Zootaxa 2761: 51–63 (2011)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

Phylogenetic placement and redescription of the spider genus *Atelidea* Simon, 1895 (Araneae, Tetragnathidae)

FERNANDO ÁLVAREZ-PADILLA[1] & SURESH P. BENJAMIN[2]

[1]*Universidad Nacional Autónoma de México (UNAM). Depto. Biología Comparada, Lab. Acarología, s/n Ciudad Universitaria, México D. F., CP 04510. E-mail: fap@ciencias.unam.mx*

[2] *Institute of Fundamental Studies, Hantane Road, Kandy, Sri Lanka. E-mail: suresh.benjamin@gmail.com*

Abstract

The spider genus *Atelidea* Simon, 1895 previously included two described species, *A. spinosa* Simon, 1895 and *A. globosa* Yamaguchi, 1957. In this study we describe for the first time the female of *A. spinosa*, and provide illustrations and scanning electron microscope images of external and internal features. The phylogenetic placement of this genus was investigated by including *A. spinosa* in a recent phylogenetic analysis with 23 tetragnathids. Parsimony analyses under equal and implied weights were performed. Our results suggest that *Atelidea* belongs to Tetragnathidae and in particular nests within Leucauginae, this last node is well supported and expected to endure future analysis; however, the relationships of *Atelidea* to other leucaugine species and its validity as a genus need to be assessed in future studies with a larger sample of leucaugine taxa. The second species described in the genus, *A. globosa*, is only known from its now lost type specimen from Japan and it is proposed as a *nomen dubium* leaving *Atelidea* monotypic.

Key words: Cladistics, Taxonomy, Sri Lanka, Oriental region

Introduction

The members of the orb weaving spider family Tetragnathidae have a worldwide distribution and are particularly diverse in tropical and subtropical ecosystems. Near one thousand species of tetragnathids have been described, classified in 46 genera (Platnick 2010) and is estimated that at most only half of the species have been described, as for many other spider families (Platnick 1999). The other half of undescribed species are mainly concentrated in the tropical areas. Describing the unknown biota, among other organisms, is first step for understanding and preserving our biodiversity. Tetragnathids usually build typical orb webs either along bodies of water, within the forest vegetation or inside caves. Tetragnathidae belong to the superfamily Araneoidea, sharing with these taxa several morphological and behavioral synapomorphies such as the presence of aggregate silk glands (which produce the viscid sticky silk) (Fig 6D), the loss of the cribellum and the presence of the paracymbium (Fig 5A) (Griswold *et al.* 1998 and references therein for more synapomorphies). Based on morphological and behavioral data tetragnathids have been proposed as sister to Nephilidae (Coddington 1990; Hormiga *et al.* 1995; Álvarez-Padilla 2007; Dimitrov & Hormiga 2009), or as sister to a clade that includes representatives of Linyphiidae, Pimoidae, Theridiosomatidae, Nesticidae and Theridiidae, with nephilids proposed as sister to all other araneoids (Kuntner *et al.* 2008). Recent analyses that combined morphological, molecular and behavioral data found that Tetragnathidae is sister to Mimetidae or at least some of its representatives (Rix *et al.* 2008; Blackledge *et al.* 2009; Dimitrov & Hormiga in press).

The monophyly of Tetragnathidae has been recovered in several studies that include molecular, behavioral and morphological data and explore different analytical criteria (Álvarez-Padilla *et al.* 2009; Dimitrov & Hormiga in press). Tetragnathids differ from other araneoids by their somewhat simpler male pedipalps with only one tegular sclerite, the conductor, which often is coiled with the embolus (Figs. 2E and 5D); by their spinneret spigot morphology which usually lacks aciniform spigots over the PMS anterior surface (Fig 6C), by having the ALS piriform spigot bases distal edge separated from the column base leaving a torus (Fig. 6B) and by their web building behav-

Accepted by G. Hormiga: 7 Jan. 2011; published: 9 Feb. 2011