SYSTEMATICS, MORPHOLOGY AND PHYSIOLOGY

New Species and New Records of *Microcerella* Macquart (Diptera: Sarcophagidae) Belonging to the *M. spinigena* Species-Group

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Nueva Especie y Nuevos Registros de *Microcerella* Macquart (Diptera: Sarcophagidae) Pertenecientes al Grupo *M. spinigena*

RESUMEN - Una nueva especie del género *Microcerella* Macquart, *Microcerella cristiani* sp. nov., es descripta a partir de material colectado en la Patagonia argentina. Se registra po primera vez para la Argentina a *Microcerella austrohartigia* Pape. Ambas especies pertenecen al grupo de especies *M. spinigena*.

PALABRAS-CLAVE: Calyptrata, mosca, taxonomía

ABSTRACT - A new species of the genus *Microcerella* Macquart, *Microcerella cristiani* sp. nov., is described from material obtained from Argentinean Patagonia. First records are given for *Microcerella austrohartigia* Pape in Argentina. Both species belong to the *M. spinigena* species group.

KEY WORDS: Calyptrata, fly, taxonomy

The genus *Microcerella* Macquart is a New World taxon with seventy-four species presently known (Pape 1996, Mariluis 2006). The redefinition of *Microcerella* in a broader concept stated by Pape (1990) is almost equal to the tribe Microcerellini as presented by Lopes (1982). Thus, the broad definition contains all the generic names included in the tribe by Lopes as synonyms of *Microcerella*, with the exception of *Cryptosarcophila* Townsend. The resultant generic concept presents an assemblage of species with a great diversity in genital morphology. *Microcerella spinigena* Rondani and some similar species placed under the generic name *Austrohartigia* Townsend by Lopes (1981) and Lopes & Tibana (1982) emerge as a well defined group of *Microcerella* species, sharing a general ground-plan of their phallic structures. This includes the presence of a conspicuous elongate and concave vesica, the glans composed of a pair of slender lateral styli and a median stylus more or less covered by a conspicuous sclerotization of the juxta, and the harpes represented by a pair of strongly sclerotized plates bearing a few, large spines (Lopes 1981). Future cladistic studies are needed to establish monophyletical groups within the genus *Microcerella*.

Eleven species share the above described phallic ground-plan: *M. austrohartigia* Pape, *M. cortesi* (Lopes), *M. cortesiana* (Lopes & Tibana), *M. edwardsi* (Hall), *M. globulipenis* (Lopes & Tibana), *M. jujuyensis* (Lopes), *M. multidentata* (Lopes), *M. nigriventris* (Lopes), *M. shannoni* (Lopes), *M. spinigena* (Rondani) and *M. spinosa* (Hall). The present paper adds a new species to *Microcerella* and provides the first records of *M. austrohartigia* from Argentina.

Material and Methods

The terminology used for descriptions of external morphology is that of McAlpine (1981), and terminology of phallic (or aedeagal) structures follows Lopes (1956), Pape (1994), and Mello-Patiu & Pape (2000). Illustrations were made using a camera lucida attached to a stereomicroscope. After collecting the specimens, their genitalia were exposed using the technique described by Lopes (1973). Distributional data are expressed according to Pape (1996).

The holotype and paratypes of the new species are pinned. The holotype and some of the paratypes were deposited in the collection of the Museo de La Plata (MLP), Argentina. Other paratypes were deposited in the collections of the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (MACN), Buenos Aires, Argentina, ANLIS "Dr. Carlos G. Malbrán" Departamento Vectores (ANLIS, DV).

Microcerella austrohartigia (Pape)

Austrohartigia bicoloricauda Lopes 1981: 328 (Brasil: São Paulo, Bocaina). [Junior secondary homonym of *Mesothyrsia*

bicoloricauda Enderlein.]
Microcerella austrohartigia Pape, 1990: 50. New name for *Austrohartigia bicoloricauda* Lopes; Pape 1996: 253 (in catalog).

Material examined. ARGENTINA, Buenos Aires: one female, Ministro Rivadavia, XII-2005, P.R. Mulieri (ANLIS-DV); one female (ANLIS-DV), same data except I-2006; one female (ANLIS-DV), same data except II-2006; four females Argentina, Buenos Aires, Burzaco, I-2006, P.R. Mulieri (ANLIS-DV); one female (ANLIS-DV) same data except IV-2006; one female (ANLIS-DV) same data except V-2006; one female (ANLIS-DV) same data except V-2006; two males, two females (ANLIS-DV) same data except X-2006.

Distribution. Argentina (Buenos Aires), Brazil (Paraná, Rio Grande do Sul, São Paulo)

New record. Argentina. Buenos Aires

Remarks. The original description of this species is accompanied by illustrations of male and female genitalia (Lopes 1981) that leaves no doubt about the identity of specimens here studied.

Microcerella cristiani sp. nov. (Figs. 1-6)

Total length (type series) = 6-9 mm
Male. *Head* – Ground colour black, microtomentum silvery; eyes reddish in live specimens; fronto-orbital and parafacial plates with silvery microtomentum bearing short black setulae, parafacial plate with a single row with two or three strong black setae and some elongated setulae near eye; frontal vitta black, with thin silvery microtomentum; frons at its narrowest point about 0.75 X head width; 6-8 frontal setae (one or two posterior pairs reclinate), the row of frontals diverging strongly anteriorly at the level of pedicel; orbital setae absent; inner vertical setae present; ocellar triangle black, with one pair of strong ocellar setae; postocular setae black, in one row; genal groove, genal dilation, and postgena black with silvery microtomentum and black setae, gena with black setae; face light brown with silvery microtomentum; facial ridge black with silvery microtomentum on the upper half, with setae and setulae on lower half; antenna black, first flagellomere 1.5 x longer than length of pedicel, arista short pubescent on basal half with hairs at most 1/3 x as long as largest diameter of arista; palpus black.
Thorax – Black, with silvery microtomentum; prescutum with intermediate stripes with silvery microtomentum and a black central area; scutum with intermediate stripes with silvery microtomentum interrupted in the middle of its length; postpronotal lobe, notopleuron and anepimeron with spots of silvery microtomentum; anepisternum and katepisternum with two spots of golden microtomentum; proepisternum with few setulae on anterior portion. Chaetotaxy: acrostichals 2 (fore and median) + 0, dorsocentrals 3+3 (spaced for 3), intra-alars 1+2, supra-alars 1+3 or 2+3, anterior postpronotal 1, basal postpronotal 2, postalars 2, notopleurals 4 (two big and two small), katepisternals 3 with the median one a little smaller and inserted near the fore one. Scutellum with two developed laterals, discals 1. Wing hyaline, tegula brown, orange basicosta and veins, R_1 bare, R_{4+5} setulose in proximal 0.5 or less of distance to r-m, costal spine differentiated, third costal sector without ventral setae, lower calypteres whitish to pale yellow. Legs black; middle femur without posteroventral ctenidium on its apical portion; middle tibia with four anterdorsal setae, one posterodorsal setae, two posterior setae and one ventral seta; hind femur with rows of anterodorsal, anteroventral, and posteroventral setae; hind tibia with 4-3 anterodorsal setae, two posterodorsal setae and three anteroventral seta.
Abdomen – Black; T 1+2 without lateral spots of silvery microtomentum; T 3-5 with one pair of dorsal spots of silvery microtomentum; T 3-5 with one pair of lateral spots of golden microtomentum; T 1+2-5 one pair of ventral spots of silvery microtomentum; ST 2-4 black; T 1+2-3 without median marginal setae, T 4 one pair of median marginal setae; T 5 with a complete row of marginal setae; ST 1-4 exposed with long black hair-like setae; ST 5 V-shaped (Fig 1).
Terminalia – Syntergosternite 7+8 shiny black, with short black hair-like setae, and four or three pairs of marginal setae; epandrium orange reddish with scattered long black setae and hair-like setae; cercus not curved forward, with pointed apex in profile (Fig 2); cerci with cercal prong longer than cercal base (Fig 3); surstylus robust, setose in apical half (lateral view) (Fig 2); gonopod shiny brown with a few setulae (Fig 4); paramere curved with a strong bristle on anterior margin (Fig 5); vesica elongate and concave, without spines (lateral view) (Fig 6); juxta not sclerotized (lateral view) (Fig 6); lateral styli and harpes well sclerotized (Fig 6).

Female. Unknown

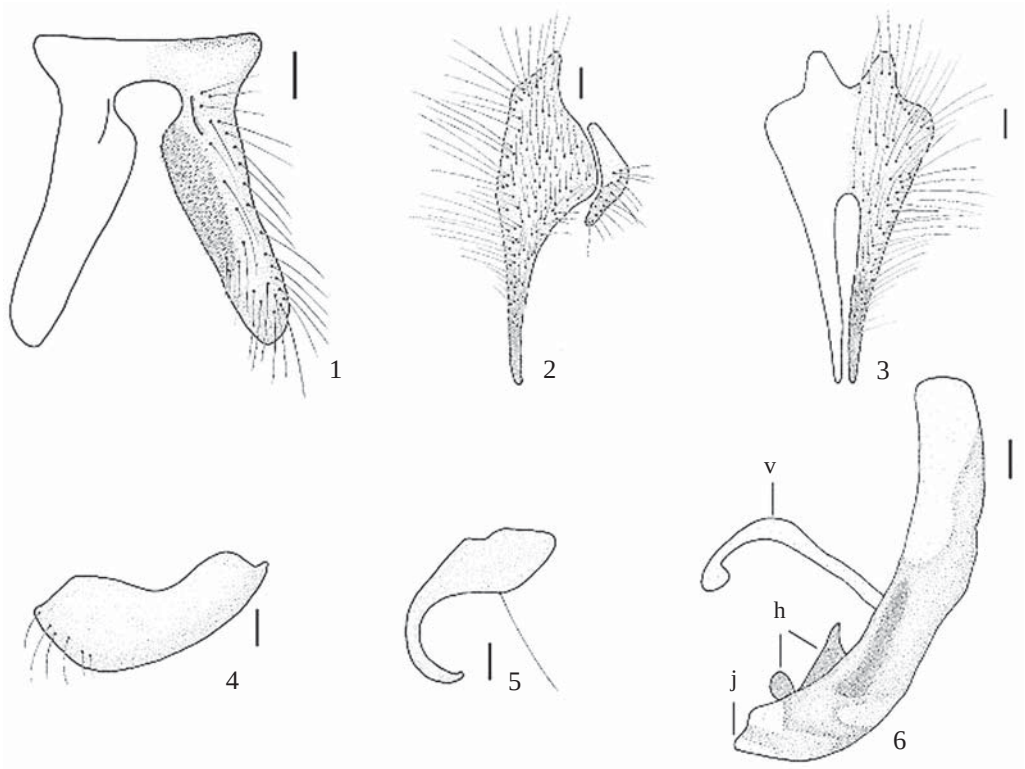
Type material. Holotype male (MLP), **ARGENTINA**, Santa Cruz: Gobernador Gregores, XI-2006, J.C. Mariluis. Paratypes: seven males, same data as holotype (ANLIS, DV; MACN; MLP); seven males (ANLIS, DV), same data except I-2007; one male (ANLIS, DV), Argentina, Santa Cruz: Puerto San Julián, I-2005, J.C. Mariluis.

Distribution. Argentina (Santa Cruz)

Etymology. Named after Cristian Carlos Mariluis.

Remarks. The key given by Lopes (1981) presents ambiguous characters in some couplets, especially the number of rows of lower parafacial bristles. The examination of several specimens has allowed us to establish a considerable variability of this character. Thus the correct identification of those *Microcerella* belonging to the *M. spinigena* species-group is ensured on the examination of male genitalia.

Microcerella cristiani appears most closely related to *M. spinosa* and *M. shannoni* based on the shared general appearance of male genitalia, with special reference to the size and shape of the juxta and vesica. *Microcerella cristiani* differs from *M. spinosa* by the absence of ventral spines in the vesica and the presence of a rounded (or 'fat') distal apophysis of harpes. On the other hand, *M. cristiani* differs from *M. shannoni* by the possession of a conspicuously stronger proximal apophysis of harpes.



Figs 1-6 *Microcerella cristiani* sp. nov. 1. Sternite 5, ventral view. 2. Cercus and surstylus, rigth lateral view. 3. Cerci, posterior view. 4. Gonopod, rigth lateral view. 5. Paramere, rigth lateral view. 6. Aedeagus, left lateral view. Abbreviations: h, harpes; j, juxta; v, vesica. Scale bars: Fig 1 = 0.2 mm, Figs 2-6 = 0.1 mm.

The holotype of *M. shannoni* is one of the paratype series of *M. spinosa* studied by Hall (Lopes 1981). Moreover, Lopes (1981) pointed out that *M. spinosa* and *M. shannoni* have similar external morphological characters. *Microcerella cristiani* can be easily separated from *M. spinosa* and *M. shannoni* by the possession of two katepisternal spots of golden microtomentum and cerci with cercal prong longer than cercal base. The combination of external and genital differences above supports the specific status given to specimens of *M. cristiani*.

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