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## **The Sarcophaginae (Diptera: Sarcophagidae) of Southern South America. I. The species of *Microcerella* Macquart from the Patagonian Region**

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## Abstract

A revision is given of the species placed in the genus *Microcerella* Macquart, known from the southern extreme of South America, the so-called Patagonian Region. A new diagnosis of the genus is given on the basis of the revision of a large number of Neotropical species. A total of 25 valid species are recognized in the region. Most of these (21 species) are divided into four species-groups on the basis of general groundplan of genitalia and external characters. Four new species are described, *M. deliae* sp. nov., *M. holmbergi* sp. nov., *M. nataliae* sp. nov. and *M. paetoi* sp. nov. One new synonymy is established: *Austrohartigia shannoni* Lopes as a new junior synonym of *Microcerella spinosa* (Hall), **syn. nov.** A lectotype is designated for *Doringia subandina* Blanchard [a junior synonym of *Microcerella spinigena* (Rondani)]. Two species are recorded from Argentina for the first time: *M. chicoensis* (Lopes) and *M. engeli* (Hall). Three nominal species were not examined and are treated as *nomina dubia* within *Microcerella*: *M. apicalis* (Townsend), *M. rufomaculata* Macquart and *M. sarcophagina* Thomson. An illustrated key is provided to the males of Patagonian species of *Microcerella* allowing for separation of 25 species. Additionally, a series of images of male genitalia based on color photography and illustrations is provided to aid in the identification of these species of *Microcerella*. Biological information is given for the species, where known.

**Key words:** Diptera, Sarcophaginae, key, new species, Argentina, Chile

## Introduction

Adults of *Microcerella* Macquart are medium to large flies, widely distributed in the Neotropical Region with a few species reaching the Nearctic Region, and several endemic species associated with temperate and cold environments in South America. The southern portion of South America, usually called Patagonia, contains some unique ecoregions housing a characteristic but still scarcely studied flesh fly fauna. Within the Sarcophaginae, the genus *Microcerella* is one of the largest New World genera, with more than 70 described species (Pape 1996, Mulieri & Mariluis 2009), many of them recorded from Patagonia.

*Microcerella* was erected by Macquart (1851) as a monotypic genus with the species *M. rufomaculata*, on the basis of a single female from Chile, with the new genus characterized by the possession of a relatively short antenna with bare arista. Thomson (1869), described the second species of the genus, *M. sarcophagina*, based on a male from Valparaíso, Chile. The tribe Microcerellini was erected by Séguy (1928) to include the single genus *Microcerella*. During the first half of 20th Century, Hall (1937) carried out the main effort to document the faunistic composition of the Patagonian sarcophagids. This author did not arrange the species into tribes but keyed *Microcerella* with five other endemic genera characterized by a bare or pubescent arista (*Aulacophyto* Townsend, *Itiophyto* Hall, *Mimophytomyia* Hall, *Microcerellamyia* Hall and *Phesarcodexia* Hall). Later, Lopes (1969a), in his “Americas South of the United States” catalog of Sarcophagidae, expanded and briefly defined the tribe Microcerellini, grouping 20 generic names whose species showed “bare or pubescent arista” and living specimens with green eyes.

Lopes (1982) revised the genera of Microcerellini and considered 31 genera, assigning them to the subtribes Microcerellina (species with bare or pubescent arista) and Hypopeltina (species with short plumose arista). Within this tribe, *Microcerella* was assigned a narrow concept based on the following characters given in the key: antenna shorter than half of the face, and third segment of antenna twice the length of the second.

Pape (1990) suggested that Lopes’s concept of *Microcerella* was barely defined and hence was tentative. Also, Pape (1990) considered the short plumose arista present in Hypopeltina as equivalent to the usual plumose condition present among other sarcophagine flies. This criterion leaves the subtribes divided by a single two-state character (pubescent or plumose arista) without a “third state from which they could be derived independently” as autapomorphic within Sarcophaginae. Taking into account the still unsatisfactory definition of the tribe as a whole, the poor definition of the type genus, and the high prevalence of monotypic genera in the tribe (27 of 31), Pape (1990) expanded the concept of *Microcerella* to contain all the generic names included in the tribe Microcerellini *sensu* Lopes (1982) (with the unique exception of *Cryptosarcophila* Townsend, transferred to *Lepidodexia* Brauer & Bergenstamm as subgenus).

During the last decades, collecting trips by JCM in the Argentinean portion of the Patagonian Region added four new species to *Microcerella* (Mariluis 2002a, 2004, 2006; Mulieri & Mariluis 2009), indicating the poor state of knowledge of the taxon in this region. Under its current broad definition, the genus *Microcerella* represents more

## Not examined nominal species of *Microcerella*

### *Microcerella apicalis* (Townsend, 1934)

*Alaccoprosopa apicalis* Townsend, 1934: 202 (female; Chile: Concepción); Lopes, 1969a: 9 (in catalog); Lopes, 1975b: 46 (female, notes on holotype, figs. 9–13); Stuardo Ortiz, 1946: 169 (list).

*Microcerella apicalis*: Pape, 1996: 253 (in catalog).

**Remarks.** *Alaccoprosopa apicalis* Townsend was described on the basis on a single female from Concepción, Chile. This species was erroneously identified by Lopes (1936, 1938b) who misidentified specimens of *M. chilensis* under this name. In his catalog, Lopes (1969a) placed *Mimophytomyia chilensis* Hall as a junior synonym of *Alaccoprosopa apicalis*. Later, Lopes (1975b) redescribed the holotype of *A. apicalis* and recognized his mistake with respect to *M. chilensis*. He considered *Itiophyto* as synonym of *Alaccoprosopa* according to the following similarities with *I. engeli* (Lopes 1975b: 47): “hairy propleura, parafacial hairs in one row, facial ridges without ascending setulae”. *Alaccoprosopa apicalis* is undoubtedly a species of *Microcerella*, probably the still unknown female of *M. engeli*. It is treated here as a *nomen dubium* within *Microcerella*.

### *Microcerella rufomaculata* Macquart, 1851

*Microcerella rufomaculata* Macquart, 1851: 209 (female; Chile); e.g., Pape, 1996: 259 (in catalog, as an unidentified nominal species). *Nomen dubium* within *Microcerella*.

### *Microcerella sarcophagina* Thomson, 1869

*Microcerella sarcophagina* Thomson, 1869: 541 (male; Chile: Valparaíso); e.g., Pape, 1996: 259 (in catalog, as an unidentified nominal species). *Nomen dubium* within *Microcerella*.

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