



## The crab spiders of the Genus *Tmarus* from Xishuangbanna, Yunnan, China (Araneae: Thomisidae)

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### Abstract

Four new and three known crab spider species of the genus *Tmarus* are reported from the Xishuangbanna Rainforest of Yunnan, China: *T. byssinus* **sp. nov.**, *T. hastatus* **sp. nov.** (male only), *T. spicatus* **sp. nov.** (female only), *T. undatus* **sp. nov.** (female only), *T. menglae* Song and Zhao, 1994, *T. songi* Han and Zhu, 2008 and *T. taiwanus* Ono, 1977. The male of *T. menglae* is described for the first time. The type specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences in Beijing.

**Key words:** Taxonomy, new species, Southeast Asia, tropical rainforest

### Introduction

Xishuangbanna is one of the richest regions in biodiversity in China, and a key area in biogeography. Recently, a fourteen-months spider survey in Xishuangbanna Rainforest (2006–2007) was carried out by the colleagues of the IZCAS. Three crab spiders were reported from this area already (Tang & Li 2009). Seven crab spiders of the genus *Tmarus* from this area (for a map see Fig. 16) are reported in this study.

A recent molecular phylogeny study by Benjamin *et al.* (2008) confirmed that the genus *Tmarus* Simon, 1875 belongs to the subfamily Thomisinae. The genus *Tmarus* has 212 species worldwide, with most species recorded from South America. Only 37 species were described from Southeast and East Asia, and 17 from China (Tikader 1970; Ono 1977, 1988; Barrion & Litsinger 1995; Song & Zhu 1997; Wang & Xi, 1998; Yang *et al.* 2005; Zhang *et al.* 2006; Han & Zhu 2008; Platnick 2009). One female (*T. tonkinus*) and a juvenile (*T. semiroseus*) were reported from Vietnam by Simon, 1909 but unfortunately no illustrations were provided.

Crab spiders of the genus *Tmarus* are characterized by a flat prosoma covered with long setae. The opisthosoma is elongated, with a prominent hump in the rear (Fig. 7A). These spiders are usually yellow or brown with white or gray markings. Both sexes usually have similar color patterns, which differs from other species. They are similar to the genus *Monaeses* Thorell, 1869 in the general appearance, but can be separated by the upward rear. They usually inhabit foliage, twigs or trunks, rest in bark with long anterior legs outstretched forward and posterior legs tucked close to body. Cryptically colored in cream to brown mottled grays, browns and black, they are perfectly camouflaged on bark (Larson 2009).

### Material and methods

Specimens were examined with an Olympus (Tokyo, Japan) SZX12 stereomicroscope; details were studied with an Olympus BX51 compound microscope. All illustrations were made using an Olympus drawing tube.