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The strange case of *Laetesia raveni* n. sp., a green linyphiid spider from Eastern Australia with a preference for thorny plants (Araneae, Linyphiidae)

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Abstract

Laetesia raveni n. sp. (Araneae, Linyphiidae), is described based on specimens collected in New South Wales and Queensland (Australia). This new linyphiid species is of bright green colour, and it seems to have a preference to build its webs almost exclusively on two plant species, namely *Calamus muelleri* Wendland (Arecaceae) and *Solanum inaequilaterum* Domin, (Solanaceae), both of them densely covered with thorns. The epigynal morphology of *Laetesia raveni* n. sp. varies intraspecifically. Live individuals and several of their dome-shaped sheet webs are illustrated.

Key words: Coloration, Genitalia, Natural History, Phylogeny, Spider–plant associations, Web architecture

Introduction

With the exception of a few revisionary studies (e.g., van Helsdingen 1972) and a small number of isolated species descriptions embedded in non-revisionary works (e.g., Wunderlich 1976) the Australian linyphiid fauna remains largely undescribed. During the last two decades we have been able to study and collect linyphiids in several areas of Australia. Some of these species, such as *Australolinyphia remota* Wunderlich, 1976, have been included in our phylogenetic analyses (e.g., Arnedo *et al.* 2009). In this paper we describe a new species of *Laetesia* that we first collected more than a decade ago, although adult males were collected for the first time only in 2011. We believe that the most sound and efficient approach to taxonomy is the monographic one, in which a taxonomic treatment focuses on a lineage, produces parallel species descriptions of all the members of the clade and summarizes all relevant information within a phylogenetic context. Although in this paper we describe a single species of a genus that is largely unstudied in Australia, we think that this new species is notable on several counts and illustrates biological features that are highly unusual, if not unique, in linyphiid spiders. This new linyphiid species is of bright green colour, seems to build its sheet webs almost exclusively on two plant species and exhibits remarkable intraspecific epigynal variation. Most of the 24 known species of *Laetesia* have been described (or redescribed) recently and have been well illustrated, so despite the absence of a revisionary context we believe that these unusual features warrant the description of this new species. The *Laetesia* species described so far are mainly distributed in New Zealand (15 species) and Australia (seven species), but there are also species reported from Thailand (one species) and the Vanuatu (New Hebrides, one species). The Australian fauna includes three species from Western Australia, two from Southern Australia and two from New South Wales, and all of them are known from single or very few specimens. No *Laetesia* species has been recorded or described from Queensland, and the two species so far described from New South Wales are geographically far away from the known localities of the new species described here. *Laetesia werburdi* (Urquhart, 1890) is known after a single female collected in the Jenolan Caves of the Blue Mountains, west of Sydney. *Laetesia forsteri* Wunderlich, 1976 is also known after a single female, collected north of Sydney, in Ku-Ring-Gai Chase National Park.

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