



## A revision and phylogenetic analysis of the spider genus *Aysenia* Tullgren (Araneae: Anyphaenidae, Amaurobioidinae)

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### Abstract

The genus *Aysenia* Tullgren includes 8 species of spiders endemic to the southern forests of Chile and Argentina. They have an elongated body, recurved posterior eye row and third legs directed forward. There are currently five known species of *Aysenia*. The study of all the specimens of *Aysenia* available in collections showed the existence of three undescribed species and the unknown male of *A. elongata*, all of which are here described. New geographical records are provided for all species, with illustrations and reviewed diagnosis for the genus and the previously known species. Data from the new species and the male of *A. elongata* are used to test the monophyly of the genus, its relationships with other genera in the family, and among its species. The phylogenetic analysis using cladistic methods uses observations from 264 previously defined characters plus three characters that arise from this study, scored for 104 species of Anyphaenidae.

**Key words:** Cladistics, new species, South America, systematics

### Introduction

Spiders of the family Anyphaenidae compose a monophyletic group whose main diagnostic features are the presence of spatulated claw tuft setae and a well-developed tracheal system (Ramírez 1995; 2003). The family comprises 514 species grouped in 56 genera, most of them endemic to the Neotropics (Brescovit 1997; Ramírez 2003; Platnick 2011).

Recent phylogenetic studies (Ramírez 1995; 2003) included three subfamilies within Anyphaenidae: the monotypic Malenellinae, plus Anyphaeninae and Amaurobioidinae, all reviewed at generic level (Brescovit 1997; Ramírez 2003). Ramírez (2003) presented a cladistic analysis of Amaurobioidinae, and distinguished two tribes: Gayennini, with 11 genera distributed mainly in South America, and Amaurobioidini with 10 genera, among which *Aysenia* Tullgren (five species), and *Aysenoides* Ramírez (four species), both endemic to Chilean temperate forests and adjacent areas in Argentina. The tribe is distributed mainly in South America, with the exception of *Amaurobioides* O. P.-Cambridge, which occurs in the sea-shores of Chile, South Africa, Australia, Tasmania and New Zealand, and *Sanogasta maculatipes* (Keyserling), which has been seemingly introduced in Easter Island (Isla de Pascua) (Forster 1970; Ramírez 2003; Opell *et al.* 2007).

*Aysenia* and *Aysenoides* are sister groups united by having an elongated body, recurved posterior eye row and third legs directed forward. *Aysenia* is further diagnosed by having the prosoma wider in front (as in *Amaurobioides*), irregular spermathecae, and an unmodified, flattened embolar process (Ramírez 2003: 60, fig. 22a, 22d and 24b). In that analysis, however, the support values for the tribe Amaurobioidini and several internal clades were low, especially so for the intergeneric relationships. A subsequent analysis adding one further species of *Aysenia* and one of *Aysenoides* reproduced the monophyly of both genera (Izquierdo & Ramírez 2008).

Little is known of the natural history of these two genera. They are relatively rare in collections, compared to species of other genera of Amaurobioidinae, some of which are extremely common, such as *Sanogasta* Mello-Leitão and *Arachosia* O. P.-Cambridge. All specimens come from mechanical collection techniques, such as beating trays, pitfall traps, and canopy fogging. The third pair of legs directed forward suggests that these spiders