

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

VICTORIA WERENKRAUT<sup>1,3</sup> & MARTÍN J. RAMÍREZ<sup>2</sup>

<sup>1</sup>Laboratorio Ecotono, Centro Regional Universitario Bariloche, Universidad Nacional del Comahue/INIBIOMA CONICET, Quintral 1250 (8400), Bariloche, Río Negro, Argentina

<sup>2</sup>Division of Arachnology, Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Av. Angel Gallardo 470 (C1405DJR), Buenos Aires, Argentina

<sup>3</sup>Corresponding author. E-mail: vicwkt@gmail.com

### Table of contents

Abstract .....	2
Introduction .....	2
Material and methods .....	2
Taxonomy .....	4
<i>Coptoprepes</i> Simon .....	4
<i>Coptoprepes flavopilosus</i> Simon .....	4
<i>Coptoprepes nahuelbuta</i> Ramírez .....	5
<i>Coptoprepes campanensis</i> Ramírez .....	5
<i>Coptoprepes valdiviensis</i> Ramírez .....	9
<i>Coptoprepes ecotono</i> new species .....	9
<i>Coptoprepes bellavista</i> new species .....	14
<i>Coptoprepes casablanca</i> new species .....	18
<i>Coptoprepes contulmo</i> new species .....	25
<i>Coptoprepes eden</i> new species .....	26
<i>Coptoprepes recinto</i> new species .....	28
Cladistic analysis and discussion .....	32
Acknowledgments .....	39
References .....	39

## Abstract

We review the spider genus *Coptoprepes* Simon, endemic of the southern forests in Chile and Argentina, and present a phylogenetic analysis of the 10 known species of the genus together with other 91 representatives of the family Anyphaenidae. *Coptoprepes* is confirmed as a member of the tribe Amaurobioidini. The sister group of *Coptoprepes* is the genus *Negayan* Ramírez. Both genera are united by having contiguous spermathecae and a notch retrolateral to the cymbial conductor, where the median apophysis fits. The synapomorphies of *Coptoprepes* (the tegulum being displaced basally, the copulatory openings on or close to the epigastric furrow, and the lacking of some leg macrosetae) are homoplasious in the tribe Amaurobioidini. Most intergeneric branches within the tribe, as well as between species of *Coptoprepes* have low support values in the cladogram. This is probably related to *Coptoprepes* species being heterogeneous in characters usually constant in spider genera, such as the presence of retrolateral tibial apophysis in the male palp, the copulatory ducts being wrapped along an axis, or the spherical shape of spermathecae. We describe six new species: *Coptoprepes ecotono* n. sp., *Coptoprepes bellavista* n. sp., *Coptoprepes casablanca* n. sp., *Coptoprepes contulmo* n. sp., *Coptoprepes eden* n. sp., and *Coptoprepes recinto* n. sp. We provide additional records, illustrations, and reviewed diagnosis of the four previously known species: *Coptoprepes flavopilosus* Simon, *Coptoprepes nahuelbuta* Ramírez, *Coptoprepes campanensis* Ramírez, and *Coptoprepes valdiviensis* Ramírez.

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

## Introduction

The genus *Coptoprepes* was put forth by Simon (1884) from a collection of spiders brought from Tierra del Fuego by the Mission Scientifique du Cap Horn, commissioned by the French government between 1882 and 1883. He described one species, *Coptoprepes flavopilosus* Simon, distributed through the humid temperate forests in Chile and adjacent Argentina, from Osorno to Tierra del Fuego. Three additional species were recently described in Ramírez (2003), expanding the known distribution of the genus as far north as the coastal and mountain relict forests in the Coquimbo Region. As mentioned in that work, other species represented in collections remained to be described, which are the subject of this contribution.

Little is known of the biology of *Coptoprepes* species, beyond reports of being collected in silken cells under logs, or in leaf litter. Unlike most other Anyphaenidae, all *Coptoprepes* species were collected on the ground, instead of foliage. They are a frequent catch of pitfall and flight interception traps, all of them using containers with preserving fluid at ground level.

*Coptoprepes* is clearly placed in the tribe Amaurobioidini, as evidenced by the loop of the sperm duct in the apical part of the male copulatory bulb (SDAL, Fig. 23), a synapomorphy of the tribe (Ramírez 2003). The genus was diagnosed by a greatly developed median apophysis fitting in an apical-retrolateral notch in the male palpal cymbium. The relationships of *Coptoprepes* with the remaining genera of the tribe are, however, quite unstable. While in the analysis of Ramírez (2003) *Coptoprepes* was placed as the sister group of all other Amaurobioidini, the reinterpretation of the male palp morphology and the addition of a couple of species of *Aysenia* Tullgren and *Aysenoides* Ramírez (Ramírez 2007; Izquierdo & Ramírez 2008), produced some changes in the hypotheses of relationships among the genera of the tribe. This is hardly surprising, as most of the intergeneric branches in the tribe were poorly supported.

In this contribution we describe six new species of *Coptoprepes*, illustrate with comparable photographs the four previously known species, and provide reviewed diagnosis for all the species of the genus. We also present a phylogenetic analysis of the genus by scoring all *Coptoprepes* species along with all the species and characters studied in previous analyses.

## Material and methods

After dissection, female genitalia were placed in clove oil, observed and illustrated with a camera lucida on a compound microscope Olympus BH-2. All remaining images were obtained with a digital camera Leica