



## ***Eukoenenia virgemdalapa* (Palpigradi: Eukoeneniidae): a new troglobitic palpigrade from Brazil**

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### **Introduction**

The order Palpigradi is currently represented by 13 species in South America. Among these, six species of the genus *Eukoenenia* Börner 1901 are found in Brazil: *E. roquetti* (Mello-Leitão & Arlé 1935), *E. janetscheki* Condé 1993, *E. maquinensis* Souza & Ferreira 2010, *E. ferratilis* Souza & Ferreira 2011, *E. spelunca* Souza & Ferreira 2011 and *E. potiguar* Ferreira, Souza, Machado & Brescovit, 2011. The number of described species in Brazil has increased from two to six in the last two years. Furthermore, Brazil is the richest South American country in terms of native described species. Despite the apparent advance in knowledge concerning Brazilian palpigrades, many species remain undescribed, and several areas were not even sampled in the country. Souza & Ferreira (2010) showed that palpigrades are widely distributed in some regions of the country and new species have been found. In this study, *E. virgemdalapa*, the third species of troglobitic Palpigradi from Brazil is described.

The specimen described here was found by visual searching on the ground near an old guano pile in Lapa Nova cave (Vazante, Minas Gerais). It was captured with a fine brush and placed in a vial containing 70% ethanol. It was cleared in Nesbit's fluid and then mounted on a glass slide in Hoyer's medium. Measurements and drawings were made with a phase contrast microscope and are given in micrometers ( $\mu\text{m}$ ); the body length was measured from the apex of the propeltidium to posterior margin of the opisthosoma. Setal nomenclature follows Condé (1979, 1998).

### ***Eukoenenia virgemdalapa* sp. n.**

(Figs 1–15)

**Material examined.** Holotype: adult female (ISLA 1536) from Lapa Nova cave (UTM 23 299811 8010693), Vazante, Minas Gerais, Brazil, 18 Sept. 2009, leg. L. F. O. Bernardi. The specimen is deposited in the Coleção de Invertebrados Subterrâneos do Laboratório de Ecologia Subterrânea do Departamento de Biologia da Universidade Federal de Lavras (UFLA), Lavras, MG, Brazil.

**Etymology.** The specific name *virgemdalapa* refers to the festival in honor of the Virgem da Lapa (the virgin of the cave, in allusion to the Virgin Mary, mother of Jesus), which occurs in Vazante since the 19th century and attracts thousands of visitors every year to the Lapa Nova cave.

**Diagnosis.** This species differs from all others of the genus *Eukoenenia* by the following combination of characteristics: presence of 7–8 blades in the prosomal lateral organs, frontal organs distally expanded, basitarsus IV with five setae, opisthosomal sternites IV–VI with  $a_1$ ,  $a_2$  and  $s$ , genital region of female with 10–11 pairs of setae on first lobe and 3+3 on second lobe.

**Description.** *Prosoma.* Frontal organ with two branches distally expanded, each 3.1 times longer than wide (35  $\mu\text{m}$ /11  $\mu\text{m}$ ) (Fig. 1). Lateral organ with 7–8, distally pointed blades, each 3.9–5.7 times longer than wide (39/10–40/7  $\mu\text{m}$ ) (Fig. 2). Propeltidium with 10 + 10 setae in five rows (Fig. 3). Metapeltidium with 3 + 3 setae:  $t_1$  (47.5  $\mu\text{m}$ ),  $t_2$  (100  $\mu\text{m}$ ),  $t_3$  (70  $\mu\text{m}$ ) (Fig. 4). Deuto-tritosternum with at least four setae, but the full number could not be observed (obscured by leg II).

Chelicerae with four dorsal setae, two middle setae and one seta inserted near the tooth of the fixed finger (Fig. 5). The number of teeth on the fingers of the chelicerae could not be precisely determined.