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Revision of the cranaid genera *Phalangodus*, *Iquitosa* and *Aguaytiella* (Opiliones: Laniatores: Gonyleptoidea)

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Abstract

The monotypic genus *Temucus* Roewer, 1943, originally placed in Pachylinae (Gonyleptidae) is transferred to the Cranainae (Cranaidae) and synonymized with *Phalangodus* Gervais, 1842, therefore *Phalangodus palpiconus* (Roewer, 1943) **comb. nov.** is proposed. The synonymy is based on the following features: (i) the outline of dorsal scutum type alpha; (ii) the thickened pedipalpal claw in males; (iii) pedipalpal femur with a few ventral enlarged tubercles restricted to the median ventral region, and a conspicuous group of very large and acuminate tubercles basally; (iv) ventral plate of penis with a rather elevated number of cylindrical, straight and sharp distal pairs of setae and a notorious reduction in the number of the basal pairs of setae; (v) penis stylus straight, its distal tip rounded in a mushroom-like shape without styler caps. The record of *P. palpiconus* to Chile is doubtful. We also propose the revalidation of *Iquitosa* Roewer, 1943, hitherto considered a junior synonym of *Phalangodus*. *Iquitosa* is revised and the male of its type species, *I. poecilis*, is reported for the first time. *Aguaytiella* Goodnight & Goodnight, 1943, a monotypic genus which superficially resembles *Iquitosa* is also revised. In this article, we report data of male genitalia of *Iquitosa* and *Aguaytiella*, providing redescriptions and diagnoses of those genera and species, and a discussion of their relationship with other cranoids.

Key words: Andes, Neotropical fauna, taxonomy, harvestmen, Cranainae, *Temucus*, false gonyleptid

Introduction

South American harvestmen of humid forested areas are deemed to have a high degree of endemism (Pinto-da-Rocha *et al.* 2005, Machado *et al.* 2007), the distribution of many species being restricted to a few square kilometers. Among the Neotropical endemic opilionid fauna, the Chilean fauna stands out because of its remarkable composition, including elements of southern South America (Gonyleptidae: Pachylinae) and taxa with Gondwanan distribution (Neopilionidae, Caddidae, Triaenonychidae). The main component of the Chilean opilionid fauna is the subfamily Pachylinae (Gonyleptidae), with 67 species recorded (Kury 2003; Hara *et al.* 2012; Silva *et al.* 2013). This subfamily is the subject of an ongoing revision and cladistic analysis (the results of which were partially published in Pinto-da-Rocha & Hara 2011; Hara *et al.* 2012 and Pinto-da-Rocha *et al.* 2012). The revision of Pachylinae led us to study the monotypic genus *Temucus* Roewer, 1943 (originally placed in Pachylinae), from the city from which the generic name was derived (Temuco), located in Southern Chile. However, the examination of the type material allowed for the detection of yet another case of a false gonyleptid, in the same way as that reported by Pinto-da-Rocha & Hara (2011), in which a cosmetid genus was described as a pachyline gonyleptid. Therefore, we propose the transfer of *Temucus* to Cranainae and the synonymy of *Temucus* with *Phalangodus* Gervais, 1842.

In an ongoing revision of cranoids, the third author examined further material related to *Phalangodus* and detected an erroneous synonymy: the monotypic genus *Iquitosa* Roewer, 1943 (type species *Iquitosa poecilis*

of the basal pairs of setae so far only known to occur in *Phalangodus* in cranaids (Kury 1996, Villarreal revision in progress)—; (ii) stylus straight, distal tip rounded in a mushroom-like shape—without stylar caps, as opposed to *Zannicranus* Kury 2012a, *Phareicranus* [in part] (Pinto-da-Rocha & Bonaldo 2011)—; (iii) pedipalpal femur with a few ventral enlarged tubercles restricted to the median ventral region, and a conspicuous group of very large and acuminate tubercles basally.

There are few hypotheses of relationships among Cranaidae taxa based on cladistic analysis (Pinto-da-Rocha & Kury 2003; Orrico & Kury 2009; Pinto-da-Rocha & Bonaldo 2011). Most of them are focused on testing the monophyly at the generic level (former *Santinezia* Roewer, 1923 in Pinto-da-Rocha & Kury 2003; *Phareicranus* Roewer, 1913 in Pinto-da-Rocha & Bonaldo 2011) and therefore, taxa sampling is strongly biased towards the ingroup. Orrico and Kury (2009) tested the monophyly of a cranaid subfamily (Stygnicraninae Roewer, 1913) and is comparatively more comprehensive at outgroup sampling, including *Phalangodus*. According to Orrico and Kury (2009), Craninae is paraphyletic because one of its lineages, *Phalangodus*, is the sister taxon to a group composed of three cranine genera (*Cranus* Simon, 1879, *Holocranus* Roewer, 1913—formerly *Tolimaius* Roewer, 1914—and *Phareicranus*—formerly *Santinezia*) plus Stygnicraninae. However, they did not propose the synonymy of these subfamilies. Still based on Orrico and Kury (2009), we can further infer that *IQUITOSA* and *AGUAYTIELLA* would be close to *Holocranus pectinitibialis*—formerly *Tolimaius pectinitibialis*—+ group (= Craninae + Stygnicraninae) because of the following synapomorphies: (i) carapace without sexual dimorphism; (ii) invasion of scutal area I by projection of area II; (iii) supraocular height around the eye diameter; (iv) long, substraight legs I–IV; (v) flattened carapace outline in lateral view. However, we stress that those inferences can only be corroborated by a cladistic analysis, which is beyond the scope of this article. Besides that, an even larger cranine taxa sampling is necessary to propose a more robust relationship among the genera revised here. Any less would imply proposing taxonomical or nomenclatural acts, which probably would be invalidated or changed after a short period of time (the third author is working on an ongoing revision of the family).

The monophyly of *Phalangodus* has not been tested yet. However, the number and placement of setae on the ventral plate of penis and dorsal scutum shape type alpha might be putative synapomorphies of *Phalangodus*. The dorsal scutum shape type alpha stands out among other cranaids and it is shared with just few other species of cranaids. According to this character and overall similarity, *Allocranus columbianus* Roewer, 1915 and *Holocranus luteimarginatus* Roewer, 1917, both from Colombia, should probably also be placed under (or closely related to) *Phalangodus*. These two species are poorly described for modern standards and are only known by females, which do not exhibit the sexually dimorphic characters that are important to infer the relationships. It is noteworthy to mention that dorsal scutum shape type alpha also occurs in (presumably) unrelated genera, such as *Prostygnus* Roewer, 1913 and *Cutervolus* Roewer, 1957 (Kury 2012b). Another putative synapomorphy for *Phalangodus* might be the thickened pedipalpal claw, as it is known to occur only in species placed in this genus so far. We stress that those putative synapomorphies should be considered with care, and a proper cladistic analysis should be performed to corroborate or refute them. A comprehensive revision of the family is being carried out by the third author, so we may have more conclusive results regarding these putative synapomorphies soon.

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