

WYEOMYIA STAMINIFERA, A NEW SPECIES OF MOSQUITO FROM BRAZIL
(DIPTERA: CULICIDAE)

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Wyeomyia staminifera n. sp. is described from specimens collected into the forests of the Amazon and Southeast Regions of Brazil. The description includes illustrations of female and male genitalia and chaetotaxy of pupa and larva. *Wy. staminifera* is closely related to *Wy. aporonoma*, but they are distinguishable in all stages.

Key words: *Wyeomyia staminifera* n. sp. – mosquito Culicidae – Brazil

Examining some specimens of forest Culicinae collected during an anopheline survey performed in Rondônia state, Brazilian Amazon (Lourengo-de-Oliveira et al., 1989) we found a new species of *Wyeomyia*, which is being described in the present paper.

The terminology utilized is that of Harbach & Knight (1980).

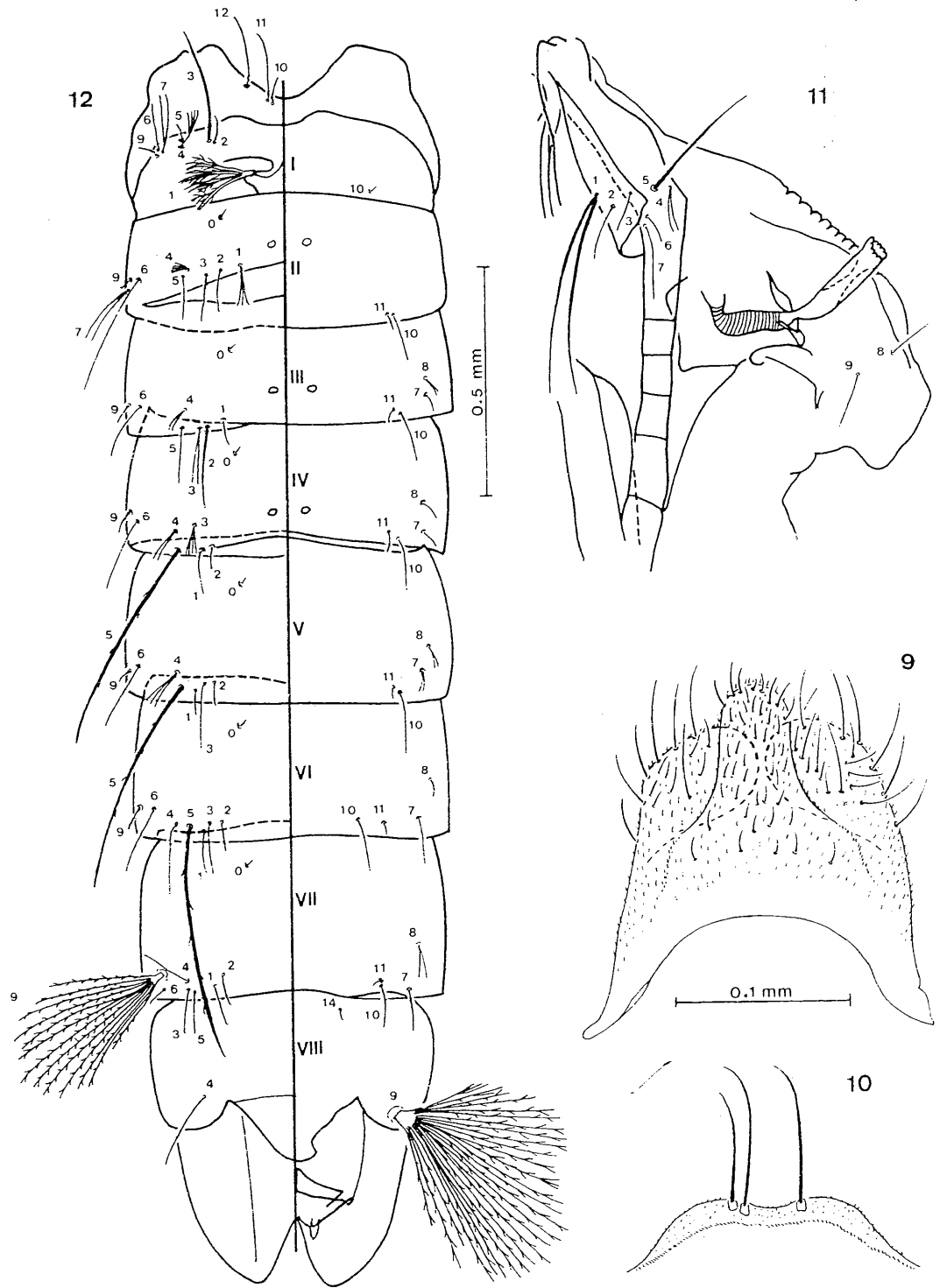
Wyeomyia (Dendromyia) staminifera (< lat. *stamine* + *fer*)

FEMALE: *head.* Vertex with darkish broad decumbent scales with a median spot of coppery shine near the interocular space; side of eyes and postgena with white broad scales; two strong and brown interorbital setae; ocular line with brown setae. Proboscis darkish with a few whitish scales below, but not forming a stripe or even a spot; slightly shorter than forefemur (0.9), thickened at apex; basal bristles brown. Maxillary palpus the same colour of proboscis, little longer than clypeus. Clypeus ovate, blackish and pruinose; without setae. *Antenna.* Torus brownish to blackish and pruinose. Flagellum a little smaller than proboscis, slightly plumose. Cibarial ridge concave, smooth. *Thorax.* Integument pale brown. Anteprenotum golden with violaceous shine on top, bronzy in the middle and pale below; setae brown. Anterior promontory setae short and very pale (blond). Postpronotum covered by

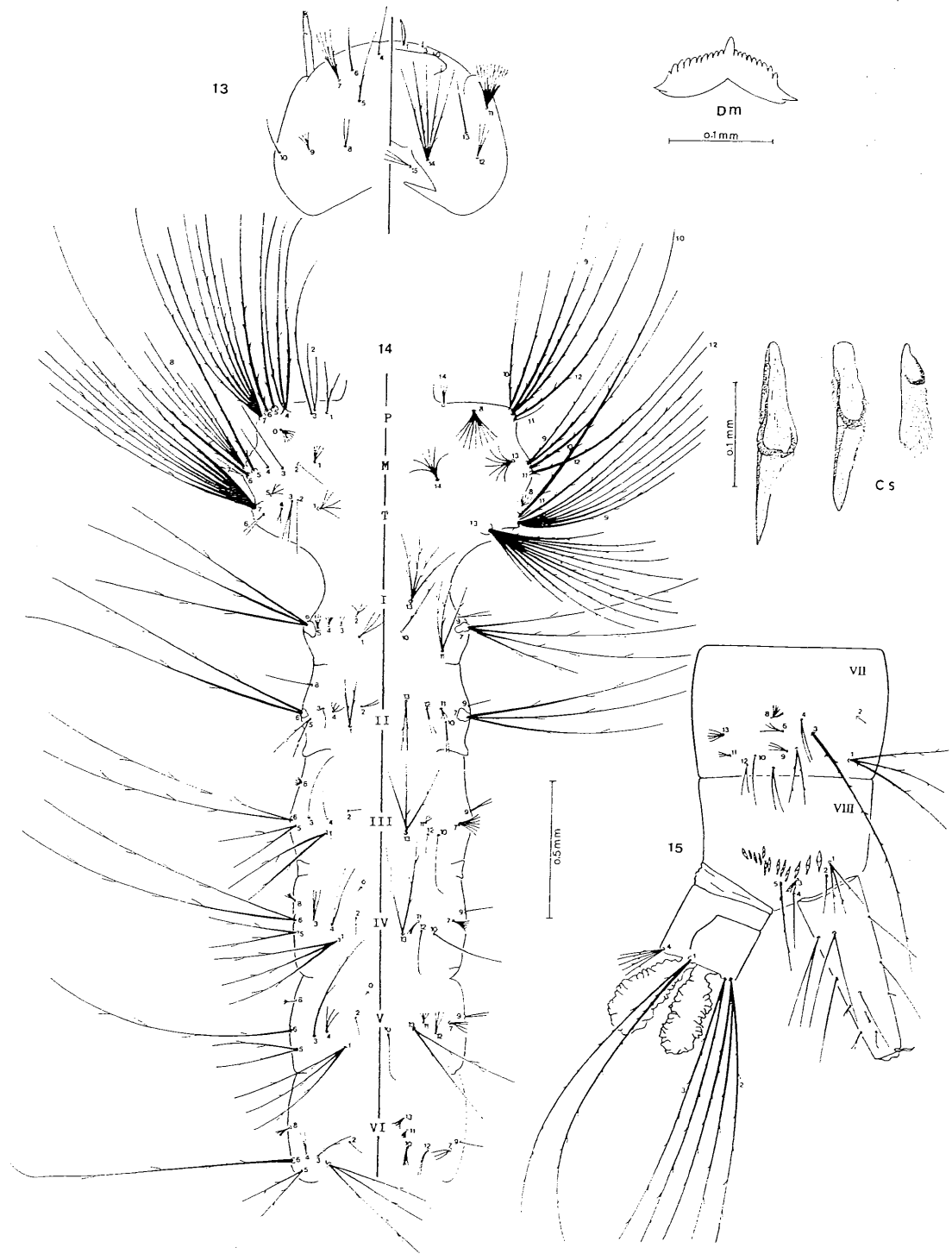
yellowish white scales. Scutum covered by bronzy broad scales with bluish green shine, except for few pale ones on the anterior promontory area; supraalar setae long and pale brown; scutellar scales like the scutal ones; median and lateral scutellar lobes usually with 5 long bronzy setae, besides a few small ones. Mesopostnotum brown, darkish in the middle, with a group of about 9 yellowish setae. Pleural sclerites with yellowish integument, covered by light scales; setae pale. Prespiracular seta 1 or 2. Lower meskatepisternal setae about 6, moderate, besides a few weak ones, yellowish, inserted below and above the upper margin of meron; upper meskatepisternal setae about 6. Upper mesepimeral setae about 15, yellowish and long. *Wing.* Upper calypter nude. Scales of vein broad and bronzy, including those on the basal section of vein M. *Halter.* Scabellum yellowish; pedicel yellowish, dark scaled on one side; capitellum with dark scales. *Legs.* Coxae and trochanters covered by yellowish white scales; setae pale. Femora and tibiae dark, but femora with a stripe of white scales ventrally and tibiae with this stripe weak, not distinct. Fore and mid tarsi dark, slightly whitish ventrally. Hind tarsi dark; tarsomere IV white on one side, except at apex; tarsomere V completely white on one side. Tarsal claws simple. *Abdomen.* Brown with blue shine above, whitish below, the colours separated on sides in a nearly straight line; setae of segment VIII brown and numerous. *Genitalia.* (Figs 9, 10). Tergum IX spiculose with two lobes with one or two setae. Postgenital lobe elongated, roughly finger shaped, spiny, with numerous short setae ventrally and with a few strong



Wyeomyia staminifera n. sp. – male genitalia. Fig. 1: gonocoxite and gonostylus. Fig. 2: inner tergal surface of gonocoxite with the median plate. Fig. 3: aspect of proximal lobe of gonocoxite (insertion of setae). Fig. 4: apex of gonostylus. Fig. 5: phallosome. Fig. 6: paraproct. Fig. 7: tergum IX. Fig. 8: tergum VIII. SLS: apex of two stamen-like of the subapical lobe.



Wyeomyia staminifera n. sp. - female. Fig. 9: cercus and postgenital lobe. Fig. 10: tergum IX. Figs 11, 12: pupa.



Wyeomyia staminifera n. sp. – Fig 13-15: larva. Dm: dorsomentum. Cs: comb scales.

ones dorsally. Cercus broad, spiculose with short and long setae mixed.

MALE: in general, as described for female, differing in: Antenna a little more plumose; torus lighter; proboscis with a white stripe ventrally; hind tarsi with all segments white on one side, except the apex of tarsomeres III and IV. *Genitalia.* (Figs 1-8). Segment VIII. Tergite VIII covered by broad scales, minute setae and, at margin, strong and long setae mainly on the mid and lateral areas. Segment IX. Tergite IX with interlobar area plane; each lobe bearing two strongly sclerotized setae with pointed apex. It can also have two setae on one lobe and three on the other. *Paraproct* sclerotized at apex, with 4,5 teeth. *Gonocoxite.* Long, with numerous short setae, except on the lateral tergal surface, where there are long setae mixed with broad scales. Inner surface presenting a row of three small setae at apex. Subapical lobe covered by minute setae, bearing three stamen-like strong setae and one hair-like shorter one. Proximal lobe with numerous (39-46) strong and long setae settled on a roughly triangular area (Fig. 3). Mesal plate slightly sclerotized and presenting about 15 small setae. *Gonostylus* slender, curved, almost the same size of gonocoxite. There is a process around middle with two strong teeth and one lateral less developed tooth, besides weak setae. Beyond this process there are three slender hairs on the inner surface. Apex of gonostylus (Fig. 4) with one long and band shaped appendix folded twice, like a fluttering flag; inner surface presenting two small spatulate setae partially bend (like a gutter) and two slender and short apical hairs. *Phallosome.* Ovate, the anterior plate slender and pointed; the hind plate longer than the fore one, with leaf aspect at apex.

PUPA: (Figs 11, 12). General outline and chaetotaxy as figured. Table I lists the range and modal number of branches for setae. *Cephalothorax.* Pigmentation pale brown. Trumpet slender, long, narrowed near middle and strongly pigmented; index around 5 (4.3-8.3). Seta 8 slightly barbed. *Abdomen* with darkish pigmentation at the base of all segments. Segment I. Seta 1 multi-branched, dendritic. Segments IV-VI. Seta 5 slightly aciculate. Segments VII, VIII. Seta 9 aciculate. Paddle almost twice as long as segment VIII, oval, pointed at apex, with spiculous margin (mainly at apex). Genital lobe more pigmented than paddle, roughly teat shaped.

LARVA: (Figs 13-15). Chaetotaxy and general aspect as figured and on Table II. *Head.* Pale. Both the anterior tentorial arm and the hypostomal suture reaching the posterior tentorial pit, but not the collar. Dorsomentum usually with 11 lateral teeth on each side of a medial developed tooth. Setae 5, 7, 11, 14 aciculate. *Antenna.* Nude, pale, nearly one third of the head length; seta 1 hair-like, inserted beyond middle; setae 2-6 spiniform, single. *Thorax.* Integument nude. Prothorax. Setae 1-7, 9, 10, 12, 14 aciculate; there is a brown pigmented spot linking the support plates of the dorso-lateral 5-7-P to the common plate of the ventral 9-12-P. Mesothorax. Setae 5, 6, 8-10, 12 aciculate. Metathorax. Setae 7, 9, 10, 12, 13 aciculate. Setae 9-12-P-T inserted on common support plate. *Abdomen.* Integument nude, but segments II-VII with a band of tiny spicules, ventro-anteriorly. Segment I. Setae 1, 5-7, 10, 11, 13 aciculate; seta 9 slightly barbed. Segment II. Setae 1, 3, 5-7, 13 aciculate. Setae 6, 7-I, II on common pigmented support plate. Segment III. Setae 1, 5, 6, 13 aciculate; seta 3 slightly barbed. Segment IV. Setae 1, 5, 6, 13 aciculate; setae 9, 10 slightly aciculate. Segment V. Setae 1, 3, 5, 6, 13 aciculate; setae 4, 10 slightly barbed. Segment VI. Setae 1, 3, 5, 6 aciculate. Segment VII. Setae 1, 3, 5 aciculate. Segment VIII. Setae 1, 5 aciculate; seta 4 slightly barbed. Comb usually composed by 11-14 scales (8-16). *Siphon.* Pale, slightly pigmented at base; accus absent. Index around 3 (2.72-3.59). Setae long, single or two to four branches near the base and less developed and mostly single near apex. Segment X. Saddle incomplete, pale. Setae 1-4 aciculate; seta 3 double but sometimes with 1 or 2 additional shorter, barb-like branches.

Type data: Holotype male with genitalia and associated larval and pupal skins; woods near the place where the road from Ariquemes to Machadinho (RO 285) crosses the Branco river (near Fazenda Rio Branco) (9°54'S; 62°58'W), Ariquemes, Rondônia state, Brazil; 23 July, 1987, coll T. F. Silva, as a larva from bamboo, deposited in the Entomological Collection of Instituto Oswaldo Cruz, Rio de Janeiro, Brazil (IOC). Allotype female with associated larval and pupal skins; other data and depository same as holotype, except 28 March 1987, coll R. Lourenço-de-Oliveira, in a tree hole. Paratypes: one male with genitalia and associated pupal skin, other data and depository same as allotype; one male with genitalia, 28 March 1987, coll M. A. Motta, as a

TABLE I

Range of number of branches for setae of pupa of *Wyeomyia staminifera* n. sp. Mode in parenthesis

| Setae no. | Cephalothorax | Abdominal segments | | | | | | | | |
|-----------|---------------|--------------------|---------|---------|---------|---------|---------|------------|-------|---|
| | | I | II | III | IV | V | VI | VII | VIII | |
| 0 | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 | a |
| 1 | 2 | b | 3-5 (3) | 1,2 (1) | 1,2 (1) | 1 | 1 | 1 | 1 | — |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | — |
| 3 | 1 | 1 | 1 | 1,2 | 1-4 | 1 | 1 | 1 | 1 | — |
| 4 | 1,2 | 3,4 (4) | 2-4 (4) | 1,2 (2) | 1,2 (2) | 1-4 (3) | 1 | 1 | 1 | 1 |
| 5 | 1,3 (1) | 1 | 1 | 1,2 (1) | 1,2 (1) | 1 | 1,3 (1) | 1 | 1 | — |
| 6 | 1 | 1 | 1 | 1 | 1,2 (1) | 1 | 1,2 (1) | 1 | 1 | — |
| 7 | 1,2 (1) | 1-3 (2) | 1,2 (2) | 1,2 (1) | 1,2 (1) | 1-3 (2) | 1 | 1,2 (1) | 1 | — |
| 8 | 1 | — | a | 1-4 (2) | 1 | 1-3 (2) | 1,2 (1) | 1,2 (2) | 1 | — |
| 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11-15 (14) | 17-29 | — |
| 10 | 1,2 (1) | 1 | 1 | 1 | 1 | 1 | 1 | 1,2 (1) | 1 | — |
| 11 | 1,2 (1) | a | 1,2 | 1 | 1 | 1 | 1 | 1 | 1 | — |
| 12 | 1 | — | — | — | — | — | — | — | — | — |
| 14 | — | — | — | a | a | a | a | a | a | 1 |

a: not found; b: see in text.

TABLE II

Range of number of branches for setae of the fourth-instar larva of *Wyeomyia staminifera* n. sp.. Mode in parenthesis

| Setae no. | Head | Thorax | | | | | Abdominal Segments | | | | | | |
|-----------|----------|----------|-----------|---------|---------|---------|--------------------|---------|---------|---------|-----------|---------|-----------|
| | | P | M | T | I | II | III | IV | V | VI | VII | VIII | X |
| 0 | — | 6-12 (7) | — | — | — | a | a | 1 | 1 | a | a | a | — |
| 1 | 1 | 2-5 (2) | 4-6 | 2-5 (5) | 3-5 (3) | 2,3 (2) | 2,3 (2) | 2,3 (3) | 3,4 (3) | 3,4 (3) | 3,4 (3) | 2-4 (3) | 2,3 (2) |
| 2 | — | 2,3 (2) | 1 | 1-3 (1) | 2-4 (3) | 1-3 (2) | 1,2 (1) | 1 | 1,2 (1) | 1 | 1,2 (1) | 1 | 2,3 (3) |
| 3 | 1 | 1 | 1 | 1-4 (3) | 1,2 (1) | 1,2 (1) | 1,2 (1) | 3,4 (3) | 1 | 1 | 1 | 4-6 (5) | 2 |
| 4 | 1 | 3-6 | 1 | 2,3 (2) | 4-6 (4) | 4-6 (4) | 1,2 | 1-3 (2) | 3-6 (4) | 3,4 (3) | 1-3 | 1 | 3-8 (4,5) |
| 5 | 1 | 1 | 1 | 2-4 (4) | 2,3 (3) | 2,3 (2) | 2,4 (2) | 1,2 (2) | 2,3 (2) | 2 | 2 | 1,2 (1) | — |
| 6 | 1 | 1 | 1 | 1-3 (2) | 3-5 (3) | 2 | 2 | 2 | 2 | 1,2 (1) | 1-3 (2) | — | — |
| 7 | 4,5 (4) | 5-8 | 2-4 (2,3) | 6-8 (8) | 4,6 | 3,4 (3) | 6-8 (7) | 5-7 (7) | 4,5 (4) | 3,4 | 1,2 (2) | — | — |
| 8 | 1-3 (2) | 7-9 (8) | 3-5 (4,5) | 3-6 (5) | — | 1 | 3-8 (5) | 3-5 (4) | 3-6 (6) | 4-6 (4) | 5-8 (8) | — | — |
| 9 | 3-5 (4) | 2,3 (3) | 2 | 6-8 | 2 | 1,2 (1) | 1,2 (2) | 1,2 (1) | 1,2 (2) | 1,2 (1) | 2-4 (3,4) | — | — |
| 10 | 1,2 | 2,3 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 | 1 | — | — |
| 11 | 6-10 (9) | 1 | 1 | 1 | 2-6 | 1-4 (3) | 3,4 | 3-5 (3) | 3-5 (4) | 4 | 3-6 (3) | — | — |
| 12 | 2-4 (3) | 1 | 1 | 1 | — | 1-3 (2) | 1 | 1,2 (1) | 3,4 | 2,3 (2) | 2,3 | — | — |
| 13 | 1,2 | — | 5,8 (7) | 6-14 | 2-6 (4) | 2-4 (2) | 2,3 (3) | 2-4 (2) | 2,3 (2) | 4-10 | 4-9 (5) | — | — |
| 14 | 4,5 (5) | 2-5 (3) | 4-8 | — | — | — | — | — | — | — | — | — | — |
| 15 | 3 | — | — | — | — | — | — | — | — | — | — | — | — |

a: not found.

pupa from a tree hole in the Zoological Garden of Ariquemes (9°56'S; 63°08'W) (IOC); one female with associated pupal skin, other data and depository same as holotype; two females and two males with genitalia and associated pupal and larval skins, Picinguaba, São Paulo state, Brazil, 21 and 22 March 1991 (IOC) and two females and two males with genitalia and associated pupal and larval skins, Picinguaba, same data as above, deposited in the Entomological Collection of Faculdade de Saúde Pública da Univ. São Paulo, Brazil (FSP).

Distribution: known from Ariquemes, Rondônia states (Amazon forest) and Picinguaba, São Paulo state (Atlantic forest) (23°22'S; 44°50'W).

Material examined: *Wy.staminifera* n. sp.: 21 females, 15 males, 3 female genitalias, 12 male genitalias, 9 larvae and larval skins, 7 pupal skins. *Wy.aporonoma*: two females; 20 leagues from the capital of the state of Goiás (City of Goiás), Brazil; 18 September, 1912, coll. A. Neiva, det. Costa Lima, 1931 (previously identified as *Dendromyia personata*, see

Costa Lima, 1943), Costa Lima Collection no. 712 (IOC); two males with genitalia and one female with associated larval and pupal skins; Iguape, São Paulo state, Brazil, October, 1976. det. M. A. M. Sallum, 1983 (FSP), nos. 7152, 7156, 7161; seven males with genitalia, Picinguaba, Parque Estadual da Serra do Mar, São Paulo state, Brazil; 21 and 22 March, 1991, coll. M. A. Motta & M. G. Castro, det. M. A. Motta, 1991; 10 females, six larvae and two pupal skins, Picinguaba, same data as above (IOC); six females, Itaguaí, Parque Nacional da Serra do Mar, Rio de Janeiro state, Brazil, 17 April, 1985, coll. R. N. M. Machado, det. M. A. Motta, 1985 (IOC).

Taxonomic discussion: *Wy.staminifera* n. sp. is closely related to *Wy.aporonoma* Dyar & Knab, 1906 but is easily distinguished from it and from all known *Wyeomyia* by the feature of the male genitalia. Besides, the females of *Wy.staminifera* n. sp. differ from *Wy.aporonoma* in the following features: in *aporonoma* the proboscis has a patch of white scales below (beyond middle, just before it becomes thickened near apex) and it frequently also has a longitudinal (strong or weak) stripe of white scales; the median area of the anterior pronotum is completely dark scaled and its setae are light brown (slightly paler than the anteprenotal ones); femora, tibiae and tarsomere I strongly white on the ventral side.

The immature stages of *staminifera* n. sp. have several resemblances to *aporonoma*. But in the larva seta 7-C is 4,5 branched, definitely aciculate in *staminifera* n. sp. while it is normally 2 branched (2, 3), smooth in *aporonoma*. Setae 8-P, 13-M and 5-T have normally more branches in *staminifera* n. sp.

(respectively 7-9(8), 5-8(7) and 2-4(4) branched) than in *aporonoma* (3-7(6), 4,5(5) and 1,2(2) branched). Seta 3-IV is double in *aporonoma* and 3,4 branched in *staminifera* n. sp. Seta 3-V is nearly twice as long as seta 5-V in *aporonoma* while these setae have almost the same length in *staminifera* n. sp. Seta 5-V is usually 3 branched (only once found double) in *aporonoma*. Seta 12-V is elongated (1/3 of 13-V) and double in *aporonoma* and short (1/6 of 13-V) and 3,4 branched in *staminifera*. Seta 4-VI is 3,4 branched in *staminifera* and 1,2(2) in *aporonoma*. The comb of segment VIII is usually composed by 19, 20 scales (15-23) in *aporonoma* and generally 11-14 in *staminifera* n. sp. In the pupa seta 7-V is usually double (1-3) in *staminifera* n. sp. and 3-4(4) in *aporonoma*.

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