



## *Kempnyia* (Plecoptera) from the Mantiqueira Mountains of Brazil

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### Abstract

Eight species of *Kempnyia* Klapálek were collected in the Mantiqueira Mountains at Campos do Jordão, of which six were known: *K. colossica* (Navás, 1934), *K. flava* Klapálek, 1916, *K. neotropica* (Jacobson and Bianchi, 1905), *K. obtusa* Klapálek, 1916, *K. reichardti* Froehlich, 1984 and *K. tamoya* Froehlich, 1984; two are new, *K. pirata* and *K. tupinamba*. One new synonymy is proposed. Comments are provided for all species from the area and a key to these species is presented.

**Key words:** Stoneflies, Campos do Jordão, *Kempnyia*, Brazil, São Paulo

### Introduction

The genera *Eutactophlebia* and *Kempnyia* were introduced by Klapálek 1914 in his keys to the Perlidae, the first having numerous crossveins in the apical half of the wings, only exceptionally present in *Kempnyia*. In 1916 he designated as type of *Eutactophlebia* his new species *E. reticulata* and added *Acroneuria gracilentata* Enderlein, 1909 to the genus. For *Kempnyia* he designated as type his new species *K. tenebrosa* Klapálek, 1916, describing six more species and including two *Perla* species, *P. brasiliensis* (Pictet, 1841) and *P. klugii* (Pictet, 1841). His new species *K. magellanica* Klapálek, 1916, from southern Chile, was synonymized by Illies (1964) with *Pictetoperla gayi* (Pictet, 1841). Zwick 1983 showed that *E. reticulata* fit into *Kempnyia*, placing *Eutactophlebia* as a synonym of *Kempnyia*. Zwick (1988) showed that *K. melagona* Klapálek, 1916 is a junior synonym of *K. neotropica* (Jacobson & Bianchi, 1905). *Kempnyia*, at present, comprises 35 species, including the two new ones described here and a new synonym (DeWalt et al. 2011) and is known from the southern half of Brazil. Potentially, it also may occur in neighbouring areas of Uruguay, Argentina and Paraguay. Recently, nymphs of an unnamed species were described from the Pantepui biogeographic province of Venezuela (Derka & al. 2010).

The Mantiqueira Mountains begin in eastern Minas Gerais State not far from the town of Barbacena (21°13'S, 43°32'W). They extend southwest to the border with Rio de Janeiro State (RJ) and proceed west to São Paulo State (SP) to near the town of Bragança Paulista (22°57'S, 43°46'W).

Previous knowledge of the genus *Kempnyia* in the Mantiqueira Mountains is meagre. Navás (1932) described *Forca brasilica* from Barão Homem de Mello (Itatiaia, RJ), at the foot of the mountains. Jewett (1960) lists three species from Itatiaia National Park, RJ, *K. flava* Klapálek, 1916, *K. obtusa* Klapálek, 1916 and *K. varipes* Klapálek, 1916. Froehlich (1984) registers *K. gracilentata* (Enderlein) and *K. tamoya* Froehlich from Engenheiro Eugênio Lefèvre, a station on the railroad from Guaratinguetá to Campos do Jordão at 1200 m asl, SP. Froehlich (1988) reported *K. obtusa* from Itatiaia National Park, Eugênio Lefèvre and Campos do Jordão, and *K. jatim* Froehlich from Eugênio Lefèvre.

The bulk of the material comes from the State Park of Campos do Jordão (PECJ), SP and has been collected by the author, students and collaborators. For more information on the area, see Froehlich (2010).

### Methods

The collection sites in the park were delimited by a polygon defined by the coordinates 22°39'49" to 22°41'44" S and 45°26'56" to 45°29'30" W. Altitudes varied between 1500 and 1600 m. The streams were 1<sup>st</sup> to 4<sup>th</sup> order and