



## On *Putaoa*, a new genus of the spider family Pimoidae (Araneae) from China, with a cladistic test of its monophyly and phylogenetic placement

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### Abstract

The spider genus *Putaoa* new genus (Araneae, Pimoidae) is described to place two species of pimoids from China, *Putaoa huaping* new species (the type species) and *P. megacantha* (Xu & Li, 2007) new combination. Parsimony analysis of morphological characters provides support for the monophyly of *Putaoa* and for its sister group relationship to the genus *Weintrauboa* Hormiga, 2003 and corroborates the monophyly of Pimoidae.

**Key Words:** Phylogeny, Taxonomy, Morphology, Araneoidea, Linyphiidae

### Introduction

In a recent publication on Chinese spiders of the family Pimoidae Xu and Li (2007) described a new member of the genus *Weintrauboa* Hormiga, 2003 based on a single adult male specimen, *Weintrauboa megacanthus* Xu & Li, 2007. These authors expressed some reservations as to the correct generic placement of this new species, mainly because its pimoid embolic process (PEP) seemed to them quite different from the “typical PEP of *Weintrauboa* in morphology.” At the time of their description no females of *W. megacanthus* were known. We have recently collected both sexes of a similar species from the Guangxi Province in south China. Some of the shared morphological similarities between these two species seem to be apomorphic and suggest that this new species is a close relative of *W. megacanthus*. In this paper we describe and illustrate this new species, and along with *W. megacanthus*, we code it in a modified version of the cladistic matrix of Hormiga *et al.* (2005) for pimoid genera to test its phylogenetic placement. The results of our analysis suggest that the new species is sister to *W. megacanthus* and that this lineage is sister to a clade that includes the type species of *Weintrauboa*. We erect a new genus, *Putaoa*, for the lineage that includes the new species and *W. megacanthus*.

### Materials and methods

Morphological methods are described in detail in Hormiga (2000, 2002). Taxonomic descriptions follow the format of Hormiga (1994a, 2002). Specimens were examined and illustrated using a Leica MZ16A stereoscopic microscope, with a camera lucida. Further details were studied using a Leica DMRM compound microscope with a drawing tube or an Olympus BX40 compound microscope. Digital images were taken with a Leica DFC 500 camera, except those of the tracheal system for which we used a Leica DFC 420C camera. The digital images depicting the habitus and general morphology are a composite of multiple images taken at