

TAXONOMY OF BRAZILIAN FLIES OF THE GENUS *LESPEsia* ROBINEAU-DESVOIDY (DIPTERA, TACHINIDAE)

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ABSTRACT

The Brazilian species of the genus Lespesia Robineau-Desvoidy, 1863 (Diptera, Tachinidae) are revised, as well as their host records. Keys to, and descriptions of, all species are given. Ten species are recognized, of which five are described as new. New taxa are: lanei, plaumanni, spitzi, travassosi and teixeirai. Myiosturmia Townsend and Zygofrontiniopsis Blanchard are placed in the synonymy of Lespesia. Seven specific names are newly placed in synonymy. Types of new species are deposited in the collection of Museu de Zoologia da Universidade de São Paulo.

INTRODUCTION

The genus *Lespesia* Robineau-Desvoidy is one of the largest and most important genera of parasitic flies in the western hemisphere (Sabrosky, 1980). The genus occurs only in the New World and has been frequently reared from many agricultural and forest pests.

Nearctic species of this complex were revised by Webber (1930), Beneway (1963) and Sabrosky (1980). There is no general study on the genus in the Neotropical Region. The present work, based on the collection of the Museu de Zoologia da Universidade de São Paulo, is intended to bring our understanding of the Brazilian Tachinidae into better perspective, specially with regard to the relationships between this fauna and that of the Nearctic Region. As a result of the present revision ten species of *Lespesia* are recognized as occurring in Brazil, five of which are described as new. The new taxa are *L. teixeirai*, *L. lanei*, *L. plaumanni*, *L. spitzi* and *L. travassosi*.

NOMENCLATURE

Lespesia was described by Robineau-Desvoidy (1863: 667) based on *Lespesia ciliata* (Macquart) from France. Since Allen (1926) the New World species of this complex were referred to the genus *Achaetoneura* Brauer & Bergenstamm. Mesnil (1950:105,108) was the first to rediscover the name *Lespesia*, a prior name for *Achaetoneura* B. & B. The type specimen is a male reared by Robineau-Desvoidy from a "Bombyx" chrysalid he was unable to identify. It

has been supposed that the specimen was reared from an introduced American giant silkworm brought into France in connection with an epidemic of silkworm disease. According to Mesnil (*loc. cit.*), Robineau-Desvoidy, had incorrectly identified his male specimen as *ciliata* Macquart, and that male which Mesnil called "typus" agreed with the type of the Nearctic species *Achaetoneura hesperus* Brauer & Bergenstamm (Vienna Museum), considered by Webber (1930) as synonym of *A. frenchii* (Williston).

Sabrosky (1980) reviewing the problem, stated that the name *ciliata* actually dates from *Erycia ciliata* Macquart (= *Sturmia scutellata* Robineau-Desvoidy) now placed in synonymy under *Blepharipa pratensis* (Meigen, 1824). An application has been submitted to the International Commission of Zoological Nomenclature by Sabrosky (1979) requesting under the plenary powers to suspend the rules and designate *Masicera datanarum* Townsend as types species of *Lespesia*.

Ten Neotropical genera have been recognized by the author not generically distinguishable from *Lespesia* R.D. These are: *Achaetoneura* Brauer & Bergenstamm, *Parafrontina* Brauer & Bergenstamm, *Zygofrontina* Townsend, *Ypophamyia* Townsend, *Euparafrontina* Brèthes, *Prophryno* Townsend, *Achaetoneuropsis* Townsend, *Myiosturmia* Townsend, *Zygofrontiniopsis* Blanchard. I have regarded the genus *Prophryno* Townsend not distinct from *Lespesia* in spite of its strong facial bristles and densely long haired eyes. The male and female genitalia, puparia and usual taxonomic characters are typical of *Lespesia*.

Key to Brazilian species of *Lespesia*

(a) Males

1. Front pulvilli and claws very short 8
- Front pulvilli and claws normal in size 2
2. Eyes bare or at most very sparsely and inconspicuously short haired .. 4
- Eyes densely haired 3
3. Parafrontalia, parafacialia and abdominal T 5 golden pollinose; facials strong; 3 lateral scutellar bristles *lata* (Wiedemann)
- Parafrontalia, parafacialia and abdominal T 5 silvery gray pollinose; facials weak; 4 lateral scutellar bristles *travassosi*, new species
4. Four sternopleurals; small to median size species (5-7,5 mm) 5
- Five to six sternopleurals; robust species (8,0 to 8,5 mm) *teixeirai*, new species
5. Parafrontalia, parafacialia golden yellow tomentose; abdominals T 1+2 with two pairs of small median marginals; outer verticals distinct *lanei*, new species
- Parafrontalia, parafacialia pale yellow to silvery tomentose; abdominal T 1+2 without distinct median marginals; outer verticals vestigials to absent 6
6. Ocellars very weak; abdomen thick white tomentose, the tomentum thickets in the narrow band at base of T 3 to T 5. Genitalia as in fig 10. *spitzi*, new species
- Ocellars strong; abdomen with tomentum occupying the basal 2/3 or more of T 3 to T 5 7
7. Second antennal segment yellow; thorax and abdomen thinly white tomentose; inner forceps elongate and pointed at apex .. *plummanni*, new species
- Second antennal segment black; thorax and abdomen thickly white tomentose; inner forceps digitiform *affinis* (Townsend)

8. Arista longer than third antennal segment; four lateral scutellar bristles, parafrontalia and parafacialia ochraceous to cupreous *protoginoi* (Blanchard)
- Arista shorter than third antennal segment; three lateral scutellar bristles; parafrontalia golden to silvery pollinose; parafacialia silvery to pale white pollinose 9
9. Parafrontalia and abdominal T 5 golden pollinose; parafacialia silvery pollinose *danai* (Townsend)
- Parafrontalia and abdominal T 5 pale yellow to gray pollinose; parafacialia silvery gray pollinose *archippivora* (Riley)

(b) females

1. Eyes thickly pubescent; facials strong; parafrontalia golden *lata* (Wiedemann)
- Eyes bare to microscopically pubescent; facials weak to moderately developed; parafrontalia golden, pale yellow to silvery 2
2. Outer verticals strong 5
- Outer verticals weak to absent 3
3. Ocellars vestigial *spitzi*, new species
- Ocellars strong 4
4. Four sternopleurals; small to median size species (7.0-8.0 mm) *affinis* (Townsend)
- Five to six sternopleurals; robust species (9.0 mm) .. *teixeirai*, new species
5. Abdominal T 1+2 with a distinct pair of median marginals *lanel*, new species
- Abdominal T 1+2 without a distinct pair of median marginals 6
6. Three lateral scutellar bristles 7
- Four lateral scutellar bristles *protoginoi* (Blanchard)
7. Parafrontalia and abdominal T 5 golden pollinose; abdominal T 1+2 without a distinct pair of median marginals *danai* (Townsend)
- Parafrontalia and abdominal T 5 silvery gray pollinose, sometimes tinged with yellow; abdominal T 5 silvery, brassy on tip .. *archippivora* (Riley)

Genus *Lespesia* Robineau-Desvoidy

Lespesia Robineau-Desvoidy, 1863: 567. Type-species, *Erycia ciliata* Macquart (mon.); Benaway, 1963 (Rev. of North American species); Sabrosky & Arnaud Jr., 1965: 1101 (Cat. of Nearctic species); Thompson, 1965: 371 (Trinidad species); Guimarães, 1971: 208 (Cat. of Neotropical species); Sabrosky, 1980 (Revised key to Nearctic species).

Achaetoneura Brauer & Bergenstamm, 1891: 334 (1891: 30). Type-species, *hesperus* Brauer & Bergenstamm (Coquillett, 1910: 502) = *frenchii* (Williston); Webber, 1930 (Rev. of North American species); Townsend, 1941: 203.

Parafrontina Brauer & Bergenstamm, 1893: 115 (1893: 27). Type-species, *apicalis* Brauer & Bergenstamm (orig. des. as gen. n., sp. n.) = *archippivora* (Riley); Townsend, 1941: 218.

Zygofrontina Townsend, 1915: 427. Type-species, *capitis* Townsend (orig. des.); Townsend, 1941: 227.

Yopphaemyia Townsend, 1916: 75. Type-species, *malacosomae* Townsend (orig. des.); Townsend, 1941: 213.

- Euparafrontina* Brèthes, 1917: 17. Type-species, *martinezi* Brèthes (orig. des.); Townsend, 1914: 213.
- Prophryno* Townsend, 1927: 262. Type-species, *aurulans* Townsend (orig. des.); Townsend, 1941: 222.
- Achaetoneuropsis* Townsend, 1927: 272. Type-species, *affinis* Townsend (orig. des.); Townsend, 1941: 204.
- Myiosturmia* Townsend, 1927: 272. Type-species, *mixta* Townsend (orig. des.). Syn. n.; Townsend, 1941: 109.
- Zygofrontiniopsis* Blanchard, 1959: 173. Type-species, *williamsi* Blanchard (orig. des.), Syn. n.
- Frontina*, authors not Meigen.

DIAGNOSIS

Eyes bare, slightly to densely pubescent. Ocellars strong to very weak. Antennae elongate, reaching lowest fourth of face; third segment broad, rounded to apex; second segment less than one-third the length of third. Arista bare, third segment usually enlarged on the basal one-third to one-half. Facialia bristly usually to or nearly to level of the end of frontals, the bristles weak, moderately developed to strong. Frontals extending below base of third antennal joint. Facial plate well sunken, about 2 1/2 times as long as wide; two pairs of reclinate fronto-orbitals in both sexes; one pair of proclinate fronto-orbitals in females. Parafrontalia bare; genae covered with short hairs. Palpi stout clavate. Vibrissae strong at oral margin. Thorax gray to yellow pollinose; mesonotum with four black vittae visible from posterodorsal view. Chaetotaxy as follows: acrostichals 3:3, dorsocentrals 3:4; intraalars 3:3; prealars 1, long and strong; sternopleurals 4 (except for *teixeirai*, sp. n.); lateral scutellars 3-4; discal scutellars 1; apical scutellars 1, erect and cruciate. Propleura bare. Legs black; middle tibiae ciliate anterodorsally. Wings hyaline, with normal muscoid venation; cel R 5 open, ending considerably before apex of wing; last section of vein M 3 + Cu 1 less than half as long as preceeding section; veins bare, except base of R 4+5. Abdomen ovate without median discals on T 3 and T 4; T 1+2 and T 3 with or without median marginals; T 4 with a row of marginals; T 5 more or less irregularly bristled on entire surface.

Puparium smooth, elliptical; stigmal plate raised above surface of pupa; button large, round and reared in the center of spiracular plate; spiracular plate with serpentine slits (fig 3).

Lespesia affinis (Townsend, 1927)

(Figs. 15, 18)

Achaetoneuropsis affinis Townsend, 1927: 282 (Type-locality, São Paulo, Cantareira).

Lespesia affinis; Guimarães, 1971: 208.

Myiosturmia mixta Townsend, 1927: 331 (Type-locality, São Paulo, Itaquaquecetuba). Syn. n.

Male. Total length, 6,5 to 8,0 mm.

Eyes with slight pubescence, visible at high magnification. Front at vertex, 0,30 to 0,33 of head width. Parafrontalia, parafacialia, and occipital orbits rang-

ing from gray white to pale yellow pollinose. Antennae black; third segment sometimes reddish at extreme base; aristae longer than third antennal segment. tapered nearly half. Frontals about ten in number, extending to just below base of third antennal segment. Inner verticals strong; outer verticals weak not differentiated from hairs of postocular row. Parafrontalia with scattered hairs outside frontal row, none of which is equal in size to the bristles of frontal row. Facialia bristled for about two-thirds distance from vibrissae to antennal bases. Frontalia brown, about one third width of front. Postocular row in a double row. Beard thick, composed of white hairs.

Thorax black, dusted with a yellowish cast. Mesonotum with four indistinct black vittae visible from posterior view. Scutellum reddish with four lateral scutellars, one pair of discals; apicals erect and cruciate. Pleura black; sternopleura and mesopleura thickly white pollinose. Sternopleurals 4. Front pulvilli about equal in length to last tarsal segment. Middle tibiae with one strong anterodorsal bristle near middle, no other bristles developed. Hind tibiae evenly ciliate, with one longer bristle near middle.

Abdomen black in ground color, grey white pollinose. T 1+2 and T 3 without median marginals; T 4 with an irregular row of marginals near apex. Genitalia: cerci about as long as surstyli; surstyli short and broad, digitiform covered with long hairs (figs. 15, 18).

Female: Total length 7 to 7,5 mm.

Front at vertex 0,31 of head width. Outer verticals weak, about one-fourth size of inner verticals. Front pulvilli shorter than last tarsal segment. Abdomen thickly gray pollinose, with an elongate post genital plate. Otherwise similar to male.

Material examined

Brasil. Bahia: 1 ♂ Ilheus, Faz. Olga, 3.XII.1979, E. Ferraz, Rio de Janeiro: 3 ♂, 3 ♀, Manginhos, RJ, VI.1941, VII.1945, L. Travassos (Ex *Eupseudosoma involuta*); 1 ♂ Deodoro, RJ, 2.V.1940, W. Zikán. Minas Gerais: 4 ♂, 4 ♀, Patos de Minas, 20.IX.1979, Evôneo Berti Filho (Ex Geometridae on *Pinus*); 2 ♀, Viçosa, IV.1975, J. C. Zanúncio (Ex Geometridae); 1 ♂, Carangola, II.1973, J. C. Zanúncio (Ex *Sarsina violascens*); 1 ♂, 2 ♀. Bom Despacho, Belo Mineira, 30.IV.1978 (Ex *Eupseudosoma involuta*). São Paulo: 9 ♂, 6 ♀, São Pedro, III.1974, E. B. Menezes (Ex *Hylesia* on citrus); 1 ♀ Salto, 29.III.1980, F. Fenilli; 14 ♂, 11 ♀, Mogi Guassú, 1-15.V.1970, E. Amante (Ex *Eupseudosoma involuta* on *Eucalyptus*); 3 ♂, 1 ♀, Lençóis Paulista, Duraflora, VII.1944, Evôneo Berti Filho (Ex *Eupseudosoma involuta*); 1 ♀ Rio Claro, 1948, J. Pinheiro (Ex *Tnyrinteina arnobia*); 1 ♂, 1 ♀, Piracicaba, XI.1970, J. R. Parra (Ex *Mechanitis lysimnia*); 2 ♀, São Paulo, Capital, 1963, L. Travassos F⁹ (Ex unidentified Ctenuchidae), 1 ♀, Ipiranga, Capital, XII.1922, J. P. Fonseca; 1 ♀ idem, 17.III.1937, F. Lane; 1 ♀, Iperó, Fepasa, 26.V.1976, Evôneo Berti Filho, 1 ♀, Itaquaquecetuba, 28.XI., C. H. T. Townsend (On Fls. *Sapium*; paratype of *Achaetoneuropsis affinis*); 1 ♀, idem, 19.1. (On Fls. *Bacharis*; paratype of *Myiosturmia mixta*); 1 ♀, idem, 10.XI.1963, J. H. Guimarães, 2 ♂, Altinópolis, Chamflora, 19.IV.1978, Evôneo Berti Filho (Ex *Sarcina*); 3 ♂, 2 ♀. Itapetininga, 5.VI.1975, A. C. Carvalho (Ex *Eupseudosoma involuta*); 5 ♂, Paulínia, 23.IX.1976, O. S. Oashi (Ex *Eupseudosoma involuta*); 2 ♂ Salto, Santa Maria, Duratex, 23.VII.1980, Evôneo Berti Filho, 1 ♂ Sumaré, 14.II.1975, J. Vasconcellos Neto (Ex *Mechanites polymnia*); 2 ♂ Santo Amaro, Cocaia, 28.IV.1963, H. Urban. Mato Grosso do Sul; 1 ♀, Bodoquena, 1938, Com. I. O. C., Distrito Federal: 1 ♂ Planaltina, 1.000 m,

10.XII.1977. V.O. Becker (Ex *Spodoptera frugiperda*). Paraná: 1♀ Iguassu, XII.1941. Com. ENV; 3♀ Londrina, X.1978, M.A. Pizzamiglio (Ex Geometridae); 1♂, 1♀, Cambé, 14.II.1977, C.B. Hoffmann (Ex *Urbanus proteus*) Santa Catarina: 3♂ Nova Teutônia, I.1966, II.1966, F. Plaumann.

This is perhaps the commonest species of the genera in South America, being reared from several agricultural and forest pests. *L. affinis*, is closely related to the Nearctic species *L. aletiae* (Riley) especially in the form of male genitalia. The size and color of this species is rather variable. *Myiosturmia mixta* Townsend is a synonym of *affinis* according to a paratype female in Museu de Zoologia. Lima (1950) refers this species as parasite of *Thyrintina arnobia*, a *Eucalyptus* pest in São Paulo.

Lespesia archippivora (Riley, 1871)

(Figs. 4, 6, 16)

Tachina archippivora Riley, 1871: 150. Type-locality, Missouri, USA).

Masicera archippivora; Williston, 1889: 1923.

Lespesia archippivora; Beneway, 1963: 639; Sabrosky & Arnaud, Jr., 1965: 1101; Sabrosky, 1980: 68.

Achaetoneura archippivora; Allen, 1926: 196; Webber, 1930: 20; Patton, 1958: 32; Butler, 1958: 361.

Zygofrontina capitis Townsend, 1915: 427 (Type-locality, Peru, Casma). Syn. n.

Lespesia capitis; Thompson, 1966: 373; Guimarães, 1971: 209.

Ypophamyia malacossomae brasiliensis Townsend, 1917: 231. (Type-locality, Brasil, Mato Grosso do Sul, Corumbá). Syn. n.

Lespesia brasiliensis; Guimarães, 1971: 209.

Male: Total length 5-7 mm.

Eyes microscopically pubescent. Front at vertex, unusually wide at vertex (0.40 of head width). Parafrontalia and parafacialia cinereous pollinose, the former often with golden tinge. Palpi yellow. Antennae black, usually about four-fifths the face (Fig. 4). Arista thickened on basal one-half of three-fourths. Facialia bristled three-fourths way to antennae, sometimes only one-half way. Frontals, usually eight to nine, uppermost bristle weak; usually two large reclinate bristles of about strength continuing along the line of the frontals. Vibrissae strong; cheeks with rather long black hairs. Inner verticals strong; outer verticals about one-half size of inner verticals. Ocellars strong. Palpi orange.

Thorax thinly gray pollinose. Sternopleurals 3. Scutellum with 3 laterals, a pair of strong oblique cruciate apicals and a pair of strong discals. Legs black, middle tibiae with a strong anterodorsal bristle and two weaker bristles above it. Front claws and pulvilli shorter than last tarsal segment.

Abdomen black with thin gray pollen; T 1+2 with a moderately developed pair of median marginals. T 5 silvery gray pollinose, sometime tinged with brassy on tip. Genitalia: cerci slender in profile tapering to a rather sharp point; surstyli a little shorter than cerci, much broader at base, elongate, triangular in profile, tapering to a sharp point (Figs. 6, 16).

Female: Total length 5-7 mm.

Front at vertex 0.40 of head width. Facials moderately developed. Coloration similar to male, but T 3 sometimes reddish. Parafrontalia with two pairs of strong proclinate orbitals. Otherwise similar to male.

Material examined

Brasil. Distrito Federal. 6♂, 8♀, Planaltina, 1000 m, 7.VI.1976, 6.I.1977, 14.II.1977, 8.III.1977, 5.IV.1977, V.O. Becker (Ex *Spodoptera frugiperda* and *Anticarsia gemmatilis*). This is a well known and distinctive species characterized by the short claws and pulvilli of the males; aristae shorter than third antennal joint, three lateral scutellars and broad front in both sexes. Webber (1930) regarded *Ypophyaemya malacosomae brasiliensis* Townsend and *Zygofrontina capitis* Townsend exceedingly close to *archippivora* and both 2 species were regarded conspecific with *archippivora*. The biology of this species was carried out by Etchegaray & Nishida (1975) in Hawaii.

***Lespesia danai* (Townsend, 1940)**

Zygofrontina danai Townsend, 1940: 893. (Type-locality, "Brazil").

Lespesia danai; Guimarães, 1971: 209.

Zygofrontina mendesi Townsend, 1940: 893 (Type-locality, São Paulo, Campinas). Syn. n.

Ypophyaemya semiaurata Blanchard, 1959 170, fig. 11 (Type-locality, Argentina, Castellar). Syn. n.

Lespesia semiaurata; Blanchard, 1975: 40.

Lespesia mendesi; Guimarães, 1971: 209.

Ypophyaemya grioti Blanchard, 1963: 239, fig. 37 (Type-locality, Argentina, Santa Fé). Syn. n.

Male: Total length 5 to 7 mm.

Eyes bare or with slight pubescence visible at high magnification. Front at vertex 0.39 of head width. Parafrontalia golden pollinose. Parafrontalia, genae and occiput silvery pollinose. Parafrontalia broad, at narrowest part wider than width of third antennal joint. Antennae black; third segment reddish only at extreme base; second segment with a reddish cast. Antennae variable in length, usually four-fifth the face. Aristae smaller than third antennal segment, thickened on basal one-half to three-fourths, tapered rapidly apically. Facialia usually bristly three-fourths way to antennae, bristles in a single row. Frontals about nine in number, extending to just below base of third segment, with the uppermost ones weak. Parafrontalia with two large reclinate orbitals of about equal strength continuing along the line of the frontals. Inner verticals strong; outer verticals about one-half size of inner verticals. Parafrontalia with scattered black hairs outside frontal row, one of which is equal in size to bristles of frontal row. Beard thick, composed of white hairs.

Thorax gray pollinose, usually with golden cast. Mesonotum with four rather well defined black vittae visible from postero dorsal view which vary in intensity in different reflections. Scutellum black, gray pollinose, the tip often yellowish, bearing three pairs of laterals; apicals erect and cruciate. Legs black and shining, except the posterior surface of front femora which is thinly gray pollinose. Pulvilli of front tarsi shorter than last tarsal segment. Middle tibiae with one strong anterodorsal bristle, no other bristle developed. Hind tibia ciliate, with one longer bristle near middle.

Abdomen black, thickly white pollinose. T 5 golden yellow pollinose. T 1+2 usually without a well developed pair of median marginals. Genitalia, similar to *L. archippivora*.

Female: Total length 5 to 7 mm.

Front at vertex 0.40 of head width. Parafrontalia golden. Antennae black; second antennal segment more reddish. Otherwise similar to male.

Material examined

São Paulo. 2 ♂ Cocaia, III.1963. H. Urban; 1 ♂, 3 ♀, São Paulo, Capital, 1964, L. Travassos Fº, 1 ♂ Barueri, 2.IX.1954, K. Lenko; 1 ♂ Campos do Jordão, 1650 m, Faz. Guarda, 23.III.1963, Rabello, Travassos Fº, J. H. Guimarães; 1 ♂ São Paulo, Capital, 5.IV.1963, J. H. Guimarães (Ex *Dirphia multicolor*).

The type specimens of *Zygofrontina danai* and *Z. mendesi* deposited in Instituto Agrônômico de Campinas have been examined by the author and were considered here as conspecific. When more reared material is available evidences may emerge to determine whether *danei* is a color variant of *archippivora* or a distinct species.

Ypophaemyia semiaurata Blanchard and *Y. grioti* are regarded as conspecific with *danei*.

***Lespesia lata* (Wiedemann, 1830)**

(Figs. 9, 14)

Tachina lata Wiedemann, 1830: 322. (Type-locality, "Montevideo").

Achaetoneura lata; Brauer & Bergenstamm, 1861: 334, Aldrich, 1927: 8 (redescription of type).

Lespesia lata; Guimarães, 1971: 209.

Prophryno aurulans Townsend, 1927: 353 (Type-locality, Brasil, São Paulo, Itaquaquecetuba). Syn. n.

Lespesia aurulans; Guimarães, 1971: 209.

Eutritochaeta aurea Blanchard, 1942: 99, fig. 4 (Type-locality, Argentina, Chaco). Syn. n.

Prophryno cromoberghiae Blanchard, 1963: 200 (Type-locality, Argentina, Concordia, Entre Rios). Syn. n.

Lespesia cromoberghiae; Blanchard, 1975: 39.

Male: Total length 7,0 mm.

Eyes haired. Front at vertex 0.29 of head width. Parafrontalia, ocellar triangle and parafacialia gold pollinose; occipital disc, epistoma, facial plate, facialia and genae grey. Facialia sometime tinged with gold. Antennae black. Arista with two basal segments brownish; third segment reddish. Facial plate deeply sunken; epistoma narrow, slightly protruding not visible in lateral view between the vibrissae. Inner verticals erect, almost parallel; outer verticals weak, hardly differentiated from postocular row. Facialia highly ciliate almost to lowest frontals, the bristles about ten, strong, more or less porrect and curved downward. Vibrissae decussate; peristomal bristles about eight, quite strong.

Thorax black, thickly white pollinose, sometimes with a median pollinose band light golden between the acrostichals; humeri pale yellow; mesopleura and hypopleura grey pollinose; scutellum with the base black, apice yellow, thickly grey pollinose; sternopleurals 4, the upper and outer two strong, the lower and inner two weak. Legs black, middle tibiae with one strong anterodorsal bristle near middle; hind tibiae rather coarsely bristled.

Abdomen black, grey pollinose. Abdominal T 1+2 with a pair of weak median marginals; T 3 with a pair of close set short, but strong median mar-

ginals; T 5 bright golden with a narrow brown median vitta and a rather indefinite brown posterior margin. Genitalia: cerci and surstyli both unusually short and broad in lateral view; cerci broad rounded at apex (Figs. 9, 14).

Female: Total length, 8.0 to 7.5 mm.

Front at vertex 0.30 to 0.32 of head width. Parafrontalia golden; facials moderately developed; outer verticals well developed; T 1+2 with a distinct pair of median marginals; T 5 golden pollinose. Otherwise similar to male.

Material examined

Brasil. Alagoas: 7 ♂, 2 ♀, Maceió, Usina Triunfo, 9.VI.1976, J. Cordeiro (Ex Mocis). Rio de Janeiro: 1 ♂, 1 ♀, Itaguaí, Km. 47 Rod. Rio-São Paulo, 2.V.1956, J. Hercio C. Ribeiro; 1 ♂ Resende, III.1958, H. S. Lopes. Minas Gerais: 1 ♂ Unai, Faz. Unai, Brasília, 10.III.1978, J. G. Smith. São Paulo: 1 ♂ Porto Cabral, Rio Paraná, 1-10.XI.1941, L. Travassos; 1 ♂ Itaquaquecetuba, 20.XI, C. H. T. Townsend (Paratype of *Prophryno aurulans*). Distrito Federal: 2 ♂ Planaltina, 1000 m; 3.I.1977, V. O. Becker (Ex *Dinia aegrus*, Ctenuchidae). Goiás: 1 ♀, Campinas, XII.1935, Borgmeier & Lopes. Mato Grosso do Sul: 1 ♂ Cuiabá, Ponce, 2.VII.IX.1934, J. Lane. Santa Catarina: 2 ♂ Nova Teutônia, II-1967, V.1967, F. Plaumann. Argentina. Salta: 1 ♂, San Martín, 500-800 m, 10.I.1957, P. Wygodzinsky.

Except for *teixeirai*, species of *Lespesia* characteristically have four pairs of sternopleurals. According to Aldrich (1927) the type specimen of *Tachina lata* presents 1,1 and 2,1 sternopleurals. I have regarded this character as subject to variation and regarded *lata* as a rather ordinary *Lespesia* identical to *Prophryno aurulans* Town. *Eutritochaeta aurea* Blanchard and *Prophryno cromoberghiae* are also here considered as conspecific with *lata*. This species is distinguished at once from most other members of the genus by the exceptionally strong facials and pubescent eyes.

Lespesia lanei, sp. n.

(Figs. 1, 7, 12)

Male: Total length 6 to 7 mm.

Eyes bare, front at vertex 0.30 of head width. Parafrontalia, and parafacialia, yellow to golden pollinose (Fig. 1). Antennae black, second segment reddish on apex. Arista thickened on basal half, tapering rapidly toward apex. Frontals about eight in number, extending to below base of third antennal segment. Inner verticals strong; outer verticals about one-third size of inner ones. Parafrontalia with few scattered hairs outside the frontals, none of which is equal in size to the bristles of the frontal row. Facialia bristled weakly for about two-thirds distance from vibrissae to antennal bases. Frontal vitta brown, about as wide as parafacialia. Occiput silvery. Postocular row in double row. Beard composed of white hairs.

Thorax gray white pollinose: mesonotum with four rather well defined black vittae visible from postero dorsal view, which vary in intensity in different reflections. Scutellum with three, sometimes four scutellars, apical scutellars erect, cruciate. Pleura whitish pollinose. Legs dark brown and shining except for posterior surface of front femora which is thinly gray pollinose. Pulvilli of front tarsi longer than last tarsal segment. Middle tibiae with one strong antero-dorsal bristle, and usually another bristle about one-third size of strong bristle. Hind tibiae evenly ciliate, with one longer bristle near middle.

Abdomen black in ground color, thickly gray white pollinose. Abdominal T 1+2 with a small but distinct pair of median marginals; T 3 with a strong pair of median marginals; T 4 with a strong marginal row; T 5, silvery pollinose, covered with erect hairs and an irregular row of bristles near apex. Genitalia: cerci and surstyli long and slender (Figs. 7, 12).

Female: Total length 6.5 to 8.0 mm.

Front at vertex 0.34 of head width; second antennal segment usually more reddish at base than male; pulvilli of front tarsi shorter than last tarsal segment. Otherwise similar to male.

Holotype ♂, São Paulo, Ipiranga, Capital, II.1963, L. Travassos F♀ Paratypes. São Paulo. 13 ♂, 6 ♀ São Paulo, Capital, 7.XI.1931, X.1931, V.1934, G. Malschitsky (Ex *Rothschildia arethusa* (Walker); 32 ♂, 25 ♀ Ipiranga, Capital, II.1963, L. Travassos F♀, Ex *Rothschildia aurota* (Cramer) 2 ♂, 2 ♀ idem, 3.VIII.1936, Pe. Pereira; 3 ♂, 1 ♀, idem, IV.1976 (Ex Saturniidae). Minas Gerais: 1 ♀, Passa Quatro, Faz. Campos, 5.X.1918, 21.X.1918, J. F. Zikán, Ex *Rothschildia jacobacae* (Walker). Rio de Janeiro: 1 ♀ Itaguaí, 25.XII.1951, J. H. Guimarães; 2 ♂, 2 ♀, Itatiaia, 700 m., 15.XI.1933, 18.X.1933, J. F. Zikán, Ex *Rothschildia* sp.; 1 ♂ Manguinhos, RH, X.1932, L. Travassos; 3 ♂, 2 ♀, idem, H. S. Lopes. Santa Catarina: 8 ♂, 10 ♀, São Bento do Sul, X.1980, D. Urban (Ex *Rothschildia*).

This is a common parasite of *Rothschildia* sp. (Saturniidae) in Brazil. The species is named for the late Prof. John Lane who reared and studied the larval biology of this species (Lane, 1933; Lane & Lane, 1935).

***Lespesia plaumanni*, sp. n.**

(Fig. 19)

Male: Total length 7.5 mm.

Eyes with slight pubescence visible at high magnification; front at vertex 0.22 of head width. Parafrontalia, parafacialia deep yellow pollinose. Antennae with the first and second segment yellow, third segment black. Aristae thickened on basal one-half, tapering rapidly towards the apices. Frontals about ten in number, except to below base of third antennal segment. Inner verticals strong; outer verticals weak, about one-third size of inner verticals. Parafrontalia with a row of hairs outside frontals, which may be as large as one-half size of bristles of frontal row. Facialia bristled from two-thirds distance from vibrissae to antennal base. Frontal vitta brown, about one-fourth width of front.

Thorax black in ground color, thinly white pollinose. Mesonotum with four poorly defined black vittae visible from behind. Scutellum yellowish, laterals 4; apicals weak, cruciate. Sternopleurals 4. Legs black; middle tibiae with one strong anterodorsal bristle near middle, and one weak anterodorsal bristle above it. Hind tibiae evenly ciliate, without one longer bristle near middle. Front pulvilli and claws longer than last tarsal segment.

Adomen brownish red in ground color, thinly white pollinose. Abdominal T 1+2 and T 3 without median marginals. Genitalia (Fig. 19) with cerci and surstyli long and with acuminate apices in lateral view.

Holotype ♂, Nova Teutônia, Santa Catarina, III.1967, F. Plaumann.

This species is close to *affinis* Townsend, differing mainly by the yellow second antennal joint and the thinly white tomentum on thorax and abdomen.

***Lespesia protoginoi* (Blanchard, 1966)**

(Fig. 11)

Achaetoneuropsis protoginoi Blanchard, 1966: 28, fig. 1 (Type-locality, Buenos Aires, Argentina).

Lespesia protoginoi; Guimaráes, 1971: 209.

Male: Total length: 7 to 8 mm.

Eyes with slight pubescence visible at high magnification. Front at vertex 0.33 of head width. Parafrontalia, parafacialia and occipital orbits ochraceous yellow pollinose. Antennae black, second antennal segment yellowish to reddish. Aristae black longer than third antennal joint, thickened on basal one-half, tapering rapidly towards the apices. Frontals about eight to ten in number, extending to below base of third antennal segment. Ocellars strong. Inner verticals strong; outer verticals about one-third size of inner verticals. Parafrontalia often with a irregular row of bristles outside frontal row which may be as large as one-third size of bristles of frontal row. Facialia bristled from one-third to two-thirds distance from vibrissae to antennal bases. Frontal vitta brown, about one-third width of front.

Thorax black in ground color, thinly gray pollinose, with yellowish cast. Mesonotum with four poorly defined black vittae visible from postero dorsal view. Scutellum with four laterals, apicals erect, cruciate. Legs black, middle tibiae with one strong anterodorsal bristle near middle and usually another small bristle above. Hind tibiae evenly ciliate with one longer bristle on middle. Front pulvilli and claws, shorter than last tarsal segment.

Abdomen subshining black in ground color, thickly pale yellow pollinose. T 1+2 to T 3 without median marginals. Genitalia (Fig. 11): cerci broad and short; surstyli, tapering toward the apices, in lateral view.

Female: Total length, 7 mm.

Front at vertex 0.33 of head width. Outer verticals and ocellars strong, facials weak. Parafrontalia silvery gray pollinose; antennae with second antennal joint reddish. T 1+2 without median marginals; T 5 silvery gray pollinose.

Material examined

São Paulo: 3 ♂, 6 ♀, São Paulo, Capital, 27.IV.1979, E. P. Teixeira (Ex *Papilio anchisiades capys* on Citrus); 1 ♀, Campinas, 4.X.1976, W. Benson (Ex *Papilio*). Paraná: 2 ♂, 6 ♀, Curitiba, 15.V.1978, J. G. Smith (Ex *Papilio* on Citrus). Rio Grande do Sul: 2 ♂, 2 ♀, Santa Maria, 12.VII.1975, D. Link (Ex *Papilio thoas brasiliensis*).

This is a well distinct species, characterized by the front pulvilli and claws of male shorter than last tarsal segment; parafacialia and abdominal T 5 silvery gray pollinose. The type-specimen was reared from *Papilio thoas thoantides* on *Citrus*, in Buenos Aires.

***Lespesia spitzi*, sp. n.**

(Fig. 10)

Male: Total length 7 to 9 mm.

Eyes bare or slight pubescent. Front at vertex 0.22 to 0.25 of head width. Parafrontalia and parafacialia white pollinose. Antennae black; second segment sometimes reddish. Aristae with third segment thickened on the basal one-third, tapering toward apex. Frontals about ten, extending to just below

base of third antennal segment. Inner verticals strong; outer verticals vestigial, not differentiated from postocular row. Ocellars varying from weak to absent. Parafrontalia thickly haired outside the frontal row, none of hairs equal in size to bristles of frontal row. Facialia weakly bristled for about one-half to one-fourth distance from vibrissae to antennal bases. Frontal vitta brown, about one-third width of front.

Thorax gray pollinose. Mesonotum with four poorly defined black vittae visible from postero dorsal view. Scutellum reddish; laterals 4; apicals weak. Legs black. Front pulvilli as long as last tarsal segment. Middle tibiae with one strong and one weak anterodorsal bristle near middle.

Abdomen black in ground color, gray white pollinose, the pollen thickest in a narrow band at bases of T 3 to T 5. Median marginals on T 1+2 and T 3 absent. Genitalia, with cerci and surstyli in lateral view shaped as in fig. 10.

Female: Total length 7 mm.

Front at vertex 0.24 of head width. Parafrontalia silvery gray pollinose; outer verticals weak; ocellars weak. No median marginals on T 1+2; T 5 silvery gray tomentose.

Holotype ♂, Manguinhos, RJ, VII.1941, L. Travassos. Paratypes: 2♂, 1♀, Manguinhos, RJ, VII.1941, L. Travassos; 1♂ Deodoro, RJ, 2.V.1940, W. Zikán; 1♂, Ipiranga, São Paulo, SP, 18.XI.1932, R. Spitz (Ex Notodontidae); 1♂ Altinópolis, Chamflora, S. Paulo, 19.IV.1978, Evôneo Berti Filho.

This species is close to *L. affinis* differing mainly by the weak ocellars in both sexes.

Lespesia teixeirai, sp. n.

(Figs. 5, 13)

Male: Total length, 8.0 to 8.5 mm.

Eyes slightly pubescent. Front at vertex 0.27 of head width. Inner verticals strong, subparallel, and reclinate. Outer verticals very weak, about one-fourth the size of inner verticals. Parafrontalia, parafacialia and genae gray pollinose, with a slight tinge of yellow. Antennae black. Arista tapered nearly uniformly for its entire length, slightly thickened on basal half. Frontals about 8 in number, extending to just below bases of third segment. Parafrontalia thickly haired outside frontals; none of hairs equal in size to bristles of frontal row. Facialia bristled for about one-third distance from vibrissae to antennal bases; bristles usually in a double row. Facialia bristled for about one-third distance from vibrissae to antennal bases, bristles usually in a double row. Frontal vitta brown, about one-third width of front. Beard thick, composed of white hairs.

Thorax black, gray pollinose, variable in density. Mesonotum with four poorly defined black vittae visible from postero-dorsal view which vary in intensity in different reflections. Scutellum black, gray pollinose the tip often yellowish or red, bearing three pairs of laterals, besides the usually cruciate apical pair. Sternopleura with 5 to 6 bristles. Legs black, mid tibiae with one strong anterodorsal bristle near middle. Hind tibiae evenly ciliate with one longer bristle near middle. Pulvilli of front tarsi about as long as last tarsal segment.

Abdomen black, thickly gray pollinose, the pollen variable in density. T 1+2 without median marginals; T 3 with a pairs of strong median marginals. Abdominal hairs depressed. Genitalia: cerci and surstyli shaped as in figs. 5 and 13.

Female: Total length 8 to 9 mm.

Front at vertex 0.31 of head width. Parafrontalia silvery pollinose. Outer verticals very weak. No median marginals on T 1+2; T 5 silvery pollinose. Otherwise similar to male.

Holotype ♂, Iperó, São Paulo, 9-20.IX.1976, Edson P. Teixeira (Ex *Dirphia trisignata*). Paratypes. São Paulo, 1♂, 1♀, Itapetininga, VII.1976. G.J. Morais (Ex *Dirphia trisignata*). 4♂, 1♀, Iperó, São Paulo, VII.1975, 20.IX.1976, 20.III.1977, Edson P. Teixeira (Ex *Dirphia trisignata*).

This species is readily distinguished from most others members of the genus by presenting 5-6 sternopleurals.

***Lespesia travassosi*, sp. n.**

(Figs. 8, 17)

Male: Total length 5 to 7 mm.

Eyes moderately pubescent. Front at vertex 0.18 to 0.22 of head width. Parafrontalia and parafacialia silvery gray pollinose. Parafrontalia covered with fine black hairs, sometimes tinged with yellow. Aristae slightly thickened on basal one-third. Palpi yellow. Frontals about ten, with 2 or 3 pairs extending to just below base of third antennal segment. Inner verticals, not differentiated from postocular row. Ocellars normal in size. Facialia weakly bristled for about one-third distance from vibrissae to antennal bases. Frontal vitta brown, about one-third width of front.

Thorax black, silvery white pollinose. Mesonotum with four poorly defined black vittae visible from posterodorsal view. Sternopleurals 4. Scutellum grayish pollinose; laterals 4; apicals weak. Legs reddish brown; middle tibiae with one strong anterodorsal bristle near middle.

Abdomen dark brown, covered with white pollen. No distinct median marginals on T 1+2 to T 3. Genitalia: cerci and surstyli on in figs. 8 and 17.

Holotype ♂, Angra dos Reis, RJ, 12.II.1932, L. Travassos. Paratypes 3♂, Japuíba, Angra dos Reis, RJ, III.1940, H. Travassos; 1♂ idem, XII.1940, Oliveira & Ventel; 1♂ Ilha Bela, SP, II.1953, E. Rabello.

L. travassosi is allied to *L. lata* in possessing pubescent eyes, but it differs from *lata* mainly in presenting weak facials and silvery gray parafrontalia. This species is named in honor of the late Prof. Lauro Travassos, Instituto Oswaldo Cruz.

Unrecognized species

***Lespesia auriceps* (Macquart)**

Masicera auricens Macquart, 1843: 216 (1843: 59)

Originally described from "Brasil" or "Chile", the type is presumably lost. I did not find in the original description the necessary characters to connect the name with any of the recognized species.

Host records

Lespesia deposits membranous eggs on the body of the host (Allen, 1926). The hosts are mainly lepidopterous larvae. Chilean species recorded to this complex, viz. *L. robusta* Aldrich, *L. leliae* Cortés and *L. nimiae* Cortés, definitely do not belong to *Lespesia*, and their correct placement have not yet been

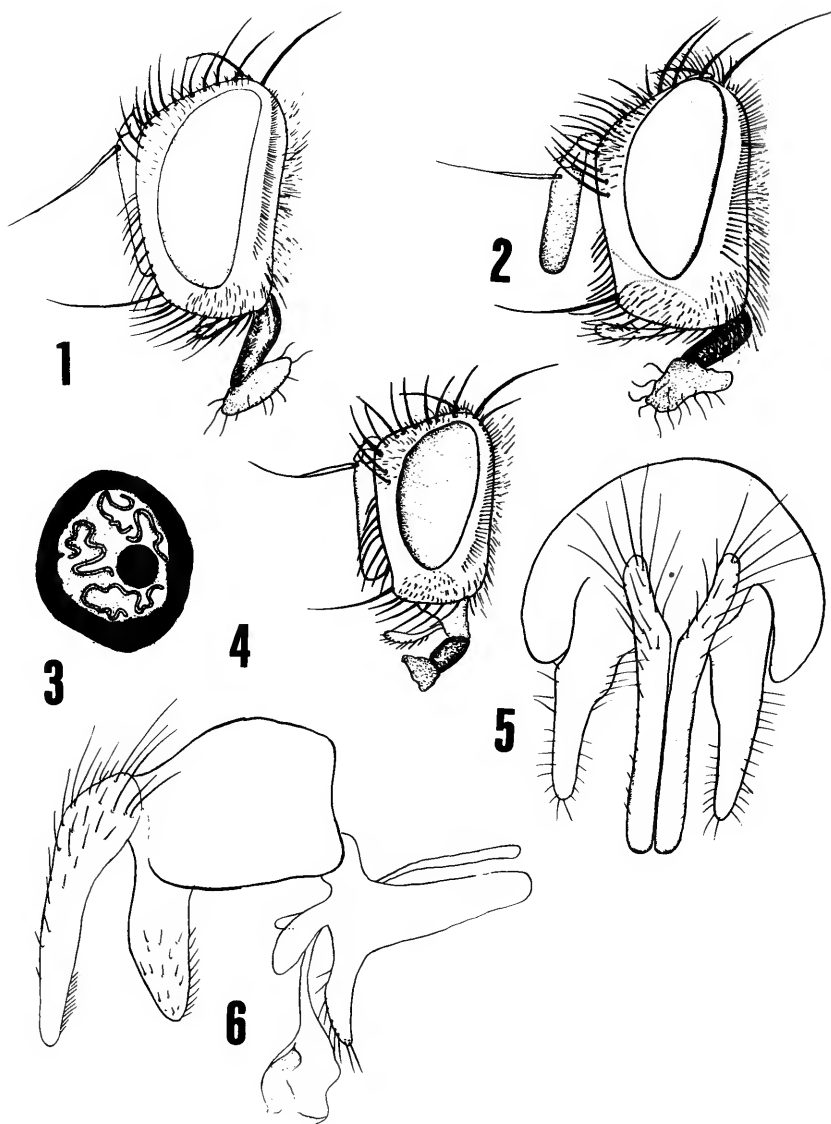


Fig. 1, *Lespesia lanei*, sp. n.; male head; fig. 2, *Lespesia teixeirai*, sp. n., male head; fig. 3, *Lespesia* sp., puparium, spiracular plate; fig. 4, *Lespesia archippivora* (Riley), male head; fig. 5, *Lespesia teixeirai*, sp. n., cerci and surstyli; fig. 6, *Lespesia archippivora* (Riley), male genitalia, lat., view.

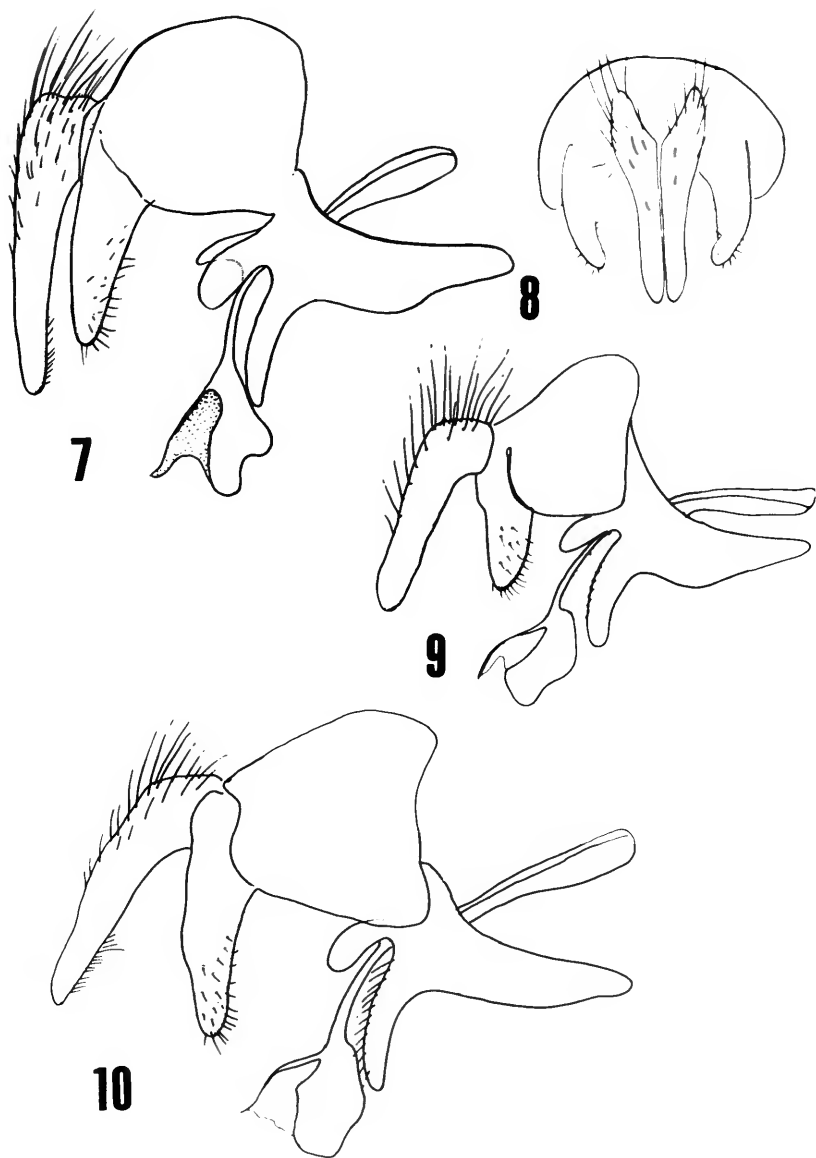


Fig. 7, *Lespesia lanei*, sp. n., male genitalia, lat. view; fig. 8, *Lespesia travassosi*, sp. n., cerci and surstyli; fig. 9, *Lespesia lata* (Wied.), male genitalia, lat. view; fig. 10, *Lespesia spitzi*, sp. n., male genitalia, lat. view.

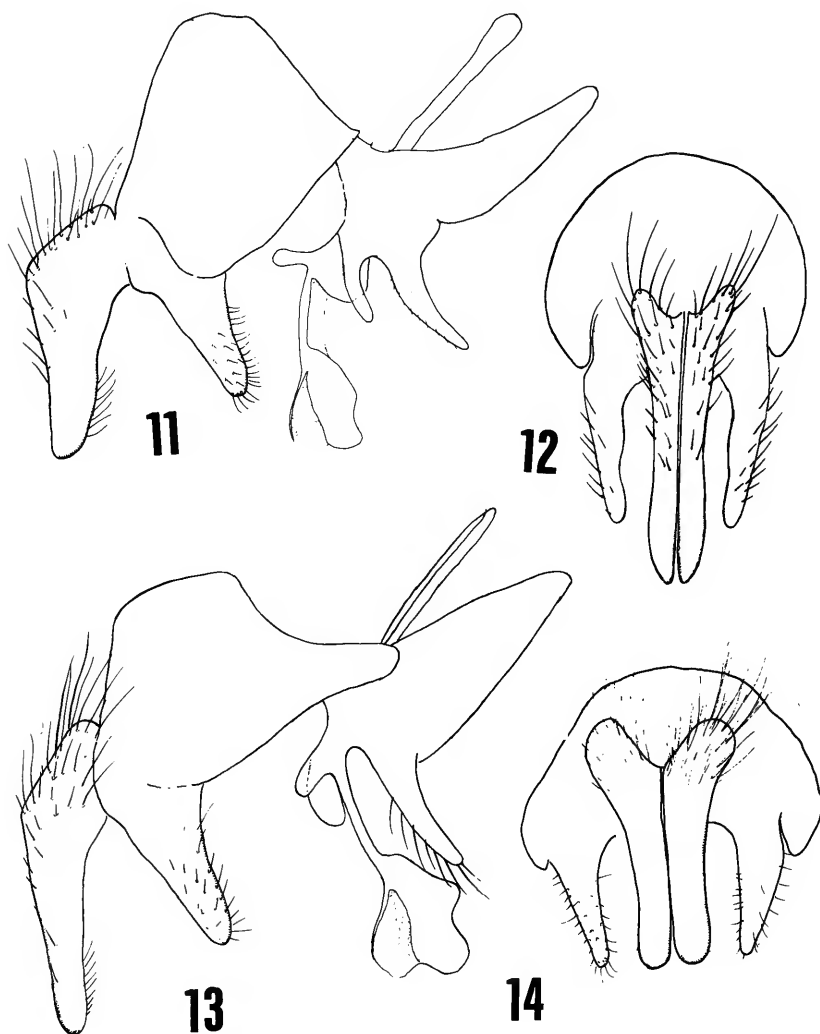


Fig. 11, *Lespesia protoginoi* (Blanchard), male genitalia, lat. view; fig. 12, *Lespesia lanei*, sp. n., cerci and surstyli; fig. 13, *Lespesia teixeirai*, sp. n., male genitalia, lat. view; fig. 14, *Lespesia lata* (Wied.), cerci and surstyli.

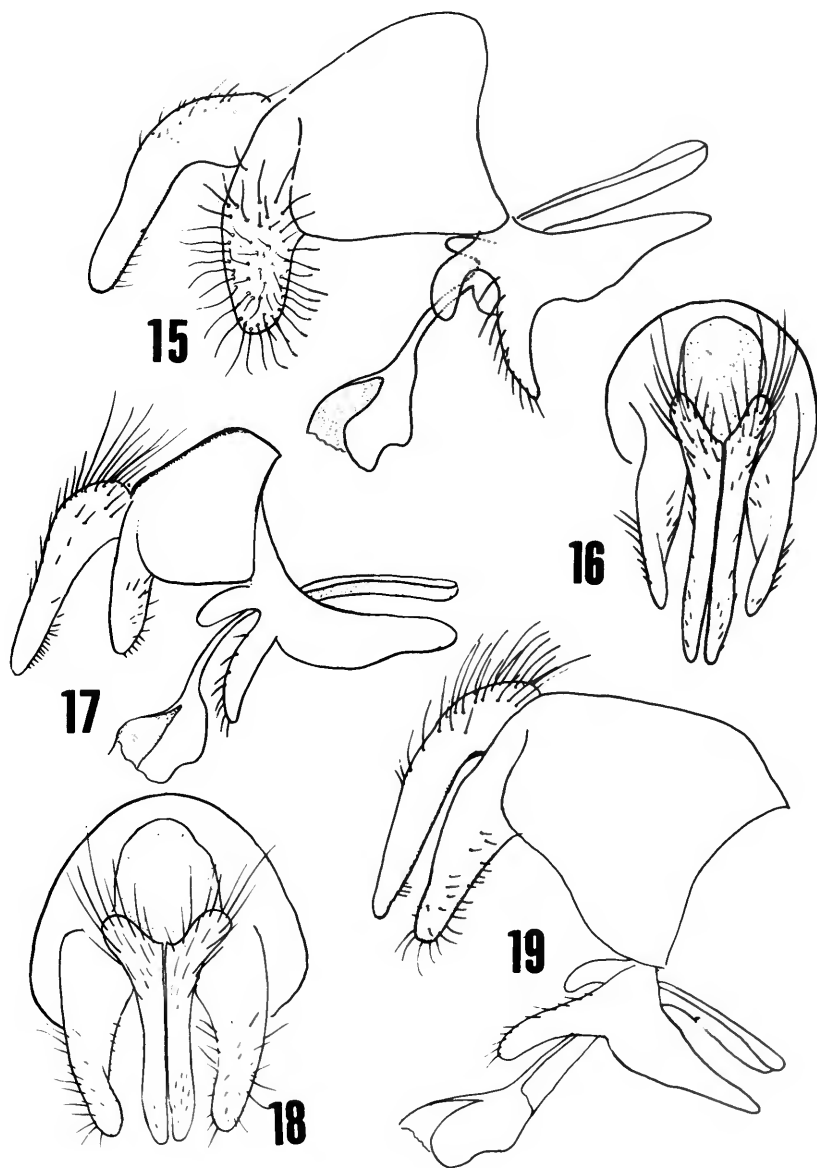


Fig. 15, *Lespesia affinis* (Townsend), male genitalia, lat. view; fig. 16, *Lespesia archippivora* (Riley), cerci and surstyli; fig. 17, *Lespesia travassosi*, sp. n., male genitalia, lat. view; fig. 18, *Lespesia affinis* (Townsend), male genitalia, post. view; fig. 19, *Lespesia plaumanni*, sp. n., male genitalia, lat. view.

established. Dissections of females of the three Chilean species show the presence of microtype eggs, the male and female genitalia being differently shaped.

The following host list was based upon reared material examined during the present study. Records from the literature were presented in Guimarães (1977).

Lespesia affinis (Townsend)

Eupseudosoma involuta (Arctiidae) — MG, SP

Hylesia sp. (Hemileucidae) — SP

Mechanites lysimnia (Ithomidae) — SP

Mechanites polymnia (Ithomidae) — SP

Spodoptera frugiperda (Noctuidae) — DF

Sarcina violascens (Lymantriidae) — MG

Thyrintetna arnobia (Geometridae) — SP

Urbanus proteus (Hesperiidae) — PR

Ctenuchidae n/ ident. — SP

Geometridae n/ ident. — MG, PR

Lespesia archippivora (Riley)

Anticarsia gemmatalis (Noctuidae) — DF

Dirphia multicolor (Saturniidae) — SP

Spodoptera frugiperda (Noctuidae) — DF

Lespesia danai (Townsend)

Danaus erippus (Danaiidae) — SP

Dirphia multicolor (Saturniidae) — SP

Lespesia lanei (Townsend)

Rothschildia arethusa (Saturniidae) — SP

Rothschildia aurota (Saturniidae) — SP

Rothschildia jacobae (Saturniidae) — MG

Rothschildia sp. (Saturniidae) — RJ, SC

Lespesia protoginoi (Blanchard)

Papilio anchisiades capys (Papilionidae) — SP

Papilio thoas brasiliensis (Papilionidae) — RS

Lespesia spitzii, sp. n.

Notodontidae — SP

Lespesia teixeirai, sp. n.

Dirphia trisignata (Saturniidae) — SP

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