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New species of *Helpis* Simon, 1901 from Australia (Araneae: Salticidae), with a new definition of the genus

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Abstract

Five new species of *Helpis* Simon, 1901 from Queensland and New South Wales are diagnosed, described and illustrated: *H. foelixi* sp. nov. (♂); *H. merriwa* sp. nov. (♀); *H. staregai* sp. nov. (♀); *H. wanlessi* sp. nov. (♀) and *H. wisharti* sp. nov. (♀). The male of *H. kenilworthi* Żabka, 2002 is described for the first time, *Helpis gracilis* Gardzińska, 1996 is illustrated to show intraspecific variation and *Astia colemani* Wanless, 1988 is redescribed and transferred to the genus *Helpis*. Remarks on relationships of described species are provided and maps with distributional records are given.

Key words: jumping spiders, Astieae, new species, taxonomy, biogeography

Introduction

The genus *Helpis* was proposed by Simon (1901) for *H. minitabunda* (L. Koch), the only representative known at that time. Eight years later *H. occidentalis* was described (Simon 1909) and until the mid-nineties of the last century, the genus was considered very small and distributed in eastern Australia. The intense biodiversity surveys, conducted over the last decades, provided much distributional data and resulted in discovering several new species (Gardzińska 1996, Patoleta & Żabka 1999, Żabka 2002, Gardzińska & Żabka 2010). To this day, seven species are known from eastern coastal areas, small offshore islands, Tasmania, Papua New Guinea and New Zealand. Here we describe five additional species and transfer one species from the genus *Astia*. We also analyse the relationships and propose a verified diagnosis for the entire genus.

Material and methods

The specimens came from the collections of the Australian Museum, Sydney (AMS) and the Queensland Museum, Brisbane (QMB). The examination methods are as described earlier (Żabka 1991). Photographs were taken with a Nikon D5100 camera and Nikon SMZ1000 stereomicroscope, and digitally processed with ZoomBrowser and HeliconFocus software. Maps with distributional records were generated on the basis of species' bioclimatic envelope, using the boxcar version of BioClim (Richardson *et al.* 2006) available in BioLink version 2.0 (Shattuck & Fitzsimmons 2002).

The species in this work are grouped according to their relationships. Abbreviations used: AEW: anterior eye row width, ag: accessory gland, AME: anterior medial eyes, AL: abdomen length, ALE: anterior lateral eyes, AW: abdomen width, cd: copulatory duct, cf: cymbial flange, CH: cephalothorax height, CL: cephalothorax length, co: copulatory opening, CW: cephalothorax width, e: embolus, EFL: eye field length, L: leg, mg: median guide, p: epigynal pouch, PEW: posterior eye row width, PLE: posterior lateral eyes, PME: posterior medial eyes, rta: retrolateral tibial apophysis, s: spermatheca, t: tegulum, tl: posterior tegular lobe, tr: transverse epigynal ridge.

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