

TWO NEW MEMBERS OF THE *DROSOPHILA ANNULIMANA* SPECIES GROUP
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ABSTRACT

Drosophila (*D.*) *pseudotalamancana*, sp. n. from San Salvador, El Salvador and *Drosophila* (*D.*) *schineri*, sp. n. from Peruíbe, São Paulo, Brazil are described and illustrated.

Drosophila (*D.*) *pseudotalamancana*, sp. n.
(Figs. 1 – 10)

Drosophila species C and E, Throckmorton, 1962: 339.

Drosophila (*Drosophila*) *talamancana* Wheeler, 1968: 438 (misidentification in part, non *Paramycodrosophila punctipennis* Duda, 1927: 104). For details see Vilela & Pereira (1985).

Type-Material. Holotype male, labelled "EL SALVADOR, San Salvador, W. B. Heed col., IX – X. 1955, estoque DZUT, H66.12/ HOLÓTIPO *Drosophila pseudotalamancana* ♂". Twenty-five paratypes (14 ♂, 11 ♀): same data as holotype. Genitalia of holotype and four paratypes (1 ♂, 3 ♀) have been removed and dissected. All specimens are housed in the "Museu de Zoologia da Universidade de São Paulo", São Paulo (MZUSP). Type-locality: San Salvador, El Salvador.

Body length (etherized specimens) about 5.1 mm (♂); 5.4 mm (♀).

Head. Arista with 3-5 dorsal and 2 ventral branches plus terminal fork. Antennae proximally dark brown, distally light brown. Front dark brown, pollinose. Orbits and posterior region lighter. Middle orbital about half of other two. Second oral about half of the first. Face brown, pollinose. Carina broad below, sulcate, pollinose. Palpi dark brown, pollinose, with bristles on ventral surface. Cheeks brown, pollinose, their greatest width 2/7 greatest diameter of eyes. Eyes dark red-wine, with short black piles.

Thorax. Acrostichal hairs in 8 irregular rows. Prescutellars absent. Anterior scutellars convergent. Mesonotum light brown, pollinose, with most bristles arising from dark brown spots, somewhat irregularly fused. Scutellum and pleurae dark brown, pollinose, with some irregular light brown spots. Sterno index about 0.7. Halteres brown. Coxae, femora and tibiae dark brown; 1st segment of tarsi proximally yellow, distally brown, 2nd and 3rd pale yellow, 4th and 5th brown. Apical bristles on 1st and 2nd tibiae, preapicalls on all three. Wings honey-yellow, surface slightly wrinkled. Costal index about 3.2; 4th vein index about 1.7; 5x index about 1.2; 4c index about 0.8; M index about 0.5. Apex of first costal section black, swollen, with two enlarged bristles. First costal section of the males with a double row of strong bristles. Third costal section with heavy bristles on its basal 2/3.

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Third and fourth longitudinal veins convergent, crossveins heavily clouded. Wing length about 2.8 mm (δ); 3.2 mm (♀).

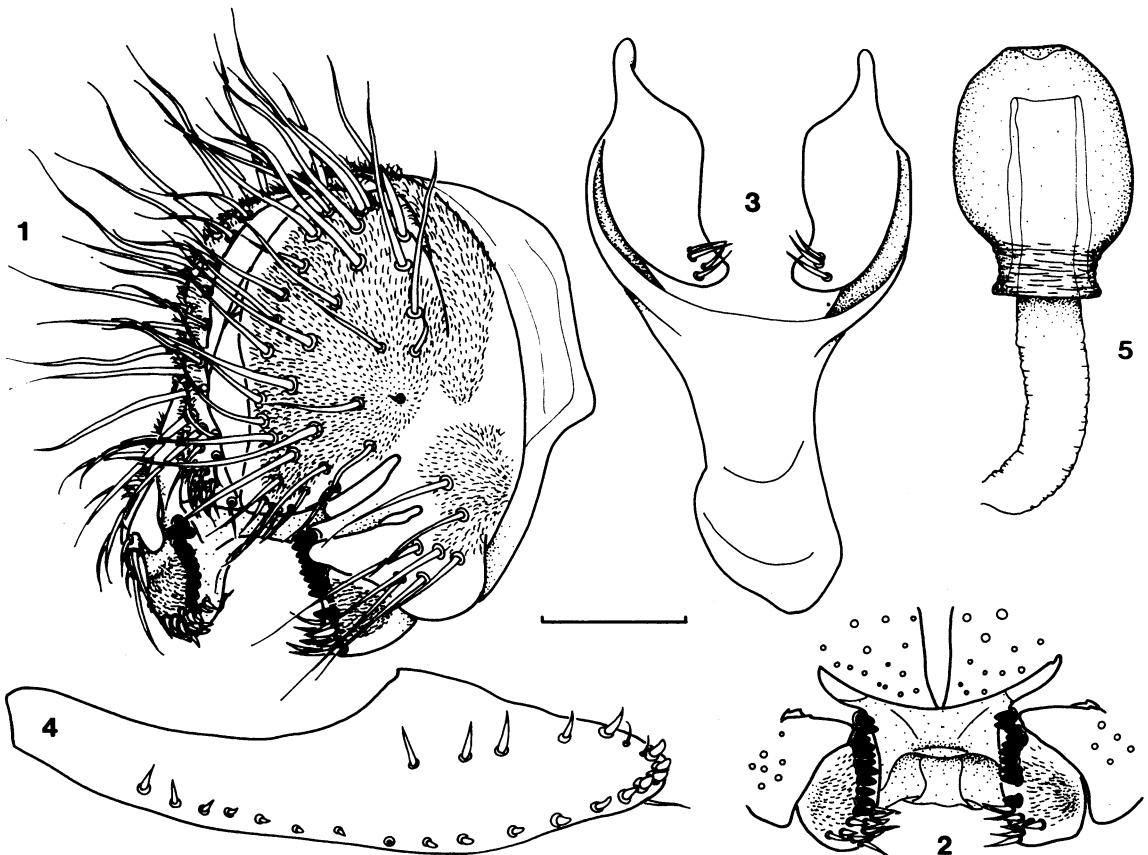
Abdomen. Light brown; each tergite with a posterior dark brown band, lateral areas dark brown.

Male genitalia. Testis polychromatic: white, dark yellow, light brown and coral, with about 7.5 inner and 7.5 outer coils. Epandrium (fig. 1) with about 7 lower and none upper bristles. Cerci anteriorly fused at lower half. Surstylus (fig. 2) partially micropubescent with about 11 primary teeth and 11 marginal bristles. Hypandrium (fig. 3) slightly longer than epandrium; gonopod bearing about 3 anterior bristles. Aedeagus (figs. 6 – 10) with a pair of short, dorso-anterior, marginally serrated projections; posterior end slightly incised with no rough plate; dorsal cleft about half of length. Aedeagal apodeme rod-shaped. Ventral rod rudimentary. Paramere with about 2 sensilla, linked to gonopod by membranous tissue. Phallosomal index about 0.9.

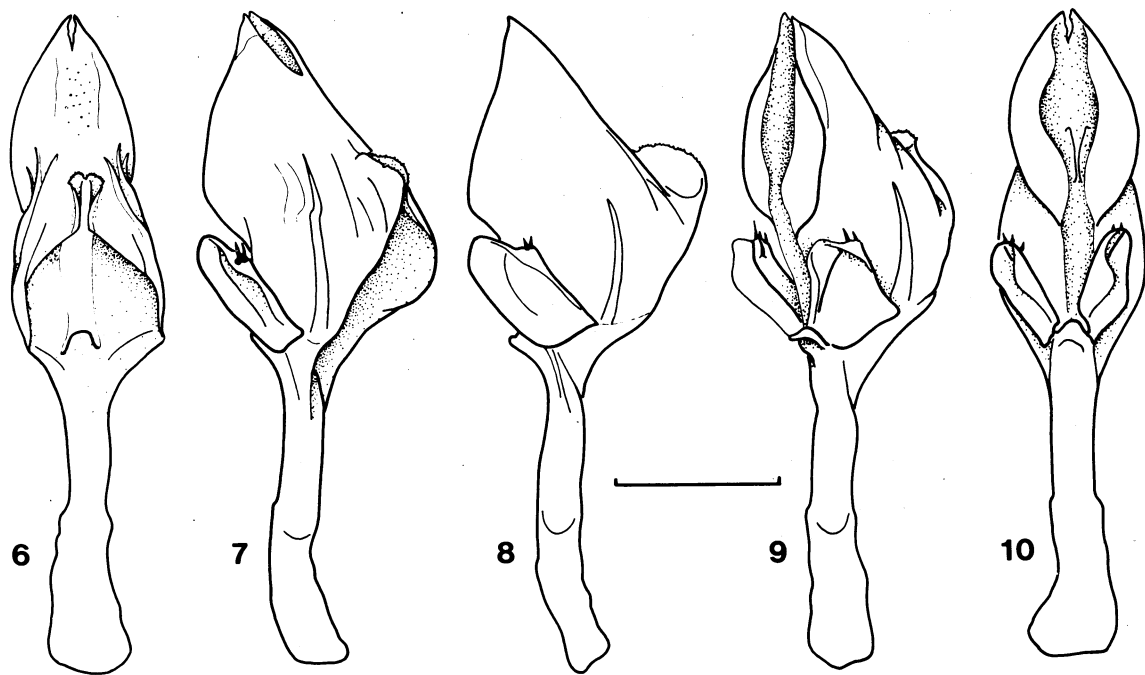
Female genitalia. Ventral receptacle an irregular spiral with about 94 coils. Ovipositor plate (fig. 4) apically pointed with about 19 marginal and 4 discal teeth. Spermatheca (fig. 5) light-bulb-shaped, slightly sclerotized with irregular, circular ridges on proximal region; surface with tiny bristles; duct deeply invaginated.

Egg. Length about 0.8 mm. Four filaments: two short (0.2 mm) and two long (0.6 mm).

Puparia. Reddish brown; horn index about 19.2; each anterior spiracle with about 8 branches.



Drosophila (D.) pseudotalamancana, sp. n. (δ holotype; ♀ paratype) : 1, epandrium, cerci and surstyli, latero-oblique aspect; 2, surstyli, posterior aspect; 3, hypandrium and gonopods, posterior aspect; 4, left ovipositor plate, lateral aspect; 5, spermatheca. Bar: 0.1 mm.



Drosophila (D.) pseudotalamancana, sp. n. (holotype): 6 – 10, several views of aedeagus, parameres and aedeagal apodeme. Bar: 0.1 mm.

Life cycle. About 24 days (at 25 ± 1 °C): maturing time about 8 days; egg, larval and pupal stages about 1, 8 and 7 days, respectively.

Relationship. *D. pseudotalamancana* belongs to the *annulimana* group of the subgenus *Drosophila*. It seems to be related to *D. breueriae* Rocha and *D. tarsata* Schiner from which it may be distinguished chiefly by the shape of aedeagus.

Distribution. El Salvador and Panamá? (Wheeler, 1968).

Note. After preparing the above description, we analyzed six pinned specimens (5 ♂, 1 ♀) from one additional DZUT's (Department of Zoology, University of Texas, Austin) strain: H62.37 (Rep. de El Salvador/La Palma, 3.200 ft/ W B Heed, Aug. 16, 1954), which proved to be *D. pseudotalamancana*, sp. n. but are not being considered as paratypes. They are deposited in the MZUSP.

Drosophila (D.) schineri, sp. n.

(Figs. 11 – 18)

Type-Material. Holotype male, labelled "BRASIL SP, 14 Km NE Peruibe, 24° 14' S, 46° 55' W, Sene *et al* cols., 07. VII. 1978/ geração F₁, estoque B5A1, DBIBUSP/ HOLÓTIPO *Drosophila schineri* ♂". Eight paratypes (5 ♂, 3 ♀): same data as holotype, except for one female who originated the strain B5A1 and bears the label "coletada na natureza" instead of "geração F₁...". Genitalia of holotype and three paratypes (2 ♂, 1 ♀) have been removed and dissected. All specimens are housed in the MZUSP. Type-locality: 14 Km NE of Peruibe, São Paulo, Brazil.

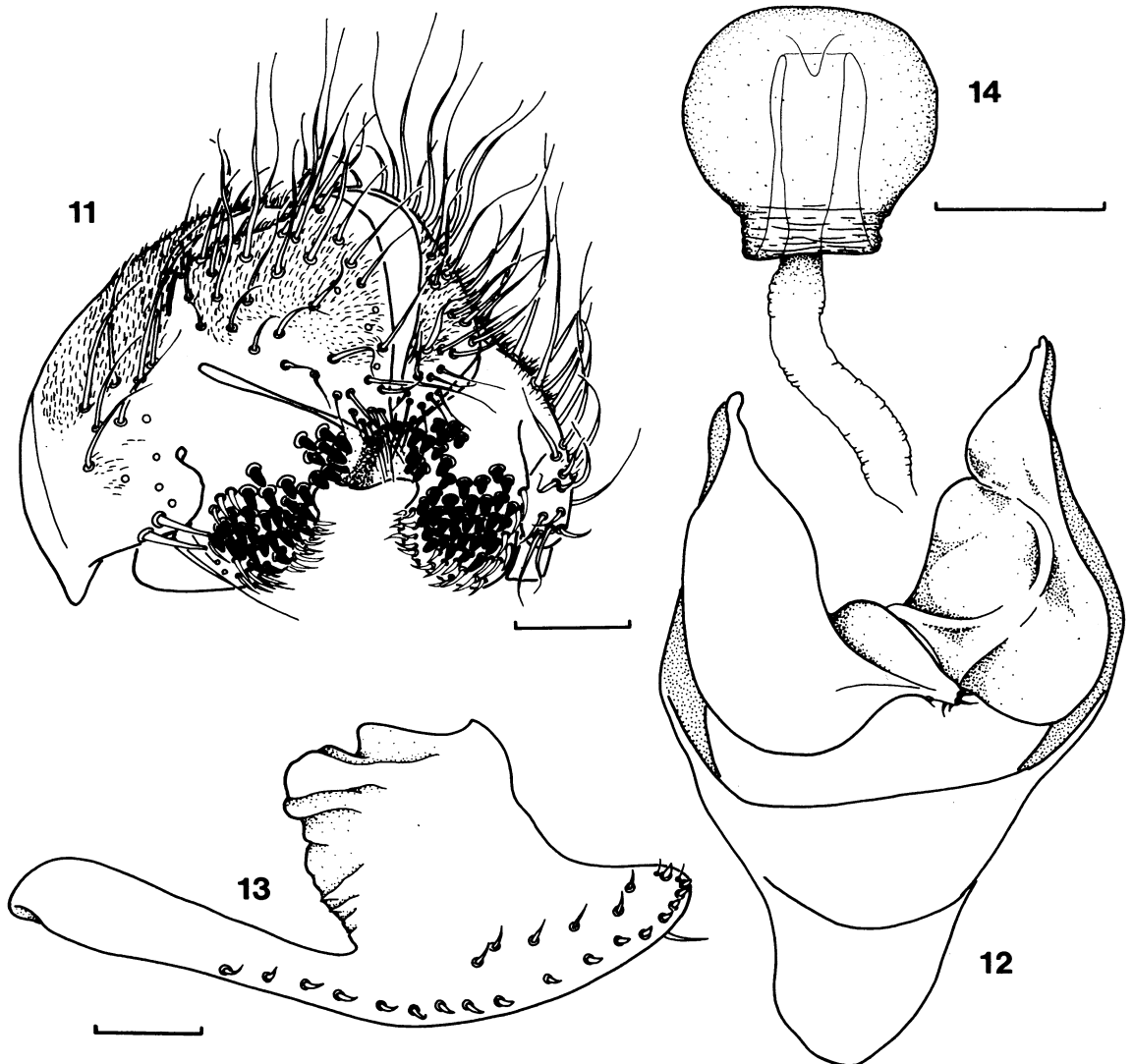
Body length (dried specimens) about 4.3 mm (♂); 4.5 mm (♀).

Head. Arista with 4-5 dorsal and 2-3 ventral branches plus terminal fork. Antennae and front dark brown, pollinose; orbits lighter. Middle orbital about half of other two. Second oral about 3/4 of first. Face dark brown, pollinose. Carina broad below, sulcate, pollinose. Palpi dark brown, pollinose, with bristles on ventral and

lateral surfaces. Cheeks brown, pollinose, their greatest width about $1/3$ greatest diameter of eyes. Eyes dark red wine, with short black piles.

Thorax. Acrostichal hairs in 8 irregular rows. Prescutellars absent. Anterior scutellars convergent. Mesonotum gray, with most bristles arising from dark brown spots, somewhat irregularly fused, pollinose. Scutellum and pleurae mostly dark brown, pollinose, with some irregular gray spots. Sterno index about 0.7. Halteres light brown. Coxae, femora and tibiae dark brown; 1st segment of tarsi proximally yellow, distally brown, 2nd and 3rd mostly pale yellow, 4th and 5th brown. Apical bristles on 1st and 2nd tibiae, preapicalls on all three. Wings honey-yellow, surface slightly wrinkled. Costal index about 3.3; 4th vein index about 1.6; 5x index about 1.2; 4c index about 0.8; M index about 0.5. First costal section without sexual dimorphism; apex black, slightly swollen, with two slightly enlarged bristles. Third costal section with heavy bristles on its basal $2/3$. Third and fourth longitudinal veins convergent, crossveins clouded. Wing length about 2.7 mm (δ); 3.2 mm (♀).

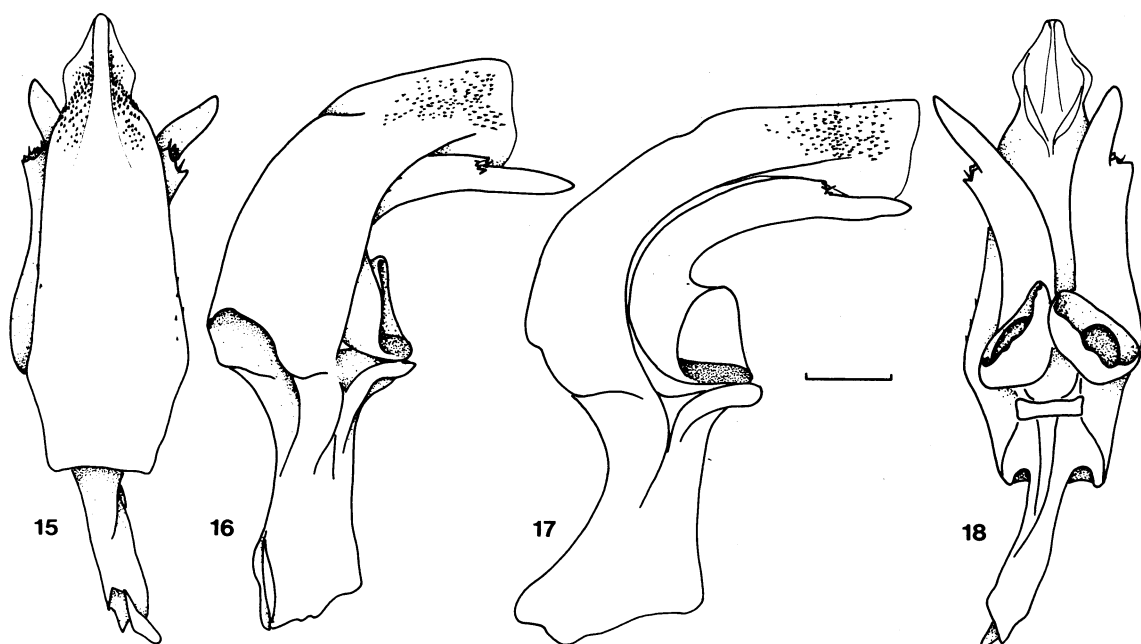
Abdomen. Brown; tergites with some posterior grayish semicircular spots, except for the last; lateral areas brown.



Drosophila (D.) schineri, sp. n. (δ holotype; ♀ paratype): 11, epandrium, cerci and surstyli, latero-oblique aspect; 12, hypandrium and gonopods, latero-oblique aspect; 13, left ovipositor plate, lateral aspect; 14, spermatheca. Bars: 0.1 mm.

Male genitalia. Epandrium (fig. 11) with about 17 lower and none upper bristles. Cerci anteriorly fused at lower half. Surstylus (fig. 11) aberrant, not micropubescent, with about 40 irregularly distributed stout teeth and 24 marginal bristles. Hypandrium (fig. 12) longer than wider; gonopod bearing about 3 tiny bristles. Aedeagus (figs. 15 – 18) tube-shaped, bent; posterior lateral surface covered with tiny spines; dorsal cleft short. Aedeagal apodeme laterally flattened. Ventral rod dorsoventrally flattened. Paramere horn-shaped, as long as aedeagus, with about 2 sensilla, linked to gonopod by membranous tissue. Phallosomal index about 1.8.

Female genitalia. Ovipositor plate (fig. 13) apically pointed, medianly enlarged and heavily sclerotized toward dorsal region, with about 18 marginal and 6 discal teeth. Spermatheca (fig. 14) light-bulb-shaped, sclerotized, with irregular, circular ridges on proximal region; surface with tiny bristles; duct deeply invaginated.



Drosophila (D.) schineri, sp. n. (holotype): 15 – 18, several views of aedeagus, parameres and aedeagal apodeme. Bar: 0.1 mm.

Puparia. Reddish brown; horn index about 10.2; each anterior spiracle with about 10 branches.

Relationship. *D. schineri*, sp. n. belongs to the *annulimana* group of the subgenus *Drosophila*. It is atypical of its group in possessing unique surstyli, parameres and ovipositor plates.

Distribution. Presently known from the type-locality only.

Etymology. The genitive patronym *schineri* honors the late Dr. J. R. Schiner for his contributions to dipterology of the 19th century.

Acknowledgments. We are grateful to Dr. J. S. Yoon, the National *Drosophila* Species Resource Center and the Bowling Green State University (Ohio) for providing stock NO. 15040-1191 (formerly H66.12) without charge; to Dr. F. M. Sene and his students for collecting and providing the female specimen who originated stock NO. B5A1 (DBIBUSP). This work was supported by CNPq/PIG (Proc. 400324-85) and USP.

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