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## A taxonomic revision of the soil-feeding termite genus *Anhangatermes* (Isoptera: Termitidae: Nasutitermitinae)

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### Abstract

The taxonomy of *Anhangatermes* Constantino 1990 is revised. Four new species are described: *Anhangatermes anhanguera*, **sp. n.**, *Anhangatermes eurycephalus*, **sp. n.**, *Anhangatermes juruena*, **sp. n.**, and *Anhangatermes pilosus*, **sp. n.** The imago of *Anhangatermes* is described for the first time (*A. pilosus*). A key to the species of the genus based on soldiers and workers is provided. The diagnosis of the genus is updated to accommodate the new species. The geographic range of the genus is expanded to the Cerrado region of Central Brazil. The gizzard armature of the worker of *Anhangatermes* is described in detail for the first time.

**Key words:** termites, South America, Amazonia, Cerrado, humivore

### Introduction

The termite genus *Anhangatermes* Constantino 1990 includes a single described species, *A. macarthuri*, from the Amazon forest of northern Brazil. These termites are subterranean soil-feeders, relatively rare and little known.

Based on gut morphology, Noirot (2001) places *Anhangatermes* in the “*Subulitermes* group”. Typical members of this group are small soil-feeders whose soldiers have a yellow head and mandibles without points. Within this group, *Anhangatermes* shares many similarities with *Cyranotermes* Araujo 1970, which seems to be its sister group. Termites of these two genera are considerably larger than most members of the *Subulitermes* group.

In this paper we describe four new species of *Anhangatermes*, including the first description of the imago. A key to the species based on soldiers and workers is provided. The known geographic range of the genus is expanded to include the Cerrado region of Central Brazil.

### Material and methods

We follow the termite classification adopted by Krishna et al. (2013), which preserves the name Isoptera as an infraorder of Blattaria. We consider this classification to be the best compromise between nomenclatural stability and consistency with current phylogenetic hypotheses.

Specimens were examined using a stereomicroscope with dark field illumination (Leica M205C). Enteric valve armature and gizzard of workers were dissected and mounted on microscope slides with Hoyer's medium. Imago and worker mandibles were mounted with euparal. Images were captured with digital cameras attached to a light microscope and a dissection microscope. Depth of field was improved by capturing several images at different focal planes and merging them with a focus stacking software (CombineZP, Hadley, 2010). The distribution map was prepared with Generic Mapping Tools 4.5 (Wessel & Smith 1998).

Measurements were taken with a micrometric reticle on the eyepiece of a stereoscopic microscope, as follows: LH, length of head to lateral base of mandibles [5]; WH, maximum width of head, with eyes (when present) [17]; HH, height of head excluding postmentum [21]; DE, diameter of eye [49]; LN, length of nasus [13]; WPr, width of

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