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Euophrys frontalis, male and female.
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Pragmatic classification of the World's Salticidae (Araneae)*[1]

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Abstract

This paper, dedicated to search for identification methods of genera of Salticidae (Araneae), presents prototype of a "Handbook of Jumping Spiders Identification", based on morphology of palps, spermathecae and ducts, as well as some other easily noticeable characters. It includes diagnostic drawings of representative species of each genus, additional survey of diversity of these characters in 4800 recognizable species is available instantly, by hyperlinks provided to parallel Internet "Monograph of the Salticidae (Araneae) of the World 1995-2016".Part I "Introduction to alternative classification of Salticidae" by Prószyński (2016a), accessible at: http://www.peckhamia.com/salticidae/Subfamilies/ [too large to be published whole as a PDF]. The work contains methodological suggestions on how the proposed system could be improved and further developed. Partial revision of the present taxonomic system of Salticidae is included.

The paper provides diagnoses and diagnostic drawings to genera of Salticidae, grouped to facilitate identification into morphologically coherent, informal groups of genera. There are following provisional groups proposed: AEURILLINES, AMYCINES, AMYCOIDA VARIA, ASTIAINES, BELIPPINES, CHRYSILLINES, COCALODINES, COLONINES [= former Thiodininae], DENDRYPHANTINES, DIOLENINES, EUODENINES, EUOPHRYINES, EUPOAINES, EVARCHINES, HABRONATTINES, HARMOCHIRINES, HELIOPHANINES, HISPONINES, HYLLINES, ICIINES, LAPSIINES, LIGONIPEINES, LYSSOMANINES, MENEMERINES, MYRMARACHNINES, NOTICIINES, PELLENINES, PSEUDICIINES, SIMAETHINES, SITTICINES, SPARTAEINES, THIRATOSCIRTINAE, YAGINUMAELLINES, YLLENINES. There is also temporary UNCLASSIFIED group and display of exemplary FOSSILS. The proposals of grouping and delimitation have working character, pending further research and tests.

The following synonyms and combinations (new, corrected or reinstated) are listed in the paper together with their documentation and/or discussions. They have been accumulated during 22 years of work on database, but are printed for the first time only now (location of their documentation in the text below can be quickly found using computer searching facility).

Aelurillus stanislawi (Prószyński, 1999) (male from Israel) = *Rafalus stanislawi* Prószyński, 1999, *Aelurillus stanislawi* Azarkina, (2006) (nec Prószyński, 1999) = *Aelurillus minutus* Azarkina, 2002, *Amphidraus manni* (Bryant 1943) = *Nebridia manni* Bryant 1943, *Amphidraus mendica* (Bryant 1943) = *Nebridia mendica* Bryant 1943, *Amphidraus semicanus* (Simon, 1902) = *Nebridia semicana* Simon, 1902, *Bianor incitatus* Thorell, 1890 (in part) =

[1] Synopsis of the "Monograph of the Salticidae (Araneae) of the World 1995-2016".Part I "Introduction to alternative classification of Salticidae" - the full version is accessible at: http://www.peckhamia.com/salticidae/Subfamilies/, as well as its PDF (containing 760 pages, 231 MB) at http://www.peckhamia.com/salticidae/offline/Prószyński_2016a_CLASSIFICATION_SALTICIDAE_2016_V_1.pdf .
Sources and permissions of usage of illustrations are displayed in the Part II of the monograph at http://www.peckhamia.com/salticidae/ [both parts of the database are available also as PDF files].

Stichius albomaculatus Thorell, 1890, *Bryantella smaragdus* (Crane, 1945) = *Bryantella smaragda* (Crane, 1945), *Chinattus undulatus* (Song & Chai, 1992) (in part, male) = *Chinattus szechwanensis* (Prószyński, 1992), *Colyttus kerinci* (Prószyński & Deeleman-Reinhold, 2012) = *Donoessus kerinci* Prószyński & Deeleman-Reinhold, 2012, *Colyttus nigriceps* (Simon, 1899) = *Donoessus nigriceps* (Simon, 1899), *Colyttus striatus* (Simon, 1902) = *Donoessus striatus* (Simon, 1902), *Cytaea severa* (Thorell, 1881) (in part) = *Cytaea alburna* Keyserling, 1882, *Euophrys minuta* Prószynski, 1992) = *Lechia minuta* (Prószynski, 1992), *Laufeia daiqini* (Prószyński & Deeleman-Reinhold, 2012) = *Junxattus daiqini* Prószyński & Deeleman-Reinhold, 2012, *Laufeia kuloni* (Prószynski & Deeleman-Reinhold, 2012*)* = *Orcevia kuloni* Prószynski & Deeleman-Reinhold 2012, *Laufeia keyserlingi* (Thorell, 1890) = *Orcevia keyserlingi* (Thorell, 1890), *Laufeia eucola* (Thorell, 1890) = *Orcevia eucola* (Thorell, 1890), *Laufeia perakensis* (Simon, 1901) = Orcevia *perakensis* (Simon, 1901), *Laufeia proszynskii* Song, Gu & Chen, 1988 = *Orcevia proszynskii* (Song, Gu & Chen, 1988), *Laufeia squamata (* Żabka, 1985) = *Lechia squamata* Żabka, 1985, *Maevia* C. L. Koch, 1846 (in part) = *Paramaevia* Barnes, 1955, *Maevia hobbsae* Barnes, 1958 = *Paramaevia hobbsae* Barnes, 1958, *Maevia michelsoni* Barnes, 1958 = *Paramaevia michelsoni* (Barnes, 1958), *Maevia poultoni* Peckham & Peckham, 1909 = *Paramaevia poultoni* (Peckham & Peckham, 1901),*Maratus anomaliformis* (Żabka, 1987) = *"Lycidas" anomaliformis* Żabka, 1987, *Metaphidippus felix* (Peckham & Peckham, 1901) = *Messua felix* (Peckham & Peckham, 1901), *Monomotapa principalis* Wesolowska, 2000 = *Iranattus principalis* (Wesolowska, 2000), *Myrmarachne exasperans* (Peckham & Peckham, 1892) = *Emertonius exasperans* Peckham & Peckham, 1892, *Myrmarachne melanocephala* MacLeay, 1839 (in part) = *Myrmarachne ramosa* Badcock, 1918, *Myrmarachne melanocephala* MacLeay, 1839 (in part) = *Myrmarachne contracta* (Karsch, 1880), *Myrmarachne melanocephala MacLeay, 1839 (in part) = Myrmarachne albicrurata* Badcock, 1918, *Myrmarachne melanocephala MacLeay, 1839 (in part) = Myrmarachne lateralis* Badcock, 1918, *Myrmarachne melanocephala* MacLeay, 1839 (in part) = *Myrmarachne providens* Simon, 1901, *Myrmavola globosa* (Wanless, 1978) = *Toxeus globosus* (Wanless, 1978) (self-correction), *Omoedus albertisi (Thorell, 1881) = Zenodorus albertisi* (Thorell, 1881), *Omoedus arcipluvii* (Peckham, Peckham, 1901) = *Zenodorus arcipluvii* (Peckham, Peckham, 1901), *Omoedus asper* (Karsch, 1878) = *Ascyltus asper* (Karsch, 1878), *Omoedus bernsteini* (Thorell, 1881) = *Zenodorus bernsteini* (Thorell, 1881), - *Omoedus brevis* Zhang J., Maddison, 2012 = *Zenodorus brevis* (Zhang J., Maddison, 2012), *Omoedus cyanothorax* (Thorell, 1881) = *Pystira cyanothorax* (Thorell, 1881), - Omoedus durvillei (Walckenaer, 1837) = *Zenodorus durvillei* (Walckenaer, 1837)- *Omoedus danae* (Hogg, 1915) = *Zenodorus danae* Hogg, 1915, - *Omoedus darleyorum* Zhang J., Maddison, 2012 = *Zenodorus darleyorum* (Zhang J., Maddison, 2012),Omoedus ephippigerus (Simon, 1885) = *Pystira ephippigera* (Simon, 1885), *Omoedus karschi* (Thorell, 1881) = *Pystira karschi* (Thorell, 1881), *Omoedus lepidus (Guerin, 1834) = Zenodorus lepidus* (Guerin, 1834), *Omoedus metallescens* (Koch L., 1879) = *Zenodorus metallescens* (Koch L., 1879), *Omoedus meyeri* Zhang J., Maddison, 2012 = *Zenodorus meyeri* (Zhang J., Maddison, 2012), *Omoedus microphthalmus* (Koch L., 1881) = *Zenodorus microphthalmus* (Koch L., 1881), *Omoedus nigripalpis* (Thorell, 1877) = *Pystira nigripalpis* (Thorell, 1877)]. *Omoedus obscurofemoratus* (Keyserling, 1883) = *Zenodorus obscurofemoratus* (Keyserling, 1883), *Omoedus omundseni* Zhang J., Maddison, 2012 = *Zenodorus omundseni* (Zhang J., Maddison, 2012), *Omoedus orbiculatus (Keyserling, 1881) = Zenodorus orbiculatus* (Keyserling, 1881), *Omoedus papuanus* Zhang J., Maddison, 2012 = *Zenodorus papuanus* (Zhang J., Maddison, 2012), *Omoedus ponapensis* (Berry, Beatty, Prószyński, 1996) = *Zenodorus ponapensis* Berry, Beatty, Prószynski, 1996, *Omoedus semirasus* (Keyserling, 1882) = *Zenodorus semirasus* (Keyserling, 1882), *Omoedus swiftorum* Zhang J., Maddison, 2012 = *Zenodorus swiftorum* (Zhang J., Maddison, 2012), *Omoedus tortuosus* Zhang J., Maddison, 2012 = *Zenodorus tortuosus* (Zhang J., Maddison, 2012), *Omoedus versicolor* (Dyal, 1935) = *Pystira versicolor* Dyal, 1935, [Unrecognizable species of *Zenodorus*: *Omoedus jucundus* (Rainbow, 1912) = *Zenodorus jucundus* (Rainbow, 1912), *Omoedus juliae* (Thorell, 1881) = *Zenodorus juliae* (Thorell, 1881), *Omoedus marginatus* (Simon, 1902) = *Zenodorus marginatus* (Simon, 1902), *Omoedus niger* (Karsch, 1878) = *Zenodorus niger* (Karsch, 1878), - *Omoedus pupulus* (Thorell, 1881) = *Zenodorus pupulus* (Thorell, 1881), - *Omoedus pusillus* (Strand, 1913) = *Zenodorus pusillus* (Strand, 1913), *Omoedus rhodopae* (Hogg, 1915) = *Zenodorus rhodopae* (Hogg, 1915), *Omoedus syrinx* (Hogg, 1915) = *Zenodorus syrinx* Hogg, 1915, *Omoedus variatus* (Pocock, 1899) = *Zenodorus variatus* (Pocock, 1899), *Omoedus varicans* (Thorell, 1881) = *Zenodorus varicans* Thorell, 1881, *Omoedus wangillus* (Strand, 1911) = *Zenodorus wangillus* Strand, 1911], *Pellenes ostrinus* (Simon, 1884) (in part) = *Pellenes diagonalis* Simon, 1868, *Pseudicius alter* Wesolowska, 1999 = *Afraflacilla altera* (Wesolowska, 1999), *Pseudicius arabicus* (Wesolowska, van Harten, 1994) = *Afraflacilla arabica* Wesolowska, van Harten, 1994, *Pseudicius bipunctatus* Peckham, Peckham, 1903 = *Afraflacilla bipunctata* (Peckham, Peckham, 1903), *Pseudicius braunsi* Peckham, Peckham, 1903 = *Afraflacilla braunsi* (Peckham, Peckham, 1903), *Pseudicius datuntatus* Logunov, Zamanpoore, 2005= *Afraflacilla datuntata* (Logunov, Zamanpoore, 2005), *Pseudicius elegans* (Wesolowska, Cumming, 2008) = *Afraflacilla elegans* (Wesolowska, Cumming, 2008), *Pseudicius eximius* Wesolowska, Russel-Smith, 2000 = *Afraflacilla eximia* (Wesolowska, Russel-Smith, 2000), *Pseudicius fayda* Wesolowska, van Harten, 2010 = *Afraflacilla fayda* (Wesolowska, van Harten, 2010), *Pseudicius flavipes* Caporiacco, 1935 = *Afraflacilla flavipes* (Caporiacco, 1935), *Pseudicius histrionicus* Simon, 1902 = *Afraflacilla histrionica* (Simon, 1902), *Pseudicius imitator* Wesolowska, Haddad, 2013 = *Afraflacilla imitator* (Wesolowska, Haddad, 2013), *Pseudicius javanicus* Prószynski, Deeleman-Reinhold, 2012 = *Afraflacilla javanica* (Prószynski, Deeleman-Reinhold, 2012), *Pseudicius karinae* (Haddad, Wesolowska, 2011) = *Afraflacilla karinae* (Haddad, Wesolowska, 2011), *Pseudicius kraussi* Marples, 1964 =

Afraflacilla kraussi (Marples, 1964), *Pseudicius mikhailovi* Prószynski, 1999 = *Afraflacilla mikhailovi* (Prószynski, 1999), *Pseudicius mushrif Wesolowska, van Harten, 2010* = *Afraflacilla mushrif* (Wesolowska, van Harten, 2010), *Pseudicius philippinensis* Prószynski, 1992 = *Afraflacilla philippinensis* (Prószynski, 1992), *Pseudicius punctatus* Marples, 1957 = *Afraflacilla punctata* (Marples, 1957), *Pseudicius refulgens* Wesolowska, Cumming, 2008 = *Afraflacilla refulgens* (Wesolowska, Cumming, 2008), *Pseudicius reiskindi* Prószynski, 1992 = *Afraflacilla reiskindi* (Prószynski, 1992), *Pseudicius roberti* Wesolowska, 2011 = *Afraflacilla roberti* (Wesolowska, 2011), *Pseudicius spiniger* (Pickard-Cambridge O., 1872) = *Afraflacilla spiniger* (Pickard-Cambridge O., 1872), *Pseudicius tamaricis* Simon, 1885 = *Afraflacilla tamaricis* (Simon, 1885), *Pseudicius tripunctatus* Prószynski, 1989 = *Afraflacilla tripunctata* (Prószynski, 1989), *Pseudicius venustulus* Wesolowska, Haddad, 2009 = *Afraflacilla venustula* (Wesolowska, Haddad, 2009), *Pseudicius wadis* Prószynski, 1989 = *Afraflacilla wadis* (Prószynski, 1989), *Pseudicius zuluensis* Haddad, Wesolowska, 2013 = *Afraflacilla zuluensis* (Haddad, Wesolowska, 2013), *Servaea incana* (Karsch, 1878) (in part) = *Servaea vestita* (L. Koch, 1879), *Sidusa extensa* (Peckham & Peckham, 1896) = *Cobanus extensus* (Peckham & Peckham, 1896), *Sidusa* Peckham & Peckham, 1895 (in part) = *Cobanus* F. O. Pickard-Cambridge , 1900, *Sidusa* Peckham & Peckham, 1895 (in part) = *Wallaba* Mello-Leitão, 1940, *Stagetillus elegans* (Reimoser, 1927) = *"Padillothorax" elegans* Reimoser, 1927, *Stagetillus taprobanicus* (Simon, 1902) = *"Padillothorax" taprobanicus* Simon, 1902, *Telamonia besanconi* (Berland & Millot, 1941) = *Brancus besanconi* (Berland & Millot, 1941), *Telamonia fuscimana* (Simon, 1903) = *Brancus fuscimanus* (Simon, 1903), *Telamonia longiuscula* (Thorell, 1899) = *Hyllus longiusculus* (Thorell, 1899), *Telamonia thoracica* (Thorell, 1899) [=*"Viciria"thoracica:* Prószyński, 1984 = *Hyllus thoracicus* (Thorell, 1899), - *Thiania sundevalli* (Thorell, 1890) = *Nicylla sundevalli* Thorell, 1890, *Thiania spectrum* (Simon, 1903) = *Thianitara spectrum* Simon, 1903, *Thiania thailandica* (Prószyński & Deeleman-Reinhold, 2012) = *Thianitara thailandica* Prószyński & Deeleman-Reinhold, 2012, *Viciria albocincta* Thorell, 1899 = *Hyllus albocinctus* (Thorell, 1899), *Yaginumaella striatipes* (Grube, 1861) (in part) = *Yaginumaella ususudi* Yaginuma, 1972.

Key words: taxonomy, classification, Salticidae, jumping spiders, new genera, revised synonyms, revised combinations, new combinations, reinstated synonyms, reinstated combinations, groups of genera, AEURILLINES, AMYCINES, AMYCOIDA VARIA, ASTIAINES, BELIPPINES, CHRYSILLINES, COCALODINES, COLONINES, DENDRYPHANTINES, DIOLENINES, EUODENINES, EUOPHRYINES, EUPOAINES, EVARCHINES, HABRONATTINES, HARMOCHIRINES, HELIOPHANINES, HISPONINES, HYLLINES, ICIINES, LAPSIINES, LIGONIPEINES, LYSSOMANINES, MENEMERINES, MYRMARACHNINES, NOTICIINES, PELLENINES, PSEUDICIINES, SIMAETHINES, SITTICINES, SPARTAEINES, THIRATOSCIRTINAE, YAGINUMAELLINES, YLLENINES.

Introduction: why alternative classification of Salticidae ?

The state of knowledge of Salticidae, after 250 years of taxonomic studies, is highly unsatisfactory. The World Spider Catalog lists now 5934 scientific names of Salticidae considered available, that is published in accordance with the International Code of Zoological Nomenclature. How many of them have biological meaning? According to Prószyński (2016b) out of these names only 2172 can be assigned to any recognizable biological species, that is having diagnostic drawings of genitalic characters for both sexes, additional 2204 species are incompletely known, having drawings for one sex only. Of the remaining names, there is a chance that some of 925 names may become revalidated by eventual taxonomic revisions, because their type specimens are preserved and located in known collections (Prószyński 1971, 2016b). 572 names have no types specimens located (that is presumably lost) and no diagnostic drawings, so they are in fact useless ballast on species records. Prószyński (op. cit.) quotes also 5092 junior synonymic names, many of them probably mismatched. The number of recognizable genera amounts to 573. The exact figures in this statistic keep changing with every new publication, but we understand that only fraction of really existing species has been ever described and there may be twice as much species in the nature pending discovery and description, a lot of which will be whipped out, together with their environments, before even collected.

Management of data pertaining to thousands of species require development of a system permitting storage, easy retrieval and exchange of information of all sorts. To be able to move among thousands of species, they should be arranged into uniform (more or less) groups of several hundreds species each, recognizable and distinctly different from other groups of the same rank. These smaller groups should be again subdivided into even smaller groups, named genera, containing up to several dozens of species. Groups, of each rank, should fulfill basic condition - be clearly defined, documented and thus recognizable. From the point of view of a person identifying spiders it is irrelevant how the diagnostic characters are

selected and which philosophical comments are assigned to them, they must be easily noticeable, characterize all species.

In the taxonomic practice, species are always defined (sufficiently or insufficiently) by their description, although individual variation are often misinterpreted, mismatched sexes hamper further syntheses. Genera consist of species closely related - that is looking similar, and authors usually follow that principle, unfortunately have various ideas by which characters genera could be defined, not to mention authors' experience as well as abilities to recognize and document species and genera. All that leads to delimiting heterogeneous genera, or to their excessive splitting. International Code on Zoological Nomenclature contains various rules on handling genera, splitting them, or merging, all made on assumption that genera are coherent groups of related species. However, in Salticidae, many genera are still incoherent, incidental groups of species, and applying ICZN rules (for instance on transferring unknown species together with their incidental type species) without preliminary revision become senseless wastage of time. Speaking simply, genera (that is ALL assigned species) must be revised, before further rearranged.

Taxa of higher rank, above genus level, containing several hundreds of species, are even more difficult to delimit. They should fulfill criterion of affinity of included genera, which means finding out characters mutual to included genera, and at the same time sufficiently different from other groups of the same rank. At present, knowledge of Salticidae is too insufficient, to be sure of any grouping of species, created by various methods for different purposes (identification, establishing phylogenies, and various sundry purposes). Creating groups is stimulating, providing their provisional character is remembered. Classification of species of unknown faunae starts from supergeneric characters, but if these characters are derived from heterogeneous group, then their application may be limited to some members of the group only, which will derail the whole classification process. It is better to realize purposes of delimitation of particular groups, mixing up purely identificatory purposes with phylogeny influences negatively both directions of research. I propose therefore to create provisional system of pragmatic classification of genera, parallel to more theoretical system of affinities and phylogeny. This paper is devoted to propose such pragmatic classification.

Material and Methods

The paradigm of this paper consists of data preliminarily stored in electronic database, electronic catalog of spiders and instant access to taxonomic literature, available in electronic libraries. These are sufficient for compilation of preliminary classificatory system, although apparently not yet for final understanding of phylogeny. Practical operation are facilitated by extraction of basic characters of ALL ± 4800 recognizable species, arranged into comparative plates of diagnostic drawings and photographs of each genus, stored in the Internet database of Salticidae at http://www.peckhamia.com/salticidae/Subfamilies/index.html (Prószyński 2016a). That permits to scan, within seconds, characters of species of each genus on the background of instant survey of the same characters in ALL recognizable species. Additional taxonomic data of particular species (diagnostic documentation of synonyms, geographical distributions, whereabouts of stored collections, etc.) are parallely available from http://www.peckhamia.com/salticidae/index.html. Other facilities, used simultaneously, are selected bibliographic citations for each species, available in the World Spider Catalog (later quoted as WSC in the text) at http://www.wsc.nmbe.ch/, complemented by more detailed and trustworthy "Bibliographia Areorum" by Bonnet (1945-1961) in a case of need. Particularly helpful was electronic library provided by the WSC, permitting instantly to read full texts of each arachnological publication.

General considerations on Salticidae taxonomy

There are three system of subdivision of family Salticidae.

1. **Traditional system** popularized by works of Simon (1901-1903), modified by Petrunkevitch (1928), with contents listed by Bonnet (1959: 5052-5054, copied also in http://www.peckhamia.com/salticidae/ZZZ-Bonnet-list.html), based on cheliceral dentition, arrangements of eyes, body proportions, distribution of spines and characteristic groups of setae, visible with a hand lens.

These characters are artificial, in a sense that are not related to affinities, are imprecise (eyes II "**closer**" to eyes I, versus "**somewhat more distant**") and do not account for diversity within groups. In the original Simon's system genera are joined into **groups of genera,** Petrunkevitch 1928 named them "subfamilies", which was followed by all subsequent authors until Maddison (2015 and other papers). The definitions of particular subfamilies are insufficient and delimitation of genera is subject of endless variations, due to scanty knowledge. Modern authors have been trying to improve mess of the system, without solving the essential problem, by numerous exceptions and additions to particular subfamilies. In practice they use names of subfamilies, but there are no definitions of many of them and no stated criteria of classification of particular genera. None the less, that system permitted identification of genera by arachnologists accustomed to it (among others Galiano and Andreeva - personal communications), the difference with "Pragmatic classification" (below) lies in convenience and precision of usage.

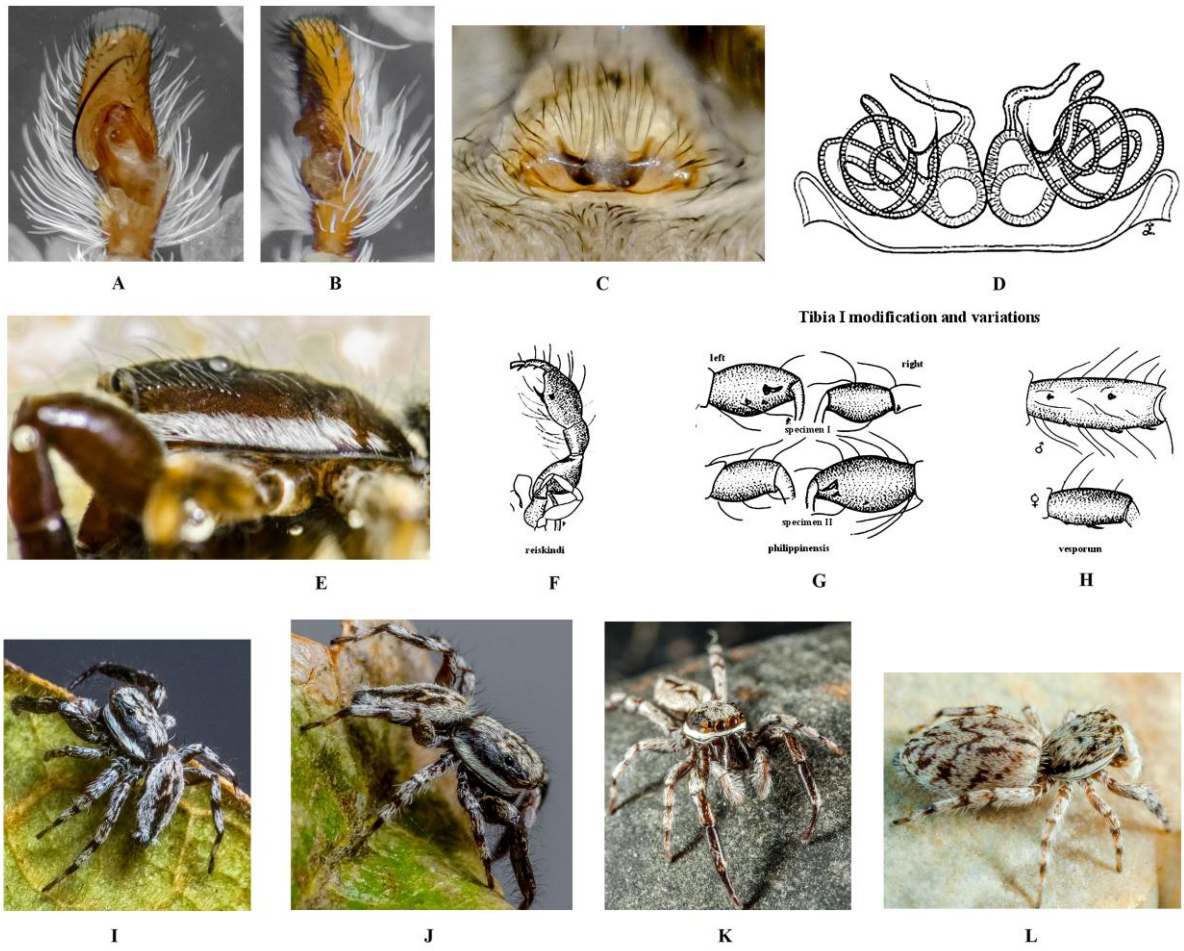


Figure 1A. Convenient and most reliable morphological diagnostic characters in Salticidae. **A, C, E, I-L** - *Psenuc* sp., **D** - *Psenuc courti* Żabka, 1993, **F** - *Afraflacilla reiskindi* (Prószyński, 1992), **G** - *Afraflacilla philippinensis* (Prószyński, 1992), **H** - *Psenuc vesporum* (Proszynski 1992), **A-D**. Genitalic charaters: **A-B** - palp in standard position, **C** - epigyne, external view, **D** - internal structure of epigyne: note copulatory openings, ducts, spermathecae (with pheromone exuding pore, developed here duct like, pockets), **E-H** - morphological characters of this particular genus, **E** – lateral subocular row of stridulatory bristles on tubercles, **F** - modified leg I, **G** - variation in shape and spination of tibia I, left and right in the same specimens, upper male, lower - female, **H** - male and female variation in tibia I in another species, **I-K** - body shape and color pattern in male, **L** - the same in female.

SOURCES: **A-E, I-L** - Photo R. Whyte, **D** - Żabka 1993 Invertebrate Taxonomy 7: 282, f. 5A-C; **F, G-H** - Prószyński 1992a: 109, f. 112-116; 108-109, f. 107-110; 112, f. 88-97.

2. There are attempts to base subdivision of family Salticidae on molecular data, especially by gene sequencing, developed by Maddison et al. (among other 2003b, 2008, 2012, 2014, 2015). A concise (61 pages!) summary of conclusions drawn from that approach was recently published by Maddison (2015). The declared purpose was to show phylogenetic relationships between genera and super generic taxa, without obvious implications to their identification. Valuable for study of evolution, as they seem to be, they are not translated yet into practical classification, there are no correlations with observable, morphological characters. ["... *In the molecular phylogeny ... A high genitalic diversity could occur even in closely related species, if for instance strong sexual selection drives rapid divergence*..." (Zhang J., Maddison, 2015: 938 (1): 30) - an excuse acceptable for some scales of diversity, but exaggerated in practical application]. It appears that similar high diversity haunts also body shape and color pattern - see Figs 28B, 39M-P, 39S-T.

To survey properties of Maddisons's approach, Internet "Monograph of the Salticidae (Araneae) of the World 1995-2016" contains also special version presenting genera and their diagnostic documentation arranged according to Maddison's (2015) classification (http://www.peckhamia.com/salticidae/M_0_Title_page.html).

3. **Pragmatic classification** based on easily noticeable and verifiable, morphological diagnostic characters, such as male palps together with internal structures of epigyne, checked for representability and stability in **ALL** 4800 species known. That approach, displayed in orderly, comparative fashion in the "Monograph of Salticidae (Araneae) of the World 1995-2016. Part I - Introduction to alternative classification", (http://www.peckhamia.com/salticidae/Subfamilies/index.html), permitting to see a pattern of similarities and their gradual changes, amounts to a new system of identification of Salticidae. Procedures involve creation of precise drawings, or photos, of characters presented in a standard, comparative way for comparison with documentation of the same characters in relevant type species (Fig. 1B- letters A-C). Next step is arrangement of all relevant species in the serial comparison plates, as demonstrated on a case of comparative research on genera *Omoedus*, *Pystira* and *Zenodorus* (see Figs. 1B –letters D-H), which should be interpreted on the background of knowledge of the whole span of diversity of these characters in the whole group of genera (in this case all EUOPHRYINES – see Figs 32-39, below). That procedure was tested already in large number of taxonomic revisions of genera, which proved its value. Serial comparison has special analytical importance, because arranging characters by similarities in a chain of evolving forms, permits to display groups of coherent, similar species and to disclose species standing out of chain - presumably deserving transfer to other genera, or delimitation as a new genus. Developing the described procedure and testing its applicability become possible now, after 60 year of accumulation of diagnostic morphological documentation by several researchers, using similar research methodology. It disregards temporarily hypothetical interpretations of relationships and ancestry, devoid of clear morphological premises, is based on characters listed below, assumed to be the most convenient for classificatory purposes.

3A. Male palp characters[2] were selected as a diagnostic tool in a result of extensive empirical practice. Palps are conservative, stable structures, characterizing large groups of genera, with small modification of details in related genera and species. These are the only structures which, after quick glance, permits identification of groups of genera (or subfamilies, in a sense of Petrunkevitch 1928). There are no other structures serving that level of identification so well. The most convenient way of comparing palps is to document them in their resting state, in ventral and retrolateral position (tibial apophysis up). Recent research of several authors indicate that structure of male palps, especially of embolus and conductor, is more complicated than heretofore assumed, so further studies aimed at better understanding of their details and function may cause deep changes in the identificatory system.

[2] Examination of palps involves detaching them from the body and fixing in requested standard positions (the easiest way to do that is to push palp into sands on the bottom of a Petri dish) and examining under dissecting microscope covered by alcohol, oblique illumination by a micro-lamp helps to differentiate details of structure).

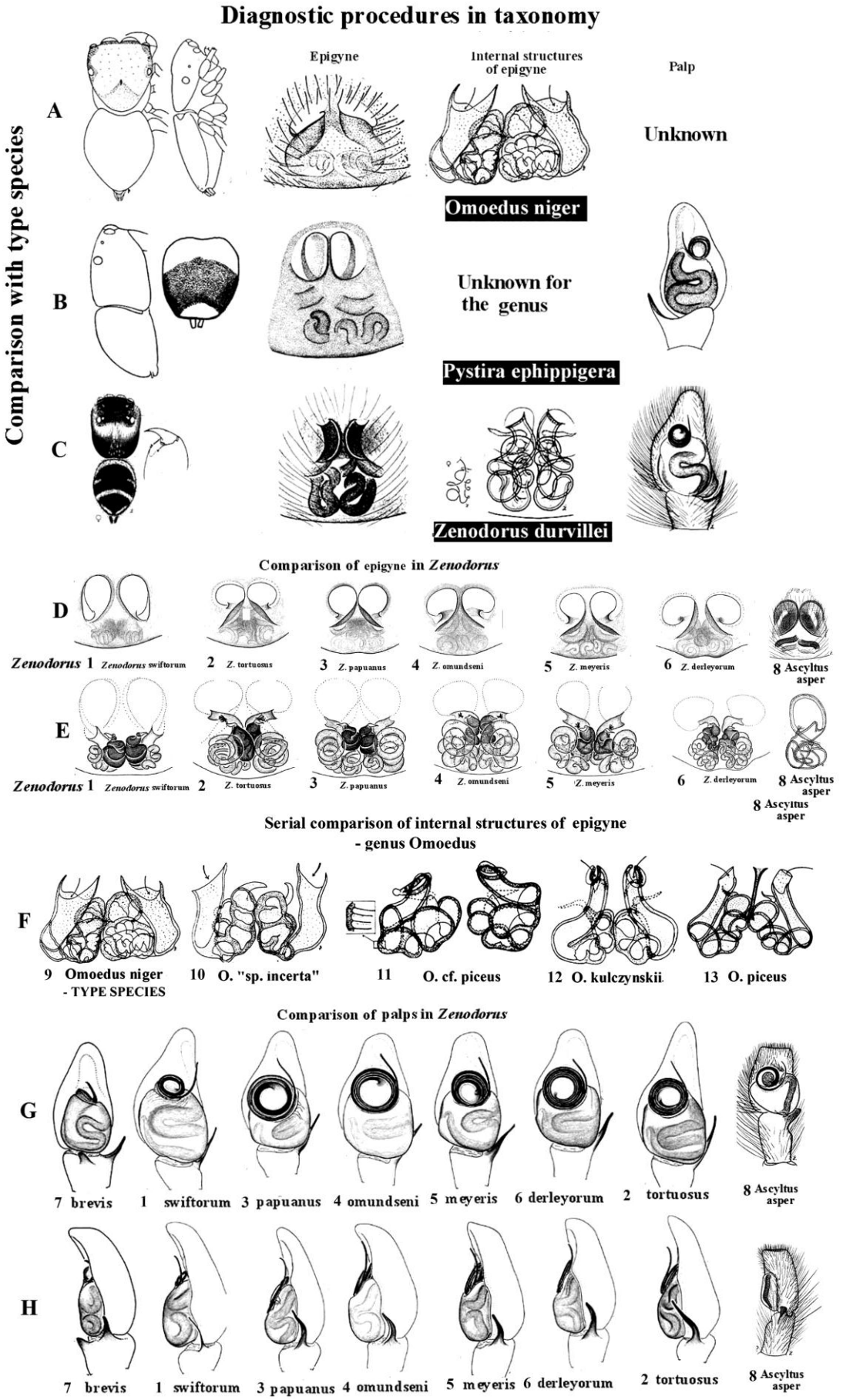

Diagnostic procedures in taxonomy
Comparison with type species
Epigyne
Internal structures of epigyne
Palp
A
Unknown
Omoedus niger
B
Unknown for the genus
Pystira ephippigera
C
Zenodorus durvillei
Comparison of epigyne in Zenodorus
D
Zenodorus 1 Zenodorus swiftorum
2 Z. tortuosus
3 Z. papuanus
4 Z. omundseni
5 Z. meyeris
6 Z. derleyorum
8 Ascyltus asper
E
Zenodorus 1 Zenodorus swiftorum
2 Z. tortuosus
3 Z. papuanus
4 Z. omundseni
5 Z. meyeris
6 Z. derleyorum
8 Ascyltus asper
8 Ascyltus asper
Serial comparison of internal structures of epigyne - genus Omoedus
F
9 Omoedus niger - TYPE SPECIES
10 O. "sp. incerta"
11 O. cf. piceus
12 O. kulczynskii
13 O. piceus
Comparison of palps in Zenodorus
G
7 brevis
1 swiftorum
3 papuanus
4 omundseni
5 meyeris
6 derleyorum
2 tortuosus
8 Ascyltus asper
H
7 brevis
1 swiftorum
3 papuanus
4 omundseni
5 meyeris
6 derleyorum
2 tortuosus
8 Ascyltus asper

Figure 1B. Diagnostic procedures in taxonomy based on morphological characters, on example of controversial classification of genera *Omoedus*, *Pystira* and *Zenodorus*, to be interpreted on the background of general span of diversity of all genera of EUOPHRYINAE (shown on Figs 32-39, below) (NOTE that structures shown were drawn during 41 years for different purposes, gaps in documentation include palps of *Omoedus niger* and ducts with spermathecae in *Pystira*). **A-C** – Comparison of diagnostic characters of type species of genera: **A** – true *Omoedus*, **B** - *Pystira*, **C** - *Zenodorus*. **D1-8** - Serial comparison of epigyne, ventral view in *Zenodorus*, **E1-8** - serial comparison of ducts and spermathecae in *Zenodorus*, **F1-8** - serial comparison of ducts and spermathecae in *Omoedus*, **G1-8** - serial comparison of palpal organ, ventral view in *Zenodorus*, **H1-8** - serial comparison of palpal organ, retrolateral view in *Zenodorus*, Numbers in lines **D, E, G, H** denote respectively: **1** - *Zenodorus swiftorum* (Zhang J. & Maddison, 2012), **2** - *Z. tortuosus* (Zhang J. & Maddison, 2012), **3** - *Z. papuanus* (Zhang J. & Maddison, 2012), **4** - *Z. omundseni* (Zhang J. & Maddison, 2012), **5** - *Z. meyeris* (Zhang J. & Maddison, 2012), **6** - *Z. derleyorum* (Zhang J. & Maddison, 2012), **7** - *Z. brevis* (Zhang J. & Maddison, 2012), **8** - *Z. tortuosus* (Zhang J. & Maddison, 2012) (all originally described as *Omoedus*), in line **F: 9 –** *Omoedus niger* Thorell, 1881 – TYPE SPECIES (not *Zenodorus niger* (Karsch, 1878)), **10 –** *Omoedus* "*sp. incerta*"**, 11 –** *Omoedus* cf. *piceus***, 12 –** *Omoedus kulczynskii* Prószyński, 1971, **13 –** *Omoedus piceus* ,Simon, 1902. Species #8 standing out of the series **D-E** and **G-H** was ultimately transferred to genus *Ascyltus*!

SOURCES: **A, B, F** - Prószyński. 1971c. Annales Zoologici 28: 172-173, f. 28-33; **C** - Davies, Żabka 1989 Memoirs of the Queensland Museum27 (2): 230, pl 32; **D-E, G** - Zhang J., Maddison 2012: Zootaxa, Magnolia Press 3491: 35-36, f 159–169.

…figure on page 7

3B. Internal structure of epigyne**[3] characterizes groups of species within a genus, their fine details help to identify species. There are some traits of structures characteristic for groups of genera, even subfamilies, but that particular usage requires further comparative studies. Evolution of spermathecae and ducts may runs parallel in unrelated genera and this may be in some cases misleading (for instance ducts making double spiral in some *Marpissa* and *Yllenus*). Fine details of internal structures should be documented in their true view, without omissions and diagrammatic simplifications. Some arachnologists dislike precise operations connected with examination of spermathecae and ducts, none the less these should be obligatory in first descriptions of new species and genera, in revisions, intergeneric transfers and synonymizations. Publications to date are full of cases of false identifications, synonymy, placements and classifications, due to careless omissions and/or simplified presentations of these structures.

3C. External appearance of epigyne may help identify species within a genus, during routine identification of known species, but is unreliable for larger groups of species and cannot substitute for its internal structures, in more complicated or responsible situations.

3D. Natural coloration of live or fresh specimen, displayed on photos (also dry specimens, preserved like insects, retains their coloration for hundred of years) are probably one of best characters for identification of local species. **But WARNING** - they are adaptative, similar patterns are often developed independently in several unrelated genera within the same, or distant, geographical areas, even on different continents (for instance patterns of light reflecting, iridescent scales). These properties were unrecognized, when research was conducted on long preserved, faded specimens).

3E Other body features like cheliceral dentition, spines, bunches of setae, spots of color setae, etc., were popular among arachnologists as easily observable with a hand lens. These can be useful if compared directly, but described routinely, as generally practiced, are often useless. Body shape, proportions and size - may be very well memorized, but are difficult and tedious to describe. They can be variable to large extent.

[3] Examination of internal structures of epigyne involves preliminary detaching of epigyne from body (best by inserting fine blade of a small scalpel under epigyne and cutting the tegument around), macerating and clarifying soft tissues, rinsing, staining in Chlorazol Black E, mounting as temporary slide in transparency increasing, penetrating medium (Clove Oil, glycerin etc.) medium, finally storage after examination in a microvial (could be easily cut from laboratory glass tubing 3-4 mm diameter), together with the whole specimen it belongs to.

3F. Non visible features[4]may create new branch of biological research, but at present do not seem to be verifiable, or correlate with results of classifications based on morphology, which are the domain of taxonomy.

Quality of diagnostic documentation constitute mutual problem of all classificatory systems in Salticidae. Presentation of diagnostic features without adequate graphic documentation is insufficient for scientific purposes, translation of appearance of characters into words is too imprecise and often misleading. Diagnostic drawings should be precise, without simplifications, details should be shown in adequate size. Drawings should be confirmed parallel by color photographs and/or computer enhanced automontage. Publications printer on paper often present black and white photographs, for cost reducing reasons – this lowers significantly diagnostic value, which should be compensated by full color electronic copies, accessible for specialists.

Weaknesses of application of subfamily concept in Salticidae.

Present application of the subfamily concept in Salticidae is ineffective because of scarcity of taxonomic revisions of genera included, insufficient definitions and imprecise documentation of diagnostic characters of particular taxa. For practical reasons, keys in this publication attempt to use substitutes of subfamilies - informal GROUPS OF GENERA facilitating identification of genera. There is no provision for usage of GROUPS OF GENERA in the International Code of Zoological Nomenclature, but they can be used informally, following Simon (1901-1903) as provisional equivalent of subfamilies. Each GROUP OF GENERA is defined here by characters of included genera and ALL their recognizable species[5], represented below by selected single species for each genus, comparable instantly (using enclosed links) with ALL other species stored in database. Incongruence of some species can presumably indicate their misplacement, but solution of such cases is left for the future research. The similarities of genera presumably indicate their affinities, but establishing of affinities is not main purpose of this paper. To indicate differences with formal subfamilies of canonical authors, names of groups of genera are written in CAPITAL LETTERS and distinguished by ending -ES, instead of formal -INAE.

Practical difficulties in classification of Salticidae. First difficulty is incomplete material, especially from the less studied areas of the world, large part of existing Salticidae species is presumably not even discovered and, if kept in existing collections, still not described. Placement of a species in a genus is defined by characters of **BOTH males and females**, primarily on palps and internal structure of epigyne, so classification of unmatched specimens is difficult, there are genera in which no single female is documented, also many couples are mismatched. Some species differ considerably from their supposed type species (often misplaced in their nominal genera), so no placement could be accepted as granted without revision. Summary transfers of numerous species to another genera without revision, only because they bear the same genus name, increases chaos in taxonomic system. Diagnostic drawings and photographs, if exist at all, are of various quality, which often results in misclassifications. Future progress in taxonomy of Salticidae depends from wide application of photographs of live specimens, their identification should be, however, confirmed by parallel documentation of palps and epigyne. Serious harm for knowledge of faunae is inflicted by policy of several Publishers, refusing permission to copy diagnostic drawings and photographs to which they hold copyrights. How the diagnostic features of newly published Salticidae could be digested and included into the classificatory system if they cannot be compared with series of those already known? All these difficulties are not limited to a few species only, may concern all recognizable 4800 species.

[4] Acceptation of characters based on specialized techniques: chemical, molecular, or gene sequencing, require passing taxonomic utility test to show their practical value in checking diversity and stability in statistically sufficient samples of species of each genus, to demonstrate how they separate groups of genera within the whole system of Salticidae (like similar test of morphological characters for 4800 species already done). Since these special characters are new for Salticidae, addition of extensive, but easy to follow explanations would be appreciated.

[5] Disclaimer. Placement of particular taxa, proposed in this paper, is temporary and depends from the present state of their knowledge. Improvement in knowledge may lead to refinement of criteria and, possibly, to changes in placement.

Pitfalls of taxonomy of Salticidae

Survey of the fauna of Salticidae of the world discloses striking differences in the approaches to synthesizing genera and groups of genera. Some species are painstakingly defined, with searches for similarities and differences (in other words closer or more distant phylogeny relationships) are carried out, parts of the system are gradually built up. Examples in my own practice are separation of genera *Sitticus* and *Yllenus* in 1960ties, separation of *Viciria*, *Telamonia* and *Phintella* in 1980ies, or revision of *Heliophanus* by Wesołowska (1986). Such researches last years but give solid bases of understanding of what particular genera are, although leave also some residue of uncertainty of unresolved cases, pending further research.

Arachnologists with brilliant minds use different approach - skip tedious comparisons of structures, because they knew by intuition what constitutes particular genera, which genera should be merged and which should be split. To add weight to their wisdom they may support conclusion by some highly scientific methods, without bothering to explain how they can be applied, and verified. They often refer to the not available documentation "in press" in descriptions they publish.

Some imposed impractical nomenclatural rules are simply sabotage of classification, like "replacement name required by generic transfer" (frequently used by World Spider Catalog). That one mandates automatic transfer of not studied species to other genera, following transfer of a single species, incidentally appointed type species of a genus, but often having nothing in common with other species bearing the same genus name. It leads to senseless shuffling of nominal species between genera, making scientific processes more complicated and misleading. Situation is aggravated by imposed obligatory following International Codex of Zoological Nomenclature (what ever that means in particular cases) as condition of publishing manuscripts. Publications on Salticidae contain often number of species misidentified by incompetent authors, not corrected by their even less competent leaders, not disclosed in superficial peer reviews, and in due course published, to become finally fitted by catalogs and data bases as bricks into building of modern science.

Science of taxonomy becomes industry, ruled rather by business habits than outdated scientific ethos. The impact of the above pitfalls is so tremendous.

Definitions of groups of genera of Salticidae based on palps and epigyne[6]

Definition of Salticidae: spiders characterized by broadly truncated carapace, with eyes typically arranged into three rows: four + two + two. Due to large number of species (about 4376 recognizable at present and presumably twice as much insufficiently documented, hence unrecognizable, or even not yet discovered) all their morphological, biological and ecological features are much diversified. Genera identifiable mainly by palps and internal structures of epigyne, local species of known genera also by external appearance.

Supergroup of genera CHRYSILLOIDA

Definition. Tentatively delimited supergroup of genera of Salticidae, having embolus arising from a fleshy basis, usually short, bent or straight (Fig. 4E). Basis of embolus may be flat, overlying part of bulbus, or more robust, parallel to bulbus. Anterior end of bulbus may be narrow and conical, or broad. Important accessory character is provided by the bend of spermophor, visible either at anterior edge of bulbus or, more posteriorly, at the retrolateral side of bulbus (Fig. 4B). Epigyne and its internal structures are diverse, may be used for recognition of some groups of genera, but not the supergroup as a whole. General body appearance and color pattern are useful for recognition of particular genera, but not the supergroup as the whole. The following groups of genera are included: CHRYSILLINES, COLONINES, ICIINES, HELIOPHANINES, NOTICIINES and SIMAETHINES.

[6] Drawings presented in this paper, below, illustrate characters of single species selected as representative each of 573 genera of Salticidae, diagnostic drawings of ALL ± 4376 species are shown at http://www.peckhamia.com/salticidae/Subfamilies/index.html. Proposed division does not include characters based on invisible, non-morphological characters. Finding out relevant parts of the text may be facilitated by using computer "searching" function.

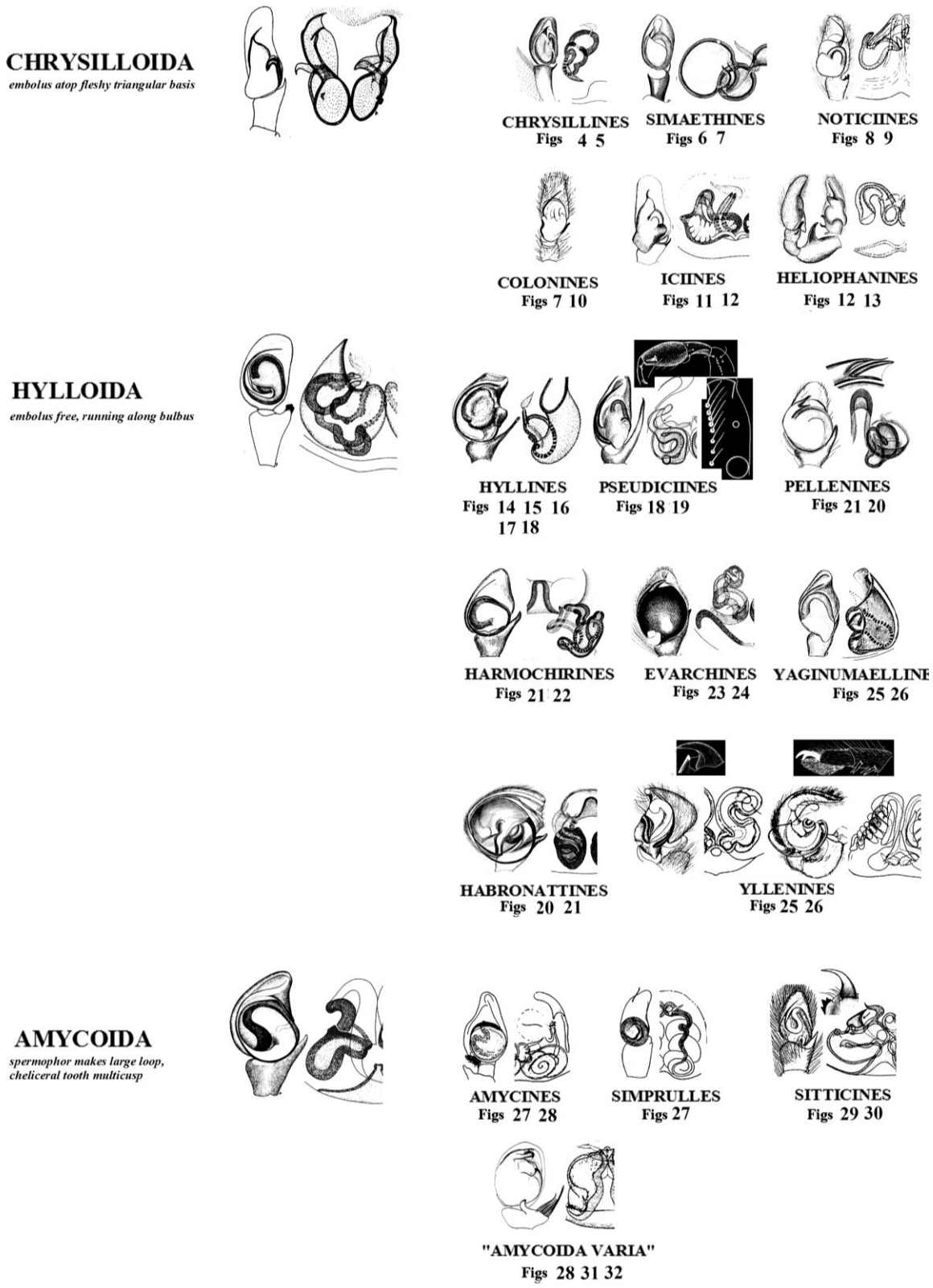


Figure 2. Graphic index to groups of genera of Salticidae discussed in this paper, with miniaturized drawings of their main diagnostic characters.

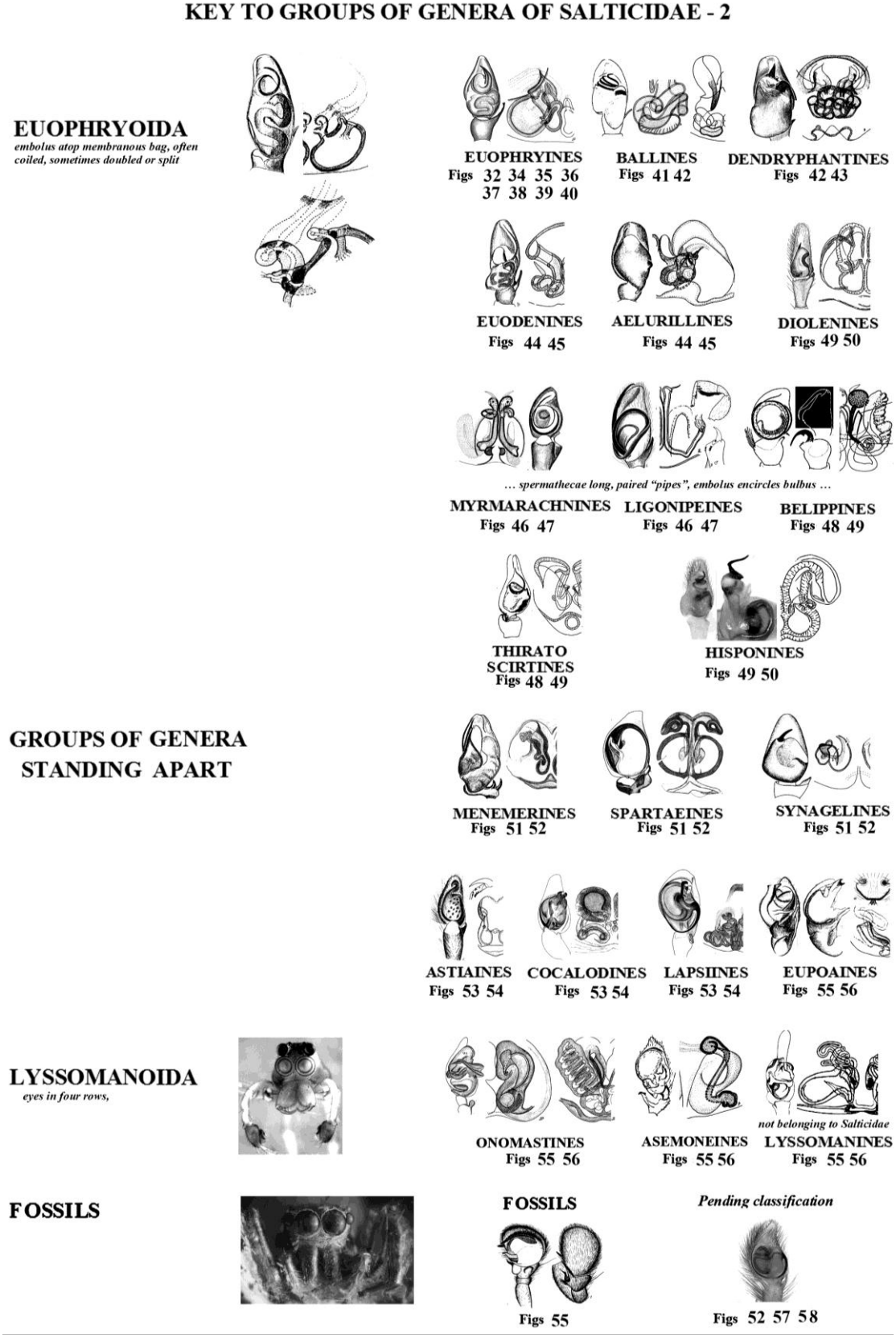


Figure 3. Graphic index to groups of genera of Salticidae discussed in this paper, with miniaturized drawings of their main diagnostic characters (continuation).

Remark. Placement of COLONINES raises some doubts, due to imprecise diagnostic drawings of palps. Arches of spermophor in the anterior half of bulbus resembles CHRYSILLOIDA, but it is not clear whether posterior fleshy area is basis of embolus, overlying bulbus, or is it just part of bulbus with embolus connected in a different way. Diagrammatic drawing of cleared bulbus in *Colonus* (Fig. 7R) with long, gently bent, hair like embolus confirms that relationship, but remains in conflict, however, with excellent drawing of expanded bulbus of *"Cotinusa*" sp. (Fig. 10DD) (Ruiz & Maddison, 2015: 255, f. 52) whose curled embolus atop large distal haematodocha suggest rather placement in the supergroup EUOPHRYOIDA. The question requires further checks, for the time being the latter drawing is assumed to depict misidentified species.

Composition. Contains informal groups of genera: CHRYSILLINES, COLONINES, HELIOPHANINES, ICIINES, NOTICIINES and SIMAETHINES.

Group of genera CHRYSILLINES Prószyński, 2016

Figures 4-5

Database contains 32 recognizable genera, 317 species

Type genus *Chrysilla* Thorell, 1887, of which type species is *Chrysilla lauta* Thorell, 1887.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name.

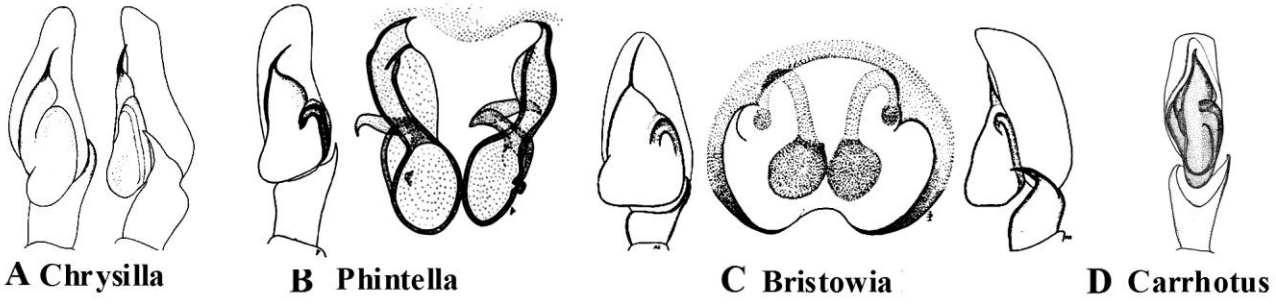
Mutual diagnostic characters of genera included. Embolus atop triangular basis, overlapping the whole length of bulbus as a thin, fleshy layer, narrowing anteriorly, separates anterolateral arch of spermophor by distinct oblique border (Fig. 4B). Embolus itself is short, sharp pointed. Spermathecae usually oval, or globular, or their derived states, with straight ducts running anteriorly.

Description. Combination of characters: obliquely running basis of embolus and anterolateral arch of spermophor, emerging from under it, seems to be mark of CHRYSILLINES. Diversity in exact direction of edge of basis (which may be also transverse across bulbus), sometimes appearing as lateral to bulbus, length embolus and its characteristic, creates difficulty in placement of some genera, and led to separation of groups of genera COLONINES, ICIINES and NOTICIINES which require further precise studies and, possibly, searching for supporting correlations. Body shape and color pattern characterize particular genera, but do not help in delimiting the group of genera as a whole. Enclosed illustrations are integral part of description. For more diversity of diagnostic characters in ALL recognizable species see http://www.peckhamia.com/salticidae/Chrysillinae_clas.html.

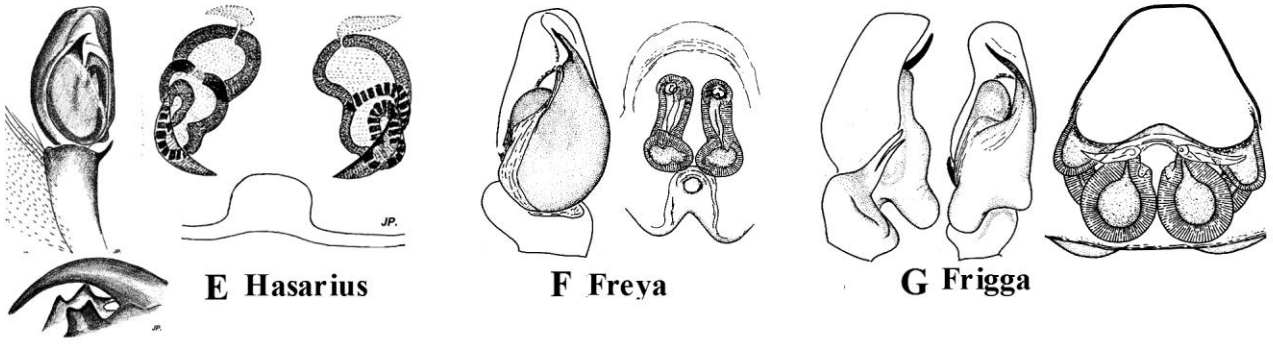
REMARKS. Acceptation as a leading character the oblique basis of embolus, with anterior part of spermophor emerging laterally from beneath it, causes inclusion of some genera of uncertain relationship into CHRYSILLINES. A number of existing drawings does not precise, however, whether in all included forms embolus really arises from such basis. There may be also doubts whether oblique edge of embolus basis is sufficient to separate forms with transverse edge running in mid length of bulbus (Fig. 10A), as in COLONINES. That question demands more research on diversity of palp structures. Each of more diversified, speciose genera contains species somewhat departing from proposed general definition (Figs 4O-R), but none the less are kept together because of other characters, for instance general appearance in *Salticus* (Figs 5L-M). Several prolific genera were types of traditional subfamilies of their own (*Freya*, *Plexippus*, *Salticus* and other).

Distribution. Worldwide, especially interesting are resemblances among some South America, Pacific Islands and Australian genera.

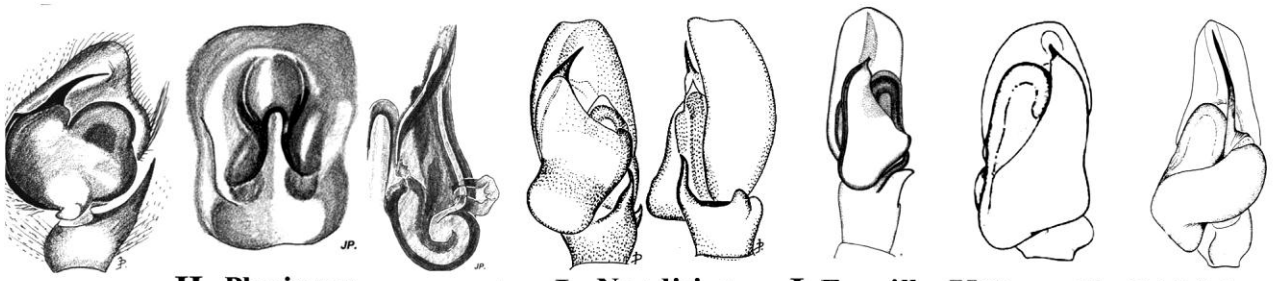
CHRYSILLINES



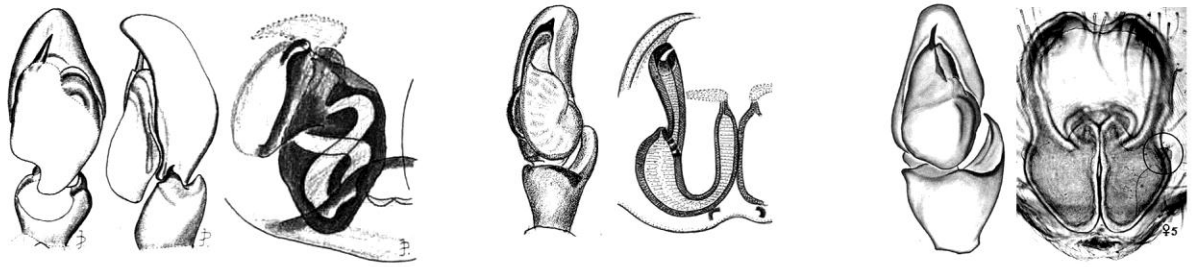
A Chrysilla B Phintella C Bristowia D Carrhotus



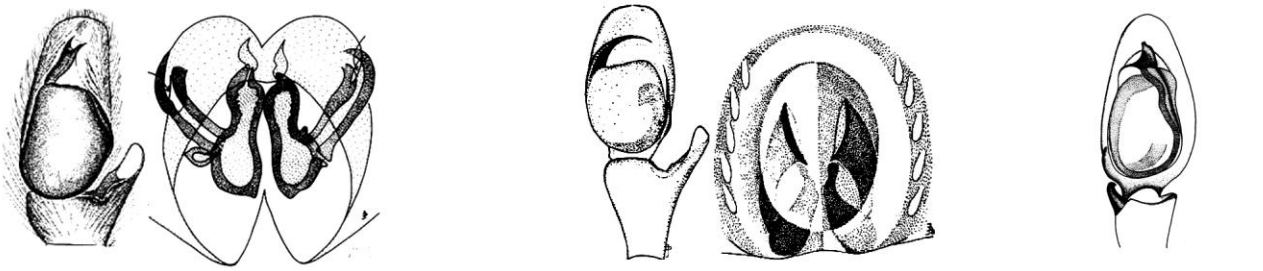
E Hasarius F Freya G Frigga



H Plexippus I Nandicius J Epocilla K Nycerella L Phiale



M Bavia O Salticus P Salticus scenicus



Q Salticus cingulatus R Salticus latidentatus S Hasarinella

Figure 4. Diagnostic characters of representatives of informal group of genera CHRYSILLINES. **A** - *Chrysilla lauta* Thorell, 1887, **B** - *Phintella versicolor* (C. L. Koch, 1846), **C** - *Bristowia heterospinosa* Reimoser, 1934, **D** - *Carrhotus viduus* (C. L. Koch, 1846), **E** - *Hasarius adansoni* (Audouin, 1826), **F** - *Freya regia* (Peckham & Peckham, 1896), **G** - *Frigga coronigera* (C. L. Koch, 1846), **H** - *Plexippus paykulli* (Audouin, 1826), **I** - *Nandicius mussooriensis* (Prószynski, 1992), **J** - *Epocilla praetextata* Thorell, 1887, **K** - *Nycerella decorata* (Peckham & Peckham, 1894), **L** - *Phiale crocea* C. L. Koch, 1846, **M** - *Bavia aericeps* Simon, 1877, **O** - *Salticus propinquus* Lucas, 1846, **P** - *Salticus scenicus* (Clerck, 1757), **Q** - *Salticus cingulatus* (Panzer, 1797), **R** - *Salticus latidentatus* Roewer, 1951, **S** - *Hasarinella roeweri* (Lessert, 1925).

SOURCES: **A** - Prószyński. 1983c. Acta Arachnologica, XXXI, (2): 44, f. 4-6. **B, E, H, I, O** - Prószyński. 1973b Annales Zoologici 30: 107-110, f. 25-32; 1992a 44, 8: 101-102, f. 54-59; 2003a 68-69, f. 256-260; 2003a: 143-145, f. 577-578, 583, 587-588; 168-169, f. 678-679, 685-686, 692-693; **D, J, S** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 16, 35-36, 39. 60 (f. unnumbered); **F** - Galiano 2001 Journal of Arachnology 29: 28, f. 17-18, 30-32, 42-43, 46, 52; **G** - Galiano 1981f Revista de la Sociedad Entomológica Argentina 39 (3-4): 283, f. 1-2 + 1979a Acta Zoologica Lilloana 33 (2): 119, f. 11, 21-22, 34, 49; **K** - Galiano 1982b Physis C, 41, 100: 56, f.12; **L** - Galiano 1981b Journal of Arachnology 9: 75, 79-82, f. 17-18, 28; **M** - Berry, Beatty, Prószyński 1997 Journal of Arachnology 25 (2): 117-118, 31-34, 45; **P** - Paquin., Duperre 2003 Fabreries, Suppl. 11: 200, f. 2242-2244; **Q** - Żabka 1997 Fauna Polski 19: 81-82, f. 290-296; **R** - Prószyński 1982 Annales Historico-Naturales Musei Nationalis Hungarici, 74: 288, f. 43.

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Figure 5. Color pattern and body shape of representatives of informal group of genera CHRYSILLINES: **A** - *Chrysilla lauta* Thorell, 1887, **B** - *Chrysilla volupe* (Karsch, 1879)**, C-D** - *Phintella versicolor* (C. L. Koch, 1846) male and female, **E** - *Phintella castriesiana* (Grube, 1861), **F** - *Bristowia sp.*, **G** - *Hasarius adansoni* (Audouin, 1826), **H** - *Plexippus paykulli* (Audouin, 1826), **I** - *Epocilla calcarata* (Karsch, 1880), **J** - *Carrhotus sannio* (Thorell, 1877), **K** - *Bavia sp.*, ***L*** - *Salticus scenicus* (Clerck, 1757), **M** - *Salticus cingulatus* (Panzer, 1797), **N-P** - *Habrocestum graecum* Dalmas, 1920, male and female.

SOURCES: **A, G-J** - Photo H. Tang; **B**, **F** - Photo J.T.D. Caleb; **C-D** - Photo J. Koh; **E** - Photo J. Holstein; **H** - Photo B. Knoflach; **K** - Photo Marcus Ng; **L-P** - Photo J. Lissner.

…figure on page 16

CHRYSILLINES

A Chrysilla lauta

B Chrysilla volupe

C Phintella versicolor male

D and female

E Phintella castriesiana

F Bristowia sp.

G Hasarius adansoni

H Plexippus paykulli

I Epocilla calcarata

J Carrhotus sannio

K Bavia sp.

L Salticus scenicus

M Salticus cingulatus

N Habrocestum graecum male

O Habrocestum graecum male

P Habrocestum graecum female

Composition. The following genera are included: *Akela* Peckham & Peckham, 1896 (2 species), Gen. *Apricia* Richardson, 2016 (3 species), *Bavia* Simon, 1877 (16 species), *Bristowia* Reimoser, 1934 (2 species), *Carrhotus* Thorell, 1891 (18 species), *Chrysilla* Thorell, 1887(4 species), *Clynotis* Simon, 1901 (5 species), *Epidelaxia* Simon, 1902(1 species), *Epocilla* Thorell, 1887(8 species), *Flacillula* Strand, 1932 (3 species), *Freya* Koch C.L., 1850 (27species), *Frigga* Koch C.L., 1851 (9 species), *Habrocestum* Simon, 1876 (38 species), *Hasarius* Simon, 1871 (16 species), *Leptofreya* Edwards, 2015 (3 species), *Megafreya* Edwards, 2015 (1 species), *Nandicius* Prószyński, 2016 (10 species), *Natta* Karsch, 1879 (3 species), *Nycerella* Galiano, 1982 (8 species), *Orsima* Simon, 1901 (3 species), *Pachomius* Peckham & Peckham, 1896 (6 species), *Pachypoessa* Simon, 1901 (1 species), *Phiale* Koch C.L., 1846 (25 species), *Phintella* Bösenberg, Strand, 1906 (49 species), *Plexippus* Koch C.L., 1846 (20 species), *Proszynellus* Patoleta, Żabka, 2015 (5 species), *Rhondes* Simon, 1901 (1 species), *Salticus* Latreille, 1804 (19 species), *Siler* Simon, 1889 (10 species), *Tara* Peckham & Peckham, 1886 (2 species), *Triggella* Edwards, 2015 (1 species).

Group of genera SIMAETHINES Prószyński, 2016

Figures 6, 7A-E1

Database contains 12 recognizable genera, 57 species

Type genus *Simaetha* Thorell, 1881, of which type species is *Simaetha thoracica* Thorell, 1881.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name.

Mutual diagnostic characters of genera included. Palp structure corresponds well with definition of the group of genera, with prominent oblique border of embolus basis (Fig. 6A). Epigyne with prominent median anterior pocket, each spermatheca consisting of two globular chambers separated by connector (Fig. 6I), ducts short with walls medium thick, running posteriorly. Body shape more or less squat, eyefield flattened (Fig. 6A, E).

Description. Carapace flat and broad, often trapezium shaped, body parts covered with scattered light reflecting scales, or white setae, eye field usually flattened and trapezium shaped, posterior slope of carapace step. Bulbus simple with spermophor following its contour, basis of embolus intersecting bulbus obliquely, embolus short, arising anterolaterally, tibial apophysis short. Enclosed illustrations are integral part of description. More diagnostic documentation - to check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file
http://www.peckhamia.com/salticidae/Simaethinae_clas.html.

Remarks. Body shape may cause mistake with *Rhene*, from which differs by palps and epigyne.

Distribution. Africa, Asia, Australia, Pacific Islands.

Composition. The following genera are included: *Heratemita* Strand, 1932 (3 species), *Iona* Peckham, Peckham, 1886 (1 species), *Irura* Peckham, Peckham, 1901 (11 species), *Ligurra* Simon, 1903 (3 species), *Phyaces* Simon, 1902 (1 species), *Poecilorchestes* Simon, 1901 (2 species), *Simaetha* Thorell, 1881 (18 species), *Simaethula* Simon, 1902 (7 species), *Simaethulina* Wesołowska, 2012 (1 species), *Stergusa* Simon, 1889 (1 species), *Stertinius* Simon, 1890 (7 species), *Uroballus* Simon, 1902 (2 species).

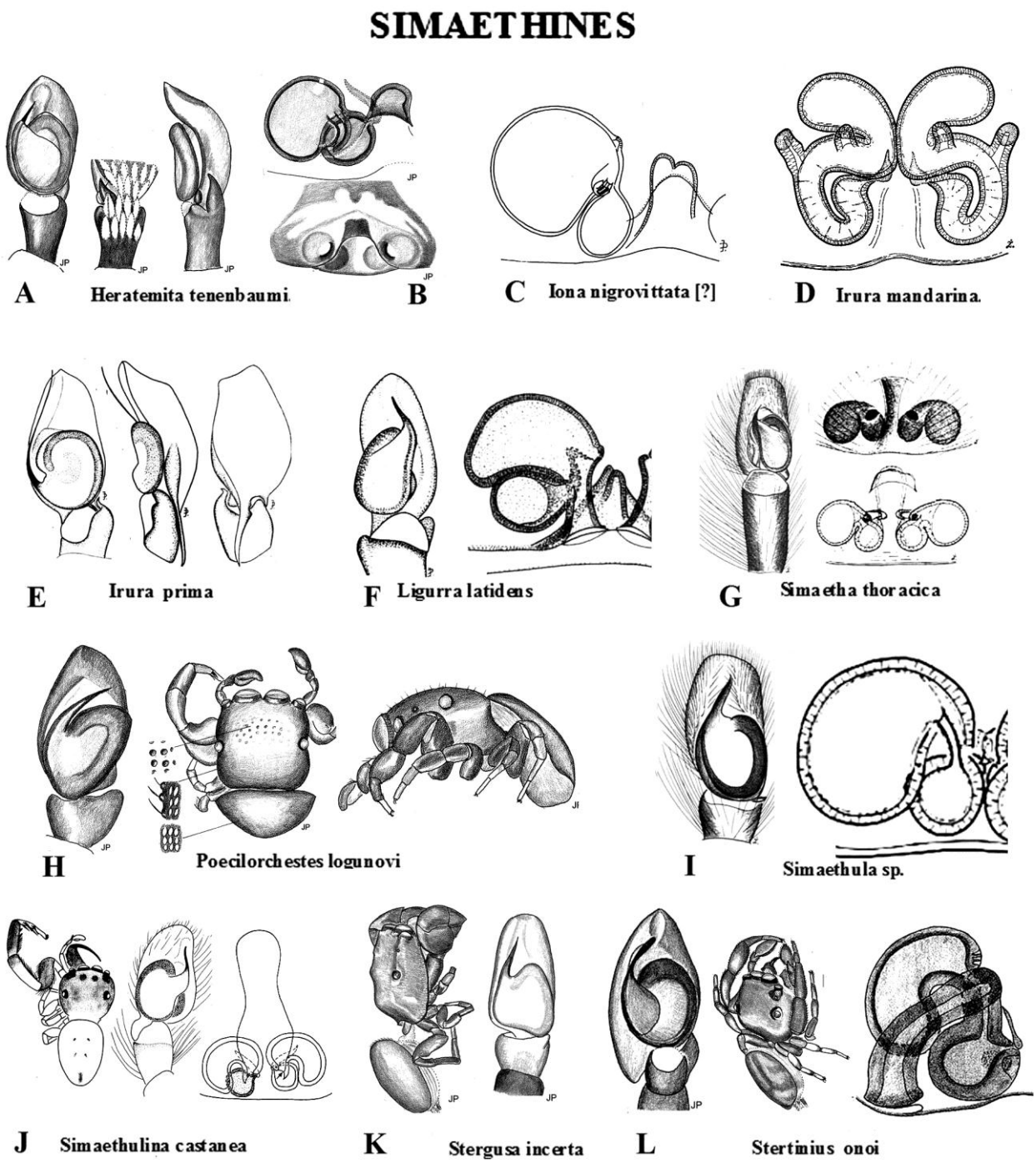


Figure 6. Diagnostic characters of representatives of informal group of genera SIMAETHINES. A-B - *Heratemita tenenbaumi* Prószynski, Deeleman-Reinhold, 2012, **C** - *Iona nigrovittata* [?] (Keyserling, 1882), **D** - *Irura mandarina* Żabka1985, **E** - *Irura prima (*Żabka. 1985), **F** - *Ligurra latidens* (Doleschall, 1859), **G** - *Simaetha thoracica* Thorell, 1881, **H** - *Poecilorchestes logunovi* Prószynski & Deeleman-Reinhold, 2013, **I** - *Simaethula sp.* Davies Todd, Żabka1989, **J** - *Simaethulina castanea* Wesolowska 2012, **K** - *Stergusa incerta* Prószynski, Deeleman-Reinhold, 2010, **L** - *Stertinius onoi* Prószynski, Deeleman-Reinhold 2010.

SOURCES: **A-B**, **H, K, L** - Prószyński, Deeleman-Reinhold 2010 Arthropoda Selecta 19(3): 180,138-141; 2012 21(1): 40, f. 59-65; 2013 21: 115, f. 87-95; 139, f. 113; **C** - Prószyński Internet; **D, E** - Żabka 1985 Annales Zoologici 39,11: 233, f. 241-245; 233-234, f. 246-250; **F** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 77 (f. unnumbered); **G, I** - Davies Todd, Żabka 1989. Memoirs of the Queensland Museum, 27 (2): 222, t. 26; 221, t. 25; **J** - Wesołowska 2012b Genus 23(2): 215, f. 47-54.

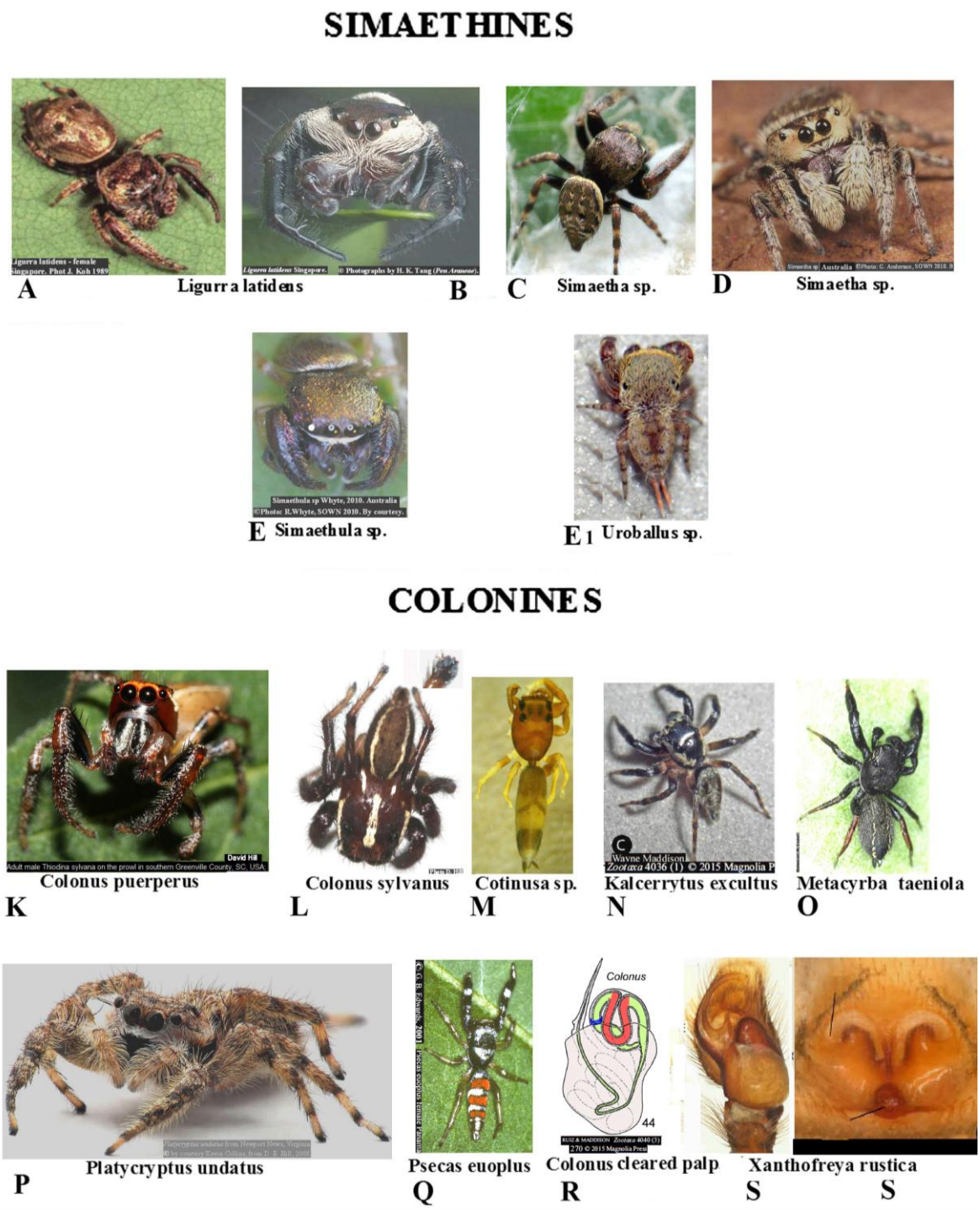


Figure 7. Color pattern and body shape of representatives of informal group of genera SIMAETHINES and COLONINES. SIMAETHINES: **A-B** - *Ligurra latidens* (Doleschall, 1859), **C** - *Simaetha* sp., **D** - *Simaetha* sp., **E** - *Simaethula* sp., **E1** - *Uroballus* ***sp.*** COLONINES. **K** - *Colonus puerperus* (Hentz, 1846), **L** - *Colonus sylvanus* (Hentz, 1846), **M** - *Cotinusa* sp., **N** - *Kalcerrytus excultus* (Simon, 1902), **O** - *Metacyrba taeniola* (Hentz, 1846), **P** - *Platycryptus undatus* (De Geer, 1778), **Q** - *Psecas euoplus* Chamberlin & Ivie, 1936, **R** - *Colonus* - cleared palp, **S** - X*anthofreya rustica* Edwards, 2015.

SOURCES:**A-B** - Photo D. Hill; **C** - Photo Gasnier & Azevedo; **D** - Photo Maddison, Zootaxa, Magnolia Press 4036 (1): 41, f. 15A-C; **E** - Photo R.Whyte. **E1** - Maddison 2015 Journal of Arachnology 43: 231-292, f. 87; **K** - Photo D. Petot; **L** - Photo G. Anderson; **M** - Photo B. Knoflach; **N** - Photo Maddison; **O** -Photo Richman; **Q** - Photo Edwards; **P** - Phot K. Collins, from D. E. Hill; **R** - Ruiz & Maddison 2015 Zootaxa, Magnolia Press 4040(3): 270, f. 49-52; **S** - Edwards 2015: Zootaxa, Magnolia Press4036 (1): 76, f. 36A-N. All ©Copyrights are retained by the original authors and copyright holders, used here by their courtesy.

Group of genera NOTICIINES Prószyński, 2016

Figures 8, 9

Database contains13 recognizable genera, 93 species

Type genus *Holoplatys*, of which type species is *Holoplatys planissima* (Koch L. 1879) [syn. *Marptusa planissima* Koch L. 1879].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined from the geographic region Notogea (Australia, Pacific Islands) on which part of genera occurs, also of name of genus *Icius*.

Mutual diagnostic characters of genera included. Recognizable by characteristic double bend of embolus and it basis: on the level of anterior edge of bulbus the fleshy embolus' basis bends towards mid-line of bulbus, upon reaching it produces embolus, bent anteriorwards, usually short and thin (Fig. 7A), median and posterior parts of the basis are not clearly discernible on majority of existing drawings. Antero-lateral part of the spermophor visible, but remaining part is hidden behind oblique edge of basis, or not translucent trough soft tissues and/or tegument of bulbus. Epigyne of limited value for recognition of this group as a whole, but can be useful for recognition of particular genera and identification of species. Ducts are thick and sclerotized, usually developed transversally.

Description. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species - see http://www.peckhamia.com/salticidae/Noticiinae_clas.html.

Distribution. Mainly Australian Region, a few genera S & E Asian.
Composition. The following genera are included: *Ananeon* Richardson, 2013 (1 species), *Chinattus* Logunov, 1999 (8 species), *Habrocestoides* Prószynski, 1992 (12 species), *Holoplatys* Simon, 1885 (38 species), *Mopsolodes* Żabka, 1991 (2 species), *Mopsus* Karsch, 1878 (1 species), *Ocrisiona* Simon, 1901 (14 species), *Orienticius* Prószyński, 2016 gen. n. (2 species), *Phaulostylus* Simon, 1902 (2 species), *Phausina* Simon, 1902 (1 species), *Sandalodes* Keyserling, 1883 (6 species), *Urogelides* Żabka, 2009 (1 species), *Uxuma* Simon, 1902 (1 species) , *Zebraplatys* Żabka, 1992 (5 species).

Nomenclatorical corrections

***Chinattus undulatus* (Song & Chai, 1992) and *Chinattus szechwanensis* (Prószyński, 1992)**
Chinattus undulatus (Song & Chai, 1992) is an unrecognizable species defined by doctored documentation in Song, Zhu & Chen, (1999: 512, f. 298 G, N) showing unidentifiable epigyne of *Heliophanus undulatus* Song & Chai, 1992 (Fig. 8B) collected in Hubei Province, together with lateral view of palp of *Chinattus szechwanensis* (Prószyński, 1992) (Fig. 8A-right - in fact a non acknowledged copy of drawing by Prószyński 1992a: 94, f. 22-27). collected in the outskirts of the Tibet Plateau in Sichuan Provinces, the distance between these localities is more than 1000 km. Therefore:

Chinattus undulatus (Song & Chai, 1992) (in part, male) = *Chinattus szechwanensis* (Prószyński, 1992) separation of two misconnected, unrelated species;

Chinattus undulatus (Song & Chai, 1992) (in part, fmale) - unrecognizable species.

Group of genera COLONINES Prószyński, 2016

Figures 7K-S, 10

Database contains 25 recognizable genera, 108 species

Representative species - *Colonus sylvanus* (Hentz, 1846) [original synonym *Attus sylvanus* Hentz, 1846] [Newly designated, former type species *Thiodina nicoleti* Roewer, 1951 has entirely different palpal organ, incompatible with *Colonus* and its relatives, and is reclassified now to AMYCINES!].

NOTICIINES

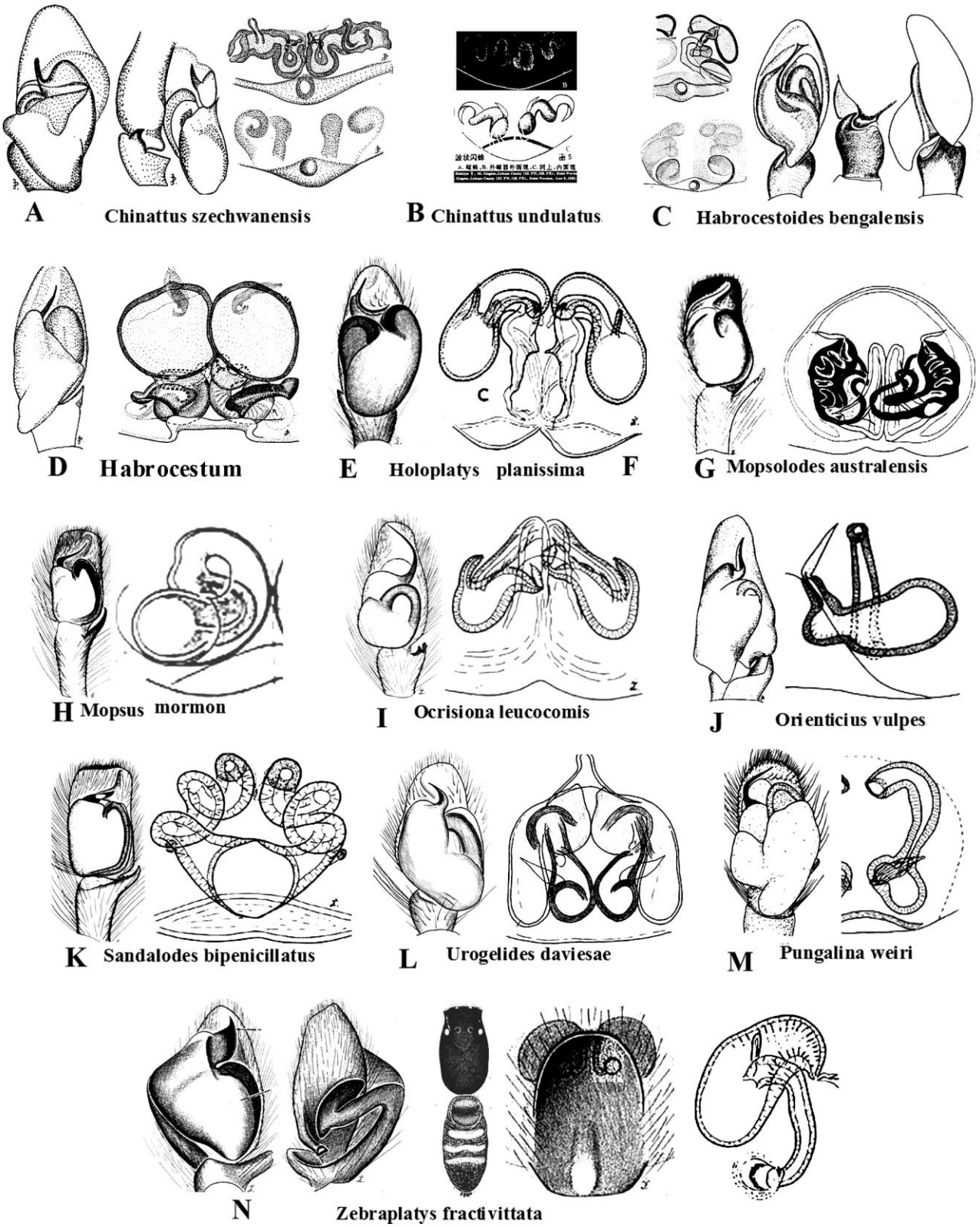

A Chinattus szechwanensis
B Chinattus undulatus
C Habrocestoides bengalensis
D Habrocestum
E Holoplatys planissima
F
G Mopsolodes australensis
H Mopsus mormon
I Ocrisiona leucocomis
J Orienticius vulpes
K Sandalodes bipenicillatus
L Urogelides daviesae
M Pungalina weiri
N Zebraplatys fractivittata

Figure 8. Diagnostic characters of representatives of informal group of genera NOTICIINES. **A** - *Chinattus szechwanensis* (Prószyński, 1992), **B** - *Chinattus undulatus* (Song & Chai, 1992), **C** - *Habrocestoides bengalensis* Prószyński, 1992, **D** - *Habrocestum simoni* Dalmas, 1920, **E** -**F** - *Holoplatys planissima* (L. Koch, 1879), **G** - *Mopsolodes australensis* Żabka, 1991, **H** - *Mopsus mormon* Karsch, 1878, **I** - *Ocrisiona leucocomis* (L. Koch, 1879), **J** - *Orienticius vulpes* (Grube, 1861), K - *Sandalodes bipenicillatus* (Keyserling, 1882), **L** - *Urogelides daviesae* Żabka, 2009, **M** - *Pungalina weiri* Richardson, 2013, **N** - *Zebraplatys fractivittata* Żabka, 1992.

SOURCES:**A** - Prószyński 1992a Annales Zoologici 44, 8: 94, f. 22-27; **B** - Song, Zhu & Chen 1999 The Spiders of China: 512, f. 298G, N; **C-D** - Prószyński 1992a Annales Zoologici 44, 9: 174-176, f. 38-42; **D** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 16, 35-36, 39. 60 (f. unnumbered); **E-F** - Żabka1991 Records of the Australian Museum 43: 200, f. 26B, 27C; **G** - Żabka 1991b Memoirs of the Queensland Museum 30: 623, f. 1A, 2E; **H, I, K** - Davies Todd, Żabka 1989 Memoirs of the Queensland Museum 250, 251, t 51; 263, t 62; 252, t 52; **J** - Prószyński 1971d Annales zoologici 28: 220, f. 30-32; **L** - Żabka 2009 Insect Systematics & Evolution 40: 355, f. 14, 18; **M** - Richardson 2013 Zootaxa, Magnolia Press 3716 (3): 472-473, f. 41, 44**; N** - Żabka 1992c Records of the Western Australian Museum 15 (4): 678, f. 1-9.

…figure on page 21

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Colonus"*.

Remarks. After discovery by Bustamante, Maddison & Ruiz (2015) that type species of both subfamily Thiodinine and of genus *Thiodina* Simon, 1900 - *Thiodina nicoleti* Roewer, 1951 is incompatible with remaining species of that taxon (Fig. 27M) (hereby transferred to AMYCINES), the genus name of remaining species is changed to *Colonus* F. O. Pickard-Cambridge, 1901 and it seemed logical to delimit new group of genera, for which I coined derived name COLONINES. However, Maddison (2015: 239) invented equivalent group called Tribe Gophoini after "... type genus *Gophoa* Simon, 1901, currently considered a junior synonym of *Cotinusa* Simon, 1900". It is preferable to have single, accepted name for these spiders, but I cannot understand reason for usage of obscure junior synonym *Gophoa* as a model and the type species for the new group of genera. As Maddison (op. cit.) writes "The best genus is *Colonus* ..." - which is also my chosen preference. I think that nomenclature should be as logic and self understanding as possible, in difference to bureaucratic complexity of the ICZN rules.

Remarks 2. Placement of COLONINES raises some doubts, due to imprecise diagnostic drawings of palps in literature. Arches of spermophor in the anterior half of bulbus resembles CHRYSILLOIDA, but it is not clear whether posterior fleshy area is basis of embolus, overlying bulbus, or is it just part of bulbus with embolus connected in a different way. Excellent drawing of expanded bulbus of *Cotinusa* sp. (Fig. 10DD) by Ruiz & Maddison, 2015: 255, f. 52) with curled embolus atop large and distal haematodocha, differs from other *Cotinusa* drawings showing embolus hair like, long and gently bent. I suppose now that specimen depicted on Fig. 10DD is misplaced, but that requires confirmation.

Mutual diagnostic characters of genera included. Anterior half of bulbus with prominent semiarch of spermophor (Figs 7R-S), posterior half of bulbus fleshy and somewhat elevated, the border between these parts run transversally (sometimes obliquely) across the whole breadth of bulbus. Tibial apophysis usually prominently biramous. Documentation of epigyne (Figs 10B, F, and J) in the literature is very insufficient. **Description.** External appearance of genera diverse (Figs 7K-Q), palps as described above. Enclosed illustrations are integral part of description. For diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Thiodininae_clas.html.

Distribution: mainly Western Hemisphere.

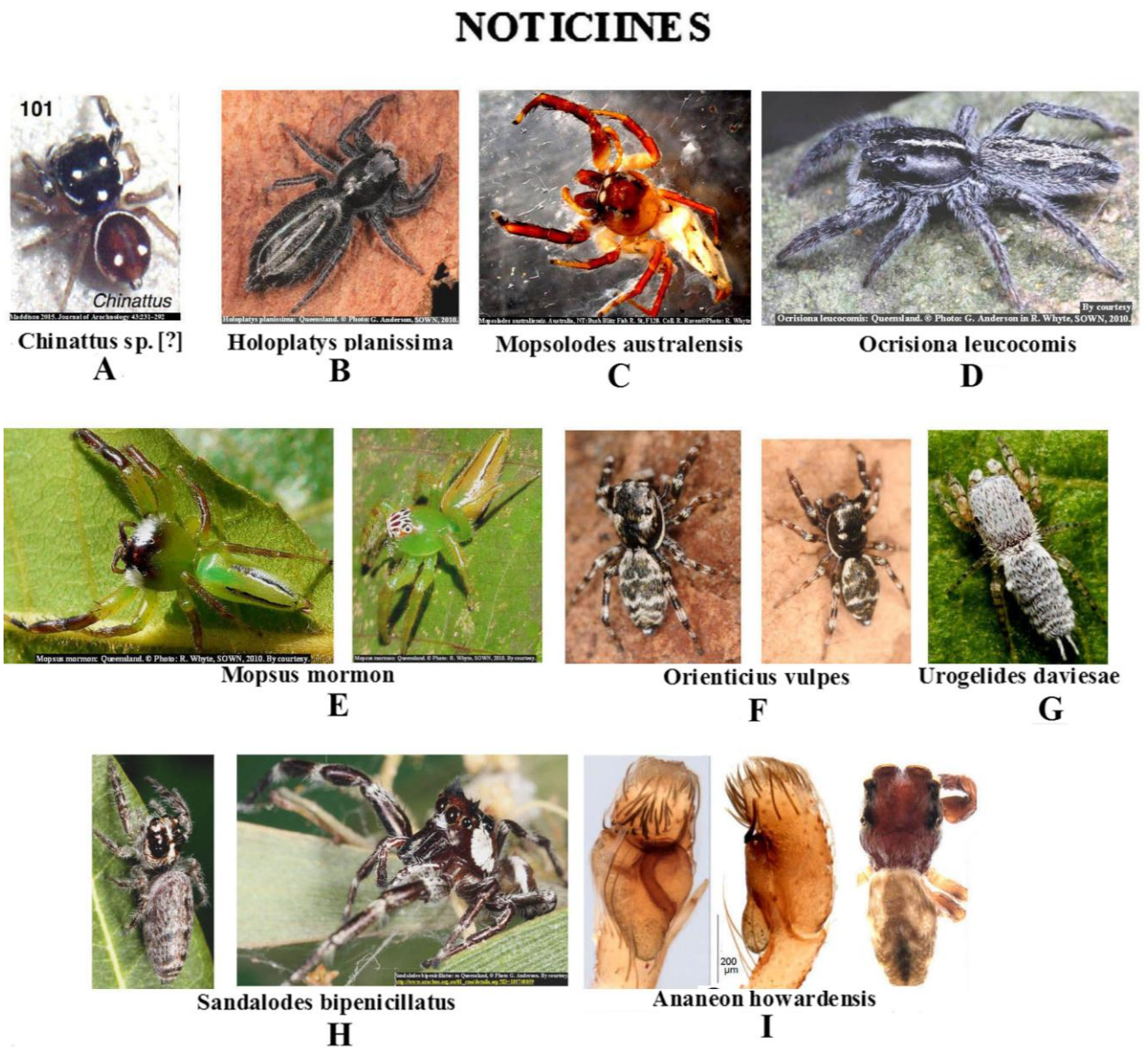


Figure 9. Color pattern and body shape of representatives of informal group of genera NOTICIINES. **A** - *Chinattus* sp. Maddison 2015 [ID not confirmed by genitals!], **B** - *Holoplatys planissima* (L. Koch, 1879), **C** - *Mopsolodes australensis* Żabka, 1991, **D** - *Ocrisiona leucocomis* (L. Koch, 1879), **E** - *Mopsus mormon* Karsch, 1878, **F** - *Orienticius vulpes* (Grube, 1861), **G** - *Urogelides daviesae* Żabka, 2009, **H** - *Sandalodes bipenicillatus* (Keyserling, 1882), **I** - *Ananeon howardensis* Richardson 2013.

SOURCES: **A** - Maddison 2015 Journal of Arachnology 43: 231–292, f. 101; **B, D, H** - Phot: G. Anderson; **E, G** - Photo R. Whyte; **F** - Photo Ono, Ikeda, Kono; **H** - Photo M. Stevens; **I** - Richardson 2013 Zootaxa, Magnolia Press 3716 (3): 462-463, f. 2–10. All

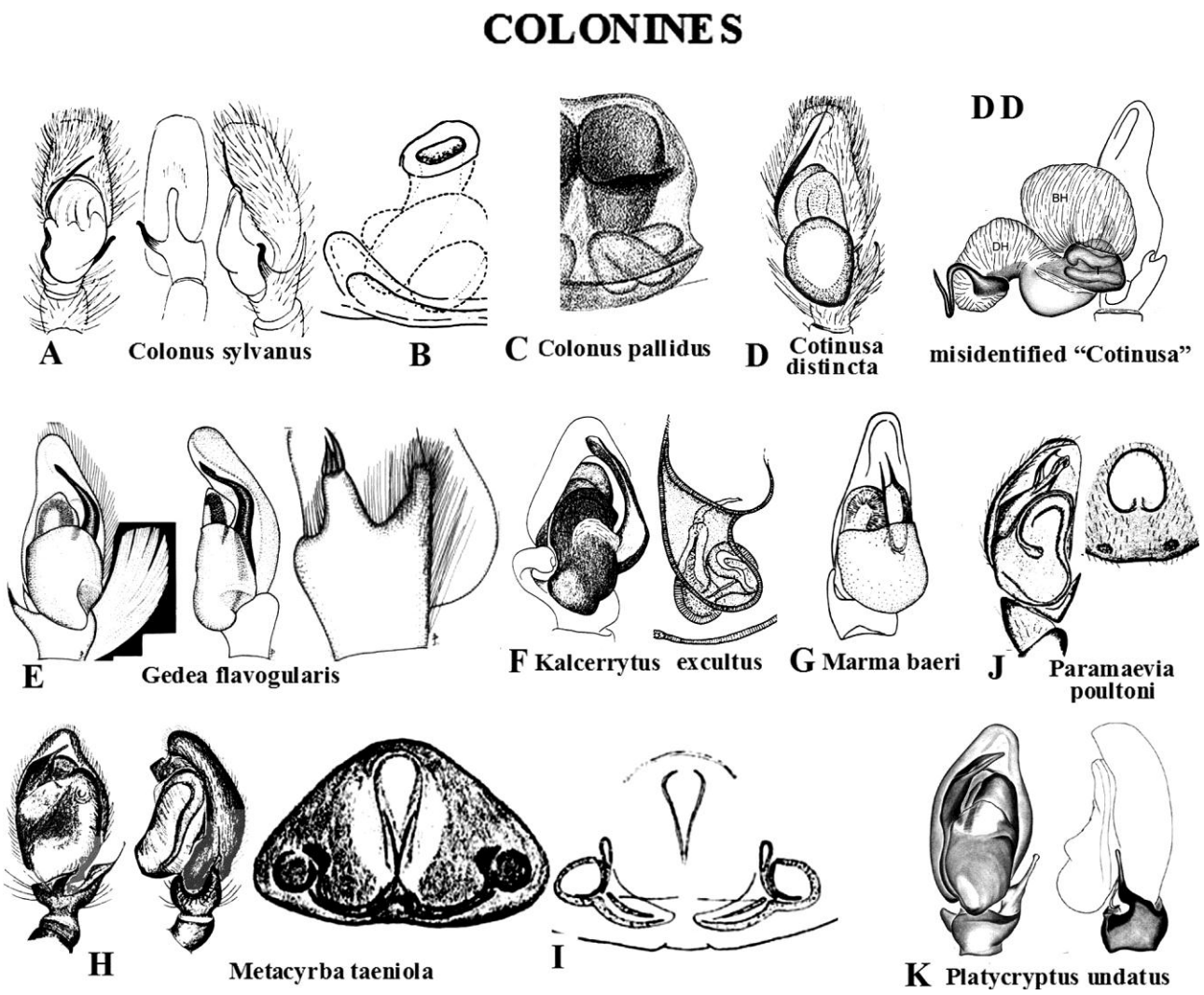


Figure 10. Diagnostic characters of representatives of informal group of genera COLONINES. **A-B** - *Colonus sylvanus* (Hentz, 1846), **C** - *Colonus pallidus* (C. L. Koch, 1846), **D** - *Cotinusa distincta* (Peckham & Peckham, 1888), **DD** - misidentified " *Cotinusa"* (compare embolus - Fig. 7R), **E** - *Gedea flavogularis* Simon, 1902, **F** - *Kalcerrytus excultus* (Simon, 1902), **G** - *Marma baeri* Simon, 1902, **H-I** - *Metacyrba taeniola* (Hentz, 1846), **J** - *Paramaevia poultoni* Peckham & Peckham, 1901, **K** - *Platycryptus undatus* (De Geer, 1778).

SOURCES: **A**, **D** - Peckham & Peckham 1888 Transactions of the Wisconsin Academy of Sciences, Arts and Letters 53, pl 1, f. 70; pl 6, f. 76; 1909: 16 (1): 449, t 35, f. 9; **B** - Kraus 1955b Abhandlungen senckenbergischen naturforschenden Gesselschaft 493: 59, f. 169; **C** - Crane 1945 Zoologica 30 (1, 3): 35, **DD** - Expanded palp: Ruiz & Maddison 2015: Zootaxa, Magnolia Press 4040(3): 255, f. 1-3; **E** - Prószyński 1987: 27; **F** - Galiano 1999b Physis C, 57 (132-133): 57-59, t. 20, f. 5-71, 62-63; **G** - Galiano 1962c Physis 36-39, t. 1 f. 1-5, **H-J** - Barnes 1955 American Museum Novitates 1746: 7-9, 10, f. 10-12; 1958: 1867: 30-33, f. 47-51; **K** - Paquin, Duperre 2003 Fabreries, Suppl. 11: 200, f. 2239-2241.

Composition. The following genera are included: *Adoxotoma* Simon, 1909 (9 species), *Aphirape* Koch C.L., 1850 (8 species), *Balmaceda* Peckham, Peckham, 1894 (7 species), *Banksetosa* Chickering, 1946 (2 species), *Capidava* Simon, 1902 (3 species), *Ceriomura* Chickering 1946. (2 species), *Colonus* Pickard-Cambridge F., 1901 (6 species), *Cotinusa* Simon, 1900 (16 species), *Gedea* Simon, 1902 (5 species), *Kalcerrytus* Galiano, 1999 (15 species), *Marma* Simon, 1902 (3 species), *Metacyrba* Pickard-Cambridge F., 1901 (6 species), *Nilakantha* Peckham, Peckham, 1901 (4 species), *Paramaevia* Pickard-Cambridge F., 1901 (3 species), *Paramarpissa* Pickard-Cambridge F., 1901 (5 species), *Parathiodina* Bryant, 1943 (1 species), *Philira*

Peckham, Peckham, 1896 (1 species), *Platycryptus* Hill, 1979 (3 species), *Proctonemesia* Bauab, Soares, 1978 (1 species), *Psecas* Koch C.L., 1851 (7 species), *Pungalina* Richardson, 2013 (6 species) , *Romitia* Simon, 1901 (2 species), *Sumampattus* Galiano, 1983 (3 species), *Tarkas* Edwards, 2015 (1 species), *Trydarssus*Galiano, 1995 (2 species), *Wedoquella* Galiano, 1984 (3 species), *Xanthofreya* Edwards, 2015 (3 species)

.

Nomenclatorical corrections

***Paramaevia* Barnes, 1955 and *Maevia* C. L. Koch, 1846**

According to Edwards, 1977: 22) the genus *Paramaevia* Barnes, 1955 " ... should not have been erected and all species in it should revert back into *Maevia*, since *Maevia* (*Paramaevia*) *michelsoni* Barnes is intermediate between the two ... ", a view not supported by any diagnostic documentation, apparently because of similarities in habitus appearance. However, palps of respective type species of both genera - *Maevia inclemens* (Walckenaer, 1837)] and *Paramaevia poultoni* (Peckham & Peckham, 1901) (compare Fig. 10J and Fig. 14M), are so different that these forms cannot be congeneric. Therefore:

Maevia C. L. Koch, 1846 (in part) = *Paramaevia* Barnes, 1955 - removal from synonymy. *Maevia hobbsae* Barnes, 1958 = *Paramaevia hobbsae* Barnes, 1958, *Maevia michelsoni* Barnes, 1958 = *Paramaevia michelsoni* (Barnes, 1958), *Maevia poultoni* Peckham & Peckham, 1909 = *Paramaevia poultoni* (Peckham & Peckham, 1901).

Group of genera ICIINES Prószyński, 2016

Figures 11, 12A-F

Database contains 23 recognizable genera, 102 species

Type genus *Icius* Simon, 1876 of which type species is *Icius hamatus* (C. L. Koch, 1846) [= *Icelus notabilis* Koch C.L., 1846 - preoccupied].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in the original literature.

Etymology. Informal name coined of the type genus name *"Icius"*.

Mutual diagnostic characters of genera included. Embolus sitting atop of bulbus, or arising from its anterolateral part, spermophor translucent along retrolateral side of bulbus (Fig. 11A). Differs from CHRYSILLINES by indistinct separation of the basis of embolus from bulbus and by more complicated spermathecae. In larger genera palps may be rather diversified, while habitus may be more uniform.

Description. Habitus variable (see Fig. 12), palps and epigyne - see Fig. 11. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Iciinae_clas.html.

Remark. This group of genera is split provisionally from CHRYSILLINES and NOTICIINES for practical reasons of being together too large to be handled conveniently. Differences between these groups are obvious when one compares type genera *Icius* and *Chrysilla*, but less convincing with some other. Pending further considerations.

Distribution. Worldwide.

Composition. The following genera are included: *Anarrhotus* Simon, 1902 (2 species), *Artabrus* Simon, 1902 (3 species), *Burmattus* Prószynski, 1992 (6 species), *Cavillator* Wesolowska, 1999 (1 species), *Corambis* Simon, 1901 (2 species), *"Cosmophasis"* Simon, 1901(part of the genus, only 13 species), *Dasycyptus* Simon, 1902 (2 species), *Diplocanthopoda* Abraham, 1925 (2 species), *Echinussa* Simon, 1901 (3 species), *Helicius* Prószynski, 1976 (4 species), *Huntiglennia* Żabka, Gray, 2004 (1 species), *Icius* Simon, 1876 (26 species), *Idastrandia* Strand, 1929 (1 species), *Jajpurattus* Prószyński, 1992 (1 species), *Matagaia*

Ruiz, Brescovit & Freitas, 2007 (1 species), *Pilia* Simon, 1902 (2 species), *Pungalina* Richardson, 2013 (7 species), *Schenkelia* Lessert, 1927 (5 species), *Stagetillus* Simon, 1885 (2 species), *Trite* Simon, 1885 (13 species), *Xuriella* Wesolowska, Russell-Smith, 2000 (2 species).

Nomenclatorical corrections

***Stagetillus* Simon, 1885 and *Padillothorax* Simon, 1901**

Described 132 - 90 years ago, only three species of these genera were subject of revision 33-30 years ago by Prószyński (1984c[a]: 95, 1987: 104-105), which resulted in morphological definitions of species and transfer of the type species of *Padillothorax* to *Stagetillus*, leaving one species - *Padillothorax elegans* apart (Fig. 56L). That minute progress was nullified by nomenclatorical correction by Editor of the Catalog (apparently Dr. N. I. Platnick), changing combination of that species to *Stagetillus elegans*, in agreement with current interpretation of relevant rule of the International Code on Zoological Nomenclature, but reducing in fact chance of future classification of that distinctly unrelated species (compare epigyne of *Padillothorax elegans* (Reimoser, 1927) with *Stagetillus semiostrinus* (Simon, 1901) - Fig. 56 L). Future researcher would presumably be satisfied checking type species of *Stagetillus opaciceps* Simon, 1885 (Fig. 11T**)**, without bothering on diversity of remaining species. Alternative solution, describing *Padillothorax elegans* as a new genus would be premature - no matching male known, insufficient background of related species, no data for placement among related genera. Better solution would be leaving *"Padillothorax" elegans* as a temporary combination, pending discovery of related genus, or more species, and responsible erection of a new genus, housing them.

History of research on genera *Stagetillus* and *Padillothorax* illustrates, in a nut shell, seemingly unimportant problems of taxonomy of 4800 species of Salticidae. There are at least several hundreds of similar cases hidden among synonyms in the WSC, leading to loss of time and efforts of researchers, and a chaos in the system. It is obvious, that application of ICZN rules in such cases was wrong, or that rules themselves are wrong. Any choice of action taken should not obliterate the already established facts.

Therefore:

Stagetillus elegans (Reimoser, 1927) = *"Padillothorax" elegans* Reimoser, 1927 (reinstatement of original combination, pending future revision of placement)

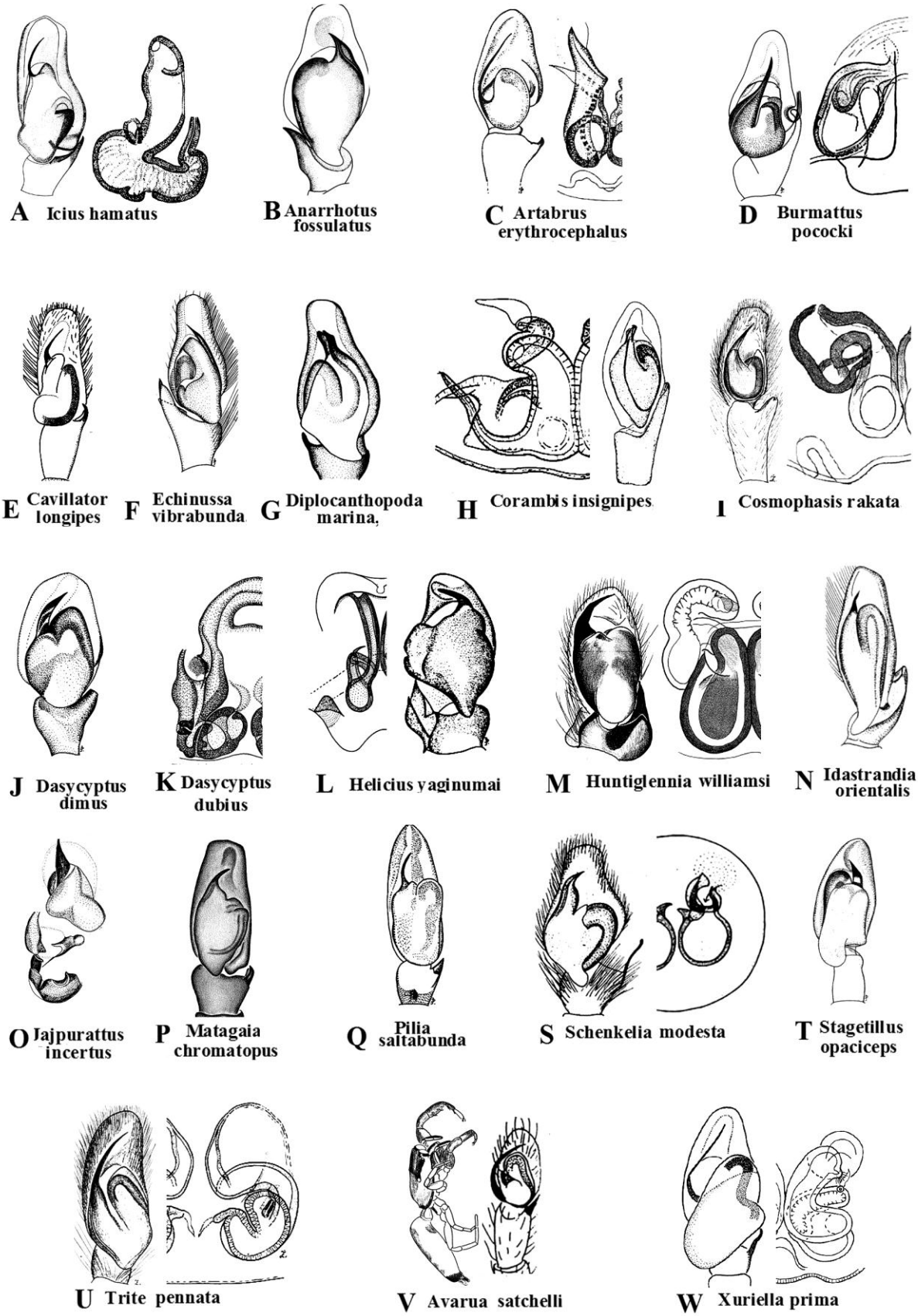
Stagetillus taprobanicus (Simon, 1902) = *"Padillothorax" taprobanicus* Simon, 1902 (reinstatement of original combination, pending future redescription of existing type specimens, presumably preserved in one of the following Museums: KOBENHAVN, OXFORD, PARIS).

Figure 11. Diagnostic characters of representatives of informal group of genera ICIINES. **A** - *Icius hamatus* (Koch C.L., 1846), **B** - *Anarrhotus fossulatus* Simon, 1902, **C** - *Artabrus erythrocephalus* (C. L. Koch, 1846), **D** - *Burmattus pococki* (Thorell, 1895), **E** - *Cavillator longipes* Wesolowska, 1999, **F** - *Echinussa vibrabunda* (Simon, 1886), **G** - *Diplocanthopoda marina* Abraham, 1925, ***H*** - *Corambis insignipes* (Simon, 1880), **I** - *Cosmophasis rakata* Żabka & Waldock, 2012, **J** - *Dasycyptus dimus* Simon, 1902 (male), **K** - *D. dubius* Berland & Millot, 1941 (female), **L** - *Helicius yaginumai* Prószyński, 1976, **M** - *Huntiglennia williamsi* Żabka & Gray, 2004, **N** - *Idastrandia orientalis* (Szombathy, 1915), **O** - *Jajpurattus incertus* Prószynski, 1992, **P** - *Matagaia chromatopus* Ruiz, Brescovit, Freitas 2007, **Q** - *Pilia saltabunda* Simon, 1902, **S** - *Schenkelia modesta* Lessert, 1927, **T** - *Stagetillus opaciceps* Simon, 1885, **U** - *Trite pennata* Simon, 1885, **V** - *Avarua satchelli* Marples, 1955, W - *Xuriella prima* Wesolowska, Cumming 2008**.**

SOURCES: **A** - Andreeva, Heciak, Prószyński 1984 Annales Zoologici 3, 13: 350, f. 1-5; **B, D, G** - Prószyński 1984a Annales Zoologici, 37, 16: 401, f. 3-4; 153; 35; **C, F, J, Q, T** - Prószyński 1987 Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 2-3, 20, 77, 103 (f. unnumbered); **E** - Wesołowska 1999a. Arnoldia Zimbabwe 10(15): 147, f. 1-4; **H** - Żabka 1988b Annales Zoologici 41 (14): 443, f. 59-61 and Szüts 2002b Folia Entomologica Hungarica 63: 26-29,f. 1-4, 6-9, 11-18; **I** - Żabka, Waldock 2012 Annales zoologici 62(1): 134-135, f. 58C, D;; **L** - Prószyński 1976 Rozprawy Wyższej Szkoły Pedagogicznej, 6, Siedlce: 186 ,f. 373-382; **M** - Żabka, Gray 2004 Annales zoologici 54(3): 587-590, f. 1-14 ; **N** - Prószyński 1983b Folia entomologica hungarica XLIV, 2: 284-287, f. 7-10; **O** - Prószyński. 1992b Annales Zoologici 44, 9: 182, f. 67-71; **P** - Ruiz, Brescovit, Freitas 2007 Revista brasileira de Zoologia 24: 772, f. 1-9; **S** - Prószyński 1968b Annales Zoologici 26: 217-221, f. 1-9; **U** - Żabka 1988b Annales zoologici 41 (14): 471, f. 137, 141; **V** - Prószyński Internet (det. by J.A. Beatty) and Marples 1955l; **W** - Wesołowska, Cumming 2008 Annales Zoologici 58: 204, f. 199, 203.

…figure on page 27

ICIINES


A Icius hamatus
B Anarrhotus fossulatus
C Artabrus erythrocephalus
D Burmattus pococki
E Cavillator longipes
F Echinussa vibrabunda
G Diplocanthopoda marina,
H Corambis insignipes
I Cosmophasis rakata
J Dasycyptus dimus
K Dasycyptus dubius
L Helicius yaginumai
M Huntiglennia williamsi
N Idastrandia orientalis
O Jajpurattus incertus
P Matagaia chromatopus
Q Pilia saltabunda
S Schenkelia modesta
T Stagetillus opaciceps
U Trite pennata
V Avarua satchelli
W Xuriella prima

ICIINES

A Icius hamatus

B Hakka himeshimensis male female American

C Burmattus pococki male female

D Cosmophasis sp.

E Cosmophasis micarioides

F Xuriella marmorea

HELIOPHANINES

G Heliophanillus fulgens

I Heliophanus (H) cupreus, male

J Heliophanus (H) cupreus, female

H Heliophanus (H) equester

female of *Mexcala elegans* from S Africa (phot. C. HADDAD)

K Mexcala elegans

Figure 12. Color pattern and body shape of representatives of informal group of genera ICIINES and HELIOPHANINES. ICIINES: **A** - *Icius hamatus* (Koch C.L., 1846), B - *Hakka himeshimensis* Berry, Prószynski, 2001, American male and female, C - *Burmattus pococki* (Thorell, 1895), male and female, **D** - *Cosmophasis* sp., **E** - *Cosmophasis micarioides* (L. Koch, 1880), **F** - *Xuriella marmorea* Wesolowska & van Harten, 2007. HELIOPHANINES: **G** - *Heliophanillus fulgens* (O. Pickard-Cambridge, 1872), **H** - *Heliophanus (Heliophanus) equester* L. Koch, 1867, **I-J** - *Heliophanus (Heliophanus) cupreus* (Walckenaer, 1802), male and female, **K** - *Mexcala elegans* Peckham & Peckham, 1903.

SOURCES: **A** - Photo E. Nieuwenhuys; **B** - Photo R. Kaldari; **C** - Photo A.Tanikawa; **D-E** - Photo R. Whyte; **F** - Maddison 2015 Journal of Arachnology 43: 231–292, f. 101; **F, K** - Wesołowska, Haddad 2009 African Invertebrates 50(1): 101-104; **G**-Photo B. Knoflach; **H** - Photo A. Weinstein; **I-J** - Photo J. Lissner. All ©Copyrights are retained by the original authors and copyright holders, used here by their courtesy.

…figure on page 62

Group of genera HELIOPHANINES Prószyński, 2016

Figures 12G-K, 13

Database contains 7 recognizable genera, 182 species

Type subgenus *Heliophanus* Koch C.L., 1833 *(Heliophanus)* Wesolowska, 1986, of which type species is *Heliophanus (Heliophanus) cupreus* (Walckenaer 1802) [syn. *Aranea cuprea)* Walckenaer 1802].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Heliophanus"*.

Mutual diagnostic characters of genera included. In differences to majority of groups of genera HELIOPHANINES have similar habitus appearance allowing instant recognition (Figs 12G-K). Bulbus is covered by thick and opaque tegument, hiding spermophor, continuous on embolus, which is therefore immovable - "fixed" to bulbus. Many species have developed lobes or protuberances on bulbus ("bumps" in definition by Maddison). Nominal subgenus *Heliophanus* (*Heliophanus*) has prominent process on tibial femur, single or split apically, and two slender apophyses on tibia (Fig. 13C), other subgenera (*Helafricanus*) may have apophysis on tibial patella (Fig. 13G). Females have strongly sclerotized epigyne, plate like or concave, with large central groove, ducts are simple and short, but sclerotized as strongly as spermathecae.

Description. External appearance of males and females is rather uniform, usually dark, often with some colorless scales scattered, or grouped into white abdominal spots and semilunar whitish line on anterior edge of abdomen. Small spiders, live on vegetation or ground. Enclosed illustrations are integral part of description. Diversity of diagnostic characters in ALL recognizable species of this group is shown at http://www.peckhamia.com/salticidae/Heliophaninae_clas.html.

REMARKS. Popular picture of HELIOPHANINES is based on nominal subgenus *Heliophanus* (*Heliophanus*), containing 81 species and distributed mainly in Palaearctic Region, remaining genera are less prolific and little known, are distributed in Asia and Africa. Numerous genera placed by Petrukevitch 1928 into his compilatory subfamily Heliophaninae do not conform to the above definition of the group and are reclassified here to either to CHRYSILLINES or elsewhere.

Distribution. Africa, Asia, Palaearctics.

Composition. The following genera and subgenera (deserving elevation to full genera) are included: *Heliophanillus* Prószynski, 1989 (5 species), *Heliophanoides* Prószynski, 1992 (3 species) , *Heliophanus (Heliophanus)* Wesołowska, 1986 (81 species), *Heliophanus* (*Helafricanus*) Wesołowska, 1986 (49 species), *Heliophanus (Heliocapensis)* Wesolowska, 1986 (13 species), *Imperceptus* Prószyński, 1992 (1 species), *Mexcala* Peckham & Peckham, 1902 (23 species), *Paraheliophanus* Clark, Benoit, 1977 (4 species), *Tasa* Wesolowska, 1981 (2 species).

HELIOPHANINES

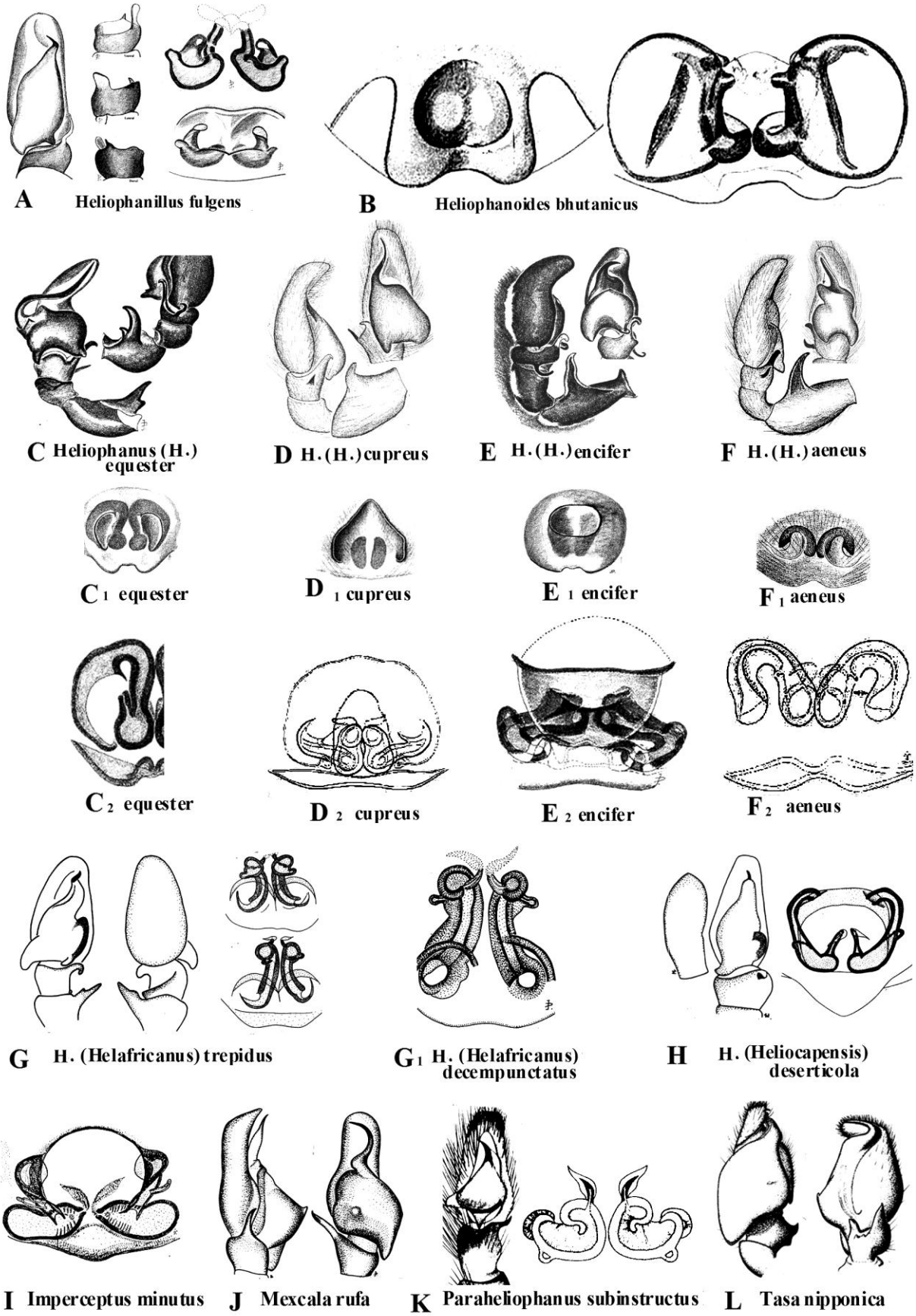


Figure 13. Diagnostic characters of representatives of informal group of genera HELIOPHANINES. **A** - *Heliophanillus fulgens* (O. Pickard-Cambridge, 1872), **B** - *Heliophanoides bhutanicus* Prószynski, 1992, **C** - *Heliophanus (Heliophanus) equester* L. Koch, 1867, **D** - *Heliophanus (Heliophanus) cupreus* (Walckenaer, 1802), **E** - *Heliophanus (Heliophanus) encifer* Simon, 1871, **F** - *Heliophanus (Heliophanus) aeneus* (Hahn, 1832), **G** - *Heliophanus (Helafricanus) trepidus* Simon, 1910, **G1** - *Heliophanus (Helafricanus) decempunctatus* (Caporiacco, 1941), **H** - *Heliophanus (Heliocapensis) deserticola* Wesolowska 1986, **I** - *Imperceptus minutus* Prószyński 1992, **J** - *Mexcala rufa* Peckham & Peckham, 1902, **K** - *Paraheliophanus subinstructus* Clark, Benoit 1977, **L** - *Tasa nipponica* Bohdanowicz & Prószynski, 1987**.**

SOURCES: **A** - Prószyński 2003b Annales Zoologici 2003: 71-72, f. 261-268; **B** - Prószyński 1992b Annales Zoologici 44, 9: 44, 9: 177, f. 54-55; **C** - Prószyński 2003a Annales zoologici 77-78, f. 292-295; **D, F** - Żabka 1997 Fauna Polski 19: 5-187,f. 148-156; f. 132-13, **E** - Prószyński 2003a Annales zoologici 53 (1): 77, f. 287-291; **G** - Wesołowska 2003a Genus, 14(2): 290-291,f. 135-137; **G1** - Prószyński 1987 Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce ... 57 (f. unnumbered); **H** -Wesołowska 1986 Annales Zoologici 40, 1: 8, 15, f. 54-63 +b) 8, 12, f. 4-9; **I** - Prószyński 1992b Annales Zoologici 44, 9: 181, f. 65-66; **J** - Prószyński 1984c. Salticidae. Zeszyty Naukowe WSRP, Siedlce 83 (f. unnumbered); **K** - Clark, Benoit 1977 Annales Musée royal de l'Afrique Centrale (serie in 8, Sciences Zoologiques) 220: 92, f. 37a-d; **L** - Bohdanowicz & Prószyński 1987 Annales Zoologici, 41, 2: 143-144, f. 300-256.

…figure on page 30

Supergroup of genera HYLLOIDA

Type group: HYLLINES,of which type genus *is Hyllus* C. L. Koch, 1846, with type species *Hyllus giganteus* C. L. Koch, 1846.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name.

Mutual diagnostic characters of genera included. Embolus arising directly from side of bulbus, usually long, running parallel along the bulbus (Fig. 14G), in some cases encircling it, or stretching ahead in a shallow groove of the tip of cymbium. Epigyne with membranous “windows” (Fig. 15F), or grooves (Fig. 14G). Ducts prominent, often coiled or spiraled, in some cases making double spiral. Spermathecae in a form of compact bodies, with convoluted internal chambers.

Description. Tentatively delimited supergroup of genera of Salticidae, having embolus arising directly from the side of bulbus, usually long, running parallel along the bulbus, in some cases encircling it, or stretching ahead in a shallow groove of the tip of cymbium. Embolus is naked or, in some cases, accompanied by conductor, resembling embolus or developed as robust structure. Following Logunov & Marusik (1999) history making discovery that massive "embolus" may be in fact a kind of covering sheath, developed from modified conductor (Fig. 20E), I extend tentatively that interpretation to all broad, fleshy emboli with translucent thin, sclerotized hair insisde. Membranous pair of "windows", or single "window" in epigyne, is in some genera replaced by sclerotized grooves, separated by a septum. There is usually a pair of pockets, or single pocket. Ducts prominent, membranous or sclerotized, often coiled or spiraled, in some cases making double spiral. Spermathecae in some cases making compact body, with convoluted internal chambers, duct like. Armature of scent exuding pores often developed into chimney like duct, running towards the tegument. Body shape and color pattern often characterize particular genera, but not groups of genera.

Composition. Contains informal groups of genera: EVARCHINES, HABRONATTINES, HARMOCHIRINES, HYLLINES, PELLENINES, PSEUDICIINES, YAGINUMAELLINES, YLLENINES.

HYLLINES

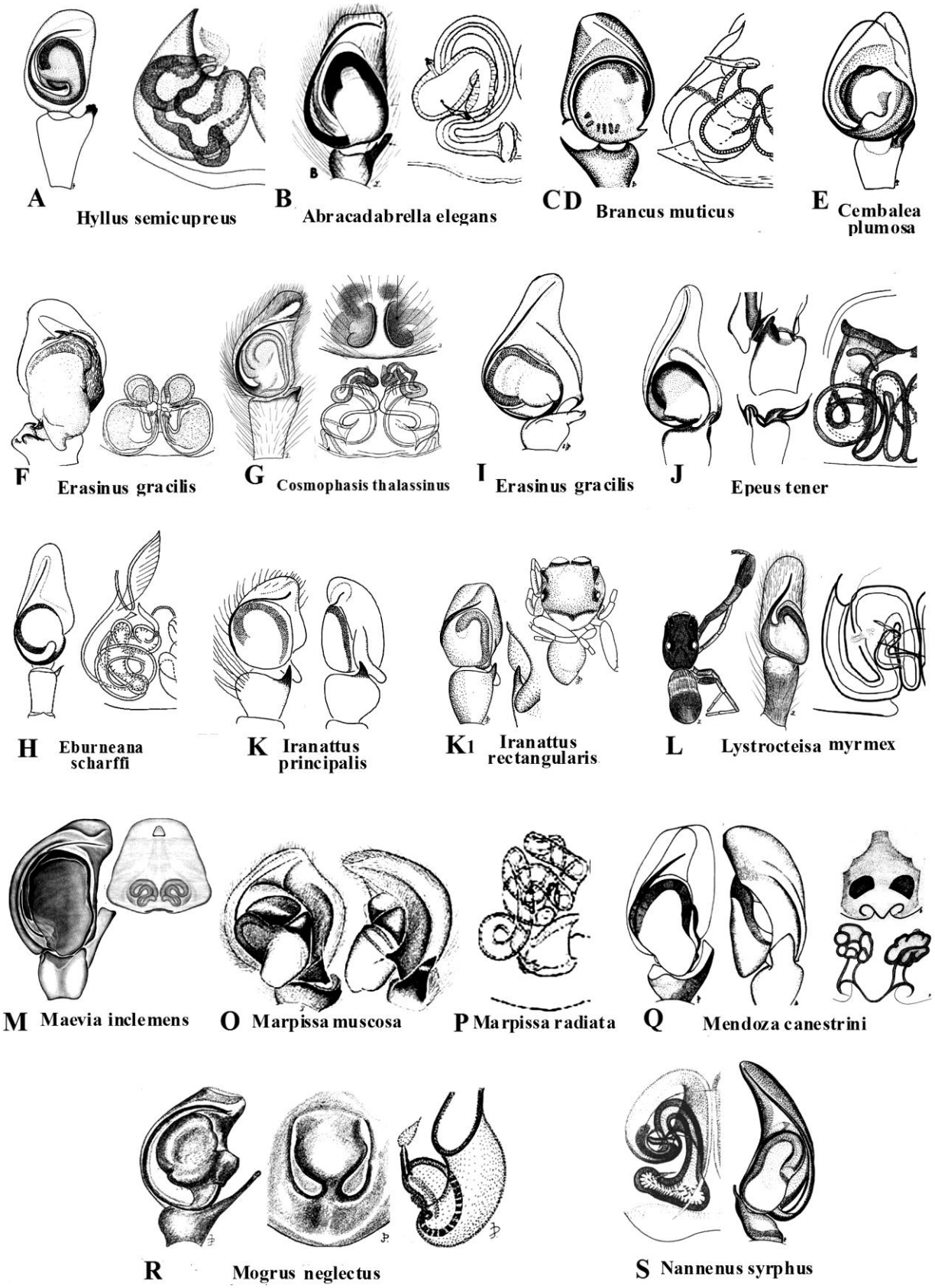

A
Hyllus semicupreus
B
Abracadabrella elegans
CD
Brancus muticus
E
Cembalea plumosa
F
Erasinus gracilis
G
Cosmophasis thalassinus
I
Erasinus gracilis
J
Epeus tener
H
Eburneana scharffi
K
Iranattus principalis
K1
Iranattus rectangularis
L
Lystrocteisa myrmex
M
Maevia inclemens
O
Marpissa muscosa
P
Marpissa radiata
Q
Mendoza canestrini
R
Mogrus neglectus
S
Nannenus syrphus

Figure 14. Diagnostic characters of representatives of informal group of genera HYLLINES. **A** - *Hyllus semicupreus* (Simon, 1885), **B** - *Abracadabrella elegans* (L. Koch, 1879), **C-D** - *Brancus muticus* Simon, 1902, **E** - *Cembalea plumosa* (Lessert, 1925), **F** - *Chira guianensis* (Taczanowski, 1871), **G** - *Cosmophasis thalassinus* (C. L. Koch, 1846) [TRUE HOLOTYPUS], **H** - *Eburneana scharffi* Wesolowska & Szuts, 2001, **I** - *Erasinus gracilis* Peckham & Peckham, 1907, **J** - *Epeus tener* (Simon, 1877), **K** - *Iranattus principalis* (Wesolowska, 2000) [comb. n.], **K1** - *Iranattus rectangularis* Prószyński, 1992a: 97, f. 35-40, **L** - *Lystrocteisa myrmex* Simon, 1884 [HISPONINES?], **M** - *Maevia inclemens* (Walckenaer, 1837), **O** - *Marpissa muscosa* (Clerck, 1757), ***P*** -- *Marpissa radiata* (Grube, 1859), **Q** - *Mendoza canestrini* (Canestrini & Pavesi, 1868), **R** - *Mogrus neglectus* (Simon, 1868), **S** - *Nannenus syrphus* Simon, 1902.

SOURCES: **A, E, I**- Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce: 41, 64-65; 141 (f. unnumbered); **B** - Żabka1991b Memoirs of the Queensland Museum 30: 626, f . 4A-D, 5A-D; **J** - Prószyński 1984a Annales Zoologici 409, f . 13-16, 18; **C S** - Prószyński. 1987 Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 7; 69-70 (f. unnumbered); **D** - Azarkina, Foord 2013. Zootaxa, Magnolia Pres 3686(2): 169, f . 18-35; **F** - Galiano 1961a Communicationes del Museo Argentino Ciencias Naurales, Entomologia 3(6): 163-164, t 1, f . 1-3; Physis 27 (75): 350- 353, f . 6-7; **G, L** - Żabka 1988b Annales Zoologici **41 (14)**: 444, f . 62-63; 460- 461, f . 105-109; **H** - Wesołowska & Szüts 2001 Annales Zoologici 51(4): 525- 528, f . 9-23; **K** - Wesołowska & Russel-Smith 1999[2000] Annales Zoologici 61(3): 581- 582, f . 96-98, 229, 230; **K1** - Prószyński 1992a: Annales Zoologici 44: 97, f . 35-40; **L** - Patoleta, Gardzinska 2013. Zootaxa, Magnolia Press 3646 (5): 588- 592, f . 1–26; **M** - Paquin, Duperre 2003 Fabreries, Suppl. 11: 197,f . 2196-2198; **O** - **P** - Żabka 1997 Fauna Polski 19: 63, f . 189-200; **Q** - Bohdanowicz, Prószyński 1987: 84, f . 112-120; **R** - Prószyński 2003a Annales Zoologici 102- 105, f . 407-413.

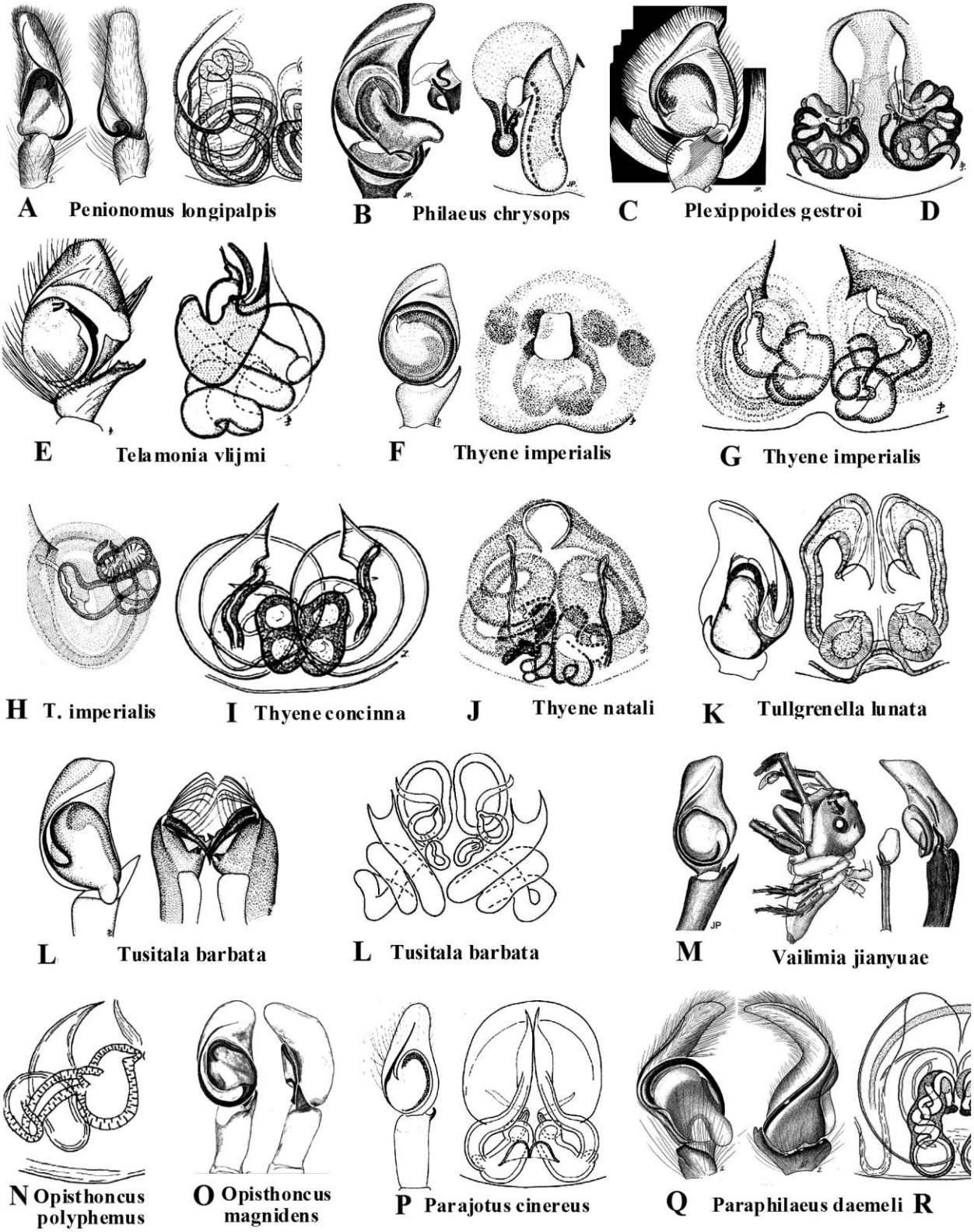
…figure on page 32

Figure 15. Diagnostic characters of representatives of informal group of genera HYLLINES 2 (continued).A - *Penionomus longipalpis* (Simon, 1889), **B** - *Philaeus chrysops* (Poda, 1761), **C** - **D** *Plexippoides gestroi* (Dalmas, 1920), **E** - *Telamonia vlijmi* Prószyński, 1984, **F**-**H** - *Thyene imperialis* (Rossi, 1846), **I** - *Thyene concinna* (Keyserling, 1881), **J** - *Thyene natali* (Keyserling, 1881), **K** - *Tullgrenella lunata* (Mello-Leitão, 1944), **L**- *Tusitala barbata* Peckham & Peckham, 1902. **M** - *Vailimia jianyuae* Prószynski & Deeleman-Reinhold, 2013, **N** - *Opisthoncus polyphemus* (L. Koch, 1867), **O** - *Opisthoncus magnidens* L. Koch, 1880, **P** - *Parajotus cinereus* Wesolowska, 2004, **Q**-**R** - *Paraphilaeus daemeli* (Keyserling, 1883).

SOURCES: **A** - Żabka 1988b Annales zoologici 41 (14): 463-465, f. 114-119; **B**-**D** - Prószyński 2003 Annales Zoologici 53 (1): 121-122, f. 501-506; 141,f. 566, 575, 575a; **E** - Prószyński. 1984b. Annales Zoologici 37: 423, f. 18-25; **F** - **H** - Prószyński 1989. F. Saudi Ar. 57-59, f. 69-72; **I** - Davies Todd, ŻabkaM. 1989 Memoirs of the Queensland Museum 27 (2): 250, 253, t. 53; ***J*** - Prószyński 1987. Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 109 (f. unnumbered); **K**- Galiano 1970b Physis, 29 (79): 329-332, f. 43-48, 53; **L** - Prószyński. 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 149 (f. unnumbered) +Wesołowska & Haddad, 2009 Annales Zoologici 58: 92, f. 203-204; **M** - Prószyński, Deeleman-Reinhold 2013 Arthropoda Selecta 22(2): 143,, f. 130-141; N-O - Gardzińska, Żabka 2013. Zootaxa, Magnolia Press 3717 (4): 436, f. 24; 423-427, f. 16, 17. ; P-Wesołowska 2004. Genus, 15(1): 135-140, f. 1-10; **Q**-**R** - Żabka, M. 2003. Annales zoologici, 53: 723-727, f. 1-15.

…figure on page 34

HYLLINES 2


A Penionomus longipalpis
B Philaeus chrysops
C Plexippoides gestroi
D
E Telamonia vlijmi
F Thyene imperialis
G Thyene imperialis
H T. imperialis
I Thyene concinna
J Thyene natali
K Tullgrenella lunata
L Tusitala barbata
L Tusitala barbata
M Vailimia jianyuae
N Opisthoncus polyphemus
O Opisthoncus magnidens
P Parajotus cinereus
Q Paraphilaeus daemeli
R

Group of genera HYLLINES Prószyński, 2016

Figures 14, 15, 16, 17, 18
Database contains 40 genera, 400 species

Type genus *Hyllus* Koch C.L., 1846, of which type species is *Hyllus giganteus* Koch C.L., 1846.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Hyllus"*.

Mutual diagnostic characters of genera included. Embolus long and thin, arising directly from lateral, posterior part of the bulbus, running parallel along side of bulbus, almost touching, in some genera encircling it (Fig. 14A). Differs from AMYCOIDA by not displaying central loop of spermophor. Ducts long and complicated, with walls membranous (Fig. 15G), or at least thinner than those of spermathecae.

Description. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Hyllinae_clas.html.

Remarks. Position of *Lystrocteissa* in this group of genera is a provisional, unsatisfactory compromise. The carapace of the spider resembles HISPONINES, leg I shape could place it in DIOLENINES, palp has simple bulbus with relatively short embolus, similarity of internal structure of epigyne unclear, somewhat resembling HISPONINES. Pending further research.

Distribution. Worldwide.

Composition. The following genera are included: *Abracadabrella* Żabka, 1991 (3 species), *Afrobeata* Caporiacco, 1941 (3 species), *Brancus* Simon, 1902 (15 species), *Cembalea* Wesolowska, 1993 (5 species), *Chira* Peckham, Peckham, 1896 (10 species), *Cosmophasis* Simon, 1901 (18 species, other species placed tentatively in the group ICIINES), *Eburneana* Wesolowska & Szüts, 2001 (3 species), *Encymachus* Simon, 1902 (1 species), *Enoplomischus* Giltay, 1931 (2 species), *Epeus* Peckham & Peckham, 1886 (15 species), *Erasinus* Simon, 1899 (2 species), *Helvetia* Peckham & Peckham, 1894 (7 species), *Hinewaia* Żabka& Pollard, 2002(1 species), *Hyllus* C. L. Koch, 1846 (39 species), *Iranattus* Prószyński, 1992 (2 species), *Lystrocteisa* Simon, 1884 (1 species, placement uncertain - HISPONINES?), *Maevia* C.L. Koch, 1846 (3 species), *Maltecora* Simon, 1909 (3 species), *Marpissa* C. L. Koch, 1846 (23 species), *Mendoza* Peckham & Peckham, 1894 (12 species), *Mogrus* Simon, 1882 (26 species), *Nannenus* Simon, 1902 (5 species), *Nosferattus* Ruiz & Brescovit, 2005 (5 species), *Opisthoncus* Koch L., 1880 (28 species), *Parajotus* Peckham & Peckham, 1903 (3 species), *Paraphilaeus* Żabka, 2003 (1 species), *Paraplatoides* Żabka, 1991 (6 species), *Penionomus* Simon, 1903 (2 species), *Philaeus* Thorell, 1869 (1 species), *Pignus* Wesolowska, 2000 (3 species), *Plexippoides* Prószyński, 1976 [1984] (25 species), *Poessa* Simon, 1902 (2 species), *Telamonia* Thorell, 1887 (17 species), *Thyene* Simon, 1885 (42 species), *Tullgrenella* Mello-Leitao, 1941 (13 species), *Tusitala* Peckham & Peckham, 1902 (10 species), *Ureta* Wesolowska & Haddad, 2013 (1 species), *Vailimia* Kammerer, 2006 (4 species), *Viciria* Thorell, 1877 (2 species), *Wesolowskana* Koçak & Kemal, 2008 (3 species), *Yogetor* Wesolowska & Russell-Smith, 2000 (3 species).

Nomenclatorical corrections

***Maevia* C.L. Koch, 1846 and *Paramaevia* F. O. Pickard-Cambridge, 1901**

Edwards' (1977: 22) opinion: "*Paramaevia* Barnes. ... should not have been erected and all species in it should revert back into *Maevia*, since *Maevia* (*Paramaevia*) *michelsoni* Barnes is intermediate between the two" is not supported by any diagnostic documentation, so he probably refers to external appearance of these spiders. There are, however, striking differences in palps and epigyne of these genera (see drawings of their respective type species Fig. 14M and Fig. 10J, see also files http://www.peckhamia.com/salticidae/q18-Maevia.html and http://www.peckhamia.com/salticidae/q28-Paramaev.html respectively), suggesting

classification not only in different genera but in different groups of genera. Such difference in the most important and useful diagnostic characters exclude possibility that these forms may be congeneric. Therefore:

Maevia hobbsae Barnes, 1958 = *Paramaevia hobbsae* Barnes, 1958 (reinstatement of the previous combination, documentation as above).
Maevia michelsoni Barnes, 1958 = *Paramaevia michelsoni* (Barnes, 1958) (reinstatement of the previous combination, documentation as above).
Maevia poultoni Peckham & Peckham, 1909 = *Paramaevia poultoni* (Peckham & Peckham, 1901) (type species) (reinstatement of the previous combination, documentation as above).

***Monomotapa* Wesolowska, 2000 = *Iranattus* Prószyński, 1992**

Genus *Monomotapa* is identical with *Iranattus*, as documented by identical body shape and similar palp, with extended posterolateral flap of cymbium documented on Figs 14K, K1 and 17F, see also files http://www.peckhamia.com/salticidae/q18-Irana.html. Therefore:

Monomotapa principalis Wesolowska, 2000 = *Iranattus principalis* (Wesolowska, 2000) comb. n. (documented by Figs 14K and 14F).

Telamonia and "Viciria"

Revision of 58 species of *Viciria* (Prószyński 1968c, 1893c, d, 1984a, b, 1987, and 2016a, b) transferred majority of them into several other genera, but left provisionally four "*Viciria*" pending further research. Bodner & Maddison (2012: 225) transferred recently these species into genus *Telamonia*, however, none of them (Figs 16F-L) fit characters of type species of *Telamonia* (Fig. 16B) which look entirely different and are certainly unrelated. Palp of *Viciria thoracica* (Fig. 16H) shows resemblance to the type species of the genus *Hyllus* (Fig. 16C) and even more to *Hyllus albocinctus* (Fig. 16F). Epigyne, in turn, and it's internal structure of *Viciria longiuscucla* (Fig. 16G) is very similar to the same structure in *Hyllus semicupreus* (Fig. 16D). Finally epigyne and its internal structure of *Viciria besanconi* (Fig. 16J) and *Viciria fuscimana* (Fig. 16L) studied parallel by Wesołowska & Russell-Smith, 2011 agree with the same structures in genus *Brancus* (Figs. 16I and 16K respectively). Therefore combinations of these specific names, listed in the WSC, should be corrected as follows:

Telamonia besanconi (Berland & Millot, 1941) = *Brancus besanconi* (Berland & Millot, 1941) [reinstated synonym by Wesolowska & Russell-Smith, 2011: 565, f . 40-42, 219], [documented by Fig.16I-J, compare type species *Brancus muticus* Fig. 16E],
Telamonia fuscimana (Simon, 1903) = *Brancus fuscimanus* (Simon, 1903) [documented by Fig.16K-L],
Telamonia longiuscula (Thorell, 1899) = *Hyllus longiusculus* (Thorell, 1899) comb n. [documented by Fig. 16G, compare with Fig. 16D],
Telamonia thoracica (Thorell, 1899) = *Hyllus thoracicus* (Thorell, 1899) comb, n. [documented by Fig. 16H, compare type species *Hyllus giganteus* Fig. 16C].
Viciria albocincta Thorell, 1899 = *Hyllus albocinctus* (Thorell, 1899) comb. n. [documented by Fig. 16F].

Group of genera PSEUDICIINES Prószyński, 2016

Figures 1A: A-L, 18H-K, 19
Database contains 8 recognizable genera, 76 species

Type genus *Pseudicius* Simon, 1885, of which type species is *Pseudicius encarpatus* (Walckenaer, 1802) [= *Aranea encarpata* Walckenaer, 1802]

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Pseudicius"*.

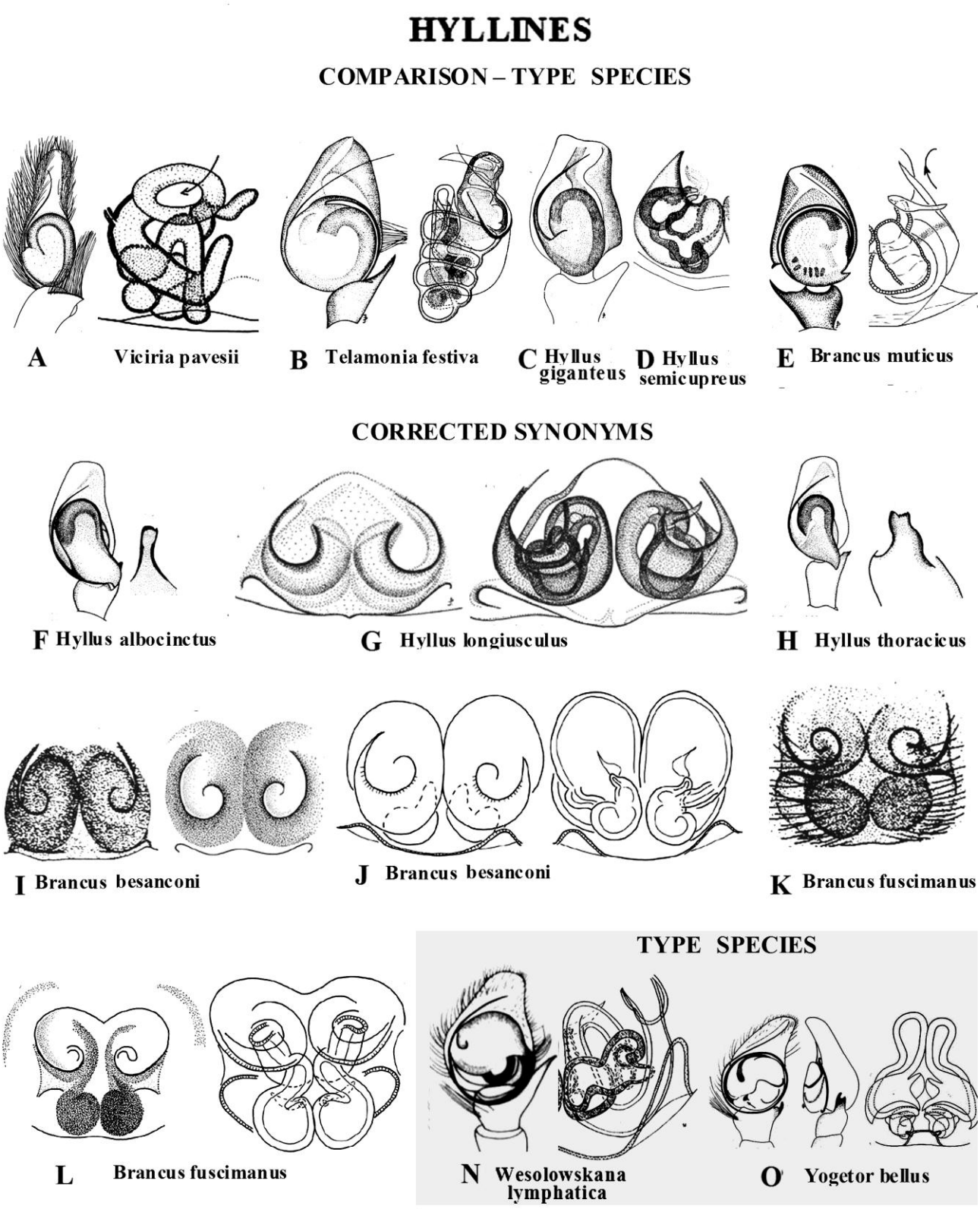

HYLLINES
COMPARISON – TYPE SPECIES
A Viciria pavesii
B Telamonia festiva
C Hyllus giganteus
D Hyllus semicupreus
E Brancus muticus
CORRECTED SYNONYMS
F Hyllus albocinctus
G Hyllus longiusculus
H Hyllus thoracicus
I Brancus besanconi
J Brancus besanconi
K Brancus fuscimanus
TYPE SPECIES
L Brancus fuscimanus
N Wesolowskana lymphatica
O Yogetor bellus

Figure 16. Corrections of synonyms of "*Viciria*". CHARACTERS OF RELEVANT TYPE SPECIES FOR COMPARISON: **A** - *Viciria pavesii* Thorell, 1877, **B** - *Telamonia festiva* Thorell, 1887, **C** - *Hyllus giganteus* C. L. Koch, 1846**, D** - *Hyllus semicupreus* (Simon, 1885), **E** - *Brancus muticus* Simon, 1902, **E**1 - *Brancus muticus* (female), **N** - *Wesolowskana lymphatica* (Wesolowska, 1989), **O** - *Yogetor bellus* Wesolowska & Russell-Smith, 2000. CORRECTED SYNONYMS: **F** - *Hyllus albocinctus* (Thorell, 1899) comb. n., **G** - *Hyllus longiusculus* (Thorell, 1899) comb n., **H** - *Hyllus thoracicus* (Thorell, 1899) comb n., **I** - *Brancus besanconi* (Berland & Millot, 1941), **J** - *Brancus besanconi* (Berland & Millot, 1941) [synonym reinstated by Wesolowska & Russell-Smith, 2011], **K** - *Brancus fuscimanus* (Simon, 1903), **L** - *Brancus fuscimanus* (Simon, 1903.

SOURCES: **A-B, F-H, L,-** Prószyński 1984b[c] Annales Zoologici 37: 433, f. 44-45; 46-47; 48-49; 418-420, f. 1-2, 5-10**; C, D** - Prószyński 1984c: Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 64-65; 166; **E** - Prószyński 1987. Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 7; **E**1 - Azarkina, Foord 2013. Zootaxa 3686(2): 169, f. 18-35; **I** -Berland & Millot, 1941: 378, f. 76A-B; **J, L** - Wesołowska & Russell-Smith, 2011 Annales Zoologici: 565, f. 40-42, 219; 566, f. 43-44; **K** - Wanless, Clark. 1975. 89 (2): 281-283, f. 16. **N** - Wesołowska. 1998. Boletim do Museu Municipal do Funchal 50 (291): 127, f. 4-7, 10-11, 14-15, 18-19, 21; **O** - Wesołowska, Russel-Smith 2000. Tropical Zoology, 13 (1): 117-120, f. 326-332.

…figure on page 37

Figure 17. Color pattern and body shape of representatives of informal group of genera HYLLINES. **A** - *Hyllus semicupreus* (Simon, 1885), **B** - *Abracadabrella elegans* (L. Koch, 1879), **C** - *Chira guianensis* (Taczanowski, 1871), **D** - *Cosmophasis (bitaeniata) bitaeniata* (Keyserling, 1882), **E**- *Epeus flavobilineatus* (Doleschall, 1859), F - *Iranattus principalis* (Wesolowska, 2000) [comb. n.], **G** - *Lystrocteisa myrmex* Simon, 1884, **G1** – compare with *Hispo cingulata* Simon, 1886 [HISPONINES?], **H** - *Maevia inclemens* (Walckenaer, 1837), **I** - *Marpissa muscosa* **(**Clerck, 1757), **J** - *Mendoza canestrini* (Canestrini & Pavesi, 1868), **K** - *Mogrus neglectus* (Simon, 1868), **L** - *Opisthoncus magnidens* L. Koch, 1880, **M** - *Parajotus cinereus* Wesolowska, 2004, **N** - *Paraphilaeus daemeli* (Keyserling, 1883), **O** - *Philaeus chrysops*(Poda, 1761) male and **P**- female, **Q** - *Plexippoides gestroi* (Dalmas, 1920).

SOURCES: A - Photo Samson Davis; B, D, L, N - Photo Robert Whyte; C - Photo Gasnier & Machado; E - Phot H.K. Tang; F - Wesołowska, Russel-Smith 1999[2000]. Annales Zoologici 61(3): 581-582, f. 96-98, 229, 230; G - Patoleta, Gardzinska 2013 Zootaxa, Magnolia Press3646 (5): 588-592, f. 1–26; G1 - Simon1901-1903: 450, f. 511; H - Photo D. Hill , I-J, O - Photo J. Lissner; K, P - Photo A. Senglet; M - Photo R. R. Jackson; Q - Photo B. Knoflach.

…figure on page 39

HYLLINES

A Hyllus semicupreus

B Abracadabrella elegans

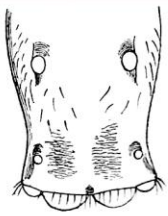
C Chira guianensis

D Cosmophasis bitaeniata

E Epeus flavobilineatus

F Iranattus principalis

G Lystrocteisa myrmex



G 1 Hispo cingulata

H Maevia inclemens

I Marpissa muscosa

J Mendoza canestrini

K Mogrus neglectus

L Opisthoncus magnidens

M Parajotus cinereus

N Paraphilaeus daemeli

O Philaeus chrysops male and female P

Q Plexippoides gestroi

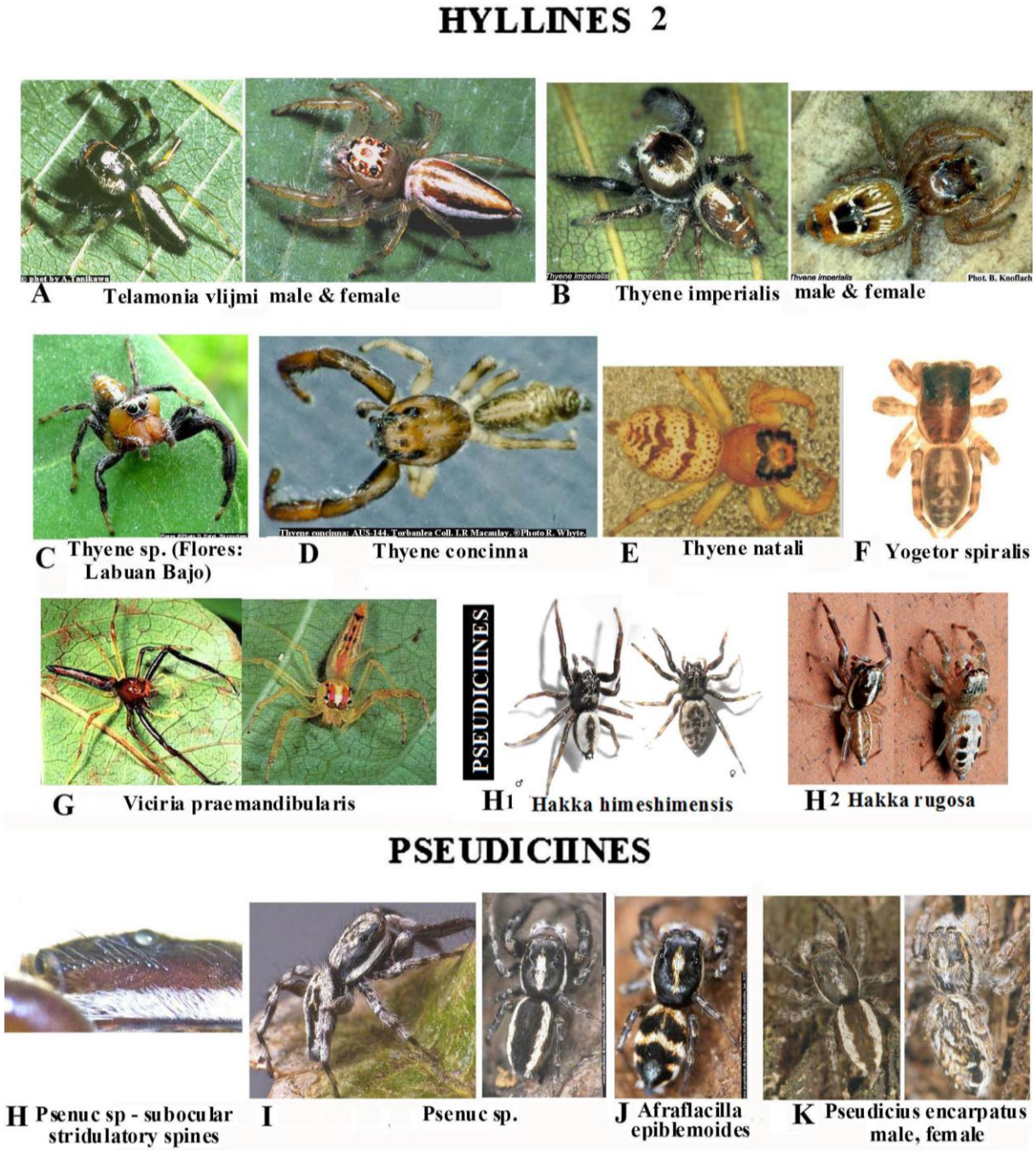


Figure 18. Color pattern and body shape of representatives of informal group of genera HYLLINES and PSEUDICIINES. HYLLINES: **A** - *Telamonia vlijmi* Prószyński, 1984, male & female, **B** - *Thyene imperialis* (Rossi, 1846), male & female, **C** - *Thyene* sp. (Flores: Labuan Bajo), **D** - *Thyene concinna* (Keyserling, 1881), **E** - *Thyene natali* Peckham & Peckham, 1903, **F** - *Yogetor spiralis* Wesołowska, Tomasiewicz, 2008, ***G*** - *Viciria praemandibularis* (Hasselt, 1893). PSEUDICIINES:. **H1** -*Hakka himeshimensis* (Bösenberg & Strand, 1906), **H2** - *Hakka rugosa* (Suguro & Nagano, 2015), **H** -- *Psenuc* sp - subocular stridulatory spines on tubercles, **I** - *Psenuc* sp., **J** - *Afraflacilla epiblemoides* (Chyzer, 1891), **K** -*Pseudicius encarpatus* male, female.

SOURCES: **A** - Photo Akio Tanikawa; **B** - Photo B. Knoflach (from Yemen); **C** - Photo D. Petot; **D** - Photo R. Whyte; **E** - Haddad, Wesołowska 2011. 52(1): 125, f . 192; **F** -Wesołowska W., Russel-Smith A. 2011 Annales Zoologici 61(3): 581- 582, f . 229; **G** - Photo J. Koh; **H1** - Marblehead, Essex Co., MA, USA. ©PhotoT. Adams; **H2** - Suguro & Nagano, 2015: Acta Arachnologica, Tokyo 64(2): 92, f . 1-13 **H** - Photo R. Whyte; **JK** - Photo J. Lissner;

PSEUDICIINES

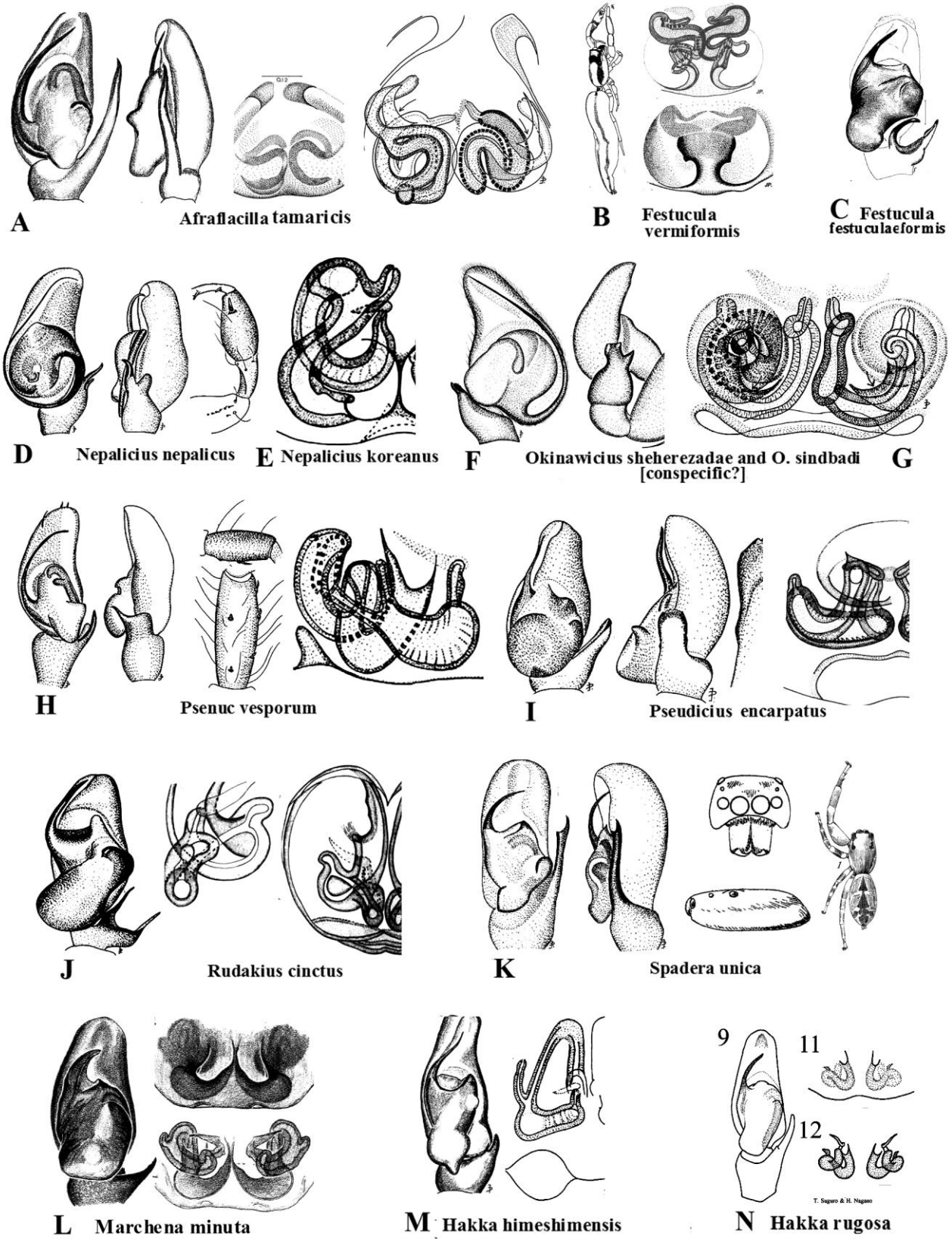


Figure 19. Diagnostic characters of representatives of informal group of genera PSEUDICIINES. **A** - *Afraflacilla tamaricis* (Simon, 1885), **B** - *Festucula vermiformis* Simon, 1901, **C** - *Festucula festuculaeformis* (Lessert, 1925), **D** - *Nepalicius nepalicus* (Andreeva,, Heciak, Prószynski, 1984), **E** - *Nepalicius koreanus* (Wesolowska, 1981), **F-G** - *Okinawicius sheherezadae* (Prószynski, 1989) and *O. sindbadi* (Prószyński, 1989)[matching? conspecific?], **H** - *Psenuc vesporum* (Prószynski, 1992), **I** - *Pseudicius encarpatus* (Walckenaer, 1802), **J** - *Rudakius cinctus* (O. Pickard-Cambridge, 1885), **K** - *Spadera unica* Peckham, Peckham, 1894, **L** - *Marchena minuta* (Peckham & Peckham, 1888), **M** - *Hakka himeshimensis* (Bösenberg & Strand, 1906), **N** - *Hakka rugosa* (Suguro & Nagano, 2015).

SOURCES: **A-B** - Prószyński 2003 Annales Zoologici 53: 154, f . 614-622; 64, f . 241-243; **C** - Azarkina, Foord 2014 African Invertebrates 55: 359, f . 16, 25, 45-60 ; **D** - Prószyński1992a Annales Zoologici 44: 106, f . 67, 69-72; **E** - Bohdanowicz, Prószyński 1987 Annales Zoologici 41, 2: 67- 71, f . 67-73; **F-G** - Prószyński 1989 Fauna Saudi Arabia 10: 49, f . 46-47, 50-52; H-I - Prószyński 1992a Annales Zoologici 44, 8: 112- 113, f . 88-97; 44, 8: 102- 103, f . 104-105; **J** - Andreeva, Heciak, Prószyński 1984 Annales Zoologici 37, 13: 351- 352, f . 20, 23, 27, 30, 33, 36, 39, 41; K - Prószyński 1987 Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 51(f. unnumbered): and Peckham, Peckham 1894 Occasional Papers of the Natural History Society of Wisconsin **2**: 118, pl. 12, f . 1; **L**- Maddison 1987 Bulletin of the British Arachnological Society 101, f . 1-5, 9-10; **M** - Berry, Prószyński 2001 Journal of Arachnology 29(2): 201- 204, f . 1-7; **M** - Berry & Prószynski, 2001, **N** - Suguro & Nagano , 2015: Acta Arachnologica, Tokyo 64(2): 92, f . 9, 11-12.

…figure on page 41

Mutual diagnostic characters of genera included. Differs from all other groups by lateral subocular row of stridulatory spines (Fig. 18H) interacting with a row of microscopic microsetae on femur I, also by characteristic tibial modification, ducts usually twisted into complicated coils and armature of scent exuding opening in a form of prominent duct (Figs 18A, E, H).

Description. Embolus of Hylloidea type, body flattened and elongated, color pattern characteristic (Figs 1A: I-L, 18H-K). Epigyne usually with well developed pair of sclerotized pockets (Figs 1A: C, D, 18A, H). Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Pseudiciinae_clas.html.

Remarks. Diagnostics characters of species in the genus PSEUDICIINES s. l. were remarkably uniform and permitted to classify them to a genus at the first glance. However, number of species in that broadly understood genus was inconveniently large, too large for use, so promoting it to the higher rank of group PSEUDICIINES permits subdivision of it into smaller genera, better expressing differences between them, without loosing their mutual characters. Genera *Hakka* and *Marchena* miss the most important characters of the group - subocular row of bristles and modification of tibia I, but have palps remarkably similar to the genus *Rudakius*, besides have no clear characters linking them with other groups, their placement is provisional.

Distribution. Old World, Australia and Pacific Islands. *Marchena* is North American, *Hakka* occurs in China and is a colonist in Hawaii and Atlantic shores of North America.

Composition. The following genera are included: *Afraflacilla* Berland & Millot, 1941 (41 species), *Festucula* Simon, 1901 (9 species), *Nepalicius* Prószyński, 2016 gen. n. (3 species), *Okinawicius* Prószyński, 2016 gen. n. (5 species), *Psenuc* Prószyński, 2016 gen. n. (10 species), *Pseudicius* Simon, 1885 (9 species), Rudakius Prószynski, 2016 gen. n. (9 species), *Spadera* Peckham, Peckham, 1894 (1 species) [comb. reinstated]. Genera included provisionally: *Hakka* Berry & Prószynski, 2001 (4 species), *Marchena* Peckham, Peckham, 1909 (1 species), *Hakka rugosa* (Suguro & Nagano, 2015) comb. n.

Nomenclatorical corrections

***Icius rugosus* Suguro & Nagano, 2015 = *Hakka rugosa (* Suguro & Nagano, 2015)**

General appearance of this specie (Fig. 18H2) and palp (Fig. 19N) agree with *Hakka himeshimensis* (Figs. 18H1 and 19M respectively), there is no resemblance to the type species of genus *Icius* (Fig. 11A and 12A). Therefore:

Icius rugosus Suguro & Nagano, 2015 = *Hakka rugosus* (Suguro & Nagano, 2015) comb. n.

***Pseudicius* Simon, 1885 (in part) = *Afraflacilla* Berland & Millot, 1941**

Afraflacilla differs from remaining genera of the group by shape of palp and most complicated loops of ducts and spermathecae (Fig. 19A). For survey of diversity of 41 species of this genus see file http://www.peckhamia.com/salticidae/q27-Afraf.html. Therefore the following nomenclatorical changes are necessary:

Pseudicius alter Wesolowska, 1999 = *Afraflacilla altera* (Wesolowska, 1999), *Pseudicius arabicus* (Wesolowska, van Harten, 1994) = *A. arabica* Wesolowska, van Harten, 1994, *Pseudicius bipunctatus* Peckham, Peckham, 1903 = *A. bipunctata* (Peckham, Peckham, 1903), *Pseudicius braunsi* Peckham, Peckham, 1903 = *A. braunsi* (Peckham, Peckham, 1903), *Pseudicius datuntatus* Logunov, Zamanpoore, 2005= *A. datuntata* (Logunov, Zamanpoore, 2005), *Pseudicius elegans* (Wesolowska, Cumming, 2008) = *A. elegans* (Wesolowska, Cumming, 2008), *Pseudicius eximius* Wesolowska, Russel-Smith, 2000 = *A. eximia* (Wesolowska, Russel-Smith, 2000), *Pseudicius fayda* Wesolowska, van Harten, 2010 = *A. fayda* (Wesolowska, van Harten, 2010), *Pseudicius flavipes* Caporiacco, 1935 = *A. flavipes* (Caporiacco, 1935), *Pseudicius histrionicus* Simon, 1902 = *A. histrionica* (Simon, 1902), *Pseudicius imitator* Wesolowska, Haddad, 2013 = *A. imitator* (Wesolowska, Haddad, 2013), *Pseudicius javanicus* Prószynski, Deeleman-Reinhold, 2012 = *A. javanica* (Prószynski, Deeleman-Reinhold, 2012), *Pseudicius karinae* (Haddad, Wesolowska, 2011) = *A. karinae* (Haddad, Wesolowska, 2011), *Pseudicius kraussi* Marples, 1964 = *A. kraussi* (Marples, 1964), *Pseudicius mikhailovi* Prószynski, 1999 = *A. mikhailovi* (Prószynski, 1999), *Pseudicius mushrif Wesolowska, van Harten, 2010 = A. mushrif* (Wesolowska, van Harten, 2010), *Pseudicius philippinensis* Prószynski, 1992 = *A. philippinensis* (Prószynski, 1992), *Pseudicius punctatus* Marples, 1957 = *A. punctata* (Marples, 1957), *Pseudicius refulgens* Wesolowska, Cumming, 2008 = *A. refulgens* (Wesolowska, Cumming, 2008), *Pseudicius reiskindi* Prószynski, 1992 = *A. reiskindi* (Prószynski, 1992), *Pseudicius roberti* Wesolowska, 2011 = *A. roberti* (Wesolowska, 2011), *Pseudicius spiniger* (Pickard-Cambridge O., 1872) = *A. spiniger* (Pickard-Cambridge O., 1872), *Pseudicius tamaricis* Simon, 1885 = *A. tamaricis* (Simon, 1885) comb. n., *Pseudicius tripunctatus* Prószynski, 1989 = *A. tripunctata* (Prószynski, 1989), *Pseudicius venustulus* Wesolowska, Haddad, 2009 = *A. venustula* (Wesolowska, Haddad, 2009), *Pseudicius wadis* Prószynski, 1989 = *A. wadis* (Prószynski, 1989), *Pseudicius zuluensis* Haddad, Wesolowska, 2013 = *A. zuluensis* (Haddad, Wesolowska, 2013).

***Spadera* Peckham & Peckham, 1894 [combination reinstated]**

Intensive revision of the genus *Pseudicius* s. l. by Prószynski (1987: 51, 1992a, b, 1994, 2002, 2016) confirmed similarities of *Spadera unica* to some PSEUDICIINES (especially *Rudakius* spp) in the general plan of palp, but also disclosed significant differences, especially in tibial apophysis shape, incompatible with other *Pseudicius* s. l. It is apparently separate genus. Therefore:

Pseudicius unicus (Peckham & Peckham, 1894) = *Spadera unica* Peckham & Peckham, 1894 (restituted original combination, see documentation Fig. 19K, compared with Fig. 19J, also file: http://www.peckhamia.com/salticidae/q27-Spad.html).

Group of genera PELLENINES Prószyński, 2016

Figures 20A-G, 21A-E

Database contains 2 recognizable genera, divided into 5 subgenera, 70 species

Type genus *Pellenes* Simon, 1876, of which type species is *Pellenes tripunctatus* (Walckenaer, 1802) [= *Aranea tripunctata* Walckenaer, 1802].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Pellenes"*.

Mutual diagnostic characters of genera included. Robust, fleshy structure, popularly considered embolus, is in fact protective sheath hiding inside hairlike, log embolus. Epigyne with a pair of sclerotized grooves and prominent median pocket, the latter developed into prominent ridge in some species (*Pellenes tripunctatus*). Spermathecae and ducts heavily sclerotized, can form compact bodies with internal convoluted chambers.

Description. Palps with robust, fleshy protective sheath being modified conductor (see SEM of *Pellenes lapponicus* - Fig. 20E and tip of embolus of *P. nigrociliatus* - Fig. 20B) and long, hairlike embolus hidden inside. Epigyne and its internal structures in some species (*P. lapponicus, P. ostrinus, P. diagonalis*) look as intermediate to HABRONATTINES. Body proportions characteristic, although difficult to describe, color patterns diversified, consisting of elements permitting to identify genera (Figs 21A-E). Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Pelleninae_clas.html.

Remark. In the traditional system subfamily Pelleninae contained also genus *Habronattus*, here considered separate group HABRONATTINES!

Distribution. Old World, North America, Australia, Pacific Islands.

Composition. The following genera and subgenera are included: *Dexippus* Thorell, 1891 (3 species), *Pellenes* Simon, 1876 (67 species) [including: *Pellenes* (*Pellenes*) Simon, 1876 (4 species), *Pellenes* (*Pellap*) Prószyński, 3016, *Pellenes* (*Pelmirus*) Logunov, Marusik, Rakov, 1999 (5 species), *Pellenes* (*Pelmultus*) Logunov, Marusik, Rakov, 1999 (34 species), *Pellenes* (*Pelpaucus*) Logunov, Marusik, Rakov, 1999 (12 species)].

Correction to list of synonyms

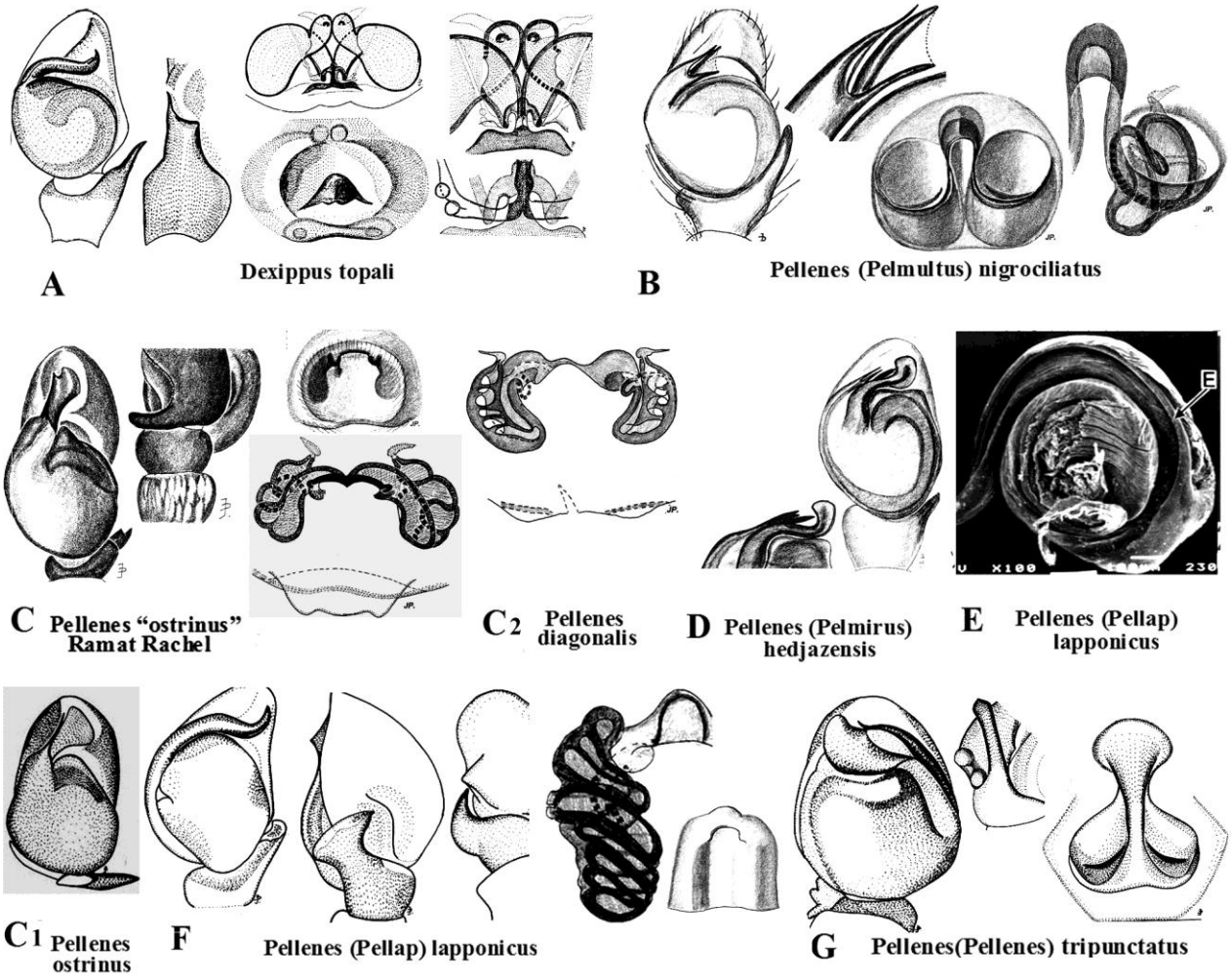
Pellenes diagonalis Simon, 1868 removed from synonymy of P. ostrinus (Simon, 1884)

According to original descriptions by O. Pickard–Cambridge (1868: 46, 52) male of *Pellenes ostrinus* differs strikingly by abdomen red, with white median line posteriorly, confirmed recently by a photo from Israel (Figs 21D), while abdomen of *P. diagonalis* is black, encircled white and bisected by thin, median white line (Fig. 21D1), a pattern common among *Pellenes*. Males of these two species differ also by length of body (5.5 mm Pellenes *diagonalis* and 4 mm *Pellenes ostrinus*). Cantarella & Alicata (2002: 575) have examined superficially original specimens of both species, but as did not provide any arguments or documentation for that, their conclusion is not accepted.

The documentation of the syntypes consist now of the male *Pellenes ostrinus* from Corfu drawn by Prószyński (1984a:102, 2003: 116, 117-119, f. 481-482) (Fig. 30C1). Related specimen from Smyrna (labeled "13.279 Stenaelurillus, Smyrna /Krupper" kept in Museum in Paris, drawn by Prószyński (2003: 116, f. 483)) (Fig. 20C2)) is not a syntype of *Attus diagonalis*, which was collected by Konstanty Jelski[7], not by Krupper, in addition it resembles diagrammatized drawing 91C of *P. diagonalis* in Metzner (1999: 126-127, f. 91a-i). Of the newly added material relevant to the *Pellenes diagonalis* - P. *ostrinus* problem, specimens of *P. "ostrinus*" from Ramat Rachel described by Prószyński (2003: 116, 117-119, f. 476-480) -

[7] Polish naturalist (and political émigré), spent years 1863-67 in Turkey, 1867-1880 in French Guiana, Bolivia and Peru, where made rich zoological collections, including spiders and birds.

PELLENINES



HABRONATTINES

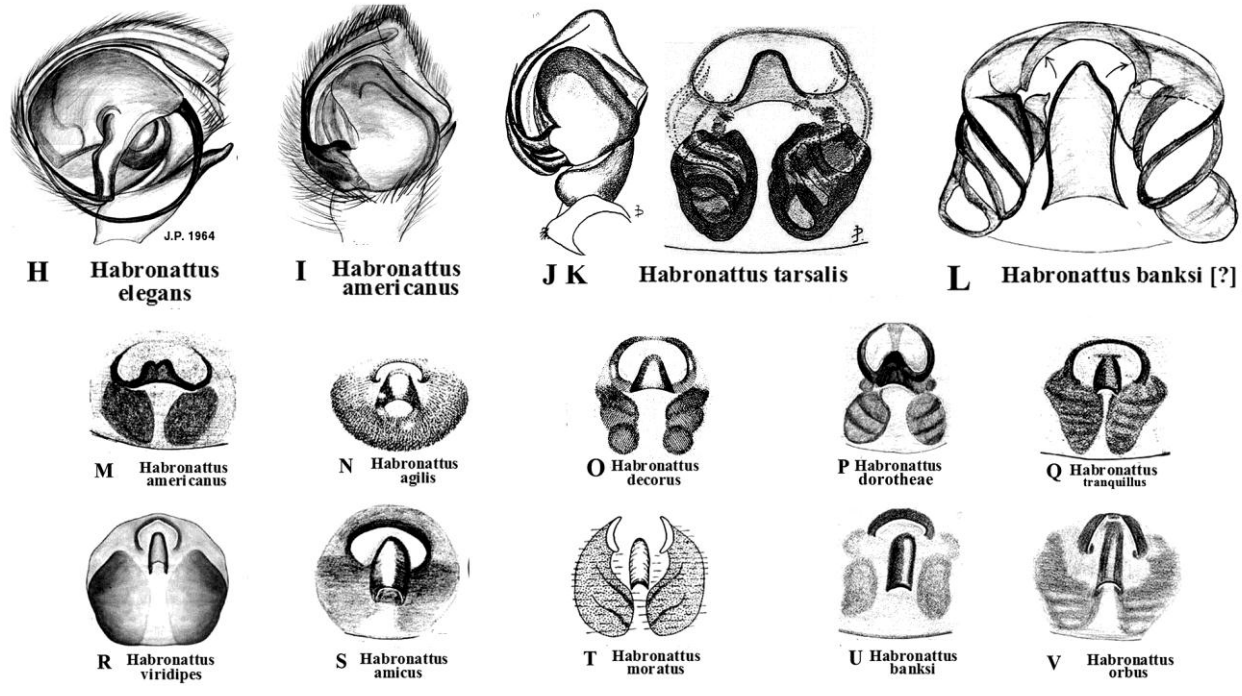


Figure 20. Diagnostic characters of representatives of informal group of genera PELLENINES and HABRONATTINES. PELLENINES: **A** - *Dexippus topali* Prószynski, 1992, **B** - *Pellenes (Pelmultus) nigrociliatus* (Simon, 1875), **C** - *Pellenes "ostrinus"* – from Ramat Rachel, Israel, 1868), **C1** - *Pellenes ostrinus* (Simon, 1868), – syntype from Corfu, **C2** - *Pellenes diagonalis* [?] (Simon, 1868) from Smyrna, **D** - *Pellenes (Pelmirus) hedjazensis* Prószyński, 1993, **E-F** - *Pellenes (Pellap) lapponicus* (Sundevall, 1833), **G** - *Pellenes (Pellenes) tripunctatus* (Walckenaer, 1802). HABRONATTINES: **H** - *Habronattus elegans* (Peckham & Peckham, 1901), **I** - *Habronattus americanus* (Keyserling, 1885), **J** - **K** - *Habronattus tarsalis* (Banks, 1904), **L** - *Habronattus banksi* [?] (Peckham & Peckham, 1901) (compare epigyne Fig. **U**), **M** - *Habronattus americanus* (Keyserling, 1885), **N** - *Habronattus agilis* (Banks, 1893), **O** - *Habronattus decorus* (Blackwall, 1846), **P** - *Habronattus dorotheae* (Gertsch & Mulaik, 1936), **Q** - *Habronattus tranquillus* (Peckham & Peckham, 1901), **R** - *Habronattus viridipes* (Hentz, 1846), **S** - *Habronattus amicus* (Peckham & Peckham, 1909), **T** - *Habronattus moratus* (Gertsch & Mulaik, 1936), **U** - *Habronattus banksi* (Peckham & Peckham, 1901) (compare internal structure of epigyne Fig. **20K**), **V** - *Habronattus orbus* Griswold, 1987.

SOURCES: **A** - Prószyński 1992b Annales Zoologici 44, 9: 170-171, f. 12-19; **B-C** - Prószyński 2003a Annales Zoologici 53 (1): 116-117,f. 460, 471-472, 729-733; 117-119, f. 461-462, 476-482; **D** - Prószyński 1993 Fauna Saudi Arabia, **13**: 13: 44-46, f. 32-36; **E** - Logunov & Marusik 2000: 268, f. 22-23; **F** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 103 (f. unnumbered); **G** - Prószyński in Nentwig, Heimar, 1991: 512-514 f. 1369.1-4; **H, I, JK** - Prószyński pencil drawings; **L** - Prószyński 2002 Arthropoda Selecta 10(3): 237, f. 54-63; **M, P-Q** - Griswold 1987 University of California Publications in Entomology, 107: 75-79, f. 27, 41, 111; 154-156, f. 36, 120, 159, 210; 196, f.30, 76, 131, 236; **N-O** - Kaston 1948 ate geological and natural History Survey of Connecticut 70: 467,f. 1701-1702; 466, f. 1735; **R** - Paquin, Duperre 2003 Fabreries, Supplement 11: 196, f. 2187-2189; **S, U-V** - Griswold 1987, University of California Publications in Entomology 107:173, f. 24, 145, 234; 163-165, f. 122, 165, 212; 207, f. 141, 183, 200; **T** - Gertsch, Mulaik 1936 American Museum Novitates 851: 17, f. 26-27.

…figure on page 45

Figure 21. Color pattern and body shape of representatives of informal group of genera PELLENINES, HABRONATTINES and HARMOCHIRINES. PELLENINES: **A** - *Pellenes(Pellenes) tripunctatus* (Walckenaer, 1802), **B** - *Pellenes (Pelmultus) nigrociliatus* (Simon, 1875) - characteristic behavior ©Photo H. Bellman, **C** - same, male, **D** - *Pellenes ostrinus* (Simon, 1868) - Israel: Judean foothils, **D1** - *Pellenes diagonalis* (Simon, 1868) – female from Greece, **E** - *Pellenes brevis* (Simon, 1868). HABRONATTINES: **F-G** - *Habronattus pyrrythrix* (Chamberlin, 1924), **H-I** - *Habronattus coecatus* (Hentz, 1846), **J** - *Habronattus hallani* (Richman, 1973), **K** - *Habronattus pugilis* Griswold, 1987, **L** - *Habronattus virgulatus* Griswold, 1987.HARMOCHIRINES. **M-N** - *Sibianor larae (*Logunov, 2000), **O** - *Harmochirus luculentus* Simon, 1886, **P** - *Modunda staintoni* (O. Pickard-Cambridge, 1872), **Q** - *Bianor maculatus*[?] (Keyserling, 1883) [AUS-603] - male and female from Australia.

SOURCES: **A, C, E, M-N** - Photo J. Lissner; **B** - Photo H. Bellman; **D** - Photo Amir Weinstain; **D1** - Metzner (1999: 126-127, f. 91a; **F, J, K-L** - Photo T. Shahan; **H-I** - Photo D. Hill;**O, P** - Photo B. Knoflach; **Q** - Photo R. Whyte.

…figure on page 47

PELLENINES

A Pellenes(Pellenes) tripunctatus B Pellenes (Pelmultus) nigrociliatus C

D Pellenes ostrinus (?) - Israel: Judean foothils D1 Pellenes diagonalis E Pellenes brevis

HABRONATTINES

F Habronattus pyrrythrix G

H Habronattus coecatus I J Habronattus hallani K Habronattus pugilis L Habronattus virgulatus

HARMOCHIRINES

M Sibianor larae N O Harmochirus luculentus P Modunda staintoni

Q Bianor maculatus[?][AUS-603] - male and female from Australia

(Fig. 20C) most probably belong to a new, closely related species, because of somewhat different proportions in palp and in internal structure of epigyne (identity of other specimens, mentioned in that description, require revision). Red specimen from Judean foothills, Israel, photographed by Amir Weinstain (Figs 21D), as well as male and female habitus of P. *"ostrinus"* drawn by Prószyński (2003: 116, 113, f. 461-462) agree with the original description of male *P. ostrinus* (not *P. "ostrinus"*). Therefore:

Pellenes ostrinus (Simon, 1884) (in part) = *Pellenes diagonalis* (Simon, 1868) (revival of the partial synonym).

Group of genera HABRONATTINES Prószyński, 2016

Figures 20H-V, 21F-L

Database contains 1 recognizable genus, 94 species

Type genus *Habronattus* F. O. Pickard-Cambridge, 1901, of which type species is *Habronattus mexicanus* (Peckham &Peckham, 1896) (syn. *Habrocestum m.)* .

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Habronattus"*.

Mutual diagnostic characters of genera included. Males have unique "double" embolus - thin, long embolus proper, accompanied by similar looking process being apparently modified conductor. Epigyne with anterior pocket followed by long groove between two spots of translucent spermathecae. Large specimens with distinct coloration, chelicerae covered by iridescent scales.

Description. Relatively uniform, prolific species, with body size median to very large, recognizable by color pattern which includes noticeable colorful, light reflecting scales on anterior surfaces of chelicerae, and by setae pattern. Palps present unique morphological type characterized by free, thin embolus and resembling it conductor, looking like second, parallel embolus. Length of that "unit of emboli" is variable, in some group of species comparable with length of bulbus, in other much longer, encircling bulbus, almost circular in these species. External appearance of epigyne differing by shape, length and position of anterior pocket, which is followed by median groove stretching along almost the whole length of epigyne, shape and size of translucent spermathecae diverse. While these details of epigyne seem to be very useful diagnostically, lack of knowledge of spermathecae and ducts hampers identification of some females. Enclosed illustrations are integral part of description. More diagnostic documentation - of ALL recognizable species of HABRONATTINES - see file http://www.peckhamia.com/salticidae/Habronattinae_clas.html.

Remark. For 94 species of *Habronattus* the internal structure of epigyne is known for two species only (Figs 20K, L -drawn by Prószyński in 1960ties), which accounts for the fact that so many females are considered "unrecognizable". Omission of documentation of spermathecae by American Arachnologists resulted in incertitude in identification of *Habronattus* female from Hawaii (Prószyński, 2002: 237, f 62-63)

Distribution. North and Central America, Hawaii.

Composition. The group of genera contains single genus *Habronattus* F. O. Pickard-Cambridge, 1901 (94 species).

Group of genera HARMOCHIRINES Prószyński, 2016

Figures 21H-Q, 22
Database contains 8 recognizable genera, 89 species

Type genus *Harmochirus* Simon, 1885, of which type species is *Harmochirus brachiatus* (Thorell, 1877) [= *Ballus brachiatus* Thorell, 1877].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature. **Etymology.** Informal name coined of the type genus name *"Harmochirus"*.

Mutual diagnostic characters of genera included. Palps with bulbus encircled by hair thin embolus. Epigyne with anterior half occupied by large membranous "window" bisected by prominent, sclerotized pocket.

Description. Small spiders with rather stout body, identifiable by their genital organs. In males bulbus is oval or round, often anteriorly truncated and flat, encircled by hair thin embolus, there is no conductor (Figs 21Q, 22O-W). Epigyne comparable with HABRONATTINES by single median pocket, located in about mid-length of epigyne, followed by median grove (Figs 21Q, 22I-N). The most striking feature is large, anterior, membranous “window”, posteriorly limited by sclerotized rims, incompletely bisected by elongated pocket. Ducts anteriorly membranous, passing by characteristic "C" connector into sclerotized, entangled part, ultimately joining poorly visible spermathecae, in some species compact and internally convoluted (Figs 22A-H). Enclosed illustrations are integral part of description. Diversity of external appearance is shown on Figs 21M-Q, 22X-Z. More diagnostic documentation - to check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file
http://www.peckhamia.com/salticidae/Harmochirinae_clas.html.

Distribution. Old World, Australia, Pacific Islands.

Composition. The following genera are included: *Bianor* Peckham, Peckham, 1885 (25 species), *Harmochirus* Simon, 1885 (12 species), *Havaika* Prószynski, 2001 (24 species), *Microbianor* Logunov, 2000 (7 species), *Modunda* Simon, 1901 (5 species), *Napoca* Simon, 1901(1 species), *Sibianor* Logunov, 2000 (14 species), *Stichius* Thorell, 1890 (1 species).

Correction to list of synonyms:

***Stichius albomaculatus* Thorell, 1890b - tentatively reinstated as valid species**.
Stichius albo-maculatus Thorell, 1890b: 70 "nicht zu deuten!" per Roewer in the WSC**.**
Stichius albomaculatus Prószyński, 1984a: 57.
Stichius albomaculatu Logunov, 2001a: 281 (species dubius).
Bianor incitatus Logunov, 2001a: 236, f. 87-104.

Roewer's opinion "nicht zu deuten!" was seconded by Logunov (2001a: 281) who comments on the original Thorell's description of the immature female kept in Genoa Museum (he however did not examined it), and non type status of male specimen (without documentation) of *Stichius albomaculatus* identified by Thorell himself (Prószyński 1984a: 57) in Stockholm NH Museum (Fig. 22T1) which he misidentifies as *Bianor incitatus* Thorell, 1890 (Fig. 22T). Existence of male in the Stockholm Thorell's collection complicates the matter by possible mistake in designating type, or in exact status of immature (?) female in Genoa. These various aspects should be clarified before deciding on dismissal of this species into synonyms. Therefore I propose that:

> *Stichius albomaculatus* Thorell, 1890 should be tentatively restored as valid species. *Bianor incitatus* Thorell, 1890 (in part) = *Stichius albomaculatus*: Prószyński, 1984a: 57 (tentatively revalidated, removal from synonymy).

HARMOCHIRINES

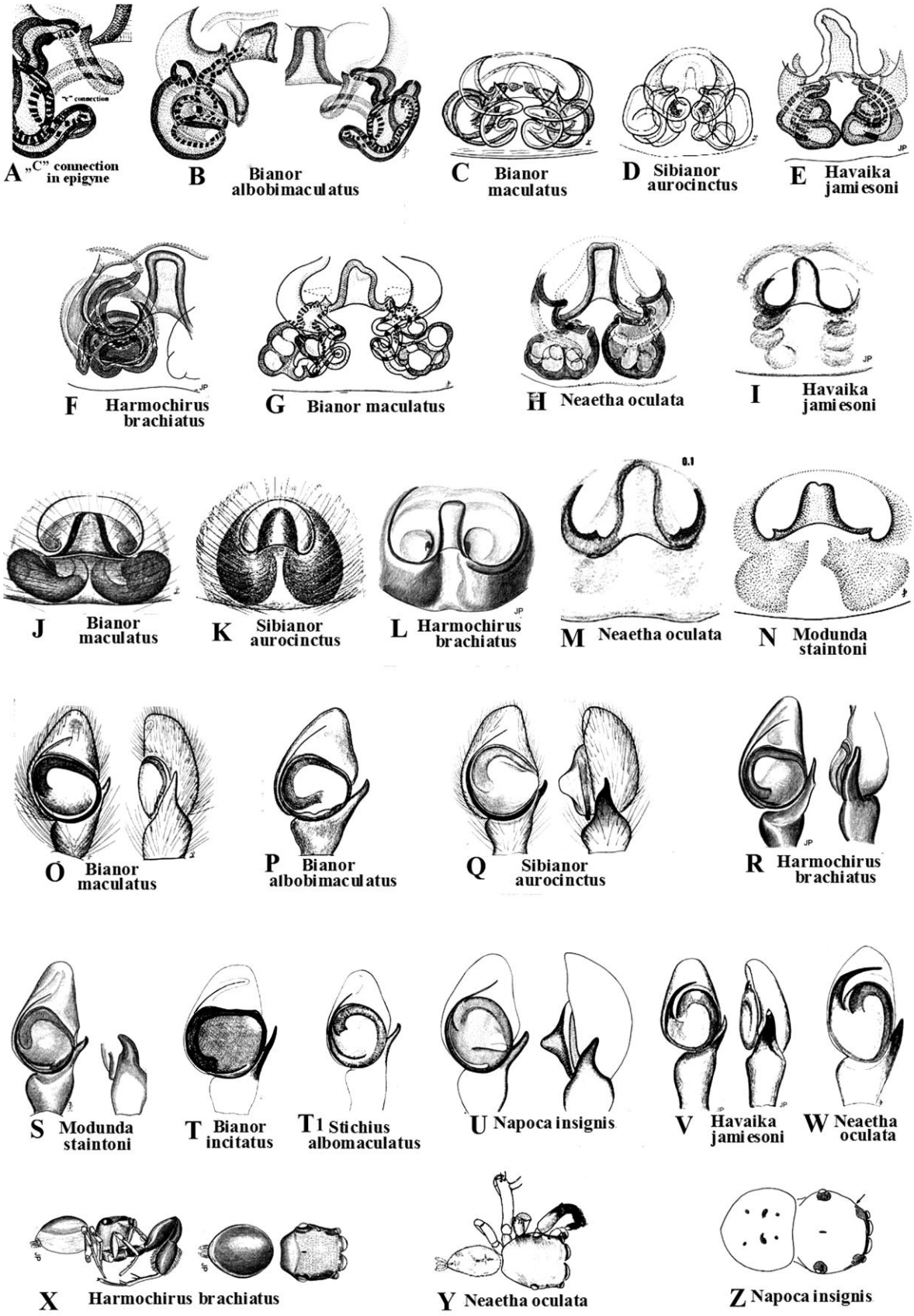


Figure 22. Diagnostic characters of representatives of informal group of genera HARMOCHIRINES. Main character defining the group - internal structure of epigyne: **A-H,** external views of epigyne: **I-N**, palps: **O-W**, body shape **X-Z**. **A** - "C" connector in *Bianor albobimaculatus* (Lucas, 1846), **B, P** - *Bianor albobimaculatus* (Lucas, 1846), **C**, **J, O** - *Bianor maculatus* (Keyserling, 1883), **D, K, Q** - *Sibianor aurocinctus* (Ohlert, 1865), **E, I**, **V** - *Havaika jamiesoni* Prószynski 2007, **F, L, R, X** - *Harmochirus brachiatus* (Thorell, 1877), **G** - *Bianor maculatus* (Keyserling, 1883), **H**, **M**, **W**, **Y** - *Neaetha oculata* (O. Pickard-Cambridge, 1876), **N**, **S** - *Modunda staintoni* (O. Pickard-Cambridge, 1872), **T** - *Bianor incitatus* Thorell, 1890, **T1** - *Stichius albomaculatus* Thorell, 1890 (Non-holotype, det. Thorell, from Sumatra)**, Z** - *Napoca insignis* (O. Pickard-Cambridge, 1872).

SOURCE: **A-B, I-N**, **P, S, U, Z** - Prószyński 2003a Annales Zoologici, 39-42,f. 113-114,21; 98-99, f. 113, 116-117, 120, 123-129; 108-109, f. 133-135; **C**, **J**, **O** - Davies Todd, Żabka 1989. Memoirs of the Queensland Museum 27: 246, t 47.; **D, K, Q** - Żabka 1997 Fauna Polski 19: 5-187, f. 60-69; **E, I, V** - Prószyński 2007b Arthropoda Selecta 16(4): 204, f. 3-4, 31, 47, 60, 72, 88; **F, L, R, X** - Prószyński, Deeleman-Reinhold 2010. Arthropoda Selecta19(3): 166-168, 73-78; **G** - Davies Todd, Żabka 1989 Memoirs of the Queensland Museum 245, t 47; **H**, **M**, **W**, **Y** - Prószyński 1993 Fauna Saudi Arabia 13: 39-43, f. 20-27; **T** - Logunov 2001a Arthropoda Selecta 9: 236, f. 87-104, **T**1 - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 57.

…figure on page 50

Group of genera EVARCHINES Prószyński, 2016

Figures 23, 24

Database contains 8 recognizable genera, 137 species

Type genus *Evarcha* Simon, 1902, of which type species is *Evarcha falcata* (Clerck, 1757) [= *Araneus falcatus* Clerck, 1757].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Evarcha"*.

Mutual diagnostic characters of genera included. Group of average looking species, pending further consideration, recognizable by ill defined external appearance, having several types of different palps and epigyne. Correlations between these different kinds of characters are not yet found. **Description.** Genus *Evarcha* is very speciose, recognizable by external appearance, some examples of which are shown on Fig. 24, examples of palps and epigyne in 5 groups of species are provided on Figs 23. Embolus usually long and thin, parallel to broad bulbus, but in some species encircling bulbus, in other short and located apically. Epigyne with membranous "window", through which transluce sclerotized spermathecae of different shape; there is always a pair of pockets posteriorly, visible externally or hidden beneath sclerotized edge of epigyne. *Evarcha albaria* (Fig. 23K) stands out and probably should be placed in a genus of its own. Genus *Pancorius* is recognizable by depressed posterior half of epigyne in females (Figs 23N, P), in males by embolus arising laterally from anterior half of bulbus. Recognition of remaining smaller genera can be done following their palps and epigyne. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Evarchinae_clas.html.

Distribution. Broadly distributed in the Old World and Australia, a few in Pacific Islands and North America.

Composition. The following genera are included: *Baryphas* Simon, 1902 (6 species), *Evarcha* Simon, 1902 (90 species) [containing groups of species: *Evarcha (albaria group)* (5 species), *Evarcha (falcata group)* (5 species), *Evarcha (flavocincta group)* (22 species), *Evarcha (patagiata group)* (22 species), *Evarcha (praeclara group)* (12 species)], *Ghumattus* Prószynski, 1992 (1 species), *Hasarinella* Wesolowska 2012 (2 species), *Nigorella* Wesołowska, Tomasiewicz, 2008 (4 species), *Pancorius* Simon, 1902 (23 species), *Pharacocerus* Simon, 1902 (5 speci es), *Pseudamycus* Simon, 1885 (6 species).

EVARCHINES

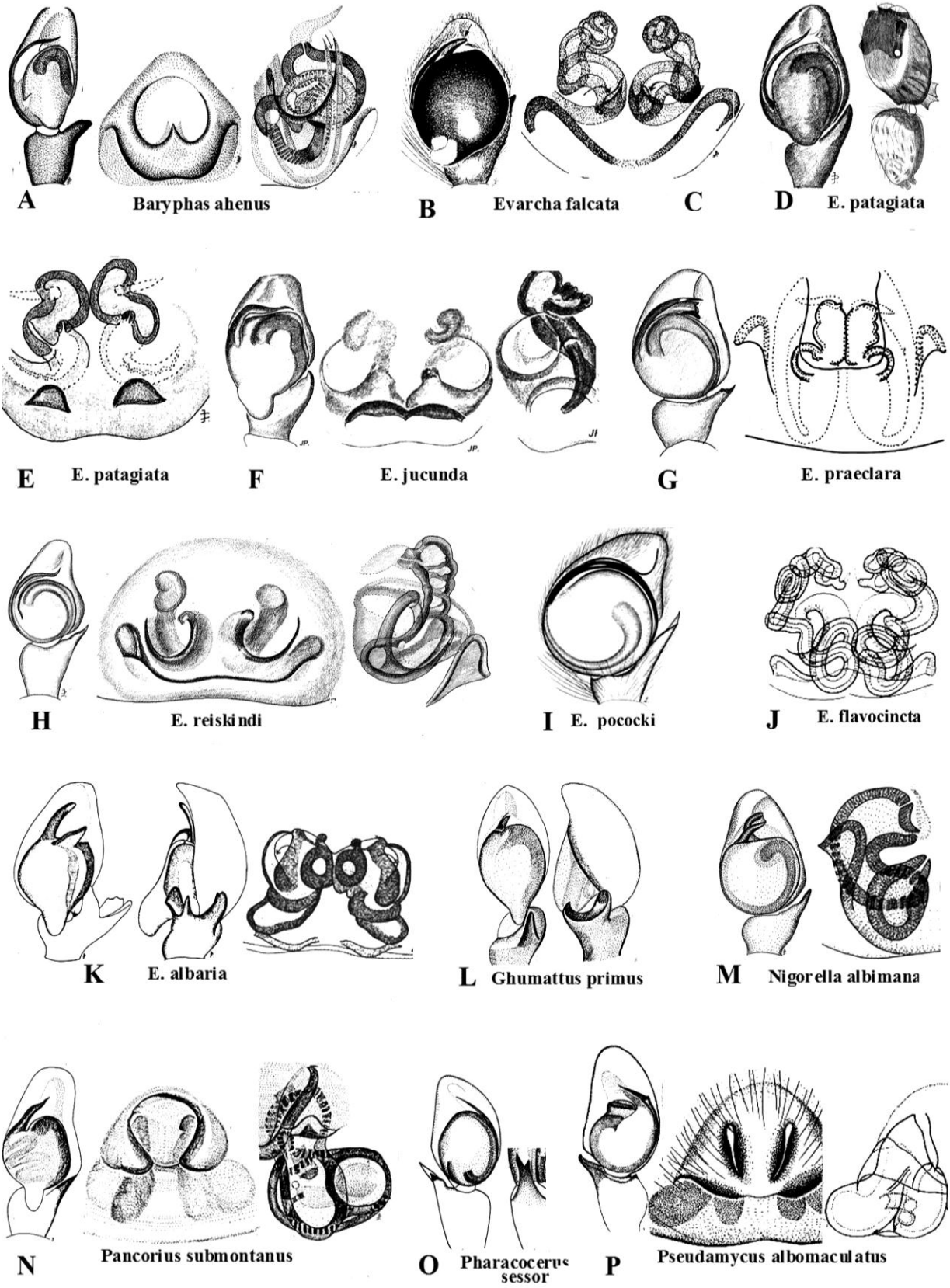

A
Baryphas ahenus
B
Evarcha falcata
C
D
E. patagiata
E
E. patagiata
F
E. jucunda
G
E. praeclara
H
E. reiskindi
I
E. pococki
J
E. flavocincta
K
E. albaria
L
Ghumattus primus
M
Nigorella albimana
N
Pancorius submontanus
O
Pharacocerus sessor
P
Pseudamycus albomaculatus

Figure 23. Diagnostic characters of representatives of informal group of genera EVARCHINES. **A** - *Baryphas ahenus* Simon, 1902, **B-C**- *Evarcha falcata* (Clerck, 1757), **D-E** - *Evarcha patagiata* (O. Pickard-Cambridge, 1872), **F** – *Evarcha jucunda* (Lucas, 1846), **G** - *Evarcha praeclara* Prószynski & Wesolowska, 2003, **H** - *Evarcha reiskindi* Berry, Beatty & Prószynski, 1996, **I** - *Evarcha pococki* Żabka, 1985, **J** - *Evarcha flavocincta* (C. L. Koch, 1846), **K** - *Evarcha albaria* (C. L. Koch, 1846), **L** - *Ghumattus primus* Prószynski, 1992, **M** - *Nigorella albimana* (Simon, 1902), **N** - *Pancorius submontanus* Prószynski, 1992, **O** - *Pharacocerus sessor* Simon, 1902, **P** - *Pseudamycus albomaculatus* (Hasselt, 1882).

SOURCES: **A, M** - Prószyński 1987 Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 5; 71 (f. unnumbered) ; **B-C** - Żabka 1997 Fauna Polski 5-187,f. 113-118; **D** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 52, 105, 115 (f. unnumbered); **E-G** - Prószyński 2003 Annales Zoologici 59-61,f. 200, 224-226, 229-230; 64,f. 227-228, 234-235; 62-63, f. 205, 207, 211-214, 216; **H** - Berry, Beatty, Prószyński 1996 Journal of Arachnology 24(3): 234-236,f. 70-73; **I-J** - Żabka 1985 Annales Zoologici 39, 11: 223-224, f. 180-186 + 222, f. 173-175; 224, f. 187-192; **K** - Bohdanowicz, Prószyński 1987 Annales Zoologici 53-55, f. 27-34; **L, N-P** - Prószyński 1992b Annales Zoologici 44, 9: 173,f. 33-37, 43; 191, f. 113-124 ; **P** - Żabka 1985 Annales Zoologici 39 (11): 440, f. 511-512.

…figure on page 52

Figure 24. Color pattern and body shape of representatives of informal group of genera EVARCHINES. **A-B** - *Evarcha falcata* (Clerck, 1757), **C-D** - *E. arcuata* (Clerck, 1757), **E** - *E. proszynskii*[?] Marusik & Logunov, 1998 (Oregon), **F-G** - *E. jucunda* (Lucas, 1846) male & female, **H** - *E. negevensis* Prószyński, 2000, **I** - *E. praeclara* Prószyński & Wesolowska, 2003, **J-K** - *E. culicivora* Wesolowska & Jackson, 2003 male, female, **L** - *E. infrastriata* (Keyserling, 1881), **M** - *E. longula* (Thorell, 1881) habitus and epigyne.

SOURCES**: A-D** -Photo J. Lissner; **E** - Photo T. Shahan; **F-H** - Photo A. Weinstein; **G** - Photo H. Metzner; **I** - Photo B. Knoflach, 2002; **J-K** - Photo Jackson; **LM** - ©Photo R. Whyte.

…figure on page 54

EVARCHINES

A **Evarcha falcata** **B**

C **E. arcuata**

D **E. arcuata**

E **E. proszynskii[?]**

E **E. proszynskii[?]**

F **E. jucunda male & female** **G**

H **E. negevensis**

I **E. praeclara**

J **E. culicivora male**

K **E. culicivora female**

L **E. infrastriata**

M **E. longula**

Group of genera YAGINUMAELLINES Prószyński, 2016

Figures 25A-G1, 26A-B
Database contains 2 recognizable genera, 50 species

Type genus *Yaginumaella* Prószynski, 1976[1979], of which type species is *Yaginumaella striatipes* Simon, 1868.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name "Yaginumaella", which, in turn, was named for prominent Japanese arachnologists Takeo Yaginuma.

Diagnosis. Palps with oval bulbus, parallel embolus and short tibial apophysis (Fig. 25A). Epigyne with prominent pair of pockets on surface, located at different length. Copulatory openings anterior, with oblique edge, broad ducts encircling epigyne laterally, posteriorly pass into entangled, sclerotized spermathecae (Fig. 25F).

Description. Medium size spiders, differing by color pattern and body shape (Fig. 26A-B). Palps rather uniform, with bulbus oval or narrowing posteriorly, in some (*Y. stemmleri*) with anterior protuberance. Embolus varies in length, in majority of species naked, parallel to bulbus, in type species inside broader sheath [?]. Female. Characterized by presence of external pockets on surface of epigyne, in *Ptocasius* single (Fig. 25G), in *Yaginumaella* a pair located at various length of epigyne, in a few species making broad, collar lobes on sides of copulatory openings (Fig. 25B). Copulatory openings in a form of anterior, diagonal slits. Copulatory ducts broad, run almost straight posteriorly, near end of epigyne pass into a few narrower loops of spermathecae. Enclosed illustrations are integral part of description. More diagnostic documentation - to check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Yaginumaellinae_clas.html.

Remarks. Type species of the genus *Ptocasius* differs from *Yaginumaella*, some species may, however, be transferred - pending taxonomic revision.

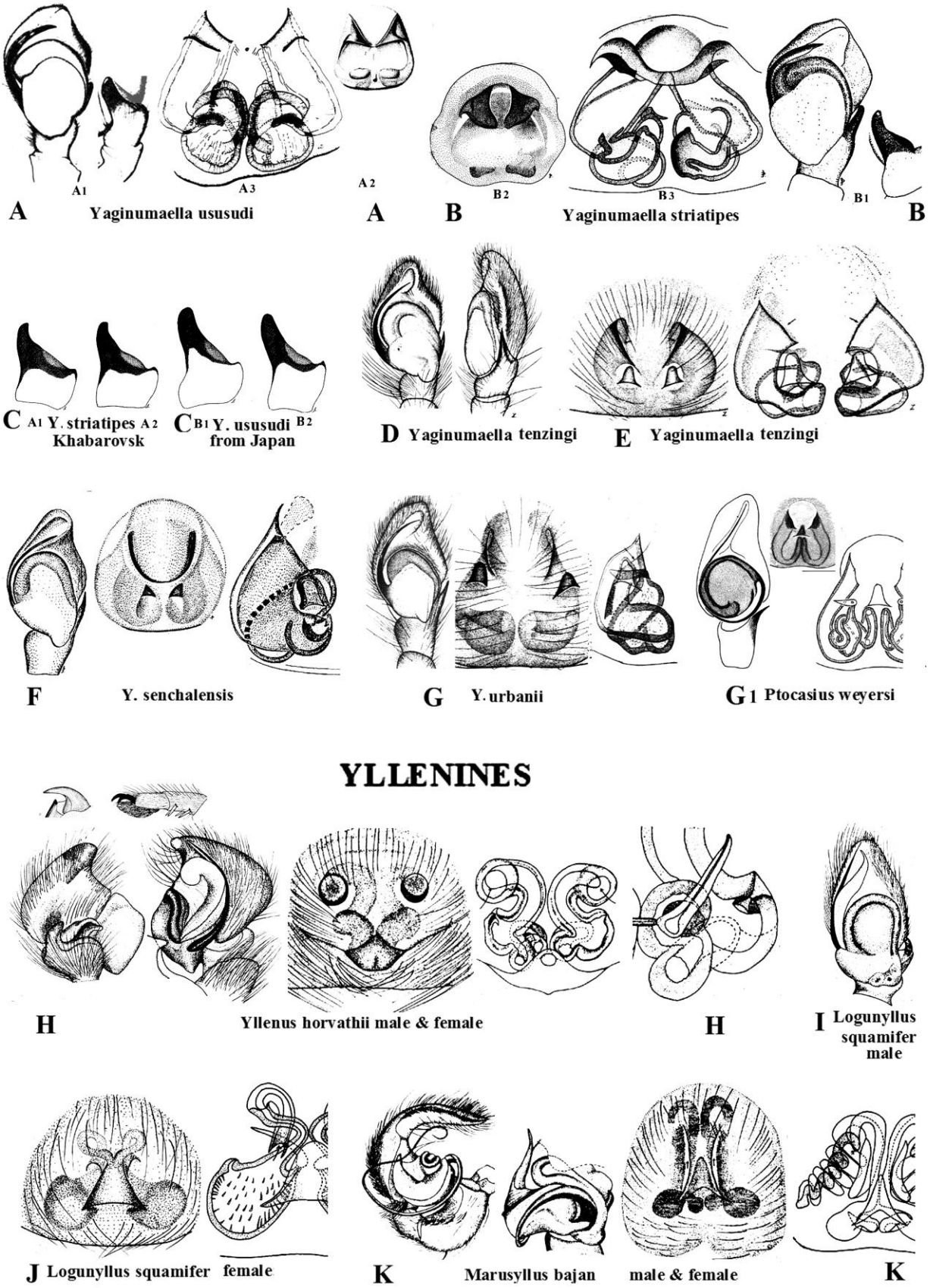
Distribution. South and East Asia.

Composition. Contains genera *Ptocasius* Simon, 1885 (8 species), *Yaginumaella* Prószyński, 1979 (42 species).

Corections to list of synonyms
***Yaginumaella striatipes* (Grube, 1861)** and ***Yaginumaella ususudi* Yaginuma, 1972**
Logunov & Wesolowska (1992: 144) overlooked importance of differences in epigyne and in their internal structures (Figs 25A and 25B respectively) in both species, which are the most important diagnostic characters in *Yaginumaella*, instead concentrated attention on unimportant similarities of tibial apophysis (Figs 25CA1-CA2 and 25CB1-CB2 respectively). Therefore:

> *Yaginumaella striatipes* (Grube, 1861) (in part) = *Yaginumaella ususudi* Yaginuma, 1972 (removal from sy nonymy).

YAGINUMAELLINES



YLLENINES

Figure 25. Diagnostic characters of representatives of informal group of genera YAGINUMAELLINES and YLLENINES. YAGINUMAELLINES: **A** - *Yaginumaella ususudi* (Yaginuma, 1972), **B** - *Yaginumaella striatipes* (Grube, 1861), **C** - comparison of tibial apophyses *of Y. ususudi* from Japan (CB1-CB2) and *Y. striatipes* from Khabarovsk Area (CA1-CA2) - insufficient argument for synonymy of these two species (by the way, differences in epigyne, shown at A2-B2 and A3-B3 were overlooked), **D-E** - *Y. tenzingi* Żabka, 1980, male & female, **F** - *Y. senchalensis* Prószyński 1992, **G** - *Y. urbanii* Żabka, 1981, G1 - *Ptocasius weyersi* Simon, 1885. YLLENINES: **H** - *Yllenus horvathii* Chyzer & Kulczyński, 1891, male & female, **I-J** - *Logunyllus squamifer* (Simon, 1881) male & female, **K** - *Marusyllus bajan* (Prószynski, 1968), male & female.

SOURCES**: A** - Bohdanowicz, Prószyński 1987. Annales Zoologici 41, 2: 146-148, f. 306-312; **B** - Prószyński 1971 Annales Zoologici 28: 219, f. 28-29 + Prószyński 1984b Annales Zoologici 37: 421-423, f. 11-17; **C** - Logunov & Wesołowska, 1992 Annales Zoologici Fennici 29: 144, f. 35A-D ; **D-E** - Żabka 1980c Senckenbergiana Biologica 60 (5/6): 377-380; f. 2, 4, 6, 8, 11, 15, 18; **F** - Prószyński 1992b Annales Zoologici 44, 9: 209, f. 185-189.; **G** - Żabka 1981b Entomologica Basiliensis 6: 16-19, f. 25-26, 31-34, 41; **G1** - Logunov & Jäger, 2015 Russian Entomological Journal 24(4): 360, f. 52-56; **H-K** - Prószyński 1968e Annales Zoologici 26: 481-488, f. 10, 30, 43, 55, 70, 170-177; 460-463, f. 129-135; 440-444, f. 95-97. All ©Copyrights are retained by the original authors and copyright holders, used here by their courtesy.

…figure on page 56

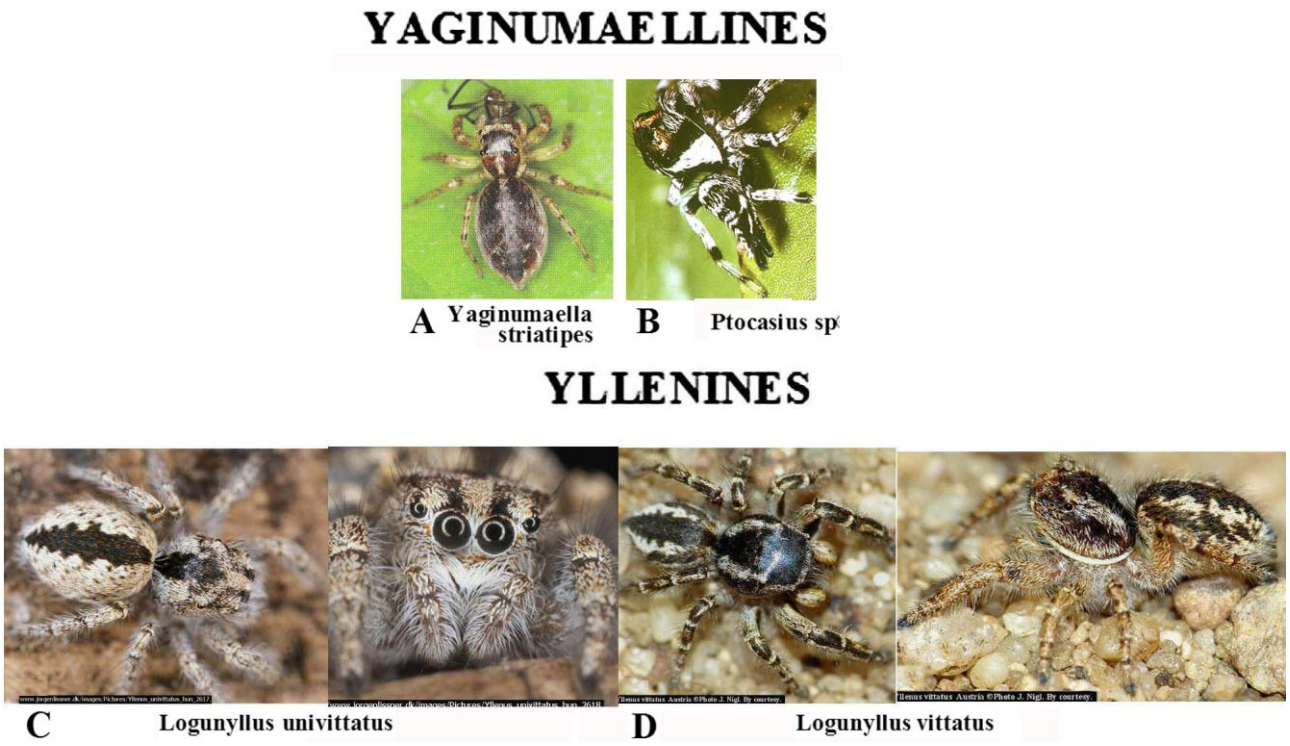


Figure 26. Color pattern and body shape of representatives of informal group of genera YAGINUMAELLINES and YLLENINES. YAGINUMAELLINES: **A** - *Yaginumaella striatipes* (Grube, 1861), **B** - *Ptocasius sp* ©Photos F. Murphy. YLLENINES: **C** - *Logunyllus univittatus* (Simon, 1871), **D** - *Logunyllus* vittatus (Thorell, 1875), male and female.

SOURCES: **A** - Ono, Ikeda, Kono. Salticidae of Japan. Tokai University Press, 2009: 568, pl 46-4; **B** - Photo F. Murphy; **C** - Photo J. Lissner; **D** - Photo J. Nigl. All ©Copyrights are retained by the original authors and copyright holders, used here by their courtesy.

Group of genera YLLENINES Prószyński, 2016

Figures 25H-K, 26C-D

Database contains 3 recognizable genera, 73 species

Type genus *Yllenus* Simon, 1868, of which type species is *Yllenus arenarius* Simon, 1868[8].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Yllenus"*.

Mutual diagnostic characters of genera included. Both sexes differ from other groups of spiders by possession of adaptative "scopula" brush of setae on ventral surface of tarsus I (Fig. 25H), serving for quick submerging spider in sand, also by shape of carapace with long slope beginning immediately behind eyes III, posterior lateral edge of chelicerae not developed and its tooth absent, anterior internal edge armored with sclerotized edge ending apically with minute triangular tooth, other teeth absent.

Description. Body shape and color pattern are shown on Figs 26C-D. Diagnostic characters of palps and epigyne display exuberant evolution in some species, with unique development of enormous "conductor" (Fig. 25H) , strangely shaped tibial apophysis (articulating with some process, or groove, on retrolateral surface of cymbium) and crazy looking anterior cymbium in *Marusyllus*, developed into long "tail", bending over palpal organ (Fig. 25K). In epigyne ducts evolving from simple and strongly sclerotized, through thin walled loops, to unique, elegant double spiral (Fig. 25J-K). In other species these characters are close to normal, with conductor and tibial apophysis in males reduced to small, ducts and spermathecae simple. These structures can be arranged into chain of gradual changes. Enclosed illustrations are integral part of description. More diagnostic documentation for ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Ylleninae_clas.html.

Distribution. Sandy environments in Palaearctics.

Composition. Contains genera *Logunyllus* Prószyński, 2016 (35 species), *Marusyllus* Prószyński, 2016 (20 species), *Yllenus* Simon, 1868 (18 species).

Supergroup of genera AMYCOIDA

Type group of genera AMYCINES.

Definition. Tentatively delimited supergroup of groups of genera of Salticidae, having usually naked embolus, arising directly from bulbus, characterized by spermophor following margin of bulbus, but making additional, "S" resembling loop in the center of bulbus (Fig. 29B). Bulbus itself is round or oval, epigyne with thin walled or even membranous ducts, usually bent loop like, spermathecae oval, sclerotized. Many genera have multicusp, comb like cheliceral tooth (Fig. 29A) on either retrolateral or prolateral edge of chelicerae.

Current progress. While text of this paper was being prepared, new, important views on systematics of AMYCOIDA was published by Maddison (2015), who divides the group into 9 tribes, leaving two more genera unclassified. Since Maddison does not provide morphological definition, I cannot report details of that proposal. I recommend readers to watch for further publication and to draw own conclusions on merits of these divisions.

[8] The author of *Yllenus arenarius* is written differently in various publications. The version accepted here is explained in Prószyński (2016c: 29) and at http://www.peckhamia.com/salticidae/introduction/I_About_this_database.html#different. The only other author quoting it correctly was Roewer (1954: 1252).

Disclaimer. The supergroup is assembled by presence of some morphological characters for the purpose of facilitating identification of genera. Similarities may suggest evolutionary relationships of some, which in the present supergroup seems to be supported by gene sequencing data (Maddison, several papers), but that requires further supporting research. Incomplete documentation, especially simplified, or semidiagrammatic drawings, may cause misplacement of some genera, which may be changed after more research.

Distribution. Western Hemisphere jumping spiders, represented in Palaearctic Region by single group of genera SITTICINES.

Composition. The following groups are defined below: AMYCINES, AMYCOIDA VARIA, and SITTICINES.

Group of genera AMYCINES Prószyński, 2016

Figures 27, 28

Database contains 30 recognizable genera, 144 species

Type genus *Amycus* Koch C.L., 1846 of which type species (dubius!) is *Amycus igneus* (Perty, 1833) [= *Salticus igneus* Perty 1833], representative species - *Amycus flavicomis* Simon, 1900.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined from the type genus name *"Amycus"*.

Mutual diagnostic characters of genera included. Diversified, poorly known Western Hemisphere genera. Palps with "S" shaped loop of spermophor (not marked in some drawings) in the center of, usually, round bulbus. Copulatory ducts often twisted around spermathecae, in some genera (SIMPRULLES) as double spiral. Usually having multicusp, comb like cheliceral tooth (Fig. 29A) on either cheliceral edge.

Description. SITTICINES like cheliceral dentition, but variable and may depart from the SITTICINES model. Body shape variable, some genera are ant-like (Figs 28A-J1). Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Amycinae_clas.html.

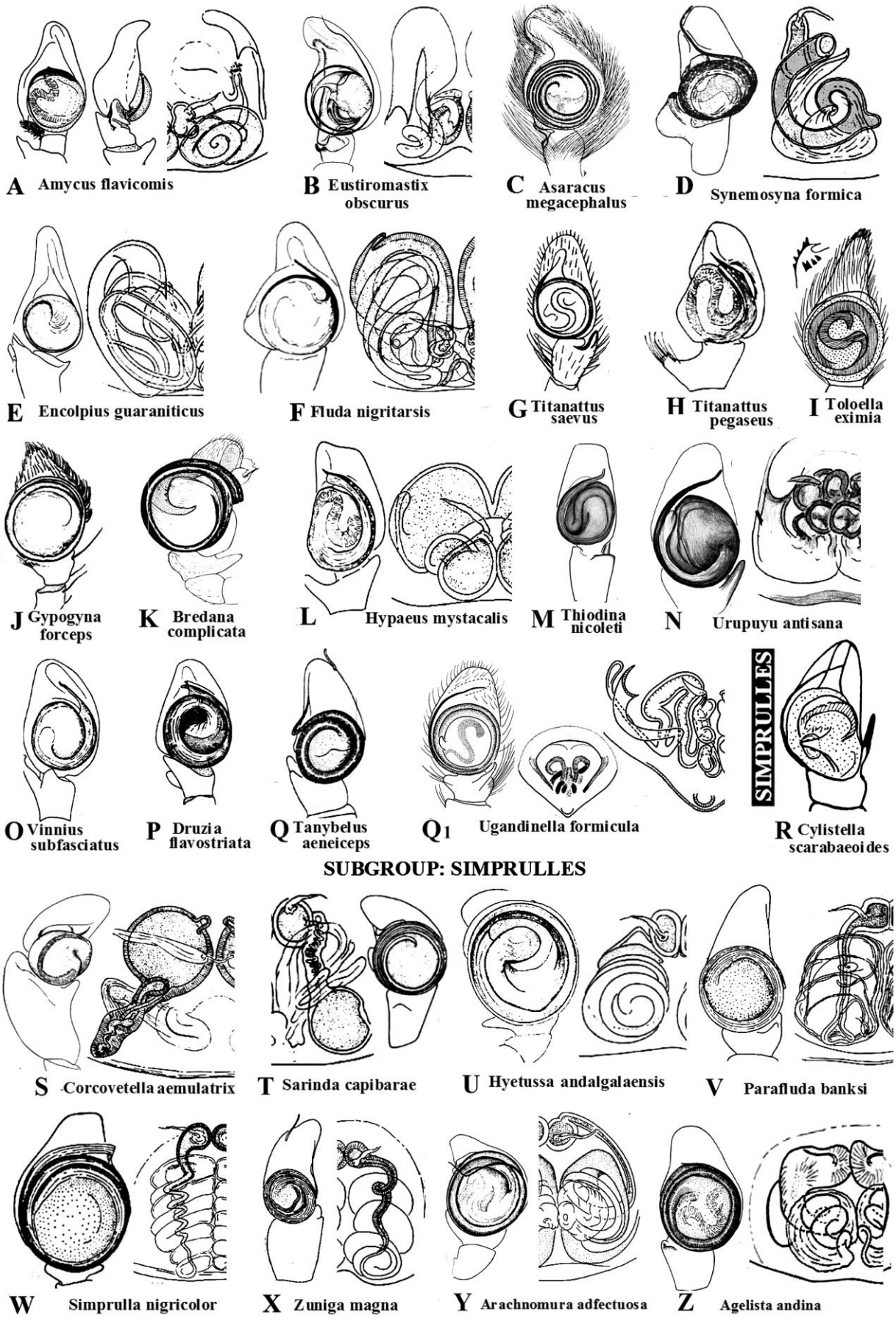
Remark. Several genera (provisional SUBGROUP SIMPRULLES) differs from remaining by long copulatory ducts in internal structure of epigyne, twisted into spiral, usually around distal part of duct, or proximal, narrow part of spermathecae (Figs 27R-Z). Diagnostic importance of this character deserves further consideration.

Distribution. South and Central America.

Composition. The following genera are included: *Amycus* Koch C.L., 1846 (7 species), *Asaracus* C. L. Koch, 1846 (4 species), *Atelurius* Simon, 1901 (1 species), *Atomosphyrus* Simon,1902 (2 species), *Bredana* Gertsch, 1936 (1 species), *Cheliceroides* Żabka, 1985 (1 species), *Cylistella* Simon, 1901 (4 species) Cyllodania Simon,1902 (2 species), *Druzia* Ruiz & Brescovit, 2013 (1 species), *Encolpius* Simon, 1900 (3 species), *Eustiromastix* Simon, 1902 (12 species), *Fluda* Peckham & Peckham, 1892 (12 species), *Fuentes* Peckham & Peckham, 1894 (2 species), *Frespera* Braul, Lise, 2002 (2 species), *Gypogyna* Simon,1900 (1 species), *Hypaeus* Simon, 1900 (20 species), *Macutula* Ruiz, 2011 (3 species), *Rishaschia* Makhan, 2006 (1 species), *Synemosyna* Hentz, 1846 (17 species), *Tanybelus* Simon, 1902 (1 species), *Thiodina* Simon, 1900 (3 species), *Titanattus* Peckham, Peckham, 1885 (6 species), *Toloella* Chickering, 1946 (1 species), *Ugandinella* Wesolowska, 2006 (1 species).

The following genera are included into provisional SUBGROUP SIMPRULLES: *Agelista* Simon, 1900 (1 species), *Arachnomura* Mello-Leitao, 1917 (2 species), *Corcovetella* Galiano, 1975 (1 species), *Hyetussa* Simon, 1902 (6 species), *Parafluda* Chickering, 1946 (1 species), *Sarinda* Peckham, Peckham, 1892 (14 species), *Simprulla* Simon, 1901 (2 species), *Zuniga* Peckham, Peckham, 1892 (2 species).

AMYCINES



SUBGROUP: SIMPRULLES

Figure 27. Diagnostic characters of representatives of informal group of genera AMYCINES and subgroup of genera SIMPRULLES. AMYCINES: **A** - *Amycus flavicomis* Simon, 1900, **B** - *Eustiromastix obscurus* (Peckham & Peckham, 1894), **C** - *Asaracus megacephalus* C. L. Koch, 1846, **D** - *Synemosyna formica* Hentz, 1846, **E** - *Encolpius guaraniticus* Galiano, 1968, **F** - *Fluda nigritarsis* Simon, 1900, **G** - *Titanattus saevus* Peckham & Peckham, 1885, **H** - *Titanattus pegaseus* Simon, 1900, **I** - *Toloella eximia* Chickering, 1946, **J**- *Gypogyna forceps* Simon, 1900, **K** - *Bredana complicata* Gertsch, 1936, **L** - *Hypaeus mystacalis* (Taczanowski, 1878), **M** -*Thiodina nicoleti* Roewer, 1955, **N** - *Urupuyu antisana* Ruiz & Maddison, 2015, **O** - *Vinnius subfasciatus* (C. L. Koch, 1846), **P** - *Druzia flavostriata* (Simon, 1901), **Q** -*Tanybelus aeneiceps* Simon, 1902, **Q1**- *Ugandinella formicula* Wesolowska, 2006. SIMPRULLES: **R** - *Cylistella scarabaeoides* Chickering 1946, **S** - *Corcovetella aemulatrix* Galiano, 1975, **T**- *Sarinda capibarae* Galiano, 1967, **U** - *Hyetussa andalgalaensis* Galiano, 1976, **V** - *Parafluda banksi* Chickering, 1946, **W** - *Simprulla nigricolor* Simon, 1901, **X** - *Zuniga magna* Peckham & Peckham, 1892, **Y**- *Arachnomura adfectuosa* Galiano, 1977, **Z** - *Agelista andina* Simon, 1900.

SOURCES: Publications by Galiano: **A**,**D**, **F**, **G**, **I**, **J**, **K**, **O**-**Q**, **S**-**U**, **W**, **Z** - *Physis* 1963: - 23: 283-285, t. 3, f. 4-6; 292-293, t 7, f. 8-10; 314-315, t. 12, f. 5-7; 354-355, t. 19, f. 11-13; 360-361, t. 21 f. 1-3; 314-315, t. 12, f. 5 420-422, f. 1-7; 450-451, t. 37, f. 8-9; 12-14; 451-452, t. 37, f. 12-14; 460, t. 37, f. 16; 467, t 42, f. 4-7; 24: 420-422, f. 1-7 ; 1967 - 27(74): 33-35, Fig. 14-24; 1971- 30 : 589-590, t. 2, f. 16, t. 5, f. 4, t. 6, f. 7, 172, f. 1-3, 24; 1971b. 33: 65-68, f. 1-10 ; 1975 - 34: 34, f. 1-12 ;1976 - 35: 231, f. 21-24, 31-32, 36, 51; **B, Y** - 1977 Journal of Arachnology 3: 143, f. 7-10, 18-19 ; 145, f. 4-6, 13-17, 23-26; **D**, **E** ,**L, V** - Revista de la Sociedad Entomológica Argentina 1966 - 1 (6): 357, f. 37, 62; 1968 -.2 (3): 313, f. 48-58; 1971 - 33(1-4): 65-68, f. 1-10; 1968a Revista del Museo Argentino de Ciencias naturales Bernardino Rivadavia, Entomologia 2 (3): 328-330, f. 80-85; 326, f. 76-79. Other publications: **C** - Prószyński 1984c: Atlas ... Zeszyty Naukowe WSRP, Siedlce 164 (f. unnumbered); **H**-**F** P.-Cambridge 1900. 191, t 15, f. 1c; **K** - Gertsch 1936 American Museum Novitates 852: 21, f. 33 ; **M** - Bustamante, Maddison, Ruiz 2015. Zootaxa, Magnolia Press 4012 (1): 181–190, f. 1-30. **N** - Ruiz & Maddison, 2015: Zootaxa Magnolia press 4040(3): 255, f. 1-3**; Q1** - Wesołowska 2006 Annales Zoologici 56(2): 435-439, f. 1-17; **R** - Chickering 1946. Bull. Mus. Comp. Zool. Harvard 97: 107, f. 98-103.

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Figure 28. Color pattern and body shape of representatives of informal group of genera AMYCINES and AMYCOIDA VARIA. AMYCINES: **A** - *Agelista andina* Simon, 1900, **B** - *Amycus* sp. & *Amycus* sp. [looking different ???, but - so captioned in Maddison 2015], **C** -*Asaracus megacephalus* C. L. Koch, 1846, **D** - *Corcovetella aemulatrix* Galiano, 1975 palp & body, **D1** - *Cyllodania sp.*, **E** - *Eustiromastix moraballi* Mello-Leitão, 1940, **F** - *Fluda opica* (Peckham & Peckham, 1892), **G** - *Hypaeus benignus* (Peckham & Peckham, 1885), **H** - *Sarinda* sp, **H1** - *Rishaschia mandibularis* [Ruiz & Rego - in prep - Edwards, 2015], **I** - *Cylistella cuprea* (Simon, 1864), **I1** - *Ugandinella formicula* Wesolowska, 2006, **J** - *Gypogyna* sp., **J1** - *Urupuyu antisana* Ruiz & Maddison, 2015. AMYCOIDA VARIA: **K** - *Acragas* sp., **L** - *Breda milvina* (C. L. Koch, 1846), **M** - **N** - *Synemosyna* sp., O - *Erica* sp., **P** - *Hurius* sp., **Q** - *Mago* sp., **R** - *Noegus* sp., **S** - *Scopocira* sp., **T** -*Yepoella* sp.

SOURCES: **A**, **D**, **E, F, L** - Photo by Machado & Gasnier (**I** - Photo Gasnier & Azevedo); **C**, **G** - Photo by A. Anker; **B, D1, H**-**K**, **N**-**T** - Photo by Maddison 2015 Journal of Arachnology. 43: 255-274, Figs. 39-42, 46, 47-48, 50-52, 75, 95; **H1** - Edwards, 2015 Zootaxa, Magnolia Press 4036 (1): 60, f. 26A-G.

…figure on page 62

AMYCINES

A Agelista andina

B Amycus sp.

Amycus sp. [???]

C Asaracus megacephalus

D Corcovetella aemulatrix

D Corcovetella aemulatrix

D1 Cyllodania sp.

E Eustiromastix moraballi

F Fluda opica

G Hypaeus benignus

H Sarinda sp.

H1 Rishaschia mandibularis

I Cylistella cuprea

I1 Ugandinella formicula

J Gypogyna sp.

J1 Urupuyu antisana

AMYCOIDA VARIA

K Acragas sp.

L Breda milvina

M Synemosyna sp.

N

O Erica sp.

P Hurius sp.,

Q Mago sp.

R Noegus sp.

S Scopocira sp.

T Yepoella sp.

Group of genera SITTICINES Prószyński, 2016

Figures 29, 30

Database contains 4 recognizable genera, 79 species

Type genus *Sitticus* Simon, 1901, of which type species is *Sitticus terebratus* [= *Attus terebratus* (Clerck, 1757).

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Sitticus"*.

Mutual diagnostic characters of genera included. Both sexes have comb like, multicusp tooth (Fig. 29A) on anterior median edge of chelicerae, while posterior edge and its tooth are not developed. Males have prominent "S" shaped central loop of spermophor (Fig. 29A), embolus thin, parallel to bulbus, or encircling it. Spermatheca oval to elongate bent structure, thick walled, joined in the middle with weakly sclerotized ducts, both simple and bent, or forming coils of various degree of complication.

Description. Ground, rock or tree trunk dwelling spiders, rarely on vegetation, recognizable by average body shape, often with white spots on abdomen (Fig. 30). As the only group in Palearctics have single multi cusp tooth on chelicerae, being apparently heritage of S American AMYCOIDA, and central "S" like loop on bulbus. Particular species can be identified by dorsal and frontal color pattern (Fig. 30) and by internal structure of epigyne (Fig. 29). Enclosed illustrations are integral part of description. More diagnostic characters in ALL recognizable species see at http://www.peckhamia.com/salticidae/Sitticinae_clas.html.

Remarks. During revision work on genus *Sitticus* Prószyński (several papers from 1968 to 1987) concentrated on mutual characters of that group of species, however, Maddison foreseen future splitting of the genus. That was implemented by Prószyński in 2016 and 2017 by elevating already defined groups of species to full genera (see "Composition" below). In a particular, genus *Attulus* contains now 22 species of the former Sitticus *distinguedus* group of species (type species *Attulus distinguendus*, synonym *Attulus helveolus*). Due nomenclatorical corrections in *Sitticus* include merging American *Sittiflor palustris* with Palaearctic *S. floricola.*

Distribution. As discovered by Maddison, genus *Sitticus* s. l. evolved and underwent intensive species radiation in Palaearctics from Neotropical ancestors, some species secondarily recolonized N America. S American species should be rather removed from the genus.

Composition. The following genera are included: *Attulus* Simon, 1889 (sensu novo), *Jollas* Simon, 1901 (5 species), *Sittiab* Prószyński, 2017 (3 species), *Sitticus* Simon, 1901 sensu stricto, (5 species) [temporarily including uncertain *leucoproctus* and *palpalis* groups of species], *Sittiflor* Prószyński, 2016 (13 species), *Sittilong* Prószyński, 2016 (1 species), *Sittipub* Prószynski, 2016 (2 species) and *Sittisax* Prószyński, 2017(3 species).

SITTICINES

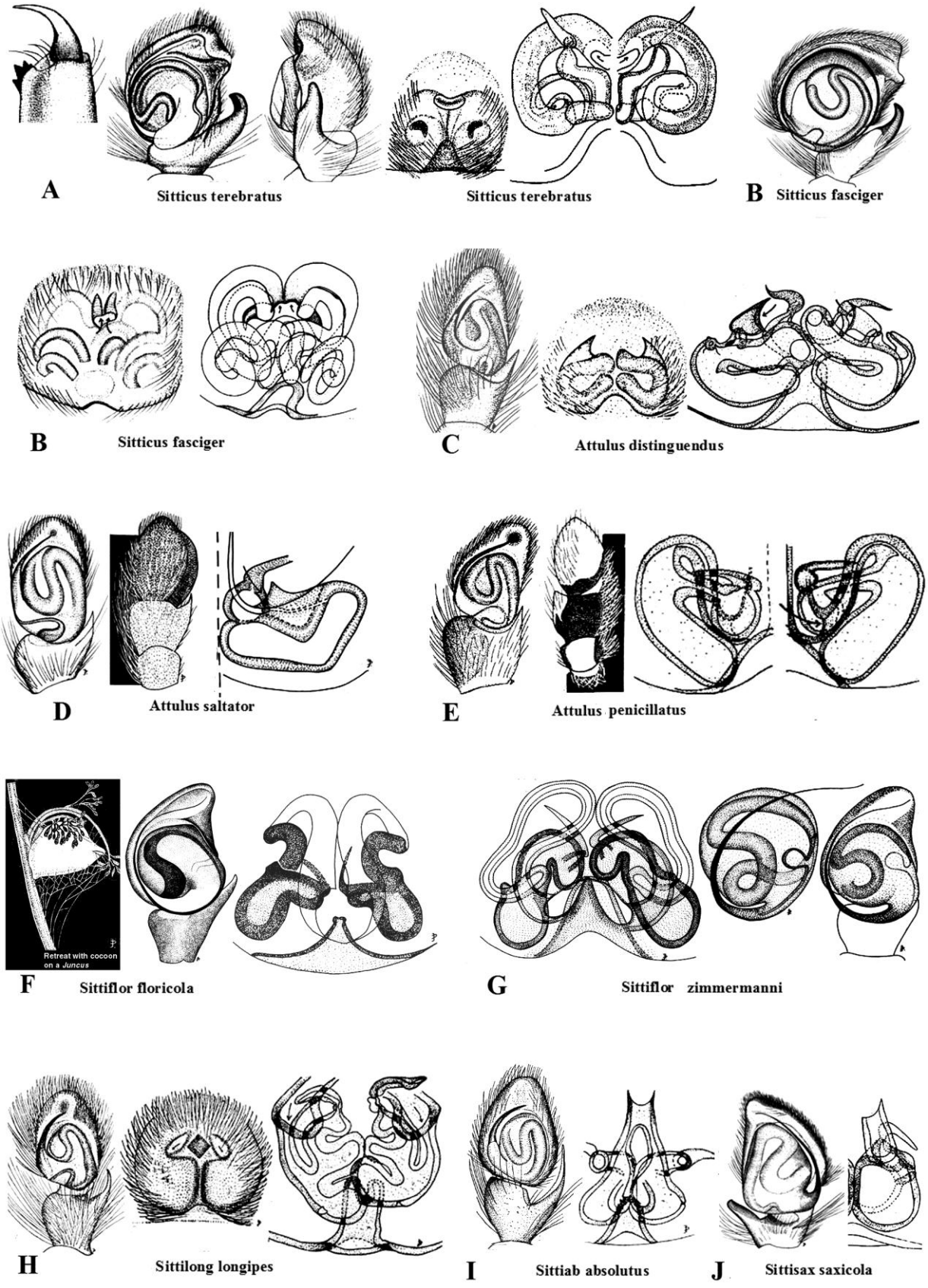
A
Sitticus terebratus
Sitticus terebratus
B Sitticus fasciger
B
Sitticus fasciger
C
Attulus distinguendus
D
Attulus saltator
E
Attulus penicillatus
Retreat with cocoon on a Juncus
F
Sittiflor floricola
G
Sittiflor zimmermanni
H
Sittilong longipes
I
Sittiab absolutus
J
Sittisax saxicola

Figure 29. Diagnostic characters of representatives of informal group of genera SITTICINES. **A** - *Sitticus terebratus* (Clerck, 1757) [knot of copulatory ducts simplified!], **B** - *Sitticus fasciger* (Simon, 1880), **C** - *Attulus distinguendus* (Simon, 1868), **D** - *A. saltator* (O. Pickard-Cambridge, 1868), **E** - *A. penicillatus* (Simon, 1875), **F** - *Sittiflor floricola* (C. L. Koch, 1837), **G** - *Sittiflor zimmermanni* (Simon, 1877), **H** - *Sittilong longipes* (Canestrini, 1873), **I** - *Sittiab absolutus* Gertsch & Mulaik, 1936 [comb. reinstated] paratypes male and female, **J** - *Sittisax saxicola* (C. L. Koch, 1846), palp and spermatheca.

SOURCES: **A-B**, **E- J** - Prószyński Annales zoologici: 1968d. 26: 396-399, f. 1-2, 4-8; 26: 399-402, f. 3, 9-16; 26: 396-399, f. 1-2, 4-8; 1973a. 30: 72-79; 30: 89-91, f. 50-55; 30: 79-86, f. 17-19, 22- 44; 1980: 36: 10-13, f. 3-4, 10-14, 20-21; 36: 10-13, f. 3-4, 10-14, 20-21; **C-D** - Prószyński 1987a Atlas ... Salticidae. Zeszyty Naukowe WSRP Siedlce 94-95; 89.

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Figure 30. Color pattern and body shape of representatives of informal group of genera SITTICINES: **A** - *Sitticus terebratus* (Clerck, 1757), male & female,, **B** - *Attulus distinguendus* (Simon, 1868), male & female, **C** - *A. penicillatus* (Simon, 1875), **D** - *A. saltator* (O. Pickard-Cambridge, 1868), **E** - *Sittiflor floricola* (C. L. Koch, 1837), **F** - *Sittiflor caricis* (Westring, 1861), **G** - *Sittiflor rupicola* (C. L. Koch, 1837), **H** - *Sittiflor zimmermanni* (Simon, 1877), **I** - *Sittisax saxicola* (C. L. Koch, 1846), **J** - *Sittilong longipes* (Canestrini, 1873), **K** - *Sittipub pubescens* (Fabricius, 1775).

SOURCES: **A-I, K** - Photo J. Lissner ; **J** - Photo B. Knoflach.

…figure on page 66

SITTICINES

A male Sitticus terebratus female A B Attulus distinguendus

B male Attulus distinguendus female B C Attulus penicillatus

C Attulus penicillatus D Attulus saltator D E Sittiflor floricola

E Sittiflor floricola F Sittiflor caricis G Sittiflor rupicola

H Sittiflor zimmermanni I Sittisax saxicola J Sittilong longipes K Sittipub pubescens

Group of genera "AMYCOIDA VARIA" Prószyński, 2016

Figures 28K-T, 31, 32A-G
Database contains 29 recognizable genera, 143 species

Type genus - not designated, due to provisional character of this composite group.

Remark. AMYCOIDA VARIA is collective and provisional group of Amycoid genera purporting to show morphological diversity, utilizable for identification, without entering into speculations on phylogenetic relationships. More advanced views on phylogenetic division is presented currently by Maddison (2015), who delimited a number of tribes, presented, however, as subfamilies in Ruiz & Maddison (2015), discrepancy representing presumably different stages of research process.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name used provisionally for collective grouping of genera.

Mutual diagnostic characters of genera included. No diagnosis of this collective group has been worked out, due to insufficient knowledge. Readers are advised to look at diagnoses of particular genera.

Description. Temporary grouping of poorly known Western Hemisphere genera, related to AMYCINES by molecular research (Maddison and al., numerous papers), pending taxonomic generalization. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Amycoida-varia_clas.html.

Distribution. Western Hemisphere.

Composition. The following genera are included: *Acragas* Simon, 1900 (19 species), *Admesturius* Galiano, 1987[1988] (2 species), *Aillutticus* Galiano, 1987 (8 species), *Amatorculus* Ruiz & Brescovit, 2005 (2 species) , *Arnoliseus* Braul, 2002 (2 species) , *Breda* Peckham, Peckham, 1894 (14 species), *Edilemma* Ruiz, Brescovit, 2006 (1 species), *Erica* Peckham, Peckham, 1892 (1 species) , *Fritzia* Pickard-Cambridge O., 1879 (1 species), *Gavarilla* Ruiz, Brescovit 2006 (2 species) , *Hisukattus* Galiano, 1987 (4 species) , *Hurius* Simon, 1901 (4 species), *Kupiuka* Ruiz, 2010 (8 species), *Maenola* Simon, 1900 (1 species) , *Mago* Pickard-Cambridge O., 1882 (11 species), *Martella* Peckham, Peckham, 1892 (12 species) , *Noegus* Simon, 1900 (22 species), *Onofre* Ruiz, Brescovit, 2007 (**3** species), *Orvilleus* Chickering 1946 (1 species), *Platypsecas* Ruiz, Brescovit, 2005 (1 species), *Pseudattulus* Caporiacco, 1947 (**1** species), *Scopocira* Simon, 1900 (5 species), *Scoturius* Simon, 1901 (1 species), *Semiopyla* Simon, 1901 (3 species), *Simonurius* Galiano, 1988 (3 species), *Tanybelus* Simon, 1902 (1 species), *Theriella* Braul & Lise, 1996 (3 species), *Udalmella* Galiano, 1994 (1 species), *Vinnius* Simon, 1902 (4 species), *Yepoella* Galiano, 1970 (2 species).

Supergroup of genera EUOPHRYOIDA

Type group of genera EUOPHRYINES

Remarks. The idea of basic diagnostic character of the group - presence of coiled embolus atop anterior part of bulbus, simultaneous with characteristic translucent part of spermatophor, meandering on retrolateral side and retrolateral half of bulbus - was developed for subfamily Euophryinae by Prószyński (1976). Further research disclosed that such embolus is sitting on inflatable membranous distal haematodocha (important discovery of Maddison, 1995, originally discussed for DENDRYPHANTINES, but now discovered in other groups as well) (Fig.32JJ**)** and vary considerably - may be short or long, single or split, in some genera its distal part is adapted to break during copulation for plugging copulatory duct of female. It is understood now, that these characters are diversified and characterize a number of groups of genera, in some groups intermediary by distal haematodocha is not yet proven but only suspected (MYRMARACHNINES, LIGONIPEINES, etc.). Addition of internal structure of epigyne enriched comparative analyses. Owing to

AMYCOIDA VARIA

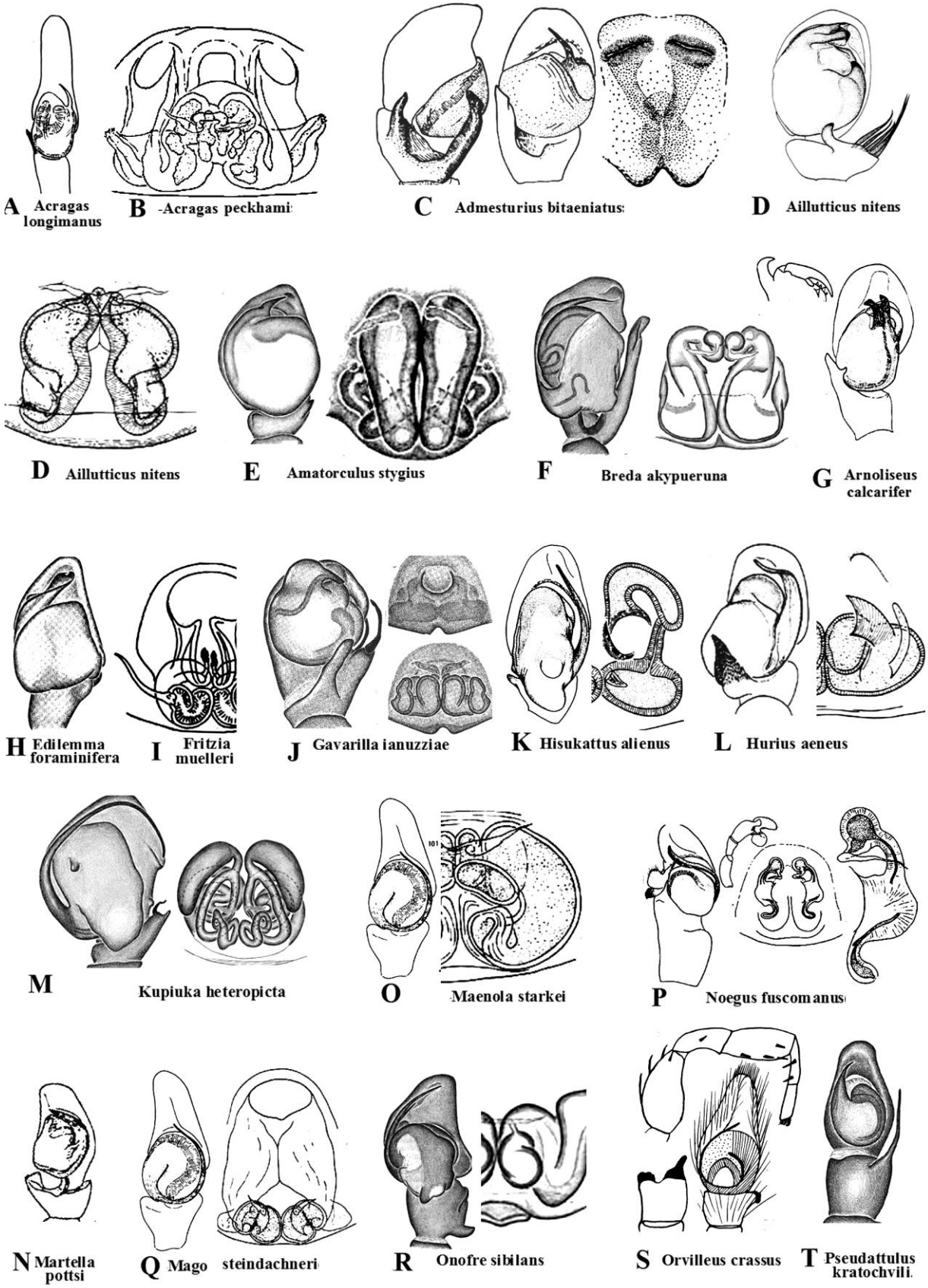

Figure 31. Diagnostic characters of representatives of informal group of genera AMYCOIDA VARIA. **A** - *Acragas longimanus* Simon, 1900, **B** - *Acragas peckhami* (Chickering, 1946), **C** - *Admesturius bitaeniatus* (Simon, 1901), **D** - *Aillutticus nitens* Galiano, 1987, **E** - *Amatorculus stygius* Ruiz & Brescovit, 2005 [2006], **F** - *Breda akypueruna* Ruiz & Brescovit, 2013, **G** - *Arnoliseus calcarifer* (Simon, 1902),**H** - *Edilemma foraminifera* Ruiz & Brescovit, 2006, **I** - *Fritzia muelleri* O. Pickard-Cambridge, 1879, **J** - *Gavarilla ianuzziae* Ruiz & Brescovit, 2006, **K** - *Hisukattus alienus* Galiano, 1987, **L** - *Hurius aeneus* (Mello-Leitão, 1941), **M** - *Kupiuka heteropicta* Ruiz, 2010, **N** - *Martella pottsi* Peckham & Peckham, 1892, **O** - *Maenola starkei* Simon, 1900, **P** - *Noegus fuscomanus* (Taczanowski, 1878), **Q** - *Mago steindachneri* (Taczanowski, 1878), **R** - *Onofre sibilans* Ruiz & Brescovit, 2007, **S** - *Orvilleus crassus* Chickering, 1946, **T** - *Pseudattulus kratochvili* Caporiacco, 1947.

SOURCES. .**A, C, G, I, N-Q** - Galiano 1963b Physis 23 (66): 279-280, t. 1, f. 3-6;: 283, t. 3, f. 1-3, 9; 386; t. 26, f. 15; 391, t. 27, f. 4; 464-465, t. 38, f. 9, 11; 129-130, f. 4 ; 1964a. 24 (68): 357-359, t 1, f. 4-10; t 2, f. 5-8; t 3, f. 9-10 ; **B** - Galiano 1968a Revista del Museo Argentino de Ciencias Naturales, 2 (3): 301-304, f. 25-3; 342, f. 59-60; 352-354, f. 101, 107; **D** - Galiano 1987a. Bulletin of the British Arachnological Society 7 (5): 160-162, f. 6, 11; **K** - Galiano 1987b Revista de la Sociedad Entomológica Argentina 44 (2): 140-141, f. 16, 24; **L** - Galiano 1985b Journal of Arachnology 13: 15, f. 16, 21-21; **E** - Ruiz, Brescovit 2005a Revista brasileira de Zoologia 22: 694, f. 25-28 + 354-355, f. 13-16; **H, J** - Ruiz, Brescovit 2006b Revista brasileira de Zoologia 23(2): 364-366, f. 3, 6; 351, f. 1, 3; **F** - Ruiz, Brescovit 2013 Zootaxa, Magnolia Press 3664(4): 407-408, f. 43, 46; **M** - Ruiz 2010. Zootaxa, Magnolia Press 2630: 62- 64, f. 17, 22; **R** - Ruiz, Brescovit 2007 Bulletin of the British Arachnological Society 14(2): 77-79, f. 1-6; **S** - Chickering 1946 Bulletin of the Museum of comparative Zoology 97: 401, f. 358-362.; **T** - Ruiz, Brescovit & Lise, 2007: 377, f. 1-5.

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Figure 32. Diagnostic characters of representatives of informal group of genera AMYCOIDA VARIA 2 and EUOPHRYINES 1. AMYCOIDA VARIA 2: **A** - *Scoturius tigris* Simon, 1901, **B** - *Udalmella gamboa* Galiano, 1993 [1994], **C** - *Semiopyla cataphracta* Simon, 1901, **D** - *Simonurius gladiferus* (Simon, 1901), **E** - *Theriella galianoae* Braul & Lise, 1996, **F** - *Theriella bertoncelloi* Braul & Lise, 2003, **G** - *Yepoella crassistyla* Galiano, 1970. EUOPHRYINES - 1: **JJ** - Criterion of EUOPHRYOIDA - curled embolus atop distal haematodocha, visible on expanded palp (uncertain genus), **J** -*Talavera minuta* (Banks, 1895), **K** - *Euophrys frontalis* (Walckenaer, 1802), **L** - *Lechia minuta* (Prószynski, 1992) comb. n., **M** - *Parabathippus sedatus* Peckham & Peckham, 1907, **N** - *Thyenula juvenca* Simon, 1902, **O** - *Rumburak lateripunctatus* Wesolowska, Azarkina & Russell-Smith, 2014, **P** - *Tanzania mkomaziensis* (Wesolowska, Russel-Smith, 2000), **Q** - *Barraina anfracta* Richardson, 2013.

SOURCES. **A, D** - Galiano 1987c[1988] Journal of Arachnology 15: 289, f. 14, 18; 296, f. 29,32; B - Galiano 1993 [1994] Scientia (Panama), 8 (1): 194, f. 4; **C** - Galiano 1963b Physis 23(66): 440-441, t. 36, f. 10-11; **E** - Braul & Lise 1996 Biociencias 4: 173, f. 1-7 ; **F** - Braul & Lise 2003 Revista Ibérica de Aracnología 7: 123-126, f. 1-13; **G** - Galiano 1970a Revista del Museo Argentino de Ciencias Naturales (Zool) 10(11): 157, f. 6-13, 23-24, 30-31; **J** - Paquin & Duperre 2003 Fabreries, Suppl. 11: 203, f. 2270 + Prószyński 2016 Internet; **JJ** - Ruiz & Maddison 2015: Zootaxa, Magnolia Press 4040(3): 255, f. 1-3; **K** - Żabka 1997 Fauna Polski 19: 46, f. 89-98; **L** - Prószyński 1992b Annales zoologici 44, 9: 172-173, f. 30-32; **M**- Żabka 1988b Annales zoologici 41: 427, f. 15-21; **N** - Prószyński 1987 Atlas ... Salticidae. Zeszyty Naukowe WSRP 101 (f. unnumbered) + Wesołowska 2012 African Entomology 20: 337-338, f. 45–49, 58; **O** - Wesołowska, Azarkina & Russell-Smith, 2014 Zootaxa, Magnolia Press 3789: 36-37, f. 120-125; **P** - Wesołowska & Russel-Smith 2000 Tropical Zoology 13: 63, f. 163-170; **Q** - Richardson 2013 Zootaxa, Magnolia Press 3716: 463-466, f. 10-17.

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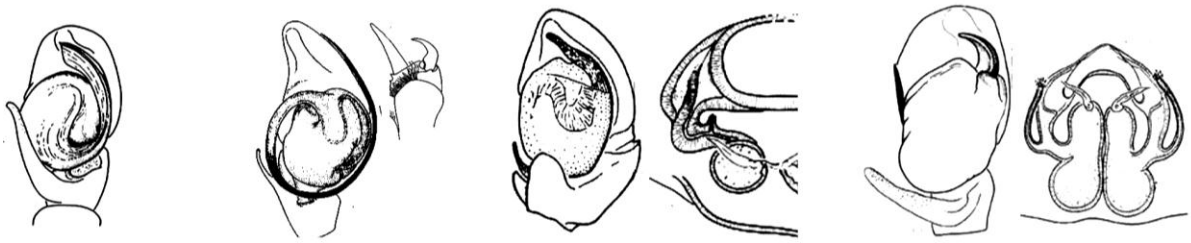
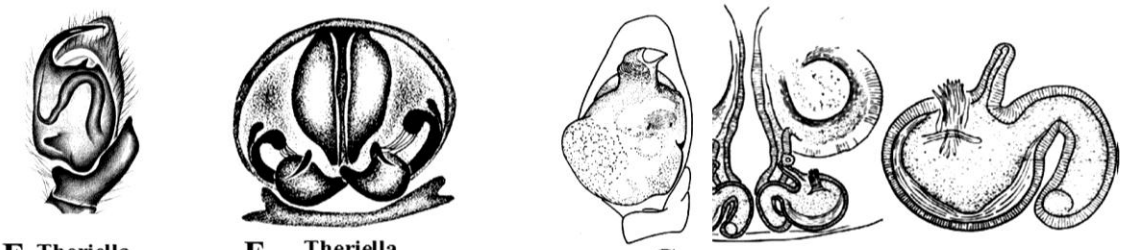
AMYCOIDA VARIA 2



A Scoturius tigris
B Udalmella gamboa
C Semiopyla cataphracta
D Simonurius gladiferus

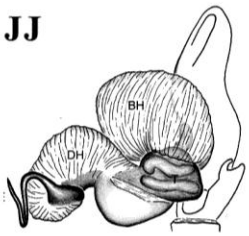


E Theriella galianoae
F Theriella bertoncelloi
G Yepoella crassistyla

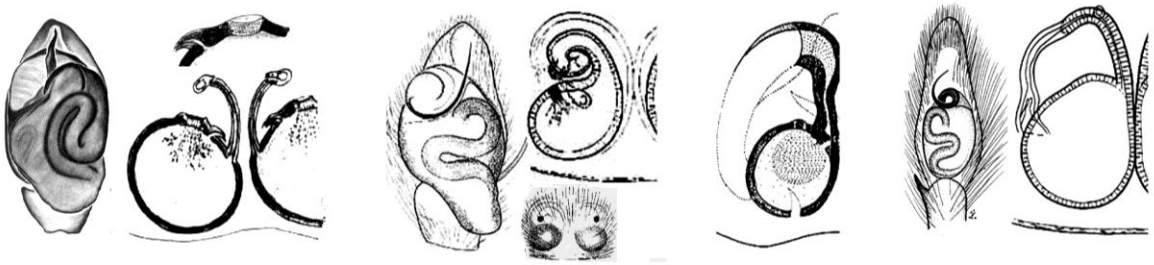
EUOPHRYINES 1

spermathecae spherical, single

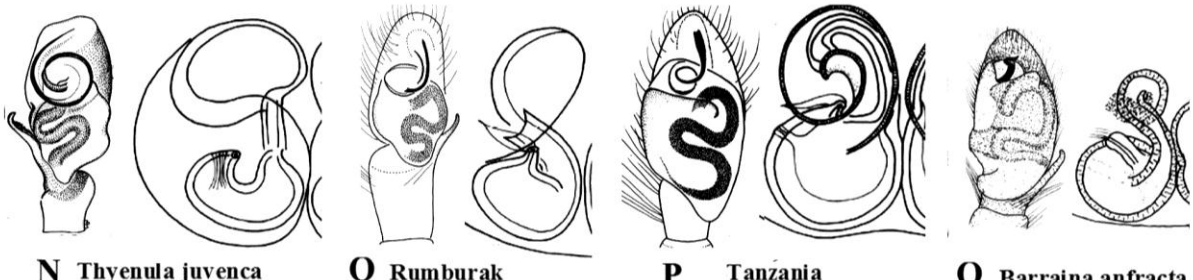
JJ



Criterion of EUOPHRYOIDA
curled embolus atop distal haematodocha, expanded palp (uncertain genus)



J Talavera minuta
K Euophrys frontalis
L Lechia minuta
M Parabathippus sedatus



N Thyenula juvenca
O Rumburak lateripunctatus
P Tanzania mkomaziensis
Q Barraina anfracta

widespread morphological similarities and existence of the intermediate genera and species, we may expect that EUOPHRYOIDA may be one of major taxonomic divisions in Salticidae - a conclusion requiring further comparative research. Since group EUOPHRYINES appeared too large for handling, it is now divided into smaller groups for convenience sake.

Mutual diagnostic characters of genera included. Tentatively delimited supergroup of genera of Salticidae, with males having embolus coiled or spiral, or encircling bulbus, making loose loops and sitting atop membranous and inflatable distal haematodocha, a structure proven in some genera, suspected in others (for instance MYRMARACHNINES). Epigyne usually with membranous "window" or "windows", spermathecae vary from simple and spherical, to more complicated forms, in some cases compact sclerotized bodies with internal convoluted chambers. Ducts may be simple and short, or long and making complicated coils or knots, membranous or sclerotized. External appearance of body diversified (Figs 39, 41, 44, 46, 48), helpful in identification of local genera and species, but misleading, even useless, in identification of worldwide taxa above the genus level.

Disclaimer. Incomplete documentation, especially simplified, or semidiagrammatic drawings, may cause misplacement of some genera, which may be changed after more research.

Composition. Contains informal groups of genera: AELURILLINES, BALLINES, BELIPPINES, COLONINES, DENDRYPHANTINES, DIOLENINES, EUODENINES, EUOPHRYINES, HISPONINES, LIGONIPEINES, MYRMARACHNINES, THIRATOSCIRTINES.

Group of genera EUOPHRYINES Prószyński, 2016

Figures 32J-Q, 33-39

Database contains 129 recognizable genera and 821 species

Type genus *Euophrys* Koch C.L., 1834 of which type species is *Euophrys frontalis* (Walckenaer, 1802) [= *Aranea frontalis* Walckenaer, 1802 [comment by N. I. Platnick: "preoccupied by Olivier, 1789, but amply protected by usage"].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Euophrys"*.

Mutual diagnostic characters of genera included. Main character of the group is: curled embolus (a sperm "syringe") in resting position appearing sitting atop bulbus, and translucent meandering spermophor (a sperm storage vessel) meandering on retrolateral surface (partially on ventral one) of bulbus. Embolus twisted into half a loop, coiled, or spiral, sits in fact atop membranous bag (distal haematodocha), inflatable during copulation and acting as pumping device (could be displayed after warm bath, or after chemical maceration). Comparable structures characterize groups BALLINES, and EUODENINES. Epigyne usually with two white, membranous "windows", sometimes fused into single "window". Spermathecae simple, globular, in some genera are developed into two chambers. Exceptionally and temporarily a few genera with more complicated ducts and spermathecae are also included here. Ducts usually simple, thin walled (but not membranous), often short and semi arching, in some cases longer, twisted into entangled loops or coils.

Description. Jumping spiders of variable body shape, color pattern and size (see Fig. 39), which may characterize some genera, but are inconsistent and repeat in various, unrelated genera. Embolus twisted into single coil, or multi coil spiral, in some cases reduced to incomplete bend. Position of coil of embolus in relation to bulbus variable, atop, on ventral surface of anterior bulbus, or on either side (Figs 32J-Q, 33-38). Number of coils seems to be not correlated with visible characters of internal structure of epigyne. Latest photographic documentation of some genera by Whyte et all (2017 and unpublished) demonstrated presence of a process parallel to embolus, sometimes tightly pressed to it, or loose, on some drawings marked as

delicate forking of tip of embolus. This is a new discovery and its influence on taxonomy of these spiders is unclear, as yet. Meandering course of spermophor, consisting of two, or one and half incomplete bends, is relatively stable character, but it may be slightly waving, or almost straight forms in some DENDRYPHANTINES, BALLINES, and EUODENINES. Epigyne has two white, membranous "windows", sometimes fused into single one, without distinct pocket. Spermathecae are usually simple, globular (Figs 32J-Q, 33-36, 38), but in some genera develop additional, thick walled structure by either expanding atrium (entrance part), or dividing spermatheca into two swollen parts, separated by narrower connector (Fig. 35C, F-H, M, O-P), some spermathecae are developed into compact bodies, internally convoluted (Figs 38 C, G). Ducts connecting copulatory openings with spermathecae may be either membranous or sclerotized, or divided into soft and hard walled parts. In majority of species ducts are short and simple, but in some genera are getting longer, bent, entangled, or twisted into coils (Figs 36, 38), sometimes resembling those in DENDRYPHANTINES (the latter begin near anterior rim of epigyne and run straight, or diagonally, until posterior half of epigyne, where pass into entangled knots of loops before entering spermathecae). Intermediate forms appear in BALLINES, and EUODENINES, there are also some intermediate cases pending further research. Ducts in *Emathis* are twisted into elegant double spiral twisted around transverse axis (Fig. 34R). There is always an opening piercing wall of duct, sometimes located in the armature of copulatory opening, or at entrance to spermathecae, its function is hypothesized as exuding pheromones to outside the body (pheromone exuding glands) - because of short duct running from them up to tegument in some Salticidae (for instance in some *Phlegra*). Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL 821 recognizable species of this group of genera - see files

http://www.peckhamia.com/salticidae/Euophryinae_clas-0.html,
http://www.peckhamia.com/salticidae/Euophryinae_clas-1.html,
http://www.peckhamia.com/salticidae/Euophryinae_clas-2.html,
http://www.peckhamia.com/salticidae/Euophryinae_clas-3.html.

Remark. Large size of the group EUOPHRYINES, containing initially over 1000 species, make it too inconvenient to handle, so for convenience sake I propose to split them into smaller, coherent groups of genera, separated by noticeable morphological differences. I follow proposal of Benjamin (2004) to separate group BALLINES, further splitting of EUOPHRYINES may appear advisable. Attempts to use shape and position of coils of embolus atop bulbus as criterion of subdivision of EUOPHRYINES have failed, however, division by shape of spermathecae and ducts seem to be more promising, unfortunately documentation of these are either skip by new generation of researchers, or substituted by senseless diagrammatic drawings.

Distribution. Worldwide.

Composition. The following genera are included: *Admestina* Peckham & Peckham, 1888 (3 species), *Agobardus* Keyserling, 1885 (14 species), *Allodecta* Bryant, 1950 (1 species), *Amphidraus* Simon, 1900 (5 species), *Anasaitis* Bryant, 1950 (10 species), *Antillattus* Bryant, 1943 (7 species), *Araneotanna* Özdikmen & Kury, 2006 (1 species), *Aruattus* Logunov, Azarkina, 2008 (1 species), *Asaphobelis* Simon, 1902 (1 species), *Ascyltus*Karsch, 1878 (6 species), *Athamas* Pickard-Cambridge O., 1877 (8 species), *Attidops* Banks, 1905 (4 species), *Barraina* Richardson, 2013 (1 species), *Bathippus* Thorell, 1892 (18 species) +*"Parabathippus"* Thorell, 1892 (4 species), *Belliena* Simon, 1902 (4 species), *Bindax* Thorell, 1892 (2 species), *Bulolia* Żabka, 1996 (2 species), *Bythocrotus* Simon, 1903 (2 species), *Canama* Simon, 1903 (5 species), *Caribattus* Bryant, 1950 (1 species), *Chalcolemia* Zhang, Maddison, 2012 (1 species), *Chalcoscirtus* Bertkau, 1880 (34 species), *Chalcotropis* Simon, 1902 (10 species), *Chapoda* Peckham, Peckham, 1896 (7 species), *Charippus* Thorell, 1895 (1 species), *Cheliferoides* F.P.-Cambridge, 1901 (3 species), *Chinophrys* Zhang J., Maddison, 2012 (1 species), *Chloridusa* Simon, 1902 (1 species), *Cobanus* Pickard-Cambridge F., 1900 (14 species), *Colyttus* Thorell, 1891 (3 species), *Commoris* Simon, 1902 (3 species), *Compsodecta* Simon, 1903 (6 species), *Corticattus* Zhang J.& Maddison, 2012(2 species), *Coryphasia* Simon, 1902 (7 species), *Corythalia* C. L. Koch, 1850 (61 species), *Cytaea* Keyserling, 1882 (35 species), *Descanso* Peckham & Peckham, 1892 (10 species), *Dinattus* Bryant, 1943 (3 species), *Donoessus* Simon, 1902 (3 species), *Echeclus* Thorell, 1890 (2 species), *Ecuadattus* Zhang & Maddison, 2012 (4 species), *Efate* Berland, 1938 (3 species), *Emathis* Simon, 1899 (5 species), *Ergane* Koch L., 1881 (5

species), *Euophrys* Koch C.L., 1834 (63 species), *Euryattus* Thorell, 1881 (12 species), *Featheroides* Peng, Ying, Kim 1994 (2 species), *Foliabitus* Zhang J., Maddison, 2012 (2 species), *Frewena* Richardson, 2013 (1 species), *Hasarina* Schenkel, 1963 (1 species), *Hypoblemum* Peckham, Peckham, 1886 (4 species), *Ilargus* Simon, 1901 (6 species), *Jotus* Koch L., 1881 (? species) , *Junxattus* Prószyński, Deeleman-Reinhold, 2012 (1 species), *Lagnus* Koch L., 1879 (3 species), *Lakarobius* Berry, Beatty, Prószyński, 1998 (1 species), *Laufeia* Simon, 1889 (5 species), *Lechia* Żabka, 1985 (2 species), *Lepidemathis* Simon, 1899 (6 species), *Leptathamas* Balogh, 1980 (1 species), *Lophostica* Simon, 1902 (3 species), *Lycidas* Karsch, 1878 (20 species), *Mabellina* Chickering, 1946 (1 species), *Maeota* Simon, 1901 (4 species), *Maeotella* Bryant, 1950 (1 species), *Magyarus* Żabka, 1985 (1 species), *Maileus* Peckham, Peckham, 1907 (1 species), *Maratus* Karsch, 1878 (>18 species), *Margaromma* Keyserling, 1882 (1 species), *Mexigonus* Edwards, 2003 (4 species), *Microhasarius* Simon, 1902 (1 species), *Mopiopia* Simon, 1902 (3 species), *Muziris* Simon, 1901 (3 species), *Naphrys* Edwards, 2003 (3 species),, *Nebridia* Simon, 1902 (3 species), *Neon* Simon, 1876 (20 species), *Neonella* Gertsch, 1936 (12 species), *Nicylla* Thorell, 1890 (1 species), *Ocnotelus* Simon, 1902 (1 species), *Omoedus* Thorell, 1881 (4 species), *Opisthoncana* Strand, 1913 (1 species), *Orcevia* Thorell, 1890 (6 species), *Panysinus* Simon, 1901 (1 species), *Parvattus* Zhang J., Maddison 2012 (1 species), *Pensacola* Peckham & Peckham, 1885 (15 species), *Pensacolops* Bauab, 1983 (1 species), *Petemathis* Prószynski & Deeleman-Reinhold, 2012 (4 species), *Phasmolia* Zhang J., Maddison, 2012 (1 species), *Popcornella* Zhang J., Maddison, 2012 (4 species), *Pristobaeus* Simon, 1902 (9 species), *Prostheclina* Keyserling, 1882 (7 species), *Pseudeuophrys* Dahl, 1912 (7 species), *Pseudemathis* Simon, 1902 (1 species), *Pystira* Simon, 1901 (1 species), *Rhyphelia* (1 species), *Rumburak* Wesolowska, Azarkina & Russell-Smith, 2014 (7 species), *Saitidops* Simon, 1901 (1 species), *Saitis* Simon, 1876 (16 species), *Saitissus* Roewer, 1938 (1 species), *Salpesia* Simon, 1901 (5 species), *Saphrys* Zhang J., Maddison, 2015 (10 species), *Saratus* Otto & Hill, 2017, *Semnolius* Simon, 1902 (1 species), *Servaea* Simon, 1888 (6 species), *Sidusa* Peckham & Peckham, 1895 (13 species), *Sigytes* Simon, 1902 (2 species), *Siloca* Simon, 1902 (6 species), *Soesilarishius* Makhan, 2007 (9 species), *Spilargis* Simon, 1902 (1 species), *Stoidis* Simon, 1901 (1 species), *Talavera* Peckham, Peckham, 1909 (15 species), *Tanzania* Koçak & Kemal, 2008 (6 species), *Tarodes* Pocock,1899 (1 species), *Tatari* Berland, 1938 (1 species), *Thiania* C. L. Koch, 1846 (17 species), *Thianitara* Simon, 1903 (2 species), *Thorelliola* Strand, 1942 (20 species), *Thyenula* Simon, 1902 (24 species), *Tisaniba* Zhang J., Maddison, 2014 (6 species), *Truncattus* Zhang J., Maddison, 2012 (3 species), *Tylogonus* Simon, 1902 (13 species), *Udvardya* Prószyński, 1992 (1 species), *Viribestus* Zhang J., Maddison, 2012 (1 species), *Viroqua* Peckham & Peckham, 1901 (1 species), *Wallaba* Mello-Leitão, 1940 (2 species), *Xenocytaea* Berry, Beatty & Prószyński, 1998 (14 species), *Yimbulunga* Wesołowska, Azarkina, Russel-Smith, 2014 (1 species), *Zabkattus* Zhang J., Maddison, 2012 (4 species), *Zenodorus* Peckham, Peckham, 1886 (23 species).

Corections to list of synonyms and comments

***Amphidraus* and *Nebridia* - wholesale merging**

Merging of these genera, proposed by Zhang & Maddison (2015: 22-23), is not supported by diagnostic drawings of respective type species by Galiano 1963b (see comparative drawing at Fig. 37Q1) and Bryant 1943 (Fig. 37P) and therefore is not acceptable. Attention: *Nebridia manni* Bryant, 1943 (Fig. 37P1) and *N. mendica* Bryant, 1943 (Fig. 37P2) are misplaced, neither *Nebridia* nor *Amphidraus*, there is genus not identifiable by existing diagnostic drawings (see also files http://www.peckhamia.com/salticidae/q10-Neb.html and http://www.peckhamia.com/salticidae/q10-Amphid.html). Therefore:

Amphidraus semicanus (Simon, 1902) = *Nebridia semicana* Simon, 1902d: 373 (reinstated original combination, documented by Fig. 37P, compare with Fig. 37Q1).

Amphidraus manni (Bryant 1943) = *Nebridia manni* Bryant 1943 (transfer reversed due to palp incompatibility, compare Figs 37P1 and 37Q1, also files mentioned above, pending further search),

Amphidraus mendica (Bryant 1943) = *Nebridia mendica* Bryant 1943 (transfer reversed due to palp incompatibility, compare Figs 37P2 and 37Q1, see also files mentioned above, pending further search).

Ascyltus or Omoedus?

Palp of this species looks very different from *Zenodorus*, where was placed by Żabka (1988b: 476-478, f. 151, 156) (compare Figs. 1B8 and 1C8, also 38G-H with 38I). It seems to be comparable (but not identical) with some *Ascyltus* (Fig. 33Q) by broad anterior part of bulbus, broad, loose coil of embolus in the plane

parallel to bulbus and by almost straight, slightly oblique course of spermophor. On the other hand it differs by rather special ducts and spermatheca, short tibial apophysis and lack of transverse enlargement of the face. The proposed placement is tentative and most probably the species should be placed in an own genus.

Therefore:

Omoedus asper (Karsch, 1878) = Ascyltus asper (Karsch, 1878),

Bathippus* and *Parabathippus

These genera seem to differ distinctly by internal structure of epigyne, which unfortunately is little known for *Bathippus* and by elongate versus short chelicerae, without accounting for these characters separation seems to be tentative (compare Zhang, Maddison 2015: 65, f. 322–323 with Fig. 32M). Pending further research.

Colyttus* and *Donoessus

Synonymy of these genera not accepted due to misinterpretation of structure of spermathecae, palps and color pattern by Zhang & Maddison (2015: 31) - compare Figs 38Q, 39R of *Colyttus bilineatus* Thorell, 1891 (type species) with Figs. 38P, 39Q of *Donoessus nigriceps* and *D. striatus*, for more documentation of relevant diversity see http://www.peckhamia.com/salticidae/q10-Dono.html. This results in following corrections:

Colyttus kerinci (Prószyński & Deeleman-Reinhold, 2012) = *Donoessus kerinci* Prószyński & Deeleman-Reinhold, 2012 (return to the previous combination due to misinterpretation of diagnostic characters of these genera),

Colyttus nigriceps (Simon, 1899) = *Donoessus nigriceps* (Simon, 1899) (return to the previous combination due to misinterpretation of diagnostic characters of these genera),

Colyttus striatus (Simon, 1902) = *Donoessus striatus* (Simon, 1902) (return to the previous combination due to misinterpretation of diagnostic characters of these genera).

Coryphasia, Asaphobelis* and *Siloca

Type species of the above genera differ strikingly in internal structure of epigyne and also in palps, compare diagnostic drawings of *Coryphasia albibarbis* Simon, 1902 (Fig. 38J) with these of *Asaphobelis physonychus* (Fig. 38K) and *Siloca campestrata* (Fig. 38L). Merging of them is totally unacceptable and reflects on merging of their congeners. Misinterpretation of placement was assisted by excessive diagrammatizing of drawings of internal structures of epigyne. Therefore:

Coryphasia physonycha (Simon, 1902) = *Asaphobelis physonychus* Simon, 1902 (reinstated combination, do not agree with morphological characters of type species of *Coryphasia* compare Figs 38J with 38K)

Coryphasia campestrata (Simon, 1902) = *Siloca campestrata* Simon, 1902 (reinstated combination, do not agree with morphological characters of type species of *Coryphasia* - compare Figs 38J with 38L).

Cytaea alburna* and *Cytaea severa

Merging of *Cytaea alburna* Keyserling, 1882 (type species of the genus!) (Fig. 39C) with *Cytaea severa* (Thorell, 1881) (Fig. 39D) was proposed by Żabka (1991c: 25), based merely on his undocumented opinion. In the mean time, Whyte & Anderson (personal communication, see also 2017: 238-240, photos unnumbered) identified *Cytaea severa* (*sensu novo*) and published photographs of live specimens of both species, strikingly differing in habitus. Therefore:

Cytaea severa (Thorell, 1881) (in part) = *Cytaea alburna* Keyserling, 1882 (sensu Whyte & Anderson, 2017, reinstated as separate species – compare Figs 39C and Fig. 39D).

Laufeia, Junxattus, Lechia and Orcevia, also Euophrys

Some species transferred recently to the genus *Laufeia* by Zhang J. & Maddison 2015: 30 (type species *Laufeia aenea* Simon, 1889) require restitution to their original genera because of misinterpreted morphological characters. Compare figures (Fig. 38A-C). Also body shape and color pattern are somewhat different (Figs 39J-L), For more diversities see also original diagnostic drawings in relevant publications and/or their copies in http://www.peckhamia.com/salticidae/Euophryinae_clas-2.html http://www.peckhamia.com/salticidae/q10-Lauf.html, http://www.peckhamia.com/salticidae/q10-Junx.html,

http://www.peckhamia.com/salticidae/q10-Orc.html, http://www.peckhamia.com/salticidae/q10-Lech.html. Fine details of embolus and associated structures in these species are strikingly different, epigyne are different, internal structures of epigyne in *Jumxattus*, *Lechia* and *Orcevia* are strikingly different and exclude possibility of congeneric status of species. Unfortunately epigyne of the protected single known type specimen of *Laufeia aenea* could not be cleared, relevant drawings by Zhang and Maddison are so diagrammatized that cannot be even taken into consideration. Different case is *Euophrys minuta* Prószynski, 1992 whose epigyne and its internal structures disagree with that of the type species of *Euophrys* but resembles closely *Lechia squamata* Żabka, 1985 (compare Figs 32K, L, 32K, 38A1). Therefore:

Laufeia daiqini (Prószyński & Deeleman-Reinhold, 2012) = *Junxattus daiqini* Prószyński & Deeleman-Reinhold, 2012 (original combination restituted, for documentation compare Figs 38B, 39J with Figs 38A, 39K, also html http://www.peckhamia.com/salticidae/q10-Lauf.html),

Laufeia kuloni (Prószynski & Deeleman-Reinhold, 2012*)* = *Orcevia kuloni* Prószynski & Deeleman-Reinhold 2012 (original combination restituted, for documentation compare Figs. 34C), [likewise congeneric species of these genera: - *Laufeia keyserlingi* (Thorell, 1890) = *Orcevia keyserlingi* (Thorell, 1890), *Laufeia eucola* (Thorell, 1890) = *Orcevia eucola* (Thorell, 1890), *Laufeia perakensis* (Simon, 1901) = Orcevia *perakensis* (Simon, 1901), *Laufeia proszynskii* Song, Gu & Chen, 1988 = *Orcevia proszynskii* (Song, Gu & Chen, 1988) - compare relevant diagnostic drawings, copied in http://www.peckhamia.com/salticidae/q10-Orc.html],

Laufeia squamata (Żabka, 1985) = *Lechia squamata* Żabka, 1985 (original combination restituted, for documentation of epigyne and its internal structures see Fig. 38A1 and http://www.peckhamia.com/salticidae/q10-Lech.html,

Euophrys minuta Prószynski, 1992) = *Lechia minuta* (Prószynski, 1992) comb. n. (transfer based on similarities in epigyne and its internal structure with *Lechia squamata* Żabka, 1985, for documentation see Figs 32L, compare it with type species of *Euophrys* Fig. 32K and *Lechia squamata* Fig. 39K).

***Maratus anomaliformis* (Żabka, 1987) = *"Lycidas" anomaliformis* Żabka, 1987**

Creation of the above combination is a contribution of editors of the WSC "required by generic transfer", rejection of transfer is forced by lack of positive documentation (compare palp of *Maratus amabilis*, type species that genus, Fig. 37H, with the same for *Lycidas anomaliformis* on Fig. 33U). Complex of prolific Australian genera *Jotus*, *Lycidas* and *Maratus* require new, comprehensive revision due to incompatible methods of descriptions used heretofore by involved authors, with genital characters used by Żabka, behavioral studies by Otto & Hill and photographs by Whyte, revisions should deal with all species of that group. Without prejudging future genera delimitation and definition, the above mentioned species cannot be placed in the same genus. Therefore:

Maratus anomaliformis (Żabka, 1987) = *"Lycidas" anomaliformis* Żabka, 1987 (reinstatement of previous combination, compare Fig. 37H, with 33U).

Omoedus, Pystira, Zenodorus

Striking color pattern and body shape differences between the above genera are demonstrated on Figs 39M-P, not less convincing differences in genitalic characters are documented on Figs 1B, 1C, 38G-I. Merging of these genera by Zhang J. & Maddison (2012b: 21), done in search for molecular diagnostic data, went astray, taxonomically untested molecular experiments cannot overthrow obvious morphological differences. Their supporting arguments on similarities of palps are taken out of the context of general similarities of palps in about thousand species of EUOPHRYINES and related groups, more suitable internal structures of epigyne were analyzed superficially (Figs 1B[A-B], 38G-I), the authors have overlooked significant distinct differences. To asses correctly significance of diversity of these characters in research of this kind, the revision should be carried out on ALL relevant species (like those demonstrated in Figs 1B [D1-8, E1-8, G1-8, H1-8 and F9-13]), single representatives, even type species, do not suffice in a case of composite, never revised genera. Incidentally authors committed formal mistake, basing definition of the genus *Omoedus* on non type species *Omoedus piceus* Simon, 1902 instead of *Omoedus niger* Thorell, 1881) (compare Figs. 1B[F1] with 1B[A]). Extensive documentation of these genera, showing ALL data known, can be seen at: http://www.peckhamia.com/salticidae/q10-Omo.html, http://www.peckhamia.com/salticidae/q10-Pystira.html, http://www.peckhamia.com/salticidae/q10-Zen.html, preliminary account at http://www.peckhamia.com/salticidae/ZZZ-Omoedus-synonymy_clas.html).

Therefore merging of the above genera is rejected, correct combinations of all names are listed below: *Omoedus ephippigerus* (Simon, 1885) = *Pystira ephippigera* (Simon, 1885) (TYPE SPECIES, correction of erroneous combination, see Figs 1B[B], 38G-I, 38H for extensive survey of diversity see also: http://www.peckhamia.com/salticidae/q10-Pystira.html).

[Species inquirenda pending revision of the type specimens kept in Museum in Genoa, transfer to *Omoedus* without providing their documentation unjustified: *Omoedus cyanothorax (Thorell, 1881)* = *Pystira cyanothorax* (Thorell, 1881), *Omoedus karschi (Thorell, 1881)* = *Pystira karschi* (Thorell, 1881), *Omoedus nigripalpis* (Thorell, 1877) = *Pystira nigripalpis* (Thorell, 1877)], *Omoedus versicolor Dyal, 1935* = *Pystira* [dubia] *versicolor* Dyal, 1935 (species unrecognizable from the original description, type specimes lost, any conclusions without examination of specimens from terra typica [formerly, in 1935, "Government college grounds" in Lahur, Pakistan] are unjustified), *Omoedus durvillei* (Walckenaer, 1837) = *Zenodorus durvillei* (Walckenaer, 1837) (TYPE SPECIES, correction of erroneous combination, see Figs 1B, 38I, for extensive survey of diversity see http://www.peckhamia.com/salticidae/q10-Zen.html), [likewise: *Omoedus albertisi (Thorell, 1881)* = *Zenodorus albertisi* (Thorell, 1881), *Omoedus arcipluvii (Peckham, Peckham, 1901)* = *Zenodorus arcipluvii* (Peckham, Peckham, 1901), *Omoedus bernsteini (Thorell, 1881)* = *Zenodorus bernsteini* (Thorell, 1881), *Omoedus brevis* Zhang J., Maddison, 2012 = *Zenodorus brevis* (Zhang J., Maddison, 2012) (see Fig. 1B, 1C), *Omoedus danae* (Hogg, 1915) = *Zenodorus danae* Hogg, 1915, *Omoedus darleyorum* Zhang J., Maddison, 2012 = *Zenodorus darleyorum* (Zhang J., Maddison, 2012) (see Fig. 1B, 1C), *Omoedus lepidus (Guerin, 1834)* = *Zenodorus lepidus* (Guerin, 1834), *Omoedus metallescens* (Koch L., 1879) = *Zenodorus metallescens* (Koch L., 1879), *Omoedus meyeri* Zhang J., Maddison, 2012 = *Zenodorus meyeri* (Zhang J., Maddison, 2012) (see Fig. 1B, 1C), *Omoedus microphthalmus* (Koch L., 1881) = *Zenodorus microphthalmus* (Koch L., 1881), *Omoedus obscurofemoratus (Keyserling, 1883)* = *Zenodorus obscurofemoratus* (Keyserling, 1883), *Omoedus omundseni* Zhang J., Maddison, 2012 = *Zenodorus omundseni* (Zhang J., Maddison, 2012) (see Fig. 38), *Omoedus orbiculatus (Keyserling, 1881)* = *Zenodorus orbiculatus* (Keyserling, 1881), *Omoedus papuanus* Zhang J., Maddison, 2012 = *Zenodorus papuanus* (Zhang J., Maddison, 2012) (see Fig. 1B, 1C), *Omoedus ponapensis* (Berry, Beatty, Prószyński, 1996) = *Zenodorus ponapensis* Berry, Beatty, Prószynski, 1996, *Omoedus semirasus* (Keyserling, 1882) = *Zenodorus semirasus* (Keyserling, 1882), *Omoedus swiftorum* Zhang J., Maddison, 2012 = *Zenodorus swiftorum* (Zhang J., Maddison, 2012) (see Fig. 38), *Omoedus tortuosus* Zhang J., Maddison, 2012 = *Zenodorus tortuosus* (Zhang J., Maddison, 2012) (see Fig. 1B, 1C).

Unrecognizable species of the above genera should be restituted to their original combination as to avoid increasing chaos, until positive definitions could be worked out: *Omoedus jucundus* (Rainbow, 1912) = *Zenodorus jucundus* (Rainbow, 1912), *Omoedus juliae* (Thorell, 1881) = *Zenodorus juliae* (Thorell, 1881), *Omoedus marginatus* (Simon, 1902) = *Zenodorus marginatus* (Simon, 1902), *Omoedus niger (Karsch, 1878)* = *Zenodorus niger* (Karsch, 1878) [no replacement name needed], *Omoedus pupulus* (Thorell, 1881) = *Zenodorus pupulus* (Thorell, 1881), *Omoedus pusillus* (Strand, 1913) = *Zenodorus pusillus* (Strand, 1913), *Omoedus rhodopae* (Hogg, 1915) = *Zenodorus rhodopae* (Hogg, 1915), *Omoedus syrinx* (Hogg, 1915) = *Zenodorus syrinx* Hogg, 1915, *Omoedus variatus* (Pocock, 1899) = *Zenodorus variatus* (Pocock, 1899), *Omoedus varicans* (Thorell, 1881) = *Zenodorus varicans* Thorell, 1881, *Omoedus wangillus* (Strand, 1911) = *Zenodorus wangillus* Strand, 1911.

***Servaea incana* (Karsch, 1878) (in part) = *Servaea vestita* (L. Koch, 1879)**

Documentation of epigyne and internal structures of these species, provided by Richardson & Gunter, 2012: Zootaxa 3350: 12, f. 10-13 indicate different interpretation, the differences in shape and proportions of spermathecae (marked by black bar) suggest that these are separate species (Figs 34F-F2). Therefore: *Servaea incana* (Karsch, 1878) *(in part)* = *Servaea vestita* (L. Koch, 1879) (separation of synonyms).

Sidusa, Cobanus* and *Wallaba

Palp of *Cobanus extensus* (Peckham & Peckham, 1896, type species of that genus (Fig. 38M**)**, differs strikingly from *Sidusa gratiosa* type species of *Sidusa* (Fig. 38N) and from *Wallaba metallica* Mello-Leitão, 1940 type species of *Wallaba* Mello-Leitão, 1940 (Fig. 38O) which excludes possibility of synonymizing

these genera. Zhang & Maddison, (2015: 19, f. 151-152) shows entirely different palp captioned as *Sidusa* cf. *extensa.* (*" cf. extensa"* = "confronting *extensa"* - in taxonomic descriptions meaning "close to" or "comparable" but not "identical with"), unfortunately they did not say how they come to the "cf." identification. Have they compared it with type specimen of that species? Therefore evidence derived from their drawing must be disregarded. It is true that the only existing diagnostic drawings Figs 38M- 38O are of insufficient quality, but it was duty of the above mentioned authors to provide better documentation for their proposed changes in the nomenclature. But other species of *Cobanus*, illustrated by Peckhams and F. O. Pickard-Cambridge do not confirm alleged synonymies either (see copies of their drawings in http://www.peckhamia.com/salticidae/q10-Cob.html or in original papers). As for *Wallaba metallica* Mello-Leitão, 1940, type species of that genus, Zhang & Maddison (2015: 19) claim that the type specimen was examined but fail to produce any documentation, the only graphic documentation existing is that shown on Fig. 38O. Therefore:

Sidusa extensa (Peckham & Peckham, 1896) = *Cobanus extensus* (Peckham & Peckham, 1896) (type species of the genus *Cobanus*) (previous combination reinstated, due to striking palp differences in their respective type species - compare Figs 38M and 38N).

Sidusa Peckham & Peckham, 1895 (in part) = *Cobanus* F. Pickard-Cambridge , 1900 (previous genus name reinstated, due to striking palp differences in the respective type species - compare Figs 38N and 38M).

Sidusa Peckham & Peckham, 1895 (in part) = *Wallaba* Mello-Leitão, 1940 (previous genus name reinstated, due to striking palp differences in the respective type species - compare Figs 38N and 38O) .

Thiania, Thianitara* and *Nicylla

Distinct differences in structure of spermathecae, ducts and palps are overlooked by Zhang J. & Maddison 2015: 30, also external appearance of *Thiania* and *Thianitara* are different, the latter being flatter, with carapace broader and legs I proportionally longer – see Figs 38D-F, 39S-T. Therefore:

Thiania sundevalli (Thorell, 1890) = *Nicylla sundevalli* Thorell, 1890 (original combination restituted, compare Figs 38D with 38E)

Thiania spectrum (Simon, 1903) = *Thianitara spectrum* Simon, 1903 (original combination restituted, compare Figs 38F with 38E, 39S with 39T)

Thiania thailandica (Prószyński & Deeleman-Reinhold, 2012) = *Thianitara thailandica* Prószyński & Deeleman-Reinhold, 2012 (original combination restituted, likewise the above, compare Prószyński & Deeleman-Reinhold, 2012: 58, f 183-186).

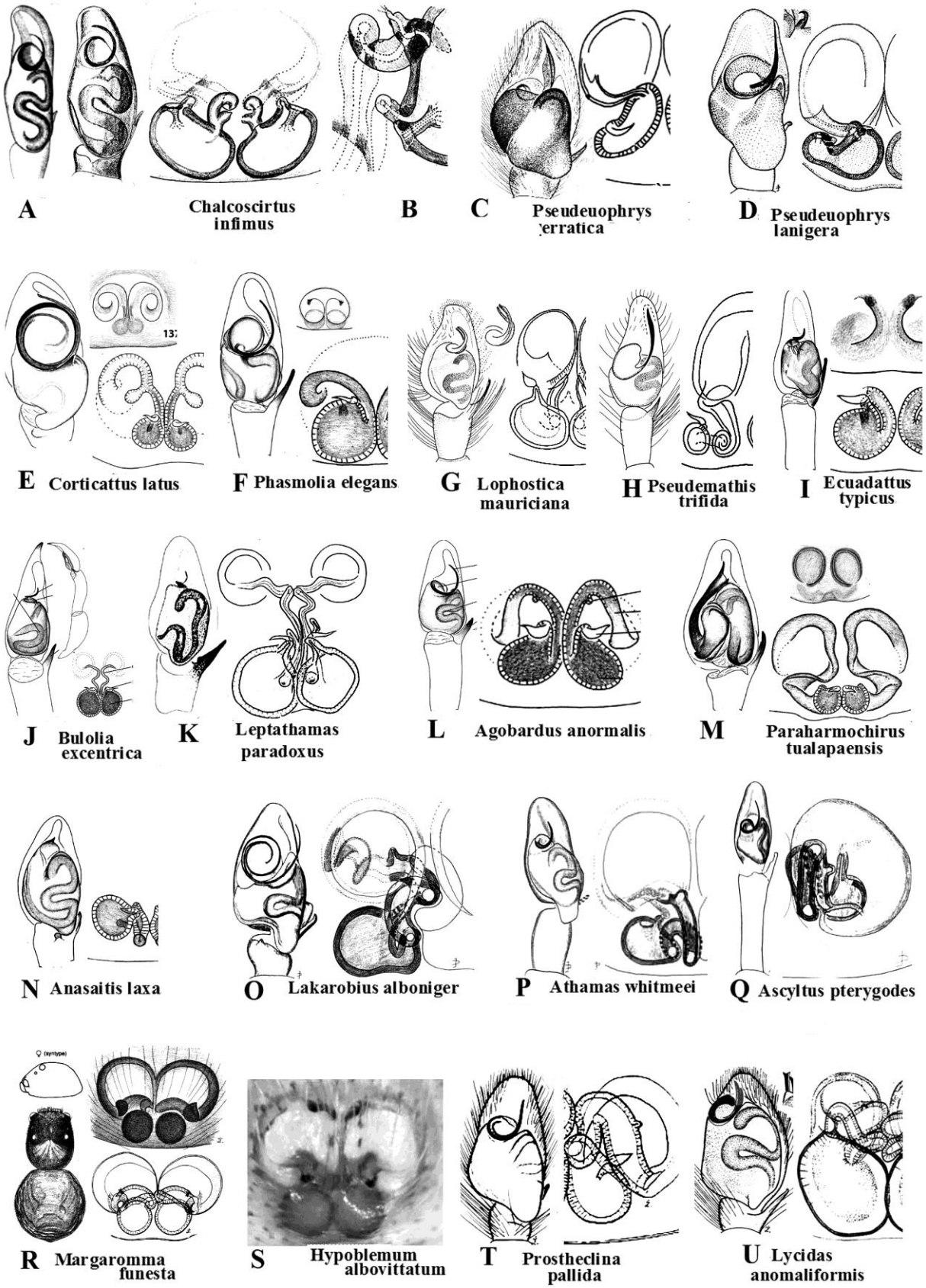
Figure 33. Diagnostic characters of representatives of informal group of genera EUOPHRYINES - 2. **A** - *Chalcoscirtus infimus* (Simon, 1868) (France: coll. Simon), **B** - same, from Israel: Nahal Nizzana, **C** - *Pseudeuophrys erratica* (Walckenaer, 1826), **D** - *Pseudeuophrys lanigera* (Walckenaer, 1826), **E** -*Corticattus latus* Zhang & Maddison, 2012, **F** - *Phasmolia elegans* Zhang & Maddison, 2012, **G** - *Lophostica mauriciana* Simon, 1902, **H** - *Pseudemathis trifida* Simon, 1902, **I** - *Ecuadattus typicus* Zhang & Maddison, 2012, **J** - *Bulolia excentrica* Żabka, 1996, **K** - *Leptathamas paradoxus* Balogh, 1980, **L** - *Agobardus anormalis* Keyserling, 1885, **M** - *Paraharmochirus tualapaensis* Zhang & Maddison, 2012, **N** - *Anasaitis laxa* Zhang & Maddison, 2012, **O** - *Lakarobius alboniger* Berry, Beatty & Prószyński, 1998, **P** - *Athamas whitmeei* O. Pickard-Cambridge, 1877, **Q** - *Ascyltus pterygodes* (L. Koch, 1865), **R** - *Margaromma funesta* Keyserling, 1882 *(grammar gender correction*!), **S** - *Hypoblemum albovittatum* (Keyserling, 1882), **T** - *Prostheclina pallida* Keyserling, 1882, **U** - *Lycidas anomaliformis* (Keyserling, 1882) .

SOURCES. **A** - Prószyński 1976 Zeszyty Naukowe WSRP, Siedlce f. 356-358; **B** - Prószyński 2003a Annales zoologici 44-45,f. 136-137, 142-144 ; **C** - Żabka 1997 Fauna Polski 19: 5-187, f. 265-271 and Logunov 1998b. Revue Arachnologique: 12(11): 115, f. 1-7, 9, 12, 17-20, 23, 25-26, 33-34; **D** - Heciak, Prószyński 1984a Annales zoologici 379-389, f. 15-24; **E-F, I, L-N** - Zootaxa, Magnolia Press: 2012 3476: 19-21, f. 80-89; 29-30, f. 126–138 , 36-39, f. 170-182; 2012b: 3491: 39-41, f. 183-195, 3578: 13, f. 45–52, 136–141; 2015: 3938 (1): 27, f. 356-363, 818-819; **G, H** - Duhem, Ledoux, Wesołowska 2005 Genus 16(4): 527-536, f. 1-24; **J** - Żabka 1996 Revue suisse de zoologie, vol. hors série 704-707,f. 4-8, 11-16; **K** - Szüts 2003c Folia entomologica hungarica 64: 47-49,f. 9-15, 25, 28, 31, 34, 37; **O-Q** - Berry, Beatty, Prószyński 1996 Journal of Arachnology 217,f. 1-17; 1997 25, :f. 1, 4, 7,9,10, 11; 1998 162-164, f. 36-43; **R, T** - Davies Todd, Żabka 1989. Memoirs of the Queensland Museum 27 (2): 230, t. 38 ; 238, t. 44; **S** - Photo R. Whyte; **U** - Żabka 1987b. Annales zoologici, 40, 1: 473-474, f. 52-55.

…figure on page 78

EUOPHRYINES 2

spermathecae spherical, ducts variable



EUOPHRYINES 3

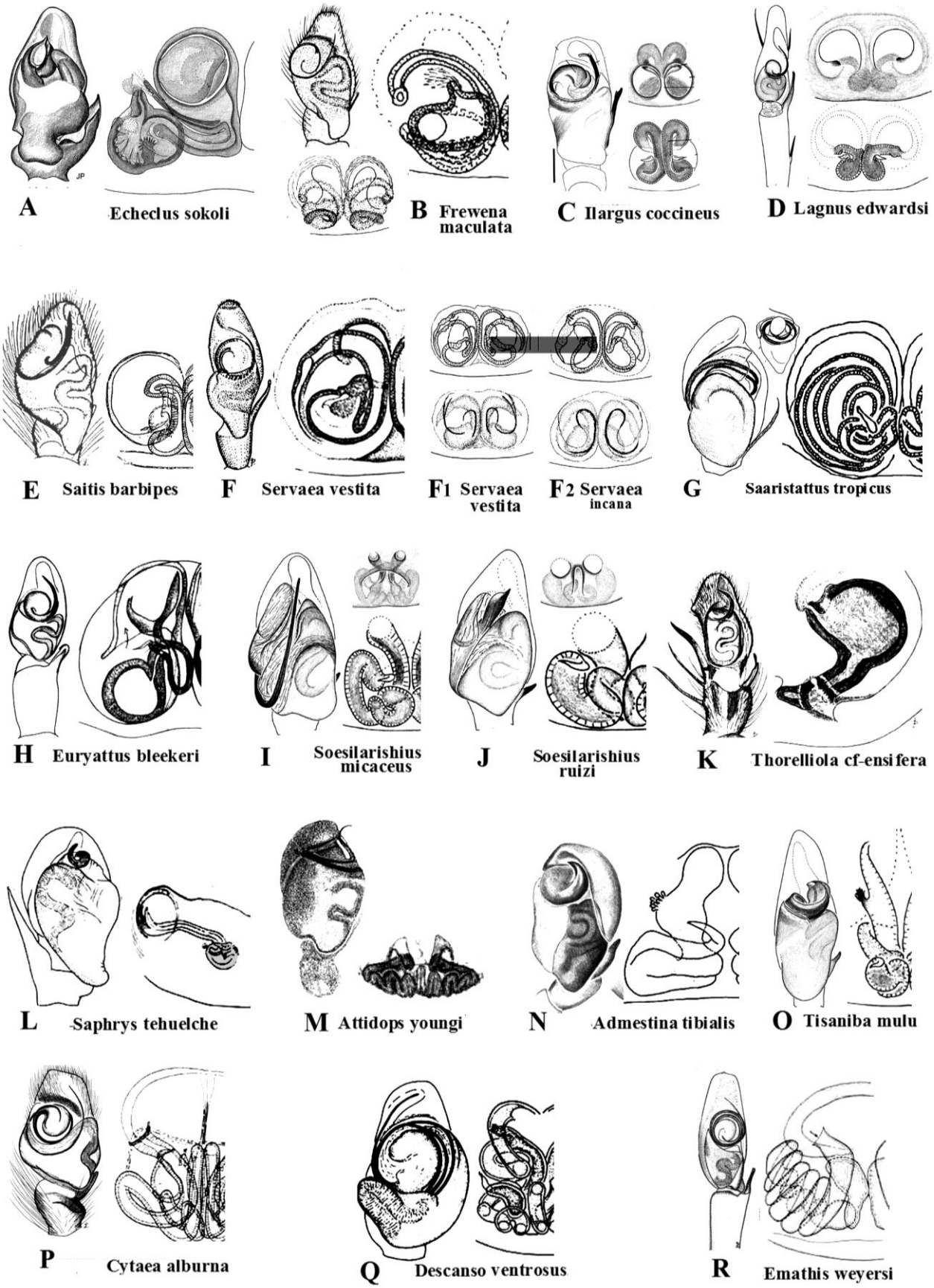


Figure 34. Diagnostic characters of representatives of informal group of genera EUOPHRYINES - 3. **A** - *Echeclus sokoli* Prószynski & Deeleman-Reinhold, 2013, **B** - *Frewena maculata* Richardson 2013, **C** - *Ilargus coccineus* Simon, 1901, **D** - *Lagnus edwardsi* Zhang J., Maddison, 2012, **E** - *Saitis barbipes* (Simon, 1868), **F** - *Servaea vestita* (L. Koch, 1879), **F1-F2** - comparison of *Servaea vestita* and *Servaea incana* (Karsch, 1878), **G** - *Saaristattus tropicus* Logunov, Azarkina, 2008, **H** -*Euryattus bleekeri* (Doleschall, 1859), **I-J** - *Soesilarishius micaceus* and *Soesilarishius ruizi* Zhang J., Maddison 2012, **K** - *Thorelliola cf-ensifera* Berry, Beatty, Prószyński 1997, **L** - *Saphrys tehuelche* (Galiano, 1968), **M** - *Attidops youngi* (Peckham & Peckham, 1888), **N** - *Admestina tibialis* (C. L. Koch, 1846), **O** -*Tisaniba mulu* Zhang & Maddison, 2014, **P** - *Cytaea alburna* Keyserling, 1882, **Q** - *Descanso ventrosus* Galiano, 1986, **R** - *Emathis weyersi* Simon, 1899.

SOURCES**. A** -Prószyński & Deeleman-Reinhold, 2013 Arthropoda Selecta 22: 124, f. 25-31 ; **B** - Richardson 2013. Zootaxa, Magnolia Press 3716 (3): 466-467, f. 10, 18-24; **C, D, I-J, O** - Zhang J., Maddison 2012 Zootaxa, Magnolia Press 3578: 26-27, f. 104, 107-108; 27-29, f. 111-113 2013: 3581: 60-62, f. 28-33; 2014 3852 (2): 262–264, f. 38–53; 2015: 3938 (1): 25, f. 291, 294-295;**F1-F2** - Richardson & Gunter, 2012: Zootaxa, Magnolia Press 3 3350:12, f. 10-13: **E -** Żabka 1987b Annales Zoologici 40, 1: 453, 69 f. 1-4; **F, H, R** - Prószyński Zeszyty Naukowe WSRP, Siedlce 1984: 44, 131 37; 1987: 105; **G** - Logunov, Azarkina 2008 Arthropoda Selecta **17** : 115,f. 10,15; **K** -Berry, Beatty, Prószyński 1997 Journal of Arachnology 25(2): 131, f. 81-85; **L**, **Q** - Galiano 1968b Physis C.44 (107): f. 1-3,13, 17, 21; 134, 136 f. 14-19; **M** - Edwards 1999a Journal of Arachnology 27(1): 10, 12, f.2, 4-7,14-17; **N** - Piel 1992. Psyche 98: 272, f. 3-4, 11; **P** - Davies Todd , Żabka 1989 Memoirs of the Queensland Museum **27** 27 (2): 220, 226, t. 30.

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Figure 35. Diagnostic characters of representatives of informal group of genera EUOPHRYINES 4. **A** - *Chalcotropis pennata* Simon, 1902, **B** - *Pristobaeus beccari* (Thorell, 1881), **C** - *Bindax chalcocephalus* (Thorell, 1877), **D** - *Aruattus agostii* Logunov & Azarkina, 2008, **E** - *Efate albobicinctus* Berland, 1938, **F** - *Ergane carinata* Berry, Beatty, Prószyński, 1996, **G** - *Lepidemathis sericea* (Simon, 1899), **H** - *Neon reticulatus* (Blackwall, 1853), **I** - *Zabkattus brevis* Zhang & Maddison, 2012, **J** - *Udvardya elegans* (Szombathy, 1915), **K** - *Xenocytaea daviesae* Berry, Beatty & Prószyński 1998, **L** - *Tarodes lineatus* Pocock, 1899, **M** - *Bythocrotus crypticus* Zhang J. & Maddison, 2012, **N** - *Antillattus applanatus* Zhang J. & Maddison 2012, **O**-**P** - are these congeneric? *Truncattus flavus* Zhang & Maddison, 2012 and *T. dominicanus* Zhang J., & Maddison 2012.

SOURCES. **A-C, G** Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce: 18; 96-97, 15; 1987: 2; **D** - Logunov, Azarkina 2008: Arthropoda Selecta 17: 112,f. 1-9; **E-F, K** - Berry., Beatty & Prószyński 1996 Journal of Arachnology 24(3): 223-225, f. 29-35; 228-228, f. 47-53; 1998 26(2): 182-183, f. 101-104; **H** - Lohmander 1945 Göteborgs Kungliga Vetenskaps och Vitterhets Samhälles Handlingar 3B (9): 40-48, f. 40-46, 51; **I, M**-**N** - Zhang J., Maddison 2012b Zootaxa Magnolia Press 3476: 23-25, f. 101–113; 3476: 52, f. 259, 261–262 and 50, f. 243, 251-252.3491: 69, f. 306-318; 3581: 70-71, f. 75-80; **J** - Prószyński 1992a Annales Zoologici 44, 8: 114-115, f. 124-135; **L** -Prószyński Internet 2016a, b.

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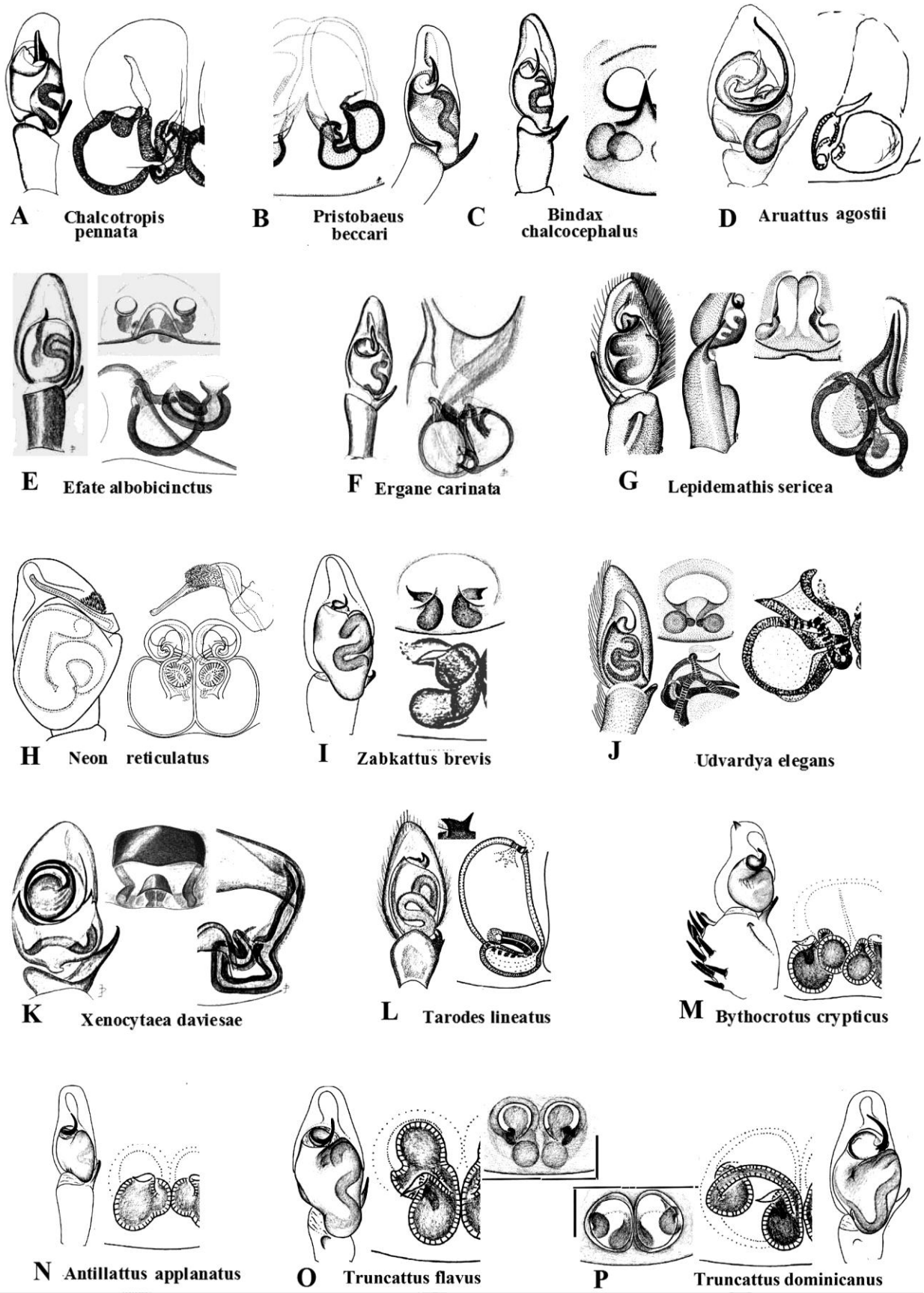
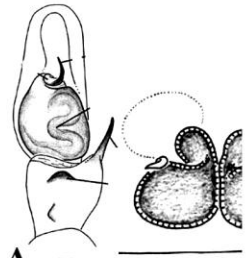
EUOPHRYINES 4

spermathecae double

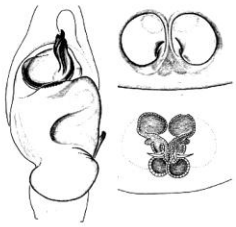


EUOPHRYINES 5

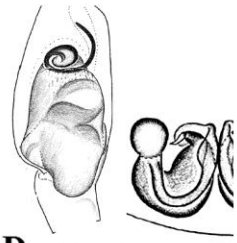


A Chapoda festiva (cf)

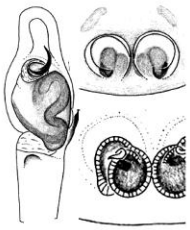
B Compsodecta peckhami



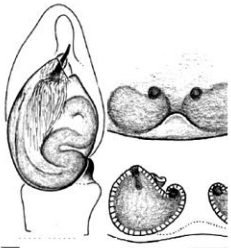
C Asaphobelis physonychus



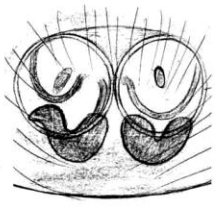
D Chinophrys pengi



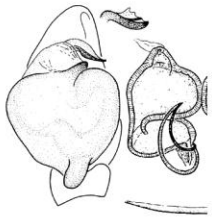
E Petemathis portoricensis



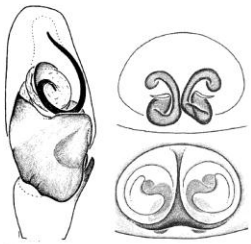
F Popcornella spiniformis



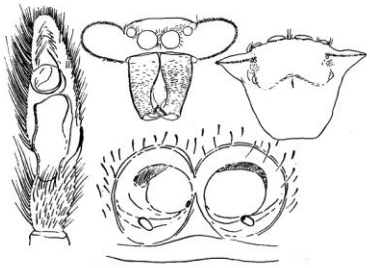
G Maileus fuscus



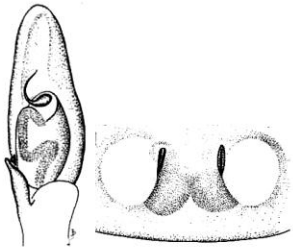
H Neonella lubrica



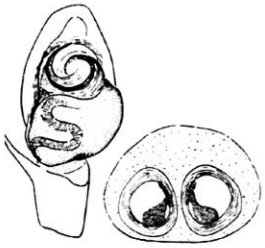
I Foliabitus longzhou



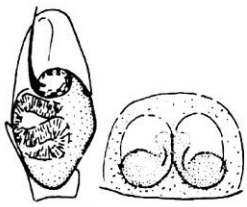
J Dinattus heros



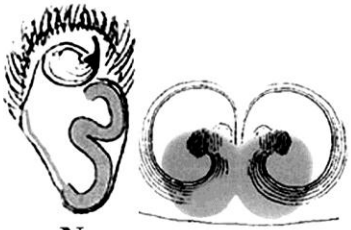
K Spilargis ignicolor



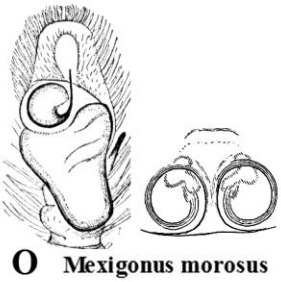
L Chloridusa viridiaurea



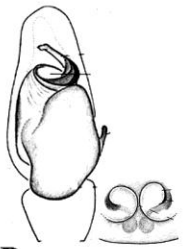
M Belliena biocellosa



N Naphrys acerba

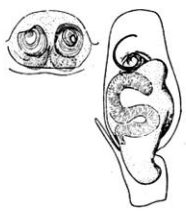


O Mexigonus morosus

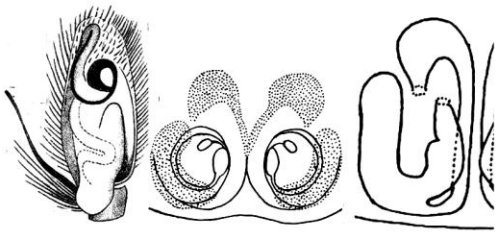


P Maeota dichrura

Q Magyarus typicus



R Mopiopia comatula



S Corythalia spiralis male + female

Figure 36. Diagnostic characters of representatives of informal group of genera EUOPHRYINES - 5. **A** - *Chapoda festiva* (cf), **B** - *Compsodecta peckhami* Bryant, 1943, **C** - *Asaphobelis physonychus* Simon, 1902 (reinstated from *Coryphasia*, see also Figs **38J-L**), **D** - *Chinophrys pengi* Zhang & Maddison, 2012, **E** - *Petemathis portoricensis* (Petrunkevitch, 1930), **F** - *Popcornella spiniformis* Zhang & Maddison, 2012, **G** - *Maileus fuscus* Peckham & Peckham, 1907, **H** - *Neonella lubrica* Galiano, 1988, **I** - *Foliabitus longzhou* Zhang & Maddison, 2012, **J** - *Dinattus heros* Bryant 1943 (transfer to *Corythalia* not accepted), **K** - *Spilargis ignicolor* Simon, 1902, **L** - *Chloridusa viridiaurea* Simon, 1902 (transfer not accepted), **M** - *Belliena biocellosa* Simon, 1902 Galiano 1963b, **N** - *Naphrys acerba* (Peckham & Peckham, 1909), **O** - *Mexigonus morosus* (Peckham & Peckham, 1888), **P** - *Maeota dichrura* Simon, 1901 Zhang J., Maddison 2012, **Q** - *Magyarus typicus* Żabka, 1985, **R** - *Mopiopia comatula* Simon, 1902, **S** - *Corythalia spiralis* (F. O. Pickard-Cambridge, 1901) male + female.

SOURCES: **A-C, E**- Zhang J., Maddison 2015: Zootaxa. Magnolia Press 3938 (1): 21, f. 186-193; 50, f. 113-120, 724-725; 223, f. 228-235; 47, f. 85-90, 700-701; 2015 22, f. 204-208; **D, I** - Zhang J. & Maddison 2012 Zootaxa 3581: 54-56, f. 1-9 ; 60. f. 19-27; **F** - Zhang J., Maddison 2012a. Zootaxa Magnolia Press 3476: 44-45, f. 211–223; **G** - quick sketch M. Żabka in Prószyński Internet 2003b; **H** - Galiano 1988b Revue suisse de zoologie 95 (2): 441, f. 2-7, 15, 20; **J** - Bryant 1943. 92 (9): 482, t. 4, f. 39; t. 5. f. 47, 50, 54; **K** - Prószyński 1987 Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce ...: 102; **L-M, R** - Galiano 1963b. Physis, 23 (66): 326-327, t. 15, f. 1-3 ; 308-309, t. 11, f. 3-6; 397-398, t. 28, f. 3-6; **N** - Edwards 2002a Insecta Mundi 16 (1-3): 69, f. 5-8; **O** - Peckham & Peckham, 1888: 71, t. 1 f. 53; t. 5 f. 53; **P** - Zhang J., Maddison 2012 Zootaxa 3578: 24, f. 92–95; **Q** - Żabka 1985. Annales Zoologici 39, 11: 237-238, f. 268-271; **S** - F. P.-Cambridge 1901: Biologia Centrali-Americana, Zoology 2: 217, pl. 17, f. 14 (male) + Chickering 1946: Bulletin of the Museum of Comparative Zoology at Harvard College 97: f. 143-144.

…figure on page 82

Figure 37. Diagnostic characters of representatives of informal group of genera EUOPHRYINES - 6. **A** - *Hypoblemum albovittatum* (Keyserling, 1882), **B** - *Allodecta maxillaris* Bryant, 1950, **C** - *Commoris minor* Simon, 1903, **D** - *Featheroides typica* Peng, Ying, Kim 1994, **E** - *Bathippus macrognathus* (Thorell, 1881), **F** - *Canama forceps* (Doleschall, 1859), **G** - *Parvattus zhui* Yu & Song, 1988, **H** - *Maratus amabilis* Karsch, 1878, **I** - *Pensacolops rubrovittata* Bauab, 1983, **J** - *Mabellina prescotti* Chickering, 1946, **K** - *Charippus errans* Thorell, 1895, **L** - *Muziris doleschalli* (Thorell, 1878), **M** - *Ocnotelus imberbis* (Simon, 1902) transfer to *Semnolius* not accepted), **N** - *Semnolius chrysotrichus* Simon, 1902, **O** - *Hasarina contortospinosa* Schenkel, 1963. SUPPOSEDLY CONGENERIC [?]: **P** - *Nebridia semicana* Simon, 1902, P1 - *Nebridia manni* Bryant 1943, P2 - *Nebridia mendica* Bryant 1943, **Q** - *Amphidraus santanae* Galiano 1967, Q1 - *Amphidraus complexus* Simon 1901, **R** - *Scopocira tenella* Simon, 1900.

SOURCES: **A** - Żabka, Pollard 2002a Records of the Canterbury Museum 16: 64-72, f. 1-15; **B, G, Q1** - Zhang J., Maddison 2012 Zootaxa, Magnolia Press 3578: 2-3, f 3, 6; 3581: 70-71, f. 75-80; 2015: 3938 (1): 48, f. 97-99; **C** - Galiano 1963b. Physis, 23 (66): 330-331, t. 15, f. 7-9 ; **M, N, Q**, **R** - Galiano 1963b. Physis, 23 (66): 440-441, t. 36, f. 10-11; 401, t 27, f. 15-18; 415, t 31, f. 1-4; 443-444, t. 37, f. 10-11; 1967b. Physis 27 (74): 98-100,f. 4-7; **D** - Peng, Ying, Kim 1994 Korean Arachnology 10: 2-3, f. 1-3; **E, F, K, L** - Prószyński 1984c: Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 5, 10, 17, 86 (f. unnumbered); **H** - Żabka 1987b Annales zoologici 40, 1: 479, f. 64-66; **I** - Bauab 1983 Boletim de Zoologia 7: 2, f. 1-5; **J** - Maddison 1996. Bulletin of the Museum of Comparative Zoology at Harvard College 154: 332, f. 63; **O** - Wesołowska 1981b Annales Zoologici 36: 132-133, f. 10-13, .P1, P2 -Bulletin of the Museum of Comparative Zoology 92 (9): 492, t. 5, f. 48; : 494, t 6, f 65; **S-W** - Prószyński J. 1971c. Annales zoologici 28: 173-175, f 28-40 .

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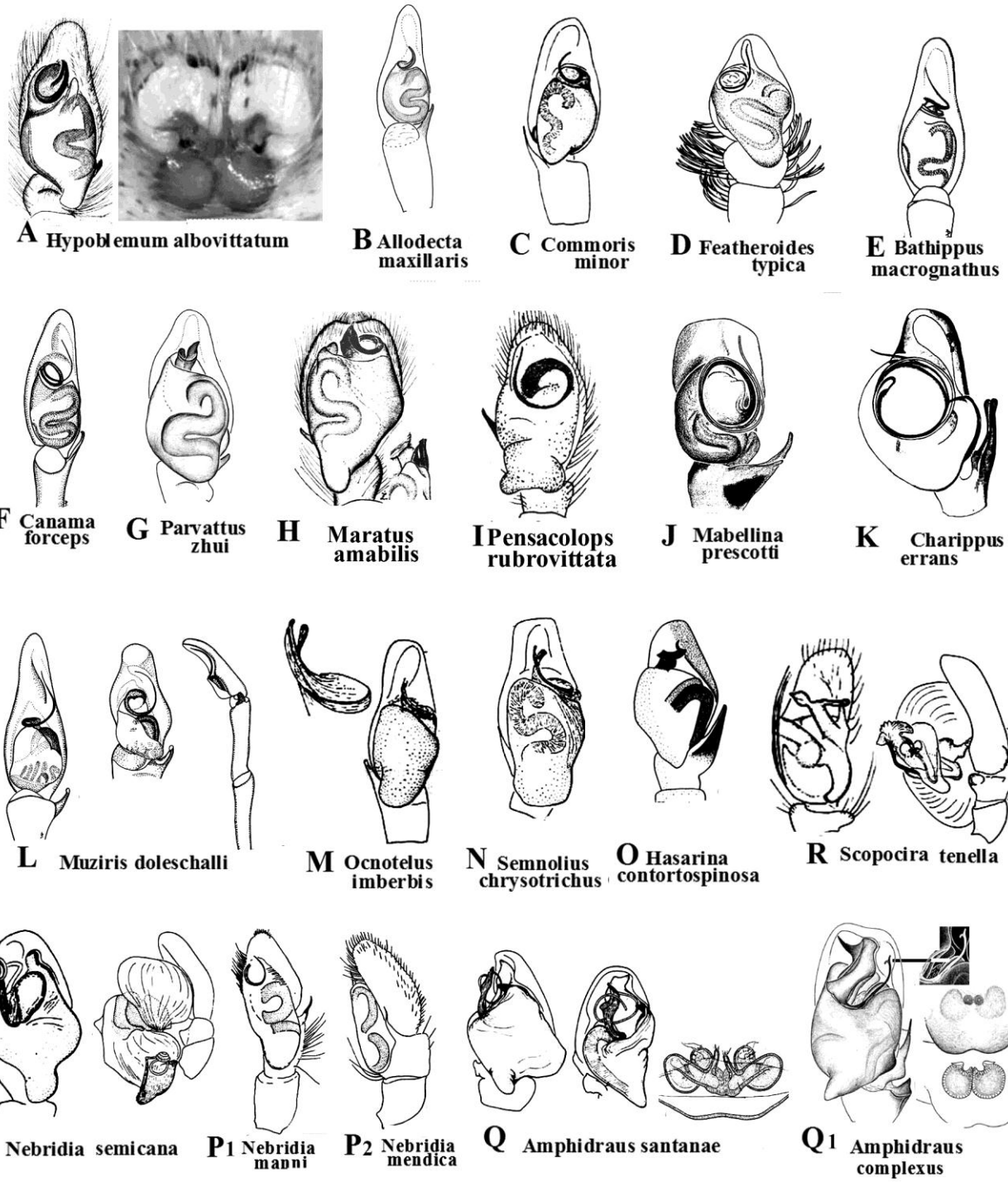
EUOPHRYINES 6



EUOPHRYINES 7

questionable generic synonyms

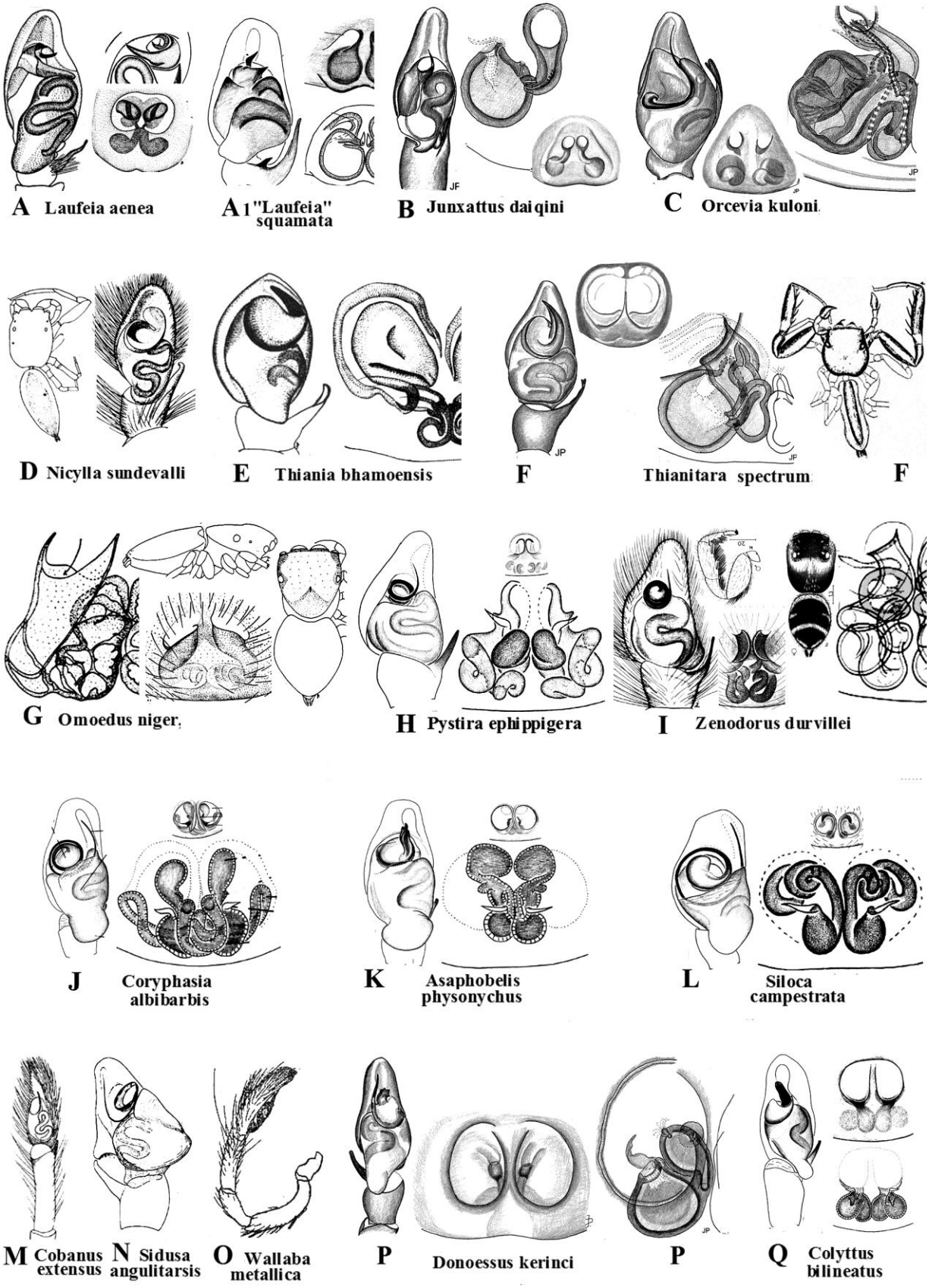


Figure 38. Diagnostic characters of questionable generic synonyms among representatives of informal group of genera EUOPHRYINES - 7. **A** - *Laufeia aenea* Simon, 1889, **A1** - *"Laufeia" squamata* (Żabka, 1985) [=*Lechia squamata*], **B** - *Junxattus daiqini* Prószyński & Deeleman-Reinhold, 2012, **C** - *Orcevia kuloni* Prószynski & Deeleman-Reinhold 2012. **D** - *Nicylla sundevalli* Thorell, 1890, **E** - *Thiania bhamoensis* Thorell, 1887, **F** -*Thianitara spectrum* Simon, 1903, **G** - *Omoedus niger* (Karsch, 1878) TYPE, **H** - *Pystira ephippigera* (Simon, 1885), **I** - *Zenodorus durvillei* (Walckenaer, 1837, **J** - *Coryphasia albibarbis* Simon, 1902, **K** - *Asaphobelis physonychus* Simon, 1902, **L** - *Siloca campestrata* Simon, , **M** - *Cobanus extensus* (Peckham & Peckham, 1896), **N** - *Sidusa angulitarsis* Simon, 1902, **O** - *Wallaba metallica* Mello-Leitão, 1940 [TYPE SPECIES], **P** - *Donoessus kerinci* Prószyński & Deeleman-Reinhold, 2012, **Q** - *Colyttus bilineatus* Thorell, 1891.

SOURCES: **A** - Bohdanowicz & Prószyński 1987. Annales Zoologici 41, 2: 74-76, f. 84-89 ; **A1** - Logunov & Jäger 2015 Russian Entomological Journal 24(4): 343-363, f. 355, f. 33, 37-38; **C** - Davies, Żabka 1989 Memoirs of the Queensland Museum 27 (2): 230, pl 35; **F, P** - Prószyński & Deeleman-Reinhold, Arthropoda Selecta. 2012. 21(1): 32-33, f. 10-14, 18-19 ;40-41, f. 66-70; 52-53, f. 108-103; 58, f. 159 -162+178-182; **D** - Prószyński 1968c. Annales zoologici. 26: 244-246, f. 9-13; **E** - Prószyński 1984c. Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 144 (f. unnumbered); **G** - Prószyński. 1971c. Annales Zoologici 28: 172-173, f. 28-33; **H, K-L, Q** - Zhang J., Maddison 2015: Zootaxa, Magnolia Press 3938 (1): 23, f. 228-235; 23, f. 236-242; f. 343-349, 801-802; 524-530, 884-885; **J, N** - Galiano 1963b Physis, 23 (66): 331-333, t. 13, f. 13-16; 447-448, t 38, f. 6-7; **M** - Peckham & Peckham 1896 Occasional Papers of the Natural History Society of Wisconsin 3: 30 t 2, f. 2; **O** - Mello-Leitão 1940a. Arquivos de Zoologia do Estado de Sao Paulo 2: 191, f. 31.

…figure on page 85

Figure 39. Color pattern and body shape of representatives of informal group of genera EUOPHRYINES. **A** - *Chalcoscirtus infimus* (Simon, 1868), **B** -*Cheliferoides longimanus* Gertsch, 1936, **C**- *Cytaea alburna* Keyserling, 1882,**, D** - *Cytaea severa* (Thorell, 1881), **E** - *Talavera petrensis* (C. L. Koch, 1837), **F** - *Euophrys frontalis* (Walckenaer, 1802) male & female, **G** - *Euophrys sulphurea* (L. Koch, 1867) male & female, **H** - *Hypoblemum villosum* (Keyserling, 1891), **I** - *Phasmolia elegans* Zhang & Maddison, 2012, **I**1 - *Saitis barbipes* (Simon, 1868), **J** - *Junxattus daiqini* Prószynski & Deeleman-Reinhold, 2012, **K** - *Laufeia aenea* Simon, 1889, **L** - *Orcevia keyserlingi* Thorell, 1890, **M** - *Omoedus cf. piceus*, **N** - *Omoedus sp*, **O** - *Pystira ephippigera* Simon, 1885, **P** - *Zenodorus durvillei* (Walckenaer, 1837)**, Q** - *Donoessus striatus* Simon, 1902, **R** - *Colyttus bilineatus* Thorell, 1891, **S** - *Thiania bhamoensis* Thorell, 1887, **T** - *Thianitara spectrum* Simon, 1903.

SOURCES: **A, E, G** - Photo J. Lissner; **F** - Photo B. Knoflach + J. Lissner; **B** - Photo M. Quinn; **I1**- Photo J. Holstein; **C-D** - Photo M. Stevens; **H, P** - Photo: R.Whyte; **I** - **L, Q** - **T** - Zhang J., Maddison 2012b: Zootaxa, Magnolia Press 3491: 39-41, f. 183-195; 2015: 3938 (1): 30, f. 510-516. 871-871; 30, f. 504-50; 517-522, 657, 866-87; 26, f. 339 342, 800; 524-530, 884-885; 31, f. 566-572, 888; 31, f. 573-577, 889; **N** - Photo D. & F. Knowles.; **O** - Photo D. Court.

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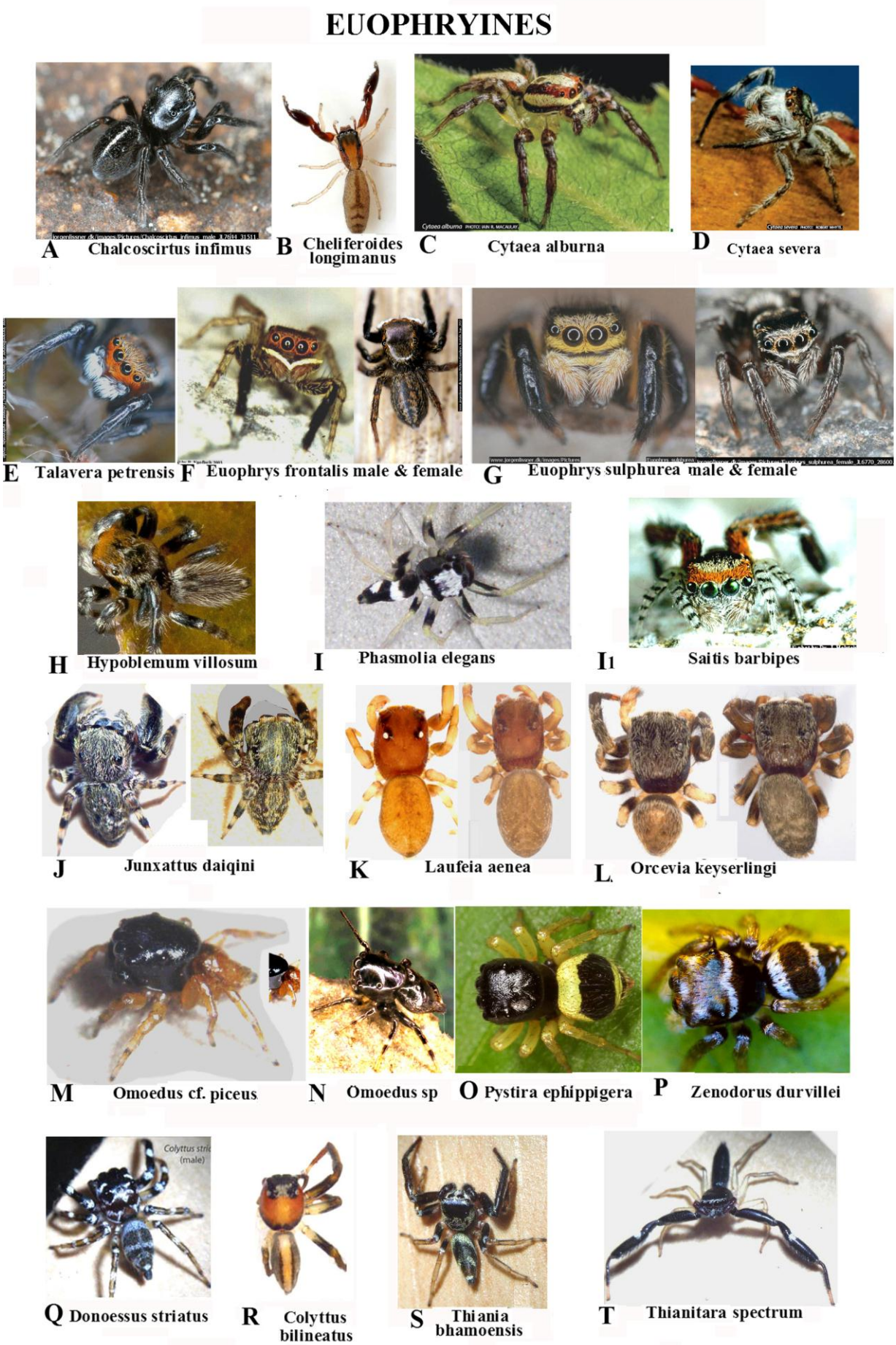

EUOPHRYINES
A Chalcoscirtus infimus
B Cheliferoides longimanus
C Cytaea alburna
D Cytaea severa
E Talavera petrensis
F Euophrys frontalis male & female
G Euophrys sulphurea male & female
H Hypoblemum villosum
I Phasmolia elegans
I1 Saitis barbipes
J Junxattus daiqini
K Laufeia aenea
L Orcevia keyserlingi
M Omoedus cf. piceus
N Omoedus sp
O Pystira ephippigera
P Zenodorus durvillei
Q Donoessus striatus
R Colyttus bilineatus
S Thiania bhamoensis
T Thianitara spectrum

Group of genera BALLINES Prószyński, 2016

Figures 40, 41A-J

Database contains 18 recognizable genera, 68 species

Type genus *Ballus* Koch C.L., 1850[1851][9], of which type species is *Ballus chalybeius* (Walckenaer, 1802).

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Ballus"*.

Mutual diagnostic characters of genera included. Males resemble EUOPHRYINES by embolus coiled spring like atop bulbus, in some genera positioned somewhat diagonally, differ by spermophor almost straight or slightly waving. Epigyne intermediate to DENDRYPHANTINES, with copulatory openings anterior, ducts runs posteriorly and straight at beginning, pass in the posterior half of epigyne into entangled coils and then into spermathecae of various shape. That departs from globular spermathecae in EUOPHRYINES, and their ducts, usually short and not entangled. Tibia I broadened, almost circular and flat (analogy to LIGONIPEINES), legs I distinctly longest and more robust. Habitus variable.

Description. To check diversity of diagnostic characters in ALL species - see file http://www.peckhamia.com/salticidae/Ballines.html. Enclosed illustrations are integral part of description.

Remark. Group of genera separated from EUOPHRYINAE, in spite of obvious similarities, in order to trim size of the latter, follows delimitation of subfamily Ballinae by Benjamin 2004.

Composition. The following genera are included: *Afromarengo* Benjamin, 2004 (3 species), *Ballus* C.L. Koch, 1850 (5 species), *Baviola* Simon, 1898 (3 species), *Colaxes* Simon, 1900 (4 species), *Copocrossa* Simon, 1901 (1 species), *Cynapes* Simon, 1900 (3 species), *Goleta* Peckham & Peckham, 1894 (1 species), *Homalattus* White, 1841 (no species recognizable), *Indomarengo* Benjamin 2004 (1 species), *Leikung* Benjamin, 2004 (2 species), *Mantisatta* Warburton, 1900 (2 species), *Marengo* Peckham, Peckham, 1892 (7 species), *Pachyballus* Simon, 1900 (5 species), *Padilla* Peckham & Peckham, 1894 (18 species), *Peplometus* Simon, 1900 (1 species), *Philates* Simon, 1900 (10 species), *Planiemen* Wesolowska & van Harten, 2007 (1 species), *Sadies* Wanless, 1983 [1984] (5 species), *Variratina* Zhang J., Maddison, 2012 (1 species).

Group of genera DENDRYPHANTINES Prószyński, 2016

Figures 41K-U, 42

Database contains 45 recognizable genera, 390 species

Type genus *Dendryphantes* Koch C.L., 1837, of which type species is *Dendryphantes hastatus* Clerck 1757 [= *Araneus hastatus* Clerck 1757].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Dendryphantes"*.

Mutual diagnostic characters of genera included. Distal haematodocha noticeable in resting state of a palp, embolus short, broad or triangular, rarely thin and bent (Fig. 42A). Tegulum thick and opaque, spermophor less noticeable than in EUOPHRYINES, apically bent, next running straight, or slightly waving,

[9] See disclaimer in References chapter.

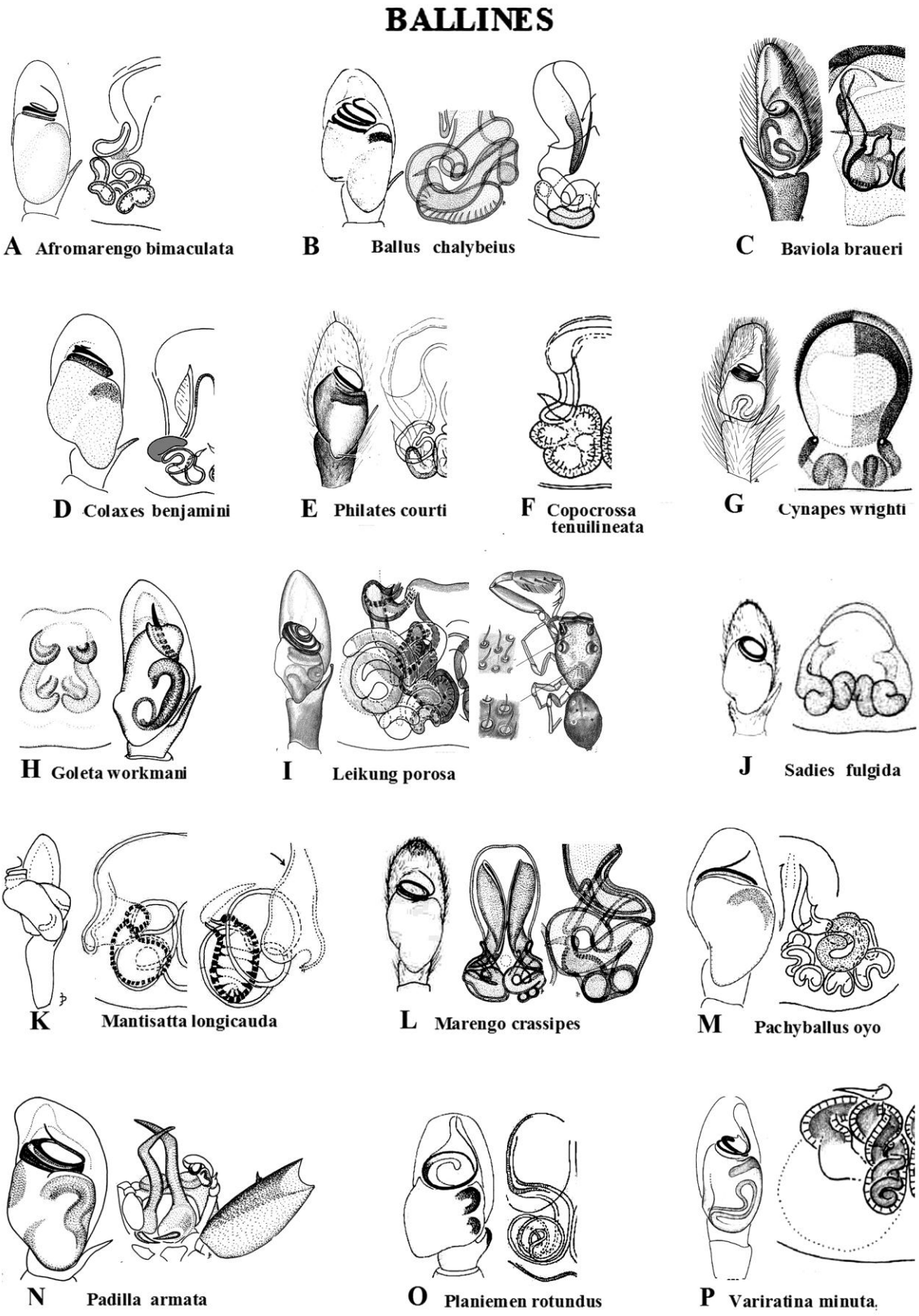

BALLINES
A Afromarengo bimaculata
B Ballus chalybeius
C Baviola braueri
D Colaxes benjamini
E Philates courti
F Copocrossa tenuilineata
G Cynapes wrighti
H Goleta workmani
I Leikung porosa
J Sadies fulgida
K Mantisatta longicauda
L Marengo crassipes
M Pachyballus oyo
N Padilla armata
O Planiemen rotundus
P Variratina minuta

Figure 40. Diagnostic characters of representatives of informal group of genera BALLINES. **A** - *Afromarengo bimaculata* (Peckham & Peckham, 1903), **B** - *Ballus chalybeius* (Walckenaer, 1802), **C** - *Baviola braueri* Simon, 1898, **D** - *Colaxes benjamini* Wesolowska & Haddad, 2013, **E** - *Philates courti* (Żabka, 1999), **F** - *Copocrossa tenuilineata* (Simon, 1900), G - *Cynapes wrighti* (Blackwall, 1877), **H** - *Goleta workmani* (Peckham & Peckham, 1885), **I** - *Leikung porosa* (Wanless, 1978), **J** - *Sadies fulgida* Wanless, 1984, **K** - *Mantisatta longicauda* Cutler & Wanless, 1973, **L** - *Marengo crassipes* Peckham & Peckham, 1892, **M** - *Pachyballus oyo* Wesolowska & A. Russell-Smith, 2011, **N** - *Padilla armata* Peckham & Peckham, 1894, **O** - *Planiemen rotundus* (Wesolowska & van Harten, 1994), **P** - *Variratina minuta* Zhang & Maddison, 2012.

SOURCES: **A**, **D** - 2013. Wesołowska & Haddad 2013 African Invertebrates 54 (1): 180-183, f. 1, 13, 14, 24–25; 188-191, f. 4–6, 16, 43–48; **B** - Wesołowska 1996 Arthropoda Selecta 5(1/2): 25, f. 7A-E, 8A; **C, H** - Prószyński 1987 Atlas … Salticidae . Zeszyty Naukowe WSRP, Siedlce 6-7; 53-54;- 78; **N, L** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 95; 32; **E** - Żabka 1999 Memoirs of the Queensland Museum 43(2): 895, f. 1A-E, 2A-E; **F** - Davies Todd, Żabka 1989 Memoirs of the Queensland Museum 27 (2): 205, t. 12; **G** - Żabka 1988b Annales Zoologici 41 (14): 446-448, f. 71-73; **I** - Prószyński & Deeleman-Reinhold 2012 Arthropoda Selecta. 21(1): 41-42, f. 66-70; **J** - Wanless 1984c Musée Royal de l'Afrique Centrale, Sciences zoologiques 241: 12-16, f. 2a; **K** - Prószyński, 2003b Internet; **M** - Wesołowska, Russel-Smith 2011 Annales Zoologici 61(3): 589-590, f. 126-135; **O** - Wesołowska, van Harten 1994 Fauna of Arabia 23: 86: 65-67, f. 133-139 + 65-67, f. 133-139; **P** - Zhang J., Maddison 2012b: Zootaxa, Magnolia Press 3491: 58, f. 272-281.

…figure on page 89

Figure 41. Color pattern and body shape of representatives of informal group of genera BALLINES and DENDRYPHANTINES. BALLINES: **A** - *Afromarengo bimaculata* (Peckham & Peckham, 1903), **B** - *Ballus chalybeius* (Walckenaer, 1802), **C** - *Copocrossa tenuilineata* (Simon, 1900), **D** - *Leikung sp.*, **E** - *Mantisatta longicauda* Cutler & Wanless, 1973, **F** - *Marengo sp.*, **G** - *Pachyballus sp.*, **H** - *Padilla armata* Peckham & Peckham, 1894, **I** - *Peplometus chlorophthalmus* Simon, 1900, **J** - *Planiemen rotundus* (Wesolowska & van Harten, 1994). DENDRYPHANTINES: **K** - *Bellota sp.*, **L** - *Dendryphantes rudis* (Sundevall, 1833), **M** - *Ghelna canadensis* (Banks, 1897), **N** - *Hentzia alamosa* Richman, 2010, **O** - *Phidippus audax* (Hentz, 1845), **P** - *Rhene flavicomans* Simon, 1902, **Q** - *Rhetenor texanus* Gertsch, 1936 (male holotype + female allotype), **R** - *Rudra sp.* , **S** - *Sassacus papenhoei* Peckham & Peckham, 1895, **T** - *Tutelina similis* (Banks, 1895), **U** - *Zygoballus rufipes* Peckham & Peckham, 1885.

SOURCES: **A** - Wesołowska & Haddad 2013 African Invertebrates 54 (1): 180-183, f. 14 ; **B, L** - Photo J. Lissner; **C** - Photo Macaulay; **D-E, G, K** - Maddison 2015 Journal of Arachnology 43: 231–292, f. 60; f. 61; f. 62; f. 74; **F** - Photo John & Frances Murphy; **H** - Andriamalala 2007 Proceedings of the California Academy of Sciences 58: 268, f. 18; **I** - Photo T. Szüts; **J** - Wesołowska, van Harten 1994. 86: 65-67, f. 133-139 + 65-67, f. 133-139; **M, S-T** - Photo G.B. Edwards ; **N** - Journal of Arachnology 38: 73, f. 17; **O** - Photo D.Hill ; **P** - Photo Samson Davies; **Q, U** - Photo Ryan Kaldari; **R** - Photo Machado & Gasnier.

…figure on page 91

BALLINES

A Afromarengo bimaculata

B Ballus chalybeius

C Copocrossa tenuilineata

D Leikung sp.

E Mantisatta longicauda

F Marengo sp.

G Pachyballus sp.

H Padilla armata

I Peplometus chlorophthalmus

J Planiemen rotundus

DENDRYPHANTINES

K Bellota sp.

L Dendryphantes rudis

M Ghelna canadensis

N Hentzia alamosa

O Phidippus audax

P Rhene flavicomans

Q Rhetenor texanus

R Rudra sp

S Sassacus papenhoei

T Tutelina similis

U Zygoballus rufipes

along retrolateral surface of bulbus. Epigyne heavily sclerotized, without "windows", instead with anterior horse-shoe shaped furrow with copulatory openings at the bottom of sclerotized depressions at the lateral ends of furrow. Copulatory ducts begin as straight, thick walled tubes at the anterior part of epigyne, shortly pass indistinctly into entangled sclerotized ducts or solid spermathecae with internal chambers.

Description. Large group, containing some 400 recognizable species (and 108 unrecognizable), in appearance and habits comparable with EUOPHRYINES, usually short legged and not jumping. General plan of palps and epigyne relatively uniform. Enclosed illustrations are integral part of description. More diagnostic documentation - see file http://www.peckhamia.com/salticidae/Dendryphantinae_clas.html.

Remark. Modern set up of the group was done by Maddison 1995, one of the best and most important taxonomic revisions of Salticidae in literature, containing also stimulating ideas (like embolus sitting atop distal haematodocha, different from fixed embolus), which influenced also present division of Salticidae. [10] Species with genitalic characters resembling EUOPHRYINES are separated into new group of subfamilial rank - EUODENINES.

Distribution. Worldwide

Composition. The following genera are included: *Anicius* Chamberlin, 1925 (1 species), *Avitus* Peckham & Peckham, 1896 (3 species), *Beata* Peckham & Peckham, 1895 (18 species), *Bellota* Peckham & Peckham, 1892 (7 species), *Dendryphantes* C. L. Koch, 1837 (39 species), *Empanda* Simon, 1903 (1 species), *Eris* C. L. Koch, 1846 (4 species), *Ghelna* Maddison, 1996 (3 species), *Hentzia* Marx, 1883 (22 species), *Lurio* Simon, 1901 (1 species), *Mburuvicha* Scioscia, 1993 (1 species), *Messua* Peckham & Peckham, 1896 (15 species), *Metaphidippus* F. P.-Cambridge, 1901 (27 species), *Monaga* Chickering, 1946 (1 species), *Nagaina* Peckham & Peckham, 1896 (1 species), *Naubolus* Simon, 1901 (3 species), *Osericta* Simon, 1901 (2 species), *Paradamoetas* Peckham & Peckham, 1885 (4 species), *Paraphidippus* F. P.-Cambridge, 1901 (11 species), *Parnaenus* Peckham & Peckham, 1896 (1 species), *Pelegrina* Franganillo, 1930 (39 species), *Phanias* Peckham & Peckham, 1896 (8 species), *Phidippus* C.L. Koch, 1846 (60 species), *Poultonella* Peckham & Peckham, 1909 (1 species), *Pseudofluda* Mello-Leitão, 1928 (1 species), *Rhene* Thorell, 1869 (45 species), *Rhetenor* Simon, 1902 (2 species), *Rudra* Peckham & Peckham, 1885 (11 species), *Sassacus* Peckham & Peckham, 1895 (17 species), *Sebastira* Simon, 1901 (2 species), *Selimus* Peckham & Peckham, 1901 (2 species), *Semora* Peckham & Peckham, 1892 (3 species), *Tacuna* Peckham & Peckham, 1901 (4 species), *Terralonus* Maddison, 1996 (4 species), *Thammaca* Simon, 1902 (2 species), *Tulpius* Peckham & Peckham, 1896 (1 species), *Tutelina* Peckham & Peckham, 1896 (4 species), *Uluella* Chickering, 1946 (1 species), *Zeuxippus* Thorell, 1891 (4 species), *Zygoballus* Peckham & Peckham, 1885 (14 species).

Corrections to list of synonyms

Metaphidippus felix* versus *Messua felix

Identification of *Messua* cf. *felix* was proposed by the late J. A. Beatty (whose "taxonomist eye" and extensive knowledge I learned to trust) for 3 males and 2 females from Honolulu, Hawaii, kept in the American Museum of Natural History: " … males with enormously elongated, diverting chelicerae with a single, long retrolateral tooth". These were documented by drawings of Prószyński (2001 [2002]: 239, f. 71-74). The placement was commented skeptically in the WSC "… provided no justification for transfer [from *Metaphidippus*]" without even bothering to look at publication (compare Fig. 42K with entirely different one of *Metaphidippus* - Fig. 42L). Therefore:

> *Metaphidippus felix* (Peckham & Peckham, 1901) = *Messua felix* (Peckham & Peckham, 1901) (return to previous placement, documented by Prószyński (2001 [2002]: 239, f. 71-74 - Fig. 42K).

[10] Personal archive of Dr. W.P. Maddison contains very important diagnostic drawings of undescribed forms of DENDRYPHANTINES, and some other Salticidae, unpublished to date, 84 of which he has very kindly permitted me to copy in 1986, unfortunately I have no permission to display them in the present database of Salticidae.

DENDRYPHANTINES

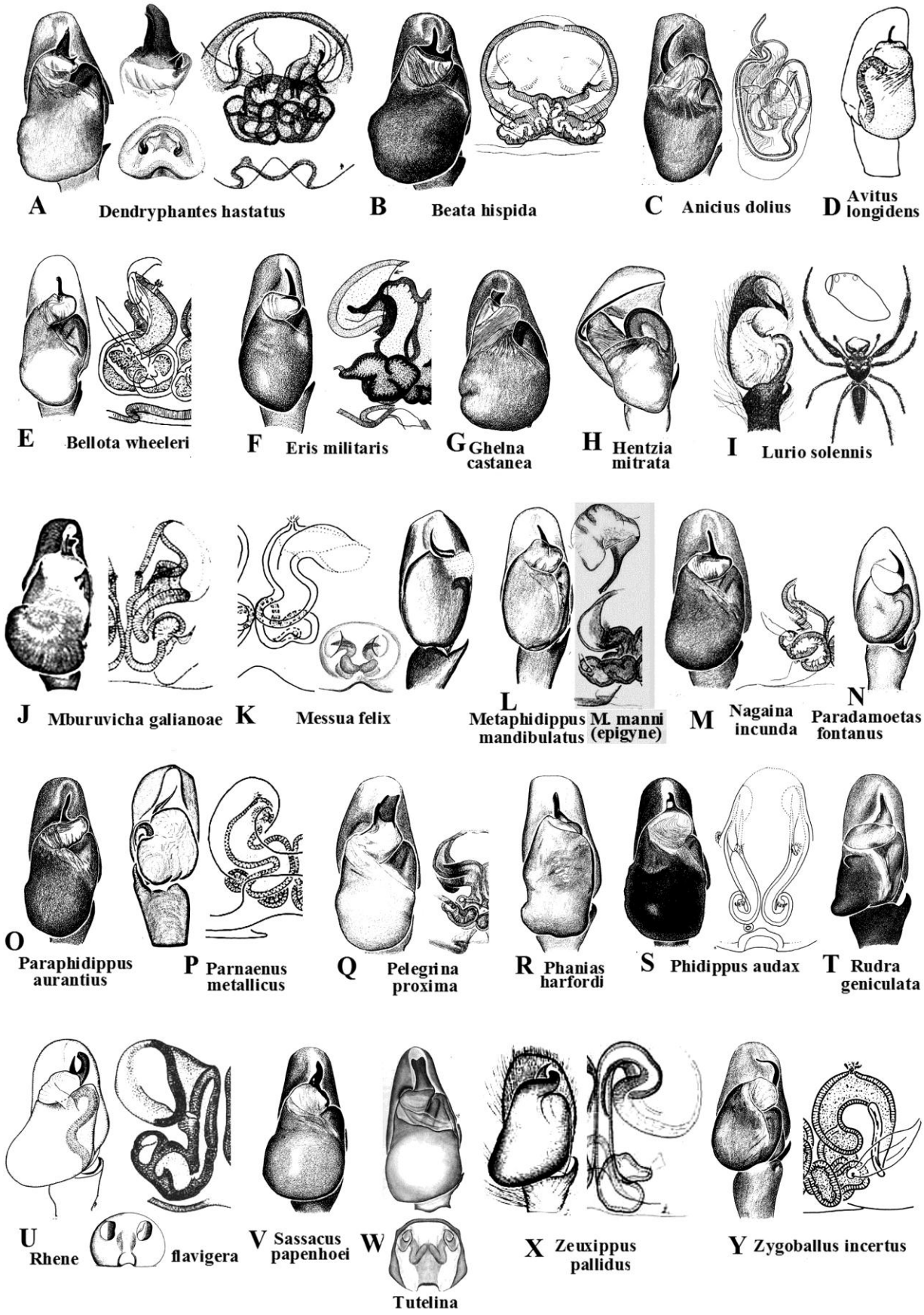


Figure 42. Diagnostic characters of representatives of informal group of genera DENDRYPHANTINES. **A** - *Dendryphantes hastatus* (Sundevall, 1833), **B** - *Beata hispida* (Peckham & Peckham, 1901), **C** - *Anicius dolius* Chamberlin, 1925, **D** - *Avitus longidens* Simon, 1901, **E** - *Bellota wheeleri* Peckham & Peckham, 1909, **F** - *Eris militaris* (Hentz, 1845), **G** - *Ghelna castanea* (Hentz, 1846), **H** - *Hentzia mitrata* (Hentz, 1846), **I** - *Lurio solennis* (C. L. Koch, 1846), **J** - *Mburuvicha galianoae* Scioscia, 1993, **K** - *Messua felix* (Peckham & Peckham, 1901), **L** - *Metaphidippus mandibulatus* (palp) F. Pickard-Cambridge, 1901 and *M. manni* (epigyne) (Peckham & Peckham, 1901), **M** - *Nagaina incunda* Peckham & Peckham, 1896, **N** - *Paradamoetas fontanus* (Levi, 1951), **O** - *Paraphidippus aurantius* (Lucas, 1833), **P** - *Parnaenus metallicus* (C. L. Koch, 1846), **Q** - *Pelegrina proxima* (Peckham & Peckham, 1901), **R** - *Phanias harfordi* (Peckham & Peckham, 1901), **S** - *Phidippus audax* (Hentz, 1845), **T** - *Rudra geniculata* Peckham & Peckham, 1885, **U** - *Rhene flavigera* (C. L. Koch, 1846), **V** - *Sassacus papenhoei* Peckham & Peckham, 1895, **W** - *Tutelina similis* (Banks, 1895), **X** - *Zeuxippus pallidus* Thorell, 1895, **Y** - *Zygoballus incertus* (Banks, 1929).

SOURCES: **A-C, E, G-H, L-O, Q-T, V, Y** - Maddison 1996 Bulletin of the Museum of Comparative Zoology 154: 215-368; **A** - (female) Prószyński 1979: 305, f. 36; **D** - Galiano 1963b Physis 23 (66): 305-306, t 10; f. 6; Galiano 1987c Journal of Arachnology 15: 290, f. 18; **F** - (male) Maddison 1986: Psyche 93, 1-2: 141-145,f. 2-7, 14; **I** - Crane 1945 Zoologica 30 (1, 3): 38, f. 4A-G; **J** - Scioscia 1993 Bulletin of the British Arachnological Society 9 (4): 123, f. 7, 15; **K** - Prószyński 2002 Arthr. Sel. 10 (3): 239,f. 71-74; f. 77-78 ; **P** - Scioscia 1997. Physis, C. 1995 (1997) 53(124-125): 44-46, f. 24, 29; **U** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce 119-121; **W** - Paquin, Duperre 2003. Fabreries, Suppl. 11: 203, f. 2276-2278; **X** - Żabka 1985 Annales Zoologici 39, 11: 456-457, f. 633, 644.

…figure on page 93

Group of genera EUODENINES Prószyński, 2016

Figures 43A-N1, 44A-H1

Database contains 16 recognizable genera,139 species

Type genus *Macaroeris* Wunderlich, 1992, of which type species is *Macaroeris nidicolens* (Walckenaer, 1802).

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature. ***Etymology.*** Informal name combined of parts of names of related groups EUO-phryines-DEN-dryphant-INES].

Mutual diagnostic characters of genera included. Diverse genera departing from average of EUOPHRYINES and DENDRYPHANTINES, pending further research. Some males have enormous single coil of embolus, often shifted to the lateral surface of bulbus (like in *Bagheera* - Fig. 43D), or have atypical spermophor, straight or gently waving (Fig. 43H), or have otherwise incompatible palps (like in *Synagelides* or *Agorius* - Figs 43A, N). Palp of *Macaroeris* has typical meandering spermophor, but its epigyne (Fig. 43L) fit rather DENDRYPHANTINES. Ducts and spermatheca of *Gambaquezonia* are most unusual (Figs 43I-I1, 44E).

Description. Enclosed illustrations are integral part of description. More diagnostic documentation - see file http://www.peckhamia.com/salticidae/Euodenines.html.

Remarks. Group created to trim inconveniently excessive number of species of EUOPHRYINES and DENDRYPHANTINES, housing forms intermediate to, or departing from each of the mentioned groups. Pending further revisionary studies.

Distribution. Worldwide.

Composition. The following genera are included: *Agorius* Thorell, 1877 (11 species), *Ashtabula* Peckham & Peckham, 1894 (9 species), *Bagheera* Peckham, Peckham, 1896 (4 species), *Bryantella* Chickering, 1946 (3 species), *Capeta* Ruiz & Brescovit, 2005 (2 species), *Cerionesta* Simon, 1901 (1 species), *Chirothecia* Taczanowski, 1878 (9 species), *Coccorchestes* Thorell, 1881 (39 species), *Consingis* Simon, 1900 (1 species), *Gambaquezonia* Barrion, Litsinger, 1995 (3 species), *Gastromicans* Mello-Leitão, 1917 (5 species), *Itata* Peckham, Peckham, 1894 (3 species), *Macaroeris* Wunderlich, 1992 (8 species), *Mikrus* Wesołowska, 2001 (1 species), *Semorina* Simon, 1901 (4 species), *Synagelides* Strand, 1906 (36 species).

Nomenclatorical corrections
***Bryantella smaragdus* (Crane, 1945) = *Bryantella smaragda* (Crane, 1945) grammar gender correction.**

Group of genera AELURILLINES Prószyński, 2016

Figures 43O-T, 44I-S
Database contains 10 recognizable genera, 251 species

Type genus *Aelurillus* Simon, 1884, of which type species is *Aelurillus v-insignitus* [= *Araneus litera v insignitus* Clerck 1757].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Aelurillus"*.

Mutual diagnostic characters of genera included. Differs from all other groups of genera by coil of embolus hidden in a space between top of tegulum and wall of cymbium, with only tip emerging in front of tegulum. Tegulum in a form of strongly sclerotized, opaque shield, covering entire bulbus. Tibial apophysis short, usually biramous, with one ramus fleshy, but in *Langona* apophysis is single, accompanied by bunch of stiff bristles. Single apophysis occurs also in *Rafalus* and *Stenaelurillus*. Internal structures of epigyne unique but very characteristic for particular genera. Robust, terrestrial forms, running or ambushing.

Description. Enclosed illustrations are integral part of description. More diagnostic documentation - see file http://www.peckhamia.com/salticidae/Aelurillinae_clas.html.

Distribution. Old World.

Composition. The following genera are included: *Aelurillus* Simon, 1884 (59 species), *Asianellus* Logunov, Heciak, 1996 (6 species), *Langelurillus* Próchniewicz, 1994 (17 species), *Langona* Simon, 1901 (38 species), *Mashonarus* Wesolowska, Cumming, 2002 (3 species), *Microheros* Wesolowska, Cumming, 1999 (1 species), *Phanuelus* Caleb, Mungkung, Mathai, 2015 (1 species), *Phlegra* Simon, 1876 (77 species), *Prószyńskiana* Logunov, 1996 (6 species), *Rafalus* Prószynski, 1999 (15 species), *Stenaelurillus* Simon, 1885 (28 species).

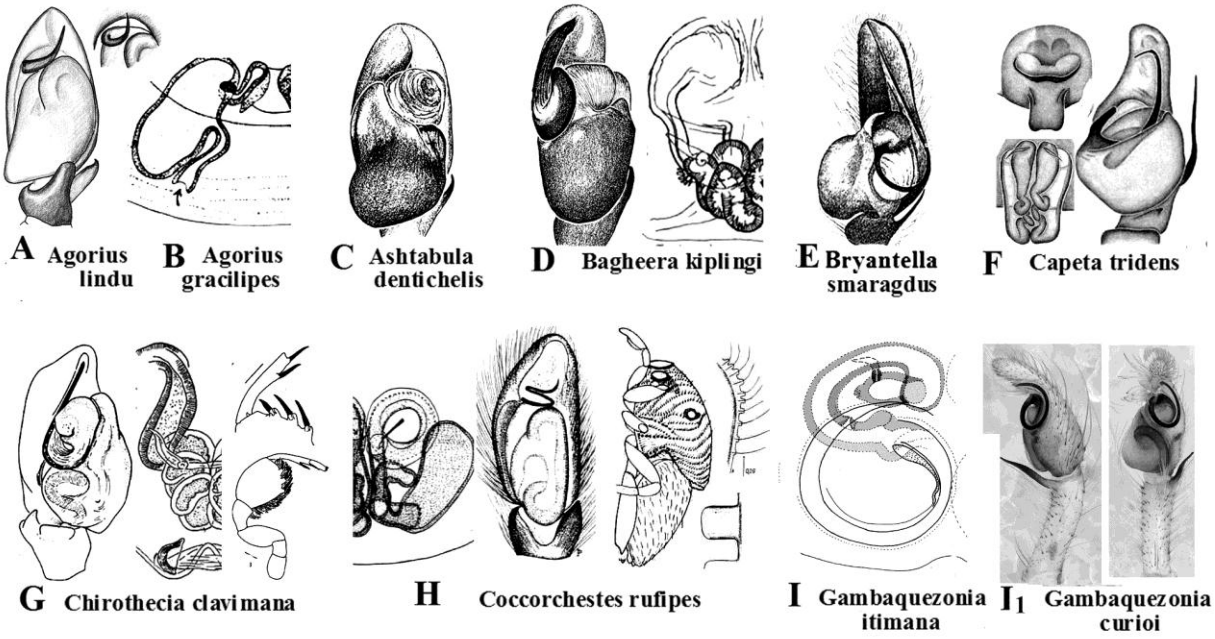
Corrections of synonyms

***Rafalus stanislawi* Prószyński, 1999 separated from *Aelurillus minutus* Azarkina, 2002**
Synonymy of the above species and transfer to *Aelurillus* are mistakes, based on misinterpretation of diagnostic characters by Azarkina, (2006: 258, f. 64-70, 2006: 70, f. 38-40) - see comparison of both at Fig. 43Q. *Aelurillus minutus* from Syria is therefore separate species, conspecificity of specimens from Israel and Ethiopia is not confirmed. Therefore:

Aelurillus stanislawi (Prószyński, 1999) (male from Israel) = *Rafalus stanislawi* Prószyński, 1999 (reinstated, see figs 43P-Q)

Aelurillus stanislawi: (Azarkina, (2006) (female, nec Prószyński, 1999) = *Aelurillus minutus* Azarkina, 2002 (reinstated).

EUODENINES



AEURILLINES

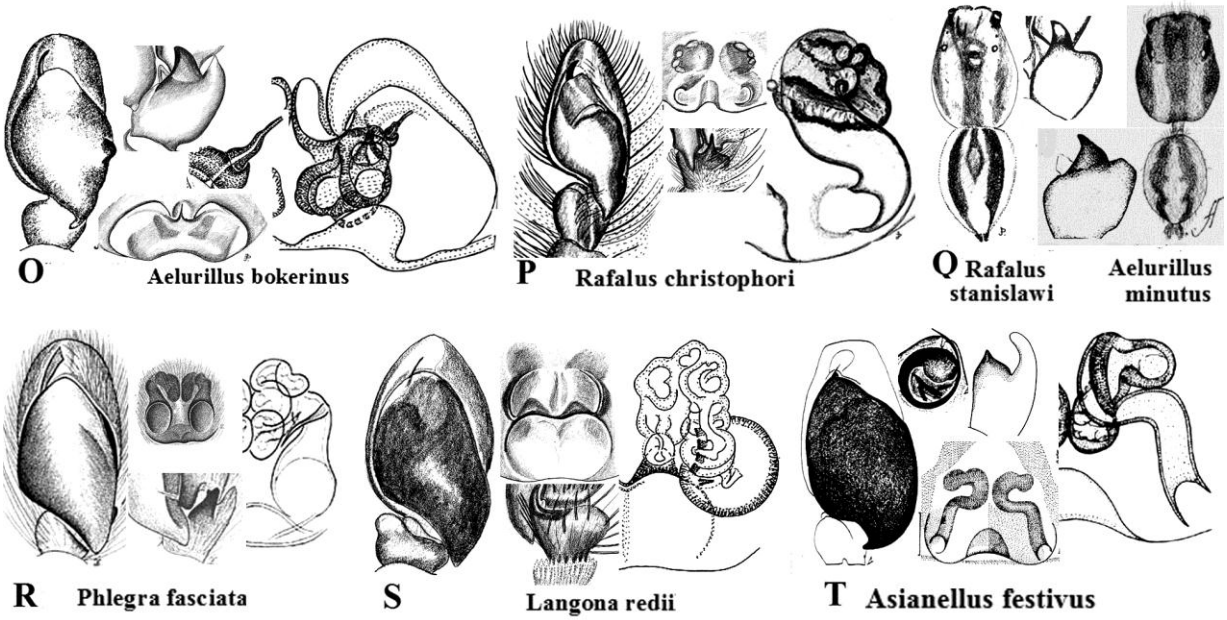


Figure 43. Diagnostic characters of representatives of informal group of genera EUODENINES and AELURILLINES. AELURILLINES**: A** - *Agorius lindu* Prószynski, 2008b [2009b], **B** - *Agorius gracilipes* Thorell, 1877, **C** - *Ashtabula dentichelis* Simon, 1901, **D** - *Bagheera kiplingi* Peckham & Peckham, 1896, **E** - *Bryantella smaragda* (Crane, 1945) [grammar gender correction], **F** - *Capeta tridens* Ruiz & Brescovit, 2005, **G** - *Chirothecia clavimana* (Taczanowski, 1871), **H** - *Coccorchestes rufipes* Thorell, 1881, **I** - *Gambaquezonia itimana* Barrion & Litsinger, 1995, **I1** - *Gambaquezonia curioi* Freudenschuss, Grabolle & Krehenwinkel, 2016, **J** - *Gastromicans albopilosa* (Simon, 1903), **K** - *Itata tipuloides* Simon, 1901, **L** - *Macaroeris nidicolens* (Walckenaer, 1802), **M** - *Peckhamia picata* (Hentz, 1846), **N** - *Synagelides agoriformis* Bösenberg & Strand, 1906, **N1** - *Ragatinus maddisoni* Dawidowicz & Wesołowska 2016. AELURILLINES: **O** - *Aelurillus bokerinus* Prószynski, 2003, ***P*** - *Rafalus christophori* Prószyński, 1999a, Q - *Rafalus stanislawi* Prószyński, 1999 and its supposed synonym *Aelurillus minutus* Azarkina, 2002, **R** - *Phlegra fasciata* (Hahn, 1826), **S** - *Langona redii* (Audouin, 1826), **T** - *Asianellus festivus* (C. L. Koch, 1834).

SOURCES: **A** - Prószyński 2008b Advances in Arachnology and Developmental Biology. Monographs 12, 12: 321-322, f. 7, 8, 29, 30, 41, 54, 59; **B, H-I, L-O, Q-T,** - Prószyński 1968b Annales Zoologici 26: 221-225, f. 10-12; 1971c. 28: 156-160, f. 1-14;- 1979 34: 318, f. 307- 315; 1984a. 379-389, f. 15-2 2003: 86-87, f. 330-337; 2003a 22-24, f. 20, 26, 32, 38, 43-45, 50-52, 63-64;;- 53: 82-84,f. 309-314, 322-324; 1: 135, f. 536-542; **C-D, J** - Maddison 1996 Bulletin of the Museum of Comparative Zoology 154 (4): 233, 335, 337, f. 81; 336, f. 102; 232, 237, 335, f. 73, 93-95, 101; **E** - Crane 1945 Zoologica, 30 (1, 3): 40,f. 5a-d ; **F** - Ruiz , Brescovit. 2005a Revista brasileira de Zoologia 22: 692, f. 21-24; **G** - Galiano 1972b. Revista del Museo Argentino de Ciencias naturale, Entomologia, 4 (1): 5-12, f.f 23-26; **I1** - Freudenschuss, Grabolle, Krehenwinkel 2016 Arachnology 17(1): 25-27,f. 1-8; **J** - Galiano 1963b Physis 23 (66): 306-307, t 12, f. 2; **K** - Photo Gasnier & Azevedo; **M** - Paquin, Duperre 2003 Fabreries, Suppl. 11: 197, f. 2205-2208; **N1** - Dawidowicz & Wesołowska 2016 Annales Zoologici 66(3): 455, f. 71-78; **P** - Prószyński. 1999 Arthropoda Selecta 8(2): 96-98, f. 22, 25 and Azarkina 2002b Arthropoda Selecta 11 (1): 89-93, f. 8, 10; **Q** - Logunov, Heciak 1996 Entomologica scandinavica 27: 106-108,f. 1-5, 8, 10, 17-19, 23-28, 35, 39; **R** - Żabka 1997 Fauna Polski 19: 5-187, f. 259-264.

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Figure 44. Color pattern and body shape of representatives of informal group of genera EUODENINES and AELURILLINES. EUODENINES: **A** - *Agorius sp.*, **B** - *Bagheera kiplingi* Peckham & Peckham, 1896, **C** - *Coccorchestes ferreus* Griswold, 1984, **D** - *Gastromicans sp*, **E** - *Gambaquezonia curioi* Freudenschuss, Grabolle, Krehenwinkel, 2016, **F** - *Itata completa* (Banks, 1929), **G** - *Macaroeris nidicolens* (Walckenaer, 1802), **H** - *Peckhamia sp.*, H1 - *Ragatinus maddisoni* Dawidowicz & Wesołowska 2016. AELURILLINES: **I** - *Aelurillus lucasi* Roewer, 1951, **J** - *Aelurillus v-insignitus* (Clerck, 1757) - *form black*, **K** - *Aelurillus gershomi* Prószyński, 1999 [2000], **L** - *Asianellus festivus* (C. L. Koch, 1834), **M** - *Phlegra fasciata* (Hahn, 1826), **N** - *P. bresnieri* (Lucas, 1846), **O** - *Mashonarus davidi* Caleb et al., 2015, **P** - *Microheros termitophagus* Wesolowska & Cumming, 1999, **Q** - *Phanuelus gladstone* Caleb et al., 2015, **R** - *Rafalus insignipalpis* (Simon, 1882), **S** - *Stenaelurillus lesserti* Reimoser, 1934.

SOURCES: **A** - Photo H.K. Tang; **B** - Photo by Eric Olson.; **C** - Photo G. Anderson; **D** - Maddison 1996 Bulletin of the Museum of comparative Zoology 154 (4): 232, 237, 335, f. 73, 93-95, 101; **E** - Freudenschuss, Grabolle, Krehenwinkel, 2016 Arachnology 17(1): 25-27, f. 1-8; **F** - Photo A. Anker; **G, J**, **L-M** - Photo J. Lissner; **H** - Maddison 2015 Journal of Arachnology 43: 231-292, f. 68. **H1** - Dawidowicz & Wesołowska 2016 Annales Zoologici : 66(3): 455, f. 108; **I** - Photo J. Holstein & Photo J. Lissner; **K** - Photo Asaf Uzan; **O, Q** - Caleb et al., 2015 Peckhamia 124(1): 5-6, f. 16-25; 7-10, f. 26-40; **P** - Wesołowska & Cumming 1999 Bulletin of the British Arachnological Society 11 (5): 204-208,f. 1-21; **R** - Photos by B. Knoflach; **S** - Photo J. Caleb.

…figure on page 98

EUODENINES

A Agorius sp. B Bagheera kiplingi C Coccorchestes ferreus D Gastromicans sp

E Gambaquezonia curioi F Itata completa G Macaroeris nidicolens H Peckhamia sp. H1 Ragatinus maddisoni

AEURILLINES

I Aelurillus lucasi Aelurillus lucasi I J Aelurillus v- insignitus K Aelurillus gershomi L Asianellus festivus

M Phlegra fasciata Phlegra bresnieri N O Mashonarus davidi P Microheros termitophagus Q Phanuelus gladstone

R Rafalus insignipalpis S. Stenaelurillus lesserti Stenaelurillus lesserti

Group of genera MYRMARACHNINES Prószyński, 2016

Figures 45A-D6, 46A-O
Database contains 13 recognizable genera, 160 species

Type genus *Myrmarachne* MacLeay, 1839, of which type species is *Myrmarachne melanocephala* MacLeay, 1839.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Myrmarachne"*.

Mutual diagnostic characters of genera included. Genera and species recognizable by internal structure of epigyne with a pair of sclerotized "pipes" like spermathecae (Figs 45C1-12, 46E-O), running medially along the whole (or majority) of length of epigyne. Palps rather uniform, with oval bulbus encircled (usually twice) by embolus, with spermophor encircling bulbus along it's contour, but making additional thin loop before entering embolus, tibial apophysis short, in majority of genera twisted corkscrew like and with flange, in some genera straight (Figs B1-10). Body adapted for mimicking various ants, with constrictions variously developed on abdomen and carapace (Figs A1-9, 44A-D).

Description. Main character of this group of genera is "pipe" like spermatheca, sclerotized uniformly along it whole course, beginning near posterior end of epigyne, its beginning indicated by microscopic "scent exuding opening" at the very rim of junction with membranous ducts. Spermathecae display continuous evolution (presented in Figs 45C1-D6, 46E-O) from a pair of straight "pipes" in *Myrmage gedongensis* **(**Figs 46E), smooth, of equal width along their whole length, through slight terminal dilatation, to formation of a globular, terminal chamber of different size at the distal (anterior) end - small as in *Toxeus maxillosus* C. L. Koch, 1846, **(**Fig 46H), somewhat bigger terminal chamber in *Emertonius shelfordi* (Peckham & Peckham, 1907) **(**Fig 46G), to caricatural monster of a pair of huge balloons, tightly pressed, atop microscopic, thread like, short proximal parts of spermathecal pipes in *Myrmatheca alticephalon* (Yamasaki & Ahmad, 2013) **(**Fig 46F). Another direction of evolution of tubular spermathecae is development of a single loop-like detour in the anterior one-third of length of "pipes", as in *Myrmavola yamasakii* Prószyński, 2016 (Fig 46I), finally reaching diversified stage of a complicated double spiral detour in over hundred species of *Myrmarachne* sensu stricto (Figs 46J-O) (a modification of that plan is detour parallel to axis of "pipes" in *Myrmanu nubilis* (Wanless, 1978). Ducts are almost unknown, due to their membranous, transparent walls, visible only on cleared epigyne mounted in microscopic slides, stained in "Chlorazol black E" - they make huge but irregular coils, running from practically invisible copulatory opening, usually tight slit like, pressed to median septum of epigyne and joining spermathecae at their indistinct proximal end. The above description corrects popular interpretations limiting "spermathecae" to distal (anterior) end of pipes, in front of their anterior detour. Epigyne itself is little specific, with two large white membranous "windows" (sometimes merged into single, large "window") and single, sclerotized pocket, in some species divided into a pair of pockets. Epigyne may help in preliminary identification, but is insufficient for identification of 160 recognizable species of MYRMARACHNINES. WARNING: preparations of epigyne not cleared of soft tissues, or examination of spermathecae translucent through tegument of epigyne, as in hundreds of drawings in Wanless (1978), are not sufficient for identification of species.
In difference to structures of epigyne, males palps (Figs 445B1-10) are of little help in identification, they characterize group of genera as a whole and are poor indicator of genera diversity, being largely uniform they display only minor differences in shape of tibial apophysis and additional loop of spermophor. Bulbus is encircled by loose loop of embolus, usually double, embolus is hair thin, covered by semitransparent sheath. Tibial apophysis is short, in *Myrmarachne* twisted like corkscrew, in other genera straight. Males' chelicerae in some genera are enormously elongated, with multiple isolated teeth (true "pluridentati"). Body usually ant-like, with both carapace and abdomen constricted (Figs 45A1-8, 46A-D); since body appearance is adapted to mimicking ants, the same habitus may repeat in different species adjusted to the same model ant. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Myrmarachninae_clas.html.

Relationship: Placement of MYRMARACHNINES, LIGONIPEINES and BELIPPINES is unclear. Because of embolus encircling bulbus and presence of small additional loop of spermophor I assume tentatively that may be distantly related to EUOPHRYINES, although there are no evidences yet of membranous distant haematodocha, place of origin of embolus from bulbus is not yet documented. On the other hand I do not see slightest morphological evidence that MYRMARACHNINES may be related to ASTIOIDA, as suggested by Maddison (2015 and some earlier papers).

Distribution. Worldwide, one species of *Myrmarachne* migrated recently over to North America.

Composition. The following genera are included: *Bocus* Peckham & Peckham, 1892 (3 species), *Emertonius* Peckham & Peckham, 1892 (7 species), *Myrmage* Prószyński, 2016 (3 species), *Myrmagua* Prószyński, 2016 (1 species), *Myrmanu* Prószyński, 2016 (2 species), *Myrmapana* Prószyński, 2016 (5 species), *Myrmapeni* Prószyński, 2016 (6 species), *Myrmaplata* Prószyński, 2016 (5 species), *Myrmarachne* MacLeay, 1839 (103 species), *Myrmatheca* Prószyński, 2016 (2 species), *Myrmavola* Prószyński, 2016 (8 species), *Myrmele* Prószyński, 2016 (4 species), *Panachraesta* Simon, 1900 (1 species), *Toxeus* Koch C.L., 1846 *sensu novo*, reinstated (10 species).

Correction of synonyms

***Myrmarachne exasperans*: Wanless, 1978 = *Emertonius exasperans* Peckham & Peckham, 1892**

Wanless (1978: 235, f. 1A-F; 2A-E) was uncertain of classification of *Emertonius* (at that time importance of spermathecae for classification of MYRMARACHNINES were not understood, documented first by Edmunds & Prószyński 2002) but tentatively transferred it to *Myrmarachne*, a move corrected next in well documented revision by Prószyński & Deeleman-Reinhold (2010: 164-167, f. 169-171), who provided also broad documentation of this and related species http://www.peckhamia.com/salticidae/q24-Emer.html). That was dismissed by WSC (all versions, 2017 included) because of undocumented opinion of Edwards (2013a: 110.1: 4), who did not notice striking differences in body shape and color pattern and failed to address essential difference in spermathecae of *Emertonius* and *Myrmarachne*, due to his prejudices on diagnostic usage of spermathecae. Since he did not address other characters analyzed in detailed description of three species of *Emertonius*, it is doubtful whether he has actually read it. Looks like he commented reinstatement of original combination from memory, being residue of earlier, personal correspondence. Relevant documentation is shown in Figs 45A1-A3, C1-C3, 46A, 46G, to be compared with Figs 45A4-A6, 45C9-C12, 46B, 1-O. Therefore:

> *Myrmarachne exasperans* (Peckham & Peckham, 1892) = *Emertonius exasperans* Peckham & Peckham, 1892 - reinstated original combination.

***Myrmarachne melanocephala* MacLeay, 1839 - type species of the genus and its synonyms**

Five synonymy of this species were suggested by Edwards & Benjamin [2009: 2309: 5] based on body shape and color pattern of old and damaged specimens, on false assumption that there are no more similar looking species in tropical Asia. That assumption is falsified by their own misidentification of two different species from Sri Lanka, documented by drawings of epigyne (op. cit. f. 5A and B). Another proof of their overestimation of importance of body shape is an attempt to synonymize *M. melanocephala* with *M. ramosa*, disregarding striking differences in spermathecae of these species (Figs 45C9 and 45C10 in the present paper), numerous other cases of such peculiar blindness are shown in the file http://www.peckhamia.com/salticidae/Myrmarachninae_clas.html. It is unfortunate that they failed to document the very neotype specimen they have designating, merging its description with summary description of *M. contracta* and *M. providens*, documented only by useless photographs of their damaged bodies (op. cit. f. 1A-H). Other synonyms should be dismissed as insufficiently documented. Therefore:

> *Myrmarachne melanocephala MacLeay, 1839 (in part) = Myrmarachne albicrurata* Badcock, 1918 (a synonym of *M. ramosa*, by Edmunds & Prószyński (2003: 301, f. 8-29) not of *M. melanocephala*),
>
> *Myrmarachne melanocephala* MacLeay, 1839 (in part) = *Myrmarachne contracta* (Karsch, 1880) (reinstated because of insufficient documentation by useless photographs, see Benjamin & Edwards 2009: 6, f. 1D-H1, species inquirenda),
>
> *Myrmarachne melanocephala* MacLeay, 1839 (in part) = *Myrmarachne lateralis* Badcock, 1918: 310, f. 9b (a synonym of *M. ramosa*, by Edwards & Prószyński (2003: 301, f. 8-29) not *M.*

melanocephala, an independent separate species – see below), *Myrmarachne melanocephala* MacLeay, 1839 (in part) = *Myrmarachne providens* Simon, 1901a: 500 (reinstated because of insufficient documentation by useless photographs, see Benjamin & Edwards 2009: 6, f. 1A-C, species inquirenda),
Myrmarachne melanocephala MacLeay, 1839 (in part) = *Myrmarachne ramosa* Badcock, 1918 (reinstated as misinterpretation of type specimen, see documentation of incompatible spermathecae of these species: Figs 45C9 and 45C10) (Benjamin & Edwards (2009: 5, 7 wrote that "…the type of *M. ramosa* has been compared with the neotype of *M. melanocephala* (by GBE) and found to be a junior synonym …" and commented that "the type species has been recently well illustrated" [by Edmunds & Prószyński (2003: 301, f. 8-29) . Readers who care to compare Figs 45C9 and 45C10 are invited to draw their own conclusions!).

Other synonyms:

Myrmavola globosa (Wanless, 1978) = ***Toxeus globosus*** (Wanless, 1978) **comb. n.,** (self-correction of the typing error, documentation - compare Figs 45D1-6, 46H with 46I).

Group of genera LIGONIPEINES Prószyński, 2016

Figures 45E-H, 46P-S

Database contains 4 recognizable genera, 6 species

Type genus *Ligonipes* Karsch, 1878, of which type species is *Ligonipes illustris* Karsch, 1878.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Ligonipes"*.

Mutual diagnostic characters of genera included. Differ from MYRMARACHNINES by weakly pronounced ant likeness, including pedicel short, dorsal constrictions on carapace and abdomen may be shallow or absent, there are no lateral constrictions (Figs 46P, 46R, 46S). Also differ by short chelicerae of both sexes, with comb like tooth (multicusp on mutual sclerotized base) located on expanded retrolateral edge of chelicerae. Strikingly different property of LIGONIPEINES are legs I, with flattened, circular black tibia and robust femur, both contrasting with delicate, thin and light tarsus and metatarsus (that character is not pronounced in *Damoetas*!), which resemble BALLINES (from which they can be separated by "pipe" like spermathecae (Figs 45E-H, 46Q) and type of palp).

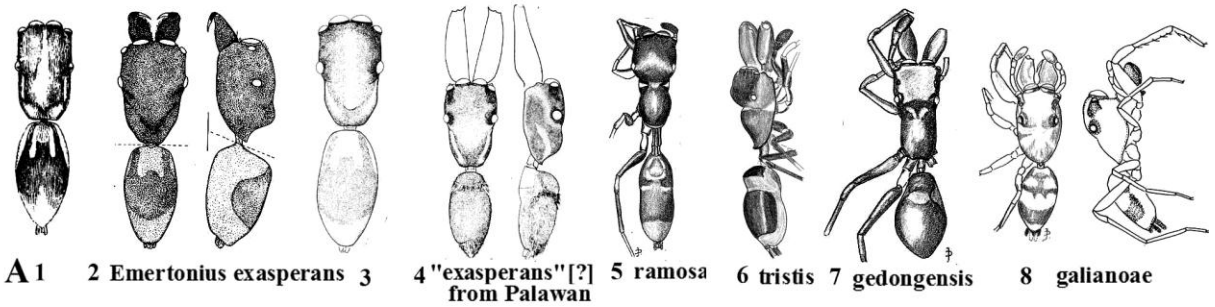
Description. Palps intermediate between MYRMARACHNINES and EUOPHRYINES: coil of embolus broadened and loosely encircling bulbus (Figs 45E, H), its exact way of joining bulbus not yet demonstrated, poorly known shape of spermophor may be tentatively interpreted as modified meandering. Male chelicerae not expanded, cheliceral dentition - multicusp comb-like tooth on expanded retrolateral edge of chelicerae. Spermathecae with central part "pipes" like, as in MYRMARACHNINES, without detour, or distal enlargement, interpretation of proximal part of spermathecae and passage into ducts unclear, the latter seem to be thicker than usual membranous ones, as pictured on existing drawings. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file
http://www.peckhamia.com/salticidae/Ligonipeinae_clas.html.

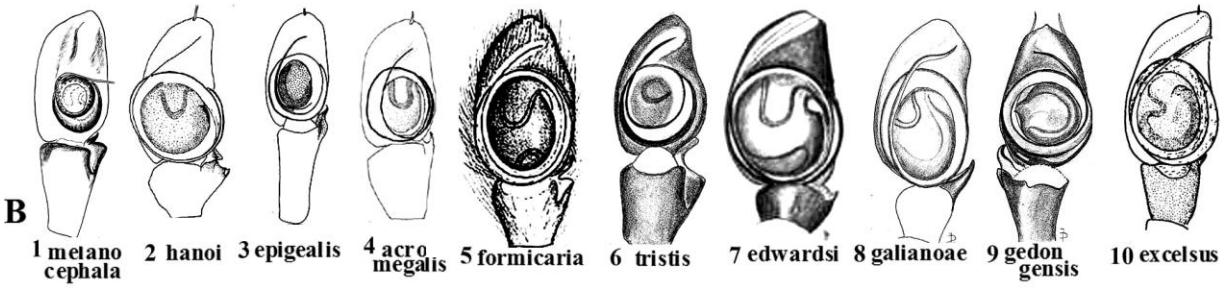
Remark. Considered ant-like since Petrunkevitch (1928), were more correctly defined by Simon (1901) as intermediate between ant-like and Ballinae (with *Marengo* included!).

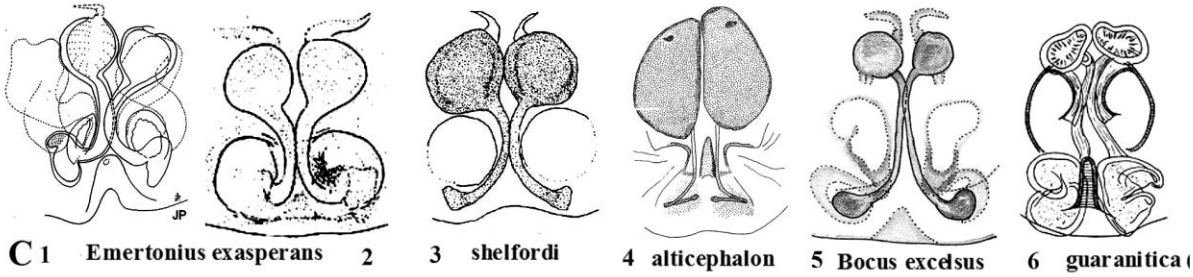
Distribution. Australia.

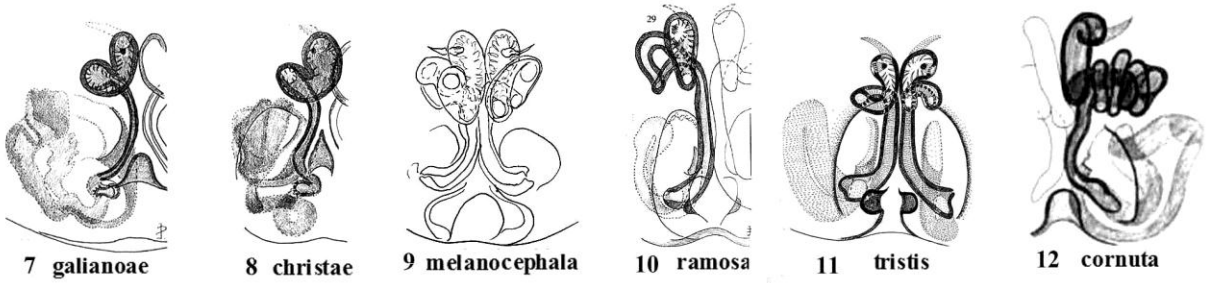
Composition. The following genera are included: *Damoetas* Peckham & Peckham,1886 (1 species), *Judalana* Rix, 1999 (1 species), *Ligonipes* Karsch, 1878 (3 species), *Rhombonotus* Koch L., 1879 (1 species).

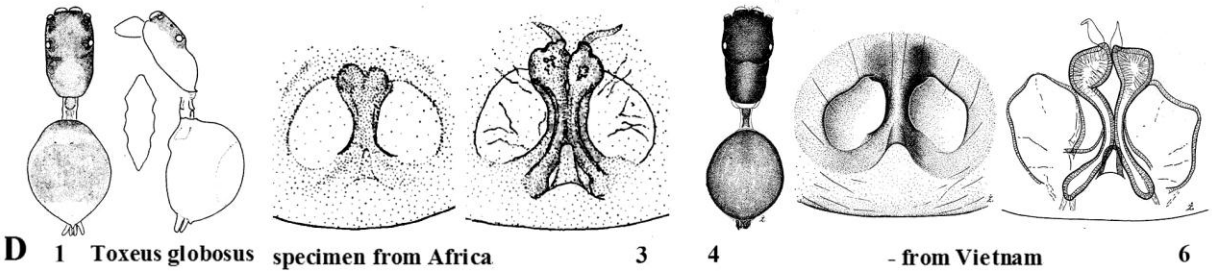
MYRMARACHNINES











LIGONIPEINES

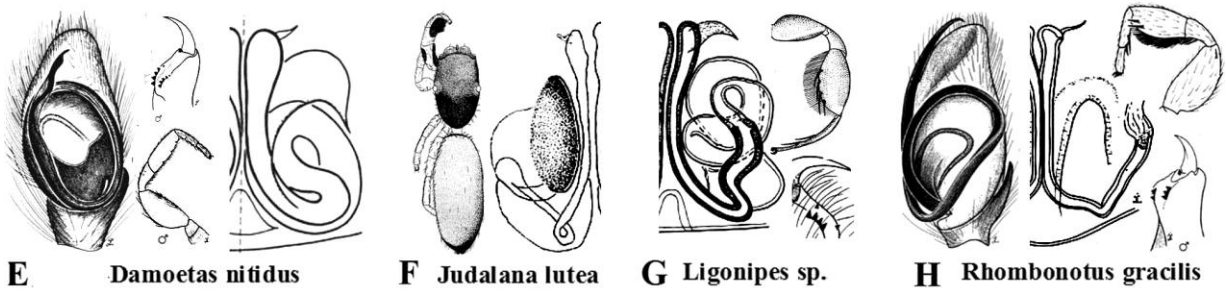


Figure 45. Diagnostic characters of representatives of informal group of genera MYRMARACHNINES and LIGONIPEINES. MYRMARACHNINES: **A: body shape: A1 - A3 -** *Emertonius exasperans* Peckham & Peckham, 1892 (drawn by Emerton, male and female by Prószyński and female by Wanless respectively), **A4** - *Emertonius "exasperans"* [?] from Palawan, **A5** - *Myrmarachne ramosa* Badcock, 1918, **A6** - *Myrmarachne tristis* (Simon, 1882), **A**7 - *Myrmage gedongensis* (Badcock, 1918), **A**8 - *Myrmavola galianoae* (Prószynski, 2001). **B1 - B10 - palps appearance** (ATTENTION: while generally rather uniform, palps could be distinguished by minor differences in tibial apophysis and small, additional loop of spermophor): **B1 -** *Myrmarachne melanocephala* MacLeay, 1839, **B2** - *Myrmarachne hanoi* Żabka, 1985, **B3** - *Myrmarachne epigealis* Yamasaki & Edwards, 2013, **B4** - *Myrmarachne acromegalis* Yamasaki & Ahmad, 2013, **B5** - *Myrmarachne formicaria* (De Geer, 1778), **B6** - *Myrmarachne tristis* (Simon, 1882), **B7**- *Myrmarachne edwardsi* Berry, Beatty & Prószynski, 1996, **B8** - *Myrmavola galiano* (Prószynski, 2001), **B9** - *Myrmage gedongensis* (Badcock, 1918), **B10** - *Bocus excelsus* Peckham & Peckham, 1892. **C1-C12** Diversity of spermathecae: **C1 - C2** - *Emertonius exasperans* Peckham & Peckham, 1892, drawings by Prószyński & Deeleman**,** and Wanless respectively**, C3** - *Emertonius shelfordi* (Peckham & Peckham, 1907), **C4** - *Myrmatheca alticephalon* (Yamasaki & Ahmad, 2013), **C5** - *Bocus excelsus* Peckham & Peckham, 1892, **C6** - *Myrmagua guaranitica* (Galiano, 1969), **C7** - *Myrmavola galianoae* (Prószynski, 2001), **C8** - *Myrmavola christae* (Prószynski, 2001), **C9** - *Myrmarachne melanocephala* MacLeay, 1839, **C10** - *Myrmarachne ramosa* Badcock, 1918, **C11** - *Myrmarachne tristis* (Simon, 1882), **C12** - *Myrmarahne cornuta* Badcock, 1918. **D1-D6. Example of classificator's dilemma**: apparently two different species still listed as a single species *Toxeus globosus* (Wanless, 1978): **D1- D3** specimen from Africa, **D4 - D6** - from Vietnam. LIGONIPEINES: **E** - *Damoetas nitidus* (L. Koch, 1880), **F** - *Judalana lutea*, **G** - *Ligonipes lacertosus* (Thorell, 1881), **H** - *Rhombonotus gracilis* L. Koch, 1879.

SOURCES: **A1** -Peckham & Peckham 1892 Occasional Papers of the Natural History Society of Wisconsin 2(1): 54, pl. 4, f. 8 **; A2**, **C1** - Prószyński & Deeleman 2010 Arthropoda Selecta 19: 164-167, f. 169-171; **A3-A4**, **B10, C2-C3**, **D1-D3 -** Wanless 1978b: Bulletin of the British Museum of Natural History (Zool.) 33: 235, f. 1A-F; 2A-E;- 240-241, f.1A; **:** 235, f. 1A-F; 2A-E; 99, f. 61B-C, G, 62D-E, pl. 3a-b; 99-102,f. 63 a-b, e, g, i, 64 b-c, g-h; **A5, A7, B9, C10**, **C12** Edmunds, Prószyński 2003: Bulletin of the British Arachnological Society, 12(7): 301,f. 8-29.; 304, f. 30-39 ; 308, f. 22; 308, f. 48-52; **A6, B6, C11** - Prószyński Annales Zoologici 2003 53, 3: 108, 446; 108, f. 446-452; **A8, B8, C7-C8** - Prószyński, 2001 Annales Zoologici 51: ,519, f. 1-4**;** 521, f.5-10; **B1, C9-** Edwards, Benjamin 2009 Zootaxa, Magnolia Press 2309: 5, f. 1-5; **B2, D4-D6** - Żabka 1985. Annales Zoologici 39: 246, f. 328-331; 246, f. 332-336; **B3** - Yamasaki, Edwards 2013 ZooKeys 299: 7, f. 25**; B4, C4,** - Yamasaki, Ahmad 2013 Zootaxa, Magnolia Press 3710 (6): 503-507, f. 2A–F, 3A–E, 41C–F; **B5** - Żabka. 1997 Fauna Polski 19: 5-187, f. 189-200; **B7**- Berry, Beatty, Prószyński 1996 Journal of Arachnology 24: 24(3): 241-242, f. 97-102**; C5** -Prószyński Internet; **C6** - Galiano 1969b. Revista del Museo Argentino de Ciencias Naturales (Ent.) 3 (2): 143, f. 5-6, 69-70.

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Figure 46. Color pattern and body shape of representatives of informal group of genera MYRMARACHNINES and LIGONIPEINES. MYRMARACHNINES: **A-D** BODY SHAPE AND COLOR PATTERN: **A** - *Emertonius exasperans* Peckham & Peckham, 1892, **A1** - Edward's judgment, **B** – *Myrmarachne melanocephala* MacLeay, 1839, **C** – *Myrmarachne formicaria* (De Geer, 1778), **D** - *Toxeus maxillosus* C. L. Koch, 1846. **E–I** PHOTOGRAPHS OF STAINED MICROSCOPIC PREPARATIONS, BEING THE BEST WAY OF DEMONSTATING SPERMATHECAE DIVERSITY IN MYRMARACHNINES: **E** - *Myrmage gedongensis* (Badcock, 1918), **F** - *Myrmatheca alticephalon*(Yamasaki & Ahmad, 2013), **G** - *Emertonius shelfordi* (Peckham & Peckham, 1907), **H** - *Toxeus maxillosus* C. L. Koch, 1846**,, I -** Myrmavola yamasaki Prószynski, 2016, **J**–**O** DIVERSITY AMONG 103 SPECIES of *Myrmarachne*: **J** - *Myrmarachne acromegalis* Yamasaki & Ahmad, 2013, **K** - *Myrmarachne assimilis* Banks, 1930, **L** - *Myrmarachne biseratensis* Badcock, 1918, **M** - *Myrmarachne cornuta* Badcock, 1918, **N** - *Myrmarachne epigealis* Yamasaki & Edwards, 2013, **O** - *Myrmarachne hanoi* Żabka, 1985. LIGONIPEINES: **P** - *Damoetas nitidus* (L. Koch, 1880), **Q** - *Judalana lutea* Rix, 1999, **R** - *Ligonipes sp.*, **S** - *Rhombonotus gracilis* L. Koch, 1879.

SOURCES: **A** - Photo by D. Knowles, **B** - Edwards, Benjamin 2009. Zootaxa Magnolia Press 2309: 5, f. 1-5; **C** – Photo by Tang, **D** – Photo by Lissner, **E-O** - Yamasaki, Ahmad 2013 Zootaxa, Magnolia Press 3710 (6): 524, f. 8; **N** - Yamasaki, Edwards 2013 ZooKeys 299: 7-11, f. 20-32; **P-S** - Photo: R. Whyte.

…figure on page 104

MYRMARACHNINES

A Emertonius exasperans

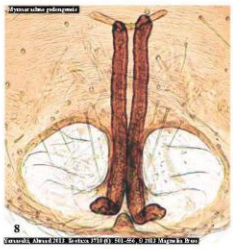
B Myrmarachne melanocephala

C Myrmarachne formicaria

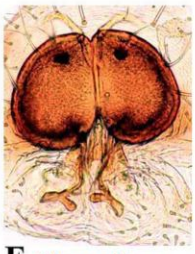
A 1 The main differences between *E. exasperans* and other *Myrmarachne* species are autapomorphies of color pattern and minor carapace structural differences in *E. exasperans*, which are not by themselves sufficient to support generic status. Male palpal structure indicates that its

Edwards 2013a Synonyms of *Myrmarachne* *Peckhamia 110.1* : 4

D Toxeus maxillosus

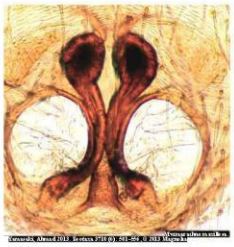


E Myrmage



F Myrmatheca

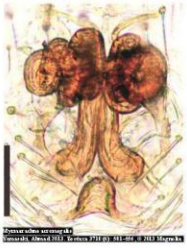
G Emertonius shelfordi



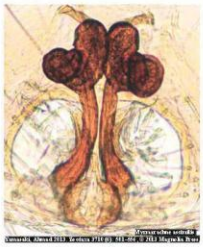
H Toxeus maxillosus

I Myrmavola

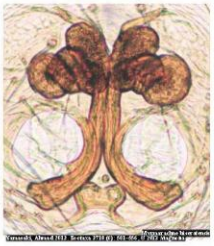
Myrmarachne



J acromegalis



K assimilis



L biseratensis

M cornuta

N epigealis

O hanoi

LIGONIPEINES

P Damoetas nitidus

Q Judalana lutea

Q

R Ligonipes

S Rhombonotus gracilis

Group of genera BELIPPINES Prószyński, 2016

Figures 47A-C, 48A-B
Database contains 1 recognizable genus, 11 species

Type genus *Belippo* Simon, 1909, of which type species is *Belippo anguina* Simon, 1909.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Belippo"*.

Remark. Genus *Belippo* was traditionally considered relative of *Myrmarachne*, a view supported by structure of its spermathecae and membranous ducts, however, its exceptional, sickle shaped, sclerotized tibial apophysis, atop of thin walled structure disagrees with that and compels delimitation of BELIPPINES as separate group of genera.

Mutual diagnostic characters of genera included. BELIPPINES differs from MYRMARACHNINES by exceptional tibial apophysis in a form of sclerotized, short sickle, sitting atop transparent membranous basis - characterized in descriptions as "movable", its function remain a mystery. General plan of spermathecae seems comparable, but differs significantly in details. Ant-likeness weakly pronounced.

Description. Bulbus round, encircled with hair thin embolus, spermophor runs along the contour of bulbus, with small additional, flattened loop. Females differing from other genera by expanded globular vesicle in anterior part of "pipe" like spermathecae, copulatory ducts in a form of extremely complicated membranous loops, visible only in cleared and stained preparations, discovered only recently by Wesołowska and her coauthors (2012, 2013, 2014). Ant likeness weakly developed, with abdomen and carapace only indistinctly constricted, or not at all, and a short pedicel. Male chelicerae long, plulridentate, in females short with comb like tooth. Enclosed illustrations (Figs 47A-C, 48A-C) are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Belippinae_clas.html.

Distribution. Africa.

Composition. Single genus: *Belippo* Simon, 1909 (11 species).

Group of genera THIRATOSCIRTINES Bodner & Maddison, 2012

Figures 47D-U, 48L-U
Database contains 15 recognizable genera, 46 species

Taxon of uncertain position, proposed by Bodner & Maddison 2012, p. 221-222) as subfamily Thiratoscirtinae, with incomplete taxonomic documentation limited to a list of genera

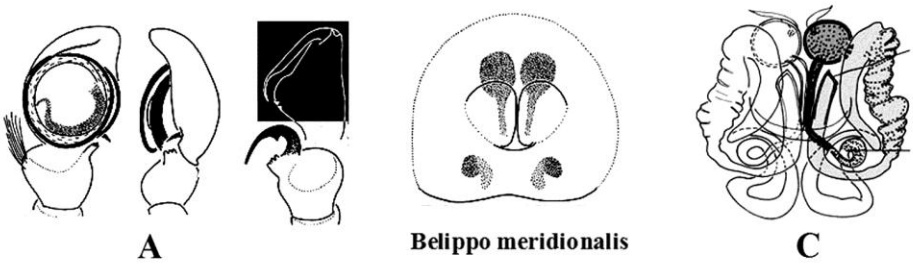
Type genus *Thiratoscirtus* Simon, 1909, of which type species is *Thiratoscirtus patagonicus* Simon, 1886.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Thiratoscirtus"*.

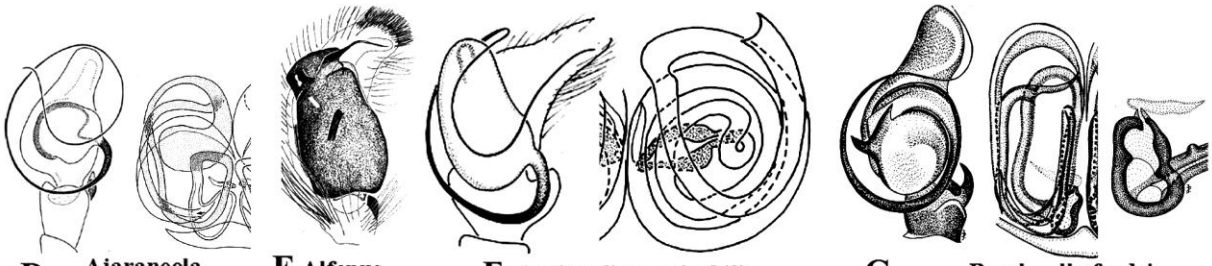
Remarks. Definition of a taxon should consist of documentation of mutual characters of all included taxa, and indication of limits of diversity of that character. When no clear definition is worked out, it happens to be substituted temporarily by list of taxa included by previous authors, often uncritical and pending revision.

BELIPPINES

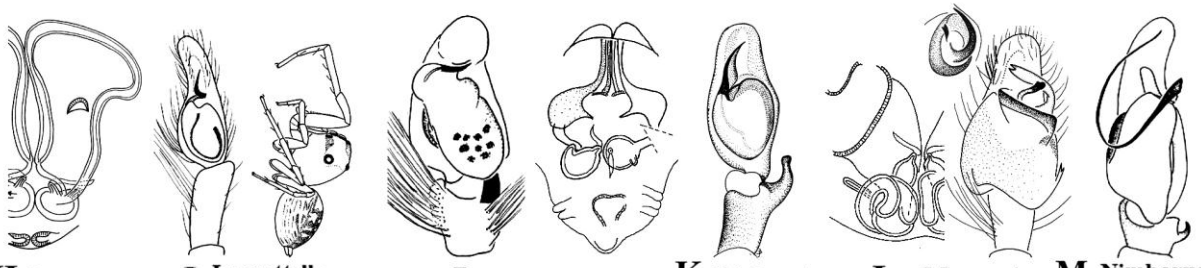


A Belippo meridionalis C

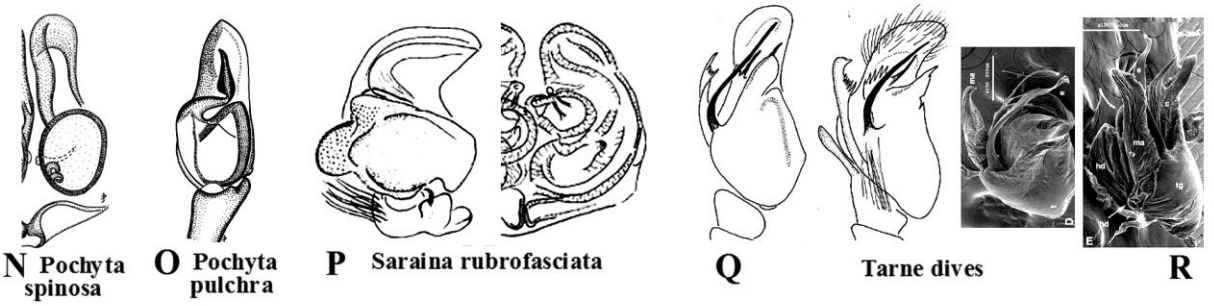
THIRATOSCIRTINES



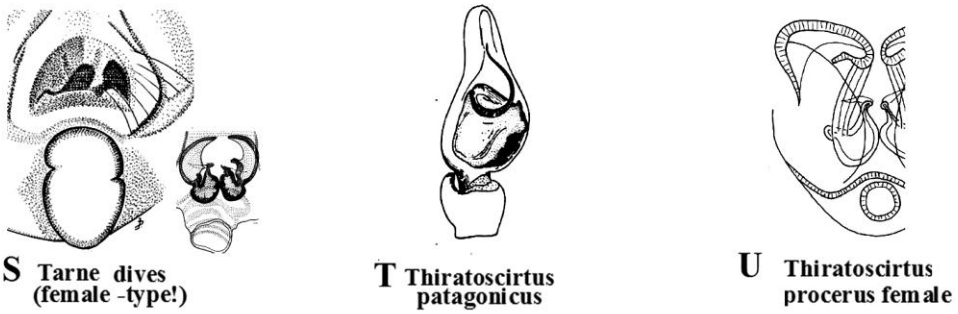
D Ajaraneola mastigophora E Alfenus calamistratus F Ansienulina mirabilis G Bacelarella fradei



H Gramenca prima I Lamottella longipes J Longarenus brachycephalus K Malloneta guineensis L Massagris honesta M Nimbarus pratensis



N Pochyta spinosa O Pochyta pulchra P Saraina rubrofasciata Q Tarne dives R



S Tarne dives (female -type!) T Thiratoscirtus patagonicus U Thiratoscirtus procerus female

Figure 47. Diagnostic characters of representatives of informal group of genera BELIPPINES and THIRATOSCIRTINES. BELIPPINES: **A-C** - *Belippo meridionalis* Wesolowska & Haddad, 2013. THIRATOSCIRTINES : **D** - *Ajaraneola mastigophora* Wesolowska & A. Russell-Smith, 2011, **E** - *Alfenus calamistratus* Simon, 1902, **F** - *Ansienulina mirabilis* Wesolowska, 2015, **G** - *Bacelarella fradei* Berland & Millot, 1941, **H** - *Gramenca prima* Rollard & Wesolowska, 2002, **I** - *Lamottella longipes* Rollard & Wesolowska, 2002, **J** - *Longarenus brachycephalus* Simon, 1903, **K** -*Malloneta guineensis* Simon, 1902, **L** - *Massagris honesta* Wesolowska, 1993, **M** - *Nimbarus pratensis* Rollard & Wesolowska, 2002, **N** - *Pochyta spinosa* Simon, 1901, **O** - *Pochyta pulchra* (Thorell, 1899), **P** - *Saraina rubrofasciata* Wanless & Clark, 1975, **Q-R** - *Tarne dives* Simon, 1886, **S** - *Tarne dives* (female - type!), **T** - *Thiratoscirtus patagonicus* [from Congo!] Simon, 1886, **U** - *Thiratoscirtus procerus* Wesolowska & Edwards, 2012 female.

SOURCES: **A-C, L**- Wesołowska & Haddad 2013 African Invertebrates 54: 186, f. 3, 15, 36-42; 210, f. 113; **D** - Wesołowska, Russel-Smith 2011 Annales Zoologici 61(3): 558-559, f. 14-20; **E, P** - Szüts, Scharff 2005 Acta Zoologica Academiae Scientiarum Hungaricae 51: 359-361, f. 1c; 366, f. 5e, 6b; **F** - Wesołowska 2015 African Invertebrates 56(2): 478, f. 1-14; **G, K**, **N**, **O, S** - Prószyński 1987 Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce: 4, 62,79, 70, 106; **H, I, M**- Rollard & Wesołowska 2002 Zoosystema 24 (2): 292-293, f. 7A-D; 296, f. 10A-F; 301-303, f. 14A-F; **J** - Szüts 2005 [2007] Opuscula Zoologica 36: 89, f. 17; **J, Q**, **S, U** - Wesołowska & Edwards 2012 Annales Zoologici: 62(4): 748, f. 59; 759, f. 88–94, 129 ;: 759, f. 88–94, 129; 761-762, f. 100–101, 130; **R** - Szüts & Rolard 2007 Insect Systematics & Evolution 38: 427-432, t 1a-g; **T** - Galiano 1963b Physis 23 (66): 457-458, t. 39, f. 11-14.

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Figure 48. Color pattern and body shape of representatives of informal group of genera BELIPPINES, DIOLENINES, THIRATOSCIRTINES and HISPONINES. BELIPPINES: **A-B** - *Belippo attenuata* Wesołowska, Haddad, 2014, male and female, **C** - *Belippo pulchra* Haddad & Wesołowska, 2013, male and female. DIOLENINES: **D** - *Chalcolecta prensitans* (Thorell, 1881), **E** - *Diolenius virgatus* Gardzińska & Żabka, 2006, **F** - *Ohilimia cf. scutellata?*, **G** - *Paraharmochirus tualapaensis* Zhang & Maddison, 2012, **H** - *Udvardya elegans* (Szombathy, 1915), **I** -*Tarodes sp*, **J** - *Sobasina wanlessi* Zhang & Maddison, 2012, **K** - *Furculattus maxillosus* (Wanless & Lubin, 1986). THIRATOSCIRTINES: **L** - *Ajaraneola mastigophora* Wesolowska & A. Russell-Smith, 2011, **M** - *Alfenus calamistratus* Simon, 1902, **N** - *Ansienulina mirabilis* Wesolowska, 2015, **O** - *Bacelarella dracula* Szüts & Jocqué, 2001, **P** - *Longarenus sp.*, **Q** - *Tarne dives* Simon, 1886, **R** - *Malloneta sp.*, **S** - *Pochyta pulchra* (Thorell, 1899), **T** - *Thiratoscirtus* [?] sp., **U** - *Thiratoscirtus patagonicus* Simon, 1886. HISPONINES: **W** - *Hermotimus sp.*, **X** - *Hispo sp.* [Madagascar], **Z** - *Jerzego alboguttatus* (Simon, 1903).

SOURCES: **A-C** - Wesołowska & Haddad, 2014 African Invertebrates 55(2): 233, f. 8-10, 12-19; **C** - Haddad & Wesołowska, 2013: Genus: 24(3-4): 462-464, f. 73-74, **D**, **K** - Gardzinska 2004 - PhD Thesis; **E** - Gardzinska & Żabka 2006 Annales Zoologici 56(2): 391-392, f. 71-87; **F** - Photo R. Whyte; **G J** - Zhang J. & Maddison, 2012 Zootaxa 2012b: 36-39, f. 171; 42, f. 196-204; **H-I, S, U, X** - Photo Szüts; **L, O** - Wesołowska & Russel-Smith 2011 Annales Zoologici 61(3): 558-559, f. 218; f. 223; **M** - Szüts & Scharff 2005 Acta zoologica Academiae Scientiarum hungaricae 51: 359-361, f. 1a,c, 2a-f, 3a-d; **N** - Wesołowska, 2015 African Invertebrates 56(2): 478, f. 1-14.;; **P, R, T, W** - Maddison 2015. Journal of Arachnology. 43: 231–292, f. 43: 231-292, f. 23; f. 122; f. 123; f. 124; **Q** - Wesołowska & Edwards 2012 Annales Zoologici: 62(4): 759, f. 129; **Z** - Maddison & Piascik 2014 Zootaxa 3852 (5): 573, f. 14-17.

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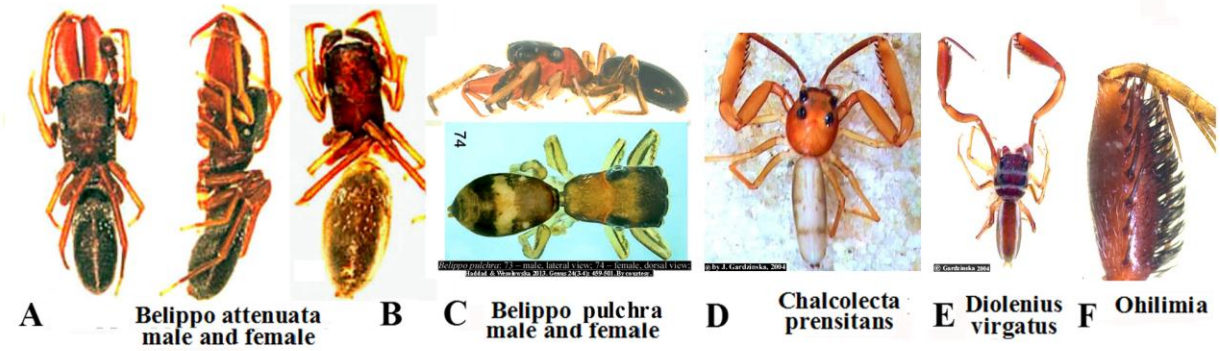
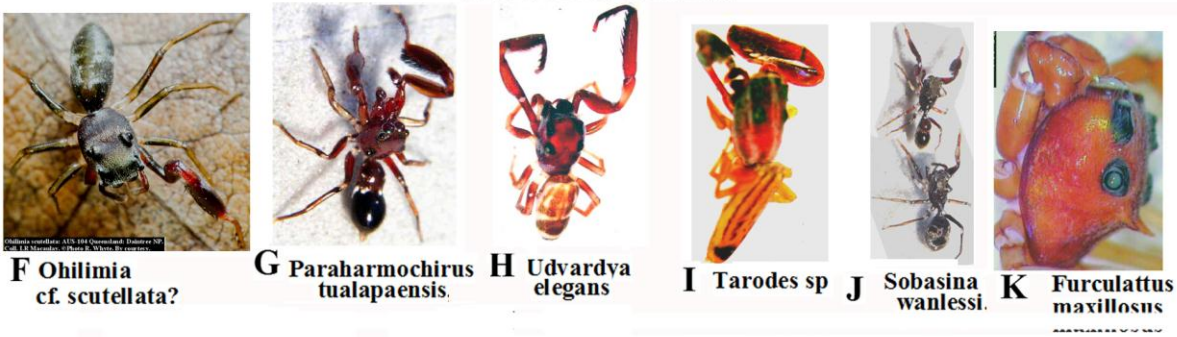
BELIPPINES

DIOLENINES



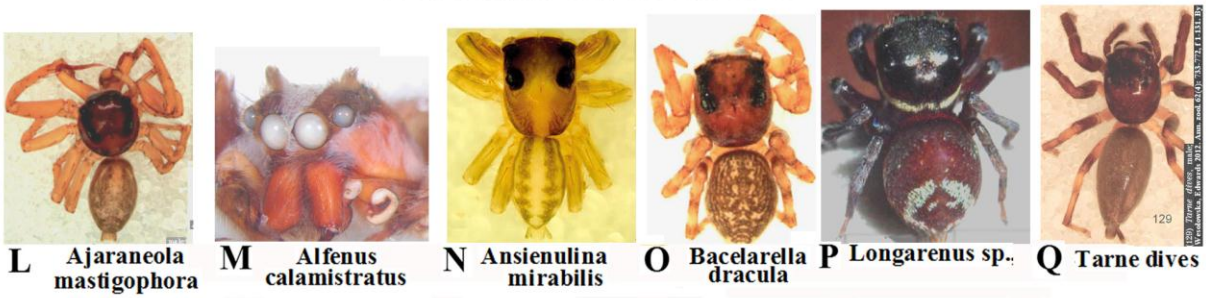
A Belippo attenuata male and female B C Belippo pulchra male and female D Chalcolecta prensitans E Diolenius virgatus F Ohilimia

DIOLENINES

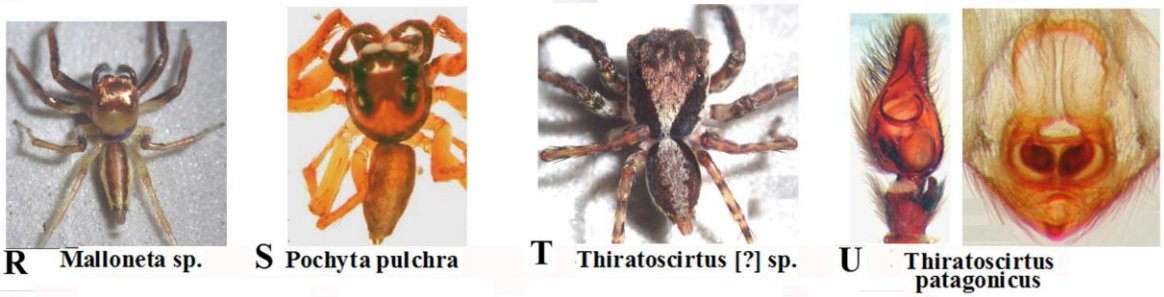


F Ohilimia cf. scutellata? G Paraharmochirus tualapaensis. H Udvardya elegans I Tarodes sp J Sobasina wanlessi. K Furculattus maxillosus

THIRATOSCIRTINES



L Ajaraneola mastigophora M Alfenus calamistratus N Ansienulina mirabilis O Bacelarella dracula P Longarenus sp.. Q Tarne dives



R Malloneta sp. S Pochyta pulchra T Thiratoscirtus [?] sp. U Thiratoscirtus patagonicus

HISPONINES

W Hermotimus sp. X Hispo sp. [Madagascar]. Y Z Jerzego alboguttatus

This is the case of new subfamily Thiratoscirtinae (=THIRATOSCIRTINES), proposed by Bodner & Maddison 2012: 213 without description, or even indication, by which characters could it be recognized. Some of these genera seem to be composite, some could be placed elsewhere. Provisional state of the subfamily is not assisted by collection of 24 photographs of "genitalia of unidentified thiratoscirtines from Gabon" (op. cit. f. B1-B2), none the less are considered as documentary material of geographical origin and of hypothetical age of phylogenic branching. The list of genera was complemented by description a number of species of *Thiratoscirtus* by Wesołowska et al. (2011, 2012, 2013, 2014, 2015, 2016), but without taking responsibility for the subfamily suggested by Bodner & Maddison. Because of provisional character, no definition and description of the group is given here. In the present paper the group is placed provisionally within supergroup EUOPHRYOIDA because of coiled embolus in type specie (Fig. 47T, U), although its positioning atop membranous distal haematodocha is only supposed, but not yet proven.

Description. At the present state on literature concerning THIRATOSCIRTINES no summary description could be presented here, but it could be deducted and synthesized from available drawings and other documentation of the species and genera included (Figs 47D-U, 48L-U). To see diversity among recognizable species (but without newest species described by Wesołowska) see file http://www.peckhamia.com/salticidae/Thiratoscirtinae_clas.html.

Distribution: Africa.

Composition. The group contains provisionally genera not fitting other groups: *Ajaraneola* Wesolowska & A. Russell-Smith, 2015 (1 species); *Alfenus* Simon, 1902 (2 species); *Ansienulina* Wesolowska, 2015 (1 species); *Bacelarella* Berland & Millot, 1941 (4 species); *"Bacelarella-2"* [different genus pending description] (4 species); *Gramenca* Rollard & Wesolowska, 2002 (1 species); *Lamottella* Rollard & Wesolowska, 2002 (1 species); *Longarenus* Simon, 1903 (1 species); *Malloneta* Simon, 1902 (1 species); *Nimbarus* Rollard & Wesolowska, 2002 (1 species); *Pochyta* Simon, 1901 (9 species); *Saraina* Wanless & Clark, 1975 (3 species); *Tarne* Simon, 1886 (1 species); *Thiratoscirtus* Simon, 1886 (25 species).

Group of genera HISPONINES Prószyński, 2016

Figures 48W-ZZ, 49A-J1

Database contains 9 recognizable genera, 40 species

Type genus *Hispo* Simon, 1886, of which type species is *Hispo cingulata* Simon, 1886.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Hispo"*.

Mutual diagnostic characters of genera included. Differs from other groups by minute size of eyes posterior lateral (IInd row), sitting very closely to eyes anterior lateral, on the same black pigmented protuberance (Fig. 49J1). On the other hand, genitalic characters are insufficiently known in this group and no final conclusion could be drawn yet. Embolus bent, coiled or straight and minute, sitting atop membranous distal haematodocha. Epigyne varies extensively.

Description. Diagnostic characters illustrated on Figs 49A-J. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Hisponinae_clas.html.

Remark. Peculiar arrangement of eyes anterior lateral and posterior lateral (IInd row) on the same protuberance, followed in some genera by shallow constriction across eye field, may be misleading. The same concerns striking reduction of size of eyes posterior lateral (IInd row) in some genera classified to various groups, for instance eyes in *Lystrocteissa* are paired with HYLLINES[?] like palp structure (Figs

14L, 17G), likewise *Tomobella fotsy* Szüts, Scharff 2009 (Fig. 49I) resembles some *Neon*. That somatic character is apparently prone to develop parallel in various lineages of Salticidae, it is interesting that in some fossil genera (like *Prolinus*) eyes posterior lateral (IInd row) are not reduced, or moderately reduced (as in Hisponinae amber spider shown on magnificent photographs by Hill - Fig. 55M-N).

Distribution. Africa, Asia, Madagascar, fossil specimens in Tertiary Baltic Amber.

Composition. The following extant and fossil genera are included: +*Gorgopsina* Petrunkevitch, 1955, *Hermotimus* Simon, 1903 (1 species), *Hispo* Simon, 1886 (11 species), *Jerzego* Maddison, Piascik, 2014 (3 species), *Massagris* Simon, 1900 (3 species), *Tomobella* Szüts & Scharff, 2009 (2 species), *Tomocyrba* Simon, 1900 (6 species), *Tomomingi* Szüts & Scharff, (9 species).

Group of genera DIOLENINES Prószyński, 2016

Figures 48D-K, 49K-U

Database contains 5 recognizable genera, 37 species

Type genus *Diolenius* Thorell, 1870 of which type species is *Diolenius phrynoides* (Walckenaer, 1837) [= *Attus phrynoides* Walckenaer, 1837].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature. **Etymology.** Informal name coined of the type genus name *"Diolenius"*.

Mutual diagnostic characters of genera included. Differs from other groups by legs I very long, including unusually long coxa and trochanter (excluding forms with short two latter segments, like *Thianitara*). Palps and epigyne diverse - see file http://www.peckhamia.com/salticidae/Dioleninae_clas.html.

Description. Majority of genera with enormously long legs I, with tibia “flag” like - swollen, dark, with fringe of long black setae and double row of about 7 pairs of long ventral spines.

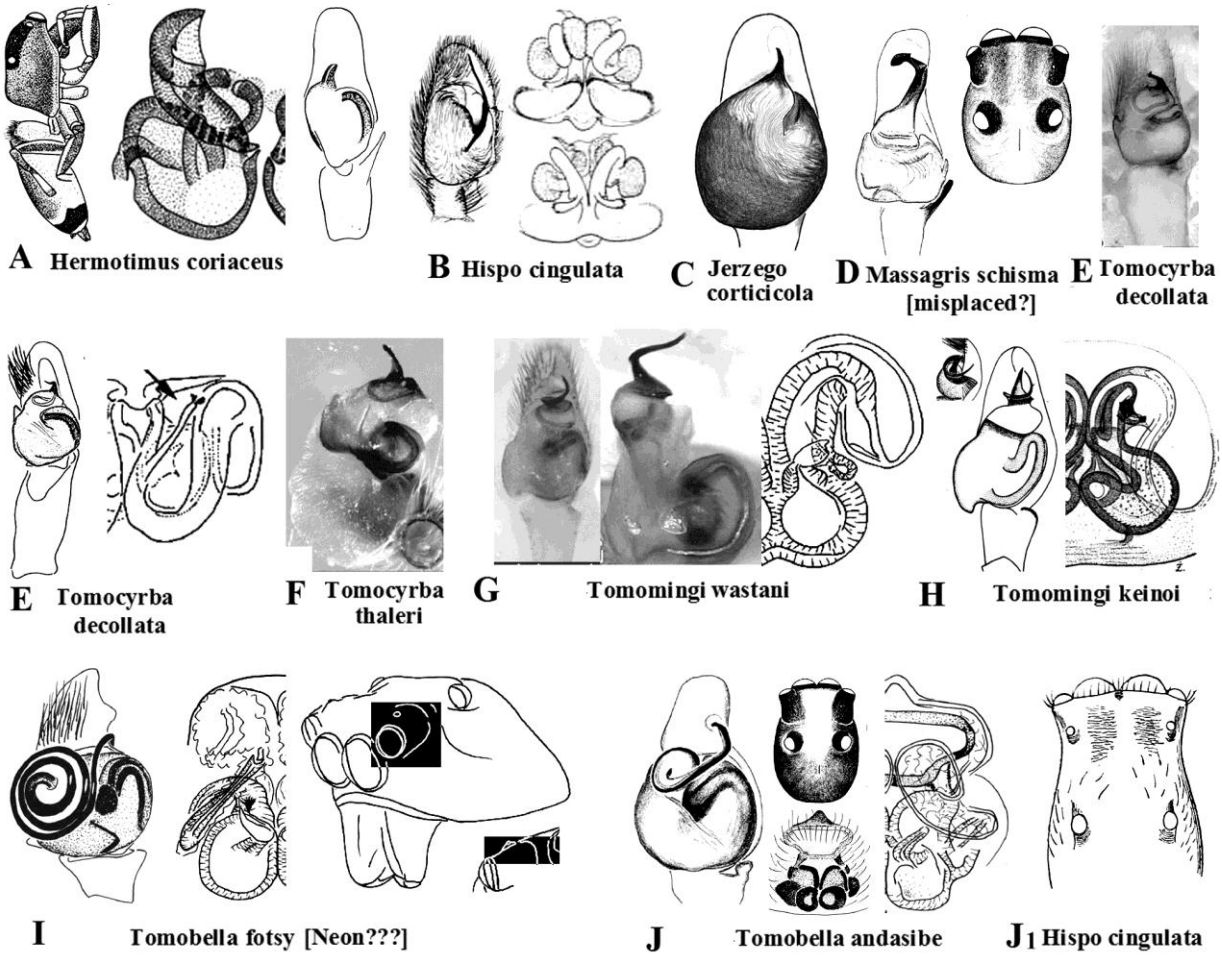
Special case. Genus *Sobasina* is tentatively included here because of coxa I and trochanter I being somewhat longer (Fig. 48J), while leg I as a whole is not especially long. Habitus diversified into various forms comparable to *Chalcoscirtus*, ant-like forms, or *Coccorchestes* like monster. Most unusual character of that genus are diversified spermathecae, with posterior part changed into very long "tail" resembling string of beads, anterior part of spermatheca (or is it atrium?) swollen like thin walled balloon, duct very short or absent (Figs 49Q-T), it can be examined only cleared and under higher power of a compound microscope. Otherwise, epigyne is minute, too small to be useful diagnostically, palps are uniform and nondescript.

Remark. The genera included are probably not related and should be eventually distributed among various groups.

Distribution. Asia, Australia, Pacific Islands.

Composition. The following genera are included: *Chalcolecta* Simon, 1884 (3 species), *Diolenius* Thorell, 1870 (15 species), *Ohilimia* Strand, 1911 (2 species), *Paraharmochirus* Simon, 1898 (2 species), *Sobasina* Simon, 1898 (15 species). Elongate coxa and trochanter characterize also following genera, delimited to other groups because o palps and other structures: *Bristowia* Reimoser, 1934 (2 species) placement CHRYSILLINES (?), *Furculattus* Balogh, 1980 (1 species, EUOPHRYINES), *Tarodes* Pocock, 1899 (1 species, EUOPHRYINES), *Udvardya* Prószynski, 1992 (1 species, EUOPHRYINES).

HISPONINES



DIOLENINES

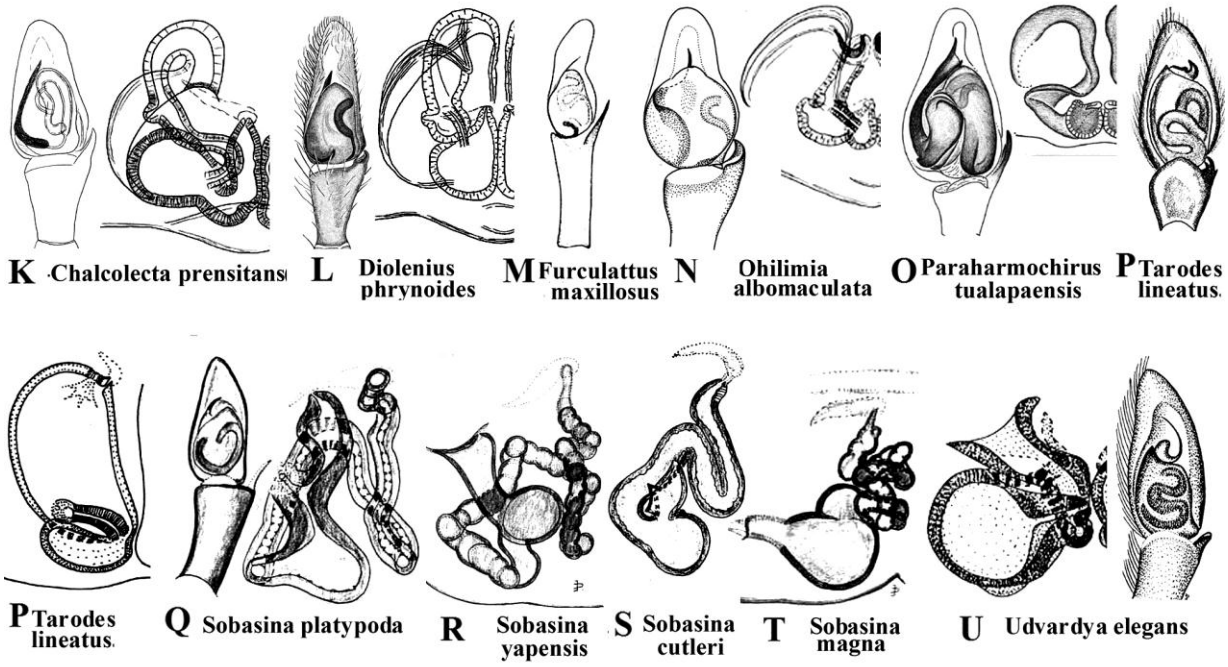


Figure 49. Diagnostic characters of representatives of informal group of genera HISPONINES and DIOLENINES. HISPONINES:**A** - *Hermotimus coriaceus* Simon, 1903, **B** - *Hispo cingulata* Simon, 1886, **C** - *Jerzego corticicola* Maddison, Piascik, 2014, **D** - *Massagris schisma* [misplaced?] Maddison, Zhang J. 2006, **E** -*Tomocyrba decollata* Szüts, Scharff 2009, **F** - *Tomocyrba thaleri* Szüts & Scharff, 2009, **G** -*Tomomingi wastani* Szüts, Scharff, 2009, **H** - *Tomomingi keinoi* Prószyński, Żabka, 1983, **I** - *Tomobella fotsy* Szüts, Scharff 2009 [*Neon*???], **J** - *Tomobella andasibe* (Maddison & Zhang J. 2006), **J1** - *Hispo cingulata* Simon, 1886. DIOLENINES: **K** -*Chalcolecta prensitans* (Thorell, 1881), **L** - *Diolenius phrynoides* (Walckenaer, 1837), **M** - *Furculattus maxillosus* Balogh, 1980, **N** - *Ohilimia albomaculata* (Thorell, 1881), **O** - *Paraharmochirus tualapaensis* Zhang J., Maddison, 2012, **P** - *Tarodes lineatus* Pocock, 1899, **Q** - *Sobasina platypoda* Berry, Beatty, Prószyński 1998, **R** - *Sobasina yapensis* Berry, Beatty, Prószynski, 1998, **S** - *Sobasina cutleri* Berry, Beatty, Prószyński 1998, **T** - *Sobasina magna* Berry, Beatty, Prószynski, 1998, **U** - *Udvardya elegans* (Szombathy, 1915).

SOURCES: **A** - Prószyński 1987: 43 + Szüts 2005[2007] Opuscula Zoologica 36: 87-88, f. 7-15; **B** - Wanless 1981a Bulletin of the British Museum (Natural History) (Zoology series) 41 (4): 188, f.6A-G; **C** - Maddison, Piascik 2014 Zootaxa, Magnolia Press 571-573, f. 1-13; **D** - Maddison, Zhang J. 2006 Zootaxa, Magnolia Press 1255: 32, f. 8-10; **E-G, J, I** - Szüts, Scharff 2009 Contributions to Natural History 12: 1345, f. 1A, 2A, C, 3A-B, 6A, 7A, 8A-H; 1350-1352, f. 1B, 3F, 5C, 10E–H; 1364, f. 1A–D; 1370, f. 18a-d,18E-H; 1370, f. 18a-d,18E-H; **H** - Prószyński, Żabka 1983b Acta zool. cracov. 26: 572; **J** - Maddison, Zhang J. 2006 Zootaxa 1255: 34, f. 11-13; **J1** - Simon 1901-1903: 450, f. 511; **K** - Gardzinska, Żabka 2005 Annales zoologici 2005: 442, f. 1-2, 20-59; **L** - Gardzinska 2004 PhD Thesis - Siedlce; **M** - Szüts 2003c Folia entomologica hungarica 64: 42-47, f. 1-8; **N** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce ...: 94 and Gardzinska 2006 Annales zoologici 56(2): 37:7, f. 1-25; **O** - Zhang J., Maddison 2012 Zootaxa 2012b: 36-39, f. 170-182; **P** - Det. J. A. Beatty, drawings by J. Prószyński; **Q-T**- Berry, Beatty, Prószyński 1998 Journal of Arachnology 26(2): 173, f. 73-79; 171, f. 67-72; 176-178, f. 86-89; 173, f. 73-79; **U** - Prószyński 1992a Annales zoologici 44, 8: 114-115, f. 124-135.

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Groups of genera standing apart

Reasons of temporary separation of these groups. Absence of useful, mutual morphological diagnostic characters comparable with other groups.

The following groups are defined below: ASEMONEINES, ASTIAINES, COCALODINES, EUPOAINES, LAPSIINES, LYSSOMANINES, MENEMERINES, ONOMASTINES, SPARTAEINES, SYNAGELINES.

Group of genera MENEMERINES Prószyński, 2016

Figures 50A-O, 51A-D

Database contains 3 recognizable genera, 64 species

Type genus *Menemerus* Simon, 1868, of which type species is *M. semilimbatus* [*Attus semilimbatus* Hahn 1827 [1829])

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in the original literature.

Etymology. Informal name coined of the type genus name *"Menemerus"*.

Mutual diagnostic characters of genera included. Palps differ from other groups by robust, fleshy base of embolus, parallel to bulbus (Figs 50A, J, and N). Embolus small, sclerotized and often doubled atop (which require more attention), in some cases paralleled by soft looking attachment, hidden behind embolus (like in *Monomers bivittatus*), of unknown function. Bulbus large, bulging. Epigyne strongly sclerotized, ducts in *Menemerus* and *Leptorchestes* straight and thick walled (Figs 50I, M) spermathecae located posteriorly. In *Kima*, however, ducts are thin and entangled (Figs 50O), resembling PSEUDICINES.

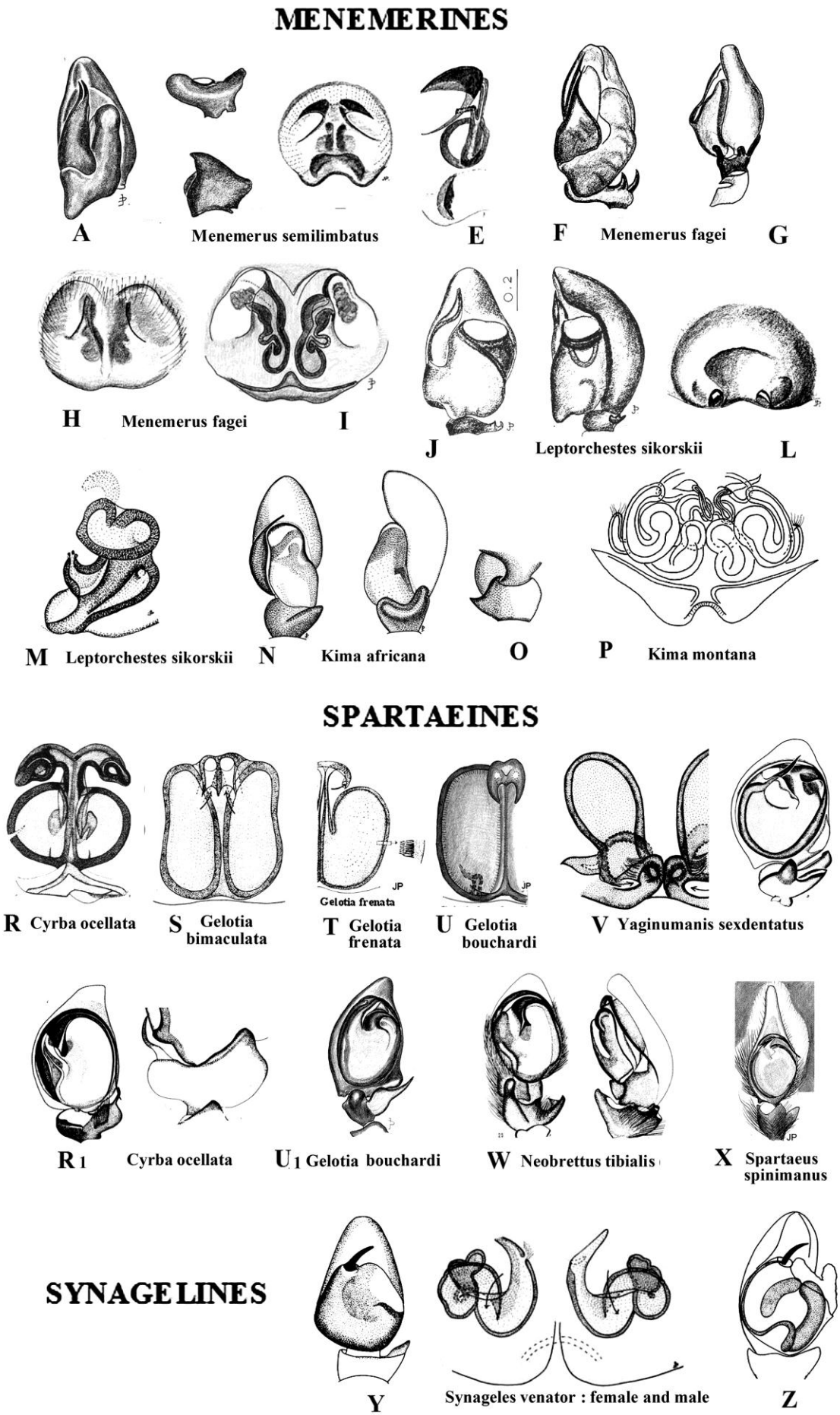

MENEMERINES
A
Menemerus semilimbatus
E
F
Menemerus fagei
G
H
Menemerus fagei
I
J
Leptorchestes sikorskii
L
M
Leptorchestes sikorskii
N
Kima africana
O
P
Kima montana
SPARTAEINES
R Cyrba ocellata
S Gelotia bimaculata
Gelotia frenata
T Gelotia frenata
U Gelotia bouchardi
V Yaginumanis sexdentatus
R1
Cyrba ocellata
U1 Gelotia bouchardi
W Neobrettus tibialis
X Spartaeus spinimanus
SYNAGELINES
Y
Synageles venator : female and male
Z

Figure 50. Diagnostic characters of representatives of informal group of genera MENEMERINES, SPARTAEINES and SYNAGELINES. MENEMERINES: **A-E** - *Menemerus semilimbatus* (Hahn, 1829), **F-I** - *Menemerus fagei* Berland & Millot, 1941, COMPARISON OF ANT-LIKE MENEMERINES: **J-M** - *Leptorchestes sikorskii* Prószynski, 1999[2000], **N-O** - *Kima africana* Peckham & Peckham, 1902, **P** - *Kima montana* Wesolowska & Szeremeta, 2001) - WITH SYNAGELINES: **Y-Z** - *Synageles venator* (Lucas, 1836) female, male and palp, cleared and expanded. SPARTAEINES: **R, R1** - *Cyrba ocellata* L. Koch, 1874, **S** - *Gelotia bimaculata* Thorell, 1890, **T** - *Gelotia frenata* Thorell, 1890, **U, U1** - *Gelotia bouchardi* (Simon, 1903), **V** - *Yaginumanis sexdentatus* (Thorell, 1878), **W** - *Neobrettus tibialis* (Prószyński 1968), **X** - *Spartaeus spinimanus* (Thorell, 1878.

SOURCES: **A-F, M** - Prószyński Annales zoologici 2003 84-85, f. 325-329; 90-91,f. 345-346, 351-353; 97, f. 347-348, 357-359; 95-97, f. 375-38; **N-P** - Prószyński 1984c Atlas ...: 75; **O** - Wesołowska, Szeremeta 2001 Insect Systematics & Evolution 32(2): 224-225, f. 27-31; **R-R1** - Prószyński 1978a: 16, f. 19, 21-24; **S** - Prószyński & Deeleman-Reinhold 2012 Arthropoda Selecta 21: 38, f. 53-54; **T** - Prószyński & Deeleman-Reinhold 2012: 38, f. 51; **U, U1** - Prószyński & Deeleman-Reinhold 2012: 38, f. 45-46, 48*;* **W** - Prószyński Entomologica Basiliensis 3: 19, f. 25-27; **X** - Prószyński & Deeleman-Reinhold, 2010: Arthropoda Selecta 19 180, f. 134-137: **V** - Bohdanowicz, Prószyński 1987 Annales zoologici 41, 2: 46-47, f. 1-5; **Y-Z** - Prószyński Internet.

…figure on page 113

Figure 51. Color pattern and body shape of representatives of informal group of genera MENEMERINES, SPARTAEINES, SYNAGELINES and PENDING CLASSIFICATION. MENEMERINES: **A** - *Menemerus semilimbatus* (Hahn, 1829), **B** - *M. bivittatus* (Dufour, 1831), **C** - *Kima variabilis* Peckham & Peckham, 1903, COMPARISON ANT-LIKE MENEMERINES: **D** - *Leptorchestes berolinensis* (C. L. Koch, 1846) with SYNAGELINES: K - *Synageles ventor* (Lucas, 1836). SPARTAEINES: **E** - *Brettus cf. albolimbatus*, **F** - *Cocalus murinus* Simon, 1899, **G** - *Cyrba ocellata* (Kroneberg, 1875) with **H** - *Gelotia sp.*, **I** - *Neobrettus sp.*, **J** - *Portia labiata* (Thorell, 1887). PENDING CLASSIFICATION: **L** - *Ancepitilobus howensis* Richardson, 2016, **M** - *Capeyorkia vulpecula* Richardson, 2016, **N** - *Drizztius geminensis* Edwards, 2015.

SOURCES: **A, D, K**- Photo J. Lissner; **B** - Photo R. Whyte; **C** - Photo C. Hadad; **F** - Photo Anurag; **G-K** - Photo H. K. Tang; **H** - Photo J. Caleb; **I-J** - Photo R.R. Jackson; **L-P** - Richardson, 2016. Zootaxa, Magnolia Press 4114 (5): 507, f. 1-15; 521, 523, f. 67–76; **N** - Edwards, 2015: Zootaxa, Magnolia Press. 4036(1): 29, f. 8A-N.

…figure on page 115

MENEMERINES

A Menemerus semilimbatus

B Menemerus bivittatus

C Kima variabilis

MENEMERINES

D Leptorchestes berolinensis

SYNAGELINES

K Synageles ventor

SPARTAEINES

E Brettus cf. albolimbatus

F Cocalus murinus

G Cyrba ocellata

H Gelotia sp.

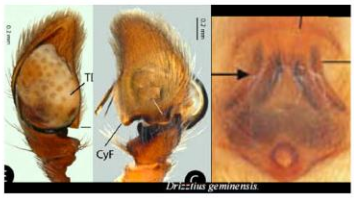
I Neobrettus sp.

J Portia labiata

Pending classification

L Ancepitilobus howensis

M Capeyorkia vulpecula



N Drizztius geminensis

Description. *Menemerus* has body relatively flattened and broad (Figs 51A-B), two remaining genera are ant-like (Figs 51C-D), but their carapace is not constricted. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Menemerinae_clas.html.

Distribution. Warm areas of the Old World, a few species of *Menemerus* cosmopolite.

Composition. The following genera are included: *Kima* Peckham & Peckham, 1902 (5 species), *Leptorchestes* Simon, 1868 (7 species), *Menemerus* Simon, 1868 (52 species).

Group of genera SYNAGELINES Prószyński, 2016

Figures 50Y-Z, 51K
Database contains 1 recognizable genus, 20 species

Type genus *Synageles*, of which type species is *Synageles venator* (Lucas, 1836).

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Synageles"*.

Mutual diagnostic characters of genera included. Recognizable by body shape and color pattern (Fig. 51K), considered ant-like but eyefield is flat, abdominal constriction is weakly developed but enhanced by a transverse white band or dots. Genus *Synageles* stands apart from other groups of genera, differing from EUOPHRYINES by lack of meandering spermophor, relation of embolus to inflatable distal haematodocha is unknown (Figs 50Y-Z). Epigyne and its internal structures are relatively simple, diversified, without any discernible resemblance to any other Salticidae. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Synagelines.html.

Distribution. Holarctics.

Composition. Includes single genus *Synageles* Simon, 1876 (20 species).

Group of genera SPARTAEINES Prószyński, 2016

Figures 50R-X, 51E-J
Database contains 16 recognizable genera, 111 species

Type genus *Spartaeus* Thorell, 1891, of which type species is *Spartaeus spinimanus* (Thorell 1878) [syn. *Boethus spinimanus* Thorell 1878].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Spartaeus"*.

Diagnosis. Remarkably common and stable character is robust embolus, arising antero-laterally and encircling tightly anterior part of bulbus (Figs 50R-X), also spermathecae in form of large globular or oval chamber, occupying large part of epigyne (Figs 50R-V).

Description. Diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Spartaeinae_clas.html.

Remark. Considered primitive "Basal Salticidae" by Maddison et al. (several papers) on the ground of molecular research, but there are no continuity of morphological diagnostic characters of these genera with other Salticidae, nor does that contribute to taxonomic identification of genera concerned. However, remarkable behavior of spinning web by some *Portia* seems to be primitive.

Distribution. Warm areas of the Old World, Australia and Pacific Islands.

Composition. The following genera are included: *Brettus* Thorell, 1895 (7 species), *Cocalus* Koch C.L., 1846 (4 species), *Cyrba* Simon, 1876 (8 species), *Gelotia* Thorell, 1890 (8 species), *Holcolaetis* Simon, 1886 (7 species), *Meata* Żabka, 1985 (2 species), *Meleon* Wanless, 1984 (8 species), *Mintonia* Wanless, 1984 (9 species), *Neobrettus* Wanless, 1984 (4 species), *Phaeacius* Simon, 1900 (12 species), *Portia* Karsch, 1878 (14 species), *Spartaeus* Thorell, 1891 (13 species), *Taraxella* Wanless, 1984 (5 species), *Thrandina* Maddison, 2006 (3 species), *Veissella* Wanless, 1984 (2 species), *Yaginumanis* Wanless, 1984 (3 species).

Group of genera: ASTIAINES Prószyński, 2016

Figures 52A-K, 53A-M
Database contains 12 recognizable genera, 68 species

Type genus *Astia* Koch L., 1879, of which type species is *Astia hariola* Koch L., 1879 .

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Astia"*.

Mutual diagnostic characters of genera included. Bulbus simple oval, embolus short, arising anterolaterally. Epigyne with small, simple spermathecae, ducts thin, running anteriorly, cheliceral inner posterior tooth - comb like (numerous small cones arising from mutual basis).

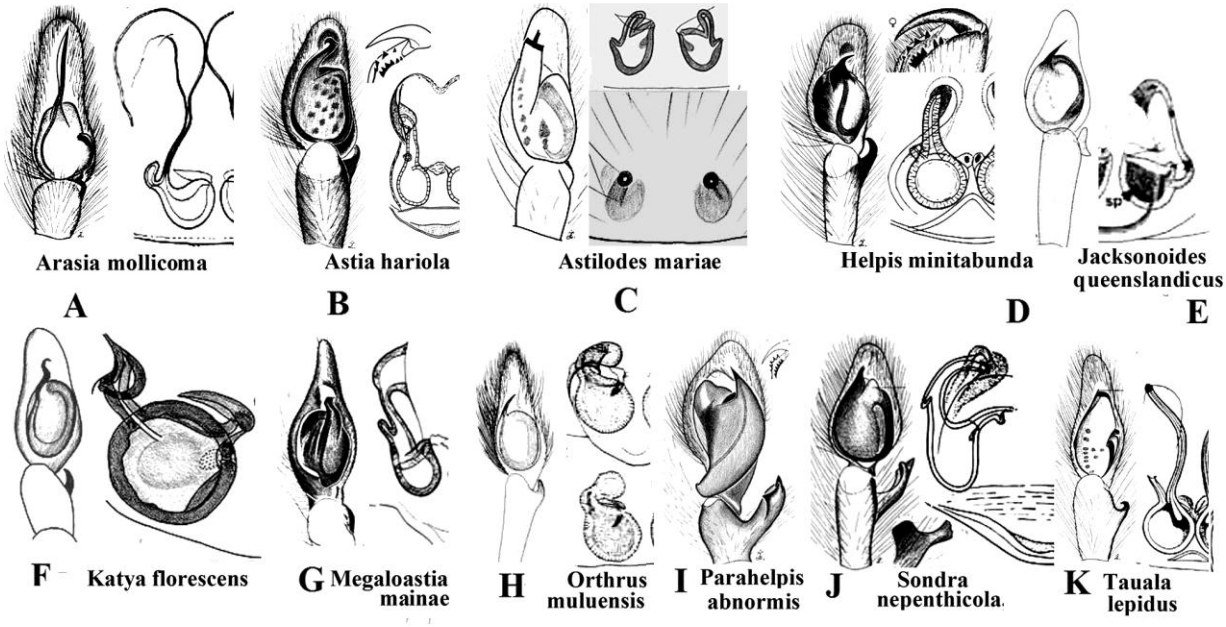
Definition. Bulbus simple oval, embolus short, arising anterolaterally. Epigyne with small, simple spermathecae, ducts thin, running anteriorly, cheliceral inner posterior tooth - comb-like, but in *Adoxotoma bargo* fissidentate. External appearance diverse. Diagnostic drawings below are integral part of definition. To check diversity of diagnostic characters in ALL species see file http://www.peckhamia.com/salticidae/Astieae_clas.html.

Remarks. Poorly known and ill defined, live in Southern part of Eastern Hemisphere.

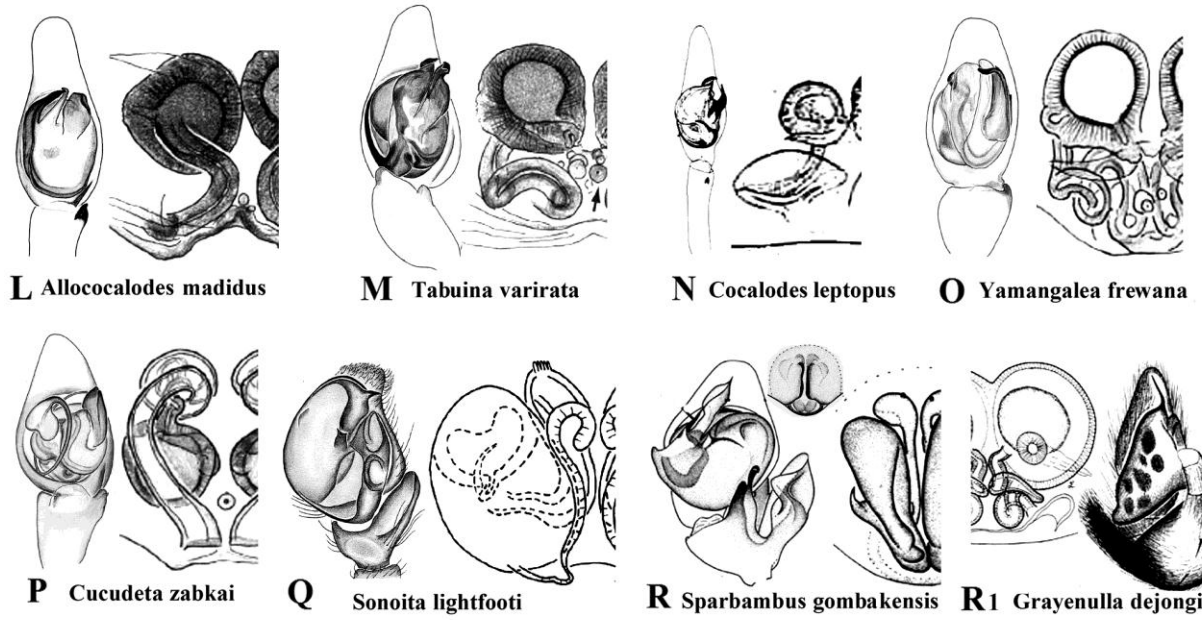
Distribution. Australia, SE Asia, and adjacent Pacific Islands.

Composition. The following genera are included: *Arasia* Simon, 1901(3 species), *Aruana* Strand, 1911 (2 species), *Astia* L. Koch, 1879 (4 species), *Astilodes* Żabka, 2009 (1 species), *Helpis* Simon, 1901 (8 species), *Jacksonoides* Wanless, 1988 (17 species) *Katya* Prószynski, Deeleman-Reinhold, 2010 (3 species), *Megaloastia* Żabka, 1995 (1 species), *Orthrus* Simon, 1900 (4 species), *Parahelpis* Gardzińska & Żabka, 2010 (2 species), *Sondra* Wanless, 1988 (15 species), *Tauala* Wanless, 1988 (8 species).

ASTIAINES



COCALODINES



LAPSIINES

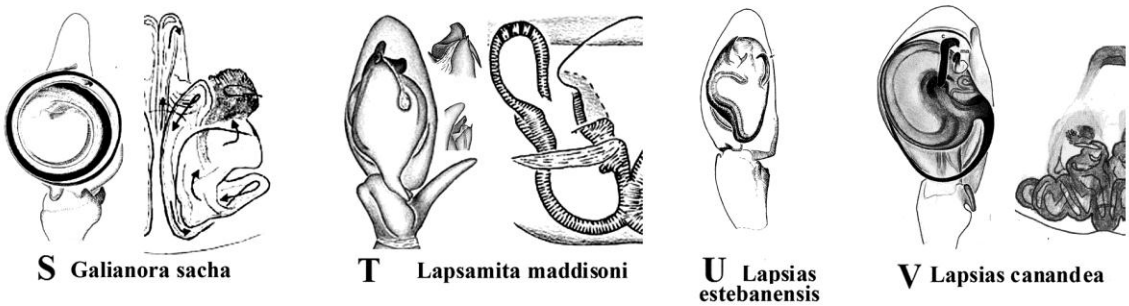


Figure 52. Diagnostic characters of representatives of informal group of genera ASTIAINES, COCALODINES and LAPSIINES. ASTIAINES: **A** - *Arasia mollicoma* (L. Koch, 1880), **B** - *Astia hariola* L. Koch, 1879, **C** - *Astilodes mariae* Żabka, 2009, **D** - *Helpis minitabunda* (L. Koch, 1880), **E** - *Jacksonoides queenslandicus* Wanless, 1988, **F** - *Katya florescens* Prószyński, Deeleman-Reinhold, 2010, **G** - *Megaloastia mainae* Żabka, 1995, **H** - *Orthrus muluensis* Wanless, 1980, **I** - *Parahelpis abnormis* (Żabka, 2002), **J** - *Sondra nepenthicola*, Wanless, 1988, **K** - *Tauala lepidus* Wanless, 1988. COCALODINES: **L** - *Allococalodes madidus* Maddison, 2009 **M** - *Tabuina varirata* Maddison, 2009, **N** - *Cocalodes leptopus* Pocock, 1897, **O** - *Yamangalea frewana* Maddison, 2009, **P** - *Cucudeta zabkai* Maddison 2009, **Q** - *Sonoita lightfooti* Peckham & Peckham, 1903, **R** - *Sparbambus gombakensis* Zhang, Woon, Li 2006, **R1** - *Grayenulla dejongi* Żabka 1992a. LAPSIINES: **S** - *Galianora sacha* Maddison, 2006, **T** - *Lapsamita maddisoni* Ruiz, 2013, **U** - *Lapsias estebanensis* Galiano 1963b, **V** - *Lapsias canandea* Maddison, 2012.

SOURCES: **A-B, D**, **J-K** - Davies Todd, Żabka 1989 Memoirs of the Queensland Museum, 27 (2): 209, t 15; 210, t. 16 ; 208, t. 14; 257, t. 56; **C** - Żabka 2009 Insect Systematics & Evolution 40: f. 1-4; **E** - Wanless 1988 New Zealand Journal of Zoology 15: 104-108, f. 9a-g, 10a-b, 11a, d-e, 12a-c; **F** - Prószyński, Deeleman-Reinhold 2010 Arthropoda Selecta 19(3): 170-171, f. 85-90; **G** - Żabka 1995b Records of the Western Australian Museum, Supplement 52: 161-163. f. 1-16; **H, N** - Wanless 1980b Bulletin of the British Museum of Natural History (Zool.) 38 (4): 226-227, f. 1A-E; 1982 42 (4): 275-277, f. 7H, 20A-B; **I, R1** - Żabka Records of the Australian Museum 1992a 44: 177, ,f. 10b, 11b; 2002 54: 54: 259,f. 3A-E, 2; **L-P, S-V** - Maddison 2006 Zootaxa, Magnolia Press 1255: 23-25, f. 9, 15; 2009 2021: 5-7, f. 10-19; 11-13, f. 44-50; 8-9, f. 20-30; 15-17, f. 62-63; 2012 : 3424: 55-58, f. 11–20; **Q** - Wesołowska, Tomasiewicz 2008 Journal of Afrotropical Zoology 4: 48-49, f. 192 and Wesołowska, Cumming 2008 Annales Zoologici 58: 212, f. 162; **R** - Zhang, Woon, Li 2006 The Raffles Bulletin of Zoology 54(2): 241-244, f. 1-1; **T** - Ruiz, 2013. Plos One: **8**(2): e56188, f. 1-3; **U** - Galiano 1963b. Physis, 23 (66): 380, 382-383, t. 25, f. 4-7.

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Figure 53. Color pattern and body shape of representatives of informal group of genera ASTIAINES and COCALODINES. ASTIAINES: **A** - *Arasia mollicoma* (L. Koch, 1880), **B** - *Astia hariola* L. Koch, 1879, **C** - *Astilodes mariae* Żabka, 2009, **D** - *Helpis minitabunda* (L. Koch, 1880), **E** - *Jacksonoides sp.*, **F** - *Megaloastia mainae* Żabka, 1995, **G** - *Orthrus cf. muluensis*, **H** - *Parahelpis smithae* Gardzińska & Żabka, 2010, **I** - *Sondra nepenthicola* Wanless, 1988, **J-M** - *Tauala alveolatus* Wanless, 1988 (female, male, palp, epigyne). COCALODINES: **N** - *Cucudeta zabkai* Maddison 2009:, **O** - *Sonoita lightfooti* Peckham & Peckham, 1903, **P** - *Tabuina varirata* Maddison, 2009, **Q** - *Yamangalea frewana* Maddison, 2009, **R** - *Yamangalea sp.***, S** - *Cocalodes sp.*

SOURCES: **A-E, R** - Photo R. Whyte; **F, I** - Photo: J. Wanamaker; **G, S** - Maddison 2015 Journal of Arachnology 43: 231-211; 292, f.19; **H** - Gardzinska & Żabka 2010 2526: 49, f. 45–54 . Magnolia Press**; J-K** - Photo by G. Anderson; **N, P, Q** - Maddison 2009 Zootaxa, Magnolia Press 2021: 8-9, f. 20-30; 11-13, f. 44-50; 15-17, f. 62-63; **O** - Wesołowska, Tomasiewicz 2008 Journal of Afrotropical Zoology 4: 48-49, f. 213-214.

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ASTIAINES

A Arasia mollicoma

B Astia hariola

C Astilodes mariae

D Helpis minitabunda

E Jacksonoides sp.

F Megaloastia mainae

G Orthrus cf.muluensis

H Parahelpis smithae

I Sondra nepenthicola

J Tauala alveolatus (female, male, palp, epigyne) **M**

COCALODINES

N Cucudeta zabkai

O Sonoita lightfooti

P Tabuina varirata

Q Yamangalea frewana

R Yamangalea sp

S Cocalodes sp.

Group of genera COCALODINES Prószyński, 2016

Figures 52L-R1, 53N-S
Database contains 8 recognizable genera, 33 species

Type genus *Cocalodes* Pocock, 1897, of which type species is *Cocalodes leptopus* Pocock, 1897.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Cocalodes"*.

Mutual diagnostic characters of genera included. Differs by presence of sclerotized apophysis on bulbus, spermophor following contour of bulbus, embolus short, arising antero-laterally. Epigyne with simple spermathecae, ducts short, thick walled.

Description. Group of poorly known and ill defined genera. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/Cocalodinae_clas.html.

Distribution. SE Asia, Australia, Pacific Islands.

Composition. The following genera are included: *Allococalodes* Wanless, 1982 (3 species), *Cocalodes* Pocock, 1897 (12 species), *Cucudeta* Maddison, 2009 (3 species), *Grayenulla* Żabka1992 (8 species), *Sonoita* Peckham, Peckham, 1903 (1 species), *Sparbambus* Zhang J., Woon J., Li D., 2006 (1 species), *Tabuina* Maddison, 2009 (3 species), *Yamangalea* Maddison, 2009 (2 species).

Group of genera LAPSIINES Prószyński, 2016

Figures 52S-V
Database contains 5 recognizable genera, 15 species

Type genus *Lapsias* Simon, 1900, of which type species is *Lapsias estebanensis* Simon, 1900.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Lapsias"*.

Remarks. Poorly known South American genus *Lapsias* Simon, 1900 was included by Simon (1901-1903) into Astieae. Some considerations contributed recently by Maddison (2012, 2015: 237), Ruiz & Maddison (2012) and other, concentrate on phylogeny, giving little attention to identification by morphology.

Mutual diagnostic characters of genera included. Bulbus with simple sclerotized apophysis or apophyses, spermophor following contour of bulbus, embolus encircling bulbus entirely or partially. Epigyne with complicated spermathecae and ducts.

Description. Poorly known, pending revisionary research. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group - see file http://www.peckhamia.com/salticidae/Lapsiinae_clas.html.

Distribution. South Western Hemisphere.

Composition. The following genera are included: *Galianora* Maddison, 2006 (2 species), *Lapsamita* Ruiz, 2013 (1 species), *Lapsias* Simon, 1900 (7 species), *Soesiladeepakius* Makhan, 2007 (5 species), *Thrandina* Maddison, 2006 - see SPARTAEINES.

Group of genera EUPOAINES Prószyński, 2016

Figures 54A-C, 55J-L

Database contains 3 recognizable genera, 34 species

Type genus *Eupoa* Żabka, 1985 of which type species is *Eupoa prima* Żabka, 1985.

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *„Eupoa"*.

Mutual diagnostic characters of genera included. Minute (total length 2 mm, or less), vegetation litter dwellers, with nondescript color pattern and very complicated palps and internal structure of epigyne.

Description. Minute (total length 2 mm, or less), vegetation litter dwellers. Such spiders have similar external appearance on all continents, irrelevant of their relationships. They have typical for Salticidae eyes arrangement in three rows, not resembling LYSSOMANINES. Palps and internal structure of epigyne very complicated require more studies. First species discovered by Żabka (1985) (Fig. 54B) was followed by prolific species described in excellent papers by Zhou & Li (2013) and Logunov & Marusik (2014), where more data could be found. For diagnostic drawings and photos of ALL recognizable species see file http://www.peckhamia.com/salticidae/Eupoainae_clas.html.

Distribution. Known from S China and Vietnam to Indonesia, one may expect high number of not yet discovered species.

Composition. The following genera are included: *Corusca* Zhou & Li, 2013 (9 species), *Eupoa* Żabka, 1985 (13 species), *Sinoinsula* Zhou & Li, 2013 (12 species).

Provisional supergroup of genera LYSSOMANOIDA Prószyński, 2016

REMARKS. Separation of groups of genera with complicated palps and epigyne (LYSSOMANINES [*Chinoscopus, Lyssomanes*] , ASEMONEINES [*Asemonea, Goleba, Hindumanes, Macopeus, Pandisus*] and ONOMASTINES [*Onomastus*]) from the remaining supergroups of Salticidae, like those proposed by Maddison (2015: 275-280), has some merits, but for taxonomic purposes should be based on morphological characters, or at least, be parallel to them. They are recognizable by eyes arranged in four rows (or intermediate between four and three rows). There are, however, exceptional genera with eyes in four lines, but with palps and epigyne incompatible, like *Athamas, Leptathamas* (EUOPHRYINES), *Orthrus* (ASTIAINES), which should be reclassified elsewhere.

Group of genera ASEMONEINES Prószyński, 2016

Figures 54H-L, 55A-B

Database contains 5 recognizable genera, 34 species

Type genus *Asemonea* O. Pickard-Cambridge, 1869 whose type species is *Asemonea tenuipes* (O. Pickard-Cambridge, 1869)

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Asemonea"*.

Mutual diagnostic characters of genera included. Eyes arranges in four lines. Legs thin but of "normal" proportions (difference with LYSSOMANINES), palps with prominent apophyses on either tibia, patella or femur. Internal structures of epigyne diverse, poorly known.

Description. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/q22-Ase.html

Distribution. Africa, Madagascar. Asia.

Composition. The following genera are included: *Asemonea* Pickard-Cambridge O., 1869 (22 species), *Goleba* Wanless, 1980 (4 species) , *Hindumanes* Logunov 2004 (1 species) , *Macopaeus* Simon, 1900 (1 species), *Pandisus* Simon, 1900 (6 species).

Group of genera LYSSOMANINES Prószyński, 2016

Figures 54D-G, 55D-I

atabase contains 3 recognizable genera, 84 species

Type genus *Lyssomanes* Hentz, 1845, of which type species is *Lyssomanes viridis* (Walckenaer, 1837) [= *Attus viridis* Walckenaer, 1837].

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Lyssomanes "*.

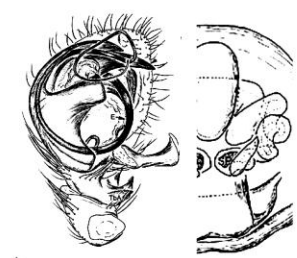
Mutual diagnostic characters of genera included. Originally defined by eyes arranged in four rows, however, there exceptions - unrelated genera with similar eyes arrangement, or intermediate to three rows. Legs very long and thin. Palps very long and thin, without noticeable apophysis, but with anterior part of cymbium extended as a long "tail", palpal organ complicated. Internal structures of epigyne diverse, poorly known.

Description. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/q22-Lyssom.html, http://www.peckhamia.com/salticidae/q22-Chinos.html, http://www.peckhamia.com/salticidae/q22-Sumak.html

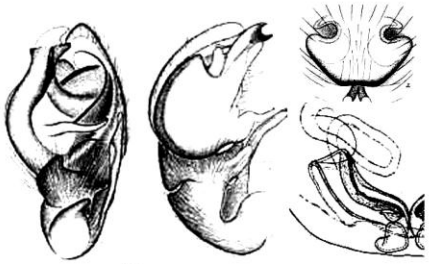
Distribution. Prolific genus *Lyssomanes* is known from the Western Hemisphere (almost all species in Central and South America).

Composition. The following genera are included: *Chinoscopus* Simon, 1901 (4 species), *Lyssomanes* Hentz, 1845 (79 species), *Sumakuru* Maddison, 2016 (1 species).

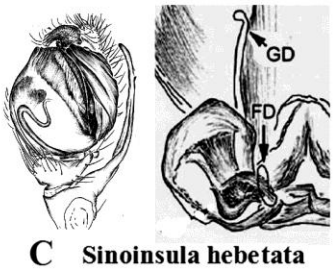
EUPOAINES



A Corusca acris

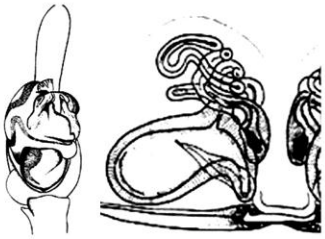


B Eupoa lehtineni

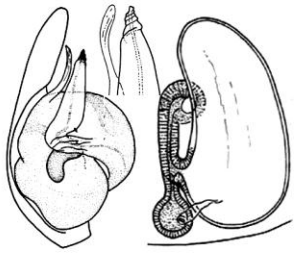


C Sinoinsula hebetata

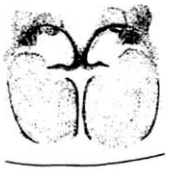
LYSSOMANINES



D Chinoscopus gracilis



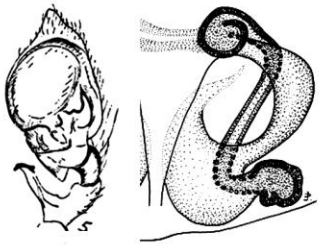
E Lyssomanes longipes



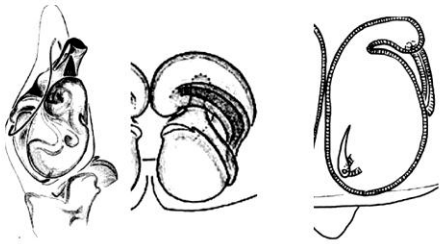
F Macopaeus spinosus

G Sumakuru bigal.

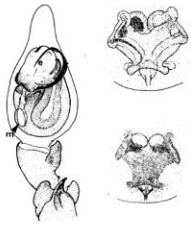
ASEMONEINES



H Asemonea tenuipes I

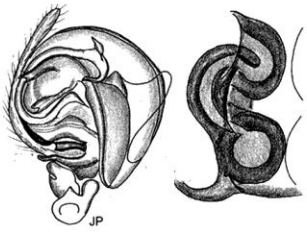


J Goleba lyra K Hindumanes karnatakaensis

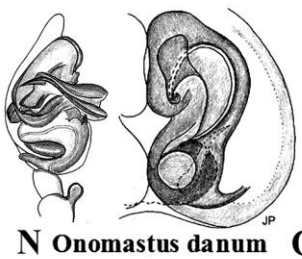


L Pandisus sarae

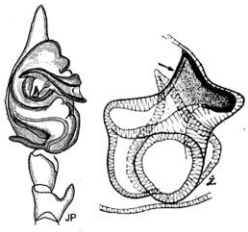
ONOMASTINES



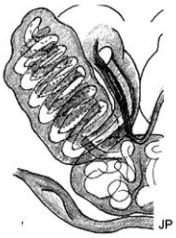
M Onomastus complexipalpis



N Onomastus danum



O Onomastus kaharian



P Onomastus simoni

Figure 54. Diagnostic characters of representatives of informal group of genera EUPOAINES, LYSSOMANINES, ASEMONEINES and ONOMASTINES. EUPOAINES: **A** - *Corusca acris* Zhou & Li, 2013, **B** - *Eupoa lehtineni* Logunov & Marusik, 2014, **C** - *Sinoinsula hebetata* (Zhou & Li, 2013). LYSSOMANINES: **D** - *Chinoscopus gracilis* (Taczanowski, 1872), **E** - *Lyssomanes longipes* (Taczanowski, 1871), **F**- *Macopaeus spinosus* Simon, 1900, **G** - *Sumakuru bigal* Maddison, 2016. ASEMONEINES: **H-I** - *Asemonea tenuipes* (O. Pickard-Cambridge, 1869)**, J** - *Goleba lyra* Maddison &, Zhang J. 2006, **K** - *Hindumanes karnatakaensis* (Tikader & Biswas, 1978), **L** - *Pandisus sarae* Wanless, 1980. ONOMASTINES: **M** - *Onomastus complexipalpis* Wanless, 1980, **N** - *O. danum* Prószynski & Deeleman-Reinhold, 2013, **O** - *O. kaharian* Benjamin, 2010, **P** - *O. simoni* Żabka, 1985.

SOURCES: **A, C** - Zhou & Li, 2013a: Zootaxa Magnolia Press 3712 (1): 5, f. 1-6; 12, f. 122-134; **B** - Logunov & Marusik 2014 ZooKeys 410: 71, f. 1-11, 13-17, 19-22, 25-32, 36-54; **D** - Galiano 1998 Bulletin of the British Arachnological Society 11 (1): 5-7, f. 26-27; **E** - Galiano 1980b Opera Lilloana 30: 12-14, f. 1-7; **F**-**L** - Wanless 1980a Bulletin of the British Museum (Natural History) (Zoology series) 38 (4): 220, f. 1A-F; 1980d. 39 (4): 219-221, f. 4a-j**; G** - Maddison 2016 ZooKeys 614: 87–96. f. 1-1; **H** - Peckham, Peckham, Wheeler 1889 Transactions of the Wisconsin Academy of Sciences, Arts and Letters 7: 243, pl. 12, f. 5, 19; **I** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce: 3; **J** - Maddison, Zhang J. 2006 Zootaxa, Magnolia Press 1255: 30, f. 1-7 ; **K** - Logunov D.V. 2004c. Bulletin of the British Arachnological Society 13 (3): 73-75, f. 1-3; **M**-**P** - Prószyński & Deeleman-Reinhold 2013 Arthropoda selecta. 21(2): 134-135, f. 89-107.

…figure on page 124

Figure 55. Color pattern and body shape of representatives of informal group of genera EUPOAINES, LYSSOMANINES, ASEMONEINES and ONOMASTINES : ASEMONEINES, **A** -*Asemonea tenuipes* (O. Pickard-Cambridge, 1869), **B** - *Asemonea tanikawai* Ikeda, 1996. ONOMASTINES: **C** -*Onomastus kanoi* Ono, 1995. LYSSOMANINES: **D** - *Lyssomanes longipes* (Taczanowski, 1871), **E** - *Lyssomanes viridis* (Walckenaer, 1837), **F** - *Chinoscopus cf .flavus* (changing eye's color is a courtship signal), G - *Goleba sp.*, **H** - *Lyssomanes viridis* - courtship, **I** - *Sumakuru bigal* Maddison, 2016. EUPOAINES: **J** - *Corusca acris* Zhou & Li, 2013, K - *Sinoinsula hebetata* (Zhou & Li, 2013), **L** - *Eupoa lehtineni* Logunov & Marusik, 2014. FOSSILS: **M**-**P** Computer enhanced photos of Baltic Amber by D.E. Hill (**M** - male HISPONINES, dated Eocene: Lutetian), **N, O** - unnamed relicts in amber, **P** - palps of *Eolinus tystschenkoi* Prószyński, Żabka, 1980.

SOURCES: **A,** G - Photo R.R. Jackson; **B**-**C** - Photo Akio Tanikawa; **D** - Photo Gasnier & Azevedo; **E, H** - Photo D. Hill; **F** - Maddison 2015 Journal of Arachnology 43: 231–292, f. 5; **I** - Maddison 2016 ZooKeys 614: 87–96. f. 1-11; **J**-**K**- Zhou & Li, 2013a: Zootaxa Magnolia Press 3712 (1): 5, f. 1-6; 12, f. 122-134; **L** - Logunov & Marusik 2014 ZooKeys 410: 71, f. 42-43; **M**-**O** - Photo D.E. Hill Peckhamia 107, 9, f. 8A-N; **P** - Prószyński, Żabka 1980c Acta paleontologica Polonica 25: 219, f. 25-26.

…figure on page 126

ASEMONEINES

A Asemonea tenuipes

B Asemonea tanikawai

ONOMASTINES

C Onomastus kanoi

LYSSOMANINES

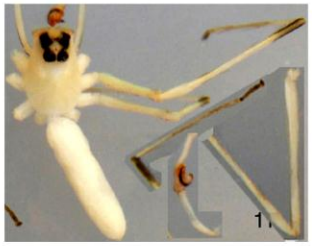
D Lyssomanes longipes

E Lyssomanes viridis

F Chinoscopus cf .flavus.

G Goleba sp.

H Lyssomanes viridis - courtship



I Sumakuru bigal

EUPOAINES

J Corusca acris

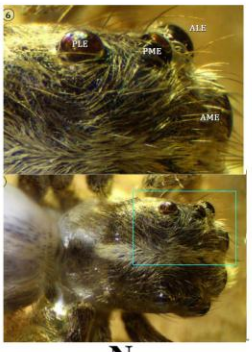
K Sinoinsula hebetata

L Eupoa lehtineni

FOSSILS

D.E. Hill's computer enhanced photos of Baltic Amber Salticidae

M male HISPONINES, dated Eocene: Lutetian



N

O

P Eolinus tystschenkoi

Group of genera ONOMASTINES Prószyński, 2016

Figures 54M-P, 55C
Database contains 1 recognizable genus, 12 species

Type genus *Onomastus* Simon, 1900, of which type species is *Onomastus nigricaudus* Simon, 1900 .

Documentation studied. Survey of diagnostic drawings in Prószyński (2016a) and in original literature.

Etymology. Informal name coined of the type genus name *"Onomastus"*.

Mutual diagnostic characters of genera included. Characters of palps and epigyne are shown on Fig. 54M-P.

Description. Suggested mutual property of the genus - green, delicate body correspond well with Fig. 56C and photos available in the Internet, however basing recognition on color pattern and fragile body seems insufficient. Structures of epigyne and palp known heretofore indicate that subdivision may be necessary, especially when more species will become available. Enclosed illustrations are integral part of description. To check diversity of diagnostic characters in ALL recognizable species of this group of genera - see file http://www.peckhamia.com/salticidae/q22-Onom.html.

Distribution. S and E Asia.

Composition. Only single genus is included: *Onomastus* Simon, 1900 (12 species), possibly requiring subdivision **.**

FOSSILS

Figures 55M-P

Presentation of that fascinating topic is limited here to display of the terrific photographs, computer enhanced, by D. E. Hill (Figs 56M-N) which opens new era in documentation of these spiders. That is compared with a diagnostic drawings made near year 1980, reconstructed from partial sketches, examined under different angles and with changing illumination, an operation which took two days.

Remarks. Precise dating by molecular method seems to be fascinating possibility, but I noted also critical comments by Svante Pääbo of the Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany, who discussing cases of amber relics genome dating[11] (carried out since 1992 in the American Museum of Natural History and in other and Laboratories) found them misleading, a result of non sterile laboratory procedures. In a literature summary of research on "Ancient DNA" Wikipedia reports that original DNA cannot be recovered from relics older than several hundreds thousands years, which excludes credibility of pre-Pleistocene DNA dating.

[11]Svante Pääbo (2014). Neanderthal Man. In search of lost genome (in Polish edition of 2015 these remarks are on pages 83-84).
.

Pending classification

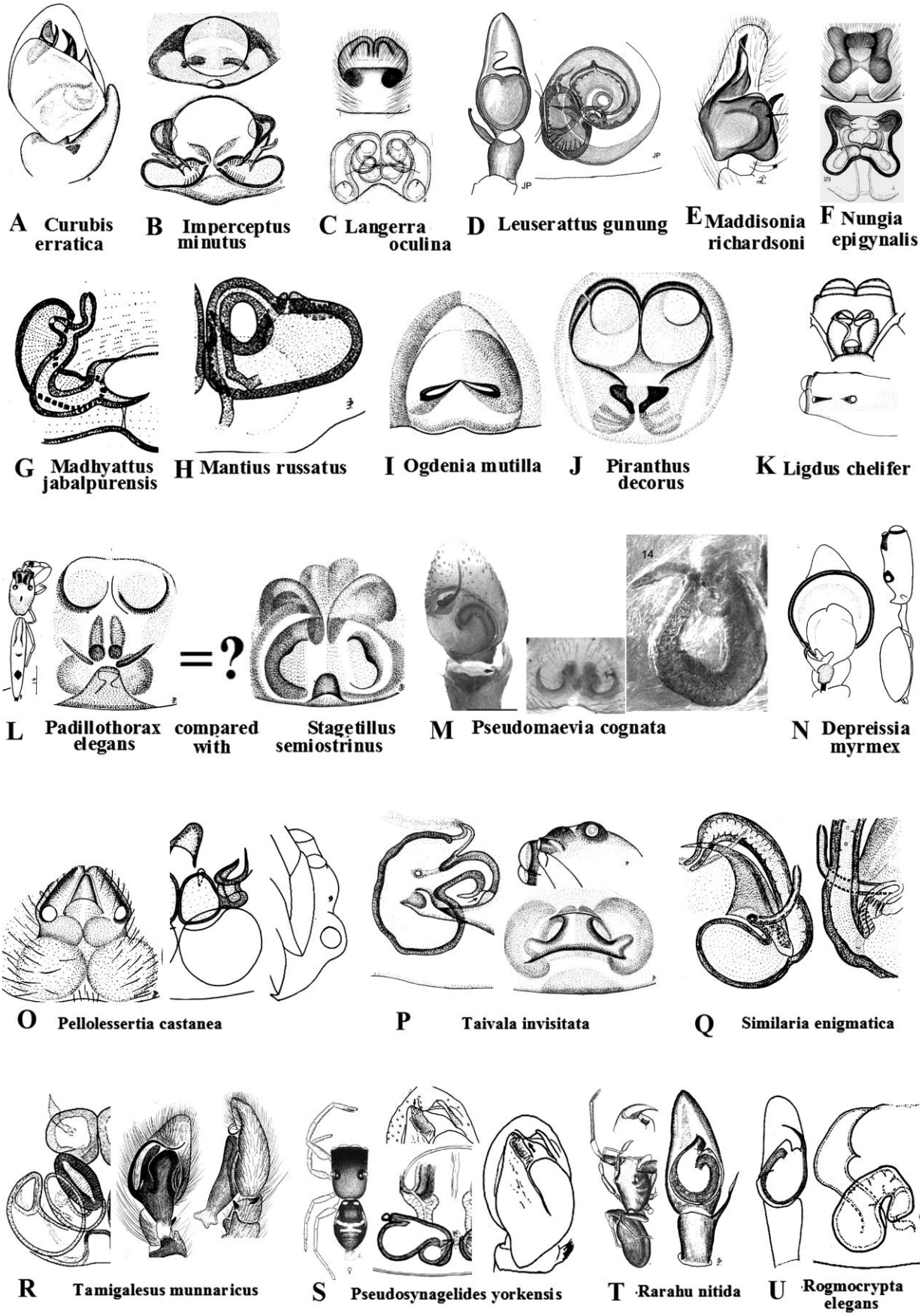


Figure 56. Diagnostic drawings of genera pending classification. **A** - *Curubis erratica* Simon, 1902, **B** - *Imperceptus minutus* Prószyński, 1992, C - *Langerra oculina* Żabka 1985, **D** - *Leuserattus gunung* Prószynski & Deeleman-Reinhold, 2012, **E** - *Maddisonia richardsoni* Żabka, 2014, **N** - *Depreissia myrmex* Lessert, 1942, **F** - *Nungia epigynalis* Żabka, 1985, **G** - *Madhyattus jabalpurensis* Prószyński, 1992, **H** - *Mantius russatus* Thorell, 1891, **I** - *Ogdenia mutilla* (Peckham & Peckham, 1907), **J** - *Piranthus decorus* Thorell, 1895, **K** - *Ligdus chelifer* Thorell, 1895 [immature], **L** - *Padillothorax elegans* (Reimoser, 1927) [NOT a *Stagetillus*] compared with *Stagetillus semiostrinus* (Simon, 1901) [NOTE MISLEADIG quotation in WSC 2016], **M** - *Pseudomaevia cognata* Rainbow, 1920 [EUODENINES ?], N - *Depreissia myrmex* Lessert, 1942, **O** - *Pellolessertia castanea* (Lessert, 1927), **P** - *Taivala invisitata* Peckham & Peckham, 1907, **Q** - *Similaria enigmatica* Prószyński, 1992, **R** - *Tamigalesus munnaricus* Żabka, 1988, **S** - *Pseudosynagelides yorkensis* Żabka, 1991, **T** - *Rarahu nitida* Berland, 1929, **U** - *Rogmocrypta elegans* (Simon, 1885).

SOURCES: **A** - Prószyński 1987 Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce ...: 18 ; **B, G, Q** - Prószyński 1992b Annales Zoologici 44, 9: 181, f. 65-66.; 184, f. 76-78, 79; 206-208, f. 172-174, 182; **C, F, R** - Żabka 1985 Annales Zoologici 39, 11: 234, f. 251-254; 421, f. 378-380; 468-469, f. 129-133; **D** - Prószyński, Deeleman-Reinhold 2012 Arthropoda Selecta 21(1): 42-43, f. 78-86; **E** - Żabka, 2014 Records of the Australian Museum 66(4): 218, f. 1A-E, 4A-B; **N** - Wesołowska 1997 Genus, 8 (3-4): 715-717, f. 1-5; **H-K**, **O-P, U** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce ...:75; 79; 111; 123-124 **(**drawn by Żabka); 125; 142; 169; **L** - Prószyński 1984c: 95 compared with Prószyński 1987: 104-105; **M** - Richardson 2014 Zootaxa**,** Magnolia Press 3811 (3): 387–392, f. 1-15; **S** - Żabka 1991b Memoirs of the Queensland Museum 30: 639, f. 10A-D, 11A-F, 12A-D; **T** - Prószyński - Internet.

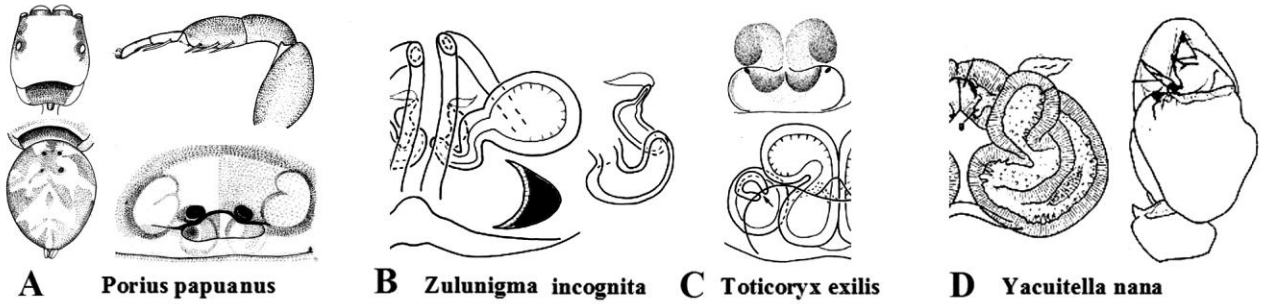
…figure on page 128

Figure 57. Diagnostic drawings of genera pending classification 2. **A** - *Porius papuanus* (Thorell, 1881, **B** - *Zulunigma incognita* (Wesolowska & Haddad, 2009), **C** - *Toticoryx exilis* Rollard & Wesolowska, 2002, **D** -*Yacuitella nana* Galiano, 1999, **E** - *Albionella propria* Chickering, 1946, **F** - *Alcmena psittacina* C. L. Koch, 1846, **G** - *Plesiopiuka simplex* Ruiz, 2010, **H** - *Augustaea formicaria* Szombathy, 1915, **I** - *Carabella banksi* Chickering, 1946, **K** - *Donaldius lucidus* Chickering, 1946, **L** - *Gorgasella eximia* Chickering, 1946, **M** - *Anaurus flavimanus* Simon, 1900**, N** - *Anokopsis avitoides* Bauab & Soares, 1980, **O** - *Lauharulla pretiosa* Keyserling 1883, **P** - *Letoia ephippiata* Simon, 1900, **Q** - *Darwinneon crypticus* Cutler, 1971, **R** - *Tuvaphantes insolitus* Logunov, 1993.

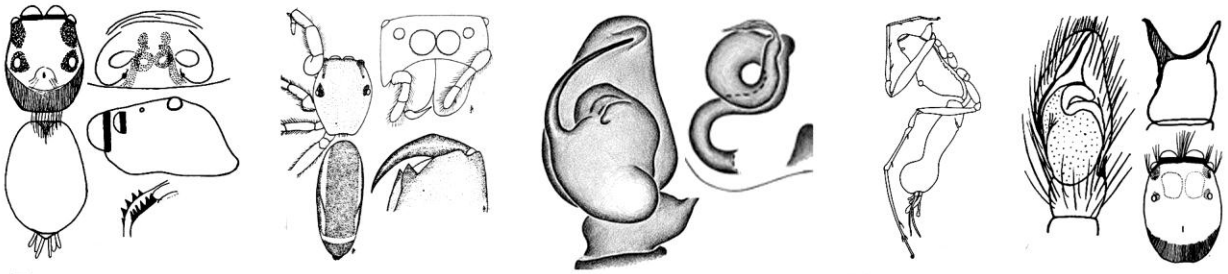
SOURCES: **A, F** - Prószyński 1984c Atlas ... Salticidae. Zeszyty Naukowe WSRP, Siedlce ...: 113; 157**; B** - Wesołowska & Cumming 2011: African Invertebrates 50: 7: 99-101, f. 90-91, **C** - Rollard & Wesołowska 2002 Zoosystema 24 (2): 305, f. 17A-C; **D** - Galiano 1999 Bulletin of the British Arachnological Society 11 (4): 159-160, f. 1-15; **E, I, K-L** - Chickering 1946 Bulletin of the Museum of comparative Zoology 97: 74 f. 58-61; 87 f. 73-77 ; 192 f. 163-167; 278 f. 237- 241; **G** - Ruiz, 2010 Zootaxa Magnolia Press 2630: 67-68, 29–34; **H** - Szombathy 1915c Annales historico-naturales Musei nationalis hungarici 13: 478,f. 8; **M, P** - Galiano 1963b. Physis, 23 (66): 295-296, t. 3, f. 7-8; 384-385, t. 25, f. 19, 20; **N** - Bauab & Soares 1980a: Revista Brasileira de Biologia 40: 697, f. 1-6; **O** - Keyserling 1883 Die Arachniden Australiens 1432 T. 121 F. 3; **Q** - Cutler 1971 Proceedings of the California Academy of Sciences 37 (18): 511, f. 1-3 and Baert 1987 Bulletin de l'Institut Royal des Sciences naturelles de Belgique 57: 150, f. 30; **R** - Logunov 1993a. Arthropoda Selecta, 2(2): 51, f. 4d-f. +b) 51, f. 4a-c.

…figure on page 130

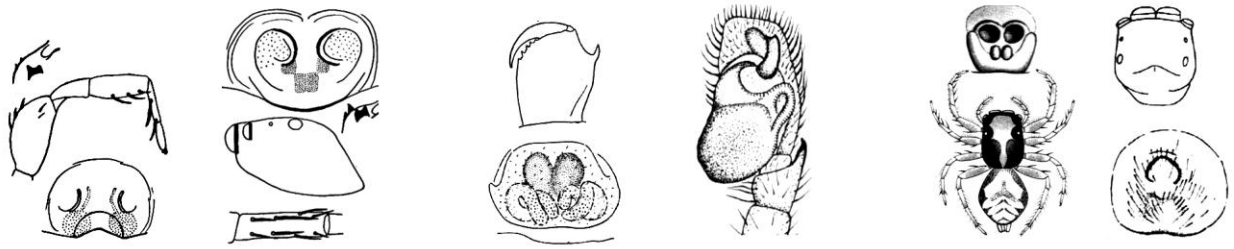
Pending classification 2



A Porius papuanus **B** Zulunigma incognita **C** Toticoryx exilis **D** Yacuitella nana



E Albionella propria **F** Alcmena psittacina **G** Plesiopiuka simplex **H** Augustaea formicaria **I** Carabella banksi



K Donaldius lucidus **L** Gorgasella eximia **M** Anaurus flavimanus **N** Anokopsis avitoides **O** Lauharulla pretiosa **P** Letoia ephippiata

Q Darwinneon crypticus **R** Tuvaphantes insolitus

Genera pending classification

Figures 51L-N, 56, 57

Remarks. There are various reasons why some genera are listed below as "pending classification". Some, correctly described, do not display characters linking them with groups described above in this paper: *Ancepitilobus howensis* Richardson, 2016, *Capeyorkia vulpecula* Richardson, 2016, *Drizztius geminensis* Edwards, 2015 (shown on Figs 51L-N), also a number of genera illustrated on Figs 56 and 57. Other can not be readily placed because their missing matches are of key importance for classification. The remaining genera have documentation of insufficient quality, none the less, documentation of all these genera are illustrated on plates below. However, the list does not include 1497 empty names of unrecognizable species, some of which could be eventually added after revalidation by taxonomic revisions, other are nomina dubia.

Composition. The following genera are included: *Albionella*, *Alcmena*, *Anaurus*, *Augustaea*, *Carabella*, *Curubis*, *Darwinneon*, *Depreissia*, *Donaldius*, *Gorgasella*, *Hyctiota*, *Imperceptus*, *Langerra*, *Letoia*, *Leuserattus*, *Ligdus*, *Maddisonia*, *Madhyattus*, *Mantius*, *"Mithion" dakarensis*, *Nungia*, *Ogdenia*, *Padillothorax*, *Paradecta*, *Pellolessertia*, *Piranthus*, *Plesiopiuka*, *Poecilorchestes*, *Porius*, *Pseudomaevia*, *Pseudosynagelides*, *Rarahu*, *Rogmocrypta*, *Similaria*, *Taivala*, *Tamigalesus*, *"Tularosa"*, *Tuvaphantes*, *Yacuitella*, *Zulunigma* (48 species).

Acknowledgments

This publication, ending my scientific career, is an occasion to remember all persons and Institutions which contributed to final success of my efforts during years of my activity, all my friends and peoples of good will. Unfortunately it is impossible to list hundreds of Arachnologists, thousands of other peoples, and hundreds of Institutions. So I wish to say thank you to all of them, generally.

To mention two last in the chain of contributors, I wish thank the Peckham Society of the USA, which maintains my Database of Salticidae on their server, and the Editors of "Ecologica Montenegrina", who made possible publication of my last papers. Thank you very much.

To mention another important contributors, I have to acknowledge also positive influence of my enemies and saboteurs – without constant urge to overcome obstacles they have been creating, both huge and small, I would never achieve as much as I did.

Thank you all!

Notice

Permissions of illustrations used in this paper are displayed in the Internet Database of Salticidae http://www.peckhamia.com/salticidae/permision.php.

References[12]

[12] DISCLAIMER. There are differences in reference dates of some papers (and species published in them) quoted in the literature (see for instance two major catalogs: Bonnet 1945-1961 and World Spider Catalog), using either nominal date (i.e. printed on the front page of a publication) or nomenclatural validity date, defined by the International Code of Zoological Nomenclature as the first day of circulation of a paper. Usage of the first is obviously easier of the two, the latter is needed on very rare occasions, only for establishing priority among synonymic names published in the same years, but being very difficult to determine, often requiring special research.

An example illustrates both kinds of dates: an important " Catalogue of jumping spiders of northern Asia ..." by Logunov and Marusik is often quoted with the date 2001, while the date on page 1 (title page), page 2, and on page 300 (the last one) is given as 2000. However, at the bottom of page 300 there is also written in small letters, in Russian, "Podpisano v pechat' 28.12.2000" [translated as "accepted for print on December 28th, 2000"] - from which one can easily deduce that since printing takes several weeks, the volume apparently appeared in printed form during the year 2001.

Prószyński (2016b - Introduction) proposed provisional solution for cases of such difference - quotation of both dates, with one date (usually nomenclatural validity date) in square brackets, until some consensus can be reached among taxonomists (only some dates discrepancies are corrected in this way in this paper). Another proposals are: acceptation of authors of publication as authors of a species (eliminating cases like Menge in Simon, 1868) to facilitate searching for publication containing description. Also adding, for Chinese authors first letter of "given name" as a part of name (Li S., instead of Li, Shu-qiang) to distinguish between several authors with identical names. These changes, requiring general acceptation, are used in this paper as an experiment.

Attention: only selected references are listed here, out of over 2000 used and displayed in the Internet Database of Salticidae at http://www.peckhamia.com/salticidae/, another complete source is the WSC at http://www.wsc.nmbe.ch/.

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[13]Chapter "Salticidae Springspinnen" was written by J. Prószyński on special invitation from Heimer and Nentwig, however, during printing the author's name disappeared from chapter's heading and was mentioned only in a list of "providers", 70 species of Salticidae from this chapter, together with diagnostic drawings, are credited to Heimer and Nentwig in the WSC. The original text of the chapter, composed independently form tradition established by Simon (1937), was written in English and later translated into German by Editors.

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