

## **Synonymizing *Microtomus sticheli* Costa Lima, 1935 under *M. tibialis* Stichel, 1926 and redescription of the species (Heteroptera: Reduviidae)**

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### **Abstract**

At present, only hemelytra and connexival color patterns are diagnostic characters for differentiating *Microtomus tibialis* Stichel and *Microtomus sticheli* Costa Lima. After analysis of several specimens from Brazil (Minas Gerais, Goiás, Bahia) and Bolivia (Santa Cruz), we conclude that *M. sticheli* is a synonym of *M. tibialis*. The diagnostic characters are variable and of low discriminatory value. *Microtomus tibialis* is redescribed, including male and female genitalia.

**Key words:** Reduviidae, Hammacerinae, *Microtomus tibialis*, *Microtomus sticheli*, synonymy

### **Introduction**

Members of the reduviid subfamily Hammacerinae live under the loose bark of decaying trees, and are attracted by light (Miller 1956). Undiano (1963, 1968) cited them as predators of "kissing bugs" (Triatominae) and as natural carriers of *Trypanosoma cruzi* Chagas 1909. According to Maldonado Capriles (1990), the genus *Microtomus* consists of 13 species. *Microtomus lunifer* Berg, *M. purcis* Drury, *M. luctuosus* Stål, *M. cinctipes* Stål, *M. conspicillaris* Drury, *M. gayi* Spinola, and *M. pessoai* Lent & Suarez were treated in previous contributions (Coscarón & Giacchi 1985, 1987; Giacchi & Coscarón 1986, 1989), where adults, immature stages, and eggs were redescribed. Champion (1989) and Stichel (1926) considered that some of the described species in the subfamily could be chromatic variations, not true taxonomic identities. The characters which vary are: color pattern of legs (Stichel 1926, Costa Lima 1935, Giacchi & Coscarón 1986), hemelytra (Stichel 1926, Costa Lima 1935, Coscarón & Giacchi 1985, 1987), and connexivum (Stål 1862, Stichel 1926, Coscarón & Giacchi 1985, 1986). *Microtomus tibialis* was described by Stichel

(1926), and *Microtomus sticheli* by Costa Lima (1935). Both descriptions are short and refer mainly to the coloration of the hemelytra, legs, and connexivum, and the presence of setose areas on the abdomen of the males. In Costa Lima's key (1935), *M. sticheli* and *M. tibialis* share a couplet. The difference in the latter is that the hemelytra are mainly black (Fig. 9), whereas in *M. sticheli* an extensive area of white is present (Fig. 4).

The present work was designed to determine if the differences observed between *Microtomus tibialis* Stichel 1926 and *Microtomus sticheli* Costa Lima 1935 are sufficient to consider them as different taxa.

### Materials and methods

We worked with Brazilian and Bolivian specimens from the collections of the American Museum of Natural History (AMNH), New York, NY, U.S.A and the Instituto Oswaldo Cruz (IOC), Rio de Janeiro, Brazil. Morphological characters were observed with a Wild stereomicroscope (Heerbrugg, Sankt Gallen, Switzerland). Illustrations were done with a drawing tube attachment. Scanning electron micrographs were made from specimens mounted on stubs, sputter-coated, and scanned with a JEOL JSM T-100, Tokyo, Japan. The measurements of body parts are given in millimeters.

### *Microtomus tibialis* Stichel, 1926

Figs.1–18.

*Microtomus tibialis* Stichel, 1926; 6: 180–184.

*Microtomus sticheli* Costa Lima, 1935; 7: 316–321. **New Synonymy.**

Body compressed dorsoventrally, color dark brown (Fig. 1). Total length 20.5–24.9 (mean = 23.39). Head cylindrical and elongate, with abundant granulations and setae (Fig. 2). Length 3.1–3.92 (mean = 3.48), width 3.29–3.54 (mean = 2.97). Anteocular region much longer than postocular one. Eyes very prominent and lateral, with black and golden spots, reduced posteriorly. Behind them, close to neck, light brown areas. Width of eyes 0.88–1.52 (mean = 1.21). Length of interocular space 1.06–1.43 (mean = 1.26). Ocelli present between eyes, color light brown; anterior to ocelli, two triangular light brown areas are present without granulations or setae. Rostrum curved, brown, except distal portion of each segment light brown or reddish brown, with abundant setae ventrally. In some specimens, first segment with external longitudinal light brown stripe. Length 3.29–4.5 (mean = 3.59). Ratio of length of segments ca. 1: 1.81: 3.44. Antenna inserted at middle of anteocular region. Antenna dark brown, setose. Length 11.64–13.54 (mean = 11.4). Ratio of length of segments ca. 1: 0.08: 0.22: 0.37. Second segment with 33–35 articles. Neck dark brown, without granulations or setae. Thorax dark brown, with granulations and setae.

Humeral angles of pronotum with short protuberances. Scutellum with granulations and setae, posterior process as Fig. 3. Length 4.8–5.69 (mean = 5.59), width 5.7–6.8 (mean = 6.6). Legs with abundant setae and granulations, more conspicuous on fore and middle legs, color dark brown, except red rounded spot in middle of femur III, sometimes reaching distal portion. Femora I and II enlarged medially. Tibia brown or reddish brown, very pilose. Spongy fossula on tibia I and II. Tarsi brown, with setae. Hemelytra dark brown, except variable yellowish-white stripe on chorion and clavus (Fig. 4–9). In males, hemelytra reaching posterior border of abdomen, in females, not reaching posterior border of abdomen. Length 12.53–15.82 (mean = 14.37). Abdomen dark brown, pilose, without granulations. Males with setose area in central part of segments 2,3,4 (Fig. 10). Length 9.62–13.16 (mean = 10.25), width 6–10.76 (mean = 7.58). Connexivum dark brown with colored area on every segment (Fig. 11–13). Color varying from yellowish white, to reddish light brown; with setae but without granulations.

**Male:** Figs. 14–16. Parameres (Figs. 14–15) curved, acute distally, with abundant long setae medially in the external surface; pygophore (Fig. 16) subrounded with sparse long setae.

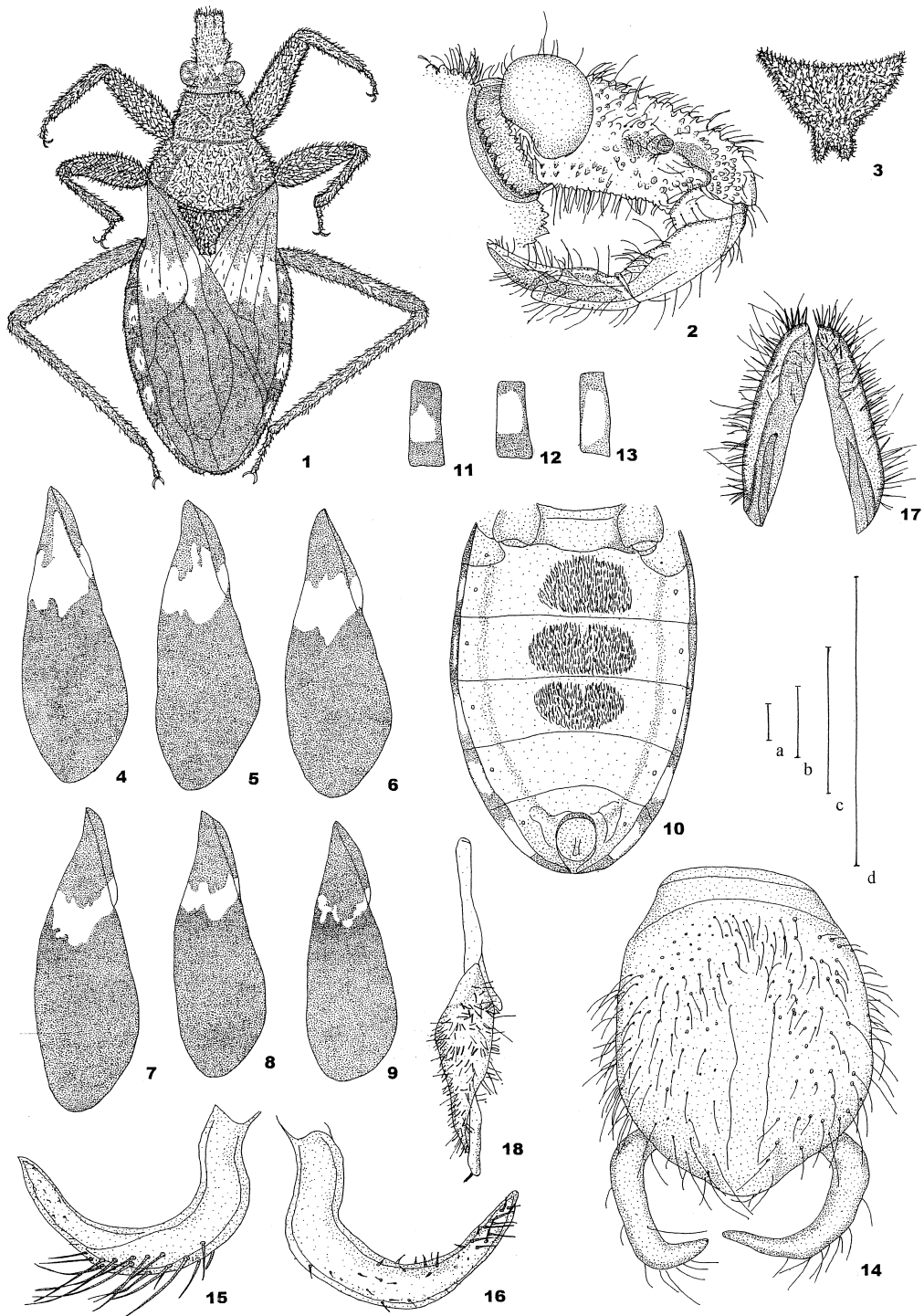
**Female:** Figs. 17–18. Gonocoxite VIII (Fig. 18) with abundant short and sparse long setae; gonapophysis VIII (Fig. 18) with two short setae distally; gonocoxite IX (Fig. 17) with long setae.

**Geographic distribution:** *Brazil:* Minas Gerais 19° S, 44°9' W; Goiás 15° 56' S, 49° 59' W; Matto Grosso 15° 1' S, 59° 44' W; *Bolivia:* Santa Cruz 17° 47' S, 63° 4' W.

Material studied: Holotype, female, Lassance g. 935, R. Pereira, 2194, *M. sticheli* Costa Lima (IOC); Allotype, male, *M. sticheli* Costa Lima, Costa Lima det. (IOC); *Brazil:* Minas Gerais: Pedra Azul. XI-1970, F.M. Oliveira. (AMNH); 4 males 3 females, Sta. Victoria, II-1970, F.H. Oliveira (AMNH); 1 male, Bahia: Divisa Km 965 ruta Est. de Rio a Bahia. XI-1971, C.A.C. Seabra (AMNH); 1 male, Encruzilhada, 960m, XI-1972, Alvarenga (AMNH); 1 male, Goiás: Jatal, XI-1971. F.M.Oliveira (AMNH); 1 female, Viannopolis, coll. R Spitz III-1930. 2197, em pau padre, (IOC); *BOLIVIA:* 1 female, Santiago: Chiquita, Santa Cruz (AMNH); 1 male, *M. tibialis* Stichel Costa Lima det. (IOC); 1 female 1 male, without locality.

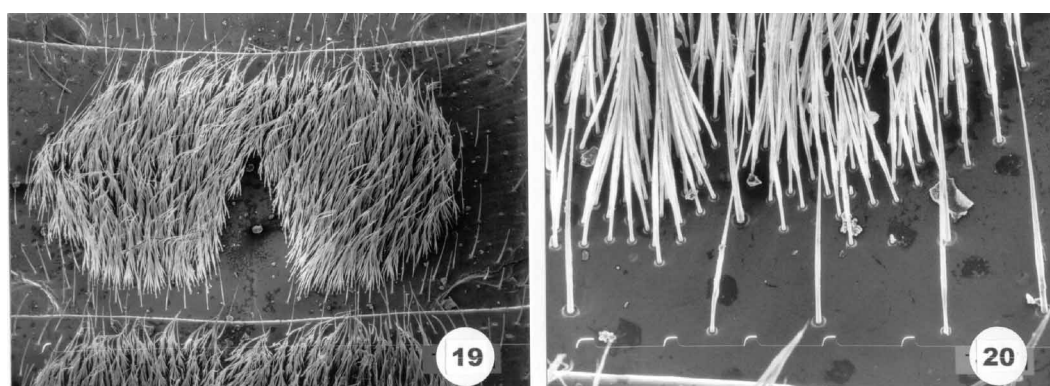
## Discussion

After studying the type material, numerous other specimens, and analysing the morphology of male and female genitalia of *M. tibialis* and *M. sticheli*, we consider them to be synonymous. We conclude that the characters used to distinguish these species (color pattern of hemelytra and connexivum) are not of diagnostic value because they are variable, as they are in other species of this genus (Coscarón & Giacchi 1987).



**FIGURES 1–18.** *Microtomus tibialis*. **1.** General aspect. **2.** Head, lateral view. **3.** Scutellum. **4–9.** Variation of color pattern of hemelytra. **4–6.** Brazil, Minas Geraes, Pedra Azul, XI- 1970, F.M. Oliveira (AMNH); **7.** Brazil, Sta. Victoria, II- 1970, F.H. Oliveira (AMNH); **8.** Origin not specified (AMNH); **9.** Brazil, Encruzilhada, 960 m, XI- 1972, Alvarenga (AMNH). **10.** Abdomen, ventral view. **11–13.** Connexival color. **11.** Brazil, Sta. Victoria, II-1970, F.H. Oliveira (AMNH); **12.** Brazil, Minas Geraes, Pedra Azul, XI-1970, F.M. Oliveira (AMNH); **13.** Origin not specified (IOC). **14–16.** Male genitalia, **14.** External aspect, **15.** Left paramer, dorsal view, **16.** Left paramer, ventral view. **17–18** Female genitalia, **17.** Gonapophysis 9°, dorsal view; **18.** Gonocoxite and gonapophysis 8°, dorsal view.

Scale lines: 2 mm a—figs. 1, 4–9 b—figs. 2, 3. c—figs. 10–13. d—figs. 14–18.



**FIGURES 19–20.** Scanning electron micrographs of *Microtomus tibialis* male abdominal segments. **19.** Ventral patch of setae (X 35). **20.** Detail of setae insertion (X 200).

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