

NEW BRAZILIAN "LEIA" MEIGEN, 1818  
(Diptera, Mycetophilidae)<sup>1</sup>

J. LANE

Faculdade de Higiene e Saúde Pública, S. Paulo, Brasil

(With 17 text-figures)

The study of our collection comprising 223 specimens belonging to this genus, yielded, as was to be expected, besides new distributions records, seven new species here described. Some known species are also redescribed and their male genitalia illustrated. We have furthermore selected the allotypes for four known species.

The numbers used are those of the entomological collection of the Departamento de Parasitologia da Faculdade de Higiene e Saúde Pública da Universidade de S. Paulo. We have given South American Indian tribe names for our species. Our measurements are approximate. We wish to thank Dr. M. P. Barretto of the Faculdade de Medicina da Universidade de S. Paulo, Dr. Hugo de Souza Lopes from the Escola Superior de Veterinária, Rio de Janeiro, Prof. Lauro Travassos from the Instituto Oswaldo Cruz and Mr. E. B. Ferraz of our Department for help given in making this paper.

*Leia paulensis* Edwards, 1933

(Figs. 1-3)

1933 *Leia paulensis* Edwards. *Rev. Ent.*, 3: 312.

EDWARDS described this species from specimens collected in the States of S. Paulo, Rio de Janeiro and Rio Grande do Sul. We have found it the most common species in all places which we have collected. We take this opportunity to describe and illustrate the male genitalia of this species.

*Male genitalia* — Basistyle somewhat elongate, a protuberance internally from which an apical filament protrudes. Dististyle a strongly sclerotized structure; two manillate protuberances at apex. Mesosome elongate, with

two lateral upper filaments. Ninth tergite one and a half times as long as broad, setose.

*Distribution of our specimens* — Brasil, State of S. Paulo, S. Anaro, VII. 49 (Lane & Coher col.); Cantareira, VIII. 45 (J. Lane col.), XII. 46 (M. P. Barretto col.); Salesópolis, Boracéia, VIII. 47 (J. Lane col.); Campos do Jordão, XII. 45 (J. Lane col.); State of Rio de Janeiro, Itatiaia, VII. 46 (M. P. Barretto col.), XII. 33 (Lopes & Cunha col.); Petrópolis, XI. 1934 (R. Ueler col.); Terezópolis, XI. 40, XII. 1939 (Freitas col.).

*Leia paranensis* Edwards, 1933

(Figs. 1-7)

1933 *Leia paranensis* Edwards, *Rev. Ent.*, 3: 313.

Ten males and nine females. One of the males and all the females have a yellow spot next to the scutellum. We have selected a female from Boracéia as the allotype of this species. The male genitalia is described and illustrated.

*Male genitalia* — Basistyle ovate, slightly longer than broad. Dististyle slender, strongly sclerotized. Mesosome somewhat broad, the two upper lateral filaments notched and thick. Ninth tergite elongate. Tenth sternite (?) as in the figure 7.

*Distribution of our material* — Brasil, State of S. Paulo, Cidade Jardim, I. 46 (M. P. Barretto col.); Cantareira, VIII. 45 (J. Lane col.); Jaraguá, VIII. 45 (J. Lane col.); Boracéia, VI. 48 (J. Lane col.); State of Rio de Janeiro, Itatiaia, VIII. 46 (M. P. Barretto col.); State of Goiás, Corumbá, XI. 45 (M. P. Barretto col.).

*Leia aruaci* n. sp.

(Figs. 8-11)

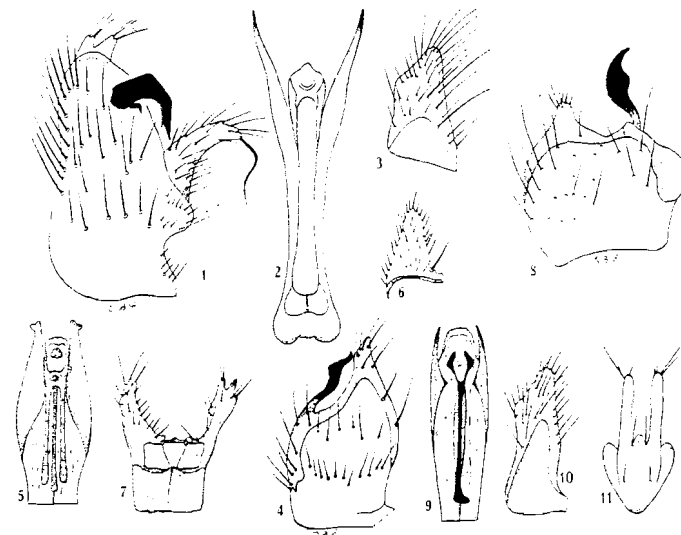
Length of body 4 to 5 mm.; wing 4 to 5 mm.

*Male* — Head: Clypeus and palpus yellowish. Antenna with scape and torus yellowish; flagellum with first three segments yellowish, chiefly on underside, the rest blackish as also other segments except the two distal ones which are completely white. Occiput yellowish, covered with brown setae and hairs; ocellar sclerites black.

*Thorax*: Mesonotum shining black, covered with yellow hairs and setae. Scutellum shining black with two long, stout setae. Postnotum and pleurae shining black but with brownish tinge; spiracular sclerite white.

*Legs*: Coxae yellow with dark spots at tip, the hind one black at base. Trochanters yellow. Femora yellow except the hind one which is dark on the dorso basal surface. Tibiae and tarsi darker.

Wing with more than apical third darkened, a dark spot also on Cu.2 cell at apex, the rest of wing hyaline. Veins M. and Cu. reaching the wing margin. Haltere with brownish stem and blackish knob.



*Leia paulensis* Edwards, 1933 — Fig. 1: Basistyle and dististyle; fig. 2: mesosome; fig. 3: ninth tergite. *Leia paranensis* Edwards, 1933 — Fig. 4: Basistyle and dististyle; fig. 5: mesosome; fig. 6: ninth tergite; fig. 7: tenth sternite. *Leia aruaci* n. sp. — Fig. 8: Basistyle and dististyle; fig. 9: mesosome; fig. 10: ninth tergite; fig. 11: tenth sternite (?)

Abdomen shining blackish; pilosity dark brown. Genitalia yellowish.

*Genitalia* — Basistyle broader than long, ovate. Dististyle a strongly sclerotized appendage as in figure. Mesosome elongate, with two distal slender filaments and a mesial head. Ninth tergite with lobes long and somewhat broadened. Tenth sternites (?) as in figure 11.

*Female* — Similar to male.

*Types* — Holotype male; allotype female; paratypes three males. Registered under numbers 8403 to 8406.

*Type locality* — Brasil, State of Goiás, Corumbá, XI. 1915 (M. P. Barretto col.)

*Leia monoleuca* Edwards, 19331933 *Leia monoleuca* Edwards, *Rev. Ent.*, 3: 312.

Two males and eight females. The legs show much variation as to their markings in our series. Femora can be yellow, dark brown or blackish. Wing markings are also light in some specimens and quite dark in others. A female from Rio de Janeiro, Itatiaia has been selected as the allotype of this species.

*Distribution of our material* — Brasil, State of Rio de Janeiro, Itatiaia, IV. 45 (M. P. Barretto col.); Terezópolis, XII. 39 (Freitas col.); State of S. Paulo, Boracéia, VI. 48 (J. Lane col.); Avanhandava, II. 46 (M. P. Barretto col.); Cantareira, V. 46 and Jaraguá, V. 46 (M. P. Barretto col.); S. Amaro, VII. 49 (Lane and Coher col.); State of Goiás, Corumbá, XI. 45 (M. P. Barretto col.).

*Leia guaycurusi* n. sp.

(Fig. 12)

Length of body 4 mm.; wing 4 mm.

*Male* — Head: Palpus, clypeus and frons yellowish. Antenna with scape and torus yellowish; flagellum with the first four segments yellowish, chiefly on the underside, the rest as well as remaining segments blackish. Occiput blackish, slightly lighter on the sides, covered with dark hairs.

Thorax: Mesonotum blackish, covered with long brown pilosity and yellowish setae. Scutellum light yellowish with two long, strong setae. Pleurae blackish except for the pronotum which is yellowish. Pleurotergite with long dark-brown pilosity.

Legs: Coxae yellowish, the hind one dark basally. Trochanters and femora yellowish. Tibiae and tarsi darker.

Wing slightly infuscated. M.2 and Cu.1 not reaching margin. Cu.1 free at base. Haltere yellowish.

Abdomen shining blackish, covered with yellowish hairs. Genitalia strongly thickened, protuberant and yellow except for the black dististyles.

Genitalia — Basistyle with the lobes fused; each lobe longer than wide, strongly setose on external margin. Dististyle black, about as long as basistyle, thick, rod-like and with a pre-basal protuberance. Mesosome and tenth sternite (?) as in figure.

*Female* — Unknown.

*Type* — Holotype male. Registered under number 8416.

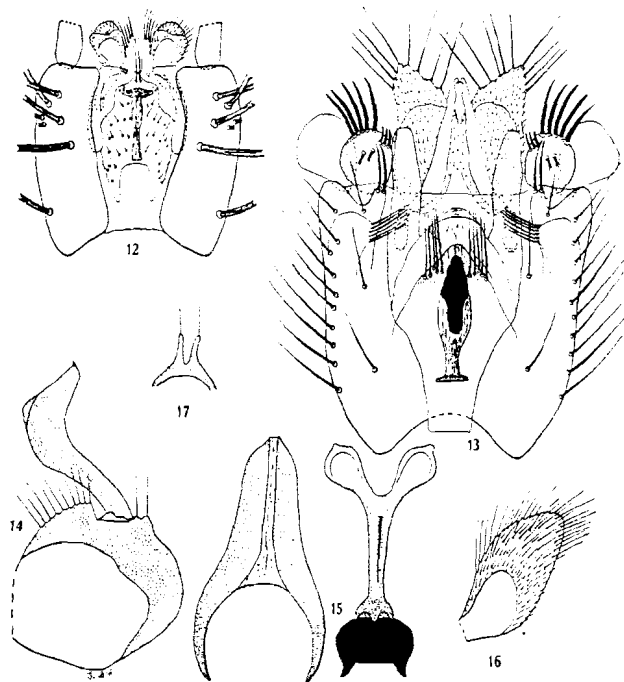
*Type locality* — Brasil, State of Santa Catarina, Nova Teutônia, VII. 49 (F. Plauemann col.).

*Leia apinagei* n. sp.

(Fig. 13)

Length of body 3.5 mm.; wing, 3.2 mm.

*Male* — Head: Mouth parts and palpus yellowish. Clypeus also yellowish but with strong brown setae. Antenna with yellowish scape and torus; first five flagellar segments yellowish, chiefly on underside, the rest as well as remaining segments blackish. Occiput shining blackish; three brown setae in front, the other shorter setae blackish.



*Leia guaycurusi* n. sp. — Fig. 12: Basistyle and dististyle; mesosome; ninth tergite, and tenth sternite (?). *Leia apinagei* n. sp. — Fig. 13: Basistyle and dististyle; mesosome; and ninth tergite. *Leia diversicornis* (Kertész, 1902) — Fig. 14: Basistyle and dististyle; fig. 15: mesosome; fig. 16: ninth tergite; fig. 17: tenth sternite (?).

Thorax: Mesonotum shining blackish, covered with sparse, long, slender, brown pile, the setae brown. Scutellum shining blackish with two strong setae. Postnotum and pleurae black except for the spiracular sclerite which is white.

Legs: Coxae whitish except the hind one which is darkened at base and has a spot at distal extremity. Trochanters and femora yellowish, the hind femur darkened on dorso basal portion. Tibiae and tarsi dark.

Wing with small diluted dark spots; one of them before apex, the other at cubital region. M.3 does not reach apex of wing. Cu.1 free at both ends. Haltere yellow.

Abdomen blackish, covered with short black pile. Genitalia brown.

Genitalia — Basistyle with the lobes fused, longer than broad. Dististyle divided in two strongly sclerotized portions, the first knoblike and elongate; the second one comb-shaped and bearing six long filaments apically. Mesosome pointed at apex. Ninth tergite broad, sub-triangular.

*Female* — Unknown.

*Type* — Holotype male; registered under number 8417.

*Type locality* — Brasil, State of S. Paulo, Cantareira. VIII. 45 (J. Lane col.).

*Leia picticornis* (Kertész, 1902)

1902 *Neoglyphyoptera picticornis* Kertész. *Term. Fuzet.* 25: 578.  
1909 *Leia* Johannsen, *Gen. Ins.*, 79.

Two females, one of them we have selected as the allotype of this species. A description of this specimen is given below.

*Female* — Head: Mouth parts and palpus yellowish. Clypeus yellowish brown with dark brown setae. Antenna with scape and torus yellowish brown; flagellum with the first segment yellowish brown, chiefly below, the rest dark as well as the remaining segments. Occiput shining blackish with brown setae.

Thorax: Mesonotum shining blackish, the hairs and setae brown. Scutellum shining blackish with two strong setae. Postnotum blackish. Pleurae blackish, the pleurotergite shining and pilose, the spiracular sclerite whitish.

Legs: Coxae yellowish, the hind one blackish at base, the fore one with a black dot internally at apex. Trochanters yellowish but with dark dots. Fore femur light brown, the mid and hind ones blackish except for a minute yellowish portion contiguous to the trochanters. Fore tibia and tarsi brownish black, the base yellowish. Spurs whitish. Tarsi darker.

Wing with a dark spot over slightly less than the apical third; another spot in the middle from the costal vein to the fork of media; a third spot on the cubital cell. Cu.3 free at both ends. Haltere yellowish.

Abdomen shining black with hairs of this color. Cerci yellowish red.

*Type* — Allotype registered under number 7361.

*Locality of allotype* — Brasil, State of Goiás, Corumbá, XI. 1945 (M. P. Barretto col.).

*Observations* — The additional female is from State of S. Paulo, Boracéia, X. 48. (Travassos col.).

*Leia cayapo* n. sp.

Length of body 4 mm.; wing 4 mm.

*Female* — Head: Mouth parts and palpus yellowish. Clypeus brownish yellow, the setae brown and short. Antenna with scape, torus and the first two flagellar segments yellowish, the other segments blackish. Occiput blackish on top, dark brown towards the sides, the hairs blackish.

Thorax: Mesonotum shining blackish, covered with brown setae. Scutellum blackish, with two long, strong setae. Postnotum shining blackish. Pleurae blackish, the pleurotergite shining; spiracular sclerite whitish.

Legs: Coxae yellowish with a dark spot internally, the hind one black at base. Trochanters yellowish, with a dark spot internally. Fore femur yellowish, the mid and hind one with the basal two thirds blackish and distally yellowish, another very small one adjacent to the trochanter. Tibiae yellowish. Tarsi darker.

Wing with nearly the distal half darkened, this color advancing and occupying the whole cell of media; slightly darker at base of fork of media; darkened on cubital cell. Cu.3 not reaching the margin of wing. Haltere yellowish.

*Male* — Unknown.

*Type* — Holotype female. Registered under number 8418.

*Type locality* — Brasil, State of Goiás, Corumbá, XI. 45 (M. P. Barretto col.).

*Leia flavoscutelata* (Arribalzaga, 1892)

1892 *Glaphyoptera flavoscutellata* Arribalzaga. *Bol. Ac. Nac. Córdoba*, 12: 410.  
1909 *Leia* Johannsen, *Gen. Ins.*, 77.

Four females and a male.

*Distribution of our material* — Brasil, State of Santa Catarina, — VII. 18 (F. Plaumann col.); State of S. Paulo, S. Amaro, VII. 49 (Lane & Coher col.); State of Minas Gerais, Lavras, III. 48 (R. Vandone col.).

*Leia biamputata* Edwards, 19331933 *Leia biamputata* Edwards. *Rev. Ent.*, 3: 317.1941 *Leia salobrensis* Edwards. *Rev. Ent.*, 12: 310.

Our series shows a large amount of variation on mesonotal markings: such a variation that we have considered *L. salobrensis* as an extremely marked specimen of *L. biamputata* which, on the other hand, seems to have been described from a very little marked specimen.

*Distribution of our material* — Brasil, State of Goiás, Corumbá, XI. 45 (M. P. Barretto col.); State of Minas Gerais, Lassance, I. 39 (Martins, Lopes & Mangabeira col.).

*Leia junai* n. sp.

Length of body 3.8 mm.; wing 4 mm.

*Female* — Head: Mouth parts and palpus yellowish. Clypeus reddish yellow, covered with dark brown short setae. Antenna with the scape, torus and base of first flagellar segment reddish yellow, the rest blackish. Occiput reddish yellow, darker posteriorly, the ocelli surrounded by black sclerotin.

*Thorax*: Mesonotum reddish-brown except for two large cuneiform sub-lateral marks which are elongate and run from the humeral suture to near scutellum, also a black spot over the root of wing; covering formed by inconspicuous brown hairs and setae of this color. Scutellum blackish brown with two stout marginal setae. Postnotum and pleurae shining black except for the spiracular sclerite which is yellowish.

Wing with blackish infuscation. Veins reaching the margin. Cu.1 narrowly detached at base. Haltere black.

*Legs*: Coxae yellow, with apical dark dots, the hind one basally black. Trochanters yellowish with dots on the undersides. Femora yellow. Tibiae and tarsi darker.

*Abdomen* with tergites II and III with broad apical yellow bands (in some specimens the yellow occupies most, in yet others all tergites II and III) the rest blackish; covering formed by blackish hairs. Cerci reddish brown. (in two specimens the cerci are blackish).

*Male* — Unknown.

*Types* — Holotype female; paratypes eighteen females. Registered under numbers 8421 to 8432.

*Type locality* — Brasil, State of S. Paulo, Boracéia, VI. 48 (J. Lane col.).

*Leia falculata* Edwards, 19331933 *Leia falculata* Edwards. *Rev. Ent.*, 3: 313.

Five specimens from Brasil, State of S. Paulo, C. do Jordão, XII. 45 (J. Lane col.) and Argentina, José C. Paz, IX. 39 (Oglobin col.).

*Leia fasciata* Kertész, 19021902 *Leia fasciata* Kertész. *Termes Fuzet.*, 25: 574.1931 Edwards. *Konowia*, 10: 78.

Twenty one specimens from Brasil, State of S. Paulo, Cidade Jardim, I. 46 (M. P. Barretto col.); Avanhadava, II. 46 (M. P. Barretto col.); Campos do Jordão, XI. 37 (Travassos, Lopes & Oiticica col.); Osasco, II. 38 (J. Lane col.); Boracéia, VI. 48 and VIII. 47 (J. Lane col.); Peruiba, XII. 46 (Carrera col.); S. Amaro, VII. 47 (Lane & Coher col.); State of Rio de Janeiro, Angra dos Reis, XI. 45 (J. Lane col.); Jardim Botânico, V. 32 (Lopes col.); Itatiaia, XII. 33 (Zikan col.); State of Paraná, Rio Negro, XI. 30; State of S. Catarina, Nova Teutonia, VII. 48 (F. Plaumann col.).

*Leia halterata* (Kertész, 1902)1902 *Neoglyphyoptera halterata* Kertész. *Term. Fuzet.*, 25:? 1910 *Leia tricinctiventris* Enderlein. *Stet. Ent. Zeit.*, 72: 190.

We have for the present considered *L. tricinctiventris* as a synonym of *L. halterata* because the only differential characters, as far as descriptions go, is in the darker or lighter postscutellum.

*Distribution of our material* — Brasil, State of S. Paulo, S. Roque, XI. 44 (J. Lane col.); Itaporanga, I. 46 (M. P. Barretto col.); State of Rio de Janeiro, Angra dos Reis, X. 34 (Travassos & Lopes col.); Itatiaia, VIII. 48 (S. J. Oliveira col.); State of Goiás, XI. 45 (M. P. Barretto col.).

*Leia bivittata* Say, 18291829 *Leia bivittata* Say. *J. Acad. Sci. Phil.*, 6: 152.1939 *Leia bivittata tropicalis* Fisher. *Trans. Amer. Ent. Soc.*, 45: 233.1939 *Leia bivittata punctiformis* Fisher. *Trans. Amer. Ent. Soc.*, 45: 234.

The larger or smaller spot over the root of wing seems to us a secondary character so that we have not considered the two subspecies created by FISHER as valid.

*Leia elegans* (Kestesz, 1902)1902 *Neoglyphyoptera elegans* Kestesz. *Term. Fuzet.*, 25: 379.1909 *Leia elegans* Johannsen, *Gen. Ins.*, 77.

We have a single specimen from Brasil, State of Rio de Janeiro, V.33 (Lopes col.).

*Leia andirai* n. sp.

Length of body 4 mm.; wing 4.2 mm.

*Female* — Head: Mouth parts and palpus yellow. Clypeus reddish yellow with very short yellow hairs. Antenna with scape, torus and underside of the first two flagellar segments yellow, the rest darkened except for the last three segments and the base of the adjacent one which are whitish. (The amount of white varies in some paratypes and appears only in the last or two last segments in others). Occiput reddish yellow, the ocelli surrounded by black sclerotin; hairs and setae yellowish.

Thorax: Mesonotum reddish yellow except for two large black rounded marks on the sides and from the humeral suture reaching to little behind the root of wing; covered with yellow hairs except where there are the black marks and they are black. Scutellum yellowish, with two long, stout setae. Postnotum shining blackish. Pleurae yellow except for the anepisternite, pteropleurite and pleurotergite which are shining black.

Wing darkened on more than the distal third, with a spot in the middle and over the cubital cell. Vein Cu.1 detached at base. Haltere yellow.

Legs: Coxae yellow with dark apical spots. Trochanters, femora, tibiae and tibial spurs yellow; tarsi darker.

Abdomen: Tergites blackish-brown, the middle of a lighter tinge; covered with brown hairs. Sternite II yellowish, the rest blackish. Cerci yellow.

*Male* — Unknown.

*Types* — Holotype female; paratypes, fourteen females. Registered under numbers 8445 to 8452.

*Types locality* — Holotype from Brasil, State of S. Paulo, Campos do Jordão, XII.45 (J. Lane col.); paratypes from Eugenio Lelèvre, XI.37 (Lopes & Oiticica col.); Capital, Ipiranga, IX.35 (J. Lane col.); Capital, S. Amaro, IV.49, Morumbia, XI.49 (Lane & Coher col.); Cantareira, X.45 (M. P. Barretto col.); State of Rio de Janeiro, Teresópolis, XII.39 (Freitas col.); Itatiaia, VIII.46 (M. P. Barretto col.); XI.33 (J. F. Zikan col.).

*Leia schnusei* Edwards, 19331933 *Leia schnusei* Edwards, *Rev. Ent.*, 3: 314.

We have fourteen specimens. One of the females has been selected as the allotype of this species.

*Type* — Allotype from Brasil, State of S. Paulo, Boracéia, VIII. and VI.48 (J. Lane col.).

*Distribution of our material* — Brasil, State of S. Paulo, Boracéia, VIII.47 (Rabello, Travassos, & Lane col.); Campos do Jordão, XII.45 (J. Lane col.); Cantareira, X.45 (M. P. Barretto col.).

*Leia diversicornis* (Kertesz, 1902)

(Figs. 14-17)

1902 *Neoglyphyoptera diversicornis* Kertesz. *Term. Fuzet.*, 25: 376.1909 *Leia diversicornis* Johannsen, *Gen. Ins.*, 77.1941 *Leia fuscicornis* Edwards, *Rev. Ent.*, 12: 309.

Two males and five females. We believe that *L. diversicornis* and *L. fuscicornis* are the same species. The variations in coloration are to be expected. It seems that there is some sexual dimorphism and as this species was described from few specimens such a synonymy is quite understandable. We describe and illustrate the male genitalia below.

*Genitalia* — Basistyle rounded. Dististyle longer than the basistyle, curved, thickened apically. Mesosome as in figure. Ninth tergite rounded, longer than broad, setose.

*Distribution of our material* — Brasil, State of S. Paulo, S. Paulo, I.41 (A. G. Silva col.), Cantareira, XI.45 (M. Carrera col.), VIII.46 (M. P. Barretto col.); Avanhandava, II.46 (M. P. Barretto col.); Boracéia, XI.47 (Rabello & Travassos col.); State of Goiás, XI.45 (M. P. Barretto col.).

## SUMMARY

Working with 236 specimens the author describes six new species, selects the allotype of four known ones, gives the zoogeographical distribution of other species and redescibes and illustrates the male genitalia of some known ones.

## RESUMO

O autor trabalhando com 236 exemplares deste gênero descreve seis espécies novas, escolhe o alótipo para quatro espécies descritas, dá a distribuição zoogeográfica de outras espécies e redescrive e ilustra a genitália de algumas espécies conhecidas.