



## A taxonomic revision of the Neotropical termite genus *Cyrelliitermes* Fontes (Isoptera, Termitidae, Syntermitinae)

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### Abstract

The taxonomy of the South American termite genus *Cyrelliitermes* Fontes, 1985 is revised, including an identification key to soldiers and distribution maps for all species. Two new species are described: *C. brevidens* and *C. crassinus*, both from southeastern Brazil. *C. cashassa* Fontes, 1985 and *C. jaci* Fontes, 1985 are both designated as junior synonyms of *C. angulariceps* (Mathews, 1977), and *C. cupim* Fontes, 1985 is designated as a junior synonym of *C. strictinusus* (Mathews, 1977). An updated diagnosis for the genus is presented, including gut morphology. All species are illustrated.

**Key words:** South America, *Curvitermes*, Nasutitermitinae, soil-feeder

### Introduction

The termite genus *Cyrelliitermes* is endemic to South America, with records from Brazil, Suriname and French Guyana. All species of this genus are true soil-feeders and do not build conspicuous nests. They are found in diffuse galleries in the soil or inside nests built by other termites.

Two species of this genus, *C. angulariceps* (Mathews, 1977) and *C. strictinusus* (Mathews, 1977), were first classified in the genus *Curvitermes* Holmgren. Fontes (1985) described the genus *Cyrelliitermes* including these two species and three new ones: *C. cashassa*, *C. cupim*, and *C. jaci*. Most of these species were described based on a small series from a single locality.

In this paper the taxonomy of *Cyrelliitermes* is reviewed based on the examination of larger series from many different localities, resulting in the description of two new species and three new synonymies.

### Material and methods

Drawings were prepared with a camera lucida attached to a stereoscopic microscope. The enteric valve, gizzard, and mandibles were dissected and examined under a stereoscopic microscope and mounted on microscope slides with Hoyer's medium or euparal.

Images were captured with digital cameras attached to the microscopes and, in most cases, focus depth was improved with CombineZP, a focus stacking software (Hadley 2010).

The terminology used for worker mandibles follows Sands (1998). The left mandible has 4 marginal teeth: M<sub>1</sub>, M<sub>2</sub> (absent or reduced in most Termitidae), M<sub>3</sub>, and M<sub>4</sub> (marginal subsidiary or molar tooth). The right mandible has only 2 marginal teeth: M<sub>1</sub> and M<sub>2</sub>. The left mandible index (Emerson 1960) is the ratio between the distance from A to M<sub>1</sub> and the distance from M<sub>1</sub> to M<sub>3</sub>. A similar scheme is used for soldier mandibles, as indicated in Fig. 9A. We follow Noirot (2001) for the description of the gut morphology. Terms used for pilosity are comparative. Bristles are stiff hairs with well-marked bases. Hairs are finer than bristles and lack conspicuous bases. Microscopic hairs are visible only under magnification of 40× or higher and with favorable light.

Measurements were taken with a micrometric reticle on the eyepiece of a stereoscopic microscope. A description of these measurements can be found in Roonwal (1970) and his respective numbers are indicated in parenthe-