



Three new *Prothemenops* species (Araneae: Idiopidae) from central Thailand

PETER J. SCHWENDINGER¹ & KOMSON HONGPADHARAKIREE²

¹ *Muséum d'histoire naturelle de la Ville de Genève, c.p. 6404, CH-1211 Genève 6, Switzerland.*

E-mail: peter.schwendinger@ville-ge.ch (corresponding author)

² *Sirinath Rajini Mangrove Ecosystem Learning Center, Pranburi, Prachuab Khiri Khan, Thailand. E-mail: h_komson@hotmail.com*

Abstract

Prothemenops irineae sp. n., *P. khirikhan* sp. n. and *P. phanthurat* sp. n. are described from males and females collected in the Thai provinces of Prachuap Khiri Khan and Phetchaburi. The diagnosis of the genus *Prothemenops* is emended to include these three species and others to be described later. Notes on variation of morphological characters, biology and phenology are given.

Key words: Mygalomorphae, trapdoor spiders, taxonomy, variation, biology

Introduction

Prothemenops was established by Schwendinger (1991) for a single species (*P. siamensis*) from a mountain in northeastern Thailand. In the meantime, at least 16 additional congeneric species have been found in Thailand, Laos and Cambodia (Schwendinger, unpubl. data). For several localities, no adult males or only a single male are currently available; most of the new species will therefore be presented in a subsequent publication, when the rearing of juveniles or further fieldwork have yielded additional specimens to allow adequate characterization of the species and their variability. Here we describe three new species discovered by the second author and his wife in the southwestern part of the currently known geographical range of the genus. These species correspond well with the type species in most morphological characters and in the structure of their burrows, but they differ markedly by the complete absence of a pair of coupling spurs on the tibia I of males. As two other available (undescribed) *Prothemenops* species also lack such spurs but all others possess them, this trait was probably lost in at least one lineage within *Prothemenops*. A trend for reduction (although not complete) is also apparent in two other male characters: the retroventral apophysis of the palpal tibia, and the para-embolic apophysis of the palpal organ. The morphology of copulatory organs in the holotype of *P. siamensis* is here regarded as typical for *Prothemenops* males and as likely to be plesiomorphic within the genus. In contrast to the male copulatory organs, those of females appear to be more uniform within the genus. They may provide useful clues for interspecific relationships but, at least in the three species presented here, are of little value for species distinction. The whole range of morphological variation in copulatory organs of *Prothemenops* will be presented in detail in a more comprehensive treatment of the genus, together with the description of several more new species.

Material and methods

External morphology was studied and drawn with a Zeiss SV11 stereomicroscope, the vulvae (temporarily placed in lactic acid on a slide with a well) with a Nikon Optiphot compound microscope (both with a drawing tube) and re-checked with a stereomicroscope. SEM micrographs were taken with a Zeiss DSM-940A scanning electron microscope; the other photos were taken at several focal planes with a digital camera on a Leica MZ APO stereomicroscope and assembled with the AutoMontage® system. Body measurements were taken with a

References

- Greenstone, M.H., Ignoffo, C.M. & Samson, R.A. (1987) Susceptibility of spider species to the fungus *Nomuraea atypicola*. *The Journal of Arachnology*, 15, 266–268.
- Kraus, O. (1978) *Liphistius* and the evolution of spider genitalia. In: Merret, P. (Ed.), *Arachnology. Symposia of the Zoological Society of London*, n° 42. Academic Press, London, pp. 235–254.
- Raven, R.J. (1985) The spider infraorder Mygalomorphae (Araneae): cladistics and systematics. *Bulletin of the American Museum of Natural History*, 182, 1–180.
- Raven, R.J. & Schwendinger, P.J. (1989) On a new *Phyxioschema* (Araneae, Mygalomorphae, Dipluridae) from Thailand and its biology. *Bulletin of the British arachnological Society*, 8 (2), 55–60.
- Schwendinger, P.J. (1991) Two new trap-door spiders from Thailand (Araneae, Mygalomorphae, Idiopidae). *Bulletin of the British arachnological Society*, 8 (8), 233–240.
- Schwendinger, P.J. (1996) The fauna of orthognathous spiders (Araneae: Mesothelae, Mygalomorphae) in Thailand. *Revue suisse de Zoologie*, 2 (Special Volume), 577–584.
- Schwendinger, P.J. (2009) A taxonomic revision of the genus *Phyxioschema* (Araneae, Dipluridae), I: species from Thailand. *Zootaxa*, 2126, 1–40.
- World Spider Catalog (2014) *World Spider Catalog. Version 15.5*. Natural History Museum Bern. Available from: <http://wsc.nmbe.ch> (accessed on 22 September 2014)