Ecologica Montenegrina
ISSN 2336-9744 (online) | ISSN 2337-0173 (print)

Ecologica Montenegrina 16: 130-179 (2018)
This journal is available online at: www.biotaxa.org/em

Article

https://zoobank.org/urn:lsid:zoobank.org:pub:6C3A5085-F624-4D0A-9F10-4EBB9AF19F01

Review of genera *Evarcha* and *Nigorella*, with comments on *Emertonius*, *Padilothorax*, *Stagetillus*, and description of five new genera and two new species (Araneae: Salticidae)[1]*

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Received 28 December 2017 | Accepted by *V. Pešić*: 2 March 2018 | Published online 14 March 2018.

Abstract

The publication contains review of the genera of jumping spiders: *Emertonius*, *Evarcha*, *Nigorella*, *Padilothorax*, *Stagetillus*, and delimits five more new genera, provides graphic documentation for species considered recognizable and adds description of four new species. The taxonomic procedures are carried out according to methodology of "pragmatic classification", which stresses importance of graphic diagnostic characters presented in a comparative way (see also review at **"**Methodological postulates" subchapter). Some new procedures are introduced, testing their acceptability.

The following new genera[2]* are delimited and described in this paper: *Evarcha* Simon, 1889 s. s. (a part of *Evarcha* s. l.), *Evacin* Prószyński, 2017 gen. n., *Evalba* Prószyński, 2017 gen. n., *Evaneg* Prószyński, 2017 gen. n., *Evawes* Prószyński, 2017 gen. n., *Padillothorus* gen. n. Genus *Emertonius* Peckham & Peckham, 1892, misinterpreted twice by the WSC Editors, is reinstated again, with full diagnostic documentation repeated.

The following new species are described in this paper - *Emertonius koomeni* sp. n., *Evacin besar* sp. n., *Evaneg aegiptiaca* Prószyński, 2017 sp. n .*"Emertonius" palawanensis* sp. n.

New synonyms documented.

Evarcha acuta Wesolowska, 2006 = *Evacin acuta* (Wesolowska, 2006), comb. n., *Evarcha bulbosa* Zabka, 1985 = *Evacin bulbosa* (Zabka, 1985), comb. n., *Evarcha cancellata* Simon, 1902 = *Evacin cancellata* (Simon, 1902), comb. n., *Evarcha flagellaris* Haddad & Wesolowska, 2011= *Evacin flagellaris* (Haddad & Wesolowska, 2011), *Evarcha flavocincta* (C. L. Koch, 1846) = *Evacin flavocincta* (C. L. Koch, 1846) comb. n., *Evarcha heteropogon* Simon, 1903 = *Evacin heteropogon* Simon, 1903, comb. n., *Evarcha infrastriata* (Keyserling, 1881) = *Evacin infrastriata* (Keyserling, 1881), comb. n., *Evarcha karas* Wesolowska, 2011 = *Evarcha karas* (Wesolowska, 2011), comb. n., *Evarcha kirghisica* Rakov, 1997 = *Evacin* kirghisica (Rakov, 1997), comb. n., *Evarcha kochi* Simon, 1902 = *Evacin kochi* Simon, 1902 comb. n., *Evarcha nigrifrons* (Koch C.L., 1846) = *Evacin nigrifrons* (Koch C.L., 1846), comb. n., *Evarcha optabilis* Fox, 1937 = *Evacin optabilis* (Fox, 1937), comb. n., *Evarcha pococki* Zabka, 1985 = *Evacin pococki* (Zabka 1985), comb. n., *Evarcha pulchella* Thorell, 1895 = *Evacin* pulchella (Thorell, 1895), comb. n., *Evarcha pseudopococki* Peng X., Xie L. & Kim, 1993 = *Evacin pseudopococki* (Peng X., Xie L. & Kim, 1993), comb. n., *Evarcha reiskindi* Berry, Beatty, Proszynski, 1996 = *Evacin reiskindi* (Berry, Beatty, Proszynski, 1996), comb. n., *Evarcha simoni[s]* (Thorell, 1892)= *Evacin simoni*s (Thorell, 1892), comb. n., *Evarcha striolata* Wesołowska & Haddad, 2009 = *Evacin striolata* (Wesołowska & Haddad, 2009), comb. n., *Evarcha vitosa* Próchniewicz, 1989 = *Evacin vitosa* (Próchniewicz, 1989), comb. n.

Evarcha albaria (L. Koch, 1878) = *Evalba albaria* (L. Koch, 1878), comb. n., *Evarcha coreana* Seo, 1988 = *Evalba coreana* (Seo, 1988), comb. n., *Evarcha fasciata* Seo, 1992 = *Evalba fasciata* (Seo, 1988), comb. n., *Evarcha paralbaria* Song & Chai, 1992 =

[1] Present paper constitutes partial publication of sections of the Internet "Monograph of Salticidae (Araneae) of the World 1995-2016", parts I & II by Prószyński (2016a, b), available at: *http://www.peckhamia.com/salticidae/Subfamilies/* and *http://www.peckhamia* respectively.

[2] Documentation for new taxa, synonym and nomenclatorical corrections in the text below, could be found instantly by electronic SEARCH facility of your computer

Evalba paralbaria (Song & Chai, 1992), comb. n., *Evarcha selenaria* Suguro & Yahata, 2012 = *Evalba selenaria* (Suguro & Yahata, 2012), comb. n., *Evarcha wulingensis* Peng, Xie & Kim, 1993 = *Evalba wulingensis* (Peng, Xie & Kim, 1993), comb. n.
Evarcha armeniaca (Logunov, 1999) = *Evaneg armeniaca* (Logunov, 1999), comb. n., *Evarcha darinurica* Logunov, 2001 = *Evaneg darinurica* (Logunov, 2001) , comb. n., *Evarcha negevensis* (Proszynski, 2000) = *Evaneg negevensis* (Proszynski, 2000) comb. n., *Evarcha nenilini* Rakov, 1997= *Evaneg nenilini* (Rakov, 1997), comb. n., *Evarcha nepos (* O. Pickard-Cambridge, 1872) = *Evaneg nepos* (O. Pickard-Cambridge, 1872), comb. n., *Evarcha nigricans* Dalmas, 1920 = *Evaneg nigricans* (Dalmas, 1920), comb. n.,
Evarcha pileckii Proszynski, 2000 = *Evaneg pileckii* (Proszynski, 2000), comb. n., *Evarcha praeclara* Prószyński & Wesolowska, in Prószyński, 2003 = *Evaneg praeclara* (Prószyński & Wesolowska, in Prószyński, 2003), comb. n., *Evarcha seyun* Wesolowska W., van Harten, 2007 = *Evaneg seyun* (Wesolowska W., van Harten, 2007), comb. n., *Neaetha aegyptiaca* Denis, 1947 **female only =** *Evaneg aegyptiaca* (Prószyński, 2017)), comb. n., *Neaetha* aegyptiaca Denis, 1947 **male only =** *Hyllus* aegyptiacus (Denis, 1947), comb. n.
Evarcha arabica Wesolowska & van Harten, 2007 = *Evawes arabica* (Wesolowska & van Harten, 2007) comb. n., *Evarcha awashi* Wesolowska & Tomasiewicz, 2008 = *Evawes awashi* (Wesolowska & Tomasiewicz, 2008) comb. n., *Evarcha bakorensis* Wesolowska & Russel-Smith 2011 = *Evawes bakorensis* (Wesolowska, Russel-Smith 2011) comb.n., *Evarcha bicuspidata* Peng & Li, 2003 = *Evawes bicuspidata* (Peng & Li, 2003) comb. n., Evarcha *bihastata* Wesolowska & Russell-Smith, 2000 = *Evawes bihastata* (Wesolowska & Russell-Smith, 2000), comb.n., *Evarcha carbonaria* (Lessert, 1927) = *Evawes carbonaria* (Lessert, 1927), comb.n., *Evarcha chubbi* Lessert, 1925 = *Evawes chubbi* (Lessert, 1925), comb. n., *Evarcha culicivora* Wesolowska & Jackson 2003 = *Evawes culicivora* (Wesolowska & Jackson 2003) comb. n., *Evarcha denticulata* Wesołowska & Haddad, 2013 = *Evawes denticulata* (Wesołowska & Haddad, 2013), comb.n., *Evarcha elegans* Wesolowska & Russel-Smith, 2000 = *Evawes elegans* (Wesolowska & Russel-Smith, 2000), comb. n., *Evarcha ignea* Wesołowska & Cumming 2008= *Evawes ignea* (Wesołowska & Cumming 2008), comb. n., *Evarcha jucunda* (Lucas, 1846) = *Evawes jucunda* (Lucas, 1846) comb. n., *Evarcha longula* (Thorell, 1881) = *Evawes longula* (Thorell, 1881) comb. n., *Evarcha maculata* Rollard & Wesolowska, 2002 = *Evawes maculata* (Rollard & Wesolowska, 2002), comb. n., *Evarcha madagascariensis* Proszynski, 1992 = *Evawes madagascariensis* (Proszynski, 1992), comb. n., *Evarcha mirabilis* Wesołowska & Haddad 2009 = *Evawes mirabilis* (Wesołowska & Haddad 2009), comb.n., *Evarcha patagiata* (O. Pickard-Cambridge, 1872) = *Evawes patagiata* (O. Pickard-Cambridge, 1872), comb.n., *Evarcha picta* Wesolowska & van Harten, 2007 = *Evawes picta* (Wesolowska & van Harten, 2007), comb. n., *Evarcha pinguis* Wesołowska & Tomasiewicz, 2008 = *Evawes pinguis* (Wesołowska, Tomasiewicz, 2008), comb. n., *Evarcha prosimilis* Wesolowska & Cumming, 2008= *Evawes prosimilis* (Wesolowska & Cumming, 2008), comb. n., *Evarcha zimbabwensis* Wesolowska & Cumming, 2008 = *Evawes zimbabwensis* (Wesolowska & Cumming, 2008), comb. n.
Evarcha hirticeps (Song & Chai, 1992) = *Nigorella hirticeps* (Song & Chai, 1992), comb. n., *Evarcha hunanensis* Peng, Xie & Kim, 1993 - withdrawal from synonymy = *Nigorella hunanensis* (Peng, Xie & Kim, 1993), comb. n., *Evarcha petrae* Prószyński, 1992 = *Nigorella petrae* (Prószyński, 1992), comb. n., *Evarcha sichuanensis* Peng, Xie & Kim, 1993 = *Nigorella sichuanensis* (Peng, Xie & Kim, 1993), comb. n.
Hyllus fischeri Bösenberg & Strand, 1906 = *Evacin fischeri* (Bösenberg & Strand, 1906), comb. n. (separated from synonymy of *Evarcha flavocincta*).
*Hasarius simoni*s Thorell, 1892 = *Evacin simoni*s (Thorell, 1892), comb. n. (separated from synonymy of *Evarcha flavocincta*).
Myrmarachne aureonigra Edmunds, Prószyński, 2003) = *Myrmaplata aureonigra* (Edmunds, Prószyński, 2003), comb. n.
Myrmarachne exasperans (Peckham & Peckham, 1892) = *Emertonius exasperans* Peckham & Peckham, 1892 (return to original combination),
"Myrmarachne" "exasperans": Wanless 1978: 235, f. 1A-F, not f. 2) (male from Palawan only) = *"Emertonius" palawanensis* sp. n.,
Myrmarachne grossa Edmunds & Prószyński, 2003 = *Toxeus grossus* (Edmunds & Prószyński, 2003) comb. n.
Neaetha aegyptiaca Denis, 1947 (in part - female) = *Evaneg aegiptiaca* Prószyński, 2017, sp. n., *Neaetha aegyptiaca* Denis, 1947 (in part - male) = *Hyllus aegiptiacus* (Denis, 1947) comb. n.
Stagetillus elegans (Reimoser, 1927) = *Padillothorus elegans* Reimoser, 1927, comb. n., reinstated original combination, *Stagetillus semiostrinus* (Simon, 1901) = *Padillothorax semiostrinus* Simon, 1901, comb. n., reinstated original combination, *Stagetillus taprobanicus* (Simon, 1902) = *Padillothorax taprobanicus* Simon, 1902, comb. n., reinstated original combination.
Viciria alba Peckham & Peckham, 1903 = *Evacin alba* (Peckham & Peckham, 1903), comb. n.
Correction of the following synonyms (rejecting biologically misleading changes by the WSC) documented in this paper. *Colyttus kerinci* (Prószyński & Deeleman-Reinhold, 2012) = *Donoessus kerinci* Prószyński & Deeleman-Reinhold, 2012 (returned to the previous combination), *Colyttus nigriceps* (Simon, 1899) = *Donoessus nigriceps* (Simon, 1899) (returned to the previous combination), *Colyttus striatus* (Simon, 1902) = *Donoessus striatus* Simon, 1902 (returned to the previous combination),
Coryphasia heros (Bryant, 1943) = *Dinattus heros* Bryant, 1943 (returned to the previous combination), *Jollas armatus* (Bryant, 1943) = *"Oningis" armatus* Bryant, 1943 (returned to the previous combination), *Jollas crassus* (Bryant, 1943) = *"Oningis" crassus* Bryant, 1943 (returned to the previous combination), *Laufeia daiqini* (Prószyński & Deeleman-Reinhold, 2012) = *Junxattus daiqini* Prószyński & Deeleman-Reinhold, 2012 (returned to the previous combination), *Laufeia eucola* (Thorell, 1890) = *Orcevia eucola* Thorell, 1890 (returned to the previous combination), *Laufeia keyserlingi* (Thorell, 1890) = *Orcevia keyserlingi* Thorell, 1890 (returned to the previous combination), *Laufeia kuloni* (Prószyński & Deeleman-Reinhold, 2012) = *Orcevia kuloni* Prószyński & Deeleman-Reinhold, 2012, (returned to the previous combination,), *Laufeia minuta* (Prószyński, 1992) = *Lechia minuta* (Prószyński, 1992) (returned to the previous combination), *Laufeia proszynskii S*ong, Gu & Chen, 1988= *Orcevia proszynskii* (Song, Gu & Chen, 1988) (returned to the previous combination), *Laufeia squamata* = *Lechia* squamata (returned to the previous combination)
Notice on pending revisions
Evaneg praeclara (Prószyński & Wesolowska in Prószyński, 2003) (= "*Evarcha praeclara*") is a composite species, pending taxonomic revision, *"Myrmarachne*" *kilifi* Wanless, 1978 - placement and diagnostic characters pending revision, *"Myrmarachne" laurentina* Bacelar, 1953 - placement and diagnostic characters pending revision.
Removal from *Evarcha*: *Evarcha wenxianensis* Tang & Yang, 1995 = *Yaginumaella wenxianensis* (Tang & Yang, 1995) (Fig, 15R).

Key words: *Emertonius, Evarcha, Evacin, Evalba, Evaneg, Evawes, Padillothorus, Padillothorax, Stagetillus, Yaginumaella*, Salticidae, new species, new genera, synonyms, pragmatic classification, molecular classification, chain of morphological similarities.

Introduction

Comparison of list of species of Salticidae recognized in two synthesizing works: "Monograph of Salticidae (Araneae) of the World 1995-2016. Part I: Introduction to alternative classification of Salticidae" by Prószyński 2016a (see at http://www.peckhamia.com/salticidae/Subfamilies/, also abbreviated in Prószyński 2017b) and in the World Spider Catalog (ver. 18.5, accessed December 28, 2017 at http://www.wsc.nmbe.ch/) discloses shockingly different picture of knowledge of taxonomy of these spiders. While Prószyński lists 4800 recognizable salticid species (divided into 573 genera), the WSC accepts as much as 6044 species (divided into 632 genera), resulting not only from different interpretations but, first of all, from insufficient knowledge. It is not important which of these figures (actually changing with each new taxonomic paper published) is a little bit closer to real number of Salticidae living on our Planet, the sad truth is that we cannot recognize majority of species once described, and cannot explain for which reasons many of them are classified into their present genera, or groups of genera. Arachnologists cannot even agree how to start improving the situation.

The present paper try to take stock of diagnostic data available in the literature for several exemplary genera, in hope to prepare a sort of blueprint for future taxonomic revisions based on specimens. Authors of methodically satisfactory new revisions are in practice limited by incomplete number of species at their disposal. Compilers of data already published are able to summarize all previous taxonomic experience, but are limited by incompatibility of data accrued by predecessors. The present paper purports to bridge previous knowledge with research capabilities of future students.

Genera discussed below have various importance for taxonomy of Salticidae. *Evarcha* Simon, 1889 s. l. is one of largest genera and occurs on four continents, but is so diversified that finding characters mutual to all species is almost impossible. That situation calls for subdivision of the genus, which is actually proposed here by separation of four new genera derived from *Evarcha* s. l. *Nigorella* Wesolowska & Tomasiewicz, 2008 is a relative of *Evarcha*, establishing morphological limits separating them may help to understand their distribution and evolution. Three genera: *Stagetillus* Simon, 1885, *Padillothorax* Simon, 1901 (here reinstated) and newly described *Padillothorus* gen. n. are at the moment represented by single species each, constituting example of throwing out meagre information by unwise application of nomenclatorical rules. Genus *Emertonius* Peckham & Peckham, 1892 illustrates influence of personal emotions on development of taxonomy. Paper contains description of a few new species and some corrections in classification.

Methodological postulates

The traditional way of documenting species by descriptions with words and by routine measurements is particularly ineffective. To increase effectiveness of study of thousands of species of Salticidae more effective methods should be worked out, and new style of taxonomic publications devised, better serving declared purposes. The present paper tests new, faster procedures of recognition, and new style of publications permitting faster digesting of accumulated data, according to "pragmatic classification" originally proposed by Prószyński (2017b: 6-9). Experienced arachnologists recognize species by memorizing habitus appearances of particular species, using description only for checking presence of some useful characters. The process of describing taxa and subsequent recognizing them could be easier and faster by following natural process of learning/recognizing, supported by usage of modern facilities. This paper tries to test new approaches.

Recognition begins from memorizing general appearance of a species, not by tedious summing up partial information on dozens of separate characters (like colors of various parts of body, distribution of color spots or a number of spines on 20 segments of legs). So the lengthy description could be replaced by color

photographs[3]* of 3-4 key aspects of spider body appearance. Body proportions are not reconstructed from 30 measurements and several indices, but memorized by a single look at a photograph. Important parameter may be only total body length, but in majority of Salticidae it is pretty uniform, between 4 and 8 mm, rarely bigger or smaller, in addition size of body and its parts of a species may vary within broad limits, in some species even up to 50%.

General appearance is good for recognition of individual species, less reliable for genera (Figs 2 and 3), but are entirely unreliable for recognition of "similar species" in various genera and in collections from distant geographic areas. The initial part of identification requires characters mutual for a number of species, or genera, and permitting to place genera at a glance. Selection of useful characters require preliminary test on their stability (or degree of variability) within a taxon (Figs 19, 26), the applicability of characters for separation of taxa (species within a genus, and genera within a group of genera) should be known. In practice, the best characters for Salticidae appear to be: 1) palps for placement of species in a genus, or group of genera, 2) spermathecae with ducts for placement of species within particular genera (but not applicable for identification of unrelated genera, where that character may be misleading), 3) habitus, as well as external view of epigyne, usually permit to distinguish species within a genus, but are unreliable for genera (Fig. 1). These characters are most useful when displayed in comparative plates, containing all members of identified group (all species of a genus, all genera of particular group of genera (=subfamilies)) (Figs 6, 7, 19 and 22). In many genera identification of species require simultaneous examination of both sexes, matching of sexes is reliable only when collected, or tested, during sexual activities, or in situation indicating possible sexual relations, matching of specimens without such premises is risky. Color pattern should be documented on live or relatively fresh specimens. Describing specimens discolored by long preservation (longer than a few years) is unfortunately prevailing[4]* in taxonomy of Salticidae.

Identification become complete when species are classified into practicable genera and supergeneric taxa (groups of genera = subfamilies etc.), however classificatory procedures become so complicated and chaotic nowadays, that "pragmatic classification" proposes creation of new units - groups of genera, on strictly morphological basis and with purpose limited to assisting in identification, evading incertitude of phylogenetic system. To underline break off with traditional names, the names of new units are written in capital letters (e.g. EVARCHINES). Grouping together similar and gradually varying forms may suggest some phylogenetic relations, useful but side effect of this procedure.

Material and Methods

Material constituting basis of interpretations and conclusions on every species and genus in this paper is summary of world's literature provided by "Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b) and current literature.

Graphic diagnostic data of particular species, especially palps, internal structures of epigyne and habitus, accepted as sufficiently reliable, are charted on plates permitting their direct comparison (see examples - Figs 1-10). Results are accepted as positive for identification and classification for particular taxon of particular rank, whenever are arrangeable into "chain of morphological similarities". Descriptions and definitions merely in words are considered as accessory and of secondary importance, because translation of pictures into words is usually imprecise. Words are merely accessory to drawings, whenever descriptions may be utilizable for particular problems, they may be best quoted in a form of facsimiles (Figs 23-24, 27). Taxonomic decisions not documented by diagnostic drawings/photos are considered incomplete opinions.

[3] It must be stressed that the above and following remarks on usage of photographic documentation of morphology concern improvement of precise documentation of species described according ICZN Rules, that is species having type specimens deposited in a recognized Zoological Museum, description published in a recognized, peer reviewed periodical, so it fully agrees with postulates set forth by Ceriaco et al (2016) in recent discussion.

[4] After experience with long preserved specimens, some even 100 years old, I tried to persuade organizers of expeditions "for preservation of species endangered by extinction of their environments" to photograph collected specimens before dumping them into Museum collections, and to preserve these photos electronically. All in vain, expeditions expenses used to be accounted merely by dumping of specimens, their coloration due to disappear within a few years (compare Figs 8A and B), a specialist may study them within next 100 years.

Whenever data in the literature are incomplete or missing, the above procedures may be, of necessity followed partially.

This paper is written in close working contact with the World Spider Catalog, departures from it and eventual dissents are clearly marked.

Taxonomic descriptions

EVARCHINES

Type genus and species: *Evarcha falcata* Simon, 1902.

Remarks. Informal group of genera EVARCHINES, is delimited by Prószyński (2017b) to separate genera morphologically coherent, previously placed in much larger, composite group Hylleae Simon (1901-1903) (quoted subsequently as subfamily Hyllinae by Petrunkevitch (1928: 196), whose contents was listed by Bonnet (1958: 5052-5053) and Roewer (1954 [1955]), recently generalized as subtribe Plexippina by Maddison (2015). The group EVARCHINES is characterized by structure of palps and internal structure of epigyne, as well as by external view of epigyne and, to some extent, by habitus (see Figs 1-4). These features place group EVARCHINES within supergroup HYLLOIDA in the Pragmatic Classification System of Prószyński (2017b). Representative component of EVARCHINES was genus *Evarcha* s. l., containing 82 recognizable but diverse species, for which no mutual, workable diagnostic character could be found. To facilitate preparation of a Key for Identification, the genus *Evarcha* s. l. is hereby split into five derived genera: *Evarcha* Simon, 1889 s. s. (8 species), *Evacin* gen. n. (19 species), *Evalba* gen. n. (8 species), *Evaneg* gen. n. (10 species), *Evawes* gen. n. (21 species), there are 16 uncertain species pending further research. Names not denoting any recognizable species are not considered in this paper.

Diagnosis. The definition of the group on broad, comparative background is given in Prószyński (2017b: 51, f. 23, 27), characters of exemplary genera are shown in this paper on Figs 1-4.

Description. Group EVARCHINES is recognizable by general external appearance (Figs 2-4), easily memorized by experienced Arachnologists, but difficult to describe[5]*. Palps with bulbus oval or round, embolus parallel to broad bulbus, or encircling it, in some species only anterior part of embolus is visible, in still others it is short and located apically (Fig. 1), but in *Nigorella* embolus is twisted corkscrew like and arises on anterior edge of bulbus (Figs 16-18). Epigyne has large membranous "window", through which transluce sclerotized spermathecae of different shape; there is always a pair of pockets posteriorly or laterally, visible externally or hidden beneath sclerotized edge of epigyne. Genus *Evalba* gen. n. (type species *Evarcha albaria* and related - see see Figs 1R-V, 9) stands out by shape of palp, tibial apophysis and epigyne. Genus *Pancorius* is recognizable by depressed posterior half of epigyne in females, in males by embolus arising laterally from anterior half of bulbus. Recognition of remaining smaller genera can be done by comparizing 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.

Placement in EVARCHINES can be established by quick glance at palp and epigyne (Prószyński 2017b: f. 2, 23-24). Arachnologists having no access to microscope can follow procedure described by Simon (1901-1903: 688-709) according to which genus *Evarcha* s. l. (placed by him in the group of genera Hylleae), is recognizable by following sequence of characters: single tooth on retrolateral cheliceral margin - non ant-like shape of body - combinations of spines on legs - shape of eyefield and carapace - the final character referred to large bulbus of male pedipalp (see Fig. 1A).

Composition. The group **EVARCHINES** consists of following genera: *Baryphas* Simon, 1902 (6 species), *Evarcha* Simon, 1889 s. s. (8 species), *Evacin* gen. n. (19 species), *Evalba* gen. n. (8 species), *Evaneg* gen. n. (10 species), *Evawes* gen. n.(21 species), ["Evarcha" pending classification 5 species)], *Ghumattus* Prószyński, 1992 (1 species), *Hasarinella* Wesolowska 2012 (2 species), *Nigorella* Wesołowska, Tomasiewicz, 2008 (8 species), *Pancorius* Simon, 1902 (23 species), *Pharacocerus* Simon, 1902 (5 species), *Pseudamycus* Simon, 1885 (6 species).

[5] Memorized vague differences in general appearance may create problems in identification. A good example is *Evawes bakorensis* whose habitus seems to be rather *Pellenes* like (Fig. 2U), while palps and epigyne are comparable with *Evawes gen. n.* (Fig. 13O-P). Is it a case of excessive diversity? Or photos of habitus and genitals are mixed up ?

Genera derived from *Evarcha* Simon, 1889, *sensu lato*.
Figures 1-15

Type species. *Evarcha falcata*
Remarks. It is proposed hereby to divide genus *Evarcha* Simon, 1889 *sensu lato* into 5 genera: *Evarcha* Simon, 1889 sensu stricto, *Evacin* gen. n., *Evalba* gen. n., *Evaneg* gen. n., *Evawes* gen. n. each with easily recognizable type species, distributed in the Old World, with two immigrants in the North America and a few species in Australia and some Pacific Islands. Taxonomic problem of a broad genus lies in difficulty of finding mutual diagnostic characters permitting to define it and to separate from related genera, a task easier in smaller, more uniform genera. Incompleteness of morphological data still leaves space for further precising definitions. As a whole, these 5 genera contains together of 82 recognizable species (Prószyński 2016b), of which 34 have documentation for both sexes, 48 are known from single sex only. It is worth of noting that 58 of these species were discovered and described after 1980, out of which 35 were described after year 2000, mainly from Africa and E Asia.
Documentation studied. Summary of world's literature provided by "Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b) and current literature, in particular excellent paper by Marusik & Logunov (1997[1998]).
Diagnosis. Key characters of five genera derived from *Evarcha* l. are shown on Fig. 1. Genera appearance: body proportions and color patterns documented on existing color photographs are shown on Figs 2, 3 and 4. Details of key characters are compared on plates documenting diversity within each of delimited genera - Figs 5-10, 13-15. Documentation of one species is provided in a form of eight photographs (Fig. 8).
Description. Genera derived from *Evarcha* s. l. are recognizable by external appearance, documented by color photographs. Palps have big bulbus, oval but sometimes almost round, entirely covered by tegulum, in some species flat or gently convex, in other with prominent protuberance. Embolus usually long and thin, parallel to broad bulbus, but in some species encircling bulbus, in other located apically and short. Spermophor running along edge of tegulum, seen as not sharp due to partial opacity of tegulum. Epigyne with membranous "window", through which transluce sclerotized spermathecae of different shape; there is always a pair of pockets posteriorly, medially or laterally, the latter sometimes moved anterior-wards, up to half length of epigyne. Genus *Evalba* (Fig. 1R-V, 9) stands out.
Composition. Type genus *Evarcha* Simon, 1889 s.s., other genera: *Evacin* gen. n., *Evalba* gen. n., *Evaneg* gen. n., *Evawes* gen. n.

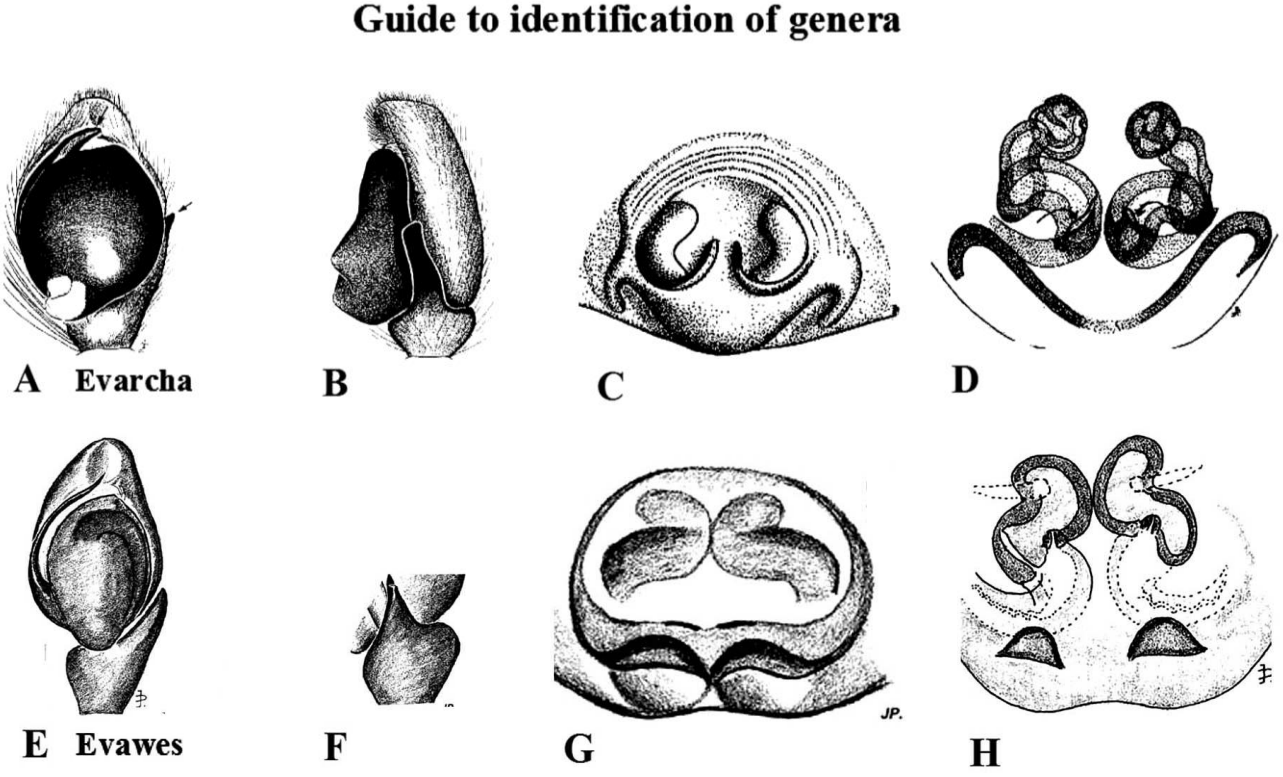


Figure 1-I. For figure caption see under Figure 1-II.

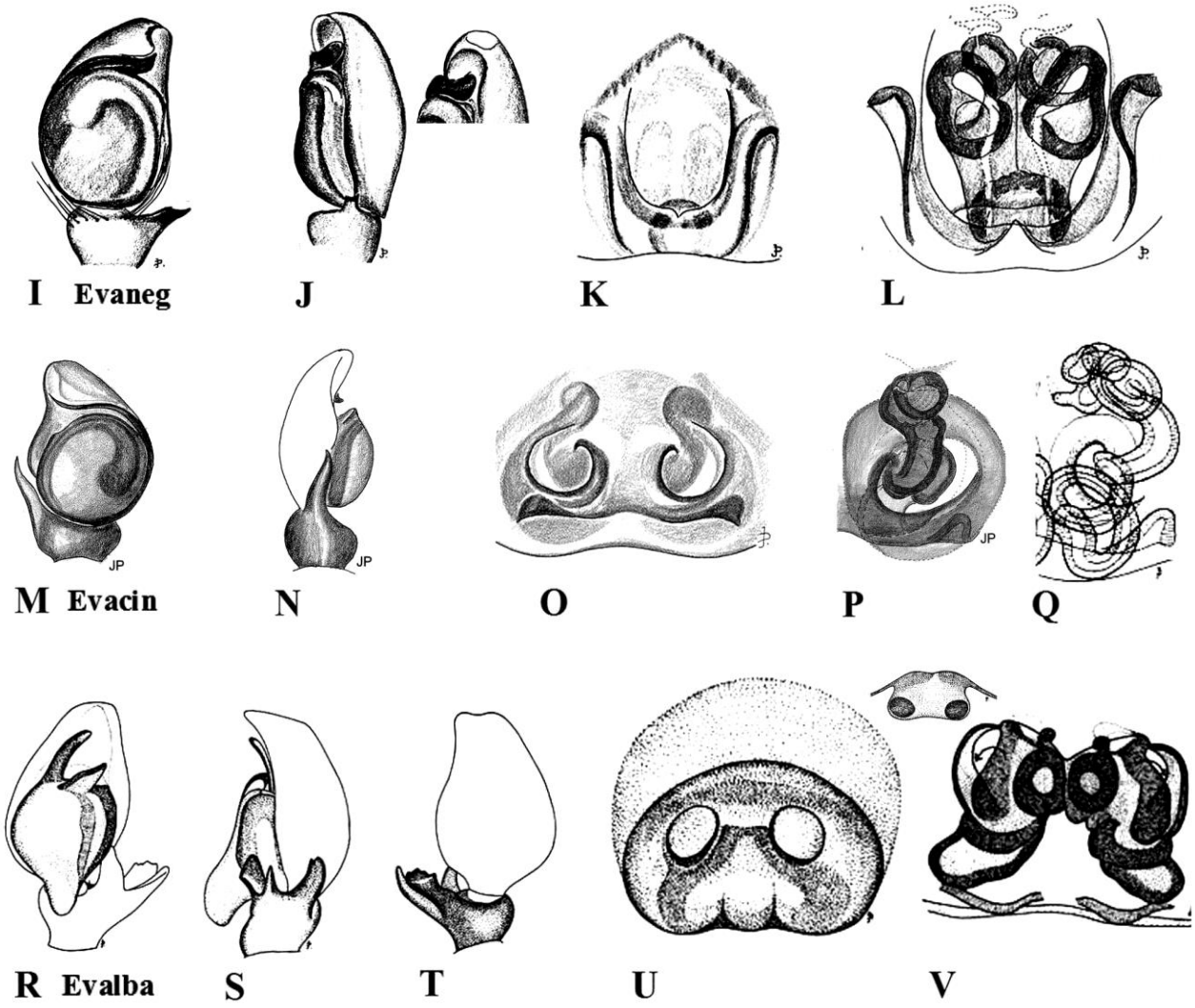


Figure 1-II. Guide to genera derived from *Evarcha* s. l. Palps, epigyne and internal structures of epigyne (ducts and spermathecae) of: **A-D** - *Evarcha falcata*, **E-H** - *Evawes patagiata*, **I-L** - *Evaneg negevensis* , **M-Q** - *Evacin kochi* , **R-V** - *Evalba albaria.* For source of drawings see captions to Figs 4, 6-13 below).

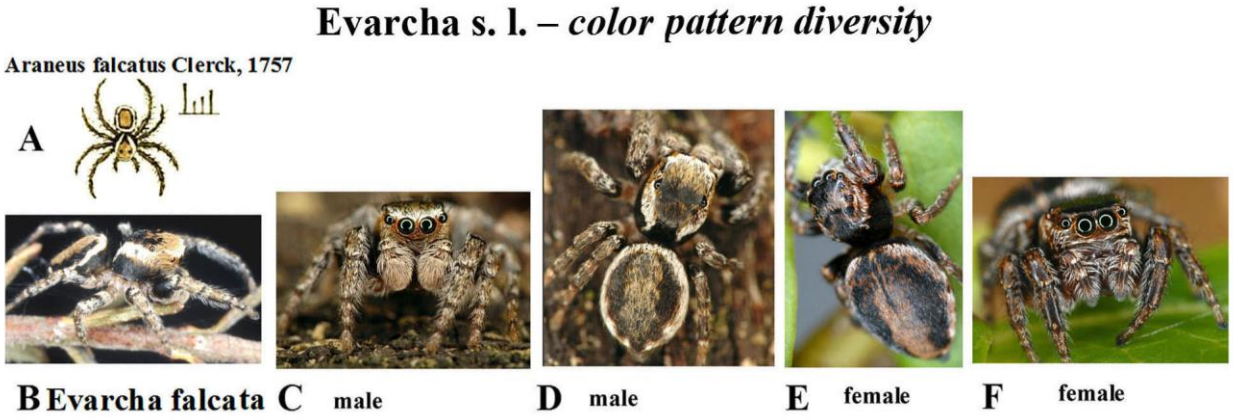


Figure 2-I. For figure caption see under Figure 2-II.

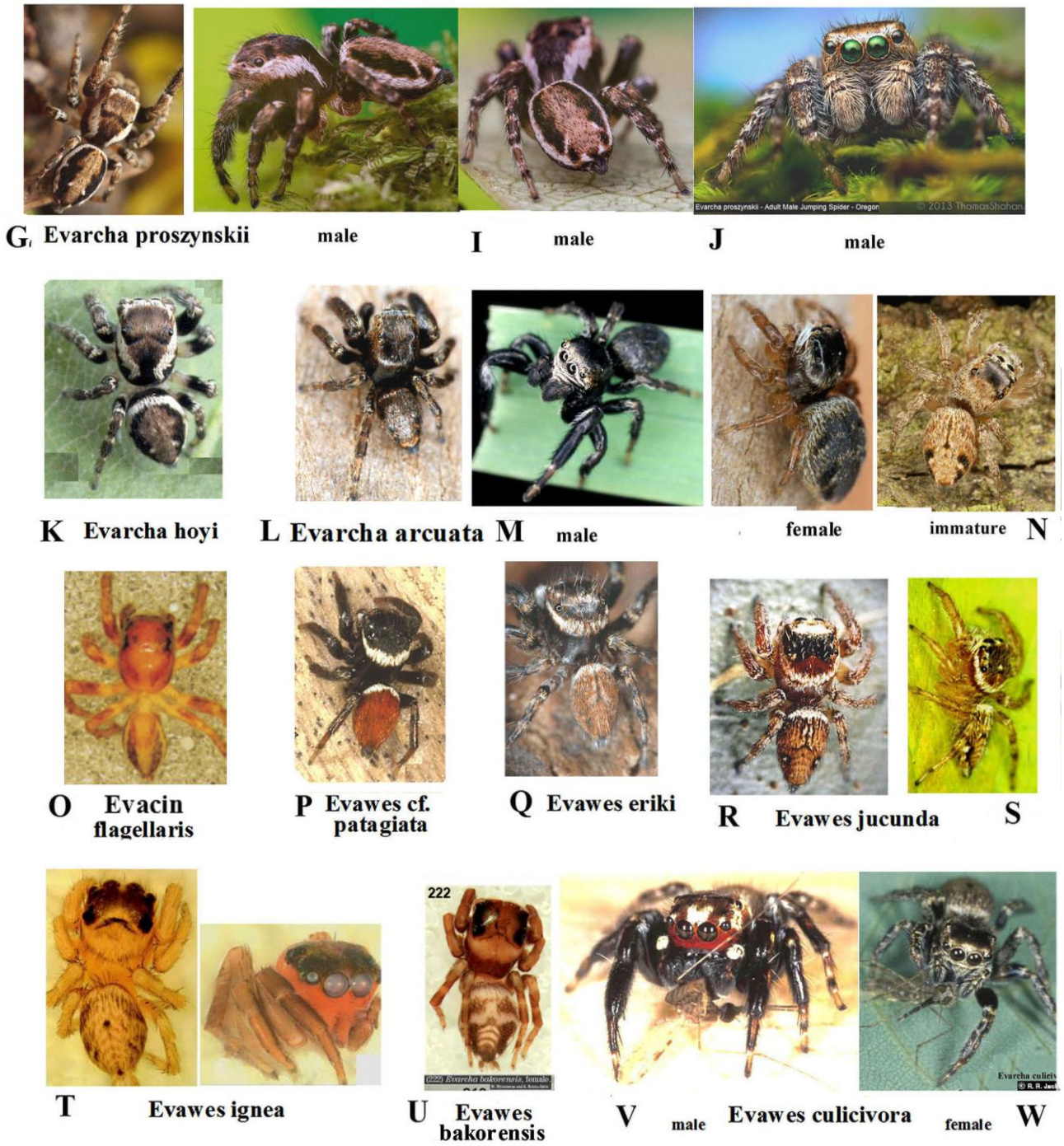


Figure 2-II. Color pattern and body shape of *Evarcha* s. s. and *Evawes* gen. n. **A** - *Araneus falcatus* Clerck, 1757 (= *Evarcha falcata*), **B-F** - *Evarcha falcata*, **G-J** - *Evarcha proszynskii* - N American specimen, **K** - *Evarcha hoyi*, **L-N** - *Evarcha arcuata*, **O** - *Evacin flagellaris*, **P** - *Evawes* cf. patagiata, **Q** - *Evawes eriki* = *Evawes jucunda*, **R-S** - *Evawes jucunda*, **T** - *Evawes ignea*, **U** - *Evawes bakorensis* [color pattern resembles rather *Pellenes* sp. - isn't photo mismatched?], **V** - *Evawes culicivora,* male & female.

SOURCES: A - Clerck, 1757: 125, pl. 5, f. 19, **B-F, L-N, Q** - ©Photo Lissner, **G** - **J** - ©Photo Kyron Basu, **K** - ©Photo Dick Walton, **O** - Haddad & Wesolowska, 2011: 63, f. 12, 33, 34A-B, 35A-B, **P** - ©Photo Amir Weinstein, **R** - ©Photo Metzner, **S** - ©Photo B. Knoflach, **T** - Haddad & Wesołowska, 2013: *Genus* 24(3-4): 471-472, f 98-99, **U** - Wesołowska, Russel-Smith 2011 Annales Zoologici 61(3): 568-570, f 52-56, 222, **V** - ©Photo Jackson, 2004. All ©copyrights are retained by the original authors and copyright holders, used here by their courtesy

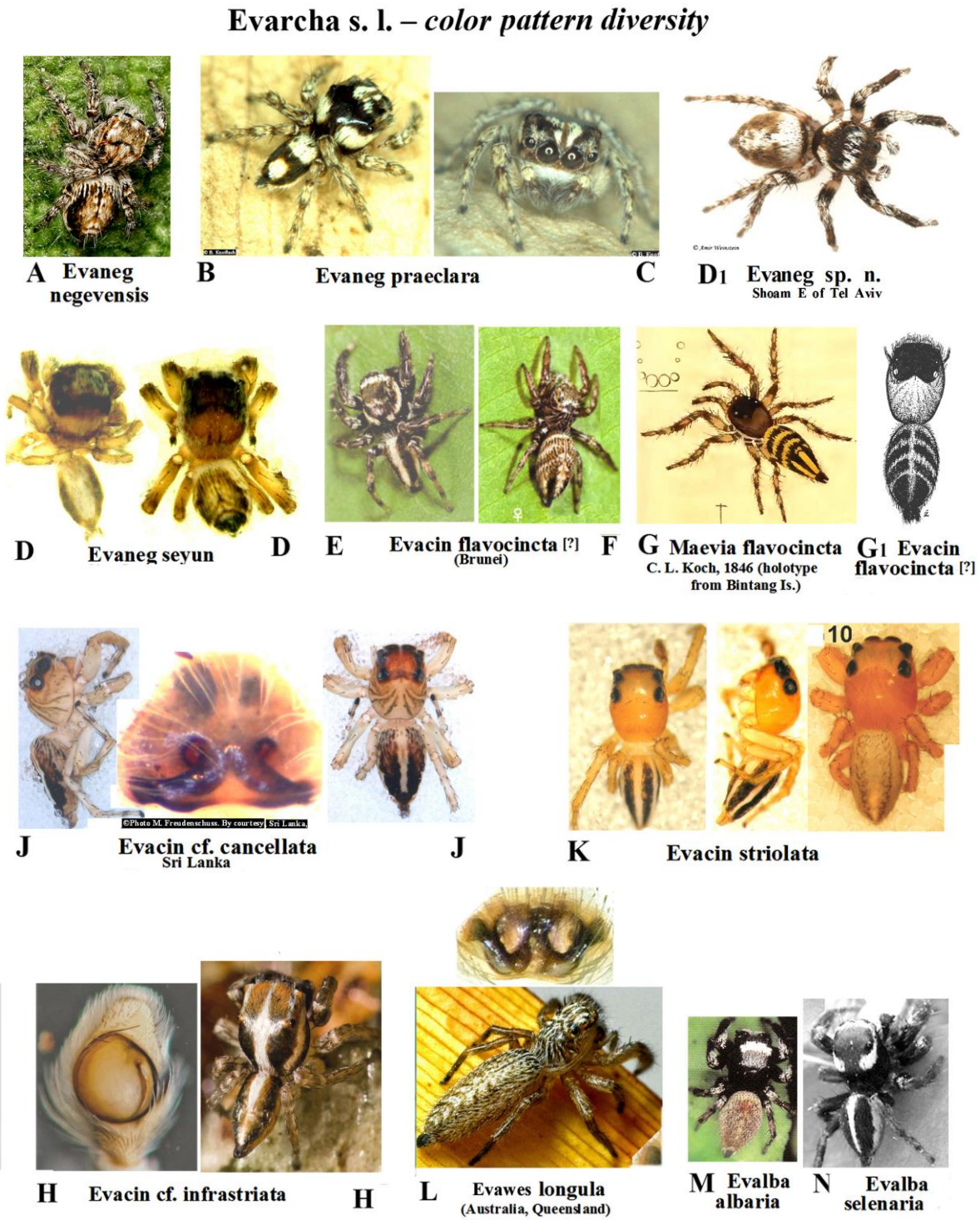


Figure 3. Color pattern and body shape of *Evaneg* gen. n., *Evacin* gen. n. & *Evalba* gen. n. **A** - *Evaneg negevensis*, **B-C** - *Evaneg praeclara*, **D**1 - *Evaneg* sp. n. - from Israel, Shoam area (35 km east of Tel Aviv), **D** - *Evaneg seyun*, **E-G** - supposedly *Evacin flavocincta* [= **E** - **F** - *Evacin flavocincta* (from Brunei)], G - *Maevia flavocincta* C. L. Koch, 1846 (holotype from Bintang Is), G1 - *Evacin flavocincta* (Vietnam, by Zabka)], H - *Evacin* cf. *infrastriata*, **J** - *Evacin cf. cancellata*? Sigiriya Hotel, Sri Lanka, on shady, wetter exterior walls, K - *Evacin striolata*, L -*Evawes longula*, M - *Evalba albaria*, **N** - *Evalba selenaria (*Ryukyu Is.).

SOURCES: **A**- ©Photo Amir Weinstein, **B**- **C** - ©Photo B. Knoflach, **D** - Wesolowska & van Harten, 2010: Arthropod Fauna of the UAE 3: 32, pl 5-6, f 12-16 , **E**-**F**- ©Photo Koh J. 2013: 190. Brunei, G - C. L. Koch, (1846). *Die Arachniden*. Nürnberg, Dreizehnter Band, 74, f. 1330, **H** - ©Photo R. Whyte, **J** - ©Photo M. Freudenschuss, **K** - Wesołowska, Haddad 2009. African Invertebrates, 50(1): 35, f 213-214**, L** - ©Photo R. Whyte, **M** - Ono, Ikeda, Kono 2009: Tokai University Press, 576, pl 46-6**, N** - Suguro & Yahata, 2013. *Acta Arachnologica* 61(1): 1-4, f 1-9. All ©copyrights are retained by the original authors and copyright holders, used here by their courtesy.

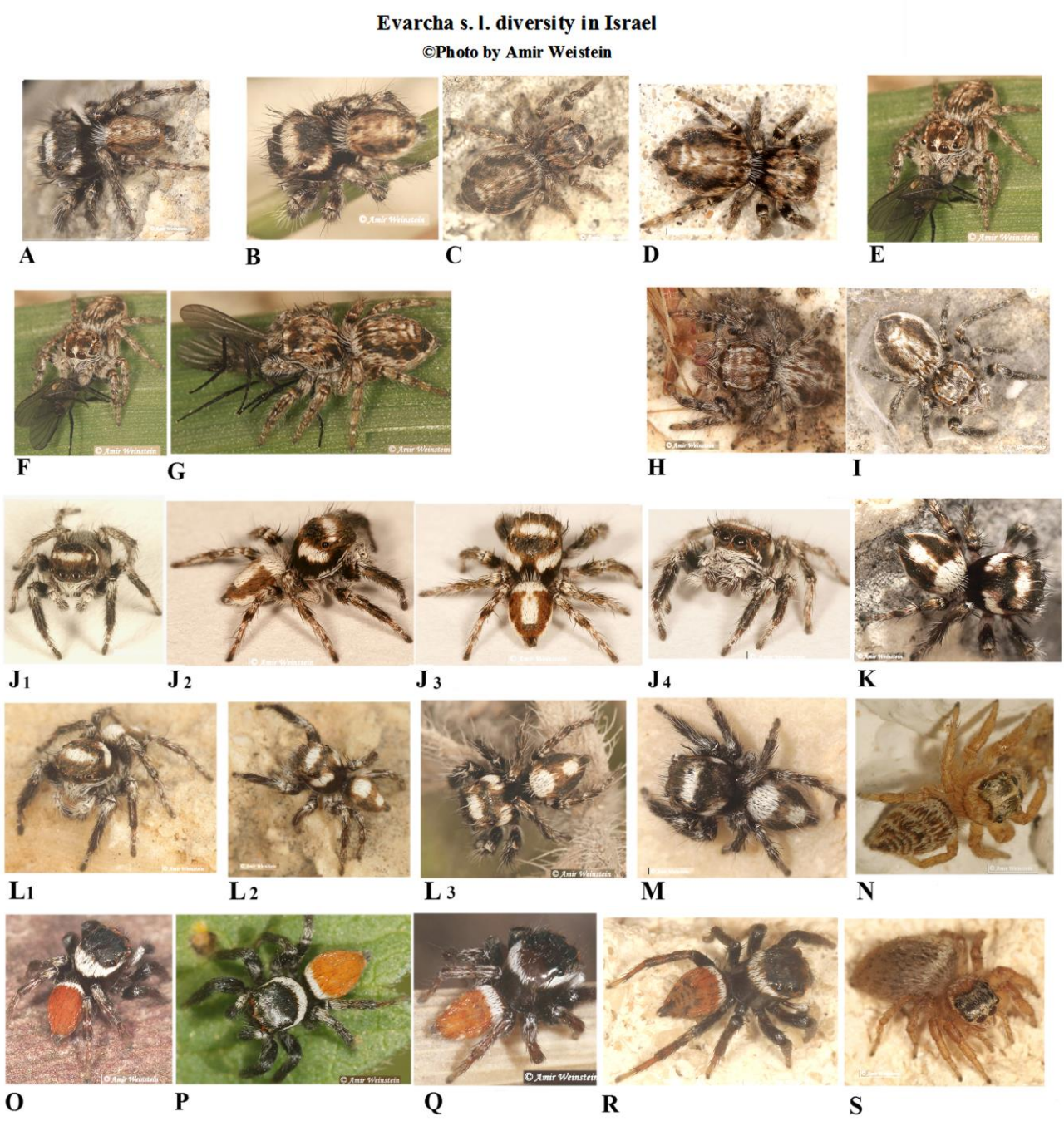


Figure 4. *Evaneg* & *Evawes* diversity in Israel. **A-B** - *Evaneg* sp., male, **(B** and **C** specimens photographed in distance 1-2 m each from other) **D-I** - *Evaneg negevensis* Prószyński, 1999[2000] **(I** - pregnant female in retreat), **J** -**J4** - *Evaneg* sp. n. various views of the same specimen, **K** - *Evaneg* sp. n., **L1-L3** - *Evaneg* cf. *praeclara* - various views of the same male specimen, **M** - *Evaneg* cf. *praeclara* - male, different coloration, N - female of either *Evarcha* s. s., or *Evawes* sp., **O-S** - *Evawes patagiata* (O. Pickard-Cambridge, 1872), male, **S** - *Evawes patagiata*? - immature female?

SOURCES: All © photographs by Amir Weistein, taken in following localities in Israel: **A-J4**- Judean foothills, **M** - Shoam, **Q**, **R**- Judean foothills, **P -S** - Binyamina, **R** - Jezreel Valley. By kind permission of Amir Weinstein.

Gen. *Evarcha* Simon, 1902 sensu stricto (8 species)
Figures 1A-D, 2A-N, 5

Type species *Araneus falcatus* Clerck, 1757 (= *Evarcha falcata* (Clerck, 1757).
Documentation studied. Summary of world's literature in "Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b) and current literature.
Diagnosis. Key characters are shown on Fig. 1A-D, on comparative background of remaining four genera shown on Fig. 1E-V.
Description. Male: bulbus ovoid, broad (at least anteriorly), with high posterior protuberance (Fig. 5A1), embolus relatively broad, emerging anterolaterally (exact point of arising unknown), tibial apophysis long and anteriorly truncated (Fig. 5E1). Female: epigyne with large, membranous "window", pockets lateral, moved anterior wards (Fig. 5A2) at about one third of length of epigyne, spermatheca consists of short, broad loop with strongly sclerotized walls (Fig. 5A3).
Composition (diagnostic documentation indicated in brackets). There are three relatively well defined species: *Evarcha arcuata* (Clerck, 1757) (Figs 2L-N, 5I-I3), *Evarcha falcata* (Clerck, 1757) (Fig, 2A-F, 5A1-A3), *Evarcha laetabunda*(C. L. Koch, 1846) (Figs 5E1-E2). Adittionally, there are four uncertain species, possibly synonyms, requiring confirmation by revisionary research: *Evarcha hoyi* (Peckham & Peckham, 1883) (Figs 2K, 5D1-D3), *Evarcha michailovi* Logunov, 1992 (Figs 5H1-H2), *Evarcha proszynskii* Marusik & Logunov, 1998 (Figs 2G-J, 5C1-C3). Redescription is needed for, *Evarcha falcata xinglongensis* Yang & Tang, 1996 (Fig, 5G) and *Evarcha mongolica* Danilov & Logunov, 1994 (Figs 5F-H1).

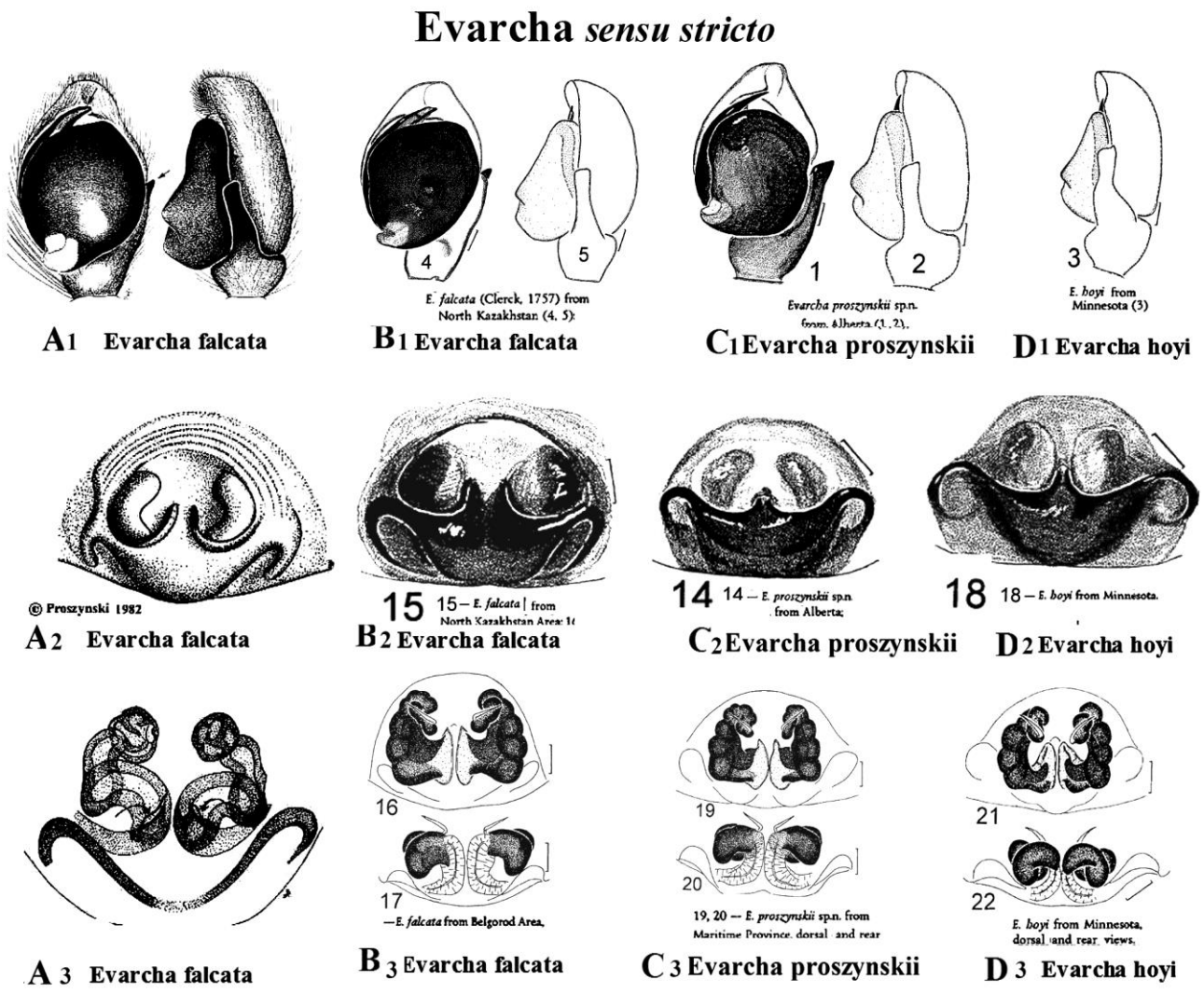


Figure 5-I. For figure captions see under Figure 5-II.

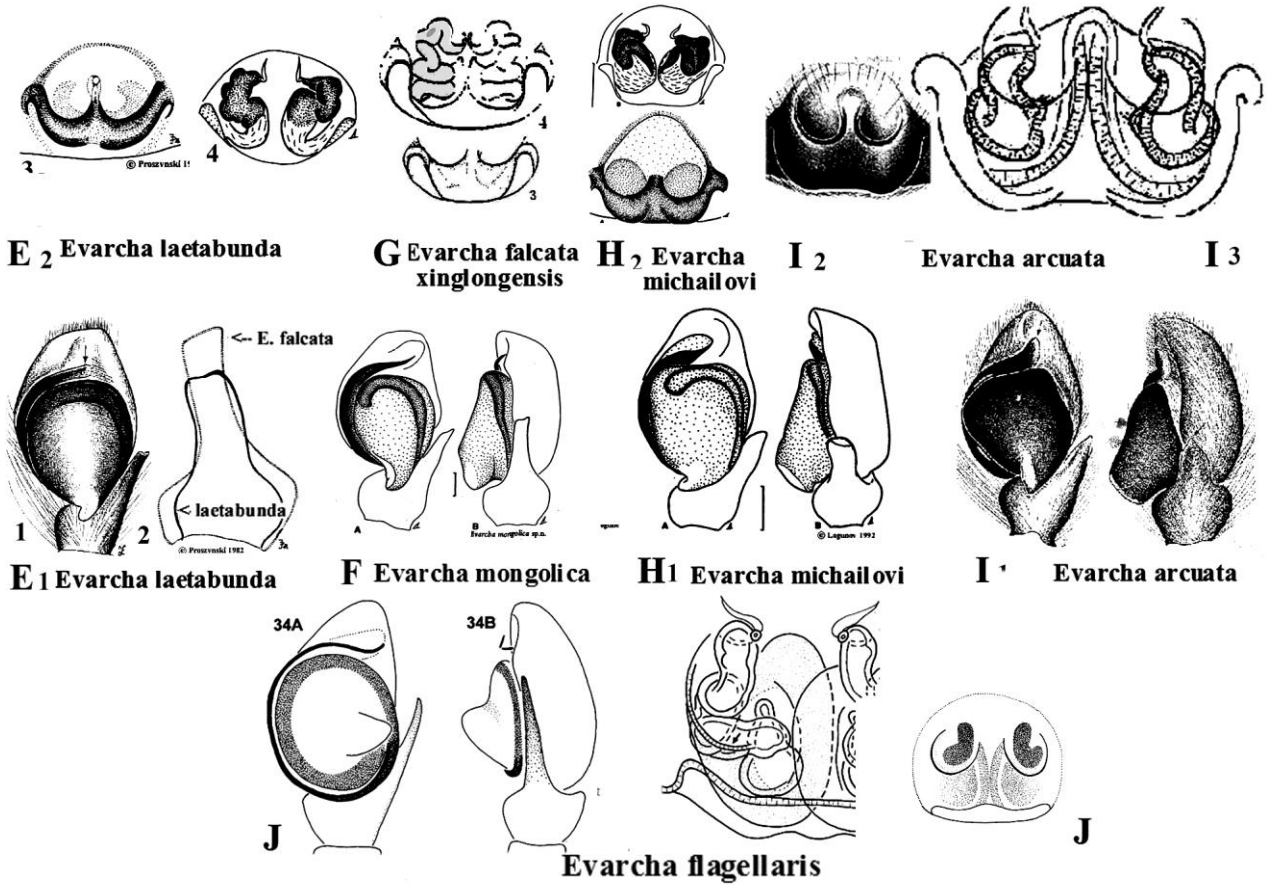


Figure 5-II. Diagnostic characters of species of the genus *Evarcha s. s.* **A1-3, B1-3** - *Evarcha falcata*, **D1-3** - *Evarcha hoyi*, **C1-3** - *Evarcha proszynski*.), **E1-2** - *Evarcha laetabunda*, **F** - *Evarcha mongolica*, **H1-2** - *Evarcha michailovi*, **G** - *Evarcha falcata xinglongensis*, **I-3** - *Evarcha arcuata* (Clerck, 1757).

SOURCES: **A1** - Zabka 1997. Fauna Polski 19: 5-187, figs 113-118, **A2-A3. E1-E2** - Proszynski in Heimer & Nentwig, 1991: 502, f. 13411991: ff. 1341.1-43**, B1-D3** - Marusik, Logunov 1997. Arthropoda Selecta, 6 (3/4): 99-101, figs. 3, 9-11, 18, 21, 22, **E1-E2** - Proszynski in Heimer & Nentwig, 1991: 502, f. 13411991: ff. 1341.1-43**, F** - Danilov & Logunov 1994: *Arthropoda Selecta* **2**(4): 30, figs 2a-b, **H1-2** -Arthropoda Selecta 1(2): 34, f. 2A-B, 3A-B, **G** -Yang & Tang, 1996 Journal of Lanzhou University Natural Sciences 32: 105, f. 3.1-4**, I1-3** - Zabka 1997. Fauna Polski 19: 49, f. 99-106.

Gen. *Evacin* gen. n. (19 species)
Figures 1M-Q, 6A-L, 7, 8

Type species. *Evacin kochi* (Figs 1M-Q,)
Type material: *"Evarcha kochi* - Java, Palembang, Tenger, Tr." MNHN 20349.
Etymology. Name is created as arbitrary combination of letters coined of words *Eva*-[rcha] and [flavo]-*cin* [cta] indicating relation to *Evarcha*. Assumed grammar gender feminine.
Documentation studied. Summary of world's literature provided by"Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b) and current literature.
Diagnosis. Key characters are shown on Fig. 1M-Q, comparative background of remaining four genera shown on Figs 1A-L and R-V.
Description. Male: bulbus almost circular (rarely oval) and flat or gently convex, embolus thin and long, encircling bulbus entirely or partially (Fig. 8F), tibial apophysis thin, about half of length of bulbus, sharp pointed, in some species slightly waving (Figs 6A, C). Female: sclerotized posterior part of epigyne reduced to narrow transverse band (Figs 6A-H) with a sclerotized septum entering membranous "window" for about half of length of the latter and ending with circular rims of otherwise invisible copulatory openings. Spermathecae in a form of several coils stretching along the whole "window" and ending far ahead of its anterior rim, coils may be long and thin, or broad and strongly sclerotized (Figs 6C, D1, E1).

Remarks. Nomenclature of *Evacin* species is particularly entangled. Males of these species have very similar palps, differing by minute details of tibial apophysis shape (Figs 6, 7) of uncertain diagnostic value. Epigyne are also similar, differing in length of narrow posterior sclerotized band and in width of sclerotized septum separating copulatory openings in the posterior half of epigyne, these were interpreted as intraspecific variation, until discovery of tremendous differences in spermathecae (Figs 6C, F, less striking in 6D-E), the experience nullifying earlier interpretations. The problem is that these species are known from single, or a few species only, epigyne of 6 more forms were not cleared and documented. Habitus of these species is not documented by color pictures, with exception of three species, whose identification by genitalic structures is not confirmed. Geographic origin of identified species was not taken into account during identification, specimens studied by various authors came from widely distributed areas, including northern and southern China, Japan, Vietnam, Bintang Island, Singapore, Borneo, Java, Lombok, Palau, Sri Lanka, Myanmar, Seychelles and Africa.

Composition (diagnostic documentation indicated in brackets). Type species *Evacin kochi* (Simon, 1902) [Java, Lombok (Figs 1M-Q, 6A-C)], *Evacin acuta* (Wesolowska, 2006) [Seychelles (Fig. 7M)], *Evacin* alba (Peckham, Peckham 1903) comb. n. [S Africa (Fig. 7S-S1)], *Evacin* besar sp. n. [Borneo, (Fig. 8A-H)], *Evacin* bulbosa Zabka, 1985 [Vietnam (Fig. 6K)], *Evacin* cancellata (Simon, 1902) [Sri Lanka (Fig.3J, 6G)], *E.* fischeri (Bösenberg & Strand, 1906) (= *Hyllus fischeri* Bösenberg & Strand, 1906) [Japan (Fig. 6J)], *Evacin flavocincta* (C. L. Koch, 1846) (Bintang Is. (Fig. 3E-G1)], *Evarcha karas* (Wesolowska, 2011) [Namibia (Fig. 7Q)], *Evacin heteropogon* Simon, 1903 (Figs 6D-D1) [North Vietnam - "Tonkin"], *E. infrastriata* (Keyserling, 1881) [Queensland (Fig. 3H7V)], *Evacin* kirghisica (Rakov, 1997) [Kyrgyzstan (Fig. 7N)], *Evacin* nigrifrons (Koch C.L., 1846) [Sumatra (Fig. 6I)], *Evacin* optabilis (Fox, 1937) [China: Sichuan, Suifu = Yibin (Fig. 6H)], *Evacin pococki* (Zabka 1985) [Vietnam (Fig. 7O)], *Evacin pulchella* (Thorell, 1895) [Burma: Tharrawady (Fig. 6L)], *Evacin pseudopococki* (Peng X., Xie L., Kim, 1993) [China (Fig. 7P)], *Evacin reiskindi* (Berry, Beatty, Proszynski, 1996) [Caroline Isls: Palau Is. (Fig. 6F)], *Evacin* simonis (Thorell, 1892) [Singapore (Figs 6D-D1)], *Evacin striolata* (Wesołowska, Haddad 2009) [S Africa: Maputaland (Fig. 3K, 7U)], *Evacin vitosa* (Próchniewicz, 1989) Africa: Kenya (Fig. 7T)]. [**ATTENTION: all names are new combinations**].

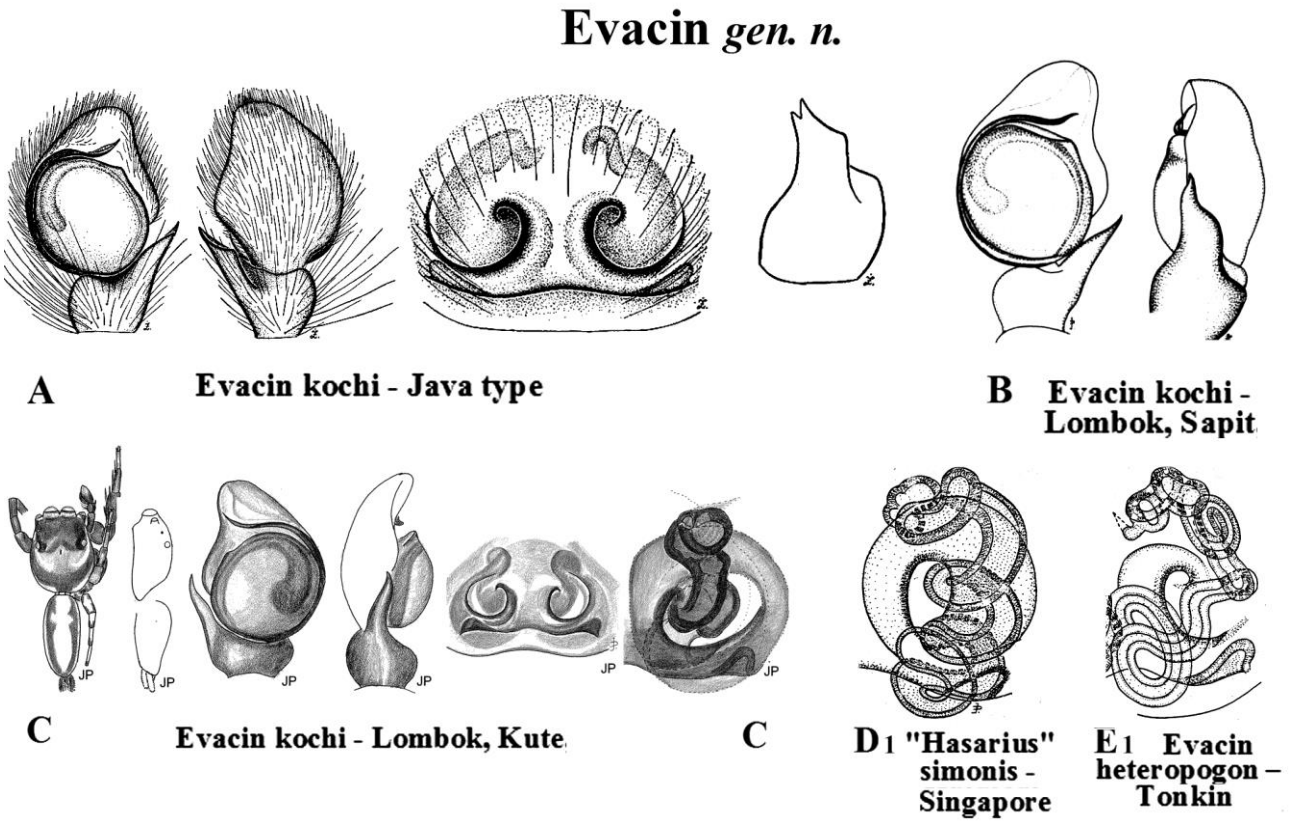


Figure 6-I. For figure caption see under Figure 6-II.

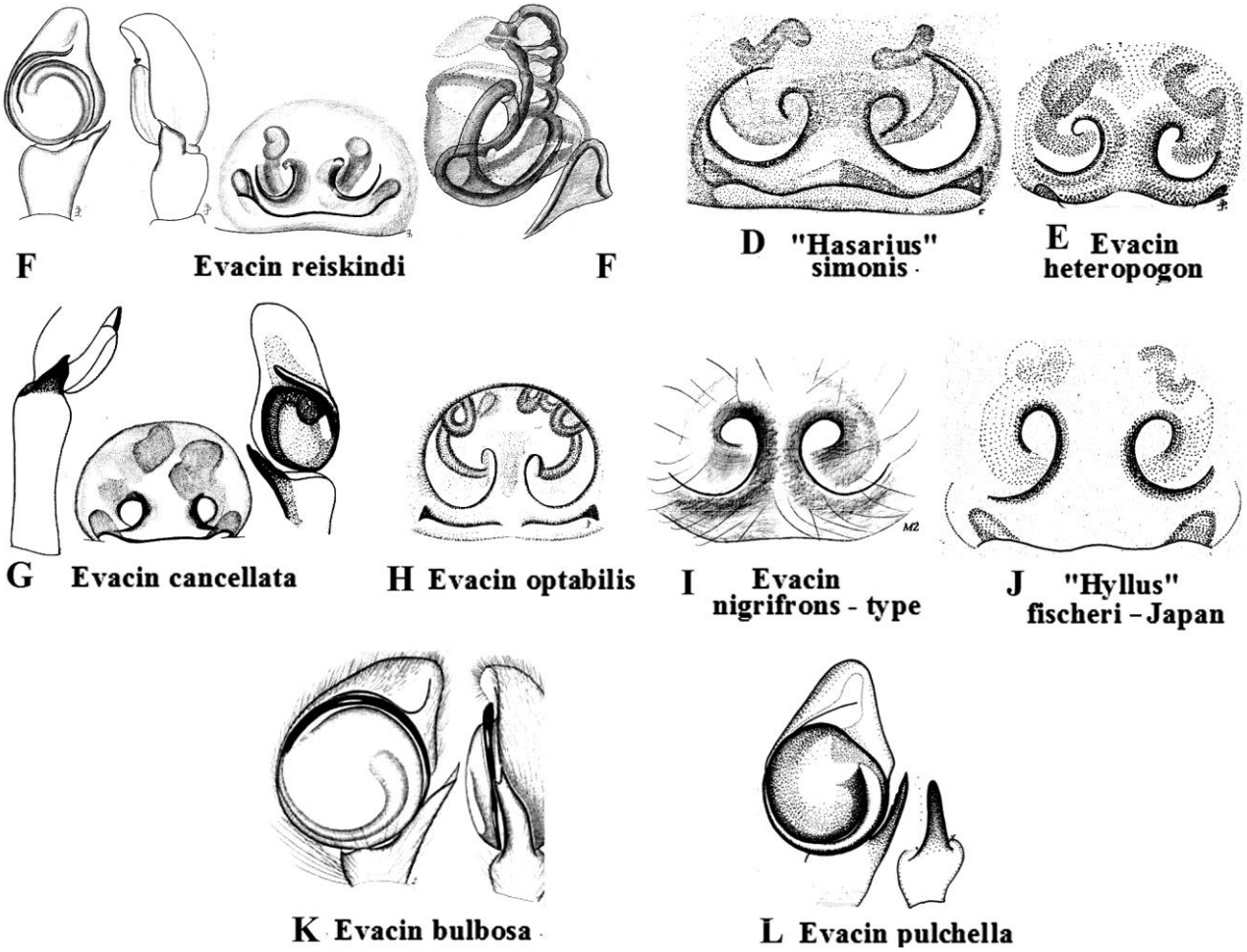


Figure 6-II. Diagnostic characters of the genus *Evacin*. **A** - *Evacin kochi* - Java Palembang Type, **B** - *Evacin kochi* Lombok: Sapit – coll. Simon, **C** - *Evacin kochi* Lombok: Kute, **E-D1** -- supposedly *Evacin flavocincta* [= **D-D1** - *"Hasarius" simonis* - Singapore, from , **E** - *Evacin heteropogon* [from- Tonkin], **F** - *Evacin reiskind*i, **G** -*Evacin cancellata*, **H** -*Evacin optabilis* (Type No. 1166 from Szechwan), **I** - *Evacin nigrifrons* (type, from Bintang Is.), **J** - *"Hyllus"- Evacin fischeri* (TYPE from Japan), **K** - *Evacin* bulbosa, **L** - *Evacin pulchella*.

SOURCES: **A** - Zabka Annales zoologici, 1985: 224, f. 193-196, **B** - Prószyński 1984c: 49, **C** - Prószyński, Deeleman-Reinhold, 2010 Arthropoda selecta, 19(3): 166, f 62-69 , **D-D1, E, G, J, L** - Proszynski 1984: Atlas 49, 50, 51, **F** - Berry, Beatty, Proszynski 1996 Journal Arachnology 24(3): figs 70-73, **H** - Proszynski 1987: Atlas 26, **I** - Zabka in Prószyński 2009 Arhropoda selecta 18 (3-4): f. 35, **K** - Zabka 1985. Annales zoologici, 39, 11: 222, f. 173-175.

Species of *Evacin* gen. n. deserving some comments and/or nomenclatorical changes

Evacin alba (Peckham, Peckham 1903) comb. n.

Figures 7S-S1

Viciria alba Peckham & Peckham, 1903: 234, pl. 26, f. 8 (Df).
Viciria alba Lessert, 1925b: 358, f. 18 (f).

Remarks. Known to me only from drawings of epigyne made by Peckhams and de Lessert (Figs 7S-S1), clearly similar to other species of *Evacin* and having nothing in common with species of *Viciria*.
Distribution. S African Rep.: Natal, Zimbabwe: Mashonaland.
Therefore:
Viciria alba Peckham & Peckham, 1903 = *Evacin alba* (Peckham, Peckham 1903) comb. n. (reclassification necessary because of structure of epigyne).

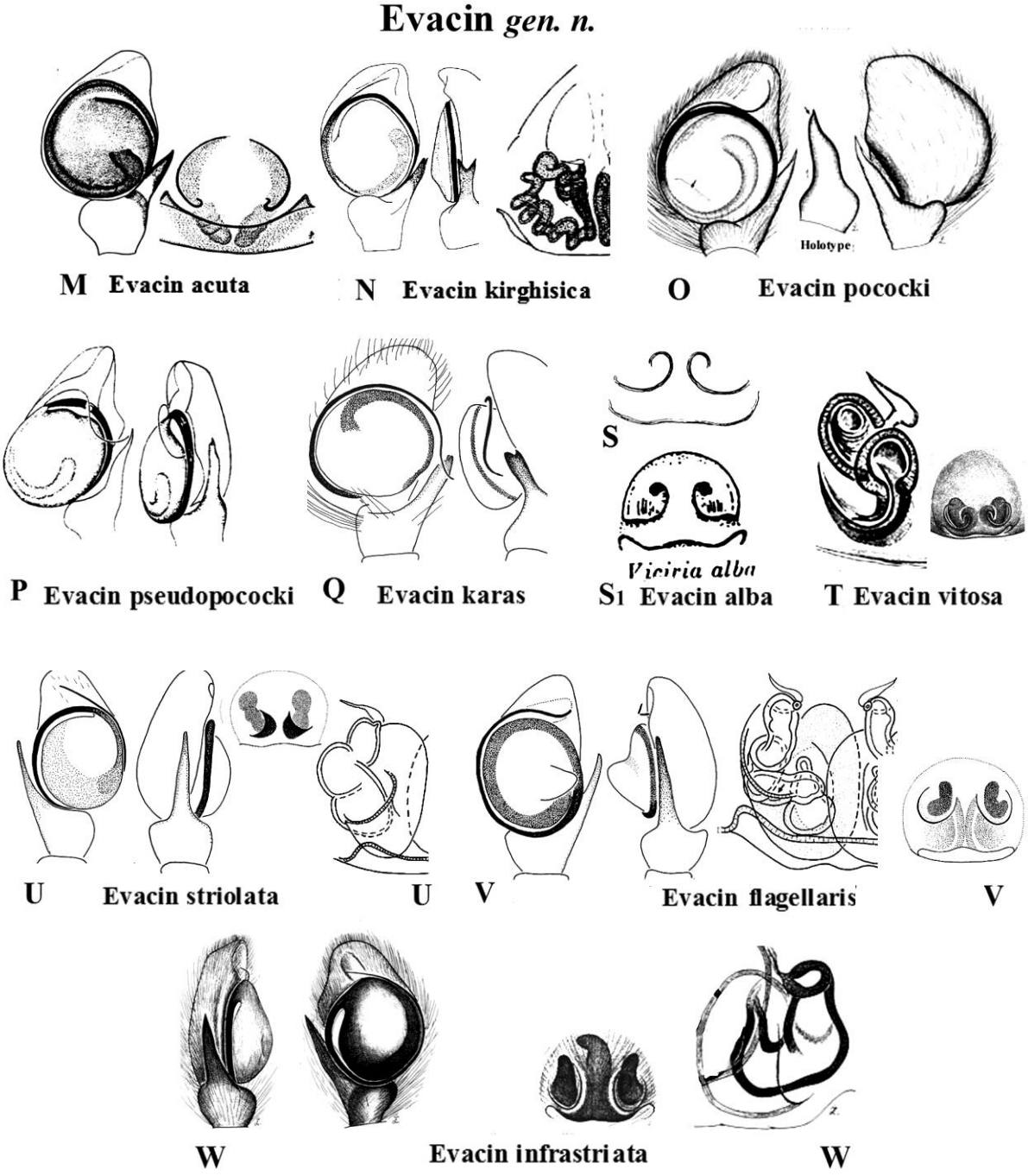


Figure 7. Diagnostic characters of species included to the genus *Evacin gen. n.* CONTINUATION. **M** - *Evacin* acuta, **N** - *Evacin kirghisica*, **O** - *Evacin* pococki, **P** - *Evacin* pseudopococki, **Q** - *Evacin*, **S-S1** - *Evacin alba*, **T** - *Evacin* vitosa, **U** - *Evacin striolata*, **V** - *Evacin flagellaris*, **W** - *Evacin infrastriata*.

SOURCES. **M** - Proszynski 1984: Atlas 129, **N** - Rakov S.Y. 1997. Arthropoda Selecta 6 (1/2): 108-109, figs 10-13, **O** - Zabka 1985. Annales zoologici, 39, 11: 223-224, ff. 180-186 , **P** --Song et al., 1999: The Spiders of China 511, figs 296E-F.511, figs 296E-F, **Q** - Wesolowska 2011 Genus, 22(2): 314-315, f 18-19M, **S** - Peckham, Peckham 1903: Transactions of the Wisconsin Academy of Sciences, Arts and Letters 14: 234, t 26, f 8, **S1** - Lessert R. 1925b. Revue suisse zoologie, 32 (21): 354-357, figs 16A-b, **T** - Prochniewicz M. 1989. Mitteilungen aus dem Zoologischen Museum in Berlin 65(2): 65, 2: 210-211, 224, ff. 52-55, **U** - Wesołowska, Haddad 2009. African Invertebrates, 50(1): 35, f 47-49 + 2013: 54 (1): 197-198, f 10, 17, 65, 66, **V** - Haddad, Wesołowska 2011. © African Invertebrates 52(1): 63-65, f 12, 33-3**W** - Zabka 1993 Invertebrate Taxonomy 7: 292, t. 13, 14.

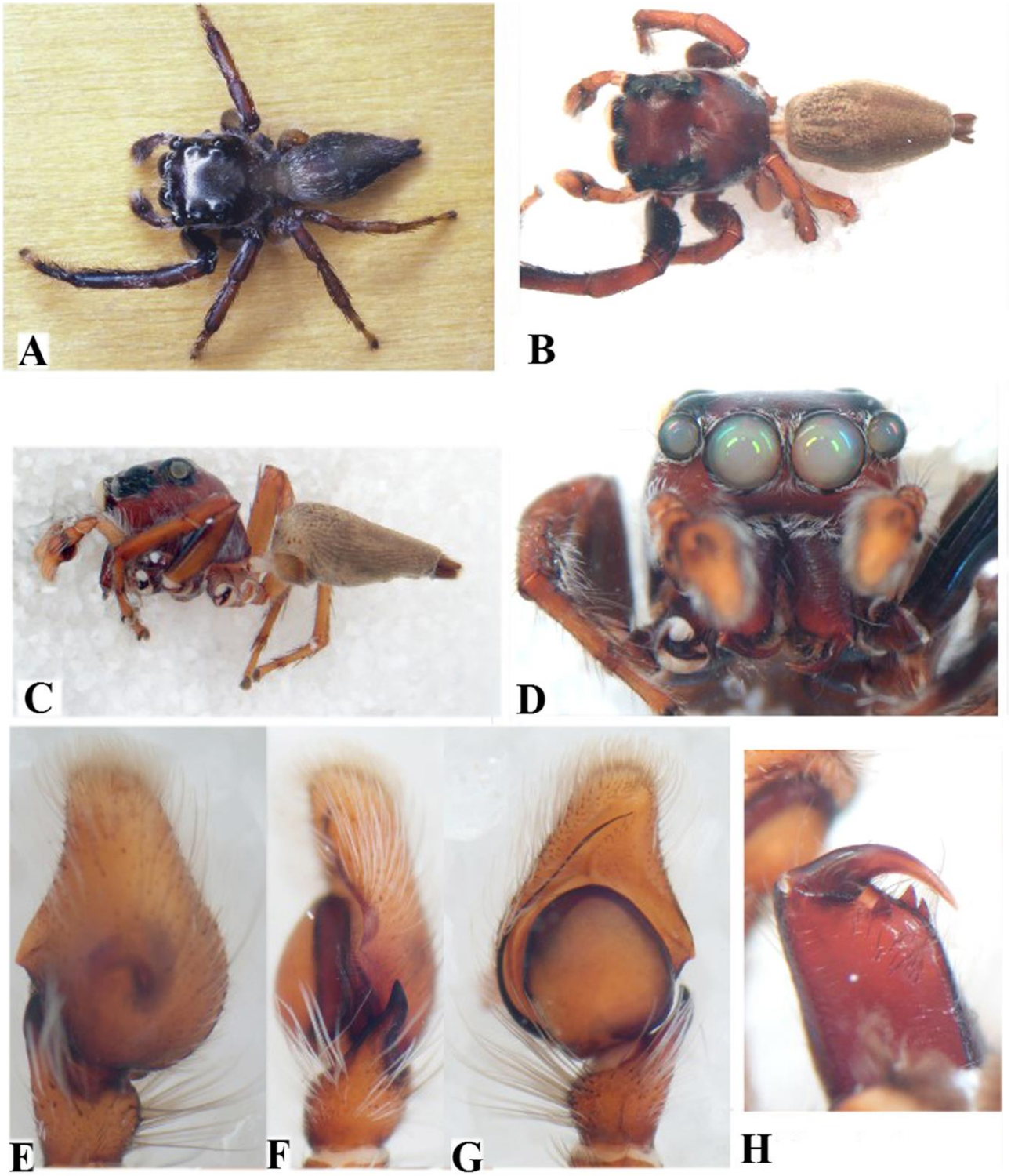


Figure 8. Diagnostic characters of *Evacin besar* sp. n. **A** - general appearance of fresh specimen, **B**-**C** - appearance of specimen discolored due to long preservation in ethyl alcohol, **D** - frontal view, **E**-**G** - palpal tarsus and tibia - dorsal, lateral and ventral view, **H** - cheliceral dentition.

SOURCES: ©Photo P. Koomen. By courtesy.

Evacin besar sp. n.

Figure 8

Material: Holotype male "*Evarcha* sp. Malaysia: Sabah: Sukau - Bukit Tamanggong Besar (899), March 31st, 2003, primary vegetation on limestone"; 1 male paratype "*Evarcha* sp . Malaysia: Sabah - Danum Valley(910), April 15th, 2003. Slightly disturbed primary lowland rainforest along river" - both specimen in the coll. of P. Koomen. Description based on ©photographic documentation by P. Koomen.

Etymology. Specific name based on collecting locality Bukit Tamanggong Besar, word "besar" means "great" in Bahasa Malaya language.

Remarks. The description of this species is a test of defining species based on extensive photo documentation of diagnostic characters, different from ALL relevant species heretofore described (Figs 8A-H.). Preliminary identification of the species and arrangement of characters on the plate by P. Koomen.

Diagnosis. Characters documented on Fig. 8A-H, details of special significance are arising point of embolus at the latero-posterior point of tegular rim and fine details of slightly waving tibial apophysis (Fig. 8E-G).

Description. Carapace shape and proportions resembling *Evarcha* s. s. and other related genera, from which differs by narrow, gradually narrowing and pointed abdomen. Noticeable difference from other species of *Evacin* and related genera seems to be rare black coloration of fresh specimen (Fig. 8A), lost after preservation in alcohol (Figs 8B-C). Also important are arising point of embolus at the latero-posterior point of tegular rim, by tegulum gently convex, without protuberance and by details of slightly waving tibial apophysis (Fig. 8E-G).

Distribution. Malaysia: Borneo: Sabah - Sukau and Danum Valley.

Evacin fischeri (Bösenberg & Strand, 1906)

Figure 6J

Hyllus fischeri Bösenberg & Strand, 1906: 358, pl. 14, f. 383 (Df).
Hyllus fischeri Prószyński, 1984a: 50 (m).
Evarcha flavocincta Zabka, 1985: 224, f. 187-196.

Remarks. Interpreted as closely resembling *Evarcha flavocincta* and synonymized with it by Zabka (1985: 224) (a move approved at that time by Prószyński) belongs apparently to a group of species having similar epigyne, but differing by proportions, internal structures were unfortunately not drawn. Occurrence far away from terra typica of *E. flavocilliata* (Bintang Is.) also suggest independent different species status.

Distribution. Japan.

Therefore:

Hyllus fischeri Bösenberg & Strand, 1906 = Evacin fischeri (Bösenberg & Strand, 1906) removed from synonymy of *E flavocincta*.

Evacin flagellaris (Haddad & Wesolowska, 2011) comb. n

Figures 2O, 7V

Evarcha flagellaris Haddad & Wesolowska, 2011: 63, f. 12, 33, 34A-B, 35A-B (Dmf)
Evarcha flagellaris Dawidowicz & Wesolowska, 2016: 442, f. 20-22 (m).

Remarks. Placement and matching of male uncertain. Body shape and color pattern (Fig. 2O) does not particularly resembling *Evarcha*, differing particularly by narrowing anterior part of carapace, which has broadest point at the level of eyes III. Tegulum in genera derived from *Evarcha* s. l. is usually flat, or gently convex, in *Evarcha* s. s. there is posterior protuberance developed horizontally, but in this species prominent protuberance rises perpendicularly from surface of tegulum, near its center. With exception for protuberance, palp is comparable with *Evacin* species, for instance *Evacin striolata*. Epigyne is comparable with other species of *Evacin*.

Distribution. S African Republic, Kenya.

Evacin flavocincta C. L. Koch, 1846

Figures 3E-F from Brunei, 3G-Holotype from Bintang Is. - original painting

Maevia flavocincta C. L. Koch, 1846: 74, f. 1330 (Df).
Maevia capistrata C. L. Koch, 1846: 76

Evarcha flavocincta Zabka, 1985: 224, f. 187-196 (Tf from *Viciria* per Roewer, Sm) [included as syn. n. of: *a):Hasarius simonis, b) Evarcha kochi, c) Evarcha heteropogon, d) Hyllus fisheri*).
[f. 189 epg - new specimen from Vietnam (dorsal appearance disagree with holotype od *Maevia flavocincta*, f. 191= *E. heteropogon*, 192 = *H. fisheri]*
Evarcha flavocincta Prószyński & Deeleman-Reinhold, 2010: 165, f. 71-72 (f).
Evarcha flavocincta Yin et al., 2012: 1363, f. 739a-d (f). drawings of epigyne – diagrammatized
Evarcha flavocincta Roy et al., 2014a: 380, f. 1-6 (f). epigyne - diagramatized, drawing of habitus and photo disagree with painting in C.l. Koch, represent two different species.
Evarcha flavocincta Dhali, Saha & Raychaudhuri, 2017: 29, f. 38-42, pl. 17 (f). Photo and drawings - unrecognizable, *Evarcha flavocincta* Prószyński, 2017b: 53, f. 23J (f).

Remarks. Composite species pending revision of type specimens of constituting it forms. Described originally as *Maevia flavocincta* C. L. Koch, 1846: 74 (with page priority) (Fig. 3G) together with *Maevia capistrata* C. L. Koch, 1846: 76, both from Bintang Is., considered synonyms since Simon (1864: 324) without any convincing documentation, listed under either name in combination with genus names *Cyrtonota*, and *Viciria*, until placed in *Evarcha* by Zabka (1985: 224) who has synonymized it with *Hasarius simonis* Thorell, 1892, *Evarcha kochi* Simon, 1902, *Evarcha heteropogon* Simon, 1903 and *Hyllus fisheri* Bösenberg & Strand, 1906, a move which helped delimitation of these forms as related, but whose conspecificity should be confirmed now by revision using modern methods, especially color photographs on both type specimens and new specimens collected at their terrae typicae. Type specimens of both *Maevia flavocincta* and *Maevia capistrata* were located in the Berlin Museum by Prószyński (1971: 483) preserved as dry, their epigyne were not studied to prevent damage of specimens.

***Evacin kochi* (Simon, 1902)**

Figures 6A-C

Evarcha kochi Simon, 1902a: 397 (Dm).
Evarcha kochi Prószyński, 1984a: 49 (m).
Evarcha kochi Prószyński & Deeleman-Reinhold, 2010: 165, f. 62-69 (removed m from S of *E. flavocincta*).

Type material: "22432. *Evarcha kochi* ES. Java, Palembang, Tengger, Tr." Coll. Simon, MNHN-Paris. Drawn by Zabka, 1985: 224, f. 193-196.
Other material examined. "20110 Ev (archa) kochi E.S. Lombok Sapit, coll. Simon, MNHN-Paris; Male, 3 females "Evarcha kochi Lombok: Kute, secondary forest, litter, 100 m, 8-19.01.1990. Leg. S. Djojosudharmo". Personal collection of C.l. Deeleman-Reinhold.
Diagnosis. Key characters are shown on Fig. 1M-Q, on comparative background of species shown on Figs 6D-L, 7M-W.
Description. See description in Prószyński & Deeleman-Reinhold (2010: 165).
Distribution. Java and Lombok.

***Evacin nigrifrons* (Koch C.L., 1846)**

Figures 6I

Plexippus nigrifrons C. L. Koch, 1846: 110 (Df; N.B.: considered a nomen dubium by Roewer, 1955c: 1635).
Plexippus nigrifrons Prószyński, 1971: 459 - localization of type specimen in ZM-Berlin.
Evarcha nigrifrons Prószyński, 2009b: 160, f. 35 (Tf from *Plexippus*).

Material. Holotype female "Plexippus nigrifrons (fig. 1172) Koch Type Bintang, Roetger, ZMB". Zoological Museum Berlin.
Diagnosis. Key characters are shown on Fig. 6I, on comparative background of species shown on Figs 6A-L, 7M-W.
Description. See original description by C. L. Koch, 1846: 110.
Distribution. Bintang Is. [occurrence on the same, large tropical island is not a proof of conspecific status, but none the less *E. nigrifrons* should be checked for possible relationship with *Maevia flavocincta*].

***Evacin pseudopococki* (Peng X., Xie L., Kim, 1993)**
Figures 7P

Diagnosis. Key characters are shown on Fig. 7P, comparative background of similar species is shown on Figs 6A-L, 7M-W.
Description. Differences with *E. pococki* unclear, due to slightly different position of palp and bulbus, twisted by small angle.
Distribution. China.

Gen. *Evalba* gen. n. (8 species)
Figures 1R-V, 3M-N, 9.

Type species. *Evarcha albaria* (L. Koch, 1878)
Etymology. Name is created as arbitrary combination of letters coined of words *Ev*-[archa] indicating relation to *Evarcha*, and *alba*-[ria]. Assumed grammar gender feminine.
Documentation studied. Summary of world's literature provided by"Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b) and current literature.
Diagnosis. Key characters are shown on Fig. 1R-V, on comparative background of remaining four genera shown on Figs 1A-Q.
Description. Spider resembling *Evarcha* s. s. by body shape (Fig. 3M-N), but with different genital organs. Bulbus irregularly oval, posteriorly with narrowing horizontal protuberance, anteriorly with prominent tegular apophysis near embolus, fleshy and more, or less, triangular (Fig. 1R, 9). Tibial apophysis triple branched in the type species, stretching more or less horizontally, with sclerotized teeth along edges (Figs 1R-T, 9). Female: epigyne strongly sclerotized, sculptured, instead of membranous "window", having a pair of sclerotized grooves anteriorly (Fig. 1U), spermathecae heavily sclerotized, consist of several thick walled chambers, developed somewhat perpendicularly to epigynal plate (Fig. 1V)**.**
Remarks. Figure 9 presents comparison of diagnostic drawings of known species, but it is not certain whether some of these are not just variants, misidentified due to different drawing techniques of authors.The only certain species seems to be *E. albaria*, which has also relatively good drawing of epigyne and spermathecae (Fig. 1R-S, 9). Confirmation of good species status of remaining forms depends from further research, at least on epigyne and spermathecae diversity. Three specie are tentatively moved out to the genus *Nigorella*: *Evarcha hunanensis* (Fig. 18C) and *E. orientalis* from China and *E. petrae* from Thailandia - male of the latter differing by tibial apophysis stretched diagonally, forked at the tip, and by embolus area complicated by a sort of plate under embolus (Fig. 18J), it presumably should be moved to a new, own genus.
Composition (diagnostic documentation indicated in brackets). *Evalba albaria* (L. Koch, 1878), comb. n., (Fig. 3M, 9A), *Evalba coreana* (Seo, 1988), comb. n., (Fig.9D), *Evalba fasciata* (Seo, 1988), comb. n. (Figure 9B), *Evalba* hunanensis (Peng, Xie & Kim, 1993), comb. n. (Fig. 9G), *Evalba orientalis* (Song et al., 1999) (Figure 9H), *Evalba paralbaria* (Peng, Xie, Xiao 1993) (Fig. 9E), *Evalba selenaria* (Suguro & Yahata, 2012), comb. n., (Ryukyu Isls.) (Fig. 3N, 9C), *Evalba wulingensis* (Peng, Xie & Kim, 1993), comb. n. (Fig. 9F). **[ATTENTION: all names are new combinations].**

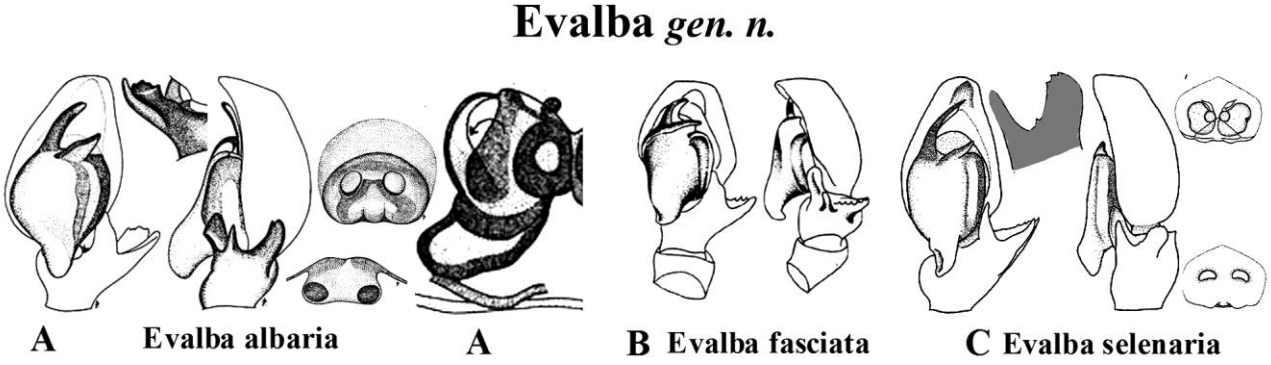


Figure 9-I. For figure caption see under Figure 9-II.

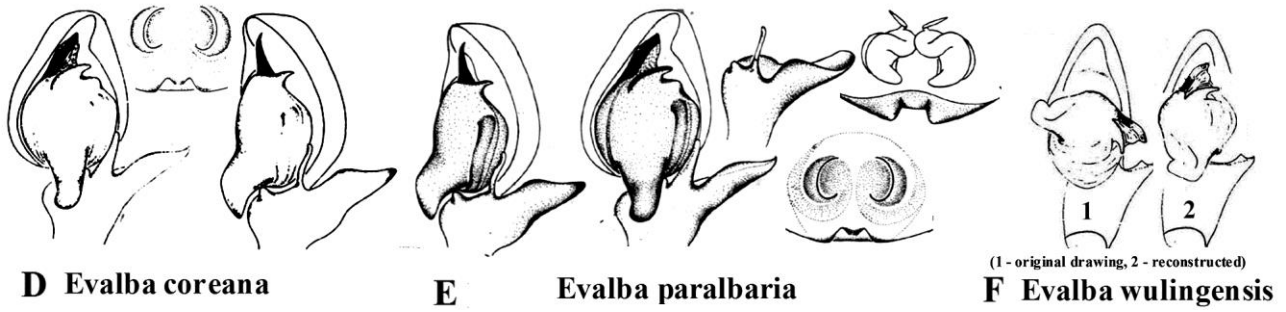


Figure 9-II. Diagnostic characters of species included to *Evalba* gen. n. **A** - *Evalba albaria*, **B** - *Evalba fasciata*, **C** - *Evalba selenaria*, **D** - *Evalba coreana*, **E** - *Evalba paralbaria*, **F** - *Evalba wulingensis* (1 - original drawing, 2 - reconstructed to natural position).

SOURCES: **A** - Bohdanowicz, Proszynski 1987: 53-55, ff. 27-34, **B** - Peng X., Xie L., Xiao X. 1993 Hunan Normal University Press. 44: 69-70, ff. 196-198, **C** -Suguro & Yahata, 2013 Acta arachnologica. Tokyo 61(1): 1-4, f 1-9, **D** - Song et al., 1999: 510, figs 293L-M, 294E., **E** - Peng, Xie, Xiao 1993: Hunan Normal University Press, 71-73, ff. 203-210, **F** - Song et al. 1999: The Spiders of China, 511, figs 296J. All ©copyrights are retained by the original authors and copyright holders, used here by their courtesy.

Gen. *Evaneg* gen. n. (10 species)
Figures 1I-L, 3A-D, 10A-M

Type species. *Evarcha negevensis*
Type material: *Evarcha negevensis* sp. n. Holotype, female, paratypes females and males: Israel Negev, Halukim Ridge near Sede Boqer (also Hatira Ridge), pitfall traps, leg. Y. Lubin. All kept in the Mitrani Center for Desert Ecology, Ben Gurion University, Sede Boqer, Israel.
Etymology. Name is created as arbitrary combination of letters coined of words *Eva*-[rcha] indicating relation to *Evarcha*, and *neg*-[evensis]. Assumed grammar gender feminine.
Documentation studied. Summary of world's literature provided by "Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b), Part I, by Prószyński (2016a) and current literature.
Diagnosis. Key characters are shown on Fig. 1I-L, on comparative background of remaining four genera shown on Figs 1A-H and M-V.
Description. Diversity of species is shown on Fig. 10, of external appearance on Fig. 3A-D and 4A-M. Male: bulbus flat or slightly convex, round or broad oval, without protuberances. Embolus emerging from anterior retrolateral quarter of bulbus (exact point of origin from bulbus unknown), follows anterior edge of bulbus, tightly pressed to it, and ending as broad, complicated plate in the middle of width of bulbus, often terminally bent anterior wards (Fig. 1I-J). Tibial apophysis very short, stretching perpendicularly to tibia and ending with sharp, sclerotized edge. Female: epigyne with large "window", anteriorly without sclerotized rim, pocket lateral, in some species moved far anteriorly (Fig. 1K), spermathecae consist of several round, strongly sclerotized chambers, ducts soft, as broad as spermathecae, running from spermathecae straight posteriorly, towards posterior rim of epigyne (Fig. 1L) Color pattern shown on Fig. 3A- D, 4A-M.
Composition (diagnostic documentation indicated in brackets). **Type species**: *Evaneg negevensis* (Proszynski, 2000) comb. n. (Fig. 10A-B), other species - *Evaneg aegyptiaca* Prószyński, 2017 sp. n. (Fig.10L-M), *Evaneg armeniaca* (Logunov, 1999) comb. n. (Fig. 10I), *Evaneg darinurica* (Logunov, 2001) comb. n. (Fig. 10E), *Evaneg nenilini* (Rakov, 1997) comb. n. (Fig. 10F), *Evaneg nepos* (O. Pickard-Cambridge, 1872) comb. n. (Fig. 10H), *Evaneg nigricans* (Dalmas, 1920) comb. n. (Fig. 10J), *Evaneg pileckii* (Proszynski 2000) comb. n. (Fig. 10G),*Evaneg praeclara* (Prószyński & Wesolowska, in Proszynski, 2003) comb. n. (Fig. 10C-D), *Evaneg seyun* (Wesolowska W., van Harten, 2007) comb. n. (Fig. 10K). **[ATTENTION: all names are new combinations].**

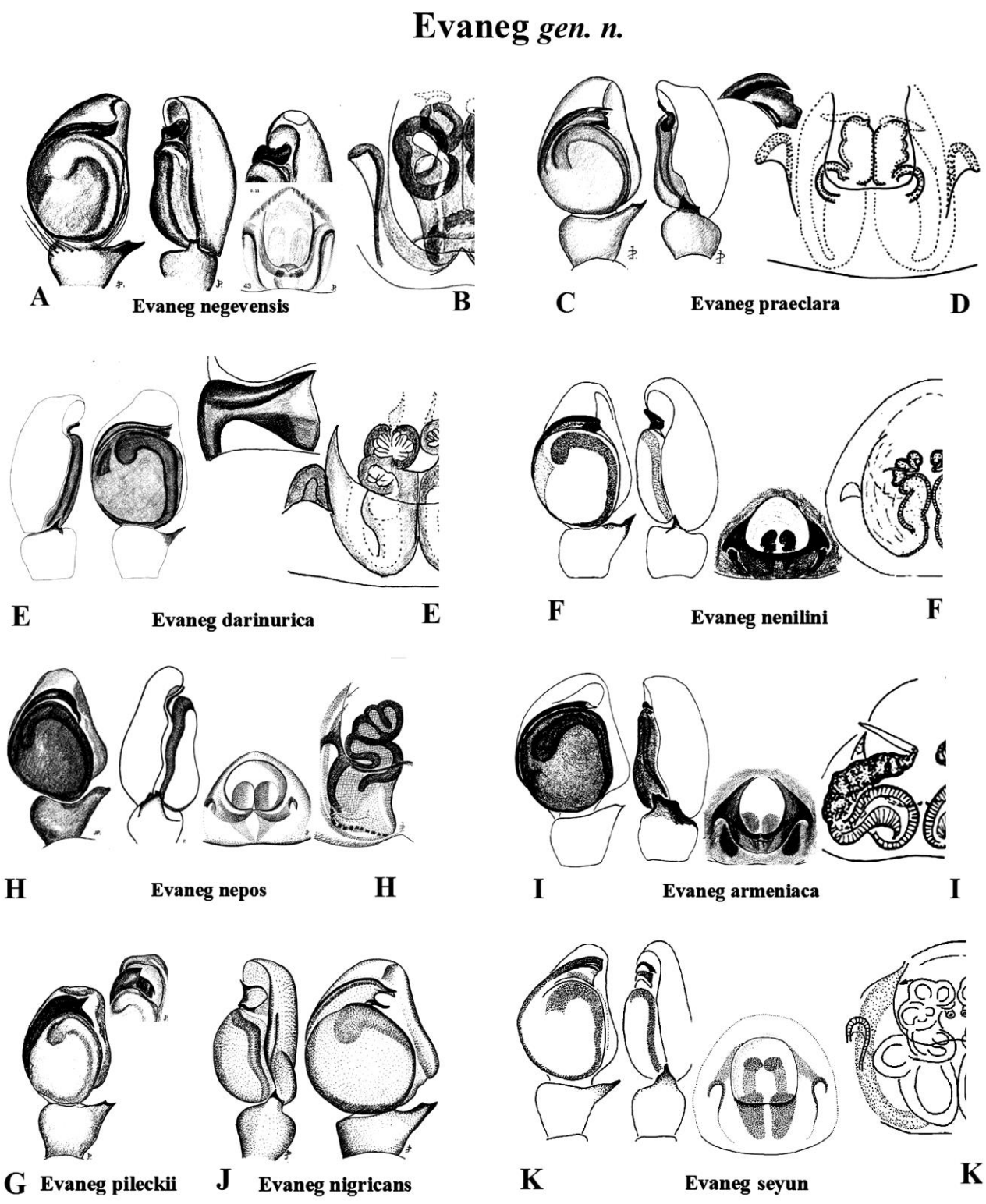


Figure 10-I. For figure caption see under Figure 10-II.

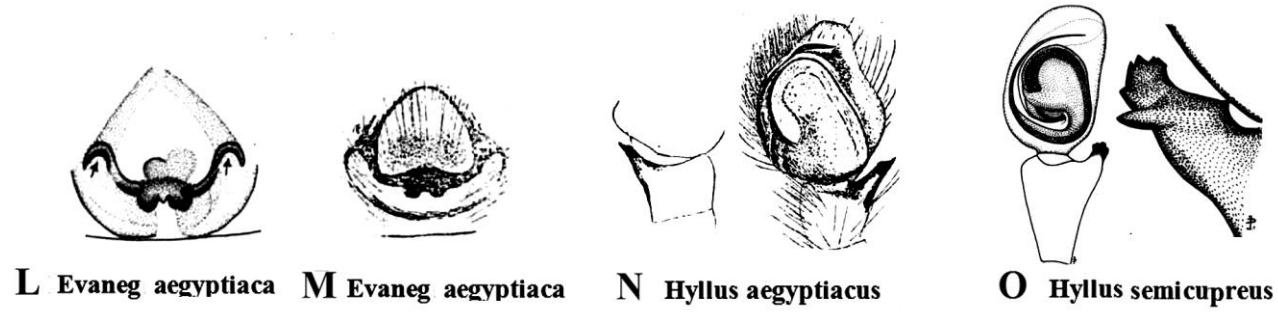


Figure 10- II. Diagnostic characters of *Evaneg* gen. n. **A-B** - *Evaneg negevensis*, **C-D** - *Evaneg praeclara*, **E** - *Evaneg darinurica*, **F** -*Evaneg nenilini*, **G** - *Evaneg pileckii*, **H** - *Evaneg nepos*, **I** - *Evaneg armeniaca*, J - *Evaneg nigricans*, K - *Evaneg seyun*, **L** - *Evarcha aegyptiaca* sp. n. [epigyne of specimen from Sitra, the drawing is a test of F. R. Wanless technique], **M** - *Evarcha aegyptiaca* by Denis, either Sitra or Gara specimen, **N** - *"Neaetha" aegyptiaca* Denis, 1947 (lectotype new!) = *Hyllus aegyptiacus* (Denis, 1947) comb. n. [specimen from Siwa], **O** - for comparison - *Hyllus semicupreus* Simon, 1885).

SOURCES: **A-B, C-D**, **E**, **G, H**, **J** - Proszynski 2003.Annales zoologici: 55, f. 202-204, 208-210, 215-216; 58-59, figs 201, 217-219, 222-223; ,62-63, f. 205, 207, 211-214, 216; 64, f. 236-237, 175, f. 721-722; **F** - Rakov S.Y. 1997. Arthropoda selecta 6 (1/2): 110-111, figs 18-21; **I** -Logunov, 1999b: *Arthropoda Selecta* 7: 301, f. 1-4, **K** - Wesolowska W., van Harten A. 2007. Arthropod Fauna of the UAE, 3: 32, pl 5-6, f 12-16. **L, O** -Prószyński, 1984a: Atlas 64-65; 93, **M-N** - Denis 1947: Bulletin de la Société Fouad 1er d'Entomologie **31**: 17-103,78, pl. 5, f. 14-16.

Evaneg aegyptiaca Prószyński, 2017 sp. n.

Figures 10L-O, 11, 12

Neaetha aegyptiaca Denis, 1947a: 78, pl. 5, f. 14-16 (Dmf);
Neaetha aegiptiaca Prószyński, 1984a: 93 (f).
2018 -Prószyński - **split into two species:**
Evaneg aegiptiaca Prószyński, 2017 sp. n. (f) and *Hyllus aegiptiacus* (Denis, 1947) (m) comb. n.

Material: holotype female "1936.10.3 *Neaetha aegyptiaca* J. Denis. Sitra, Egypt, 14-16. 6. 1935. Omer-Cooper Siwa Exped. 1935. det\. J. Denis, 1939", NH Museum, London.

Remark. Denis 1947: 78, pl. 5, f. 14-16 described a composite species *Neaetha aegyptiaca*, now discovered to consist of one female[6]* (from Sitra) hereby described as *Evaneg aegiptiaca* Prószynski, 2017 sp. n. with designated holotype of that species (Fig. 10L-M), and a male (holotype of the original species, from Siwa) here reclassified as *Hyllus aegiptiacus* (Denis, 1947) comb. n. (Fig. 10N), the transfer being based on palp similarity with *Hyllus semicupreus* (Fig. 10O). Original description of both female and male, now separated into two different genera, is provided as facsimiles below (Fig. 11). There are no hints, in the original description by Denis, about possible identity of the third specimen - a female from Gara. Map of distribution of these three specimen is shown in Fig. 11, long distance between their collecting localities should warn Denis that their conspecificity was highly doubtful.

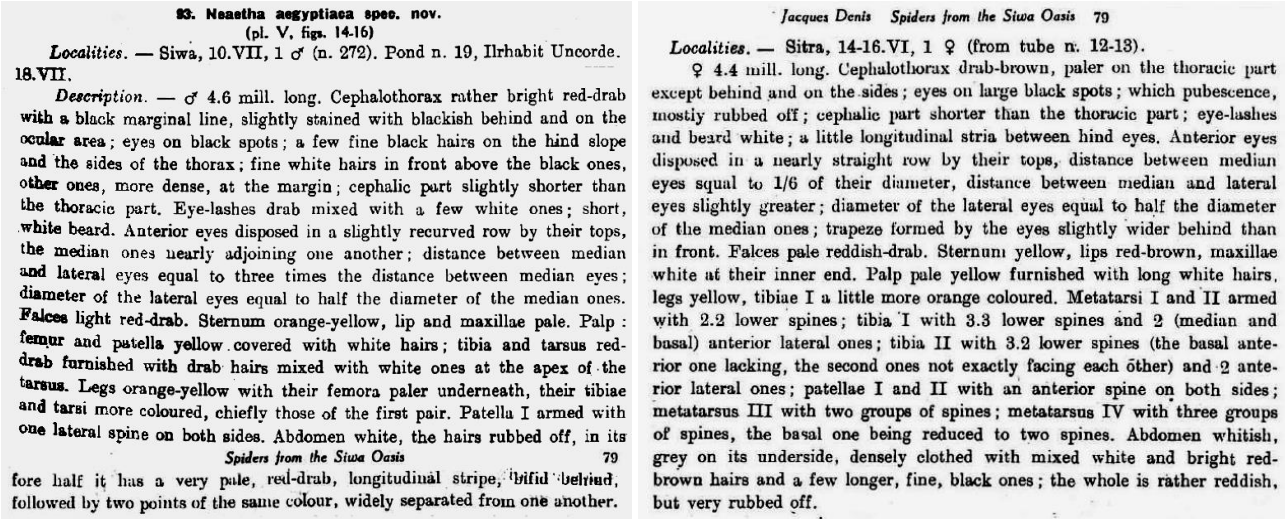
Diagnosis. Key character is shown on Figs 10L-M, comparative background of remaining species is shown on Figs 10 (documentation of differences with originally mismatched male - see Figs 10N).

Description. See facsimiles below (Fig. 11).

Therefore:

Neaetha aegyptiaca Denis, 1947 (in part - female) = *Evaneg aegiptiaca* Prószynski, 2017 sp. n.
Neaetha aegyptiaca Denis, 1947 (in part - male) = *Hyllus aegiptiacus* (Denis, 1947) comb. n.

[6] Drawing of epigyne shown on Fig. 10L was made with the microscope and drawing apparatus used by F. R. Wanless in his laboratory, to test effectiveness of his methods, as appeared - much inferior to usage of ocular grid (all drawings by Prószyński). Drawing apparatus gave fixed small dimensions of drawing projected on paper from minute object on microscopic slide, with noticeable loss of details during direct observation trough microscope, ocular grid gave freedom of selecting size of drawings and impaired direct observation through microscope of examined object, the speed of work using either methods by an experienced researcher was comparable.



93. Neaetha aegyptiaca spec. nov.
(pl. V, figs. 14-16)

Localities. — Siwa, 10.VII, 1 ♂ (n. 272). Pond n. 19, Ilrhabit Uncorde. 18.VII.

Description. — ♂ 4.6 mill. long. Cephalothorax rather bright red-drab with a black marginal line, slightly stained with blackish behind and on the ocular area; eyes on black spots; a few fine black hairs on the hind slope and the sides of the thorax; fine white hairs in front above the black ones, other ones, more dense, at the margin; cephalic part slightly shorter than the thoracic part. Eye-lashes drab mixed with a few white ones; short, white beard. Anterior eyes disposed in a slightly recurved row by their tops, the median ones nearly adjoining one another; distance between median and lateral eyes equal to three times the distance between median eyes; diameter of the lateral eyes equal to half the diameter of the median ones. Falces light red-drab. Sternum orange-yellow, lip and maxillae pale. Palp: femur and patella yellow covered with white hairs; tibia and tarsus red-drab furnished with drab hairs mixed with white ones at the apex of the tarsus. Legs orange-yellow with their femora paler underneath, their tibiae and tarsi more coloured, chiefly those of the first pair. Patella I armed with one lateral spine on both sides. Abdomen white, the hairs rubbed off, in its

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fore half it has a very pale, red-drab, longitudinal stripe, bifid behind, followed by two points of the same colour, widely separated from one another.

Jacques Denis Spiders from the Siwa Oasis 79

Localities. — Sitra, 14-16.VI, 1 ♀ (from tube n. 12-13).

♀ 4.4 mill. long. Cephalothorax drab-brown, paler on the thoracic part except behind and on the sides; eyes on large black spots; which pubescence, mostly rubbed off; cephalic part shorter than the thoracic part; eye-lashes and beard white; a little longitudinal stria between hind eyes. Anterior eyes disposed in a nearly straight row by their tops, distance between median eyes squal to 1/6 of their diameter, distance between median and lateral eyes slightly greater; diameter of the lateral eyes equal to half the diameter of the median ones; trapeze formed by the eyes slightly wider behind than in front. Falces pale reddish-drab. Sternum yellow, lips red-brown, maxillae white at their inner end. Palp pale yellow furnished with long white hairs, legs yellow, tibiae I a little more orange coloured. Metatarsi I and II armed with 2.2 lower spines; tibia I with 3.3 lower spines and 2 (median and basal) anterior lateral ones; tibia II with 3.2 lower spines (the basal anterior one lacking, the second ones not exactly facing each other) and 2 anterior lateral ones; patellae I and II with an anterior spine on both sides; metatarsus III with two groups of spines; metatarsus IV with three groups of spines, the basal one being reduced to two spines. Abdomen whitish, grey on its underside, densely clothed with mixed white and bright red-brown hairs and a few longer, fine, black ones; the whole is rather reddish, but very rubbed off.

Figure 11. LEFT: Facsimile of the original description of female *Neaetha aegyptiaca* Denis, 1947 from Sitra - holotype of *Evaneg aegyptiaca* Prószyński, 2017 sp. n. RIGHT: Facsimile of the original description of male *Neaetha aegyptiaca* Denis, 1947 from Siwa = *Hyllus aegyptiacus* (Denis, 1947) comb. n.

SOURCE: Denis, J. (1947). Results of the Armstrong College expedition to Siwa Oasis (Libyan desert), 1935. Spiders [Araneae]. *Bulletin de la Société Fouad 1er d'Entomologie* 31:

Figure 12. Creative faunal research? Matching of *Neaetha aegyptiaca* - female from Sitra (= *Evaneg aegyptiaca*) and male from Siwa (= *Hyllus aegyptiacus*), separated by the whole width of Egypt, second female (ID unknown) was collected in Gara (compare diagnostic characters of these species Fig. 10L-N). SOURCE: Interpretation of distributional data given by Denis 1947: 31: 78, Map - ©Google.

Evaneg praeclara (Prószyński & Wesolowska in Prószyński, 2003) - pending correction of identification

New photographs provided by Mr. Amir Weinstein demonstrate that Israeli specimens from Judean foothill and Tel Aviv area (Figs 4J1-M) cannot be conspecific with Yemeni specimens (Figs 10C-D), presumably also differ from specimens from Arava Valley. The species *E. praeclara* was delimited by merging "*Pellenes praecinctus*": Prószyński, 1984a: 104 and " *Evarcha praecinctus*": Wesolowska & van Harten, 1994: 25, f. 52-58 (both separated from synonymy of *Mogrus praecinctus* Simon, 1890). It appears that "*Evarcha praeclara*" is a group of species, including possibly more species not yet distinguished, deserving revision. Nomenclatorical correction should be delayed until results of revision of these species would be available.

Gen. *Evawes* gen. n. (21 species)
Figures 1E-H, 2P-W, 3L, 13, 14

Type species. *Evarcha patagiata* (O. Pickard-Cambridge, 1872).

Etymology. The name is created as arbitrary combination of letters coined of words *Eva*-[rcha], indicating relation to *Evarcha*, and *wes*[-ołowska), honoring prominent arachnologist W. Wesołowska (99 publications), authority in Salticidae of Africa. Assumed grammar gender feminine.

Documentation studied. Summary of world's literature provided by "Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b) and current literature.

Diagnosis. Key characters are shown on Fig. 1E-H, on comparative background of remaining four genera shown on Figs 1A-D and I-V.

Description. Male: bulbus oval, narrower than in *Evarcha* s. s. and extended posteriorly by a horizontal, robust protuberance, embolus arising laterally, equal to half length of bulbus, running parallel to bulbus (Fig. 1E), length of tibial apophysis equal to about one third of bulbus (Fig. 1F). Female: "window" of epigyne large, transversally oval, there is a pair of posterior pockets, close each other, located near middle of width of epigyne (Fig. 1G). Spermatheca strongly sclerotized, in a form of compact body with internal chambers (Figs 13), sometimes resembling broad questioning mark (Fig. 13B), ducts posterior, shaped like semi arch, with broad walls but less sclerotized. Various views of color pattern of the same specimen are shown on Figs. 2P-W.

Distribution. Mediterranean, Africa, Asia, Australia.

Composition (diagnostic documentation indicated in brackets). **Type species**: *Evawes patagiata* (O. Pickard-Cambridge, 1872) comb. n. (Fig. 1E-H, 13A-B), *Evawes arabica* (Wesolowska & van Harten, 2007) comb. n. (Fig. 13J), *Evawes awashi* (Wesolowska & Tomasiewicz, 2008) comb. n. (Fig. 14J), *Evawes bakorensis* (Wesolowska, Russel-Smith 2011) comb. n. (Fig. 2U[?], 13O-P), *Evawes bicuspidata* (Peng & Li, 2003) comb. n. (Fig. 14F), *Evawes bihastata* (Wesolowska & Russell-Smith, 2000) comb. n. (Fig. 13K), *Evawes carbonaria* (Lessert, 1927) comb. n. (Fig. 13I), *Evawes chubbi* (Lessert, 1925) comb.n. (Fig. 13N), *Evawes culicivora* Wesolowska, Jackson 2003) comb. n. (Fig. 2Q-R,13Q-R), *Evawes denticulata* (Wesołowska et Haddad, 2013) comb. n. (Fig. 14D), *Evawes elegans* (Wesolowska, Russel-Smith, 2000) comb. n. (Fig. 13E-F), *Evawes ignea* (Wesołowska, Cumming 2008) comb. n. (Fig. 2T-U, 13G-H), *Evawes jucunda* (Lucas, 1846) comb.n. (Fig. 2R-S, 13C-D1)(syn. *E. eriki* Fig. 2Q, 13D1), *Evawes longula* (Thorell, 1881) comb. n. (Fig. 3L, 14C), *Evawes maculata* (Rollard & Wesolowska, 2002) comb. n. (Fig. 14E), *Evawes madagascariensis* (Proszynski, 1992) comb. n. (Fig. 14A), *Evawes mirabilis* Wesołowska, Haddad 2009) comb. n. (Fig. 14G), *Evawes picta* (Wesolowska, van Harten, 2007) comb. n. (Fig. 13L-M), *Evawes pinguis* (Wesołowska, Tomasiewicz, 2008) comb. n. (Fig. 14H), *Evawes prosimilis* (Wesolowska & Cumming, 2008) comb. n. (Fig. 14K-L), *Evawes zimbabwensis* (Wesolowska & Cumming, 2008) comb. n. (Fig. 14B). **[ATTENTION: all names are new combinations].**

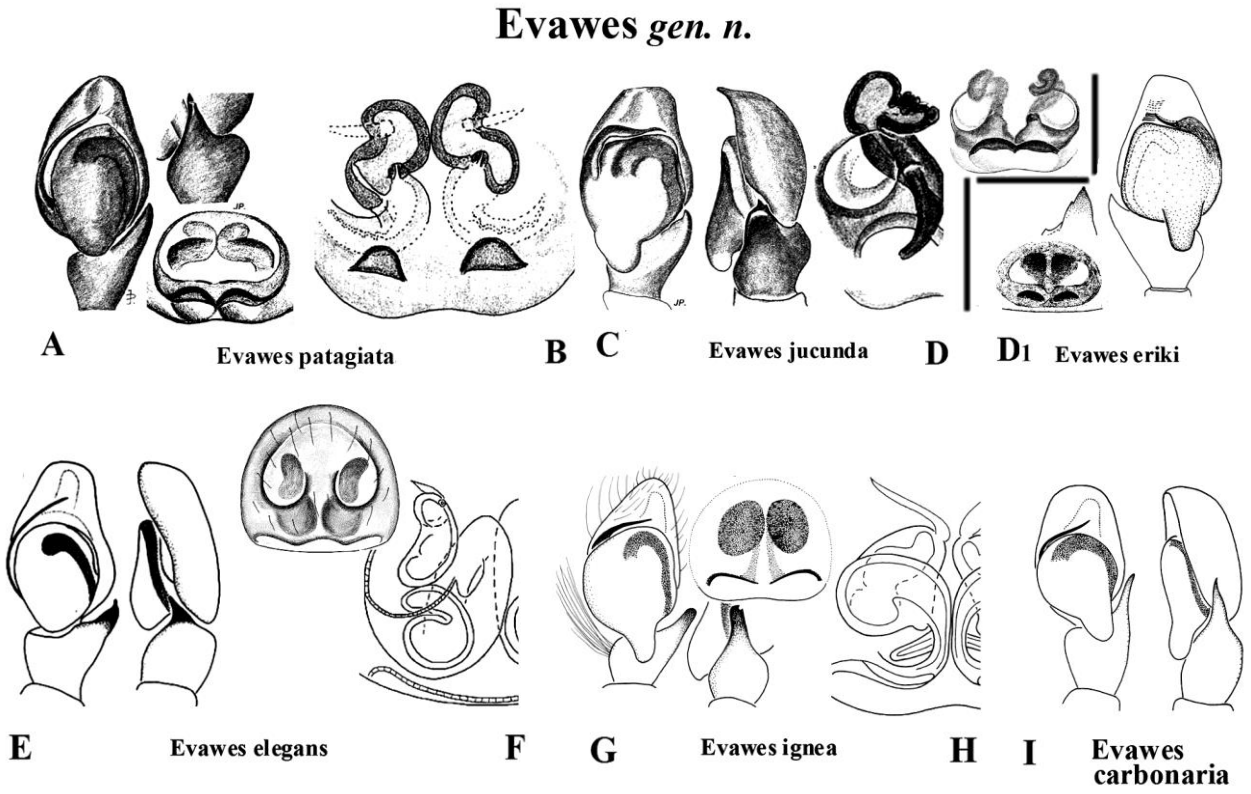


Figure 13-I. For figure caption see under Figure 13-II.

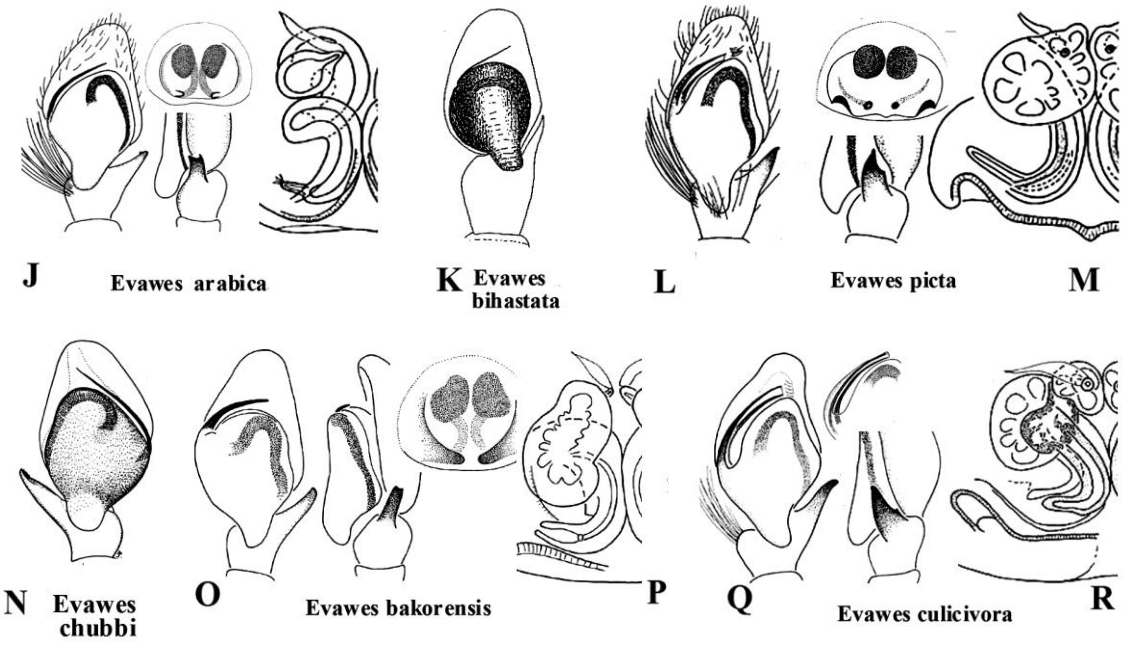


Figure 13-II. Diagnostic characters of the genus *Evawes* gen. n. gen. n. **A**-**B** - *Evawes patagiata*, **C**-**D** - *Evawes jucunda*, **D1** - *Evarcha eriki* (type) = *Evawes jucunda*, **E**-**F** -*Evaweselegans*,**G**-**H** -*Evawes ignea*, **I** - *Evawes carbonaria* (syntype), **J** - *Evawes arabica*, **K** -*Evawes bihastata*, **L**-**M** -*Evawes picta*, **N** - *Evawes chubbi*, **O**-**P** - *Evawes bakorensis*, **Q**-**R** -*Evawesculicivora*.

SOURCES: **A**-**B** - Proszynski. Ann. zool., 2003: 59-61, figs 200, 224-226, 229-230, , **C**-**D** - Proszynski. Ann. zool., 2003: 64, figs 227-228, 234-235, **D1** - Wunderlich, 1987, Wunderlich J. 1987. Die Spinnen der Kanarischen Inseln und Madeiras .... Triops Verlag: 277- 278, f 695-698, **E**-**F** - Wesolowska, Russel-Smith, 2000. Trop. Zool., 13 (1): 26-28, figs 37-44 + Wesołowska, Tomasiewicz, 2008 J. Afrotr. Zool., 4: 14, 52-53 , **G**- **H** - Wesołowska, Cumming 2008. Ann. zool. 58: 175- 176, f 22-23 + Wesołowska, Haddad 2009. Afr. Invert., 50(1): 30, f 34-37, **I** - Wesołowska 2012b. Genus. 23(2): 204- 205, f 12-13 (syntype), **J** - *Evawes arabica*, **K** -*Evawes bihastata*, Lessert, 1927: 450, f 27, **L**-**M** - Wesolowska, van Harten, 2007. F . Arabia, 23: 15- 16, f 35-41, **N** - *Evawes chubbi*, **O**- **P** - Wesolowska, Russel-Smith 2011.Ann. zool. 61(3): 568- 570, f 52-56, 222 , **Q**-**R** - Wesolowska, Jackson 2003. Ann. Zool., 53 (2): 335-338, figs 1-20..

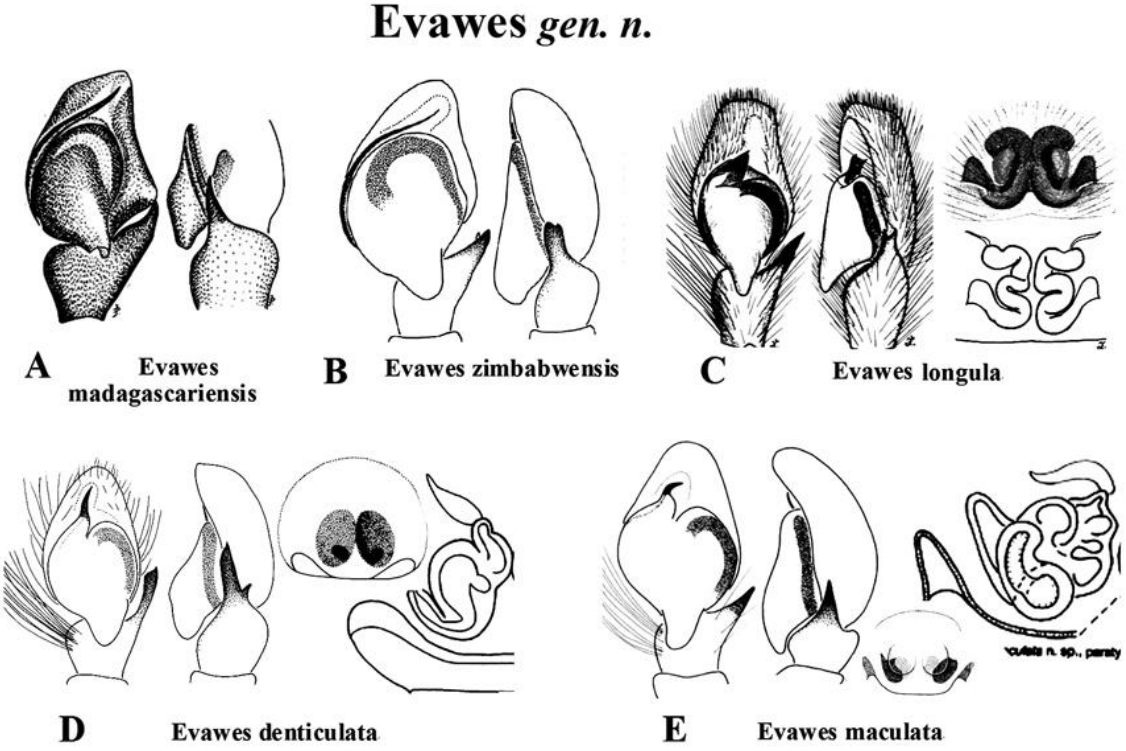


Figure 14-I. For figure caption see under Figure 14-II.

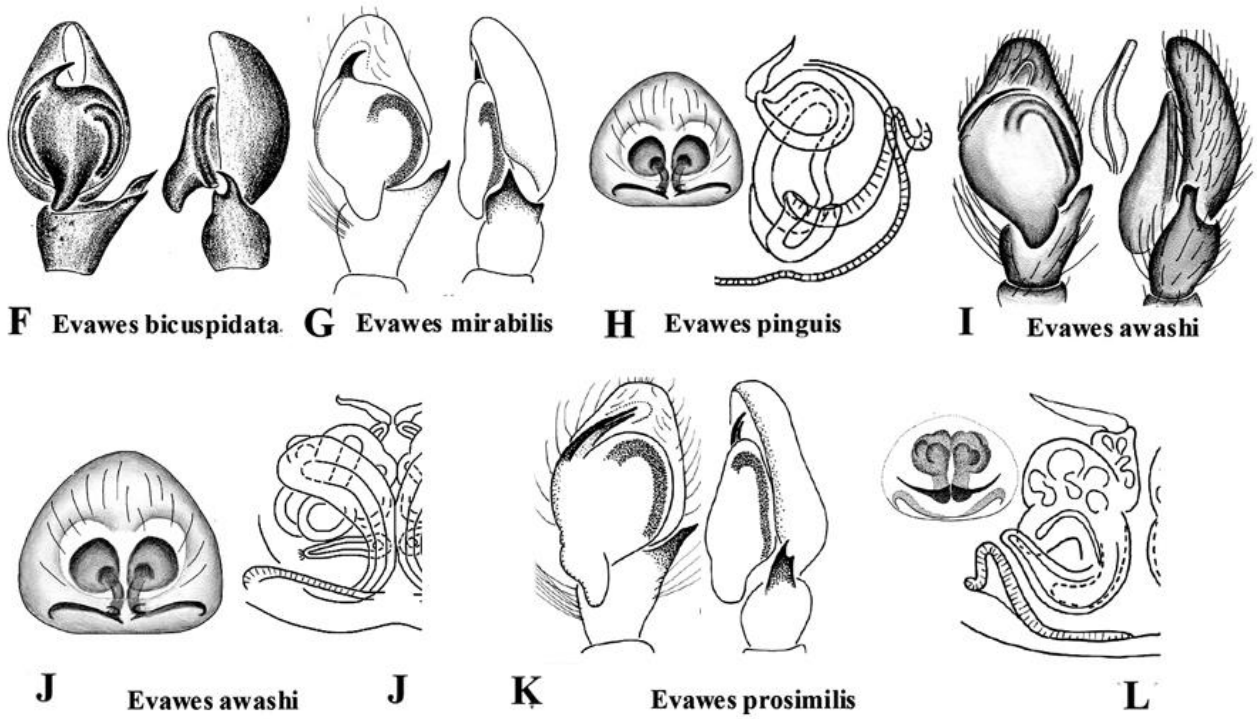


Figure 14-II. Diagnostic characters of species of the genus *Evawes*. **A** - *Evawes madagascariensis*, **B** - *Evawes zimbabwensis*, **C** - *Evawes longula*, **D** -*Evawes* denticulata, **E** - *Evawes maculata*, **F** - *Evarcha bicuspidata*, **G** -*Evawes mirabilis*, **H** - *Evawes pinguis*, **I-J** –*Evawes awashi*, **K-L** –*Evawes prosimilis*.

SOURCES: **A** - Proszynski 1992a. Ann. zool., 44, 8: 92, figs 13-15, **B** - Wesolowska W., A. Russel-Smith, 2000. Tr. Zool., 13 (1): 22-23, figs 25- 28, **C** - Davies Todd, Zabka 1989. 27 (2): 250, pl 54 (*Trite longula*) + ©Photo R. Whyte, **E** - Wesołowska et Haddad, 2013: 24(3-4): 469- 471, f 24-25, 50-51 , **F** - Rollard Ch., Wesolowska W. 2002. Zoosystema. 24 (2): 290-292, figs 6A-F., **F** - Peng X., Li S. 2003a. Raffles Bull. Zool. 51: 22, f 1A-D**.**, **G** - Wesołowska, Haddad 2009. Afr. Invert., 50(1): 32- 33, f 38-41, **H** - Peng X., Li S. 2003a. Raffles Bull. Zool. 51: 22, f 1A-D, **I** - Wesołowska, Haddad 2009. Afr. Invert., 50(1): 32- 33, f 38-41. All ©copyrights are retained by the original authors and copyright holders, used here by their courtesy.

Species *of Evarcha* s. l. pending classification (13 species)
Figure 14

Documentation studied. Summary of world's literature provided by "Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b) and current literature.

Remarks. Classification of the species listed below is delayed until more documentation will be available.

Composition (diagnostic documentation indicated in brackets). Provisional list of species of *Evarcha* s. l. pending classification. *Evarcha acuta* Wesolowska 2006 (Fig. 15A), *Evarcha annae* (Peckham & Peckham, 1903) (Fig. 15B), *Evarcha aposto* Wesolowska, Tomasiewicz, 2008 (Fig. 15C), *Evarcha certa* Rollard & Wesolowska, 2002 (Fig. 15D), *Evarcha chappuisi* Lessert, 1925 (Fig. 15E), *Evarcha crinita* Logunov, Zamanpoore 2005 (Fig. 15G), *Evarcha digitata* Peng X., Li S, 2002 (Fig. 15I), *Evarcha gausapata* (Thorell, 1890) (Fig, 15F), *Evarcha grandis* Wesolowska & Russel-Smith, 2011 (Fig, 15J), *Evarcha idanrensis* Wesolowska & Russell-Smith, 2011 (Fig. 15L), *Evarcha improcera* Wesolowska & van Harten, 2007 (Fig. 15M), *Evarcha russellsmithi* Wesolowska & Russel-Smith 2011 (Fig. 15K), *Evarcha squamulata* (Simon, 1902) (Fig, 15P), *Evarcha sichuanensis* Peng, Xie & Kim, 1993 (Fig. 15Q), *Evarcha vittula* Haddad & Wesolowska, 2011 (Fig. 15O).

Removal from *Evarcha***:** *Evarcha wenxianensis* Tang & Yang, 1995 = *Yaginumaella wenxianensis* (Tang & Yang, 1995) (Fig, 15R).

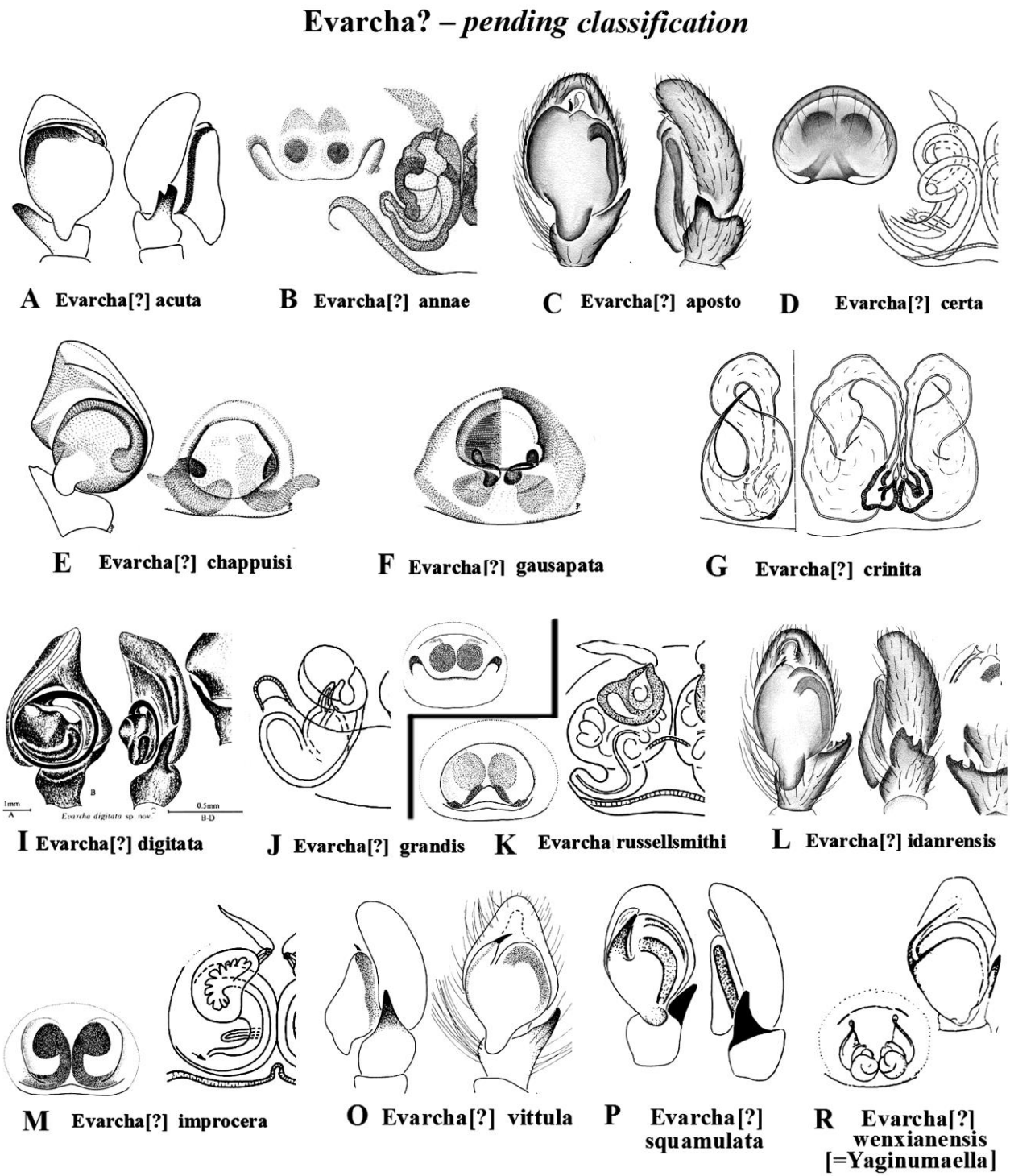


Figure 15. Diagnostic characters of species of the genus *Evarcha* s.l. pending classification. **A** - *Evarcha acuta* Wesolowska 2006, **B** – *Evarcha annae*, **C** - *Evarcha aposto*, **D** - *Evarcha certa*, **E** –*Evarcha chappuisi*, **F** - *Evarcha gausapata*, **G** –*Evarcha crinita*, **I** –*Evarcha digitata*, **J** - *Evarcha grandis*, **K** – *Evarcha russellsmithi*, **L** –*Evarcha idanrensis*, **M** –*Evarcha improcera*, **O** –*Evarcha vittula*, **P** - *Evarcha squamulata*, **Q** –*Evarcha sichuanensis.* REMOVAL FROM EVARCHA: **R** - *Evarcha wenxianensis* [=*Yaginumaella*].

SOURCES: **A** - Wesolowska 2006b. Afr. Ent., 14 (2): 230- 231, f 23-25, **B** -(Peckham & Peckham, 1903) Proszynski 1987a: 39 , **C** - Wesolowska, Tomasiewicz, 2008 J. Afrotr. Zool., 4: 10, 36-42, **D** - Wesołowska, Tomasiewicz, 2008. J. Afrotr. Zool., 4: 12-13, 49-51, **E** - Proszynski J. 1984c: 48, **F** - Proszynski J. 1984c: 48, **G** - Logunov, Zamanpoore 2005. Bull. British arachn. Soc. 13(6): 218- 219, f 24-25 , **H** - Song, Zhu, Chen 1999: 510, figs 294K-L, **I** - Peng X.[ian-jin], Li S.[hu]-Q.[iang] 2002e. A. zootax. Sin. 27, 3: 470, figs 1A-D, **J** - Wesolowska W., A. Russel-Smith 2011. Ann. zool. 61(3): 570- 571, f 57-58, **K** - Wesolowska W., A. Russel-Smith 2011. Ann. zool. 61(3) 571, f 59- 61, **L** - Wesołowska, Tomasiewicz, 2008. J. Afrotr. Zool., 4: 18, f 66-71, photo 211, **M** - Wesolowska W., van Harten A. 2007. F . Arabia, 23: 202- 203, f 32-34 , **N** - Proszynski J. 1992a. Ann. zool., 44, 8: 93, fig. 8-12 , **O** - Haddad, Wesołowska 2011. © Afr. Invertebr. 52(1): 66- 69, f 39, 48-50, **P** - Szuts T. 2005 [2007]. Opusc. zool., 36: 92-93, f 31-33 , **Q** - Song et al., 1999: 511, figs 295H, 296G-H.. REMOVAL FROM EVARCHA: **R** - Tang, Yang 1995. J. Lanzhou Univ. (nat. Sci.) 31: 110-112.

Gen. ***Nigorella*** **Wesolowska & Tomasiewicz, 2008** (8 species)
Figures 16-18

Type species: *Nigorella aethiopica* Wesolowska & Tomasiewicz, 2008
Remarks. Several species of *Evarcha* s. l. described from China resembles African genus *Nigorella* Wesolowska & Tomasiewicz, 2008 by appearance of embolus and anterior half of bulbus (Fig. 16C , compare with 16B), however differs by posterior end of bulbus, which is not rounded but drawn into prominent, horizontal protuberance. So there is a possibility that similarity of embolus shape and position could prevail over shape of bulbus (which would allow to merge these species into genus *Nigorella*), or its alternative - description as one more new genus resembling *Evarcha* s. l. However, description of a new genus would require more data, not yet available, and it may be left for future students of these spiders in China.

The taxonomic decision in this matter must be delayed because of difficulty in precise documentation of structure of embolus. Under higher power of dissecting microscope (magnification about 200x) embolus of *Nigorella* resembles sclerotized, semitransparent, elongate plate, loose corkscrew-like (Figs 16B-C, 17G-G1, J), with stronger sclerotized, dark edges. However, under lower power only sclerotized dark edges are visible, looking as separate, angularly bent needles (Figs 16A, 17H-I, and other). Emboli of all species shown on Figs 16-18 should be therefore revised to clarify their fine structure.
Diagnosis. Key characters are shown on Figs 16, 17G-N, 18.
Description. Recognizable by embolus located atop anterior edge of bulbus, resembling elongated, semitransparent plate with sclerotized dark edges, twisted loosely corkscrew-like (Fig. 17G-G1), which under low power of microscope may appear like a pair of separate, bent needles (Fig. 17H, M). Bulbus in African species is round like in genus *Evaneg nigricans* (Fig. 10J compare 17G), in Chinese species is extended posteriorly by huge, horizontal protuberance like in *Evawes patagiata* (Figs 13A compare 18A-C). Epigyne resembles various *Evarcha* s. l. species (Fig. 17), body shape with moderately elongated oval abdomen (Figs 16A1, B1, C1, D1).
Composition (diagnostic documentation indicated in brackets). **Type species**: *Nigorella aethiopica* Wesolowska & Tomasiewicz, 2008 (Fig. 17N - Ethiopia). Other species: *Nigorella albimana* (Simon, 1902) (Fig. 17G-I - W Africa), *Nigorella hirsuta* Wesolowska, 2009 (Fig 17J - Zimbabwe , South Africa), *Nigorella manica* (Peckham & Peckham, 1903) (Fig. 17M - Zimbabwe).
Tentatively included species: **A** - *Nigorella hirticeps* (Song & Chai, 1992) comb. n. (Fig. 18A, D-E - China), *Nigorella hunanensis* (Peng, Xie & Kim, 1993) comb. n., reinstated from synonymy (Figs 18B-C - China), *Nigorella petrae* (Prószyński, 1992) comb. n. (Fig 18J - Thailand : Chiang Mai Prov.: Doi Suthep), *Nigorella sichuanensis* (Peng, Xie & Kim, 1993) comb. n. (Fig. 18I - China).
F-H – *N. contortospinosa*

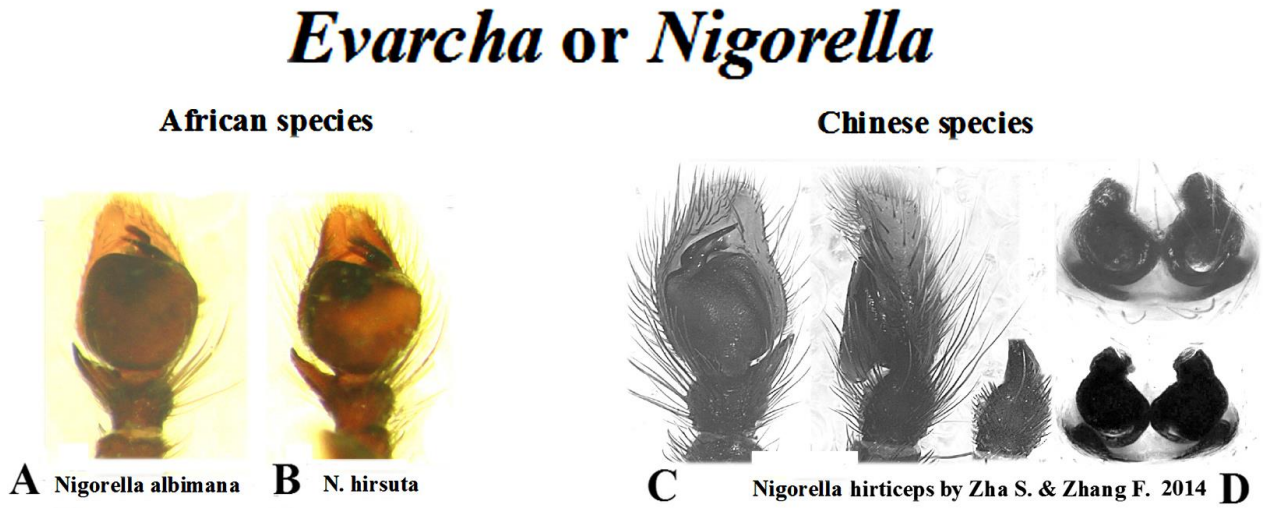


Figure 16-I. For figure caption see under Figure 16-II.

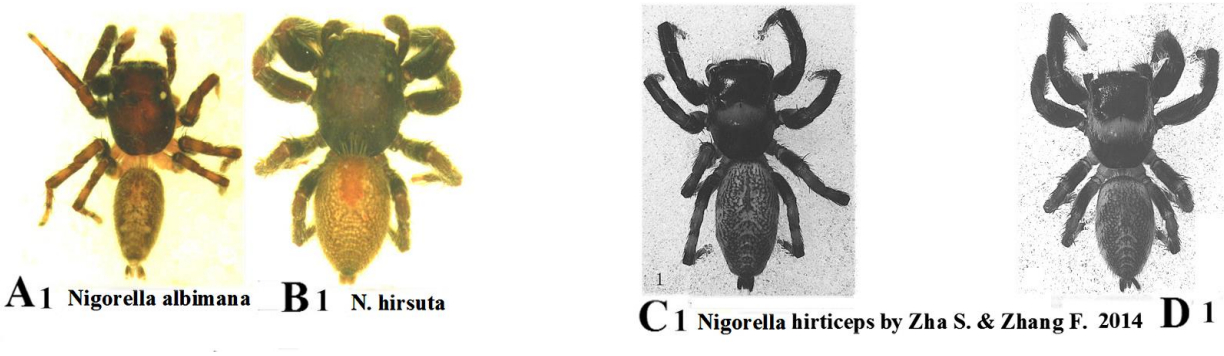


Figure 16-II. Comparison of color pattern and genital organs of: **A-A1** - *Nigorella albimana*, **B-B1** - *Nigorella hirsuta*, **C-D1** -*Nigorellahirticeps* (black and white reproduction of color photographs).

SOURCES: **A-B1**- Wesolowska, 2009: Annales Zoologici: 59: 519, f . 30, 32; 521, f . 31, 33, **C-D1** - Zha & Zhang, 2014: Acta Arachnologica 63(2): 83, f . 1-6,.

Methodogical problems of accumulating mistakes. History of classification of species shown on Figs 16-18 illustrate methodical problems of accumulating mistakes, frequently encountered in taxonomy of Salticidae. *Nigorella albimana* (Figs 17G-H) was first mistaken by Karsch (1879: 362) with *Euophrys plebeja* Koch L., 1875, who misplaced it further as *Hasarius plebeja*, this misplacement was continued by Simon (1902a: 399) who next has changed alignment to *Pachypoessa*, followed by de Lessert (1927: 452, f . 29), by Clark when identified specimen in Simon's collection and by Prószyński (1987: 71). None of these authors compared identification with relevant type specimens (Figs 17A-F). Final position of the species was clarified by Wesolowska (2009: 521, f . 9-15, see also Fig. 17I).

Similar problem was encountered by Song & Chai (1992: 80, f . 7A-C) describing *Evarcha hirticeps* as *Pharacocerus*, apparently by similarity to drawing of *Pharacocerus ephippiatus* (Thorell 1899) in Prószyński (1984a: 105), overlooking prohibitive difference with type species *Pharacocerus sessor* Simon, 1902 in Prószyński (1984a: 105, see Fig. 17B).

Synonymy of *Evarcha hirticeps* with *E. hunanensis* does not look convincing because of much broader bulbus and different shape of embolus in the latter (Fig. 18C compared with 18A). Newest documentation by Zha & Zhang, 2014: 83, f . 1-10 (Fig. 17D-E) confirms original drawings of *E. hirticeps*. Drawings purporting to illustrate *E. hirticeps* in Yin et al., 2012**:** 1364, f . 740a-d (Fig. 17B) are in fact copies of *E. hunanensis* (Fig. 17C).

Position of *Evarcha petrae* Prószyński, 1992 from Thailand, remains uncertain. It resembles somewhat *E. hirticeps* by shape of bulbus and by minute apical fork of tibial tibial apophysis, but shape of complicated embolus is not fully understood (Fig. 18J) and should be revised. Placement of *Evarcha hirticeps, E. hunanensis, E. sichuanensis and E. petrae* in the genus *Evarcha* s. l. cannot be sustained in view of splitting it into smaller genera, therefore transfer to the nearer genus *Nigorella* seems to be good solution, at least temporarily. But it should be confirmed, or amended by the future revisionary studies.

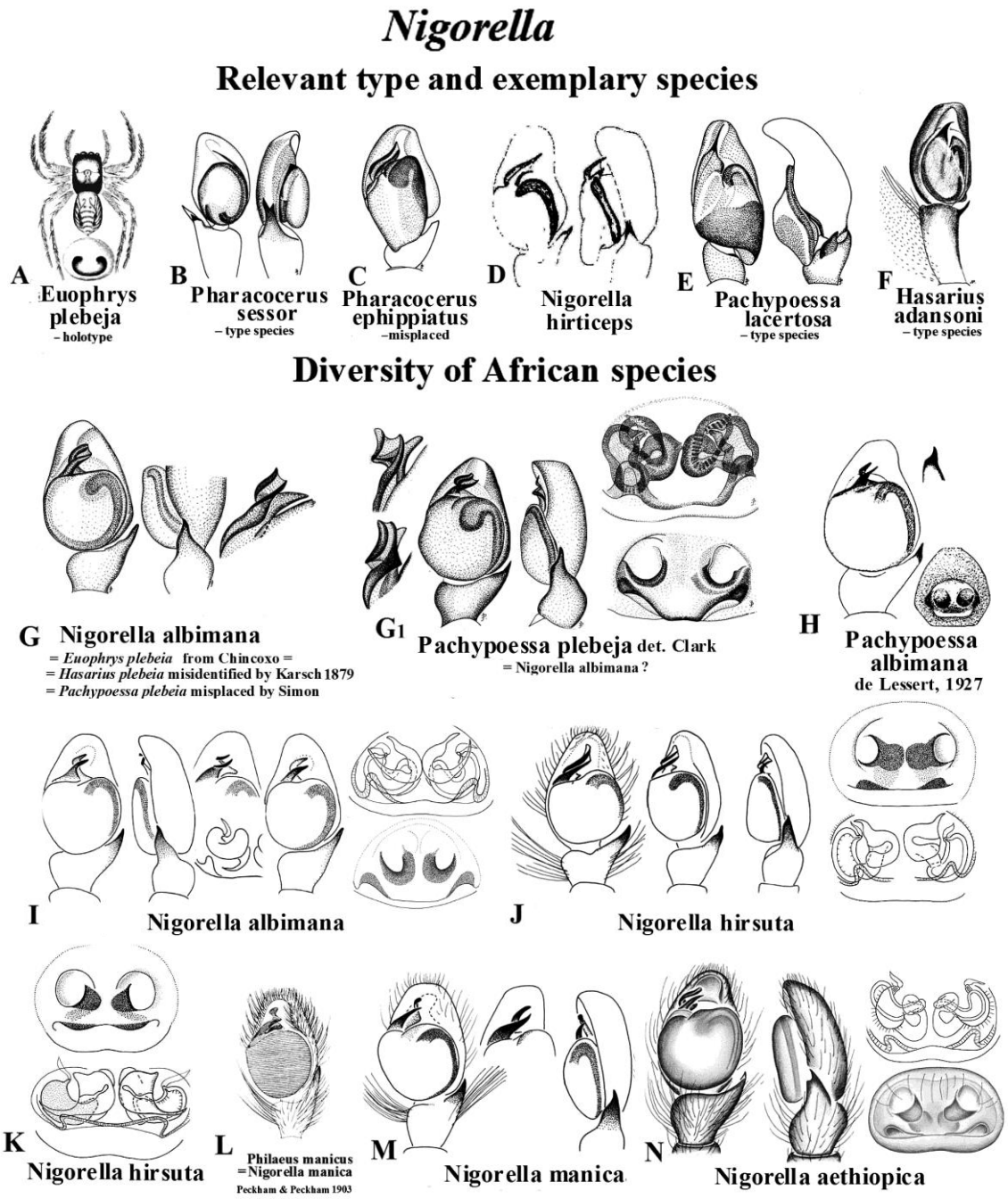


Figure 17. Diversity of African species of *Nigorella* on the background of relevant type species of genera into which particular species were previously placed. **A-F -** Comparative type species: **A** - *Euophrys plebeja* Koch L., 1875, **B** - *Pharacocerus sessor* Simon, 1902, **C** -*Pharacocerus ephippiatus* (Thorell, 1899), **D** - *Evarcha hirticeps* (Song & Chai, 1992), **E** - *Pachypoessa lacertosa* Simon, 1902, **F** –*Hasarius adansoni* (Audouin, 1826). **G-N -** Diversity of African species: **G** –*Pachypoessa plebeja*(det. Karsch, 1879, nec Koch L., 1875) **=** *Nigorella albimana* (Simon, 1902), with embolus enlarged**, G**1 -*Pachypoessa albimana*: det. Clark = *Nigorella albimana* (Simon, 1902), with embolus enlarged, **H** –*Pachypoessa albimana*: Lessert, 1927: 452, f . 29 = *Nigorella albimana* (Simon, 1902), **I** - *Nigorella albimana* (Simon, 1902), **J-K** – *Nigorella hirsuta* Wesolowska, 2009, **L** –*Philaeus manicus* Peckham & Peckham, 1903 = *Nigorella manic*a (Peckham & Peckham, 1903), **M** -*Nigorella manic*a, **N** –*Nigorella aethiopica* Wesolowska, 2009.

SOURCES: **A** - Koch L. 1875, Nürnberg: 90, f. 9, **B-C** - Prószyński 1984: Atlas .... Wyższa Szkola Rolniczo-Pedagogiczna, Siedlce: 105, **D** - Song & Chai, 1992: Journal of Xinjiang University 9(3): 80, f . 7A-C , **E-G-G1** - Prószyński, 1987: Atlas .... Wyższa Szkola Rolniczo-Pedagogiczna, Siedlce 71- 72, **F** - Prószyński, 2003: Annales Zoologici 53: 68, f . 256-260, **H** - Lessert 1927: Revue Suisse de Zoologie 34: 452, f . 29, **I-K, M-N** - Wesolowska, 2009: *Annales Zoologici*: 59: 518, f . 2-8; 521, f . 16-25, 31, 33; 23, f . 26- 29, **L** - Peckham & Peckham 1903: *Transactions of the Wisconsin Academy of Sciences, Arts and Letters* 14:205, pl. 24, f . 1.

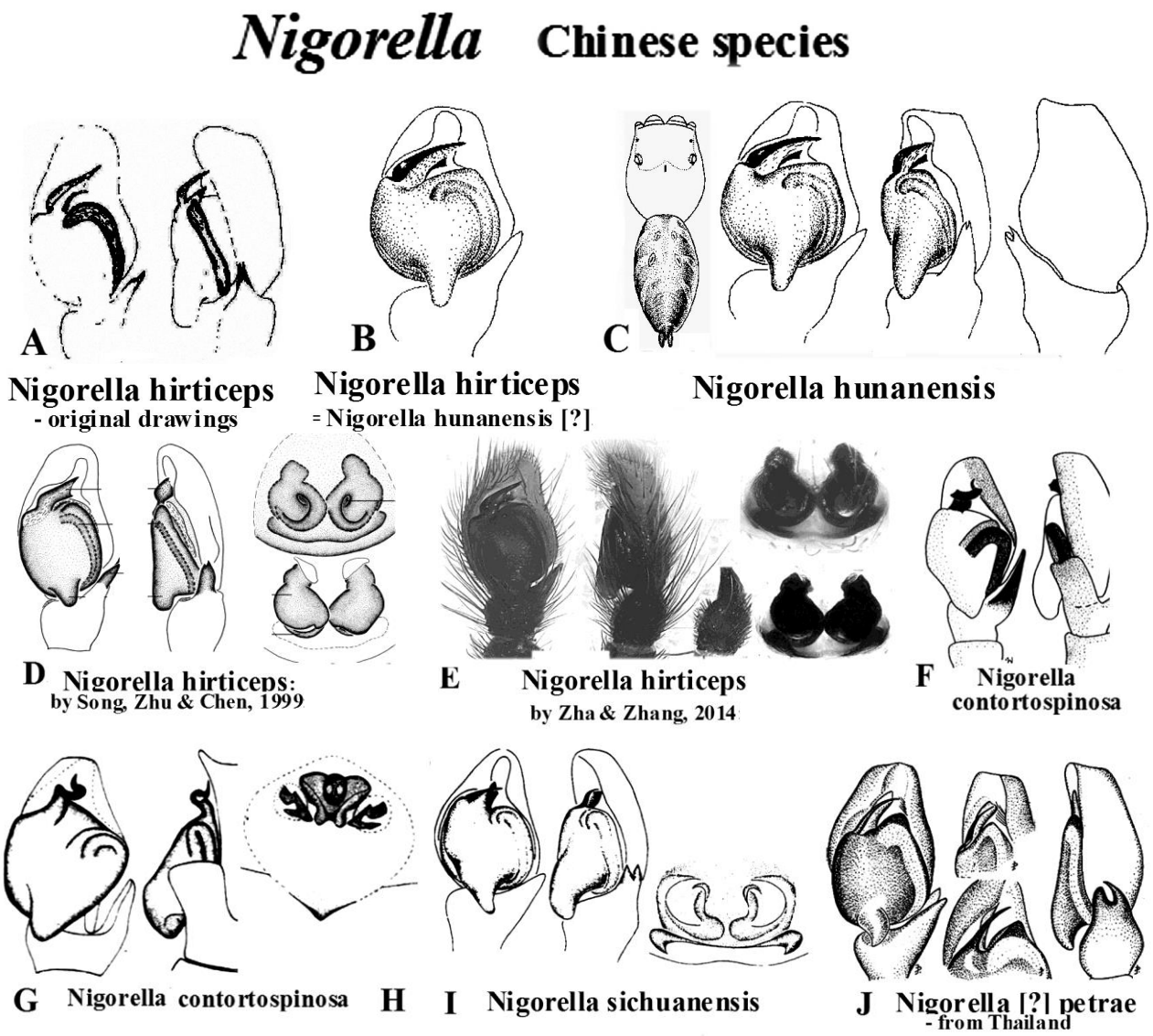


Figure 18. Diversity of Chinese and Thai *Evarcha* species tentatively placed into *Nigorella*. **A** - *Nigorella hirticeps* - original drawing by Song & Chai 1992, **B** – *N. hirticeps* by Yin et al., 2012, possibly = *N. hunanensis*[*?*], **C** - *N. hunanensis*, **D** - *N. hirticeps*: by Song, Zhu & Chen, 1999, **E** - *N. hirticeps*: by Zha & Zhang, 2014, **F**-**H** – *N. contortospinosa***, I** – *N. sichuanensis*, **J** - *N.*[?] *petrae* (Prószyński, 1992) - from Thailand.

SOURCES: **A** - Song & Chai 1992: Journal of Xinjiang University 9(3): 80, f . 7A-C, **B** - Peng, Xie & Kim, 1993: 9, f . 12-15, **C**-**D** - Song, Zhu & Chen, 1999: The Spiders of China 510, f . 294K-L; 511, f . 296G-H, **E** - Zha & Zhang, 2014: 83, f . 1- 10, **F** - Wesolowska 1981b: Annales Zoologici 36: 132-133, ff. 10-13, **G**-**H** - Peng, Xie, Xiao 1993. Hunan Normal University Press. 44, 83-84, ff. 254-263, **I** - Song et al., 1999: 511, figs 295H, 296G-H, **J** - Prószyński 1992 Annales Zoologici 44: 93, f . 8-12.

Revival of the genus *Emertonius* Peckham & Peckham, 1892

Emertonius is a valid genus (see below), closely related to *Myrmarachne* MacLeay, 1839, but strikingly differing from it by body shape, color pattern and internal structure of epigyne (see original documentation of *E. exasperan*s by Peckhams (Figs 21A)). Wanless (1978b) has hesitantly transferred it to *Myrmarachne* (Figs 21B, compare with 19B), but revision by Prószyński & Deeleman (2010) (Figs 19C, 21C-D) proven that he was mistaken. That correction was emotionally dismissed by Edwards (2013: 4) (see facsimile of his text at Fig. 20 and comments) who, continuing 20 years old dispute, failed to provide any documentation, in favor to his opinion, but dismissal was endorsed, by the WSC. The list of proceedings is quoted in the WSC (version 18.5): Prószyński repeated revival of *Emertonius* in two publication (2016: 4 and 2017b: 100) and in two letters with included documentation (the same as shown on Fig. 19) but Editors responded by twice

rejecting it (also both letters). So the present publication constitute the fifth attempt to correct initial mistake of Wanless. To avoid necessity of the sixth intervention I include facsimile of the original publication by Edwards, showing quality of his argumentation.

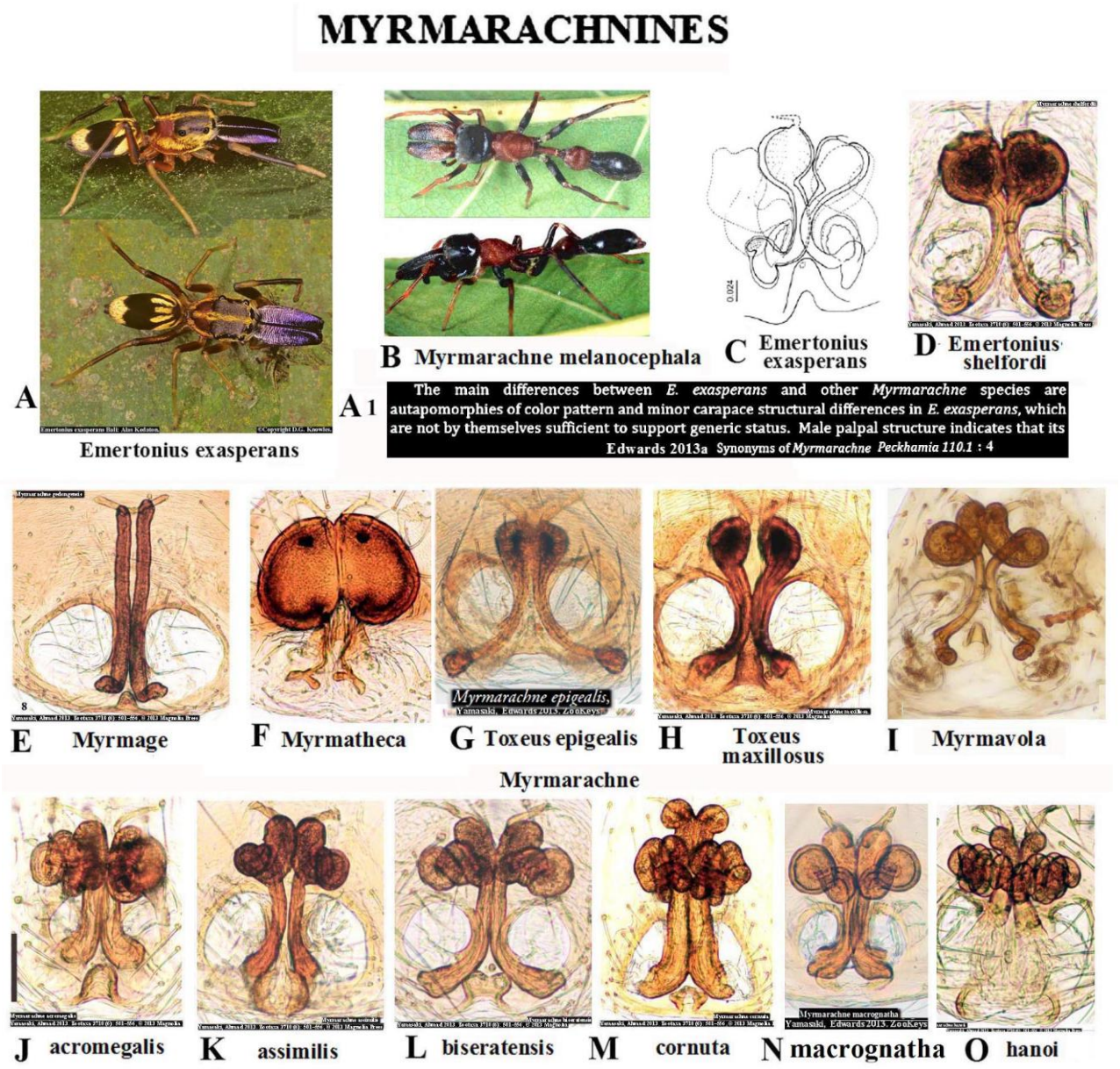
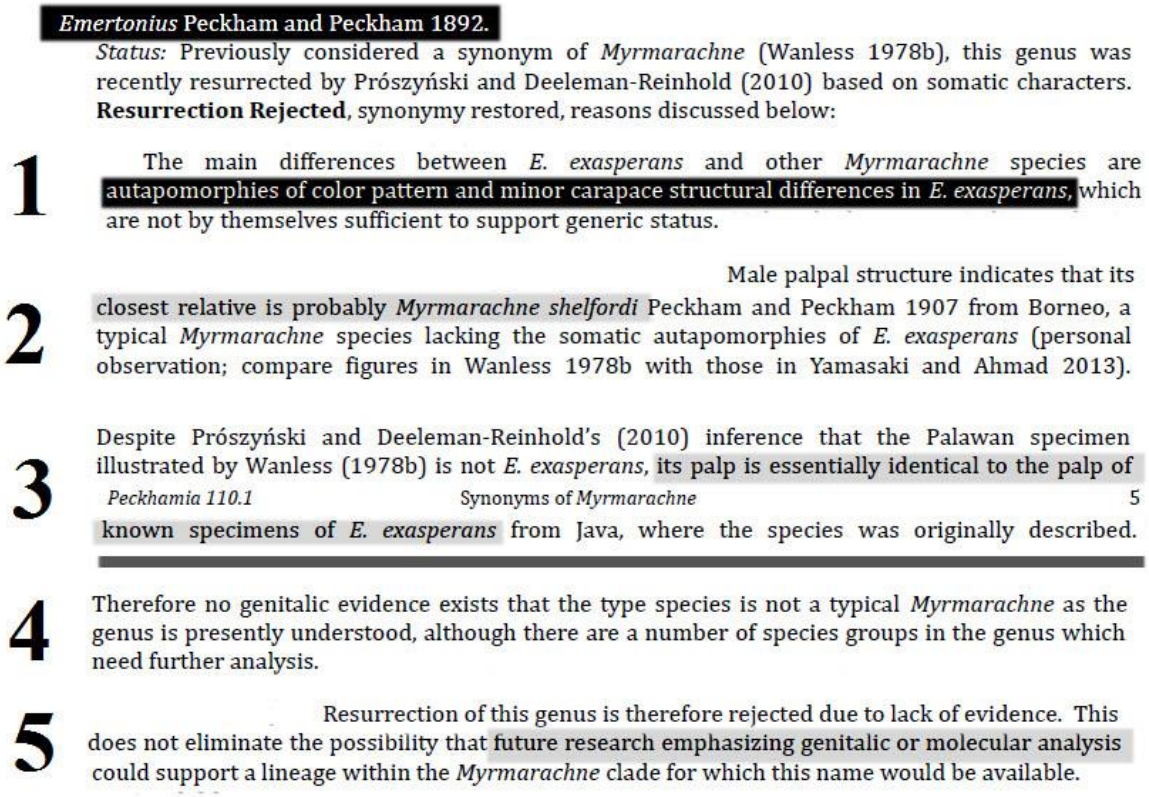


Figure 19. Diagnostic criteria of genera of informal group MYRMARACHNINES. **A** - *Emertonius exasperans* - type species, **A1** - Edward's opinion on identity of *Emertonius* with *Myrmarachne*, **B** - *Myrmarachne melanocephala* - type species, **C** - *Emertonius exasperans*, **D** - *Emertonius shelfordi* , **E** - *Myrmage*, **F** - *Myrmatheca*, **G** - *Toxeus epigealis*, **H** - *Toxeus maxillosus*, **I** - *Myrmavola*, **J** - *Myrmarachne acromegalis*, **K** - *Myrmarachne assimilis*, **L** - *Myrmarachne biseratensis*, **M** - *Myrmarachne cornuta*, **N** - *Myrmarachne macrognatha*, **O** - *Myrmarachne hanoi*. For characters of more species see Figs 21 and 22.

SOURCES: **A** - © Photo by D. Knowles, **A1** – Edwards, 2013 - Peckhamia 110.1: 4, **B** - Edwards, Benjamin 2009. Zootaxa, 2309: 5, f 2 ,©Magnolia Press, **C** - Prószyński, Deeleman-Reinhold, 2010. Arthropoda selecta, 19(3): f 167, **D-O** - Yamasaki, Ahmad 2013. Zootaxa 3710 (6): 549- 551, f 39A–G, 40A–E. © 2013 .Magnolia Press. All ©copyrights are retained by the original authors and copyright holders, used here by their courtesy.



Emertonius Peckham and Peckham 1892.

Status: Previously considered a synonym of *Myrmarachne* (Wanless 1978b), this genus was recently resurrected by Prószyński and Deeleman-Reinhold (2010) based on somatic characters. **Resurrection Rejected**, synonymy restored, reasons discussed below:

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.

2 Male palpal structure indicates that its closest relative is probably *Myrmarachne shelfordi* Peckham and Peckham 1907 from Borneo, a typical *Myrmarachne* species lacking the somatic autapomorphies of *E. exasperans* (personal observation; compare figures in Wanless 1978b with those in Yamasaki and Ahmad 2013).

3 Despite Prószyński and Deeleman-Reinhold's (2010) inference that the Palawan specimen illustrated by Wanless (1978b) is not *E. exasperans*, its palp is essentially identical to the palp of

Peckhamia 110.1 Synonyms of *Myrmarachne* 5

known specimens of *E. exasperans* from Java, where the species was originally described.

4 Therefore no genitalic evidence exists that the type species is not a typical *Myrmarachne* as the genus is presently understood, although there are a number of species groups in the genus which need further analysis.

5 Resurrection of this genus is therefore rejected due to lack of evidence. This does not eliminate the possibility that future research emphasizing genitalic or molecular analysis could support a lineage within the *Myrmarachne* clade for which this name would be available.

Figure 20. Facsimile of Edwards' arguments against revalidation of the genus *Emertonius* (numbers and highlights added by J. Prószyński). SOURCE: Edwards, 2013, Peckhamia 110.1: 4.

The above argumentation deserves some comments. Note significant peculiarities:
1 - "...minor carapace structural differences" and "...color pattern..." - compare Figs 19A-B - are they "minor"?
2 - *"Myrmarachne" shelfordi* [=*Emertonius shelfordi*] is really congeneric with *Emertonius exasperans*, but IS NOT a *Myrmarachne* (which is already documented and discussed in several papers),
3 - palps of "Palawan specimen" (Figs 21Q-R1) are similar not only to "male of *exasperans* from Java" (actually such male was never described and remains unknown, lectotype designated by Wanless is female!) but to ALL known genera of MYRMARACHINES (which include 180 species), the discussed male from Palawan is described below as "*Emertonius" palavanensis* sp. n., temporarily in *Emertonius*, pending further generic revision,
4 - absence of genitalic evidence - if one disregards spermathecae!
5 - no comments!

Spermathecae are particularly useful as diagnostic characters in *Myrmarachne* and related genera, because of their diversified appearance, strikingly differing among genera (Figs 19, 22) but retaining the same basic plan, which indicates relationship, simultaneously are rather stable within a species (see Fig. 26). The internal structure of epigyne was misunderstood until Prószyński described transparent, membranous ducts (1992b: 187, f . 90-92, see also Figs 22F, L) the full description of them was finally given in 2003 (see facsimile - Fig. 23 below). Somewhat different view was given by Maddison in 2015 (see Facsimile on Fig. 24, below).
***Myrmarachne* was extensively studied by Wanless**, whose magnificent work on Ethiopian species of that genus (1978a) is one of the best taxonomic revisions in the literature, he was less experienced in Oriental *Myrmarachne*, as he himself stated in his paper on *Emertonius*. An exception in his perfect documentation is examination of internal structure of epigyne, due to unfortunate property of his drawing apparatus - in examination of microscopic slides under medium power of compound microscope - the picture projected on paper was very small and imprecise, and object observed directly was unclear (see remark at "*Neaetha"*

aegiptiaca = *Evaneg aegiptiaca*, above). At his time that weakness did not appeared very important, but become crucial from 2003 on, when taxonomic importance of spermathecae and ducts become understood (see facsimile - Fig. 23).

One of current examples of importance of spermathecae structure is reclassification of *Myrmarachne aureonigra* Edmunds, Prószyński, 2003 to the genus *Myrmaplata* Prószynski, 2016 postulated in the present paper (see Fig. 22H and 22F) and *Myrmarachne grossa* Edmunds, Prószyński, 2003 (Fig. 22K - compare with 22J, L) to *Toxeus* C. L. Koch, 1846.

Therefore:

Myrmarachne aureonigra Edmunds, Prószyński, 2003 = .*Myrmaplata aureonigra* (Edmunds, Prószyński, 2003) comb. n.
Myrmarachne grossa Edmunds & Prószyński, 2003 = *Toxeus grossus* (Edmunds & Prószyński, 2003) comb. n.

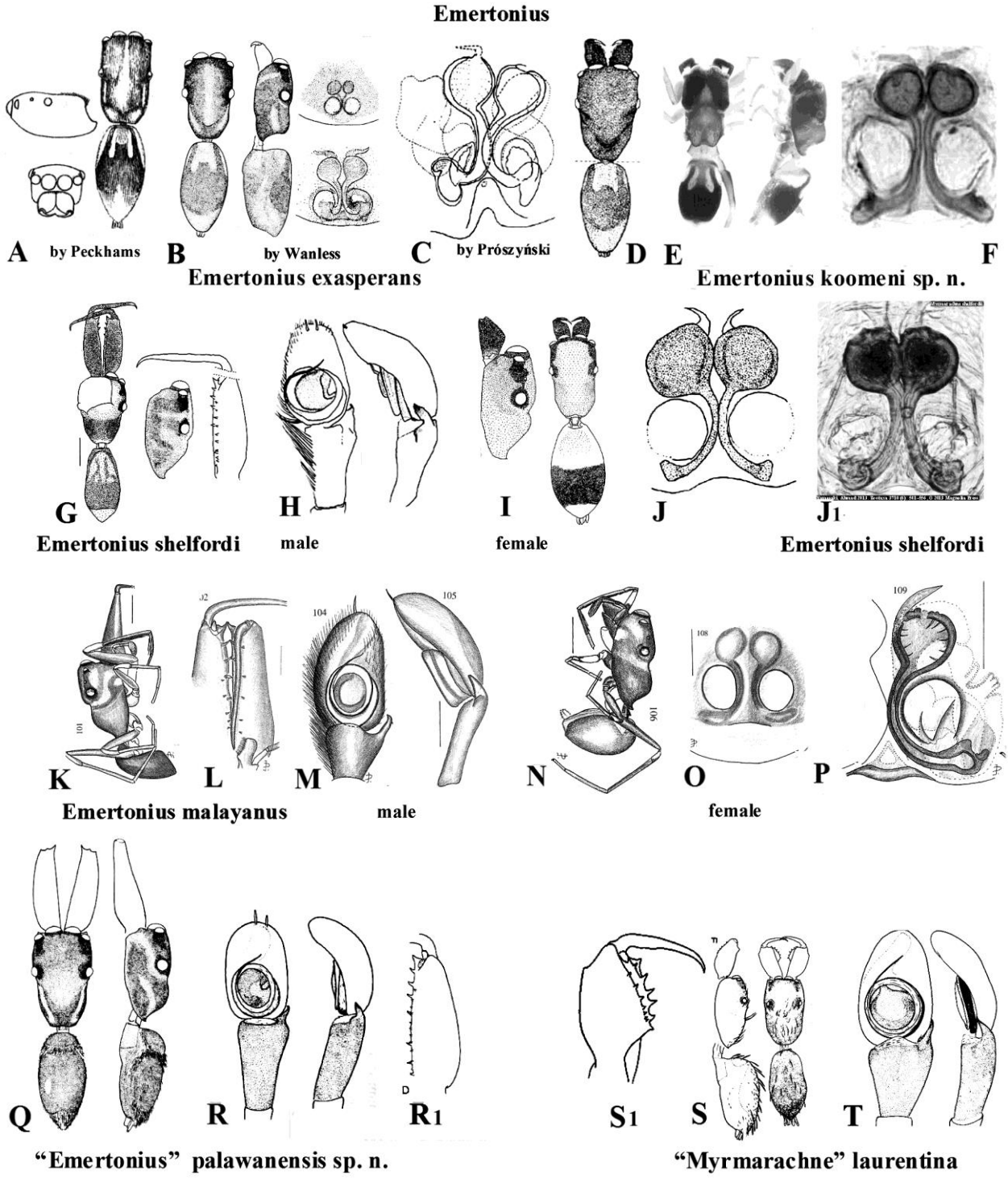


Figure 21-I. For figure caption see under Figure 21-II.

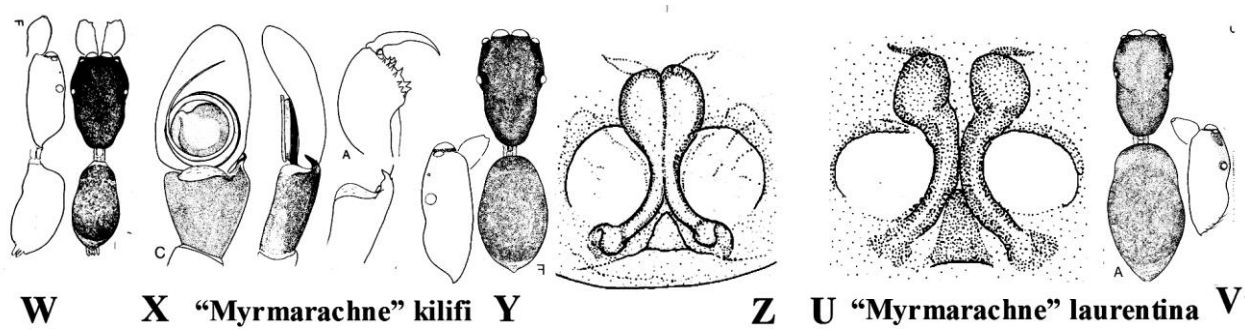


Figure 21-II. Diagnostic characters of the genus *Emertonius*. **A** - *Emertonius exasperans* by Peckham & Peckham, 1892, **B** - "*Myrmarachne" exasperans*: by Wanless, 1978b, **C**-**D** - *Emertonius exasperans*: by Prószyński & Deeleman-Reinhold, 2010, **E**-**F** - *Emertonius koomeni* sp. n., **G**-**H** - *Emertonius shelfordi* Peckham & Peckham, **1**907 - lectotype , **I**- **J**1 - *Emertonius shelfordi*: by Yamasaki, 2010, **K**-**P** - *Emertonius malayanus* (Edmunds & Prószyński, 2003) - see also diversity (Fig. 8 - below), **Q**-**R1** - *Emertonius palawanensis*, **S**-**V** - *"Myrmarachne" laurentina* Bacelar, 1953, **W**-**Z** - *"Myrmarachne" kilifi* Wanless, 1978.

SOURCES: **A** - Peckham & Peckham (1892). *Occasional Papers of the Natural History Society of Wisconsin* **2**(1): 54, pl. 4, f . 8, **B** - Wanless, 1978b: 235, f . 2A-E, **C**-**D** -Prószyński & Deeleman-Reinhold, 2010: *Arthropoda Selecta* 19: 164-167, 169-171, **E**-**F** - see description below, **G**-**H** - Yamasaki, 2010 *Acta Arachnologica* **59**: 64, f . 8-12, **I**-**J1** -Yamasaki, Ahmad 2013. Zootaxa 3710 (6): 549- 551, f 39A–G, 40A–E. © 2013 Magnolia Press, **K**-**P** -Edmunds & Prószyński, 2003: 317, f . 101-109, **Q**-**R1** -Wanless, 1978b: 235, f . 1A-E , **S**-**V** -Wanless, 1978a: 99, f . 63A-B, E, G, I, 64B-C, 65A-C, G-H, **W**-**Z** - Wanless, 1978a: 102, f . 63C-D, F, H, J-K, 64A, D, 65D-F, I-J, pl. 3c-d.

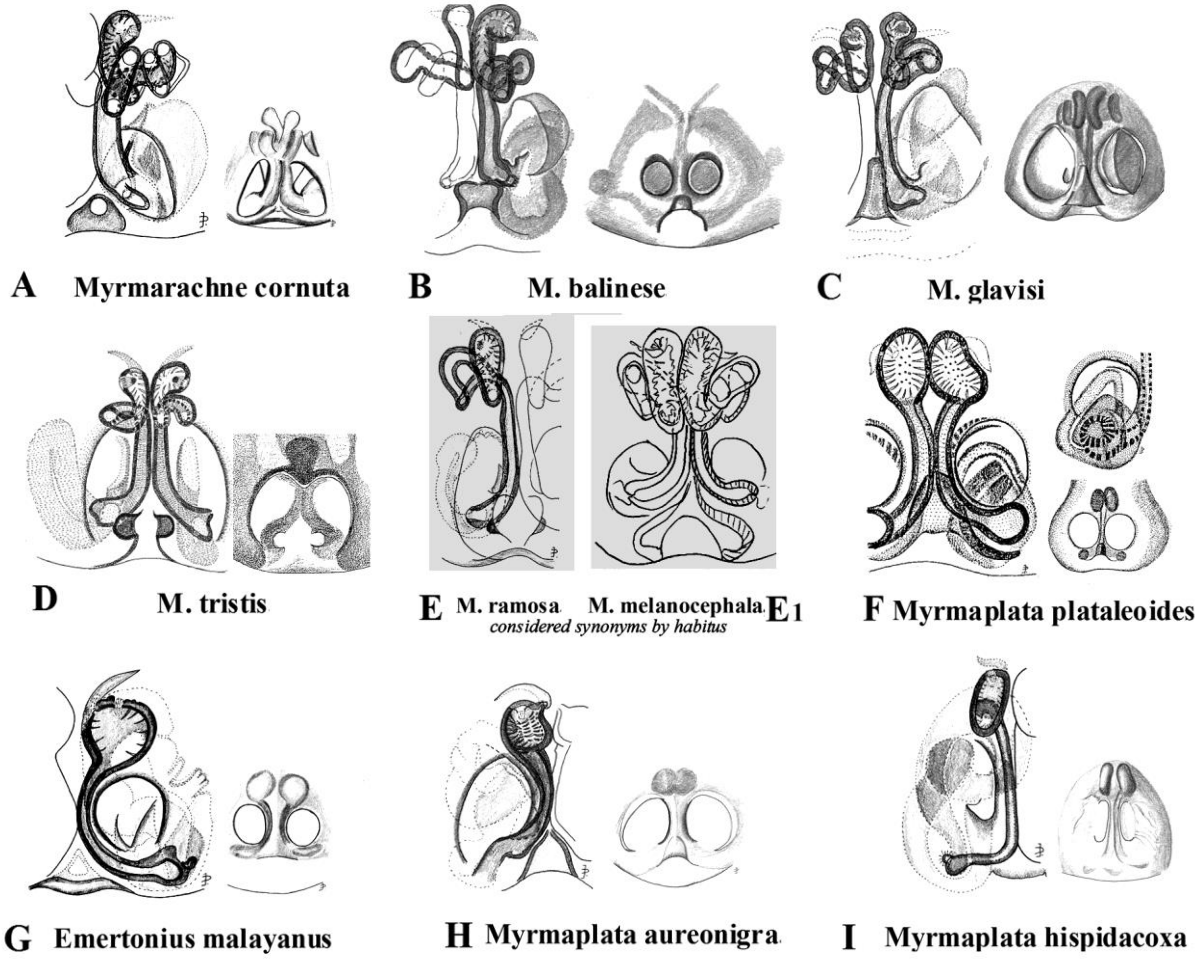


Figure 22-I. For figure caption see under Figure 22-II.

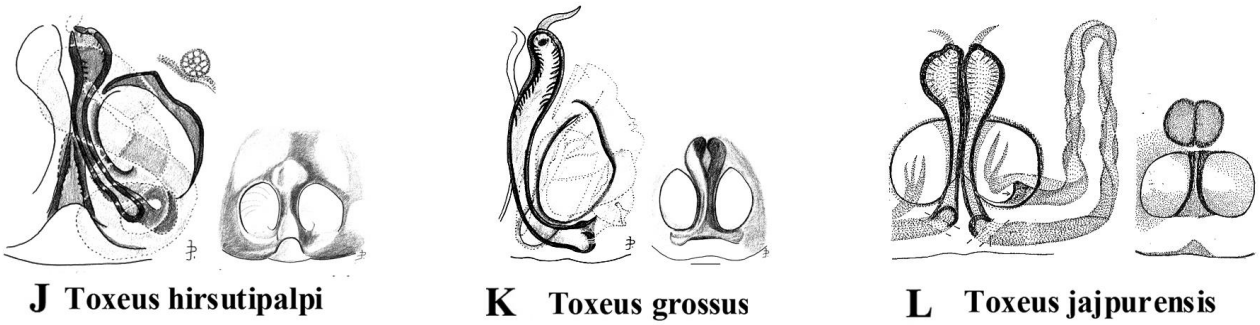


Figure 22-II. Overlooked in many papers diagnostic character - internal structure of epigyne - solves hopeless classification of the informal group of genera MYRMARACHNINES. **A** - *Myrmarachne cornuta* Badcock, 1918, **B** - *M. balinese* Prószynski & Deeleman-Reinhold, 2010, **C** - *M. glavisi* Prószyński & Deeleman-Reinhold, 2010, **D** - *M. tristis* (Simon, 1882) , **E** - *M. ramosa* Badcock, 1918, **E1** - *M. melanocephala* MacLeay, 1839, **F** - *Myrmaplata plataleoides* (Pickard-Cambridge O., 1869), **G** - *Emertonius malayanus* (Edmunds & Prószyński, 2003), **H** - *Myrmaplata aureonigra* (Edmunds, Prószynski, 2003) comb. n., **I** - *Myrmaplata hispidacoxa* (Edmunds & Prószyński, 2003), **J** - *Toxeus hirsutipalpi* (Edmunds & Prószyński, 2003), **K** - *Toxeus grossus* (Edmunds & Prószyński, 2003): 313, f . 69- 79, **L** -*Toxeus jajpurensis* (Prószyński, 1992).

SOURCES: **A**, **E**, **G**, **J**, **K** - Edmunds & Prószyński, 2003 *Bulletin of the British Arachnological Society* 12: : 304, f . 30-39; 301, f . 8-29; 317, f . 101-109; 313, f . 69-79, **I** - 311, f . 64-68; 319, f . 115-116, **B**-**C** - Prószyński & Deeleman-Reinhold, 2010 : *Arthropoda Selecta* 19: 176, f . 123-124; 176, f . 117, 119-120, 125-126, , **D** - Prószyński, 2003: *Annales Zoologici*, 53: 108, f . 446-452-, **E1** - Edwards & Benjamin, 2009: 5, f . 1A-H, 2A-D, 3A-D, 4A-E, 5A-D, **F** - Prószyński, 1992b: *Annales Zoologici*, 44: 185, f . 80-81, 83-89, **H** -Edmunds & Prószyński, 2003: 321, f . 117- 121, **L** - Prószyński, 1992b: 187, f . 90-92.

Gen. *Emertonius* Peckham & Peckham, 1892

Figures 19A, C, 21A-P, 22G, 25A-H, 26

Type species *Emertonius exasperans* Peckham & Peckham, 1892.

Diagnosis. Key characters including habitus (see Figs. 19A, 21, 25A-E), differing from that of the type species of genus *Myrmarachne* (Fig. 19B and elsewhere in literature). Palps confront to general appearance of 180 species of informal group MYRMARACHNINES, with minor differences, insufficient to separate genera and/or species. Internal structure of epigyne (Figs 19C-D, 21A-P) is strikingly different from that of *Myrmarachne* (Figs 19J-O, 22A-E1).

Definition. *Emertonius* is a characteristic genus, related to *Myrmarachne* but differing strikingly by body shape and color pattern, (documented on Figs 19A), in type species not ant-like, in other species ant-likeness is not apparent (compare with type species of *Myrmarachne* Fig. 19B). The most important difference is internal structure of epigyne, in *Emertonius* and a few "lesser" genera, sclerotized spermatheca consist of spherical chamber atop of narrow, petiole like part (Fig. 19D-H, 22G-L), while in 104 species of *Myrmarachne* the spermathecae have characteristic form of two parallel, sclerotized “pipe-like” structures, running medially along the whole length of epigyne, with striking detour in anterior third of the "pipe " in a form of a loop, entangled knot, or double spiral (sample of rich variety of these is shown on Figs 19J-O, 22A-E1). Transparent, membranous copulatory ducts, very entangled and long, running from copulatory openings to junction with spermathecae, are usually overlooked and not mentioned in descriptions because they are visible only on cleared and stained (by Chlorazol Black B) microscope slides (even perfect photographs by Yamasaki do not display them - Figs 19D-O). In difference to spermathecae, palps are largely uniform in some 180 species of MYRMARACHNINES (see Prószyński 2017b: 99), almost useless for separation of genera and identification of species.

Remarks. Diversity of spermathecae within *Emertonius* and other "lesser genera" require further comparative research in order to distinguish it from intra-populational variation, whose sample is shown on Fig 26A-J1.

Composition. Type species *Emertonius exasperans* Peckham & Peckham, 1892 (Java and Bali), *Evacin besar* sp. n., *Emertonius koomeni* sp. n. - Borneo, *Emertonius malayanus* (Edmunds & Prószyński, 2003) comb. n. (Sumatra, Borneo), *"Emertonius" palawanensis* sp. n. (placement provisional, from Philipines: Palawan), *Emertonius shelfordi* (Peckham & Peckham, 1907) comb. n. - Borneo.

Range of variation of genital organs in *Myrmarachne*

The epigynum consists of a pair of superficial white membranous "windows" separated by a flat, narrow septum, with translucent internal parts (Figs. 62, 108). The internal structures include a pair of irregularly looped copulatory channels, which vary in length and diameter in different species (Fig. 63). These channels have usually been overlooked because they are transparent, soft, and either removed from the preparation or disregarded, but they can be seen after staining with Chlorazol Black E. They are difficult to interpret, even when stained, owing to overlapping and folding of the coils. Each copulatory channel originates from an indistinct slit at the median rim of the "window", runs posteriorly, then anteriorly, and finally bends again posteriorly to join the posterior end of one of the paired sclerotised spermathecae. Each spermatheca comprises a sclerotised tube, which begins near the posterior end of the superficial "window", runs anteriorly until beyond the "window" where it dilates and is joined to the typically triangular fertilisation channel. There are small "scent pores", usually forming a minute swelling in the wall of the spermathecal tube near the connection with the soft copulatory channel (Fig. 68); there are some internal spines inside the spermathecal dilation; and there are also minute "nutritive pores" in this part of the duct. The shape of the dilated anterior end of the spermatheca varies from just a slight swelling of the tube (as in *M. grossa*, Fig. 79), to a small simple chamber (e.g. in *M. aureonigra*, Fig. 118), or a larger chamber (as in *M. malayana*, Fig. 109). Some species (e.g. *M. hispidacoxa*, Fig. 68) have the spermathecal tube forming a transverse loop anterior to the superficial "windows", after which it continues anteriorly and ends in a dilation. The spermathecal tube has a long but simple transverse loop in *M. ramosa* (Fig. 29), and a number of loops coiled around the transverse part of the tube in *M. cornuta* (Fig. 39). In some species, such as the Palaearctic *M. formicaria* (De Geer, 1778), there is an even more complicated system of external coils twisted around internal coils. In some species other translucent parts are visible through the surface of the epigynum, e.g. a sclerotised vaginal roof, a posterior opening in the tegument of the epigynum, or small sclerotised armatures (as in *M. ramosa*, Figs. 28, 29).

Figure 23. Facsimile of description of structure of epigyne, spermathecae and membranous copulatory ducts in informal group of genera MYRMARACHNINES. Attention: "vaginal roof" mentioned above is known now as "pocket", spermathecae are compared to parallel "pipes", sclerotized and running medially along the whole length of epigyne (see Prószyński 2016c: 5). Note strange tegument structure anteriorly to epigynal "window" Fig. 22J). SOURCE (Edmunds & Prószyński (2003). *Bulletin of the British Arachnological Society* **12**: 297-32, by courtesy

Tribe Myrmarachnini Simon, 1901 241
(7 genera; Figs. 78, 79)
242

Monophyly: The morphological features that confer their striking resemblance to ants — e.g., narrow body with constrictions in the thorax — are synapomorphies, although they have evolved elsewhere in the family several times. Most distinctive, then, are the genitalia. The bulb is round, with the fixed embolus looping one or more times around it. Instead of faithfully following the periphery of the bulb, some loops of the embolus typically fall beneath and across the tegulum (e.g., Edwards & Benjamin 2009, figs. 4A, C, 7). The epigynum has a stereotyped arrangement, with the loops of the copulatory ducts eventually reaching the midline near the posterior margin then proceeding together side by side to the anteriorly-placed fertilization ducts (Prószyński 1992b, figs. 87, 92; Edwards & Benjamin 2009, fig. 7) [*the latter actually borrowed from Prószyński*].

Figure 24. Facsimile of concise description of diagnostic characters of tribe Myrmarachnini (actually based on genus *Myrmarachne*) was published by Maddison (2015 - *Journal of Arachnology* 43(3): 231-292 -). Note difference in terminology, the "loops of copulatory ducts" mean apparently spermathecal detour twisted into coil, or coils, as well as proximal part of "pipes" beginning near posterior end of epigyne, name "spermatheca" is applied here only to distal part of "pipes", emerging anteriorly from coiled detour of "pipes". Sclerotized structure of "pipes" is uniform along their whole length, with continuous diameter and thickness of their walls. These are strikingly different from the true copulatory ducts (Figs 22 - dotted), membranous and transparent, not mentioned by Maddison, probably because they are visible only on well cleared epigyne, stained with Chlorazol Black E and examined under medium power of a compound microscope. Different shape of spermathecae of lesser genera (Fig. 22F-L), diagnostically important, are also not mentioned by Maddison.

Emertonius exasperans Peckham & Peckham, 1892

Figures 19A, C, 21A, C

Type species of the genus.

Material. Lectotype female (designated by Wanless 1978b: 235), "Emertonius exasperans Peckh. TYPE, Java Bantam [=Bentam Prov.]. Workman No, I. 66" Lctotype designated by Wanless". MCZ Harvard. Male Emertonius sp. Bali: Alas Kedaton. Photograph by ©Mr. D. Knowles. Female "Emertonius exasperans Bali, Ambegan, secondary forest, 19-31.01. Leg. S. Djojosudharmo" [photographs by C.L. Deeleman-Reinhold see: http://www.peckhamia.com/salticidae/specimen.php?id=1635].

Diagnosis. Key characters are shown on Fig. 19A, C, 21A-D, on comparative background of remaining species shown on Figs 19D, 21E-P, 22, 25A-H. Individual variation in related species *Emertonius malayanus*

is shown on Figs 26, background of differences between genera is presented on Figs 19E-O, 21E-Q, 22.
Description. Both sexes are recognizable by very unusual, vivid color pattern (Fig. 19A) as well as unusual body shape, not resembling ants. Main diagnostic character are "pipes-like" spermathecae, resembling other species of *Emertonius* (Fig. 21A-P), differing from other genera of MYRMARACHNINES by shape and proportions within framework of the same basic plan (Fig. 22) and particularly from 104 species of *Myrmarachne* s. s. (whose sample is shown on Figs 19J-O and 22A-E1). Copulatory ducts, invisible without staining, make large membranous coils (Fig. 19C - dotted). Male is known from photographs of live specimen from Bali, but palp remains unknown. Chelicerae of male disproportionately big, dorsally flat (Fig. 19A), in females short, pluridentate.
Note on exclusion of "male from Philippines ". Opinion of Wanless (1978: 235, f . 1A-F, not f. 2) on "*Myrmarachne" "exasperans":* - "male from Philippines , believed to be conspecific with *Emertonius exasperans*" is insufficiently documented and wrong: it does not display body shape and color pattern of that species, also differs by striking abdominal fringe (Figs 21Q-R1). Palps are useless in determination of genera of this group. Therefore the specimen is removed from *Emertonius exasperans* and described as a separate species "*Emertonius" palawanensis* sp. n. (below), the placement in genus *Emertonius* is tentative, pending supply of new data from future research.
Distribution. Indonesia: Java and Bali islands, records from other areas are based on misidentified specimens.

Emertonius koomeni sp. n.

Figures 26A-H

Material. Holotype female "*Myrmarachne exasperans*. Borneo: Sabah: Tenom, Rafflesia Garden at Perkasa Hotel, (966). leg. & det., coll. P. Koomen". Kept in the private collection of Dr P. Koomen in Leeuwarden, the Netherlands. Description based on photographs by ©P. Koomen (Figs 26A-H).
Diagnosis. Key characters are shown on Fig. 26A-H, habitus very closely resembling *E. emertonius*, but is sufficiently distinct. Male unknown.
Description. Strikingly similar to male of *E. exasperans* by body shape and general type of color pattern, from which differs sufficiently by absence of yellow narrow medial streak along eyefield and thorax, replaced on posterior half of eyefield by triangular spot of white setae (which could possibly be invisible on specimens submerged in alcohol). Cephalic part looks square and is broader than thorax, its of blackish brown color is expanded also over the sides, Medial belt of thorax is brownish yellow with reddish hue. Abdomen dorsally with two (instead of three) white "petals-like" spots, medial belt of abdomen blackish with brown hue, terminal whitish yellow area shorter than in *E. exasperans*. Epigyne (Fig. 22G-H) differs distinctly by proportions - posterior half of spermathecae very thin and long, with large structures at the junction with (invisible) membranous ducts, terminal anterior chambers of spermathecae regularly round, proportionately much smaller than in *E. exasperans*.
Distribution: Borneo: Sarawak - only single female is known.

Emertonius malayanus (Edmunds & Prószyński, 2003)

Figures 21K-P, 26B-E8

Myrmarachne malayana Edmunds & Prószyński, 2003: 317, f. 101-109 (Dmf).
Myrmarachne malayana Yamasaki & Ahmad, 2013: 531, f. 24A-G, 25A-E (mf),

Material. 1) Holotype male, paratype female "Malaysia (Peninsular Malaya) Genting Highlands, Natural History Museum, London, No. BMNH(E) 2002-34. 2) Male and female specimens from several localities in Sarawak and Sabah (Borneo), also two females from Sumatra: Pinag-Pinag quoted by Yamasaki & Ahmad (no information from where came specimens illustrated in that paper). 3) ten females and two males from various localities in Sabah photographed by P. Koomen. 4) Female from Brunei (Borneo) photographed by J. Koh.
Remarks. Identification of specimens listed above is uncertain, there are distinct differences in photos and drawings of epigyne enclosed (see Figs 26B-S). The material described in paper of Yamasaki & Ahmad, came from distantly spaced islands and there are no information which specimens, and from where, are illustrated, the characteristics of epigyne as "Copulatory atria containing openings round" - which fits hundred of species of MYRMARACHNINES is insufficient. The whole description does not permit to define species. Therefore the only sure identification is that of type specimens from Genting Highlands (Figs 21K-P), all remaining could be considered *Emertonius* cf. *malayanus* at best.

Diagnosis. Key characters are shown on Fig. 21K-P, comparative background of remaining species shown on Figs 21A-J.

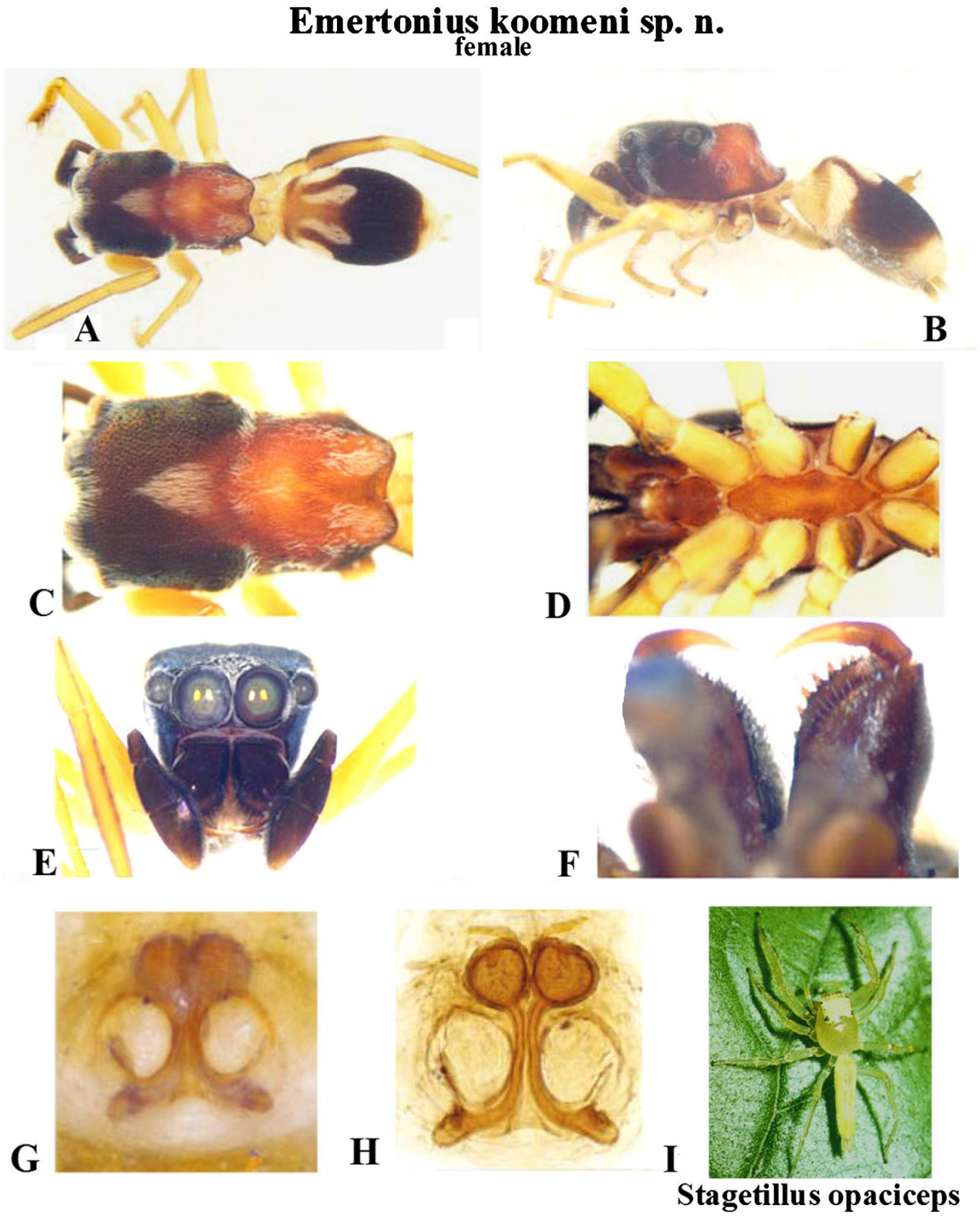
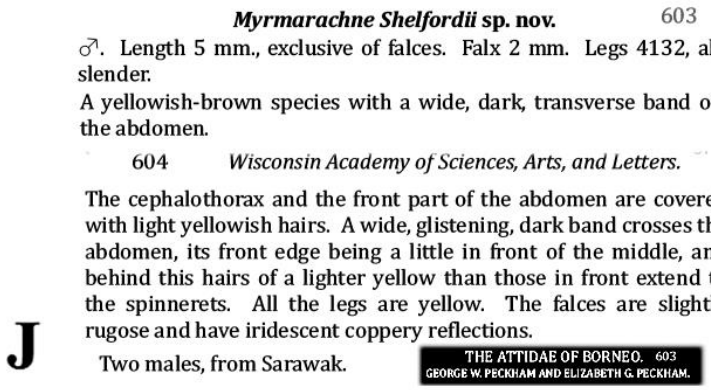


Figure 25-I. For figure caption see under Figure 25-II.



***Myrmarachne Shelfordii* sp. nov.** 603

♂. Length 5 mm., exclusive of falces. Falx 2 mm. Legs 4132, all slender.

A yellowish-brown species with a wide, dark, transverse band on the abdomen.

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The cephalothorax and the front part of the abdomen are covered with light yellowish hairs. A wide, glistening, dark band crosses the abdomen, its front edge being a little in front of the middle, and behind this hairs of a lighter yellow than those in front extend to the spinnerets. All the legs are yellow. The falces are slightly rugose and have iridescent coppery reflections.

Two males, from Sarawak.

THE ATTIDAE OF BORNEO. 603
GEORGE W. PECKHAM AND ELIZABETH G. PECKHAM.

Figure 25-II. A-H - diagnostic characters of *Emertonius koomeni* sp. n., **I** - general appearance of *Stagetillus opaciceps* Simon, 1885 from Genting, Peninsular Malaysia (identity not confimed by genitals) , **J** – *Emertonius shelfordi* – fragments of original description.

SOURCES: **A-H** - ©Photograph by P. Koomen, **I** - ©Photograph by F. Murphy, 2000, **J** – Peckham & Peckham 1907, *Trans. Wisconsin Acad. Sci., Arts & Let.* **15**: 603. All ©copyrights are retained by the original authors and copyright holders, used here by their courtesy.

Description. Resembles other species of *Emertonius* by shape and proportions of spermathecae (Figs 21J), especially by petiole-like proximal part of spermathecae, thinner and longer than in *E. shelfordi* (Figs 21D). Similarity of epigyne is not supported by difference in sloping thorax, distinctly lower than cephalic part, with a developed hump. Also abdomen is shorter and higher, with indistinct small anterior sclerite. Body color of fresh male and female is black (Fig. 26K-L, P-Q) with higher cephalic part, sloping thorax with a small hump on the slope. It differs from females, also black when live, but with high thoracal hump, separated from eyefield by distinct clevage accented by spot of white setae at its bottom, extended by delicate white line vertically on lateral surface. Variation of shape of epigyne and spermathecae is shown on Figs 26D1-3, E5-8, while Figs 26G-G1, F, and H-H1 may represent different, relate species.

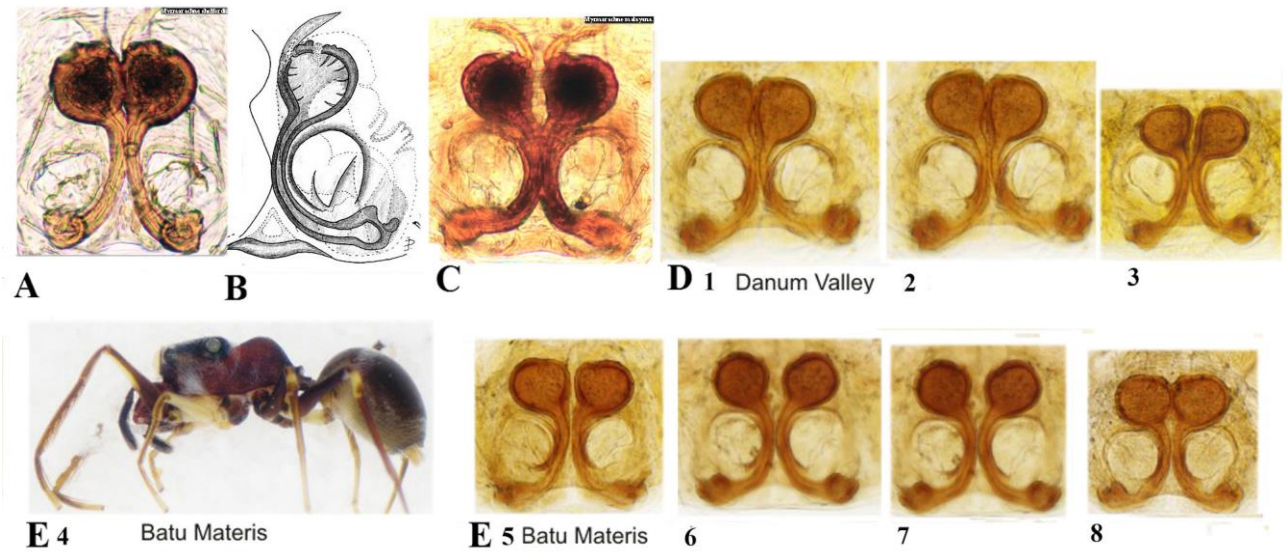


Figure 26-I. For figure caption see under Figure 26-II.

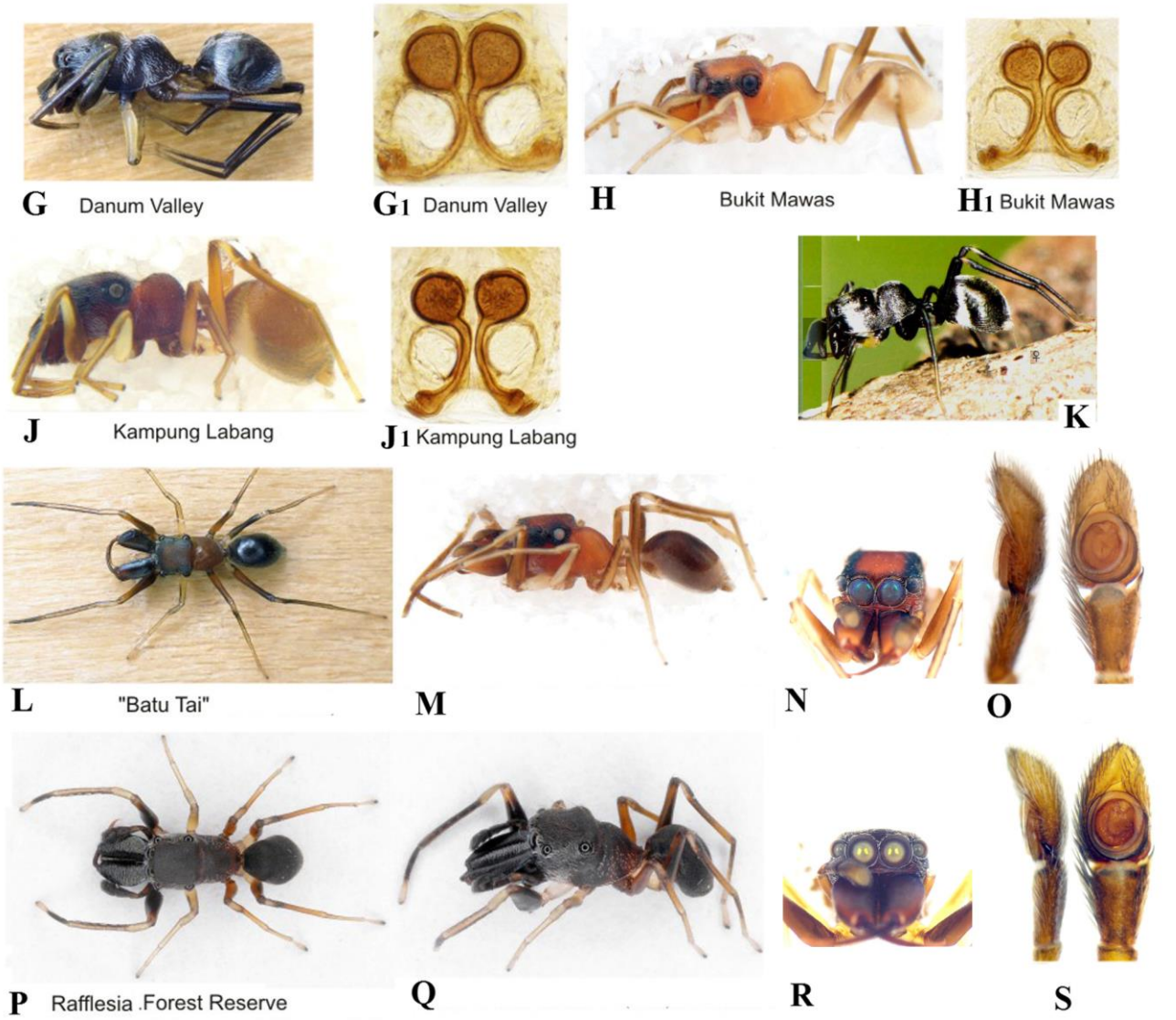


Figure 26-II. Variation of diagnostic characters of *Emertonius* cf. *malayanus* (females of possibly 4 species, 2 species of males) from Borneo: Sabah : spermathecae, body shape of either live or preserved specimens, male palps. **A** - comparative species *Emertonius shelfordi:* Yamasaki, Ahmad 2013, **B** - spermatheca and duct epigyne *of E. malayanus* by Edmunds & Prószyński, 2003, **C** - *E. malayanus* by Yamasaki, Ahmad 2013, **D-F**, **H1** - comparison of epigyne of *E.* cf *malayanus* from N Borneo: **D1-D3** - Danum Valey, **E4-E8** - female and epigyne from Sukau-Batu Materis, **F** - Kampung Labang, **G-G1**- female and epigyne from Danum Valley, **H-H1**- female and epigyne from Sukau-Bukit Mawas, **I** - female from Sukau-Batu Materis, **J-J1**- female and epigyne from Kampung Labang, **K** - female from Brunei, **L-O** - male from Sukau-Batu Tai, **P-S** - male from Rafflesia Forest Reserve.

SOURCES: **A, C** - Yamasaki, Ahmad 2013. Zootaxa 3710 (6): 549- 551, f 39A–G, 40A–E. © 2013 Magnolia Press, B - Edmunds & Prószyński [2003], **D-F**, **L-S** - ©Photo by P. Koomen, **K** - ©Photo J. Koh 2013: 205.All ©copyrights are retained by the original authors and copyright holders, used here by their courtesy.

***"Emertonius" palawanensis* sp. n.**

Figure 21Q-R1

Myrmarachne exasperans Wanless, 1978b: 235, f. 1A-F (male only).

Type - holotype male labelled as *"Myrmarachne exasperans"* by F. R. Wanless, from " Philippines: Palawan Manialingajan Pinigisan, 600 m. 12.viii.1961, Noona Dan Exp. 1961-62 (BMNH)".

Remarks. Specimen mismatched[7]* by Wanless (1978: 236, 238, f. 1, not f. 2) as a male supposed to match female lectotype of *Myrmarachne exasperans* (= *Emertonius exasperans*) from Java, is described here as a new species to straighten records and to attract attention of the next revident to study it. It certainly does not belong to *Myrmarachne*, but placement in the genus *Emertonius* is only provisional, due to insufficient documentation. Finding its real placement seems to be not possible without examination of its true matching female.

Diagnosis. Key characters are shown on original drawings by Wanless (Fig. 21Q-R), there are no comparable species known.

Description. See facsimile below. Differs from both *Emertonius* and *Myrmarachne* by body shape (Fig. 21Q), in particular by fringe across abdomen in about one fourth of its length, delimiting anterior surface, which in many *Myrmarachne* may be covered by separate sclerite. Palps, as drawn by Wanless, are not characteristic (Fig. 21R), chelicerae elongate with a row of separate teeth along its whole edge (Fig. 21R1).

MATERIAL EXAMINED. PHILIPPINES: Palawan Manialingajan Pinigisan, 600 M, 12.viii.1961, 1 ♂, Noona Dan Exp. 1961–62 (BMNH).

DIAGNOSIS. *M. exasperans* is a distinctive species and the form of the carapace (Figs 1A, F; 2A, E) is diagnostic.

MALE (formerly undescribed). *Carapace* (Fig. 1A, F): punctured-reticulate with piliferous papillae; dark reddish brown; clothed with white hairs forming lateral and submarginal bands on the sides. *Eyes*: anteriors subcontiguous with apices procurved in frontal view, fringed with white hairs. *Clypeus*: white haired. *Chelicerae* (Fig. 1A, D): rugulose with furrows; orange-brown with brown-black lateral keels and with a distal violet sheen under some lights; fang apophysis lacking. *Maxillae and labium*: yellow-brown. *Sternum*: (Fig. 1C) yellow-brown. *Abdomen*: mottled pale yellow and black; scuta dark orange-brown tinged with blackish, sparsely clothed with fine dark orange hairs and margined with distinctive white haired fringes. *Legs*: femora I slightly enlarged. Light yellow-brown but tibiae I and femora I orange-brown. Ventral spination of legs I: metatarsi 2–2, tibiae 2–2–2–2–2–2, patellae 1. *Palp* (Fig. 1B, E): tibial apophysis with proximal ventral flange; seminal reservoir doubled, probably as a result of folding within the tegulum.

Dimensions: total length 5·0 mm, carapace length 2·4 mm. *Ratios*: AM : AL : PM : PL :: 12 : 7 : 1·4 : 7·5; AL–PM–PL: 9–7; width of eye row I/ carapace width at that point 1·06, width of eye row III/ carapace width at that point 1·08, quadrangle length/ carapace length 0·48, cheliceral length/ carapace length 0·90, tibia + patella IV/ carapace length 0·88 (based on 1 ♂).

DISTRIBUTION. Philippines.

REMARKS. The structure of the genitalia and the horizontal chelicerae of the male shows that *E. exasperans* belongs to *Myrmarachne* but the male abdominal fringes are not typical of the genus. Unfortunately, Oriental species of *Myrmarachne* are poorly known and the affinities of this species are uncertain. It resembles *E. rufescens* in body form but there are differences in the genitalia and it cannot be readily placed into any of the Ethiopian species groups proposed by Wanless (1978).

F. R. WANLESS *Bull. Br. Mus. nat. Hist.* (Zool.) 33 (4): 231–296 235 238

Figure 27. Facsimile of the original description of male of "*Myrmarachne" "exasperans*" by Wanless (1978: 235-238) misidentified, reclassified here as "*Emertonius" palawanensis* sp. n. Wanless figures 1A, F of male are reproduced here as Figs 21Q-R1, figures 2A, E representing mismatched female lectotype of *Emertonius exasperans*, from Java, are copied here as Figs 21B. Placement of male as "*Emertonius*" is tentative, pending further research on finding genus to which it should be ultimately transferred.

***Emertonius shelfordi* (Peckham & Peckham, 1907)**

Figure 19D, 21G-J1, 25J, 26A

Myrmarachne shelfordii Peckham & Peckham, 1907: 603 (Dm).
Myrmarachne shelfordii Yamasaki, 2010: 64, f. 8-12 (m).
Myrmarachne shelfordii Yamasaki & Ahmad, 2013: 549, f. 39A-G, 40A-E (m, Df).
Emertonius shelfordi Prószynski, 2017b: 99, f. 45C3, 46G (f).

Material. 1) Lectotype male Borneo, Peckhams leg. 2) 2 males, 9 females Poring Hot Springs, Kinabalu Park, Sabah, Borneo. T. Yamasaki leg. Interpretation based on Yamasaki papers listed above.

Diagnosis. Key characters are shown on Figs 19D, 21J-J1, comparative background on Fig. 21A-F, K-P.

Description. Classification based on shape of spermathecae (Figs 19D, 21J-J1), supported by color pattern in male and female, consisting of blackish brown and creamy whitish areas, documented heretofore only in *Emertonius exasperans* and *E. koomeni*, the shape of thorax, however, does not resemble these species and there are no "petal-like" spots on abdomen. Fragments of original descriptions – see Fig. 25J. Male chelicerae, long and flat, conform to type species. Palps shape agree with remaining genera of MYRMARACHNINES.

African species not included to *Emertonius.* Due to differences in internal structure of spermathecae *"Myrmarachne" kilifi* Wanless, 1978 from Kenya (Figs. 21W-Z) and *"Myrmarachne" laurentina* Bacelar, 1953 from Mozambique and South Africa (Figs 21S-V) cannot be classified into *Myrmarachne*. Their shape of spermathecae resemble some "lesser genera", but they are not *Emertonius*. Chelicerae of males are different from both *Emertonius* and *Myrmarachne* by being short and bent, teeth are concentrated on prominent anterior extension of cheliceral edges. Body has weakly developed ant-likeness, with traces of compression on carapace and abdomen, but petiole is short. Shape of palp corresponds with generalized MYRMARACHNINES, but without developed additional thin loop of spermophor, tibial apophysis is small

[7] Matching of males and females without any proof of real biological relationships, only because of fantasies of an authors, especially improbable when collected in distant localities, is a plague of taxonomic publications, similarly as identification of incidental specimens as conspecific. Conclusions in science require proofs and are subject of repeated checks. (See also case of *"Neaetha" aegyptiaca*" above - Fig. 10L-O).

and bent. They probably should be described as two separate new genera, but available documentation is insufficient for that.

Genera *Padillothorus, Padillothorax* and *Stagetillus*

Remark. Simon (1901-1903: 460) included poorly known genera *Padillothorax* Simon, 1901 and *Stagetillus* Simon, 1885 to a group of genera Bavieae, characterized by long, thin and pointed abdomen, somewhat broader carapace (Fig. 28) and multiple, small teeth on retrolateral margin of chelicerae. Prószyński (1984: 95, 1987: 103-105) revised genitalic characters of three species of these genera and discovered that epigyne of *Padillothorus elegans* Reimoser, 1927 is incompatible with type species of that genus - *P. semiostrinus* Simon, 1901 (compare Figs 28D with 28K-L), so these species are not congeneric. At the same time he has interpreted palps of the latter, together with habitus appearance, as sufficiently similar to the monotypic genus *Stagetillus* (what ultimately appeared wrong) as to transfer *P. semiostrinus* to *Stagetillus* (compare Figs 28F-H with 28A-C). Since data of *P. elegans* were insufficient to reclassify it to other, or describe as a new genus, he left it temporarily in *Padillothorax*.

Separation of a species from its type species is unacceptable in the light of International Code of Zoological Nomenclature and Editor of the previous version of the Spider Catalog - Dr. N. I. Platnick - arbitrarily moved *P. elegans* also to *Stagetillus*, obliterating its specific properties. In this way, accordance with nomenclatorical rules was restituted, for the price of discordance with result of research, and a common sense (see also "imposed impractical nomenclatorical rules" - in Prószyński 2017b: 10). That created, however, a danger of overlooking by the future revident essential differences between "*Stagetilus*" species "*elegans*" and "*opaciceps*". Usual all species of a genus are assumed to resemble their type species, in this case "*opaciceps*", so why to check whether one "recently" revised species is not standing out? We have lost now illusions that classification of Salticidae could be stabilized within mere 60 years of research, present day research discontinuity may last decades, so we should bequest future Salticidologists with as neat knowledge as possible.

The problem is that no new data were added after 1987 revision of these spiders by Prószyński, to place "*elegans*" correctly then, and now. To convey sense of diversity of these genera we have no other choice left as to delimit new genus for "*elegans*" now, in spite of grossly incomplete data. Therefore it is proposed now to: a) reinstate genus *Padillothorax* from synonymy with *Stagetillus*, with two species *P. semiostrinus* Simon, 1901 and *P. taprobanicus* Simon, 1902, b) to describe a new genus *Padillothorus* (note two letter difference from *Padillothorax*) for *Padillothorax elegans* (Reimoser, 1927), c) to leave genus *Stagetillus* as monotypic, with single species *S. opaciceps* Simon, 1885. All in hope that future research will bring new species into each of these genera.

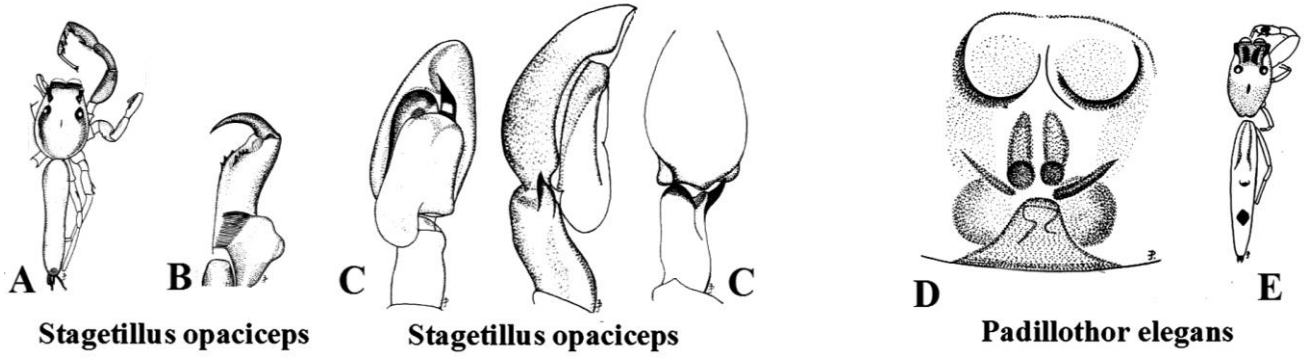


Figure 18-I. For figure caption see under Figure 28-II.

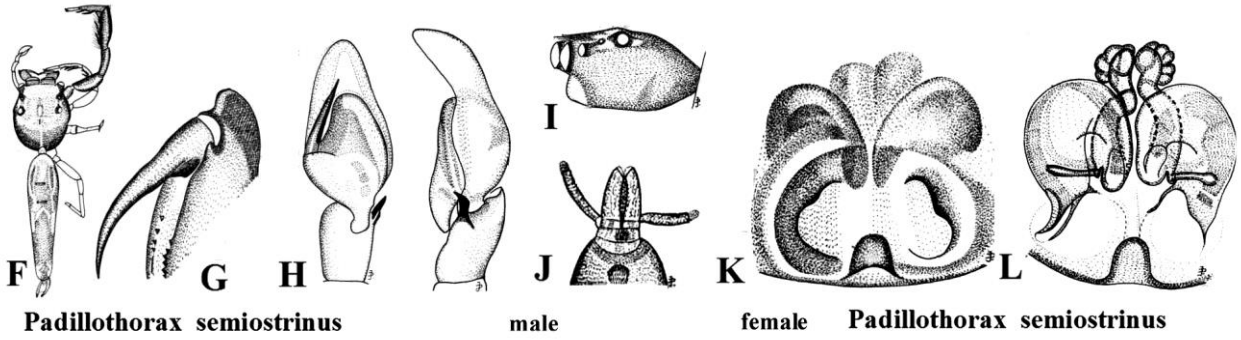


Figure 28-II. Diagnostic characters of genera *Padilothorus*, *Padilothorax* and *Stagetilus*. A-C - *Stagetillus opaciceps* Simon, 1885, **D-E** - *Padillothorus elegans* (Reimoser, 1927) (comb. n.), **F-L** - *Padillothorax semiostrinus* (Simon, 1901).

SOURCES: A-C, F-L - Proszynski 1987. Atlas ...: Zeszyty Naukowe Wyższej Szkoly Rolniczo-Pedagogicznej, Siedlce, 103; 104-105, D-E - Proszynski 1984c: Atlas ...: Zeszyty Naukowe Wyższej Szkoly Rolniczo-Pedagogicznej, Siedlce, 95. By permission.

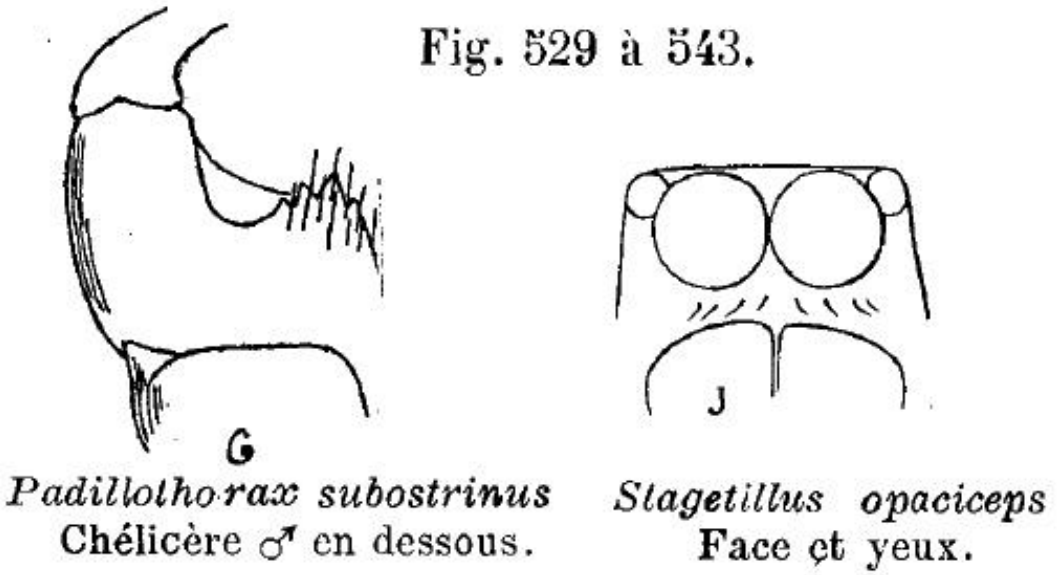


Figure 29. Different philosophy of identification - the main diagnostic tool for genera *Padilothorax* and *Stagetilus* being descriptions in words (see facsimiles on Figs 30 and 31), the diagnostic drawings (above) are merely nice decoration.

SOURCES: Simon, E. (1901a). Histoire naturelle des araignées. 2, 472, f. 538.

Gen. *Padillothorus* Prószyński, 2017 gen. n.
Figures 28D-E

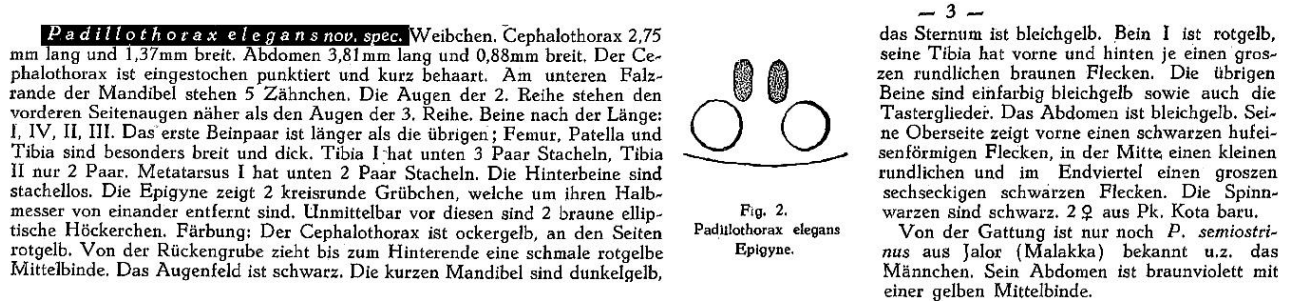
Type species. *Padillithorax elegans* Reimoser, 1927.
Etymology. Name is created as arbitrary combination of letters coined of original name *Padillithor*-[ax] by replacing ending "ax" with "us", indicating relation to the original genus *Padillothorax*. Assumed grammar gender - masculine.
Diagnosis. Key characters are shown on Fig. 28D-E, comparison with similar genera are shown on Figs 28A-C and F-L.
Description. See description of the sole specie known - *Padillithorus elegans* comb. n. (below).
Remarks. Delimitation of the new genus is forced to preserve information on its unique properties in view of forty years lull in research, interference of the WSC Editors into interpretation of results of research is unwarranted.
Distribution. Indonesia – Sumatra.
Composition. Single species *Padillothorus elegans* (Reimoser, 1927).

***Padilothorus elegans* (Reimoser, 1927) comb. n.**

Figures 28D-E

Padillothorax elegans Reimoser, 1927b: 2, f . 2 (Df).
Padillothorax elegans Prószyński, 1984a: 95 (f).
Stagetillus elegans Reimoser, 1927 - the WSC during many years - unwarranted generic transfer.
"Padillothorax" elegans Prószyński, 2017b: 26, f . 56L (f, T to *Padillothorax*, cf. comment of the WSC ver. 18.5 at the genus *Stagetillus*).

Type specimen - *Padillothorax elegans* Reimoser, 1927.
Material. Holotype female "*Padillothorax elegans*: Sumatra , Pakor [Pk. Kotabaru] Jacobson" Coll. Reimoser, NH Museum, Wien. (drawing by Prószyński 1984c: 95).
Diagnosis. Key characters are shown on Fig. 28D-E, comparison with similar genera are shown on Figs 28A-C and F-L.
Description. See facsimile of the original description of *Padillithorax elegans* below (Fig. 30). Female. Body elongate and narrow, with carapace oval, abdomen strikingly narrow and long. Epigyne without distinct sclerotized edge, oval, elongate along longitudinal axis of body, with a pair of anterior shallow grooves and a large posterior median pocket (Fig. 28D-E), does not resemble any species of *Bavia*. No preparation was made of epigyne (to avoid damage to the sole known specimen) internal structures are visible indistinctly, as translucent spots. There are shadows of ducts running laterally from grooves to posterior, globular spermathecaea, a pair of median dark spots with fragments of short ducts (?) and a pair of short, diagonal lines. Male unknown, which makes classification to any group of genera impossible.
Distribution. Indonesia - Sumatra.



— 3 —

Padillothorax elegans nov. spec. Weibchen. Cephalothorax 2,75 mm lang und 1,37mm breit. Abdomen 3,81mm lang und 0,88mm breit. Der Cephalothorax ist eingestochen punktiert und kurz behaart. Am unteren Falzrande der Mandibel stehen 5 Zähnchen. Die Augen der 2. Reihe stehen den vorderen Seitenaugen näher als den Augen der 3. Reihe. Beine nach der Länge: I, IV, II, III. Das erste Beinpaar ist länger als die übrigen; Femur, Patella und Tibia sind besonders breit und dick. Tibia I hat unten 3 Paar Stacheln, Tibia II nur 2 Paar. Metatarsus I hat unten 2 Paar Stacheln. Die Hinterbeine sind stachellos. Die Epigyne zeigt 2 kreisrunde Grübchen, welche um ihren Halbmesser von einander entfernt sind. Unmittelbar vor diesen sind 2 braune elliptische Höckerchen. Färbung: Der Cephalothorax ist ockergelb, an den Seiten rotgelb. Von der Rückengrube zieht bis zum Hinterende eine schmale rotgelbe Mittelbinde. Das Augenfeld ist schwarz. Die kurzen Mandibel sind dunkelgelb, das Sternum ist bleichgelb. Bein I ist rotgelb, seine Tibia hat vorne und hinten je einen groszen rundlichen braunen Flecken. Die übrigen Beine sind einfarbig bleichgelb sowie auch die Tasterglieder. Das Abdomen ist bleichgelb. Seine Oberseite zeigt vorne einen schwarzen hufeisenförmigen Flecken, in der Mitte einen kleinen rundlichen und im Endviertel einen groszen sechseckigen schwarzen Flecken. Die Spinnwarzen sind schwarz. 2 ♀ aus Pk. Kota baru.

Fig. 2. Padillothorax elegans Epigyne.

Von der Gattung ist nur noch *P. semiostrinus* aus Jalor (Malakka) bekannt u.z. das Männchen. Sein Abdomen ist braunviolett mit einer gelben Mittelbinde.

Figure 30. Facsimile of the original description of *Padillothorax elegans* by Reimoser (1927: 2, f. 2) (Note modern documentation of epigyne, resembling some publications of the last two decades).

Gen. *Padillothorax* Simon, 1901

Figures 28F-L

Type species - *Padillothorax semiostrinus* Simon, 1901**.**
Diagnosis. See description of the type species and Fig. 28F-L.
Composition. *Padillothorax semiostrinus* Simon, 1901 and *P. taprobanicus* Simon, 1902d.
Remarks. There are nothing new to add to the descriptions of both species - *P. semiostrinus* and *P. taprobanicus* (see facsimiles - Figs 31 and 31). Revival of the genus is forced to preserve information on its unique properties in view of forty years lull in research, interference of the WSC Editors into interpretation of results of research is unwarranted.

***Padillothorax semiostrinus* Simon, 1901**

Figures 28F-L

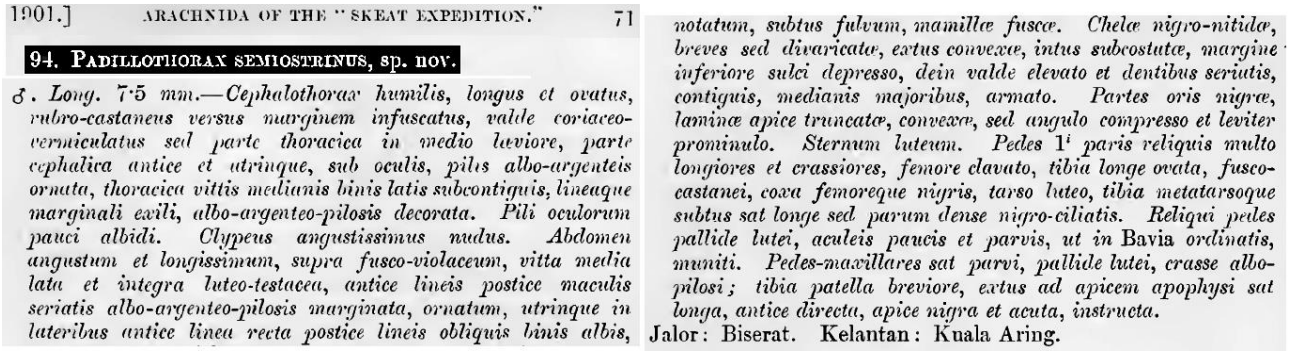
Padillothorax semiostrinus Simon, 1901a: 471, f . 535 (m).
Padillothorax semiostrinus Simon, 1901k: 71 (Dm).
Stagetillus semiostrinus Prószyński, 1987: 104-105 (mf).
Stagetillus semiostrinus Prószyński, 2017b: 129, f . 56L (f).

Material. "15151 *Padilloth. semiostrinus* ES. Pn. malayana (Cb.m.)" coll. Simon, NH Museum, Paris. Proszynski 1987. Atlas ...: 104-105**.**

Diagnosis. Key characters are shown on Fig. 28F-L, comparison with similar genera is shown on Fig. 28A-D.

Description. Identifiable by unusual membranous copulatory ducts, large and very broad, semi arching in anterior half of epigyne (Fig. 28L), followed by much thinner straight portion running anterior-wards, ending by small spermathecae at the anterior end of epigyne. Epigyne externally broad oval, with small posterior medial pocket (Fig. 28F). Embolus lateral to anterior half of bulbus, relatively thick (Fig. 28H). Unusual protuberance with black, short setae in front of spinnerets, ventrally on female abdomen (Fig. 28J). Genital characters mentioned above and illustrated on Figs 28K-L. Body shape (Fig. 28F) resembles genera included by Simon (1901-03) into Bavieae group, but that is not confirmed by other characters. Broad and large membranous ducts occur also in genera *Mogrus* and *Philaeus*, but differently shaped, and their palps are entirely different.

Distribution. Malaysia: Malay Peninsula.



1901.] ARACHNIDA OF THE "SKEAT EXPEDITION." 71

94. PADILLOTHORAX SEMIOSTRINUS, sp. nov.

♂. *Long.* 7·5 *mm.*—*Cephalothorax humilis, longus et ovatus, rubro-castaneus versus marginem infuscatus, valde coriaceo-verniculatus sed parte thoracica in medio leviore, parte cephalica antice et utrinque, sub oculis, pilis albo-argenteis ornata, thoracica vittis medianis binis latis subcontiguis, lineaque marginali exili, albo-argenteo-pilosis decorata. Pili oculorum pauci albidi. Clypeus angustissimus nudus. Abdomen angustum et longissimum, supra fusco-violaceum, vitta media lata et integra luteo-testacea, antice lineis postice maculis seriatis albo-argenteo-pilosis marginata, ornatum, utrinque in lateribus antice linea recta postice lineis obliquis binis albis, notatum, subtus fulvum, mamillæ fuscæ. Chelæ nigro-nitidæ, breves sed divaricatæ, extus convexæ, intus subcostutæ, margine inferiore sulci depresso, dein valde elevato et dentibus seriatis, contiguis, medianis majoribus, armato. Partes oris nigræ, laminæ apice truncatæ, convexæ, sed angulo compresso et leviter prominulo. Sternum luteum. Pedes* 1^{i} *paris reliquis multo longiores et crassiores, femore clavato, tibia longe ovata, fusco-castanei, coxa femoreque nigris, tarso luteo, tibia metatarsoque subtus sat longe sed parum dense nigro-ciliatis. Reliqui pedes pallide lutei, aculeis paucis et parvis, ut in* Bavia *ordinatis, muniti. Pedes-maxillares sat parvi, pallide lutei, crasse albo-pilosi; tibia patella breviore, extus ad apicem apophysi sat longa, antice directa, apice nigra et acuta, instructa.*

Jalor: Biserat. Kelantan: Kuala Aring.

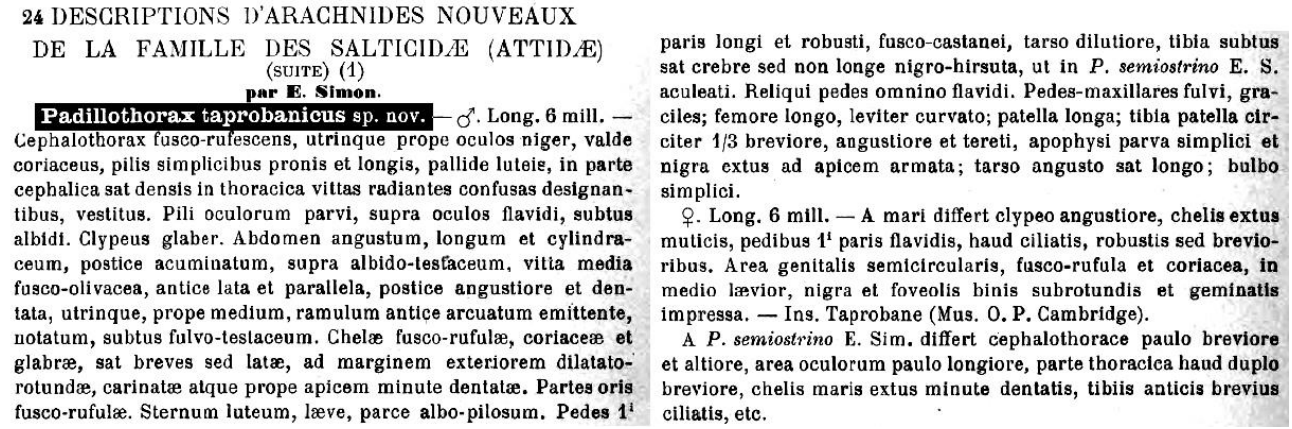
Figure 31. Facsimile of the original description by Simon (1901k: 71) of *Padillothorax semiostrinus* from Malaysia: Peninsular Malaya.

Padillothorax taprobanicus Simon, 1902

Padillothorax taprobanicus Simon, 1902d: 24 (Dmf).
Stagetillus taprobanicus World Spider Catalog - all version , 18.5 included
"Padillothorax" taprobanicus Prószyński, 2017b: 26 (T **to** *Padillothorax*, cf. comment at the genus *Stagetillus*).

Remarks. *Padillothorax taprobanicus* was never revised and original description by Simon is not sufficient for its identification, but since its specimens are kept in three NH Museums (Prószyński J. 1971b) there is a chance of future revision. Until that, there is no reason to change the original placement.

Distribution. Sri Lanka.



24 DESCRIPTIONS D'ARACHNIDES NOUVEAUX

DE LA FAMILLE DES SALTICIDÆ (ATTIDÆ)

(SUITE) (1)

par E. Simon.

Padillothorax taprobanicus sp. nov. — ♂. Long. 6 mill. — Cephalothorax fusco-rufescens, utrinque prope oculos niger, valde coriaceus, pilis simplicibus pronis et longis, pallide luteis, in parte cephalica sat densis in thoracica vittas radiantes confusas designantibus, vestitus. Pili oculorum parvi, supra oculos flavidi, subtus albidi. Clypeus glaber. Abdomen angustum, longum et cylindraceum, postice acuminatum, supra albido-testaceum, vitta media fusco-olivacea, antice lata et parallela, postice angustiore et dentata, utrinque, prope medium, ramulum antice arcuatum emittente, notatum, subtus fulvo-testaceum. Chelæ fusco-rufulæ, coriaceæ et glabræ, sat breves sed latæ, ad marginem exteriorem dilatato-rotundæ, carinatæ atque prope apicem minute dentatæ. Partes oris fusco-rufulæ. Sternum luteum, læve, parce albo-pilosum. Pedes 1^{i} paris longi et robusti, fusco-castanei, tarso dilutiore, tibia subtus sat crebre sed non longe nigro-hirsuta, ut in *P. semiostrino* E. S. aculeati. Reliqui pedes omnino flavidi. Pedes-maxillares fulvi, graciles; femore longo, leviter curvato; patella longa; tibia patella circiter 1/3 breviore, angustiore et tereti, apophysi parva simplici et nigra extus ad apicem armata; tarso angusto sat longo; bulbo simplici.

♀. Long. 6 mill. — A mari differt clypeo angustiore, chelis extus muticis, pedibus 1^{i} paris flavidis, haud ciliatis, robustis sed brevioribus. Area genitalis semicircularis, fusco-rufula et coriacea, in medio lævior, nigra et foveolis binis subrotundis et geminatis impressa. — Ins. Taprobane (Mus. O. P. Cambridge).

A *P. semiostrino* E. Sim. differt cephalothorace paulo breviore et altiore, area oculorum paulo longiore, parte thoracica haud duplo breviore, chelis maris extus minute dentatis, tibiis anticis brevius ciliatis, etc.

Figure 32. Facsimile of the original description by Simon (1901k: 24) of *Padillothorax taprobanicus* from Sri Lanka.

Gen. *Stagetillus* Simon, 1885

Figures 25I and 28A-C

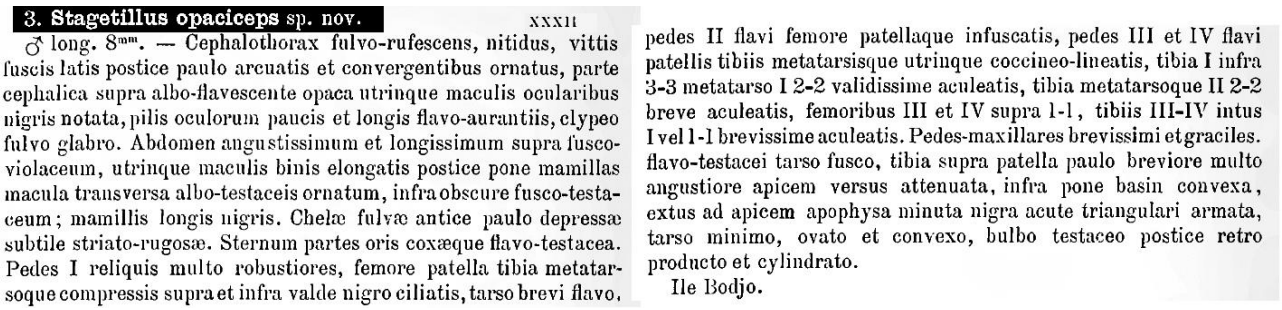
Type species *Stagetillus opaciceps* Simon, 1885**.**
Remarks. Genus placed by Simon (1901-1903: 460) in the Bavieae grup of genera, characterized by long, thin body with somewhat broader carapace (Figs 28A) and multiple, small teeth on retrolateral margin of chelicerae, this classification seem to be confirmed by palp structure (Figs 28C) resembling somewhat type species of *Bavia*. But results of preliminary studies are not sufficient for synonymy of these genera.
Diagnosis and description - see type species below. F. & J. Murphy described color pattern and a photo (Fig. 25I) of supposedly this species, taken at Genting, Peninsular Malaysia, however identification of this specimen is not confirmed by palp documentation, body length is given as 7 mm.
Composition and distribution: only single species *Stagetillus opaciceps* Simon, 1885, described from Bojo Is., West off Sumatra.

Stagetillus opaciceps Simon, 1885

Figures 25I and 28A-C

Stagetillus opaciceps Simon, 1901a: 472, f. 538.
Stagetillus opaciceps Prószyński, 1987: 103 (m).
Stagetillus opaciceps Prószyński, 2017b: 26, f. 11T (m).

Material. Type specimen: Male "15.978 *Stag. opaciceps* ES. Ins. Bodjo (Wey.)" coll. Simon, NH Museum, Paris. Drawn by Proszynski 1987. Atlas...: 103. [Pulau Bojo is remote small island, about 200 km west northwest of the port of Padang in western Sumatra, covered by well-preserved primary jungle – https://www.unc.edu/~rowlett/lighthouse/photos/SoutheastAsia/PulauBojoIDSU.htm].
Diagnosis. Key characters are shown on Fig. 28A-C, comparison with similar genera on Fig. 28D-L.
Description. Body coloration light green, shown in the photo of by F. and J. Murphy (2000: 266) (Fig. 25I). Length of body 7 mm . Palp (Figs 28A-C) resembles some *Bavia* (for instance *B. aericeps*) with body shape and proportions comparable, but abdomen slightly narrower in the median part, while in males of *Bavia* abdomen is gradually tapering posterior-wards, with end pointed sharp.
For details see facsimile (Fig. 33) below.



3. **Stagetillus opaciceps** sp. nov. XXXII

♂ long. 8mm. — Cephalothorax fulvo-rufescens, nitidus, vittis fuscis latis postice paulo arcuatis et convergentibus ornatus, parte cephalica supra albo-flavescente opaca utrinque maculis ocularibus nigris notata, pilis oculorum paucis et longis flavo-aurantiis, clypeo fulvo glabro. Abdomen angustissimum et longissimum supra fusco-violaceum, utrinque maculis binis elongatis postice pone mamillas macula transversa albo-testaceis ornatum, infra obscure fusco-testaceum; mamillis longis nigris. Chelæ fulvæ antice paulo depressæ subtile striato-rugosæ. Sternum partes oris coxæque flavo-testacea. Pedes I reliquis multo robustiores, femore patella tibia metatarsoque compressis supra et infra valde nigro ciliatis, tarso brevi flavo, pedes II flavi femore patellaque infuscatis, pedes III et IV flavi patellis tibiis metatarsisque utrinque coccineo-lineatis, tibia I infra 3-3 metatarso I 2-2 validissime aculeatis, tibia metatarsoque II 2-2 breve aculeatis, femoribus III et IV supra 1-1, tibiis III-IV intus I vel 1-1 brevissime aculeatis. Pedes-maxillares brevissimi et graciles. flavo-testacei tarso fusco, tibia supra patella paulo breviore multo angustiore apicem versus attenuata, infra pone basin convexa, extus ad apicem apophysa minuta nigra acute triangulari armata, tarso minimo, ovato et convexo, bulbo testaceo postice retro producto et cylindrato.

Ile Bodjo.

Figure 33. Facsimile of the original description of *Stagetilus opaciceps* by Simon (1885: 35), from Bodjo Is. W off Sumatra.

A few more corrections to the WSC

Looking at list of species from my papers of 2016 and 2017 reported in the WSC I have found 13 misleading interventions by the Editors, which I consider unacceptable. That is not much, on the background of several hundreds of species listed correctly, and a few other corrections which I am not contesting. None the less I express my reservations below. The purpose of "pragmatic classification" is to help in identifications of genera and to explain presumable relationships between biological entities, such as species and genera. If some of my nomenclatorical solutions do not agree with bureaucratic naming regulations, cultivated by the WSC, they can be re-worded or differently formulated, but their biological meaning cannot be discarded for nomenclatorical interpretations only.

A. Interventions concerning species in the paper Prószyński (2017a).

1. *"Oningis" armatus* and *"Oningis" crassus* returned by the WSC to *Jollas* with comment: "Prószyński, 2017: 40 'revalidated' the genus *Oningis* for three species, but without its type species *Oningis pompatus"*.

Answer: Prószyński did not revalidated "Oningis" but called attention that these two species belong to different groups of genera (EUOPHRYINES) than their supposed type *Jollas pompatus* (SITTICINES) and therefore are pending revision. Editors of the WSC (or whoever suggested that) did not understand meaning of relevant documentation in Prószyński 2016a and arguments given in 2017a: 40.

B. **Interventions concerning species in the paper** Prószyński, J. (2017b)**.**

2 . Donoessus kerinci, D. nigriceps, D. striatus returned by the WSC to *Colyttus* beacuse "*Donoessus* not revalidated" - is correction of morphologically unjustified transfer of these species to *Colyttus* by Zhang & Maddison (2015: 31) ("pragmatic classification" does not accept changes based on supposed gene differences if they are not congruent with morphological premises). As genus *Donoessus* never ceased to exist, but was only misinterpreted, there is no need to revalidate it. I do not think that bureaucratic interpretations of the WSC can prevail over morphological documentation. Editors of the WSC (or whoever suggested that) did not understand meaning of relevant documentation in Prószyński 2016a and 2017b: Fig. 38P, 39P in comparison with 3Q and 39Q,

3. *Siloca campestrata* returned to *Coryphasia*, beacuse "*Siloca* not revalidated" - is correction of morphologically unjustified transfer - as above. Editors of the WSC (or whoever suggested that) did not understand meaning of relevant documentation in Prószyński 2016a and 2017b: 74, Fig. 38L in comparison with 38J.

4. *Dinattus heros* returned to *Coryphasia*, beacuse "*Dinattus* not revalidated" - is correction of morphologically unjustified transfer - as above. Editors of the WSC (or whoever suggested that) did not understand meaning of relevant documentation in Prószyński 2016a and 2017b: Fig. 36J in comparison with 36S and 38J.

5. *Junxattus*[8]* daiqini* returned to *Laufeia*, beacuse "*Junxattus* not revalidated" - is correction of morphologically unjustified transfer - as above. Editors of the WSC (or whoever suggested that) did not understand meaning of relevant documentation in Prószyński 2016a and 2017b: 74-75, Fig. 38B, 39J compared with 38A, 39K.

6. *Orcevia eucola, O. keyserlingi, O. kuloni, O. proszynskii* returned to *Laufeia*, beacuse "*Orcevia* not revalidated" - is correction of morphologically unjustified transfer - as above. Editors of the WSC (or whoever suggested that) did not understand meaning of relevant documentation in Prószyński 2016a and 2017b: 74-75, f. 38C and 39L in comparison with 38A, 39K.

7. *Lechia minuta, L. squamata* returned to *Laufeia* - is correction of morphologically unjustified transfer - as above, beacuse "*Lechia* not revalidated, therefore assigned to *Laufeia*, of which *Lechia* is a synonym" - synonymy of *Lechia* with *Laufeia* was incompetent opinion of Logunov, unacceptable because of misinterpretation of existing morphological documentation and lack of any arguments. Editors of the WSC (or whoever suggested that) did not understand meaning of relevant documentation in Prószyński 2016a and 2017b: 74-75, Fig. 38A1 and 32L compared with 38A and 32K.

Notice

Permissions for usage illustrations in this paper are displayed in the Internet "Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b) http://www.peckhamia.com/salticidae/permision.php. Taxonomic references copied from the World Spider Catalog ver. 18.5. By courtesy.

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Attention: only selected references are listed here, other references (including authors of species and genera) can be found in the Internet "Monograph of Salticidae (Araneae) of the World 1995-2016" Prószyński (2016a, b) at http://www.peckhamia.com/salticidae/, or in the WSC at http://www.wsc.nmbe.ch/. References to illustrations are listed in each captions.

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[8] Genus *Junxattus* was named in honor of Dr Junxia Zhang in recognition of her description and documentation of over 200 species of Salticidae, that dedication was not explained in the original description because of her objections, which I do not feel obliged to follow now.

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