



Description of the second species of *Polletomyia* Curler, 2020 (Diptera: Psychodidae) from the Brazilian Amazon

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Abstract. *Polletomyia* Curler, 2020 is a Neotropical genus of Psychodidae that was established based on *Polletomyia subulata* Curler, 2020 from French Guiana. In this paper, we describe a second species of the genus from the Brazilian Amazon. The specimens were collected by the late Larry Quate, a psychodid expert, and are deposited at the Museu de Zoologia of Universidade Estadual de Feira de Santana. We provide illustrations and descriptions of both males and females of the new species.

Keywords: Amazonia; Psychodinae; moth fly; new species.

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The genus *Polletomyia* Curler was proposed for only one species collected in the Amazon Forest of French Guiana, *Polletomyia subulata* Curler, 2020 (CURLER 2020). This genus was included in Maruinini (Psychodinae). In the diagnosis of the genus, CURLER (2020) highlights characters related to the antenna and the male terminalia, and he suggests that they are unique among the tribe, which makes this diagnosis robust. A new species of the genus is described from the western Amazon of Brazil. The diagnosis of *Polletomyia* is revisited.

MATERIAL AND METHODS

The specimens of the new species were treated with 10% potassium hydroxide (KOH) at 40 °C, neutralized with acetic acid 10%, dehydrated in ethanol, diaphanized in clove oil, and mounted in Canada balsam on slides. The specimens are deposited at the entomological collection Prof. Johann Becker of Museu de Zoologia da Universidade Estadual de Feira de Santana (MZFS), Brazil.

We used the general morphological terminology of CUMMING & WOOD (2017) and the specific morphological terminology for Psychodidae, which is identical to that used by BRAVO *et al.* (2023), except that we preferred the term cercus to hypopod.

The images of the specimens were taken using a Leica ICC50 W digital camera attached to a microscope Leica DM750 with the software Leica Application Suite LAS EZ Version 3.4.0 (Build: 272). The final edition of images was made using GIMP 2.10.28. The specimens were drawn in a camera lucida adapted to a Leica DM750 microscope.

RESULTS AND DISCUSSION

Polletomyia Curler, 2020

Type species: *Polletomyia subulata* Curler, 2020: 141, by monotype and original designation.

Diagnosis. Males and females: eye bridge contiguous, with three facet rows; flagellomere 1 and flagellomeres 12-14 lack ascoids; ascoids, when present, are unbranched and can be found either singly or in pairs in flagellomeres 2 to 11. Wing: lanceolate, with pointed apex; Rs pectinate; wing apex between R_4 and R_5 . Male terminalia: bilaterally symmetrical; aedeagus comprised of four blade-like sclerites surrounded by a membranous sheath; cerci long, digitiform, slightly curved anteriorly with one apical, setiform tenaculum.

Comments. CURLER (2020) proposed as a diagnostic character the presence of conical setae in the apex of gonostyli, however, these setae are not observed in the new species. This character was not considered as diagnostic of the genus; it is a diagnostic character of *Polletomyia subullata* Curler, 2020.

Polletomyia roraimense Bravo & Araújo, sp. nov.

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(Figures 1-3)



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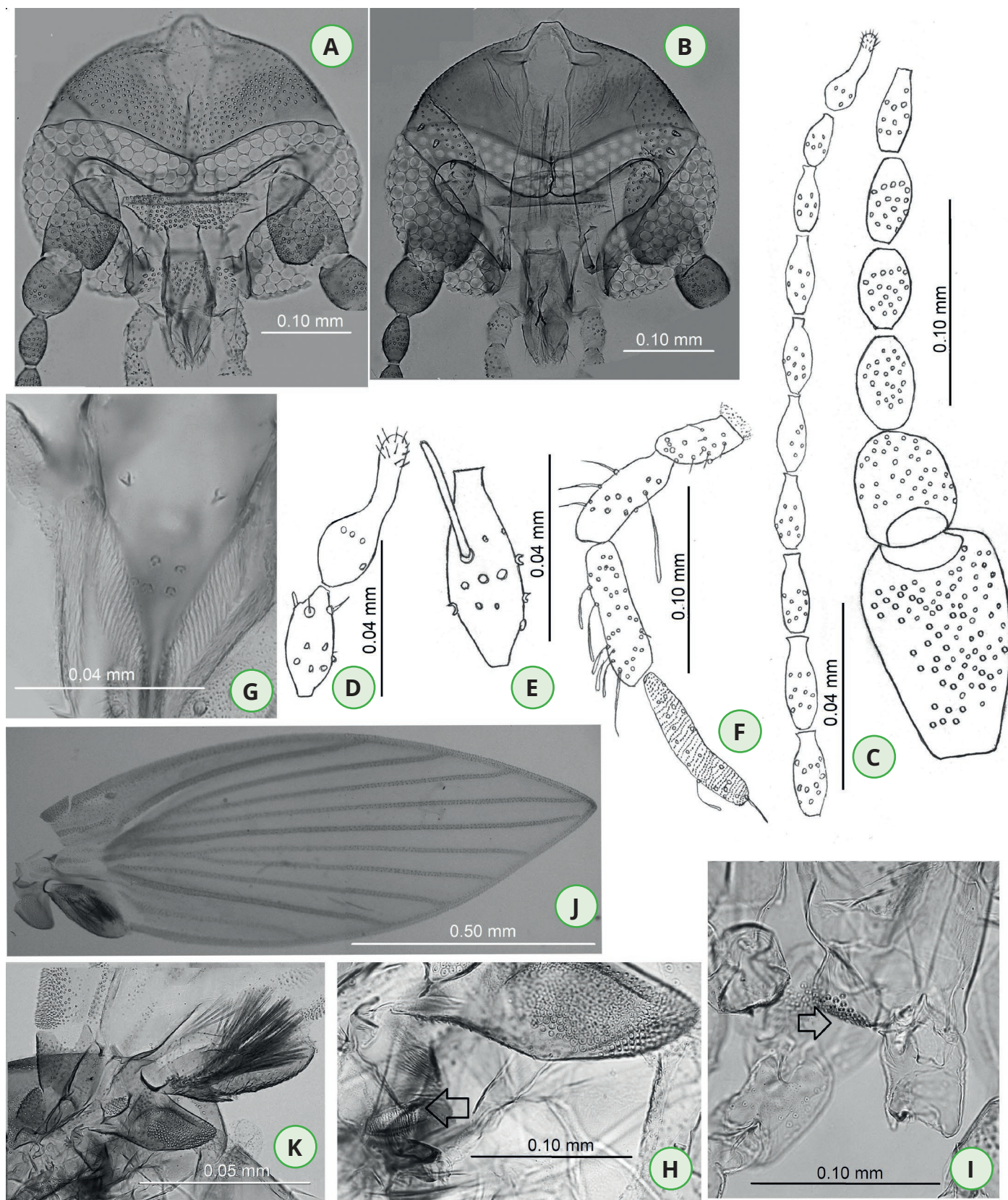


Figure 1A-J. *Polletomyia roraimense* sp. nov. A. head, frontal view. B. head, posterior view. C. Antenna, scape, pedicel and 14 flagellomeres. D. Flagellomeres 13, 14 and apiculus. E. Flagellomere 3 and ascoid. F. Palpus. G. Epipharynx and spiniform setae. H. Thorax with small setae in the anepimeron, indicated by a arrow. I. Mesal anterior protuberance of mid coxa, indicated by a arrow. J. Wing. K. Anal lobe with long setae.

Diagnosis. Male and female with eye bridge slightly downward inclined; anal lobe with long setae present in male wing, absent in wing female; hypandrium with pair of long, lateral branches that are projected posteriorly and apically corrugated; apical margin of female hypopygium concave

Male description. Head: slightly wider than long; vertex little pronounced; eyes contiguous; eye bridge with three

rows of facets slightly downward inclined (Figures 1A, B). Front with setae alveoli patch wider than long, narrow, with lower margin bilobed and upper margin straight, close to the inferior margin of eyes (Figure 1A). Clypeus with setae alveoli patch subrectangular. Antenna (Figure 1C): scape subcylindrical, almost 1.2x longer than wide; pedicel spherical almost half of the scape; basal flagellomeres 1-3 ovate, the remaining flagellomeres fusiform, decreasing in size from base to apex, 14th flagellomere with long apiculus (Figure 1C,

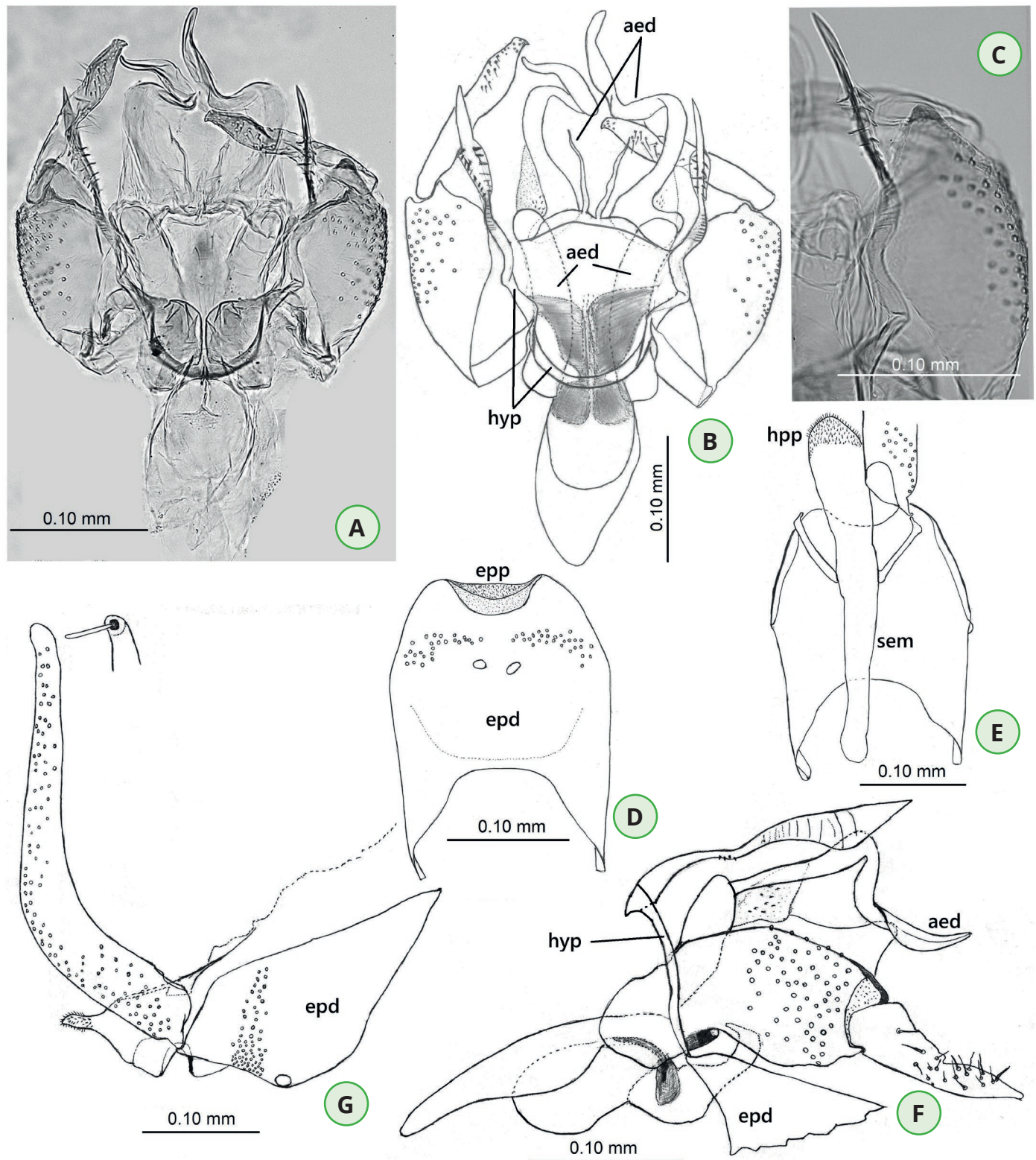


Figure 2A-G. *Polletomyia roraimense* sp. nov. Male terminalia: A. Photo. B. Dorsal. C. Lateral projections of hypandrium with sclerotized bands. D. Epandrium, ventral and epiproct. E. Epandrium ventral, with subepandrial membrane and hypoproct. F. Lateral without epandrium; G. Epandrium, subepandrial membrane, and hypoproct. Abbreviations: aed = aedeagus; epd = epandrium; epp = epiproct; hyp = hypandrium; hpp = hypoproct; sem = subepandrial membrane.

D); flagellomere 1 without ascoids, flagellomeres 2-3 with one ascoid, flagellomeres 4-11 with two ascoids; flagellomeres 12-14 without ascoids; ascoids 2/3 the length of flagellomere (Figure 1E). Labellum narrow, longer than wide. Palpus extending to flagellomere 6; relative segments of the palpus proportion: 1.0:1.6:2.0:2.1; segment of the palpus 4 annulated (Figure 1F). Epipharynx with six distal spiniform setae, two big setae dorsally located to the four small setae (Figure 1G). Thorax: group of small setae, probably with sensory function, in the dorsal area of anepimeron (Figure 1H); mid coxa with mesal anterior protuberance covered with pores (Figure 1I). Wing: 2.5 x longer than wide; R_3 ending at the same level of

M_1 ; M_2 complete; anal lobe, with long setae (Figures 1J, K). Male terminalia: hypandrium band-like, arched, with a pair of long lateral projections, sinuous, enlarged apically and has sclerotized bands (Figures 2A, B); ejaculatory apodeme subellipsoid (Figures 2A, B), narrow laterally (Figure 2F); aedeagus with four narrow sclerites, inner sclerites filiform, ending in acute apex, smallest than outer sclerites; outer sclerites band-like, sinuous, enlarged proximally (Figures 2A, B); gonocoxites longer than wide dorsally with setae alveoli laterally (Figures 2A, B); gonocoxites subcylindrical laterally and covered with setae alveoli distally (Figure 2F); gonostyli slightly sinuous, setose; apex of gonostyli ending in an

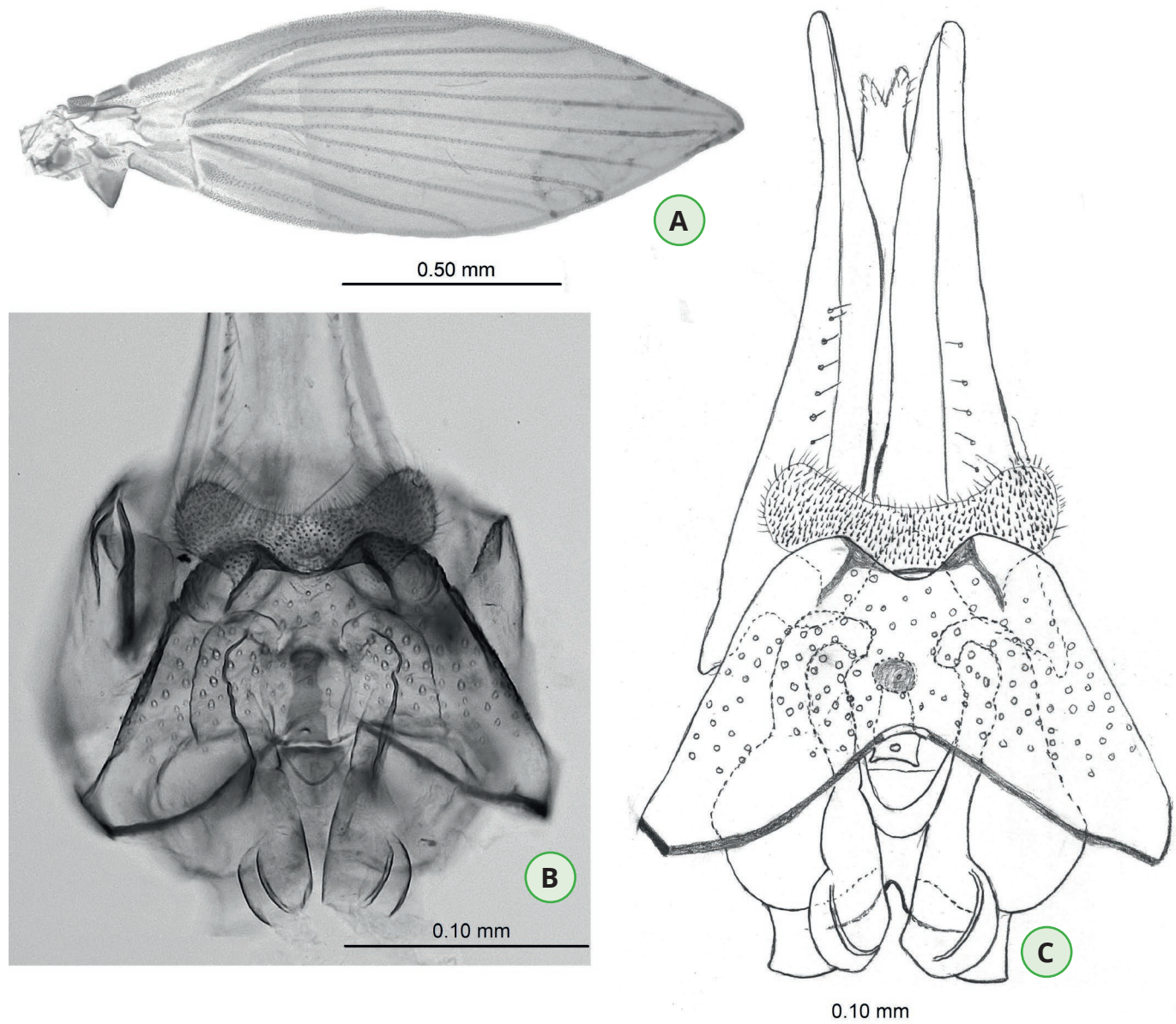


Figure 3A-C. *Polletomyia roraimense* sp. nov. Female. A. Wing. B. Female terminalia, photo; C. Female terminalia, drawing.

internal small hook; apex of gonostyli without stout, conical setae (Figures 2A, B); gonocoxal apodemes sub-rectangular (Figures 2A, B); epandrium sub-rectangular with a band of setae alveoli distally and a pair of foramina below the band of setae alveoli (Figure 2D); epandrium articulated ventrally with hypoproct (Figure 2F); epiproct short with micropilosity (Figure 2D); hypoproct with rounded apex with microtrichia (Figure 2E); subepandrial sclerite long, plate-like, little sclerotized (Figure 2E); cerci long, digitiform, slightly curved, setose with one filiform tenaculum.

Female. Head as in male. Wing without setose anal lobe (Figure 3A). Terminalia: distal margin of hypopygium concave, with setose lobe, concave, biggest than the apical margin (Figures 3B, C); cerci elongated, tapering to apex (Figure 3C).

Type Material. holotype male Brazil, Roraima, Cacaulândia, 200 km SSE of Porto Velho, 10°18'S 62°52'W, 200 masl, 25.v-06.vi. 1998. L.W. Quate col. (MZFS, 3197).

Paratypes. 18 males and 17 females, same data as holotype (MZFS, males: 3176, 3178-3191, 3194-3196; females: 2570-2581, 3174, 3175, 3192, 3193)

Etymology. the specific name '*roraimense*' is a noun in apposition, referring to the gentilic used for people born in the state of Roraima.

Comments. The description of the second species of *Polletomyia* from the western Amazon has allowed for an improved diagnosis of the genus, which was originally based on its type species. Until now, the genus has been found to be endemic to the Amazonian Forest. The most striking feature that differentiates the new species from *P. subulata* is the presence of a setose lobe in the anal region of the male wing. The females are distinguished by having an apical setose lobe in the female hypopygium of *P. roraimense* sp. nov., which is absent in *P. subulata*.

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