



The millipede genus *Klimakodesmus* Carl, 1932, with the description of a new species from Kerala state, southern India (Diplopoda, Polydesmida, Pyrgodesmidae)

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Abstract

Klimakodesmus Carl, 1932 is briefly redescribed, rediagnosed, and shown to be an oligotypic genus endemic to southern India and distinct from the particularly similar genus *Pyrgodesmus* Pocock, 1892, monobasic and endemic to Sri Lanka, by several important features of peripheral and, especially, gonopodal structure. A new species, *Klimakodesmus bilobocaudatus* sp. nov., is described from Kerala state, India, differing from the sole accepted, and type species *K. gravelyi* Carl, 1932, from Tamil Nadu state, primarily by the laterally trilobate paraterga, the caudally more deeply bilobate mid-dorsal keel on ring 19, and certain minor details of the gonopodal structure.

Key words: *Klimakodesmus*, *Pyrgodesmus*, taxonomy, new species, India, Sri Lanka

Introduction

At present, the millipede fauna of India, however insufficiently studied, comprises 270+ nominate species or subspecies in at least 90 genera, 25 families and 11 orders (Golovatch & Wesener 2016). Of them, the large and mostly tropical family Pyrgodesmidae contains some 14 species in seven genera, including *Klimakodesmus* Carl, 1932.

The taxonomy of Pyrgodesmidae is long known to be particularly badly confused and chaotic globally, with more than 170 genera, largely monotypic, and nearly 400 species all over the tropics, marginally in Southern Europe, North Africa, southern U.S.A., Japan, Taiwan and central China (Enghoff *et al.* 2015). Progress is strongly hampered by the small size of the animals (typically 3–16 mm long), as well as the outstandingly diverse and often complex structures, both peripheral and gonopodal, which are often difficult to see, let alone describe and depict. Numerous pyrgodesmid genera remain monotypic, often based only on female or even juvenile material, and delimited using solely such somatic features as the number of body segments/rings, the shape, distribution and location of ozopores and tergal ornamentations, the structure of the paraterga etc.

Klimakodesmus was originally described based on a single, and type species, *K. gravelyi* Carl, 1932, originating from near Coonoor and Mudumalai, both in Tamil Nadu state, Western Ghats, southern India (Carl 1932). Verhoeff (1939) promoted *Klimakodesmus* to the rank of a monobasic subfamily, Klimakodesminae Verhoeff, 1939, but presently it is considered as a strict junior subjective synonym of Pyrgodesmidae (Hoffman 1980; https://www.fieldmuseum.org/sites/default/files/taxon_table_5.pdf).

Carl (1932), when erecting his *Klimakodesmus*, compared it to *Pyrgodesmus* Pocock, 1892, the type genus of Pyrgodesmidae and also monobasic (Pocock 1892), because both genera shared numerous somatic features. He paid special attention to the identity of *Pyrgodesmus obscurus* Pocock, 1892, the type species of *Pyrgodesmus*, described from two male syntypes from Pundaluoya, Sri Lanka. Carl (1932) compared the original, rather superficial description and few schematic drawings of *P. obscurus* as given by Pocock (1892) to the excellent and richly illustrated