

Ann. Naturhist. Mus. Wien	100 B	349 - 354	Wien, Dezember 1998
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A new species of *Borgmeiermyia* TOWNSEND, 1935, from Paraguay (Insecta: Diptera: Tachinidae)

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Abstract

Borgmeiermyia paraguayana sp.n. from Paraguay is described as new. Diagnostic characters are provided to distinguish it from the other species of the genus. The male genitalia, the wing and the habitus are figured.

Key words: Diptera, Tachinidae, Goniinae, *Borgmeiermyia*, new species, Paraguay.

Zusammenfassung

Borgmeiermyia paraguayana sp.n. aus Paraguay wird beschrieben. Diagnostische Unterschiede zu den anderen Arten der Gattung werden angeführt. Das Genital des Männchens, der Flügel und der Habitus werden dargestellt.

Introduction

The genus *Borgmeiermyia* was described by TOWNSEND (1935) with the type species *B. brasiliiana* TOWNSEND, 1935, from Jardim Botânico, Rio de Janeiro, Brazil, and assigned to the tribus Frontinini. In a revision of this genus ARNAUD (1963) suggested its placement within Frontinini to be incorrect. In the same paper he described two new species: *B. peruana* (on the basis of a single female, the male is unknown) from Monson Valley, Tingo Maria, Peru, and *B. rozeni* from Nova Teutonia, Santa Catarina, Brazil. GUIMARÃES (1971) placed the genus in the tribus Siphonini (Goniinae).

The new species is described on the basis of two males. The genitalia are dissected from the paratype which is badly mouldy, and stored in glycerin. In the description the data of the paratype are set in parentheses. The terminology follows MCALPINE (1981) and WOOD (1987). The new species was compared with the descriptions of *Borgmeiermyia brasiliiana* TOWNSEND, 1935, *B. rozeni* ARNAUD, 1963, and *B. peruana* ARNAUD, 1963, and with one male specimen of *Borgmeiermyia rozeni* ARNAUD, 1963, lent from the Staatliches Museum für Naturkunde Stuttgart, bearing the following labels: [Brasilien\ Nova Teutonia\ 27°11'B 52°23'L\ 300 - 500 m\ Fritz Plaumann\ III 1951 or 7] [18] [*Borgmeiermyia*\ *rozeni* Arnaud\ Lindner det.] [s. Arnaud\ *Am. Mus. Nov.*\ 2133 1963] [Genitalien in Glycerin]. The type specimens are deposited in the NHMW.

Abbreviations: NHMW = Naturhistorisches Museum Wien, Vienna, Austria.

Acknowledgements

I am especially grateful to Dr. Ruth Contreras-Lichtenberg (NHMW) for her critical advice, to Dr. Hans-Peter Tschornig (Naturkundemuseum am Rosenstein, Stuttgart) for reviewing the manuscript and for the

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loan of material, to Prof. Carl W. Schaefer (University of Connecticut) for the linguistic review, and to Mag. Christine Hecher (NHMW) for reading the manuscript. Thanks are also due to Mr. Walter Zelenka (Vienna) for drawing the habitus.

***Borgmeiermyia paraguayana* sp.n.** (Figs. 1 - 5)

Holotype: ♂ "Fiebrig, Paraguay, San Bernadino" (NHMW). **Paratype:** 1 ♂ same data as holotype (NHMW).

Description of male:

Body: moderately robust, body length 5.60 mm; colour blackish, partly golden and silvery pollinose (Fig. 1).

Head: blackish, golden and silvery pollinose; narrowest distance between eyes at vertex 0.37 times (0.34 times) as wide as head; ocellar triangle golden pollinose, with a pair of proclinate ocellar setae and posteriorly with further short proclinate setae; outer vertical setae 0.5 times or less as long as inner vertical setae; frons anteriorly yellowish-brown, posteriorly dark brown, below the ocellar triangle at the narrowest distance 3.89 times (3.33 times) as wide as one fronto-orbital plate (measured at level of ocellar setae); fronto-orbital plates golden pollinose, with a few black hairs on superior area near outer margin and additionally on inferior area between frontal and orbital setae, 7 pairs of frontal setae (7 setae on left side, 8 on right side), posterior pair of which reclinate, 2 pairs of frontal setae (2 setae on left side, 3 on right side) located below antennal base, 2 pairs of proclinate orbital setae; face silvery pollinose, (0.92) - 0.96 times as wide as high (measured at widest distance and at median line), median ridge of face forming a carina; facial ridge with 13 pairs of black proclinate supravibrissal setae, from superior to inferior increasing in length and thickness, almost attaining most inferior frontal setae below aristal base; first three or four pairs of supravibrissal setae located below base of antenna, distinctly shorter and thinner than the following; second pair of supravibrissal setae superior of vibrissae distinctly shorter and thinner than setal pairs above and below; vibrissae developed, decussate on oral margin; subvibrissal seta located immediately behind vibrissae, subvibrissal seta 0.5 times or less as long as vibrissae; parafacialia bare and golden pollinose, at narrowest distance (0.11) - 0.14 times as wide as eye; eyes black, with brown margin (entirely brown in paratype), (1.63) - 1.94 times as high as wide (measured at greatest distance), and with sparse, extremely fine short, hairs (eyes could be considered as bare); gena golden pollinose, with small black bristles and hairs on inferior margin, 0.20 - (0.21) as high as eye; genal dilation distinct, silvery pollinose, with short bristles; occiput silvery pollinose, superiorly with black hairs, inferiorly with white hairs, and a row of postocular setae; antenna with scape, pedicel, median rib, and inner rami of flagellomere yellow, outer rami blackish; scape short; pedicel with a few hairs and three or four pedicellar setae forming a triangle; inner pedicellar setae proclinate, outer pedicellar seta laterocline; flagellomere elongate, inferiorly reaching the lower facial margin, with narrow median rib bearing ten rami on inner side and eleven rami on outer side; first inner ramus below arista thickened and branched one time, remaining inner rami slender and unbranched; first outer ramus below arista branched four or five times, remaining outer rami branched one or two times or unbranched; inner rami straight, outer rami curved forward and longer than inner rami; inner and outer rami at base of flagellomere short, rami toward apex of flagellomere increasing in length, but before apex becoming shorter again; median rib with laterally depressed knob-like

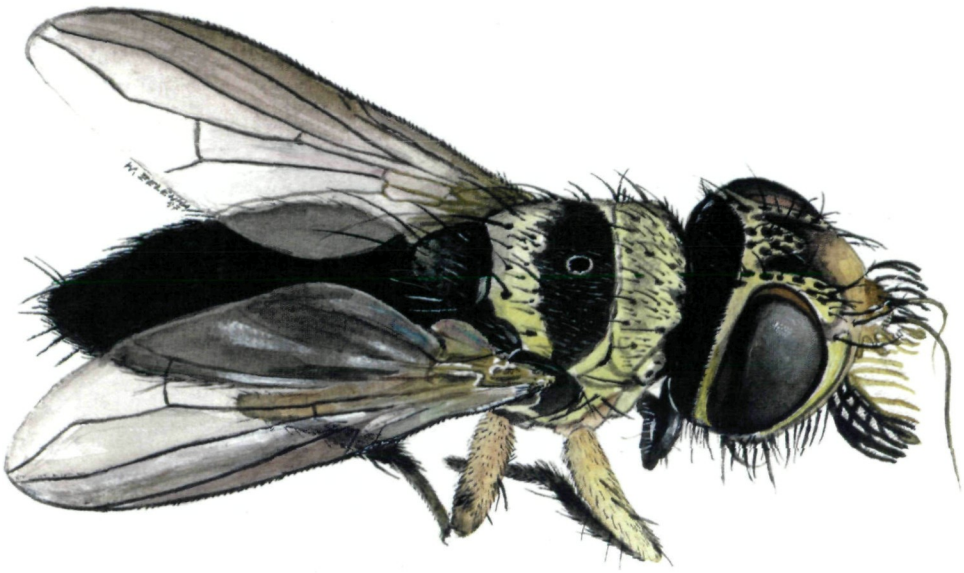


Fig. 1: *Borgmeiermyia paraguayana* sp.n., habitus of male holotype (A few outer rami are broken off).

thickening; rami and median rib dorsally and apically with fine pale hairs being curved inward, hairs on rami as long as two diameters of rami, hairs on median rib distinctly shorter; arista with first aristemere black, shorter than high, second aristemere basally black and apically light brown, longer than high, third aristemere light brown with very fine micropubescence, enlarged, apically forming a peak, basally as wide as second aristemere; proboscis short, brownish-black, with a few black hairs on chitinized portion, and pale brownish hairs on margin of labella; palpi yellow, 3 times as long as height of gena, laterally flattened, apically slightly widened, with a few fine black bristles and minute pale hairs.

Thorax: colour of mesonotum black, golden and silvery pollinose; pleuralia brown (in various views slightly silvery lustrose), golden and silvery pollinose; mesonotum 1.49 - (1.51) times as long as wide (at height of transverse suture); proscutum (0.26) - 0.34 times as long as mesonotum; scutum 0.38 - (0.45) times as long as mesonotum; scutellum 0,28 times as long as mesonotum; proscutum with a pair of black vittae between presutural acrostichal setae and presutural dorsocentral setae, tapering posteriorly and stopping before transverse suture; additional pair of broad black vittae beside presutural dorsocentral setae, not attaining transverse suture; both pairs of vittae united on anterior area; scutum behind transverse suture (when viewed obliquely from behind) with broad black band occupying little more than basal half, anteriorly with golden pollinose margin and golden pollinose band occupying posterior part; mesonotum with 5 pairs of acrostichal setae: 3 pairs presutural, 2 pairs postsutural, on posterior area of scutum; 5 pairs of dorsocentral setae: 2 pairs presutural, 3 pairs postsutural; 5 pairs of intra-alar setae: 2 pairs presutural, 3 pairs postsutural, 2 of these in black area, 1 in golden pollinose area, latter

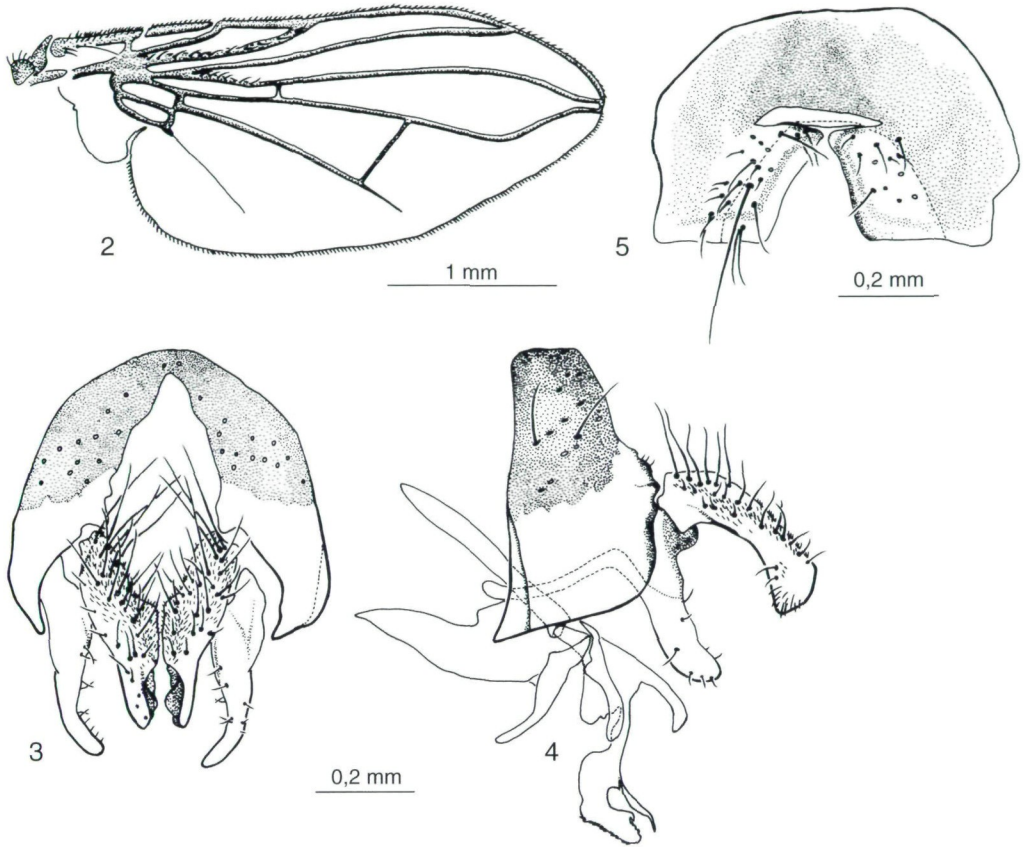
pair longest and thickest; 4 pairs of supra-alar setae: 1 pair presutural, 3 pairs postsutural, second pair of these two times longer than first and third pair; postpronotal lobe mainly black and partly golden pollinose, with a row of 3 basal postpronotal setae, from anterior to posterior increasing in length; notopleura golden pollinose, with 2 notopleural setae, apices decussate; postalar callus black, with 2 postalar setae (superior seta two times longer and thicker than inferior seta); scutellum black, faintly silvery pollinose; apical area between apical scutellar setae golden pollinose and between apical and subapical scutellar setae faintly golden gleaming; base of scutellum bare, remaining parts haired as mesonotum; basal, lateral, and subapical scutellar setae long, surpassing scutellum, apical scutellar seta broken off (in holotype and paratype), only large pore remaining, basal scutellar setae located above lateral and subapical scutellar setae, 1 pair discal scutellar setae developed; subscutellum silvery pollinose; proepisternum bare and silvery pollinose; proepimerum silvery pollinose, with a proepimeral seta; anepisternum anteriorly dark brown and faintly silvery pollinose, posteriorly with a vertical broad golden pollinose band; row of anepisternal setae with a few hairs in between, 2 setae and a few hairs superiorly, near the border between brown and golden area; anepimeron brown, faintly pollinose, with an anepimeral seta; katepimeron, katatergite, and anatergite blackish-brown; katepisternum silvery pollinose, with 3 katepisternal setae; anteroventral seta shorter than anterior katepisternal setae; meron black, with 3 meral setae; prosternum silvery pollinose, laterally with 3 pairs of hairs.

Legs: yellow and yellowish-brown, with black bristles and black hairs; coxae silvery pollinose, forecoxa yellow, mid- and hind coxa brownish; femora faintly silvery pollinose, yellow, with apex brown; tibia and tarsi brownish; foretibia with 6 anterodorsal bristles, from proximal to distal bristles 2, 4, and 6 longest; midtibia with one anterodorsal bristle at base of apical third, being 0.5 times shorter than posterodorsal bristles (first located on medial area, and second of which at same level as anterodorsal bristle of tibia); hindtibia with a row of 10 anterodorsal bristles, from proximal to distal bristles 1, 3, 7, and 10 about 0.5 times longer than others, 5 posterodorsal bristles on medial area of tibia, last bristle longest; fifth tarsal segment shorter than wide, claws 0,83 times as long as fifth tarsal segment, pulvilli white.

Wing (Fig. 2): 3.90 mm long, 1.70 mm wide; brownish, cells between costa and R_{4+5} slightly darker, base yellowish; veins yellowish-brown, at base yellowish; tegula and basicosta black; costal spine undeveloped; costal marginal setulae extending R_{2+3} a little; R_1 bristled almost to tip; R_{4+5} dorsally bristled over little more than half distance to r-m, ventrally bare; haltere with stalk and knob light yellow.

Abdomen: 2.40 mm long, about as wide as thorax; abdomen black with brownish hue, black bristles, black hairs; length of tergites 1+2, 3, 4, and 5 as 2.1 : 2.7 : 3.1 : 3.1 units (at magnification 50x); syntergite 1+2 dorsally over more than basal half encaved, ventrally V-shaped; sternites in dried material concealed; abdomen shining black, with narrow golden pollinose bands dorsally and laterally on base of tergites 3, 4, and 5, bands medially interrupted, band on tergite 5 broadest and most dense pollinose; tergites 1+2, 3, and 4 with lateral marginal setae; tergites 2, 3, 4, and 5 with 2 or 3 short, hairlike marginal setae, being one third longer than hairs, setae on tergite 5 stoutest.

Postabdomen (Figs. 3 - 5): located inside posterior abdominal segments, only epandrium, cercus, and small part of sternite 5 visible; colour before preparation black, afterwards



Figs. 2 - 5: *Borgmeiermyia paraguayana* sp.n.: (2) right wing of holotype; (3, 4) postabdomen of paratype (3) posterior view (4) left lateral view; (5) sternite 5.

pale brown with epandrium (Figs. 3, 4) anteriorly dark brown; epandrium laterally roof-like and steeply vaulted, with several bristles in dark brown area; cerci with inner dorso-basal margin in posterior view (Fig. 3) forming an "U", dorsally with long bristles these decussate on inner side, and dense hairs, inner apical margin straight, with a vaulted, brown-shaded, transparent structure; surstyli slender, slightly curved, with a few hairs; sternite 5 (Fig. 5) with a pair of strong, long bristles, and several shorter bristles and hairs along V-shaped emargination, basal portion without hairs or bristles.

Female unknown.

Comparative notes: *Borgmeiermyia paraguayana* sp.n. can be distinguished from *B. rozeni* ARNAUD, 1963, and *B. brasiliana* TOWNSEND, 1935, by the subapical scutellar setae, which are longer than the scutellum in *B. paraguayana* sp.n., but shorter in the other two species ARNAUD, 1963. In *B. paraguayana* sp.n. the inner dorso-basal margin of the cerci (in posterior view) forms an "U", and the bristles of the cerci are decussate. In *B. brasiliana* the margin is less rounded and in *B. rozeni* broad hemicircular, the bristles of the cerci are not decussate in both species. For the differences of the genitalia see

Figures 3 - 5 and ARNAUD (1963: figs. 12 -15). From *B. peruana* ARNAUD, 1963, the new species can be distinguished by the vein R_{4+5} . In *B. paraguayana* sp.n. it is bristled over three-fourth of the distance to r-m whereas in *B. peruana* the vein is bristled over the whole distance up to r-m.

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Zeitschrift/Journal: [Annalen des Naturhistorischen Museums in Wien](#)

Jahr/Year: 1998

Band/Volume: [100B](#)

Autor(en)/Author(s): Sehnal Peter

Artikel/Article: [A new species of Borgmeiermyia TOWNSEND, 1935, from Paraguay \(Insecta: Diptera: Tachinidae\). 349-354](#)