



The spider *Micrathena shealsi* Chickering, 1960 (Araneae, Araneidae): description of the male, with new data on its geographic distribution

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Abstract

The male of *Micrathena shealsi* Chickering, 1960 is described and illustrated for the first time. New geographic records of this species are provided, revealing that *M. shealsi* inhabits the higher altitudinal belts (1000–3000 m) of the Yungas ecoregion (mountain forests and rainforests from Argentina). Male specimens were observed in the same web of females, in most cases on the upper periphery hanging by a silk line.

Key words: Argentina, orb-weaver spider, spider taxonomy, Yungas ecoregion

Introduction

The spider genus *Micrathena* Sundevall, 1833 (Araneidae) comprises 106 species most of them occurring in the Neotropical region (only a few species extend their ranges into the Nearctic region, like *M. funebris* (Marx 1898), *M. gracilis* (Walckenaer 1805), *M. mitrata* (Hentz 1850), and *M. sagittata* (Walckenaer 1841) (Levi 1985; Platnick 2011). *Micrathena* species have diurnal habits; females build a vertical web in the morning (Levi 1985). They can be easily recognized by their spiny abdomen, the vertical orb-webs with an open hub and their characteristic upside-down position on the webs, with the abdomen inclined horizontally (Gonzaga & Santos 2004). This position with abdomen parallel to the ground is made possible by the unusually long fourth femora (Levi 1985).

Micrathena species exhibit strong sexual dimorphism, females tending to a high degree of abdominal spination involving many different patterns (either projected laterally and/or posteriorly; spines can be simple, lobulated or forked, generally bright and colorful). The evolutionary meaning of these spines is still unclear, perhaps representing a defense against natural predators such as wasps, dragonflies, birds, or lizards (Levi 1985). Adult males, on the other hand, usually lack definite spines, show much less gaudy coloration, are much smaller, with abdomen square to rectangular (Chickering 1961; Sabogal & Floréz 2000). In some species the dimorphism is so marked that males mimic ants.

This high degree of sexual dimorphism has hindered the matching of adult males with the corresponding females (Chickering 1961). Moreover, *Micrathena* males are seldom collected together with females, since they are rarely found in the webs of females (Levi 1985). Males are relatively rare in collections, being therefore very poorly known. Correct matching with females is possible in a comparatively few cases (Chickering 1960b, 1961). Fieldwork can be helpful to overcome the problem. As a result of an ecological study in Argentinean rainforests by the second author, specimens of both sexes of *M. shealsi* were repeatedly observed and collected in the same web. Our paper provides direct evidence to the conspecificity of the described males and females of this species.

The last extensive taxonomic revision of *Micrathena* was published by Herbert W. Levi (1985) and still stands as the primary monograph for the genus. Thereafter, only four studies were added taxonomic information to Levi's revision (Bonaldo 1990; Lise 1995; Gonzaga & Santos 2004; Magalhães & Santos 2011). According to features of the genitalia, the abdomen and the form of carapace, the genus *Micrathena* was split in eight groups (Levi 1985). *Micrathena shealsi* Chickering, 1960 belongs to the *guerini* species group, in which males always have a hook on