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The stone huntsman spider genus *Eusparassus* (Araneae: Sparassidae): systematics and zoogeography with revision of the African and Arabian species

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Abstract

An overview on the systematics of the stone huntsman spider genus *Eusparassus* Simon, 1903 and an identification key to the known species are presented. Six species-groups are proposed: the *walckenaeri* group (3 species, Eastern Mediterranean to Arabia and parts of North-Eastern Africa), *dufourii* group (8 species, Iberian Peninsula to parts of North-western Africa), *vestigator* group (3 species, Central to Eastern Africa and an isolated area in India), *jaegeri* group (4 species, Southern and South-Eastern Africa), *tuckeri* group (2 species, South-Western Africa) and *doriae* group (7 species, Middle East to Central and South Asia). Two species, *E. pontii* Caporiacco, 1935 and *E. xerxes* (Pocock, 1901) could not be placed

in any of the above groups. The species from Africa and Arabia are revised. The following ten species are re-described: *Eusparassus barbarus* (Lucas, 1846), *E. atlanticus* Simon, 1909 **stat. nov.**, *E. syrticus* Simon, 1909, *E. oraniensis* (Lucas, 1846), *E. letourneuxi* (Simon, 1874), *E. fritschi* (Koch, 1873) **stat. rev.**, *E. walckenaeri* (Audouin, 1826), *E. vestigator* (Simon, 1897) **comb. nov.**, *E. laevatus* (Simon, 1897) **comb. nov.** and *E. tuckeri* (Lawrence, 1927) **comb. nov.** The latter three species are transferred from *Olios* Walckenaer, 1837. Seven new species are described: *Eusparassus arabicus* **spec. nov.** (male, female) from Arabian Peninsula, *E. educatus* **spec. nov.** (male, female) from Namibia, *E. reverentia* **spec. nov.** (male, female) from Burkina Faso and Nigeria, *E. jaegeri* **spec. nov.** (male, female) from South Africa and Botswana, *E. jocquei* **spec. nov.** (male, female) from Zimbabwe, *E. borakalalo* **spec. nov.** (female) from South Africa and *E. schoemanae* **spec. nov.** (male, female) from South Africa and Namibia. Three taxa, *E. dufouri maximus* Strand, 1906 **syn. nov.**, *E. rufobrunneus* Caporiacco, 1941 **syn. nov.** and *Olios furcatus* Lawrence, 1927 **syn. nov.** are proposed as junior synonyms of *E. oraniensis*, *E. vestigator* **comb. nov.** and *E. tuckeri* **comb. nov.** respectively. Males of *E. atlanticus* **stat. nov.** and *E. fritschi* **stat. rev.** are described for the first time as in the female of *E. vestigator* **comb. nov.** Neotypes are designated for *E. barbarus*, *E. oraniensis* and *E. letourneuxi* (all from Algeria). The male and female of *Cercetius perezi* Simon, 1902, which was known only from the immature holotype, are described here for the first time. This resulted in recognizing the monotypic and little used generic name *Cercetius* Simon, 1902 as a synonym of the widely used name *Eusparassus*. Nearly all the species are illustrated for the first time. *Eusparassus concolor* Caporiacco, 1939 is transferred to *Olios* and the replacement name *Olios quesitio* is proposed because of secondary homonymy. For the majority of the species, new geographical records are presented. The systematics and zoogeography of the currently known species and species groups are discussed. A brief note on the copulation process of *E. walckenaeri* is presented.

Key words: taxonomy, Eusparassinae, *Cercetius*, identification key, copulation process, evolutionary hypothesis

Introduction

Members of the spider genus *Eusparassus* Simon, 1903 (Sparassidae: Eusparassinae) are among the most conspicuous arachnid predators in arid and semiarid deserts of Africa and most parts of Eurasia. As these spiders inhabit stony habitats and build their retreats underside of large flat stones and also in the crevices of rocks (Levy 1989, Gabriel 2011), the common name “stone huntsman spiders” is proposed here. They are small to very large huntsman spiders distributed in Africa and Eurasia. The fossil stone huntsman spider, *E. crassipes* (Koch & Berendt, 1854) from Eocene era found in Northern Europe amber fossil, is dated back to approximately 50 Ma (Dunlop *et al.* 2011). Recently, Moradmand and Jäger (2012a) revised the Eurasian representatives (excluding Arabia) and provided an historical review of the systematics of the genus. They provided diagnostic characters of the genus *Eusparassus* and recognized 13 valid species in Europe, the Middle East, and Central and South Asia. Before that, the genus had never been revised with the exception of a brief review by Levy (1989) who redescribed *E. walckenaeri* (sub *Sparassus*) and mentioned some diagnostic characters (e.g. female vulva and colouration of the ventral opisthosoma) for species identification, along with a revision of some Middle Eastern Sparassidae.

The systematic position of *Eusparassus* within Sparassidae remains vague, since the majority of Sparassidae genera have not yet been revised. Simon (1897a) placed *Eusparassus* (sub *Sparassus*) in his proposed “Sparasseae” group. Later, Simon (1903) moved the genus to another group named “Deleneae” along with several other genera. Simon’s classifications were based on somatic characters, e.g. the arrangement of eyes. Järvi (1912, 1914) was the first who applied characters of the copulatory organs (exclusively female) to classify Sparassidae. He proposed the subfamily Eusparassinae Järvi, 1912 (sub “Eusparaseae”) for *Eusparassus* including the genera: *Pseudomicrommata* Järvi, 1914 and *Rhitymna* Simon, 1897. Of these two genera, only the African endemic *Pseudomicrommata*, known as the grass huntsman spider, has some kind of similarities to *Eusparassus*. Jäger (2003) proposed that *Rhitymna* represent a different phylogenetic lineage in Asia. Jäger and Kunz (2003) in a congress abstract proposed some diagnostic characters for Eusparassinae and assumed that a number of African endemic genera could be placed in this subfamily (e.g. *Arandisa* Lawrence, 1938).

Huntsman spiders in Africa and Arabia have received little taxonomic attention (Jäger & Kunz 2005). Despite having great diversity and living in various habitats, the majority of the African huntsman spiders remained unexplored compared to their relatives in other parts of the world. Dippenaar-Schoeman and Jocqué (1997) gave an historical review of systematic research into the huntsman spiders of Africa (sub Heteropodidae). Jäger and Kunz (2005) provided an overview of the known genera of the huntsman spiders and presented a generic identification key for Africa and nearby regions. They listed 33 nominal genera, and of these, only two have been revised to date: the Afrotropical genus *Palystes* L. Koch, 1875 (by Croeser 1996) and the Afro-Asian genus *Cebrennus* Simon,