

Four new species of the genus *Ischnothyreus* from Hainan Island, China (Araneae, Oonopidae)

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Abstract

Four new species of the genus *Ischnothyreus* are reported from Hainan Island, China: *I. auritus* sp. nov., *I. spineus* sp. nov., *I. xui* sp. nov. and *I. yuanyeae* sp. nov.

Keywords: Taxonomy, morphology, type, diagnosis, goblin spider

Introduction

Hainan Island, located in the South China Sea, is the second largest island off the coast of China. The island measures about 260 km from east to west and 210 km from north to south. Hainan has a high biological diversity with about 3,900 vascular plant species, 650 vertebrate species and 5800 insect species (Wang *et al.* 2004; Huang 2002). Many of these species are endemics (World Wildlife Fund 2008). Recently, a series of papers documenting the spider fauna of Hainan Island was published (e.g. Fu *et al.* 2010; Han *et al.* 2010; Liu & Li 2010; Tang & Li 2010; Tong & Li 2006, 2007). More than 30 families and 420 species have been recorded (Li & Wang 2012), including 25 oonopid species (Tong & Li 2008, 2009, 2010, 2011).

The Oonopidae are an extremely diverse spider family, with currently 857 described species in 88 genera (Platnick 2012). The genus *Ischnothyreus* was established by Simon in 1893, with *I. peltifer* as the type species. Members of this genus can be recognized by the presence of leg spines, the usually small abdominal scuta, the strongly sclerotized male palps, the heavily sclerotized male endites and the winding genital tube in the females (Kranz-Baltensperger 2011). *Ischnothyreus* currently comprises 40 species (Saaristo 2001; Kranz-Baltensperger 2011). Previously, we reported six species from Hainan Island (Tong & Li 2008). Here we present four additional new species, collected during recent expeditions.

Material and methods

The specimens were examined using a Leica M205C stereomicroscope. Details were studied under an Olympus BX51 compound microscope. All illustrations were made using a drawing tube and inked on ink jet plotter paper. Photos were made with a Canon EOS 550D zoom digital camera (18 mega pixels) mounted on an Olympus BX51 compound microscope. Vulvae were cleared in lactic acid. Descriptions were generated with the aid of the Species Descriptive Database of the oonopid Planetary Biodiversity Inventory project and shortened where possible (see <http://research.amnh.org/oonopidae/>). All measurements were taken using an Olympus BX51 compound microscope and are in millimeters.

The following abbreviations are used in the text: ALE = anterior lateral eyes; PLE = posterior lateral eyes; PME = posterior median eyes; used in the illustrations: a, apodeme; atr, atrium; bsa, bell-shaped atrium; csr, curved sclerotized ridge; esa, ear-shaped apophysis; flo, flower-like outgrowth; hlp, hook-like process; l, lobe; lp, laminar