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Further observations on the Psychodid subfamily Bruchomyiinae  
(Diptera)<sup>1</sup>

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(With 5 figures)

In 1929 (Consult Bibliography at end of paper), I published a review of the American species of the very primitive flies belonging to the subfamily Bruchomyiinae of the family Psychodidae. At that time, the group was represented in the Neotropics by three species of *Bruchomyia*, known from Argentina and Peru, and by two species of *Nemophylus*, from Paraguay and northern Argentina. During the past dozen years, a few additional species have come to my hand among the very extensive collections of Tipulidae received from friends in Tropical America. The latest to be received was a very interesting new *Bruchomyia* from eastern Brazil, communicated by Mr. Raymond C. Shannon, who has suggested that I describe the species. I take this

<sup>1</sup> Contribution to the memorial volume of the Revista de Entomologia, published in honor of Prof. Dr. Arthur Neiva.

opportunity to bring to date our knowledge of this subfamily of flies, describing new species of *Nemopalpus* from southern Mexico and southeastern Brazil, as well as the *Bruchomyia* above mentioned.

As emphasized by various writers in the past, the members of this group of Diptera are unusually primitive and may well approximate the structure of the most generalized members of the order. The recent discovery in Tropical Africa of a member of this group having the astonishing number of 113 antennal segments further emphasizes the primitive condition in the group.

I am greatly indebted to Mr. Shannon, and to Dr. Alfons Dampf and Mr. J. F. Zikán, for the opportunity of studying these further species of the *Bruchomyiinae*. In their general appearance, the members of the group somewhat strikingly resemble crane-flies of the Eriopterine genus *Molophilus* Curtis, and the specimens received from various sources in the past have often been included in shipments of Tipulidae. Through the kindness of the various collectors, the types of the novelties here described are preserved in my extensive collection of Diptera.

*Eutonnoiria*, gen. nov.

Characters as in *Bruchomyia* but antennae with 113 segments; flagellar segments with 2-branched ascoids, arranged in pairs on segments 4 to 113 inclusive; segment three with three such ascoids. Male hypopygium with the dististyle simply narrowed at apex. As in *Bruchomyia*, the distal section of vein  $Cu_1$  of the wings is elongate, nearly equal in length to the basal section.

Genotype: *Bruchomyia edwardsi* Tonnoir (Tropical Africa: Ruwenzori Range, Mubuku Valley).

The amazing fly that was discovered by Dr. Fred W. Edwards while a member of the British Museum Expedition to Tropical Africa in 1934-35 was considered by its describer, the late Dr. André L. Tonnoir, as falling within the generic limits of *Bruchomyia* (Tonnoir, 1939). In this view I cannot concur and herewith propose the new generic name *Eutonnoiria* to receive this fly.

Key to the Genera of *Bruchomyiinae*

1. Antennae 16-segmented; distal section of vein  $Cu_1$  short, much less than the basal section (Almost Cosmopolitan) . . . . . *Nemopalpus* Macquart

- Antennae with more than 25 segments; distal section of vein  $Cu_1$  elongate, only a little shorter than the basal section . . . . . 2
- 2. Antennae with from 26 to 31 segments; male hypopygium with dististyle bifid at apex (South America) . . . . . *Bruchomyia* Alexander
- Antennae with 113 segments; male hypopygium with dististyle simple at apex. (Tropical Africa) . . . . . *Eutonnoiria*, gen. n.

*Bruchomyia* Alexander

The discovery of the species herewith described as *Bruchomyia brasiliensis* extends the previously known range of the genus as far as eastern Brazil. As indicated in the above key, the range in antennal segments as known falls between 26 and 31, these figures not including the terminal «button» which was formerly held to be a distinct segment but which now appears to be merely a constriction of the apical segment.

Key to species

1. General coloration of head and mesonotum dark gray; vestiture of head and thorax whitish; antennae (female) 28-segmented, the basal segment of flagellum subequal to the second. (Peru) . . . . . *peruviana* Alexander
- General coloration of head and mesonotum brown or yellowish, the vestiture pale brown to dark brown; antennae not 28-segmented, the first flagellar segment approximately one-half longer than the second . . . . . 2
2. General coloration pale yellow, the vestiture pale brown; antennae of male 27-segmented, of female 26-segmented; male hypopygium with the dististyle short and compact, shallowly bilobed at apex, the lobes short and obtuse. (Peru) . . . . . *stanzani* Alexander
- General coloration dark brown, the praescutum, in cases, with gray stripes; antennae with from 29 to 31 segments; male hypopygium with dististyle elongate, deeply bilobed, the lobes long and spinous . . . 3
3. Antennae 29-segmented; male hypopygium with the spinous lobes of the dististyle relatively short, the lower or inner lobe only a little longer than the width of the style opposite its origin. (Argentina) . . . . . *argentina* Alexander
- Antennae 31-segmented; male hypopygium with the spinous lobes of the dististyle very long, the outer only a little longer than the inner, its tip more obtuse; inner lobe fully three times as long as the width of the style opposite its origin. (Eastern Brazil) . . . . . *brasiliensis*, sp. n.

*Bruchomyia brasiliensis*, sp. n.

General coloration dark brown, the praescutum with three more grayish stripes; antennae 31-segmented; wings whitish subhyaline, the veins pale brown, the trichia dark brown;

male hypopygium with the dististyle profoundly split into two slender spinous lobes, the outer a little longer than the inner, its tip slightly obtuse.

Male. — Length, about 3.3-3.5 mm.; wing, 3.8-4 mm.; antenna, about 3.8-4 mm.

Rostrum and palpi brownish black. Antennae 31-segmented, including the apical «button»; flagellar segments cylindrical, with dense appressed setae. Head brown, with dense paler brown setae.

Mesonotum brown, the praescutum with three more grayish stripes that are narrowly bordered by darker brown; thorax with abundant, long, pale brown setae that are easily broken. Pleura dark brown. Halteres brown, the extreme base of stem paler. Legs brown. Wings (Fig. 1) whitish subhyaline, the veins pale brown, trichia darker brown; costal and anal fringes long and dense. Venation:  $R_{2+3}$  shorter than  $R_s$ .

Abdomen, including hypopygium, dark brown. Male hypopygium (Fig. 3) with the lobe of basistyle, *b*, simple, densely provided with long setae. Dististyle, *d*, profoundly split into two slender spinous lobes, the outer a little longer but scarcely wider than the inner or lower spine, its tip slightly more obtuse; style with scattered setae, including a group of long conspicuous ones on the stem before the bifurcation. Tergite, *gt*, pale, the lobes somewhat divergent.

Hab. Brazil (Ceará). Holotype, ♂, Crato, in shallow cave, September 5, 1939 (R. C. Shannon). Paratopotypes, 6. Type in Alexander collection; paratypes in Alexander and Shannon collections.

*Bruchomyia brasiliensis* is most nearly related to the genotype, *B. argentina* Alexander, differing especially in the increased number of antennal segments, and in the structure of the male hypopygium, especially the longer and more slender lobes or spines of the dististyle.

#### *Nemopalpus* Macquart

In recent years, various new species have been described so that at present the genus is known from all the major regions of the World with the exception of the Holarctic.

#### *Nemopalpus dampfianus*, sp. n.

General coloration dark brown, the thoracic pleura paler; antennae (male) longer than the entire body, yellow, 16-seg-

mented; flagellar segments elongate-cylindrical; wings brownish yellow, the veins and trichia more brownish yellow; restricted patches of more blackened trichia on wing-disk; vein  $R_{2+3}$  very long; male hypopygium with the dististyle unusually simple, unequally bilobed at apex, with an additional supplementary lobe on inner margin before apex.

Male. — Length, about 3.5 mm.; wing, 3.8 mm.

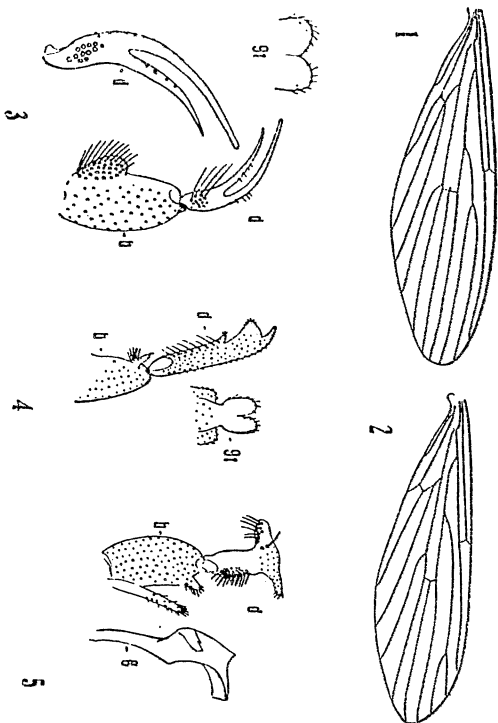


Fig. 1. *Bruchomyia brasiliensis* n. sp., Venation. — Fig. 2. *Nemopalpus dampfianus* n. sp., venation. — Fig. 3. *Bruchomyia brasiliensis* n. sp., male hypopygium. — Fig. 4. *Nemopalpus vazeans* n. sp., male hypopygium. — (Explanation of symbols: *b*, basistyle (style); *d*, dististyle (style); *g*, gonapophyses; *gt*, tergite).

Rostrum brown; palpi dark brown. Antennae elongate, exceeding the body in length, the flagellar segments correspondingly elongate; flagellum 14-segmented, the segments elongate-cylindrical, with abundant long setae that are shorter than the segments; last segment terminating in a cylindrical point; antennae obscure yellow, the outer segments a trifle darker; vestiture black. Head brown.

Thoracic dorsum almost uniformly dark brown, with very long, paler vestiture; pleura somewhat paler. Halteres yellow. Legs yellow, the coxae somewhat darker. Wings (Fig. 2) with a faint brownish yellow tinge; veins brownish yellow; macrotrichia concolorous with the veins; discal patches of blackened trichia at fork of  $M_3$  and along cord. Venation:  $R_{2+3}$  very long,  $R_2$  and  $R_3$  correspondingly shortened.

Abdomen brown, the caudal borders of the segments narrowly still darker. Male hypopygium (Fig. 4) with the

apex of the tergite, *9f*, produced into two flattened oval lobes. Basisstyle, *b*, with a small finger-like lobe on mesal face before apex, this provided with long coarse lateral setae. Dististyle, *d*, unusually simple, unequally bifid at apex, the outer lobe smaller and more slender; face of style with long retrorse setae; a small lobe on inner margin before apex.

Hab. Mexico (Chiapas). Holotype, ♂, Finca Vergel, altitude 725 metres, May 21, 1935 (Dampf); M. F. NO. 4259.

This very distinct fly is named in honor of the collector, Dr. Alfons Dampf, to whom our greatest increase in knowledge of the insects of Mexico is due. The species differs from its allies in southeastern Brazil, Paraguay and northern Argentina in coloration, and, especially, in the unusually simple structure of the male hypopygium.

*Nemopalpus vexans*, sp. n.

Closely related to *N. pilipes* Tonnoir (Paraguay, northern Argentina), differing especially in the details of structure of the male hypopygium.

Male. — Length, about 4 mm.; wing, 4.3 mm.

General coloration brown, densely clothed with long colorous setae, those of the head shorter, stouter and more dense. Tarsi very slightly whitened. Male hypopygium (Fig. 5) with the basisstyle, *b*, on mesal face before apex with a small tubercle that bears numerous short spines and spinous setae, those at summit of tubercle short and spinous, those nearer the base long and setoid. Dististyle, *d*, elongate, bilobed at apex, each lobe tipped with a group of spinous setae; armature of stem of style similarly spinous, including a major group of bristles that are slightly shorter than those of the outer lobe. Gonapophyses, *g*, as figured; apex of outer blade truncated, the apical margin microscopically serrulate, not bilobed as in *pilipes*.

Hab. Brazil (Rio de Janeiro). Holotype, ♂, Campo Bello, December 9, 1931 (J. F. Zikán).

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Description de *Lytta neivai*, n. sp., du Brésil et notes sur quelques *Lytta* F. de l'Amérique du Sud (Col. Meloidae)<sup>1</sup>

par PIERRE C. L. DEXTER, Resistencia (Chaco)

*Lytta neivai*, n. sp.

♀. — Crassa, luteo-rufura, elytris paulo dilutioribus, antennis plurimum, geniculis, tibiis, tarsis et margine posteriore segmentorum abdominalium infusatis; capite prothoraceque in fundo subtilissime punctulatis; leviter sat dense, scutello subtiliter et magis dense punctatis; elytris nervulis perspicuis, et leviter punctatis et rugosulis; punctis omnibus pilo brevi vix conspicuo flavo muritis; corpore (metathorace et episternis praesertim) punctato et longius piloso. Capite transverso; vertice rotundato, in medio usque ad collum subtiliter sulcato; antennis satis brevibus, moniliformibus, ad apicem paulatim leviter incrassatis. Prothorace longitudine latiore, distincte (in parte basali fortiter) marginato, ante scutellum elevato, in medio disci sublaevigato, haud sulcato; angulis posterioribus (deinsuper adspicis) rectis, lateribus subparallelis et a tertio anteriore rotundatim convergentibus. Scutello magno, in medio subcarinato, apice rotundato. Elytris magnis, abdomen tegerentibus, ad humeros conjunctim basi prothoracis duplo latioribus, dehinc distincte extus ampliatis et apice rotundatis; in suturam nihilominus usque ad apicem conjunctis ita ut angulus obtusus terminalis intus formetur. Pedibus validis; calcare externo tibiarrum posticarum in cochlear breve apice rotundato terminato, interno longiore, parallelo, apice oblique rotundato, ut gubiam excavato.

Longitudo 23 mm; latitudo maxima elytrorum 10 mm.  
Patria: Brasil, Sta. Catharina, Joinville, Schmalz leg. 1919.

<sup>1</sup> Travail publié en hommage du Prof. Arthur Neiva.