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Jerzego, a new hisponine jumping spider from Borneo (Araneae: Salticidae)

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Abstract

A new genus and species of hisponine jumping spider from Sarawak, *Jerzego corticicola* Maddison **sp. nov.** are described, representing one of the few hisponine jumping spiders known from Asia, and the only whose male is known. Although similar to the primarily-Madagascan genus *Hispo* in having an elongate and flat body, sequences of 28s and 16sND1 genes indicate that *Jerzego* is most closely related to *Massagris* and *Tomomingi*, a result consistent with morphology. Females of *Jerzego* and other genera of Hisponinae were found to have an unusual double copulatory duct, which appears to be a synapomorphy of the subfamily. Two species are transferred from *Hispo*, *Jerzego bipartitus* (Simon) comb. nov. and *Jerzego alboguttatus* (Simon) comb. nov. Diagnostic illustrations and photographs of living spiders are provided.

Key words: Araneae, Salticidae, Hisponinae, new genus, new species, jumping spider, molecular phylogeny, Borneo

Introduction

Hisponine jumping spiders are remarkable for a distinctive constriction behind their small eyes (Wanless 1981, Prószyński & Żabka 1983; Wesołowska 1993; Szűts & Scharff 2009), their phylogenetic placement as sister group to the Salticoida (Maddison & Needham 2006; Bodner & Maddison 2012), and for being relatively common in Madagascar and as fossils in Baltic amber (Prószyński & Żabka 1983; Wunderlich 2004). Recent work has begun to reveal the diversity in extant hisponines (Wesołowska 1993; Szűts & Scharff 2009), but many species remain to be discovered. Although they are known through much of Africa and nearby Indian Ocean islands, only a single adult specimen has been reported from Asia, a female from Sri Lanka (Wanless 1981). On a recent expedition to Borneo a male and female hisponine were collected in Sarawak. Here we describe this as a new genus and species, *Jerzego corticicola* Maddison. We also present a molecular phylogeny of hisponines to demonstrate the placement of this species.

Material and methods

Photographs of living specimens were taken with a Pentax Optio 33WR digital camera. For the macro capability, a small lens was glued to it. Preserved specimens were examined under both dissecting microscopes and a compound microscope with reflected light. Drawings were made with a drawing tube on a Nikon ME600L compound microscope. Photographs of cleared epigyna were taken under this same microscope with a Nikon D7000 camera.

Terminology is standard for Araneae. All measurements are given in millimeters. Carapace length was measured from the base of the anterior median eyes not including the lenses to the rear margin of the carapace medially; abdomen length to the end of the anal tubercle. Specimens are deposited in the Spencer Entomological Collection at the Beaty Biodiversity Museum, University of British Columbia (UBC-SEM), except for the molecular voucher d404 (*Hispo macfarlanei* male), which is deposited in the California Academy of Sciences.

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References

Bodner, M.R. & Maddison, W.P. (2012) The biogeography and age of salticid spider radiations (Araneae: Salticidae). *Molecular Phylogenetics and Evolution*, 65, 213–240.
http://dx.doi.org/10.1016/j.ympev.2012.06.005

Katoh, K., Kuma, K., Toh, H. & Miyata, T. (2005) MAFFT version 5: improvement in accuracy of multiple sequence alignment. *Nucleic Acids Research*, 33 (2), 511–518.
http://dx.doi.org/10.1093/nar/gki198

Katoh, K., Misawa, K., Kuma, K. & Miyata, T. (2002) MAFFT: a novel method for rapid multiple sequence alignment based on fast Fourier transform. *Nucleic Acids Research*, 30, 3059–3066.
http://dx.doi.org/10.1093/nar/gkf436

Maddison, W.P., Bodner, M.R. & Needham, K. (2008) Salticid spider phylogeny revisited, with the discovery of a large Australasian clade (Araneae: Salticidae). *Zootaxa*, 1893, 49–64.

Maddison, W.P. & Needham, K. (2006) Lapsiines and hisponines as phylogenetically basal salticid spiders (Araneae: Salticidae). *Zootaxa*, 1255, 37–55.

Prószyński, J. & Żabka, M. (1983) Genus *Tomocyrba* (Aranei, Salticidae) – hypothetic survivor of the amber fauna. Systematic study with description of four new species. *Acta zoologica cracoviensia*, 26, 563–578.

Simon, E. (1903a) *Histoire naturelle des araignées*. *Vol. 2*. Roret, Paris, 412 pp. [pp. 669–1080]

Simon, E. (1903b) Etudes arachnologiques. 34e Mémoire. LIV. Arachnides recueillis à Sumatra par M. J. Bouchard. *nnales de la Société Entomologique de France,* 72, 301–310.

Stamatakis, A. (2006a) RAxML-VI-HPC: Maximum likelihood-based phylogenetic analyses with thousands of taxa and mixed models. *Bioinformatics*, 22, 2688–2690.
http://dx.doi.org/10.1093/bioinformatics/btl446

Stamatakis, A. (2006b) *Phylogenetic models of rate heterogeneity: A high performance computing perspective*. Proceedings of 20th IEEE/ACM International Parallel and Distributed Processing Symposium (IPDPS2006), High Performance Computational Biology Workshop, Rhodos, Greece. [the total page number unkown]
http://dx.doi.org/10.1109/ipdps.2006.1639535

Szűts, T. & Scharff, N. (2009) Revision of the living members of the genus *Tomocyrba* Simon, 1900 (Araneae: Salticidae). *Contributions to Natural History*, 12, 1337–1372

Wanless, F.R. (1981) A revision of the spider genus *Hispo* (Araneae: Salticidae). — *Bulletin of the British Museum of Natural History (Zoology)*, 41, 179–198.

Wesołowska, W. (1993) A revision of the spider genus *Massagris* Simon, 1900 (Araneae, Salticidae). *Genus,* 4, 133–141.

Wesołowska, W. & Haddad, C.R. (2013) New data on the jumping spiders of South Africa (Araneae: Salticidae). *African Invertebrates*, 54 (1), 177–240.
http://dx.doi.org/10.5733/afin.054.0111

Wunderlich, J. (2004) Fossil spiders in amber and copal. Conclusions, revisions, new taxa and family diagnoses of fossil and extant taxa. *Beiträge zur Araneologie*, 3AB, 1–1908.

Zhang, J.X. & Maddison, W.P. (2013) Molecular phylogeny, divergence times and biogeography of spiders of the subfamily Euophryinae (Araneae: Salticidae). *Molecular Phylogenetics and Evolution*, 68, 81–92.
http://dx.doi.org/10.1016/j.ympev.2013.03.017