

Description of the Female of *Sciopemyia servulolimai* (Damasceno & Causey) (Diptera: Psychodidae)

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The female of Sciopemyia servulolimai (Damasceno & Causey), based on three specimens captured during an epidemiological research project in the state of Ceará, Brazil, is described and illustrated for the first time.

Key words: *Sciopemyia servulolimai* - Phlebotominae - sand fly - Diptera - Psychodidae - taxonomy - Brazil

A female belonging to the genus *Sciopemyia* Barretto, 1962 was captured during a leishmaniasis epidemiological assay carried out in the Pacoty county, north of the state of Ceará, Brazil, in 1996. This female did not fit in with characteristics of the other females clustered in that group. In 1997, two other females similar to the first and a male of *Sciopemyia servulolimai* (Damasceno & Causey) were found in the Serra da Meruoca situated at same region. The coloration pattern as well as the characters of the antennae and thorax led to the association of the genders.

Although the northern region of the Ceará is not geographically close to the type locality of this species (Bom Jesus, São Domingos, state of Pará, Brazil), both areas present similar ecological characteristics as well as fauna (Ready et al. 1983, Ryan 1986, Queiroz et al. 1991, 1994).

In the Serra da Meruoca, several cutaneous cases of leishmaniasis have been reported and the predominant phlebotomine species are *Nyssomyia whitmani* (Antunes & Coutinho) and *Micropygomyia quinquefer* (Dyar); the former being considered the potential vector (Oliveira Lima et al. 2001).

As in the above mentioned study the sand flies were dissected to observe natural infection by flagellates, the two females captured in 1997 had only the three terminal abdominal segments and the head preserved and mounted on microscope slides in Canada medium.

The three specimens were measured with a scale adapted to an Zeiss® eye-piece and calibrated according to a standard Zeiss® scale. The drawings were made with an Olympus® camera lucida. All measurements are given in micrometers and in parentheses the measures of the other two specimens, with the respective standard deviations. The terminology of the characters and the nomenclature is in accordance with Galati (1995).

Sciopemyia servulolimai (Figs 1-8)

A small and pale sand fly, the total length of the only presently existing complete in one specimen being 2660, having a notum slightly darker than the pleurae.

Female. Head (Fig. 1) length 370 (335 ± 21; n = 2), width 360 (338; n = 1); length/ width ratio 1.03: 1.0 (0.95:1.0; n = 1). Clypeus length 130 (121 ± 11; n = 2); head length/ clypeus length ratio 2.85:1.0 (2.77:1.0; n = 2). (2.77: 1; n = 2). Inter-ocular distance 148 (155; n = 1). Eye length 178 (175; n = 2) by 105 (95 ± 7; n = 2) wide; length/width ratio 1.70: 1 (1.84: 1; n = 2). Labrum-epipharynx (LE) 198 (188; n = 2). LE/head length ratio 0.54: 1 (0.56: 1; n = 2). Hypopharynx with atrophied teeth of difficult visualization. Palpomeres (Fig. 2) measuring 1 - 38 (34 ± 6; n = 2); 2 - 80 (86 ± 4; n = 2); 3 - 135 (130 ± 14; n = 2); 4 - 80 (74 ± 16; n = 2); 5 - 155 (183; n = 1). Palpal formula: 1.(2.4).3.5 or 1.2.4.3.5 and another specimen, which do not present the palpomere 5 is: 1.4.2.3. Palpomere 3 with dispersed Newstead's spines. Each antenna has one papilla on the segments AIII (Fig. 1) and AIV (Fig. 3) but none on AV (Fig. 4). It was not possible to observe the papillae in AXIII, AXIV, AXV and AXVI, because these articles were lost. Ascoids are simple and their apex does not reach the level of the papilla. External ascoids situated more distally than internal ones on AIII, AIV and AV. AIII measures 395 (438 ± 28; n = 2), AIII/LE ratio: 1 (2.33: 1; n = 2); AIV - 205 (223 ± 7; n = 2); AV - 205 (219 ± 13; n = 2). Cibarium (Fig. 6) with four horizontal teeth, complete arch and well defined area. Pharynx without spines with few striations in at apex.

Cervix. ventrocervical sensillae absent.

Thorax. Mesonotum measures 580 from the pre-scutum to the scutellum; pleurae have 3 proepimeral setae and 11 anepisternal superior setae; presence of setae on the anterior region of katapisternum. Wing (Fig. 7) length 1940, width 570, length/width ratio 3.40:1. Length of the vein sections: *alpha* (R2) 560; *beta* (R2+3) 150; *gamma* (R2+3+4) 380; *delta* 230. Legs without special characters. Length of femora, tibiae, and basitarsi/ tarsi II+III+IV+V ratio: foreleg 820, 1080, 1.11:1.0; midleg 760, 1260, 1.08:1.0 and hindleg 840, 1390, 1.00:1.0.

Abdomen. Cercus (Fig. 5) length 180 (176 ± 11; n = 2)

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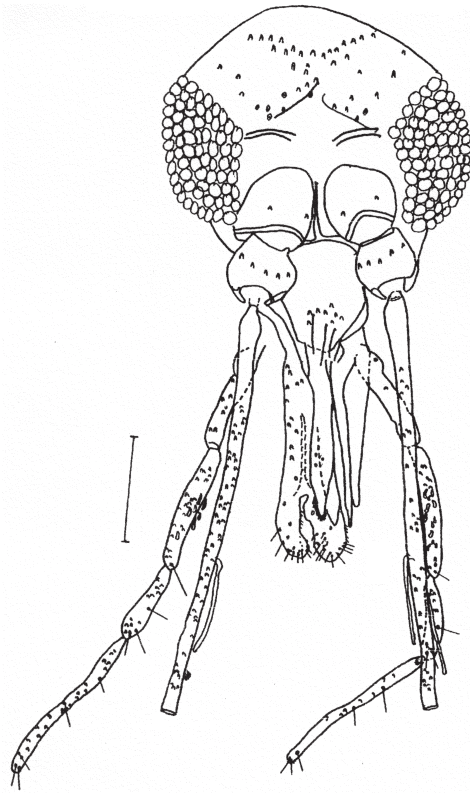


Fig 1: *Sciopemyia servulolimai* female, head. Bar = 100 μ m

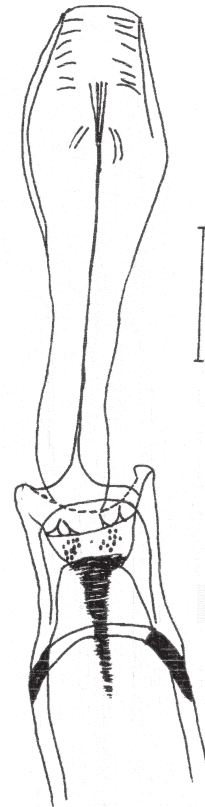
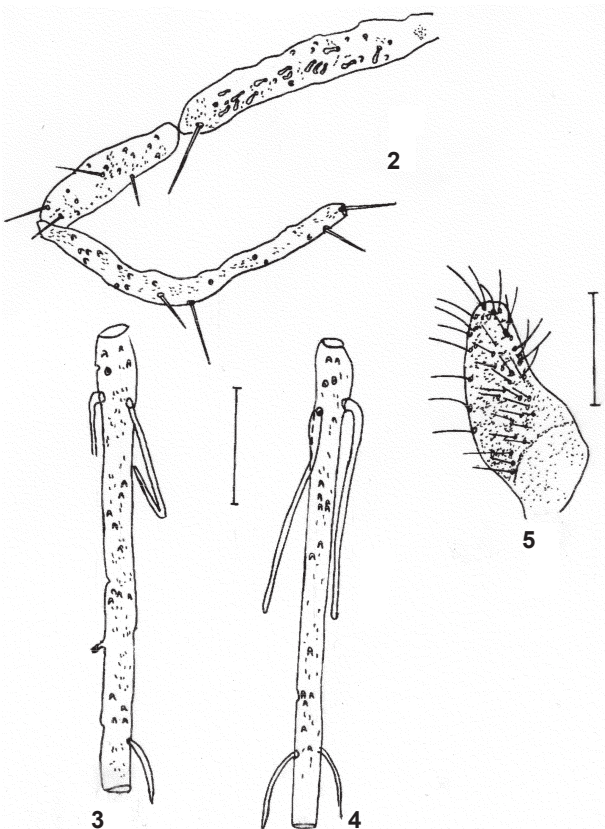
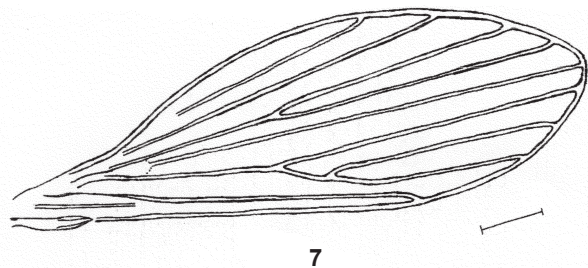


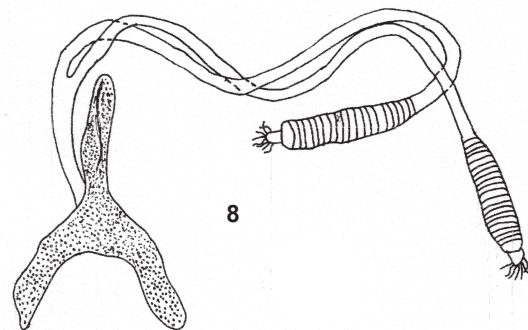
Fig. 6: *Sciopemyia servulolimai* female, cibarium and pharynx. Bar = 50 μ m



Sciopemyia servulolimai female. Fig. 2: palpomere 3, 4 and 5. Fig. 3: AIV. Fig. 4: AV. Bar = 50 μ m. Fig. 5: cercus. Bar = 100 μ m



Sciopemyia servulolimai female. Fig. 7: wing. Bar = 200 μ m. Fig. 8: spermathecae and ducts. Bar = 50 μ m



without special characteristic. Spermathecae (Fig. 8) length 68 (59 ± 1 ; $n = 2$) by 15 wide (13; $n = 2$) having 21-23 rings, not well defined along its length and of irregular size; head very prominent. Individual duct length 235 (187 ± 16 ; $n = 2$) by 5 wide, seen to be homogeneous throughout. Ratio between the lengths of individual ducts and spermathecae 3.46:1. Common duct length 53, only visible in one specimen.

Collection data and storage of the material: two females collected, together with a male of *S. servulolimai* in 30 July 1997, in the locality of Saco dos Lopes, in Meruoca municipality, state of Ceará. The samples were collected with a CDC light trap (Eugênio col.). Other specimen was collected in 9 September 1996, on the Sitio do Meio, municipality of Pacoty, in the same state, with a CDC light trap (Nonato col.). The four samples are part of the Phlebotomine Collection of the Centro de Pesquisas René Rachou-Fiocruz, in Belo Horizonte, state of Minas Gerais. Both localities are similar, situated in a hilly region of the Baturité Massif and the Serra da Meruoca. Temperatures vary between 21 and 32°C, with native vegetation, coffee and banana production being the main agricultural activities in the area.

DISCUSSION

The characters of the *S. servulolimai* female, such as the absence of ventrocervical sensillae, very long AIII, external ascoid being more apical than the inner one and presence of cerdae in the anterior region of katepisternum, permit its inclusion in the *Sciopemyia* genus. The absence of papilla on AV differentiates this species from *Sciopemyia vattierae* (Le Pont & Desjeux) and *Sciopemyia sordellii* (Shannon & Del Pont). *S. servulolimai* is different from *Sciopemyia nematoducta* (Young & Arias) by the ratio individual duct/spermathecae, which is 3.5:1 (measured for one paratype) whereas 13.3:1 is the ratio for the latter species. *S. servulolimai* is different from *Sciopemyia fluviatilis* (Floch & Abonnenc) because its bigger common duct; however, the junction width between individual and common ducts is narrower. It also differs from *Sciopemyia preclara* (Young & Arias) in presenting a wider junction between individual duct and spermathecae and in the longer common duct.

The closest species to *S. servulolimai* is undoubtedly *Sciopemyia microps* (Mangabeira). Spermathecae of the allotype described by Martins et al. (1975) present a length/width ratio of 6.9:1, whereas that of *S. servulolimai* is 4.5:1. The horizontal teeth of the cibarium in *S. microps* are also more developed than those of *S. servulolimai*.

Another female resembling *S. servulolimai* is that il-

lustrated by Young and Arias (1984), from material collected in Colombia, however they differ in the size of the spermathecae individual ducts that are bigger from Colombian female (260 μm), being the common duct shorter (20 μm) than the female of *S. servulolimai*. The ratio individual ducts/common duct is 13,00:1 in the female by Young and Arias (1984), and 4,43:1 in the female of *S. servulolimai*.

S. servulolimai seems to be associated with termite nests. The material of this species, deposited in the Phlebotomine Collection of the Centro de Pesquisas René Rachou, consists of seven males captured in the state of Rondônia. These were captured with a hand collector tube and a Damasceno trap, always being found in the biotype mentioned above.

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