

Two new species of *Mesorhaga* (Diptera: Dolichopodidae) from Brazil, with a key to the Neotropical species

by Stefan NAGLIS

Abstract

Two new species of the Sciapodinae genus *Mesorhaga* are described from the Amazonas Basin in Brazil: *Mesorhaga saetosa* sp. n. and *Mesorhaga aurata* sp. n. A key to all Neotropical species of *Mesorhaga* is provided.

Key words: Dolichopodidae, new species, *Mesorhaga*, Neotropical Region, Brazil, Amazonas

Introduction

Mesorhaga SCHINER is a well defined Sciapodinae genus, recognised by the unbranched vein M (the loss of the typical vein M_2 in Sciapodinae) and the hypopygial structure. A comprehensive definition of the genus is given in BICKEL (1994). Eight species are known so far from the Neotropical region (ROBINSON, 1970).

This paper is the second result of studies on the Neotropical Dolichopodidae material from the Amazonas area deposited in the Instituto Nacional de Pesquisas da Amazonia Manaus [INPA]. The first paper dealt with the genus *Systemus* (NAGLIS, 000). All specimens were collected by Malaise traps and are preserved as pinned material. All holotypes and most paratypes are deposited in the Instituto Nacional de Pesquisas da Amazonia (Manaus), with some paratypes in the Institute of Plant Sciences, Applied Entomology (Zurich). The morphological terminology follows MCALPINE (1981) and the hypopygial terminology BICKEL (1994).

Descriptions of new species

Mesorhaga saetosa sp. n. (Figs. 1a-d)

Holotype: 1 male, BRAZIL, Amazonas, Manaus, Campus F.U.A., Arm. ESALQ, B1b-B1, Sept. 1982, P. F. BUHENHEIM, [INPA].

Paratypes: Same locality, 1 male, Sept. 1982; 1 male, 23-24th Sept. 1982, P. F. BUHENHEIM, [INPA].

Diagnosis. A small, dark species with brownish-black legs, dark brown halteres and black setae on lower calypters. Distinctive characters are the dense biserial row of long posterior setae of fore tibia, the anterior setae on middle tibia and the

strong erect anteroventral setae on tarsomere 1 of middle leg. Wing with a brownish tinge and vein M with a gentle bend.

Description. Male.

Body length 2.4-2.8 mm, wing length 2.8-3.0 mm.

Head. Vertex deeply excavated; setae black; ocellar tubercle with a pair of strong diverging ocellars and a pair of smaller posterior setae; 3 strong postvertical setae present, in line with the postoculars; a strong proclinate vertical present on lateral frons; postoculars near vertex short and uniserial, from about middle longer and multiserial. Frons, face and clypeus blue-green with golden reflections and with a dusting of greyish-white pruinosity, more densely on frons and clypeus; face narrowed distally. Palpi black with a strong black apical seta and some additional smaller ones, with brown hairs; proboscis brownish-black with yellow hairs. Antennae brownish-black, scape short, bare; pedicel short, wider than long, with a circlet of short setae, in addition with a longer dorsal seta about twice as long as pedicel, and with 3-4 longer ventral setae, longest one longer than antenna (without arista); first flagellomere subrectangular, wider than long; arista dorsal, bare, about as long as head is high, first aristemere about as long as first flagellomere. Ratio smallest/widest distance between eyes on face/clypeus is 20:35; ratio smallest/widest distance between eyes on frons is 40:45.

Thorax. Metallic blue-green with golden and bronze reflections; setae black; pleura dark with grey pruinosity. 3-4 pairs of long acrostichals, about half as long as dorsocentrals; 5 pairs of strong dorsocentrals; lateral scutellars about half as long as medians.

Legs. Coxae, trochanters and femora dark brown; fore tibia and tarsomere 1 ochreous-yellow; middle tibia and tarsomere 1 more or less ochreous (variable); remaining legs brownish-black. All setae and hairs black. Fore leg: Coxa with anterior setae; femur with a posteroventral row of setae about as long as diameter of femur; tibia with a dense posterior row of long biserial setae along whole length, about 3 times as long as diameter of tibia (male secondary sexual character) (Fig. 1a). Middle leg: Coxa with anterior setae; femur with posteroventral setae, about as long as diameter of femur; tibia with a dense anterior row of biserial long setae along whole length, about twice as long as diameter of tibia (male secondary sexual character); tarsomere 1 with row of 3-4 strong erect anteroventral setae, about twice as long as diameter of tarsomere. Hind leg: Coxa with one strong lateral seta at about 1/4 from base and 2-3 short hairs; femur with long ventral setae, about as long as diameter of femur; tibia without strong setae. Relative pod-

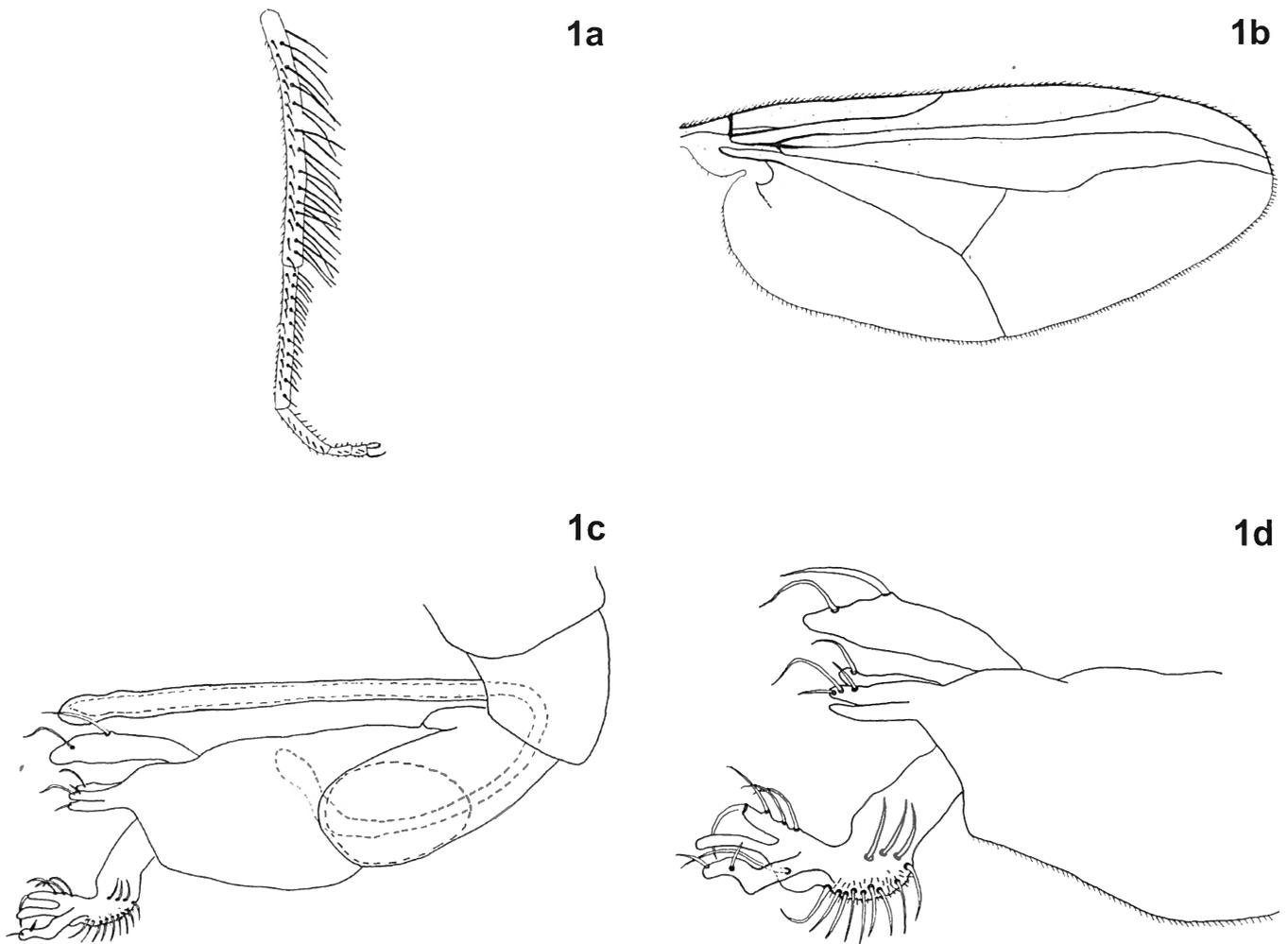


Fig. 1 — *Mesorhaga saetosa* sp. n., male. a. Fore leg, tibia and tarsomeres, dorsal; b. wing; c. postabdomen, left lateral; d. hypopygium, cercus and surstylus, left lateral.

mere ratios (femur, tibia, tarsomere 1/2/3/4/5): Fore leg: 55, 58, 34/13/9/7/7; middle leg: 74, 97, 65/21/17/15/8; hind leg: 82, 97, 40/27/20/12/9.

Wings. (Fig. 1b) Hyaline, with a brownish tinge in anterior area along R_1 , R_{2+3} and R_{4+5} , and less intensively to CuA, m-cu (cross-vein) and M. R_{2+3} and R_{4+5} diverging towards wing apex. M with gentle bend at 1/3 distance between m-cu (cross-vein) and wing margin. Cross-vein (m-cu) about 0.9 times as long as distal section of CuA. Cross-vein (m-cu) about 5 times as long as distance between R_{4+5} and M at wing apex. Lower calypter brown, with a fan of black setae; haltere dark brown.

Abdomen. Metallic green with bronze and purple reflections; lateral setae of tergum 1 much longer; all setae black. Hypopygium (Fig. 1c, 1d) dark brown; tergum 7 enclosing epandrium, with long setae; hypandrium arising from base of epandrium, narrow and elongated, as long as epandrium; epandrial lobe ovate, bearing a strong curved seta at middle and a smaller one at front; surstylus divided into three arms bearing setae as figured; cercus with three finger-like apical projections, bearing setae as figured.

Female: unknown.

Remarks. The species belongs to the species-group with black legs, black halteres and black setae on lower calypters. It can be distinguished from all other Neotropical species in that group by the characteristic dense row of long ventral setae on fore and middle tibia and the gently bent vein M.

Etymology. The name is derived from the Latin word “saetosus” meaning “setose”, and refers to the characteristically setose fore tibia.

Mesorhaga aurata sp. n.

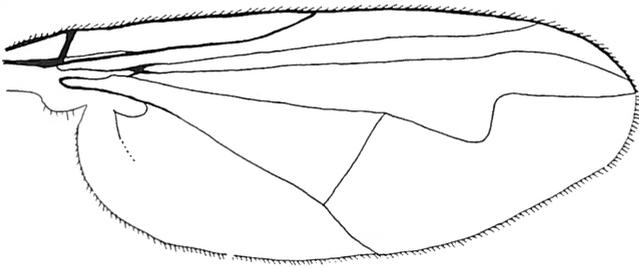
(Figs. 2a-c)

Holotype: 1 male, BRAZIL, Amazonas, Manaus, Campus, Res. Ducke, Copa de Arv., 18.I.1982, J. A. RAFAEL, [INPA].

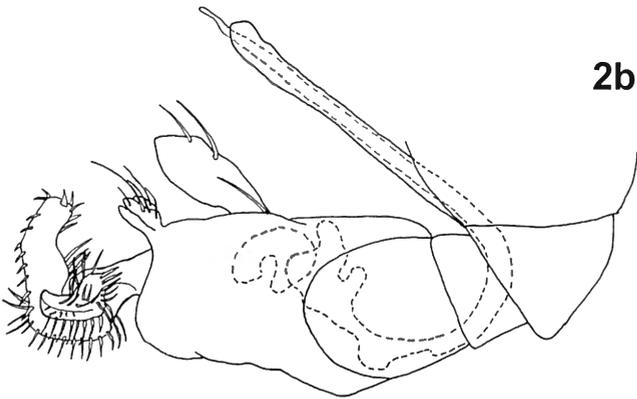
Paratype: same locality, 1 male, 22.I.1982, J. A. RAFAEL, [INPA].

Diagnosis. A larger species with mainly yellow legs, yellow halteres and yellow setae on lower calypters. Thorax with conspicuous golden reflections, acrostichals very fine (one or

2a



2b



2c

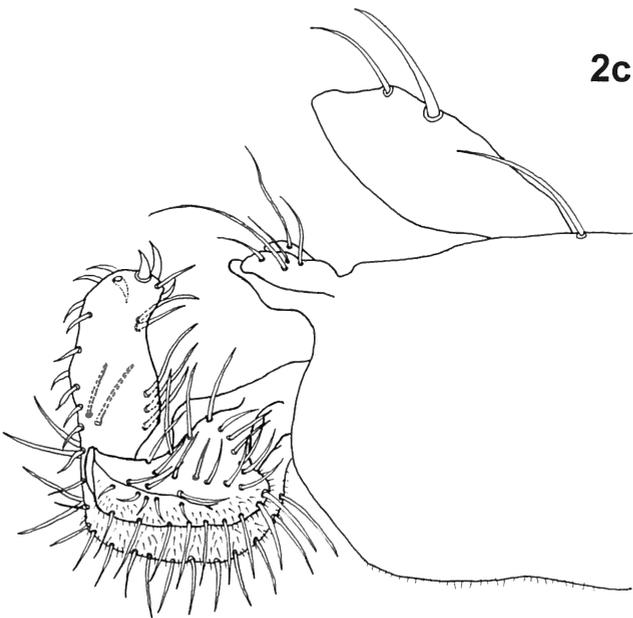


Fig. 2 — *Mesorhaga aurata* sp. n., male. a. Wing; b. postabdomen, left lateral; c. hypopygium, cercus and surstylus, left lateral.

two pairs only) and almost absent. Legs without any characteristic chaetotaxy, broadening or flattening. Wings hyaline, with vein M strongly bent at a right-angle.

Description. Male.

Body length 3.7-3.9 mm, wing length 3.7-3.8 mm.

Head. Vertex deeply excavated; setae black; ocellar tubercle with a pair of strong diverging ocellars and with 2-3 pairs of smaller posterior setae; 3-4 strong postvertical setae present, in line with the postoculars; 3 strong proclinate verticals present on lateral frons; postoculars near vertex short, black and uniserial, from about middle longer, yellow and multiserial. Frons, face and clypeus blue-green with shining golden reflections and with a slight dusting of whitish pruinosity; face narrowed distally. Palpi yellow with a strong black apical seta and some additional smaller ones, with yellow hairs; proboscis yellowish with yellow hairs. Antennae brownish-black, scape short, bare; pedicel short, wider than long, with a circlet of short setae, in addition with a longer dorsal seta about twice as long as pedicel, and with 2-3 longer ventral setae, longest one 3 times as long as pedicel; first flagellomere subrectangular, about as long as wide; arista dorsal, bare, about as long as head is high, first aristomere about as long as first flagellomere. Ratio smallest/widest distance between eyes on face/clypeus is 25:45; ratio smallest/widest distance between eyes on frons is 45:50.

Thorax. Metallic blue-green with shining golden reflections; pleura dark green with golden reflections, with slightly grey pruinosity; all setae black. Acrostichals fine, almost absent, only one pair at apical 1/4, a second pair (sometimes absent) at middle of scutum, about half as long as dorsocentrals; 5 pairs of strong dorsocentrals; lateral scutellars about 1/4 length of medians.

Legs. Fore coxa yellow with basal 1/5 black, middle and hind coxae and trochanters black; fore and middle tarsomeres 2 to 5 darkened, hind tarsomeres black; remaining legs yellow. Fore leg: Coxa with anterior yellow setae; femur with a row of yellow ventral setae, slightly longer than diameter of femur; tibia with 2-3 weak black dorsal setae. Middle leg: Coxa with yellow anterior setae; femur with a row of yellow ventral setae, longer than diameter of femur; tibia with 3-4 weak dorsals, 2 stronger anteroventrals and 3-4 weak posteroventrals. Hind leg: Coxa with one strong lateral yellow seta at about 1/4 from base and 3-4 short yellow hairs; femur with long ventral yellow setae, about as long as diameter of femur; tibia with a brown longitudinal stripe on inside face at 1/4 from base, with a dorsal row of short black setae. Relative podomere ratios (femur, tibia, tarsomere 1/2/3/4/5): Fore leg: 55, 57, 33/13/6/4/4; middle leg: 63, 79, 45/18/13/6/6; hind leg: 76, 92, 34/28/17/10/7.

Wings. (Fig. 2a) Hyaline, with a slightly brownish tinge. R_{2+3} and R_{4+5} diverging towards wing apex. M with strong bend, almost at a right-angle, halfway between m-cu (cross-vein) and wing margin. Cross-vein (m-cu) about 1.2 times as long as distal section of CuA. Cross-vein (m-cu) about 5 times as long as distance between R_{4+5} and M at wing apex. Lower calypter pale with a brown rim and fan of golden-yellow setae; haltere club yellow, stalk brownish.

Abdomen. Metallic green with shining golden and purple reflections, with slightly whitish pruinosity on ventral side; with purplish-black bands present on tergal overlap of segments 2-5, segment 6 entirely purplish-black; all setae black, except proximal setae of tergum 1 and ventral setae of terga 1-3 white; lateral setae of tergum 1 much longer. Hypopygium (Fig. 2b, 2c) dark brown; tergum 7 enclosing epandrium, with long black setae; hypandrium arising from base of epandrium, narrow and

elongated, as long as epandrium; epandrial lobe ovate, bearing a strong curved seta at middle and a smaller one at front; surstylus divided into three arms bearing setae as figured; cercus L-shaped, with a ventral spoon-like projection, bearing setae as figured.

Female: unknown.

Remarks. The species can be distinguished from the similar *laeta* BECKER by the shining face with slightly whitish pruinosity (matt with yellow pruinosity in *laeta*) and the hyaline wings without maculations. From *jucunda* BECKER and *ornatipes* VAN DUZEE it differs by lacking broadened or flattened hind tarsomeres. From *albiciliata* (ALDRICH) it differs as follows (characters of *albiciliata* in brackets): yellow femora (black), white pruinosity of the face (yellow), black verticals (yellow pair), cercus and surstylus black (yellow).

Etymology. The name is derived from the Latin word "auratus" meaning "golden", and refers to the golden reflections on thorax and abdomen.

Key to the Neotropical species of *Mesorhaga* (males)

The key is based on PARENT's key (1929), with additional information taken from the original descriptions and supplemented by the lacking and the new species.

1. Lower calypter with black setae, haltere club black 2
Lower calypter with yellow setae, haltere club yellow . . 6
2. Wing with a slightly brownish or greyish tinge, especially in anterior part 3
Wing with dark brown area from costa to CuA and M . . 5
3. Fore and middle tibia with a row of strong setae, vein M with a gentle bend *saetosa* sp. n.
All tibiae without strong setae, vein M with a strong bend of 90° 4
4. Fore tibia and tarsomeres yellow . . *aduncus* (VAN DUZEE)
All legs black *tristis* SCHINER
5. Postocular setae black, pedicel with ventral setae longer than antenna, 5th fore tarsomere enlarged, all legs black *lacrymans* PARENT
Postocular setae white, pedicel with ventral setae as long as first flagellomere, 5th fore tarsomere not enlarged, fore and middle tibia yellow *funebis* PARENT
6. Femora mostly black *albiciliata* (ALDRICH)
All femora yellow 7
7. Fore coxa entirely yellow, face with yellow pruinosity, wing with a grey apical spot between R₂₊₃ and R₄₊₅ *laeta* BECKER
Fore coxa black at least in basal part 8

8. Hind tarsomeres neither broadened nor flattened, face with white pruinosity, wing without any maculation *aurata* sp. n.
Hind tarsomeres at least partially broadened or flattened 9
9. All hind tarsomeres broadened, at least as broad as tibia, tarsomeres 3 to 5 broader than tibia and subequal in length *jucunda* BECKER
Hind tarsomeres 4 and 5 a little widened and flattened, tarsomeres 3 to 5 decreasing in length distally *ornatipes* VAN DUZEE

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