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DESCRIPTION OF A NEW SPECIES OF *BRADYSIA* (DIPTERA, SCIARIDAE) ¹

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ABSTRACT

A new species of *Bradysia* is described from Brazil, São Paulo, Ribeirão Prêto. Relationships of the new species, which is closest to *Neosciara surinamensis*, are discussed.

Two females of a new species of this genus were collected in the campus of the Medical School of Ribeirão Prêto (Fazenda Monte Alegre) and a laboratory culture was started from the eggs laid by them. Individuals of this species are often found on grass in the field. In this paper we present a description of the adult; measurements and nomenclature are according to Steffan (1966)

This species belongs into *Bradysia* because of the following characteristics: maxillary palpi three-segmented (fig. 2); protibiae with preapical, unilateral comb of setae separated from the rest of tibial vestiture by triangular bare area (fig. 7); metatibiae with two subequal spurs (fig. 8); posterior veins of wing bare (fig. 3).

All figures, except 11, 12 and 13, are from material cleared in NaOH solution and mounted in balsam; a Zeiss Photomicroscope was used to take the microphotographs. Figures 11, 12, and 13 are from material preserved in alcohol; a Wild stereomicroscope, equipped with an automatic exposure setting was used to make the negatives.

The name *hygida* was chosen because of the high viability of this species throughout the life cycle under laboratory conditions.

Bradysia hygida, sp. n.

MALE

Body black, 5 to 6 mm long.

Head (fig. 1): height 1.4 its own length, 0.5 its width, 2.5 the length of proboscis. Anterior vertex 1/5 the height of head. few setae. Prefrons with several median and many lateral setae:

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clypeus with several setae; labrum $1/5$ the height of head; labellar lobes well developed, the total width of the labellum being slightly larger than the length of the proboscis. Ocellar triangle with several setae, occiput and post-genae with many setae. *Eyes*: distinctly haired; eye bridge three facets wide, bare. *Antennae*: scape globose, almost twice as wide as the fourth flagellar segment, with diagonal row of setae, the length of which is double that of the flagellar setae; pedicel narrower than scape and as long as the fourth segment's width, with a double row of setae, whose length is intermediate between that of the scape's setae and that of the flagellar setae; flagellar setae as long as half the width of the fourth segment, excepting some longer setae at the apical segment, which is slightly longer than the other flagellar segments; flagellar segments progressively narrower, the width of the apical and preapical segments being nearly $1/2$ the width of the fourth segment; length of flagellar segments constant; length of stems $1/6$ the length of segments; width of the stem of the fourth segment 2.7 the width of the preapical stem.

Maxillary palpi (fig. 2): three-segmented; length of first segment slightly over 1.5 its own width; several dorsal setae, as long or longer than half the width of segment; the first palpal segment presents dorsomedially a special ornamentation composed of closely appressed setae, which are quite modified, interspread with other setae which are not modified to the same extent; the special setae are seen, in mounted preparations, to lay on the surface of the segment and have a blunt apex and a uniform diameter throughout their length; there is no sensorial pit; second palpal segment larger in the apical half, slightly shorter than the first segment and twice as long as wide; several setae on the apical half, basal half bare; third palpal segment slightly longer than the first and almost four times as long as wide; several setae on the apical half, basal half bare.

Thorax: acrosticals along the anterior half of the scutum. Dorsocentrals numerous and of different sizes, in complete rows along the scutum. Scutellum with more than 10 long setae at the posterior margin and several smaller ones ahead of the larger ones. Height of catepisternum 2.4 the distance between the anepisternal suture and a line, parallel to it, passing by the posterior tip of the pleural suture (the height of the catepisternum is taken as the distance between the anepisternal suture and a line, parallel to it, tangent to the ventral border of the catepisternum). Border of the catepisternum at the pleural suture 2.8 the length of the suture between the mesoepimeron and the metaepisternum; the latter suture is three times longer than the suture between the mesoepimeron and the mesomeron (fig. 5). Midhalteres nearly as long as the knob; the setae of the halteres are restricted to the knob but are not disposed in one row only (fig. 4).

Wings (fig. 3): 2.6 mm long, 1 mm wide. Costa, R1 and R5 with macrotrichia, posterior veins bare. Costa ending one half the way between the tips of R5 and M1. R-m with 2 to 7 macrotrichia; R-s with one macrotrichia or bare. Humeral vein present. Bifurcation of M markedly distad to the tip of R1. M1 parallel to R5 in the distal three fourths of its length. Stem of cubital smaller than base of media, which is equal in length to R-m. Second anal vein present.

Legs: profemur 0.8 mm; protibia 1.0 mm; probasitarsus 0.5 mm; mesofemur 1.1 mm; mesotibia 1.0 mm; mesobasitarsus 0.5 mm; metafemur 1.4 mm; metatibia 1.5 mm; metabasitarsus 0.6 mm. Tibial spurs 1,2,2; metatibial spurs subequal (fig. 8), 1.8 times longer than width of metatibial apex. Protibia with unilateral comb of subequal setae separated by triangular bare area from the rest of the tibial vestiture (fig. 7); four apical bristles, the rest of vestiture uniform; mesotibia with 10 preapical bristles, the rest of vestiture uniform; metatibia with many preapical bristles and many bristles on the rest of the surface. Tarsal claws with four distinct teeth (fig. 9).

Abdomen: anterior tergite I concave at the anterior margin, three transversal rows of setae; posterior tergite I as long as 1/3 of the anterior tergite I, bare. Tergites II to V rectangular, covered with setae on more than 3/4 of their length; setae at the lateral margins 1.5 times longer than dorsals of metafemora; setae at the posterior margin slightly shorter than the lateral ones, the other setae being much shorter. Tergite VI with setae over 3/4 of its length; tergite VII with setae over 1/2 of its length; tergite VIII with one row of setae at the posterior margin and half as long as tergite VII. Anterior and posterior sternites I bare. Sternite II with posterior setae over less than half of its length; sternites IV-VII with setae over the posterior half; sternite VIII with one row of posterior setae; sternites VII and VIII with two anterolateral projections. Sternite VIII half as long as sternite VII.

Genitalia (figs. 6, 11, 12, 13): tergite IX trapezoidal, length 3/5 of width. Hypandrium very short. Length of dorsal apodemes 4/5 the median length of basistyle. Basistyle with many strong setae all over the surface, excepting a small part of the dorsomesal surface; near to the distal margin setae decreasing in length and more numerous. At the distal margin, mesally, one more pronounced seta on each basistyle. Lobes of the X tergite prominent between the basistyles and covered with small setae. Tegmen with two dark symmetrical transversal thickening and numerous setae; genital rod bifurcates distally to its middle point; small basal thickening. Dististyle 2.5 times longer than wide; length of dististyle equal to median length of basistyle; numerous strong setae distributed all over the surface; apex with a dense bunch of setae with diameter larger than those of the other setae; no spines.

FEMALE

Wing 3.2 mm long, 1.2 mm wide. R-s 1.5 times longer than in the male and with 1 to 3 macrotrichia; ratio of lengths of the stem of the cubital and the base of media smaller than in the male. R-m with 5 to 10 macrotrichia. Leg ratios: anterior 90:106:50; median 100:110:50; posterior 140:160:66. Cerci four times as long as hypogynal valves and almost devoid of ventral projections at the anterior margins of their first segments (fig. 10).

TYPES

Holotype ♂ and 49 paratypes (28 ♂ and 21 ♀), in the collection of the Departamento de Zoologia da Secretaria da Agricultura do Estado de São Paulo. The holotype is mounted in balsam, together with 3 male paratypes; another male paratype and a female

are also mounted in slides; remaining paratypes preserved in fixative.

TAXONOMIC DISCUSSION

Among the species reviewed by Lane (1959), *Neosciara surinamensis* is the one which most resembles our material. It differs markedly from *N. surinamensis* in the following characteristics: R1 does not end near to the fork of M; R-m is not bare as in *N. surinamensis*; metabasitarsus is shorter than half of the metatibia; the anterior margin of the basistyle at the base of the dorsal apodemes does not present a deep notch as in *N. surinamensis*; the ratio of the lengths of the posterior margin of the basistyle and the length of the anterior margin of the dististyle is much smaller.

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REFERENCES

LANE, J.

- 1959: On Neotropical *Neosciara* (Diptera, Sciaridae). *Stud. Ent.* 2: 69-104.

STEFFAN, W. A.

- 1966: A generic revision of the family Sciaridae (Diptera) of America North of Mexico. *University of Berkeley Publications in Entomology*, vol. 44: 1-77, 22 figs.

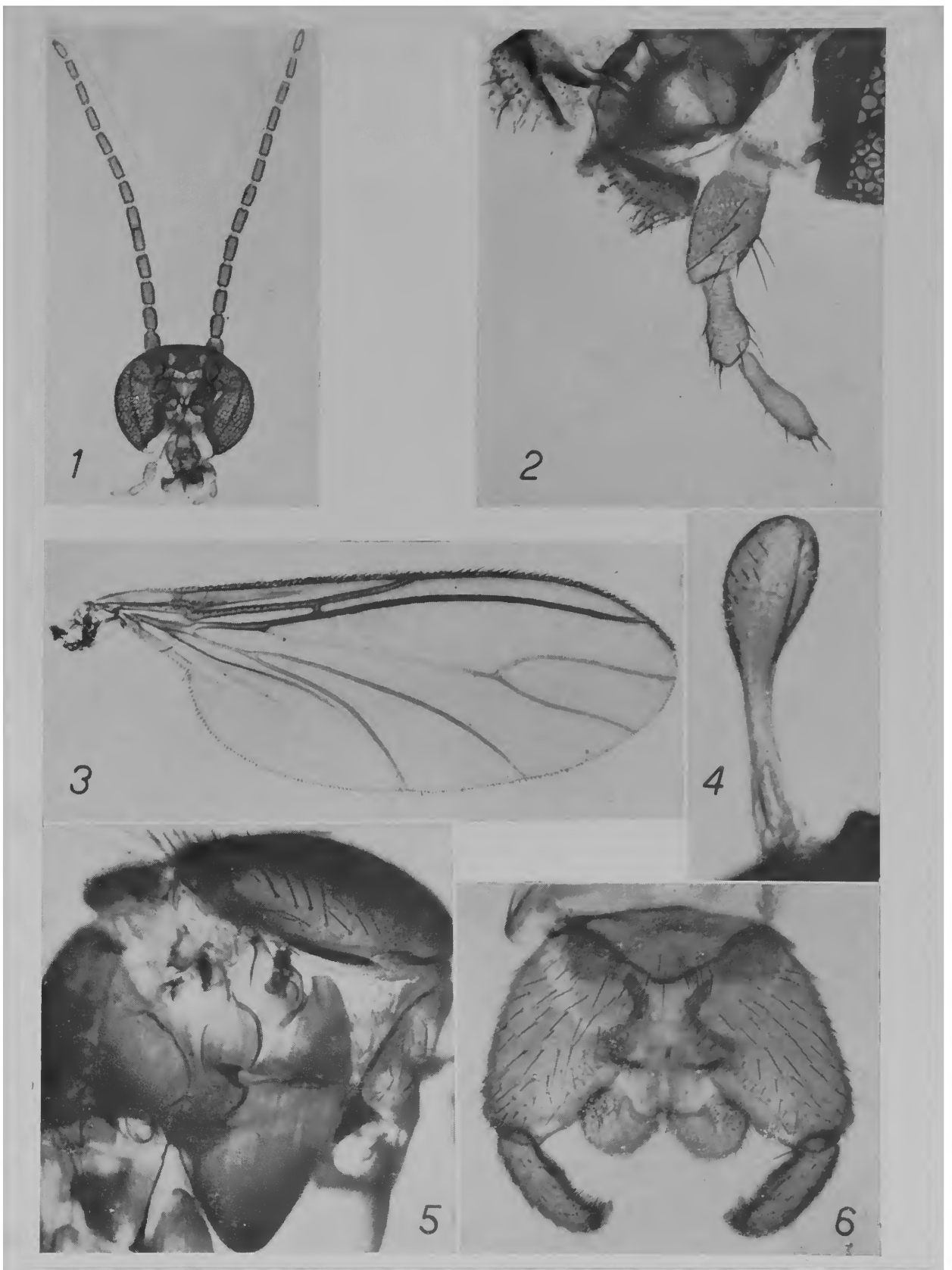


Plate 1, *Bradysia hygida*, sp. n.: 1, head of male, frontal view (30x); 2, maxillary palpus of female (120x); 3, wing of male (30x); 4, dorsal view of halteres, to show the disposition of setae (113x); 5, lateral view of thorax of male (60x); 6, ventral view of male terminalia, slightly compressed (100x).

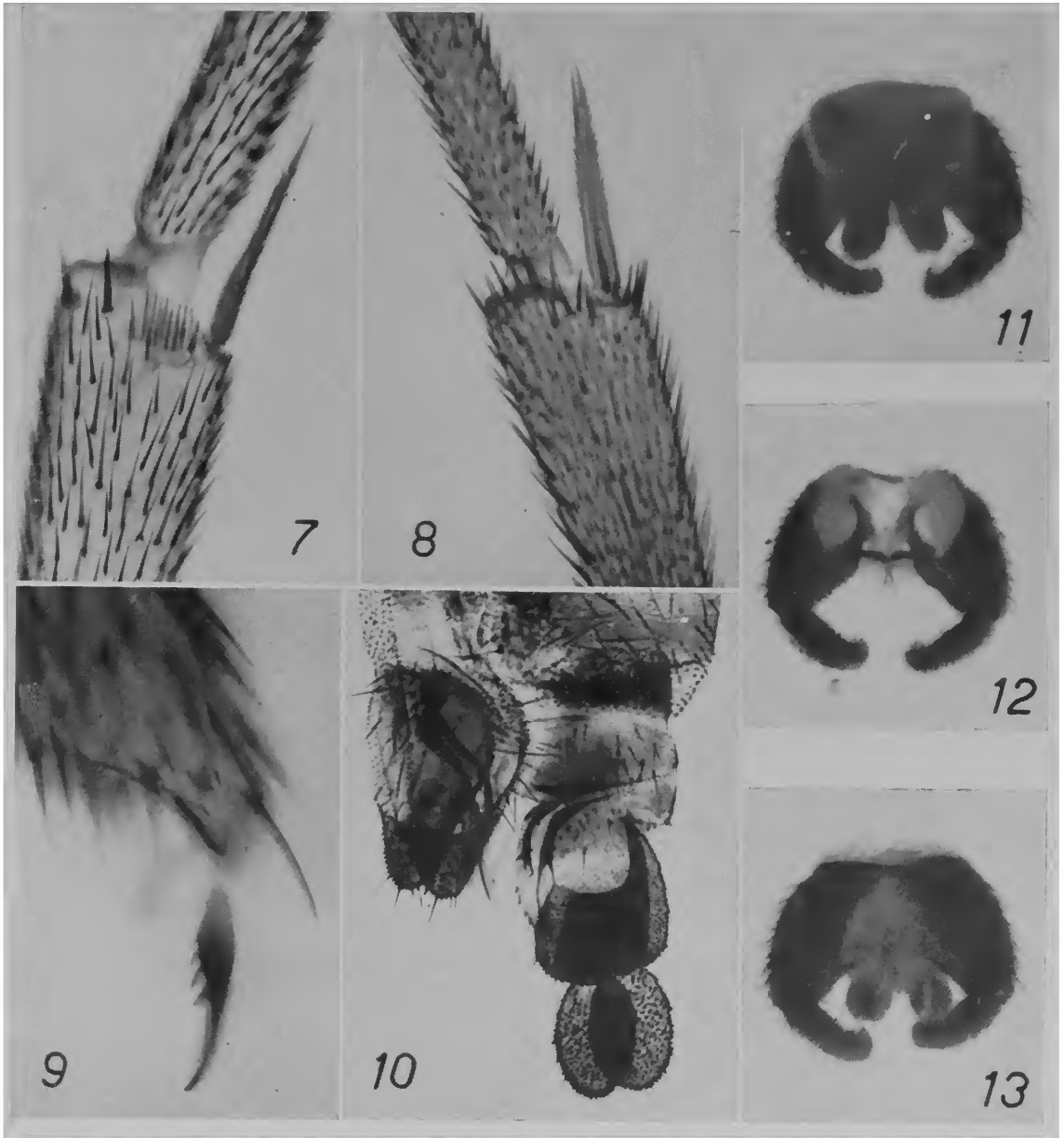


Plate 2, *Bradysia hygida*, sp. n.: 7, apex of protibia (185x); 8, apex of metatibia (130x); 9, tarsal claw with four distinct teeth (480x); 10, lateral view of female terminalia (92x); 11, dorsal view of male terminalia (55x); 12, dorsal view of male terminalia, with segments IX and X removed to show the dorsal apodemes of basistyle and tegmen (55x); 13, ventral view of male terminalia (55x).