perhaps why some authors chose to give *Attus* priority and use the family name Attidae [as noted above, *Salticus* was elevated to genus rank the year after *Attus* was described]. A subgenus is no different than a genus when it comes to priority [Article 42], so accepting the priority of *Attus* in this context is not correct, even if the two were considered to be separate genera. The last professional araneologist to use Attidae for the family appears to have been Petrunkevitch (1947), although he ultimately settled on Salticidae (Petrunkevitch 1950). Petrunkevitch had a convoluted history with these names; despite having considered *Attus* to be a synonym of *Salticus* in his much earlier catalog (Petrunkevitch 1928), he called the family Attidae. In his even earlier catalog (Petrunkevitch 1911), he notes that *Attus* “has no right of existence,” gives the synonymy *Attus scenicoides* Walckenaer = *Salticus scenicus* Clerck, and uses the family name Salticidae [although he retains *Attus* as a catchall genus for species that could not be properly placed]. In the 1911 catalog, he also states that *Attus terebratus* (Clerck 1757) is the type species of *Attus*, which is not possible since this species was not included in the original list of species placed in *Attus*. Simon (1901), in his *Histoire Naturelle des Araignées*, used Salticidae. Peter Balogh (1981) used Attidae when he described species of *Coccorchestes* Thorell 1881. His father, Janos Balogh, was primarily an acarologist and ecologist with a side interest in jumping spiders, who knew them as attids (J. Prószyński, personal communication 2011). This appears to be the last published use of the family name Attidae.

Another interesting tidbit concerns the creation of the family name Salticidae by Blackwall (1841). He literally created the name [there is no family description]. In the paper, the only action he took in regard to the family was his description of *Salticus distinctus* Blackwall 1841, which subsequently became a synonym of *Pseudeuophrys erratica* (Walckenaer 1826). He does not mention any other species of salticid, not even *S. scenicus*. This does not matter, however, as the family name is based on its type genus [Article 63], so it is irrelevant which, or if any, species were listed when the family name was created. Salticidae is based on *Salticus*, and that is all that is necessary.

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