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## A new species of the ant-hunter genus *Tracheliodes* Morawitz (Hymenoptera: Crabronidae: Crabronini) from Brazil

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### Abstract

*Tracheliodes leclercqi* sp. n., a new species of the ant-hunter genus *Tracheliodes* Morawitz, is described from southeastern Brazil. It closely resembles *T. cutucu* Cooper, 1988 and the main differences between the two species are presented. Photographs of type specimens of *T. leclercqi* sp. n., as well as of a female and a male paratypes of *T. cutucu*, are provided.

**Key words:** crabronine wasps, Neotropical, taxonomy, Apoidea

### Introduction

Crabronini comprise the largest tribe of Crabronidae with 48 genera and 1480 species distributed worldwide (Pulawski, 2014), with 23 genera and more than 360 species in the Neotropical region (Amarante, 2002; Pulawski, 2014). Species-level revisions are available for almost the entire Neotropical fauna of Crabronini, with 21 of the 23 genera revised by Jean Leclercq in more than 30 articles along 73 years of work (Pulawski, 2014). Only *Lindenius* Lepeletier has not been revised in the Neotropical region, while the two species of *Parataruma* Kimsey can be identified through the work of Kimsey (1982).

The worldwide genus *Tracheliodes* Morawitz has currently 16 species, eight of them in the Palearctic region, three in the Nearctic, and five in the Neotropical region. Additionally the genus has three fossil species, two from the Baltic amber and one from the Miocene of Colorado (Pulawski, 2014). *Tracheliodes* differs from other crabronine genera by its elongate fore trochanter and a broad frons with the antennal sockets well separated from the inner orbits, which are only moderately convergent below (Bohart & Menke, 1976). The Neotropical species seems to form a monophyletic group and can be distinguished from the remaining species by the petiolated metasoma (Leclercq, 2005).

Knowledge about the natural history of the genus is restricted to two Palearctic and three Nearctic species, which all hunt ant workers of Dolichoderinae (*Tapinoma* spp. and *Liometopum* spp.) for nest provisioning. Four species of *Tracheliodes* are known to use pre-existing cavities in wood and only *T. quinquenotatus* (Jurine) nests in the ground (Pate, 1942; Cooper, 1985). Biological information on the Neotropical species is restricted to a few notes (Cooper, 1988; Melo, 2000), indicating that they also nest in pre-existing holes in dead tree stumps.

The only species occurring in Brazil is *T. carnavalus* Leclercq, 1981, and apparently endemic to southern and southeastern Brazil. In this paper we describe a second species of ant hunter genus *Tracheliodes* from southeastern Brazil.

### Material and methods

The studied material belongs to the entomological collection of the Departamento de Zoologia, Universidade Federal do Paraná (DZUP). We also examined a female and male paratypes of *Tracheliodes cutucu* Cooper, 1988 from the Faculté des Sciences Agronomiques de Gembloux, Belgium.

and distinctly differentiated from surrounding surface, its posterior portion about twice as wide as anterior portion; occipital carina not continued ventrally. Mesosoma: pronotal collar short, transverse and broadly notched in the middle, a fine carina on side of collar where it joins anterior surface. Structure of legs very similar to that of *T. cutucu*; lower margin of depression on posterior surface of mid femur straight; emargination on lower margin of hind femoral concavity only slightly wider than high, apical border of concavity simple and continuous with upper border, inner carina of concavity straight and ending under the upper border.

**Male paratype. Measurements (in mm).** Approximate body length, 6.15; maximum head width, 1.72; forewing length, 4.62; maximum width of T3, 1.19.

Similar to female in coloration and integumental surface, differing in the presence of a long ivory stripe along upper gena, continuous stripe along pronotal collar, ivory macula on central portion of metanotum, and hind femur mostly brown. Structure. Head: clypeus produced in the middle as a broad lobe, its apex with a shallow emargination, lateral margin of clypeus expanded as a flap over base of mandible, spiniform tubercle of clypeal disc weakly developed; mandibles broad, in frontal view about as wide as central lobe of clypeus; area around tentorial pit and lower parocular area strongly depressed, forming a very broad pit, border with frons abruptly angled; facial fovea small and relatively narrow. Metasoma: apex of T7 distinctly bilobed; apex of S7 deeply notched.

**Variation.** There is considerable variation in body size among both females and males. The paratype female is quite smaller (forewing length of 3.76 mm) than the holotype, while the smallest male paratype has a forewing length of only 3.86 mm. The yellow marks, especially those on the gena and pronotal collar, vary in extension; some of them can be lacking. The proportions of the male head seem to vary allometrically, with larger males having slightly longer clypeal projection and longer gena and vertex when compared to smaller males.

**Etymology.** This species is named in honor of the crabronine systematist Jean Leclercq, who described most of the known diversity for this group of wasps.

**Type material. Holotype: Brazil, São Paulo:** female (DZUP), 'Brasil, São Paulo, \ Ribeirão Preto, \ Campus da USP, \ 22.VIII.1998, Melo' \ 'voando em frente \ a tronco de árvore \ morta'. **Paratypes:** one female and eight males, same data as holotype, except for collecting dates varying from 14 August 1998 to 12 October 1999.

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## References

- Amarante, S.T.P. (2002) A synonymic catalog of the Neotropical Crabronidae and Sphecidae (Hymenoptera: Apoidea). *Arquivos de Zoologia*, 37, 1–139.  
<http://dx.doi.org/10.11606/issn.2176-7793.v37i1p1-139>
- Bohart, R.R. & Menke, A.S. (1976) *Sphecid wasps of the world: A generic revision*. University of California Press, Berkeley, 695 pp.
- Cooper, K.H. (1985) The nest of *Tracheliodes foveolineatus* (Viereck), and normal reversal of cocoon orientation within it (Hymenoptera: Sphecidae: Crabroninae). *Bulletin of the Southern California Academy of Sciences*, 84, 156–163.
- Cooper, M. (1988) A new species of *Tracheliodes* Morawitz (Hym., Sphecidae) from Ecuador. *The Entomologist's Monthly Magazine*, 124, 107–110.
- Kimsey, L.S. (1982) *Parataruma*, a new genus of Neotropical Crabronini (Hymenoptera, Sphecidae). *Psyche*, 89, 169–173.  
<http://dx.doi.org/10.1155/1982/48534>
- Leclercq, J. (1980) Crabroniens d'Amérique Latine appartenant aux genres *Entomocrabro* Kohl et *Tracheliodes* Morawitz (Hymenoptera Sphecidae). *Bulletin & Annales de la Société Royale Belge d'Entomologie*, 116, 233–245. [Issued in 31 January, 1981]
- Leclercq, J. (2005) Hyménoptères Crabroniens des Amériques du genre *Tracheliodes* Morawitz, dont une espèce nouvelle de l'Équateur (Hymenoptera: Crabronidae, Crabronini). *Notes Fauniques de Gembloux*, 55, 3–6.
- Leclercq, J. & Cambra, R.A. (2002) *Tracheliodes panamae* sp. n. de Panama (Hymenoptera: Crabronidae, Crabroninae). *Notes*

*Fauniques de Gembloux*, 49, 25–30. [Issued in August, 2003]

- Melo, G.A.R. (2000) Comportamento social em vespas da família Sphecidae (Hymenoptera, Apoidea). *In*: Martins, R.P., Lewinsohn, T.M. & Barbeitos, M.S. (Eds.), *Ecologia e comportamento de insetos. Oecologia Brasiliensis*, 8, 85–130. <http://dx.doi.org/10.4257/oeco.2000.0801.04>
- Pate, V.S.L. (1942) A review of the myrmecotherous genus *Tracheliodes* (Hymenoptera: Sphecidae: Pemphilidini). *Lloydia*, 5, 222–244.
- Pulawski, W.J. (2014) Catalog of Sphecidae *sensu lato*. Available from: [http://research.calacademy.org/ent/catalog\\_sphecidae](http://research.calacademy.org/ent/catalog_sphecidae). (Accessed in 1 September 2014)