



## Morphology of the eggs and larvae of *Cyphomyrmex transversus* Emery (Formicidae: Myrmicinae: Attini) and a note on the relationship with its symbiotic fungus

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### Abstract

The morphology of the eggs and larvae of the ant *Cyphomyrmex transversus* Emery is here described and discussed for the first time. Some morphological characteristics of the symbiotic fungus that covers the eggs, larvae, and pupae are also examined.

**Key words:** Formicidae, Myrmicinae, Attini, *Cyphomyrmex transversus* Emery, immature stages, morphology, symbiotic fungus

### Introduction

The tribe Attini Smith, 1858 (Formicidae: Myrmicinae) includes 13 genera, among which *Cyphomyrmex* Mayr, 1862 is the second most diverse, with 37 valid species (Brown, 2000; Fernandez, 2003; Price *et al.*, 2003; Bolton *et al.*, 2006; see Table 1). This genus is usually regarded as monophyletic (Hölldobler & Wilson, 1990; Mayhé-Nunes, 1995; Schultz & Meier, 1995), but its exact phylogenetic relationships inside the tribe remain unclear (Schultz & Meier, 1995). Klingenberg (pers. com.) recently noted that several putative synapomorphies would justify the placement of *Cyphomyrmex morschi* Emery in the genus *Mycetophylax* Emery. However, the monophyly of the remaining *Cyphomyrmex* species is more secure. All *Cyphomyrmex* species are Neotropical, except *Cyphomyrmex wheeleri*, which is Nearctic (Kempf, 1972 & 1966; Bolton, 1995), and *Cyphomyrmex rimosus* and *Cyphomyrmex minutus*, which occur in the Nearctic and Neotropical regions (Longino, 2007).

Two informal species groups are recognized (Kempf, 1964 & 1966): the *strigatus* group and the *rimosus* group. The *strigatus* group is the smaller of the two (Table 1) and accounts for 16 species spread throughout South America and the Antillean islands near Venezuela (Kempf, 1964; 1972). The *rimosus* group includes 21 species that are geographically concentrated between Central America and the Northern part of South America (Snelling & Longino, 1992). Schultz & Meier (1995) demonstrated that the *strigatus* group is paraphyletic in relation to the *rimosus* group.