



## ***Heteropoda* species from limestone caves in Laos (Araneae: Sparassidae: Heteropodinae)**

STEFFEN BAYER<sup>1</sup> & PETER JÄGER

Arachnology, Senckenberg Research Institute, Senckenberganlage 25, 60325 Frankfurt/ Main, Germany.

E-mail: Steffen.Bayer@senckenberg.de, Peter.Jaeger@senckenberg.de;

<sup>1</sup>Corresponding author

### **Abstract**

Two new *Heteropoda* species from Laos are described, *Heteropoda steineri* **sp. nov.** (male, female) from the Xe Bangfai cave system in Khammouan Province, and *Heteropoda aemulans* **sp. nov.** (male, female) from caves close to Vang Vieng in Vientiane Province. Two further species, *Heteropoda maxima* Jäger, 2001 from Khammouan Province and *Heteropoda simplex* Jäger and Ono, 2000 from northern Laos and Japan, are recorded. *Heteropoda simplex* is recorded for the first time from Laos, the female is described for the first time. Main morphological differences between species are recognised from copulatory organs and colouration. Intraspecific variation is illustrated for all species.

**Key words:** *Heteropoda maxima*, *Heteropoda simplex*, *Heteropoda steineri* **sp. nov.**, *Heteropoda aemulans* **sp. nov.**, taxonomy, copulatory organs, Okinawa, Japan, Laos

### **Introduction**

The southeastern Asian country Laos includes five major karstic mountain regions with countless limestone caves. Cave spiders were neglected in the past as was the epigeal spider fauna from Laos. The description of the species *Heteropoda maxima* Jäger, 2001, which is one of the largest spiders known so far, aroused interest of the second author in the Laotian spider fauna. Subsequent sampling and distribution of material to specialists triggered several publications (Eusemann & Jäger in print; Jäger 2001b, 2007; Jäger *et al.* 2006; Logunov & Azarkina 2008; Platnick & Jäger 2008; Wang & Jäger 2008; Wang *et al.* 2008). In the period 2003 to 2008 several cave-expeditions were carried out to different regions of Laos and among others numerous large *Heteropoda* spiders were collected. Some of them were identified as *H. maxima* but other large-sized specimens showed traits that could not be assigned to any species described so far. In this paper cave-dwellers among *Heteropoda* species from Laos are characterised by means of morphological characters, it is an addition to Jäger (2005) who dealt with new large-sized cave-dwelling *Heteropoda* species from SE-Asia. A basic inventory is the first step towards subsequent nature conservation studies, such as shown for eyeless members of the genus *Cicurina* Menge, 1871 (Paquin & Hedin 2004; Paquin *et al.* 2008).

### **Material and methods**

Spiders were collected in caves of the Laotian provinces Khammouan, Vientiane, Huaphan, Luang Prabang and Luang Nam Tha (Fig. 1). Material from Okinawa, Japan was kindly provided by H. Ono and A. Tanikawa (Tokyo). Spiders collected in Laos by the second author were preserved in 70% denatured ethanol after taking photos with a Canon EOS 300D (equipped with a Sigma 105 macrolens and a Canon ringlite). Examination