



Revision of the Asian spider genus *Pandava* Lehtinen (Araneae: Titanoecidae): description of five new species and first record of Titanoecidae from Africa

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Abstract

The spider genus *Pandava* Lehtinen previously included two species, *P. laminata* (Thorell) and *P. hunanensis* Yin and Bao, known from Asia and the Pacific Islands. The genus is diagnosed by the reduced tegular process on the male palp and the anterior position of the copulatory openings on the female epigynum. In this paper, we present updated descriptions for the known species of *Pandava* and we describe five new species: *Pandava shiva* **sp. nov.** from Pakistan, *Pandava sarasvati* **sp. nov.** from Myanmar; *Pandava ganesh* **sp. nov.**, *Pandava kama* **sp. nov.** and *Pandava ganga* **sp. nov.**, all from India. We also update the generic distribution including the first records of Titanoecidae from Africa.

Key words: Africa, Asia, introduced species, taxonomy

Introduction

The spider family Titanoecidae includes at least 49 species in five genera: *Anuvinda* Lehtinen with one species from Asia, *Goeldia* Keyserling with nine species from the Neotropical region, *Nurscia* Simon with four species from Asia and the Palearctic region, *Pandava* Lehtinen with seven species (two previously described and five newly described in this paper) from Asia, Africa and the Pacific Islands and *Titanoeca* Thorell with 28 species from the Holarctic region. All titanoeid spiders have a complex dorsal apical apophysis on the male palpal tibia (Figs. 15, 41, 53), a unique tegular process, which is a projection that arises near the base of the embolus (Fig. 17), and a median apophysis that is located baso-laterally on the tegulum (Figs. 34, 42, 44). Titanoecids also present several peculiarities of their spinning organs. They are unique in having paracribellar spigots on the posterior lateral spinnerets but lacking these on the posterior medians (Figs. 30–32; Griswold *et al.*, 2005, figs. 51 C, D, 53 C, D). The major ampullate gland spigots on the ALS are recessed into the piriform gland spigot field (Figs. 29, 81; Griswold *et al.* 2005, figs. 53 B), a feature otherwise found in Penestomidae and Zodariidae (Miller *et al.* 2010, figs. 2 C, E).

Both previously known *Pandava* species are from Asia and the Pacific. *Pandava laminata* (Thorell, 1878), was described in *Amaurobius* in the family Amaurobiidae, based on a male specimen from Ambon, Indonesia. *Pandava* was erected for this species, and transferred to Titanoecidae, by Lehtinen (1967), who also proposed several synonymies of *Pandava laminata*. As a result, this species is currently believed to occur from Sri Lanka to China, and as far into the Pacific as the Marquesas Islands and New Guinea (Platnick, 2010). This species has also been introduced into Germany (Jäger, 2008) and Japan (Tanikawa, 2010; Ono & Ogata, 2009). Almost thirty-five years after Lehtinen's paper, *Pandava hunanensis* Yin and Bao 2001 was described based on male and female specimens from Hunan, China. Only the type-material of *P. hunanensis* is known.