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## The spider genera *Euthycaelus* Simon and *Schismatothele* Karsch (Mygalomorphae, Theraphosidae)

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### Abstract

The genus *Euthycaelus* Simon 1889 is diagnosed based on the examination of type-material and additional material from Venezuela and Colombia. The genus now includes: *Euthycaelus colonicus* Simon 1889, *E. norae* sp. nov., *E. amandae* sp. nov.; *Euthycaelus steini* Simon 1889 is transferred to *Psalistops* comb. nov. The genus *Schismatothele* Karsch 1879 is considered a senior synonym of *Hemiercus* Simon 1903. *Schismatothele* includes *S. lineata* Karsch 1879, *S. inflata* (Simon 1889) comb. nov., *S. modesta* (Simon 1889) comb. nov. and *S. benedettii* Panzera *et al.* 2011. *Hemiercus proximus* Mello-Leitão 1923, from Cubatão, São Paulo, Brazil, is transferred to *Acanthoscurria proxima* (Mello-Leitão 1923) comb. nov. *Hemiercus kastoni* Caporiacco 1955 is considered a *species inquirenda* pending the examination of the type material.

**Key words:** Tarantula, New World, spider, taxonomy

### Introduction

The genus *Euthycaelus* was described by Simon (1889) in the family Barychelidae and comprised two species, *Euthycaelus colonicus* Simon 1889 and *Euthycaelus steini* Simon 1889. The genus remained unstudied until Raven (1985) considered *Euthycaelus* as junior synonym of *Holothele*, based on the shared fourth tarsi cracked with thin and divided scopula.

Karsch (1879) established the monotypic genus *Schismatothele* and included *Schismatothele lineata* Karsch 1879 from Caracas, Venezuela. The genus *Schismatothele* also remained unstudied until Raven (1985) considered it a junior synonym of *Holothele* based on the presence of a cracked tarsi IV (pseudosegmentation).

Simon (1903) described the genus *Hemiercus* to include three species he had previously described as *Hapalopus* from South America: the type-species, *Hemiercus inflatus* (Simon 1889) from Venezuela, *Hemiercus cervinus* (Simon 1889) from Venezuela and *Hemiercus modestus* (Simon 1889) from Colombia. According to Simon (1903), representatives of *Hemiercus* can be recognized by the aspect of the labium, tibial apophysis and palpal bulb. Mello-Leitão (1923) described *Hemiercus proximus*, from São Paulo, Brazil. Caporiacco (1955) described *Hemiercus kastoni* from Venezuela. Similarly, as with *Schismatothele* and *Euthycaelus*, Raven (1985) considered the genus *Hemiercus* a junior synonym of *Holothele* based on the presence of a cracked tarsi IV (pseudosegmentation).

Later, Rudloff (1997) proposed the revalidation of the three genera: *Schismatothele*, *Hemiercus* and *Euthycaelus*. However, he did not provide a detailed diagnosis for *Euthycaelus* and his proposal was not followed by Platnick (2013). Today, the genus *Hemiercus* comprises five species: *H. inflatus*, *H. cervinus*, *H. modestus*, *H. proximus* and *H. kastoni*. After the revalidation of the genus *Schismatothele* by Rudloff (1997), Panzera *et al.* (2011) described the new species, *S. benedettii*, from Brazilian amazon forest and the male representative of the genus was described for the first time, albeit not of the type species. The authors presented important characters related to male genitalia to warrant recognition of the genus. This species represents also the first and only record of the genus in Brazil. To date, the genus *Schismatothele* comprises *S. lineata* and *S. benedettii*.

## Misplaced species

1 The holotype female of *Euthycaelus steini* Simon 1889 from Venezuela (deposited in MNHN 9886, examined), is a small spider, with conspicuous abdominal markings, weakly developed maxillary anterior projection, apical segment of posterior lateral spinnerets short and conical, and few apical tarsal clavate trichobothria. These characters are not found in representatives of *Schismatothele* or *Euthycaelus* (as defined herein). As a result, the species is transferred to the Barychelidae as *Psalistops steini* (Simon 1889) comb. nov., with which it shares the characters described above.

2 The type specimen of *Hemiercus proximus* Mello-Leitão 1923 from Cubatão, São Paulo, Brazil (deposited in MZSP 154, examined), is a juvenile spider with a conspicuous stridulatory apparatus on the prolateral surface of trochanter I, as in representatives of the genus *Acanthoscurria* Ausserer 1871. Therefore, this species is transferred to *Acanthoscurria proxima* (Mello-Leitão 1923) comb. nov.

3 The description of *Hemiercus kastoni* Caporiacco (1955) is reasonably detailed, drawing attention to nine thick spines on the retrolateral face of the palpal tibia, and a tibial apophysis composed of two branches. However, the description did not provide enough information to decide if *Hemiercus kastoni* should be placed in *Schismatothele* or *Euthycaelus*, since it is not possible to know if the subtegulum is separated from tegulum. Because we did not have access to the type material (MBUC 520, from El Junquito, Distrito Federal, Venezuela, not examined), we consider it a *species inquirenda* pending examination of the type material.

## Discussion

The genera *Schismatothele* and *Euthycaelus* share several sexual characters (male palpal tibia swollen, with spines on the retrolateral surface; shape of male palpal bulb; spermathecae heavily sclerotized and bulky). Moreover, shared somatic characters (shape and cuspules of labium; shape of sternum; shape and position of sternal sigilla) support the hypothesis of their close relationship. However, the relationships of the two genera within the family Theraphosidae is still uncertain. Panzera *et al.* (2011), arguing in favor of a conservative perspective, maintained the genus *Schismatothele* in Theraphosinae, even though they lack two of the three synapomorphies of the subfamily (keels on palpal bulb, abdominal urticating hairs), presenting only an extended subtegulum. They considered the keels on the bulb of *Schismatothele* not homologous to the keels of Theraphosinae. In fact, these keels fail the position and similarity tests of morphological hypothesis. We share the opinion with the above authors, since no other phylogenetic hypothesis has been proposed that could shed some light on the matter.

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