



Four new cave-dwelling *Platocoelotes* species (Araneae: Amaurobiidae) from Guangxi and Guizhou, China

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Abstract

Four new species of the genus *Platocoelotes*, collected from caves in Guangxi and Guizhou of southwestern China, are diagnosed, described and illustrated: *Platocoelotes ampulliformis* sp. nov., *Platocoelotes brevis* sp. nov., *Platocoelotes furcatus* sp. nov., and *Platocoelotes strombuliformis* sp. nov.. The type specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing (IZCAS).

Key words: Taxonomy, new species, copulatory organs, morphology, southern China

Introduction

Many cave animals are rare, and include ancient, basal forms no longer found on the surface. They can provide important information in studies of evolution and ecology. There is a growing agreement that more effort is needed to ensure the survival of present wildlife populations in caves, and success or failure will depend on our basic knowledge of these populations (Furman & Özgül, 2004).

In the past five years, a series of surveys on cave-dwelling spiders of China were made by the colleagues of the Chinese Academy of Sciences in more than 500 caves. The field work suggests that cave-dwelling spiders are highly diverse and abundant. However, many cave-dwelling spiders appear to be restricted to one or several caves. It shows that damage of some caves may likely cause the extinction of numerous cave species. Due to the rapid growth of cave tourism, the survey on Chinese cave spiders is becoming more and more urgent.

The current paper reports part of the results of our survey in 2007. Spiders were collected in 120 caves in Yunnan–Guizhou Plateau (including Yunan Province, Guizhou Province and part of Guangxi Zhuang Autonomous Region) of China. Four new species of the genus *Platocoelotes* were discovered and are described in this paper.

The genus *Platocoelotes* was established and revised by Wang (2002; 2003), which contains five known species and all of them are distributed in China, i.e. *Platocoelotes impletus* (Peng & Wang, 1997), *Platocoelotes icohamatoides* (Peng & Wang, 1997), *Platocoelotes kailiensis* Wang, 2003, *Platocoelotes lichuanensis* (Chen & Zhao, 1998) and *Platocoelotes polyptychus* Xu & Li, 2007 (Platnick, 2008). All the cave-dwelling *Platocoelotes* species, including *P. polyptychus* and four new species reported in the current paper, exhibit several characters different from epigeal *Platocoelotes* species, i.e. a single patellar apophysis, a short cymbial furrow, and a different female genitalia. However, the presence of a ventral conductor apophysis on the male palp, the broad, shallow atrium and the distinct epigynal hoods in the female epigynum indicate that they are congeneric with the type species of *Platocoelotes*.