NEW SPECIES AND RECORDS OF PSOCOPTERA (INSECTA) FROM RORAIMA STATE, BRAZIL.

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SUMMARY

Psocoptera from Ilha de Maraca and Pacaraima, Roraima State, Brazil, representing 103 species are recorded. Sixty-two are new to science and are described and figured, representing genera **Echmepteryx** (2), **Tapinella** (3), **Musapsocus** (1), **Seopsocus** (3), **Isthmopsocus** (3), **Dolabellopsocus** (6), **Epipsocus** (5), **Neurostigma** (1), **Notiopsocus** (1), **Caecilius** (6), **Enderleinella** (1), **Xanthocaecilius** (1), **Polypsocus** (3), **Scytopsocus** (1), **Archipsocus** (1), **Lachesilla** (4), **Notolachesilla** (1), **Peripsocus** (4), **Dactylopsocus** (1), **Metylophorus** (3), **Blaste** (4), **Lichenomiae** (3), **Myopsocus** (3). *Genus* **Notarchipsocus** *n. gen. is erected for* **Archipsocus macrurus** *New and a new species. Genus* **Monocladellus** *Enderlein in placed in synonymy of* **Polypsocus** *Hagen. South American species assigned to genus* **Lophopterygella** *Enderlein by New (1979) are reassigned to* **Myopsocus** *and represent a parallel development in the latter genus.*

INTRODUCTION

The Psocoptera of tropical South- and Central America have been the subjects of several major papers in recent years (Badonnel, 1978, 1986, 1987; Badonrel **et al.**, 1984; Eertmoed, 1973, 1986; Garciá Aldrete, 1974, 1982; Mockford, 1967, 1975, 1981; Mockford & Sullivan, 1986; New, 1972, 1972a, 1973, 1976, 1979, 1980; New & Thornton, 1975; Roesler, 1940, 1940a, 1940b; Williner, 1949). Nevertheless, a great amount of alpha taxonomy remains to be done. A small collection from Ilha de Maraca and Pacaraima, Roraima State, Brazil, is reported upon here, received for study from Dr. J. A. Rafael of the Instituto Nacional de Pesquisas da Amazônia. The collection, containing 436 adults and approximately 90 nymphs (the latter largely undetermined), includes representatives of 62 undescribed species, which constitute 60% of the total number of species (103) in the collection. It seems likely that if standard methods used by specialists, such as beating, bark inspection, and litter sifting, were employed in the same geographic areas, the number of new species might be much higher.

In addition to a large proportion of new species, several other notable finds are included in the collection: a second specimen of **'Monocladellus' ohausianus** Enderlein, the first described from the Andes in Ecuador; a second individual of the genus **Notolachesilla** Mockford & Sullivan; the first, representing a distinct species, described from

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Madre de Dios Province, Perú. Second records of several species first described from the Mato Grosso are included.

MATERIALS AND METHODS

The material was taken either by fogging or by Malaise trap. Considerable breakage may occur with either method, and many measurements included in the descriptions are often incomplete. In a few cases, terminal abdominal segments were separated from the rest of the body, but in no case was a new species based on separated body parts.

Study procedures and abbreviations of body parts used in descriptions and measurements follow in general those used by Mockford (1989) except that only one individual of each sex of each species was measured. Special procedures and nomenclature of body parts and chaetotaxy for the genus **Archipsocus** follow Badonnel (1978). The classification followed is that of Badonnel (1951), with addition of a few families recognized since that work.

Five biotopes are represented in the material which are for brevity in the records referred to as Rafael ≠ 1...5. They are described as follows:

Rafael ≠ 1.Brazil: Roraima, Rio Uraricoera, Ilha de Maraca, 21-30.xi.1987, fogging, J. A. Rafael team.

Rafael ≠ 2. Brazil: Roraima, Pacaraima, 25.vi-5.vii.1988, Malaise trap, J. A. Rafael team.

Rafael ≠ 3. Brazil: Roraima, Pacaraima, el. 1200 m, 7.iii.1988, Malaise trap, J. A. Rafael team.

Rafael ≠.4. Brazil: Roraima, Rio Uraricoera, Ilha de Maraca, 2-13.v.1987,Malaise trap, J. A. Rafael team.

Rafael ≠ 5. Brazil: Roraima: Rio Uraricoera, Ilha de Maraca, 20-30.iii.1987, Malaise trap, L. S. Aquino.

All holotypes, allotypes and a majority of paratypes will be deposited in the Instituto Nacional de Pesquisas da Amazônia (INPA) Manaus, Brazil. Representative paratypes, where possible, are deposited in the collection of the author (ELM) at Illinois State University, Normal, Illinois, U. S. A. The disposition of paratype material is indicated in the records.

RECORDS AND DISCUSSION

Suborder TROGIOMORPHA

Family Lepidopsocidae

Soa flaviterminata Enderlein

S. flaviterminata Enderlein, 1906a:79.

The species is circumtropical and is introduced occasionally into localities in the north-temperate zone. Males are unknown.

Material examined. Rafael ≠ 2, 11 ♀; Rafael ≠ 4, 7 ♀.

Proentomum personatum Badonnel

P. personatum Badonnel, 1949:23.

The species was described from West Africa and is widely distributed in the American tropics.

Material examined. Rafael ≠ 1, 1 ♀, 4 nymphs; Rafael ≠ 4, 2 ♀.

Genus **Echmepteryx** Aaron

No attempt has been made at classification of this genus since the work of Roesler (1944). Assuming that the subgenera recognized by that author are valid, only two appear to have been found in the Western Hemisphere: **Echmepteryx** and **Thylacopsis** Enderlein. Important references on Western Hemisphere species are papers by Garcia Aldrete (1984, 1985) and Mockford (1974).

The two species treated here belong to subgenus **Echmepteryx**. Within this subgenus the taxonomic structure remains totally unexplored and only a few characters of importance in separating species have been noted. The following characters appear to be useful:

Both sexes:

1) wing development: normal versus reduced;
2) ocelli: a) presence versus absence; b) relative distances apart;
3) Facial markings;
4) Lacinial tip details;
5) Pretarsal claw: relative prominence of minute denticles before preapical denticle;
6) Shape of anterior wing-catch: diffuse versus compact;
7) Number of basal florets of paraproctal sense cushion;

Males:

8) Shape of hypandrium;
9) Relative length of phallosome compared to entire abdomen;
10) Shape of external paramere tips;
11) Details of endophallic structures: a) relative length of endophallic region

compared to entire phallosome; b) relative length of basal endophallic lobes compared to entire endophallic region; c) details of distal endosome (Fig. 3), shape, number and arrangement of pore-denticles;

Females:

12) Shape of collar of spermathecal duct;

13) Details of spermathecal sac.

Echmepteryx lutosus new species

Diagnosis: Wings not reduced. Ocelli present, lateral separated from median by about 1.5X diameter of lateral. Face mostly unmarked, a dark band from compound eye over antennal socket, to postclypeus; a dark band across postclypeus, broadest laterally; a faint transverse band across frons immediately above postclypeus.

Differing from species of the **hageni** complex and **E. alpha** Garcia Aldrete by facial marking, from **E. terricola** Badonnel, **E. pletschi** Garcia Aldrete, **E. leticiae** Garcia Aldrete, and **E. yanezi** Garcia Aldrete by unreduced forewings, from **E. pacifica** Garcia Aldrete by broader wings. The only known species with apical prominence on hypandrium.

Male measurements. FW 2057 (tip broken), HW 1865, F_1 35, f_2 28, f_3 27, 10 355, d 189, D 338, P_4 179.

Male color. Compound eyes and ocelli black; head otherwise creamy yellow with dark purplish brown marks as indicated in diagnosis; scape purplish brown, remainder of antenna medium brown; maxillary palpus colorless except dark purplish brown at distal end of segments 3 and 4. Thorax medium brown with purplish brown mottling on pleura. Forewing medium brown; paler around base; hindwing clear. Foreleg (only leg present) with femur creamy yellow in basal half, a broad purplish brown band including most of distal half but tip creamy yellow; tibia creamy yellow with two broad purplish brown bands distad of base and based of tip, separated by narrow creamy yellow ring; tarsus purplish brown. Abdominal color not noted.

Male structural characters. Ocelli as noted in diagnosis. Head ecdysial lines distinct. Pretarsal claw with basal seta and three distinct acuminate denticles before preapical tooth. Anterior wing catch compact. Wing shape and venation normal for subgenus (Fig. 1). Hypandrium (Fig. 2) with short distal median pointed process. Phallosome (Fig. 3) elongate; external paramere tips rounded, bearing minute pores and internal sclerotizations; endophallic structures paired ovate basal bodies and three elongate distal sclerotizations; a median rod y-branched at each end with sclerotic thickenings distally; two lateral rods communicating basally with basal bodies, distally with median rod; lateral rods each bearing two pore-denticles on median surface. Paraproct (Fig. 4) with six trichobothria with basal florets and one short seta included in lightly pigmented sense cushion; one seta below sense cushion very long, about half length of paraproct; median prong elongate. Epiproct normal for subgenus.

Female Unknown.

Holotype. ♂, Rafael ≠ 1.

Echmepteryx uniformis new species

Diagnosis: Wings not reduced. Ocelli present, laterals separated by about 2.5X diameter of lateral, separated from median by about 1.5X diameter of lateral. Face uniformly dark brown.

Differing from species of the **hageni** complex and **E. alpha** by facialmarking, from **E. terricola, E. pletschi, E. leticiae,** and **E. yanezi** by unreduced forewings, from **E. pacifica** by broad wings.

Female measurements. FW 1994, HW 1736, F_1 37, F_2 21, IO 347, d 155, D 241, P_4 151.

Female color. Compound eyes and rims of ocelli black; ocellar centers colorless; remainder of head dark brown including antennal scape and pedicel; flagellum (only f_1 present) medium brown; maxillary palpus medium brown with purplish brown distal end of second segment and dark purplish brown distal end of third segment. Thorax, legs, and forewings medium brown; hindwing clear with pale gray wash. Preclunial abdominal segments medium brown, slightly darker and with purple tinge on sides. Terminal abdominal segments dark brown.

Female structural characters. Ocelli as noted in diagnosis. Head ecdysial lines distinct. Pretarsal claw with short basal seta and four minute denticles before preapical tooth. Anterior wing catch (Fig. 5) somewhat diffuse. Wing shape and venation (Fig. 6) normal for subgenus. Third ovipositor valvula (Fig. 7) elongate, slender, with very long setae distally, shorter ones basally. Collar of spermathecal duct (Fig. 8) elongate, slender, slightly curved, with slerder appendage extending from lip. Spermathecal sac (Fig. 9, collapsed) with two surface macular regions of dense truncated tubercles; rest of surface sparsely beset with small, rounded platelets. Paraproct with six basal florets, the two medians joined together, and a slender seta of medium length with simple base in slightly raised sense cushion; median prong elongate. Epiproct with sparse setae.

Holotype. ♀, Rafael ≠ 1.

Suborder TROCTOMORPHA

Family Liposcelidae

Belaphotroctes ghesquierei Badonnel

B. ghesquierei Badonnel 1949:20.

B. okalensis Mockford 1963:31.

B. similis Mockford 1969:1268.

B. ghesquierei Badonnel, Mockford 1972:153.

The species is known from West Africa, Madagascar, Florida, Mexico (modern and the Oligocene-Miocene amber of Simojovel, Chiapas), and Brazilian localities in São Paulo and Mato Grosso.

Records. Rafael ≠ 1, 1 ♀.

Family Pachytroctidae

Genus **Tapinella** Enderlein

This genus as used here includes two species described from the Neotropics by Badonnel assigned by that author to **Psacadium** Enderlein. Including these two and the three described here, fifteen species are now known from the Western Hemisphere. The following artificial classification is offered to facilitate comparisons.

Group I. T-shaped sclerite reduced and placed at posterior margin of subgenital plate. **'Psacadium' negreai** Badonnel, **'P' pictum** Badonnel.

Group II. T-shaped sclerite conspicuous, submarginal.

Subgroup A. Head unpatterned except, at most, with lateral band.

Infrasubgroup 1. Head with lateral band. **T. aliena** (Banks), **T. francesca** Thornton and Woo, **T. maculata** Mockford & Gurney, **T. olmeca** Mockford, **T. unicolorata** Turner.

Infrasubgroup 2. Head uniform in color. **T. campanensis** New & Thornton, **T. columbiana** Badonnel, **T. stenomedia** Thornton & Woo, **T. gamma** n. sp.

Subgroup B. Head with pattern other than lateral band. **T. chamelana** Badonnel, **T. picticeps** Badonnel, **T. ornaticeps** n. sp., **T. maracana** n. sp.

Tapinella ornaticeps new species

Diagnosis. Species of category II-B, differing from other members of category in details of facial markings.

Male measurements. F 255, T 321, t_1 202, t_2 44, t_3 52, F_1 82, f_2 86, f_3 99, 10

182, D 97, P_4 85.

Male color. Compound eyes black. Remainder of head creamy yellow mottled with medium brown in same pattern as female (Fig. 15) but brown areas somewhat less entensive. Thorax medium brown dorsally, extending onto pleura along their dorsal margins; remainder of pleura creamy yellow but with a dark purplish brown longitudinal band immediately above legs, interrupted between segments. Legs banded creamy yellow and medium brown: basal half of femur creamy yellow, distal half medium brown; narrow basal region of tibia creamy yellow, most of remainder of tibia medium brown except distal one-fourth creamy yellow; basal one-third (hind) to somewhat less than one-half (middle and fore) of tarsus medium brown, remainder of tarsus creamy yellow. Abdomen mostly medium brown with darker purplish brown pigment concentrated along sides; a dark brown line along anterior margins of terga 4-8.

Male structural characters. Sense clubs of flagellum: one on F_3 near apex, one on F_6 immediately distad of annulated region, none noted on F_{10}. Lacinial tip (Fig. 10) normal for genus. A single preapical tooth on pretarsal claw with a few minute denticles before it. Phallosome (Figs. 11, 12) with sides tapering towards rounded, well sclerotized base; external parameres with hooked, acuminate tips; region between external parameres and penis canal a complex of two lobes on each side, inner one bearing pores on dorsal surface; penis canal with some lateral sclerotizations (perhaps on adjacent median lobes) and central sclerotized strip with radiating apodemes Apophyses of tenth tergum (Fig. 13) well developed, rough surfaced; each subtended by pair of setae and single seta placed more anteriorly; laterally two long setae before each paraproct base.

Sculpture of integument. Entire facial region of head densely bacilloid patterned (Fig. 14) without areoles. Abdominal terga with transverse areoles, each with row of striations extending back from its anterior margin like teeth of a rake.

Pilosity. Facial surface of head sparsely beset with setae of variable lengths, mostly missing; longest present about equal in length to diameter of antennal socket; setae somewhat denser and shorter on postclypeus. Abdominal terga 3-8 each with transverse row of short setae in middle, same on t_9 near anterior margin.

Female measurements. f_1 114, f_2 120, f_3 145, IO 281, D 125, P_4 99.

Female color. As described for male except brown marks of head somewhat more extensive (Fig. 15); fore femur with large dark purplish brown spot ventrally before distal end.

Female structural characters. Apterous, without ocelli. Flagellar sensilla as described for male. Thin-walled sensilla of mx_4: 2 long, pointed, 1 long blunt, 3 short blunt. Lacinial tip as described for male. Subgenital plate (Fig. 16) with distal margin evenly rounded, marginal ciliation normal for genus; ciliation of disc including five setae about twice length of others, forming submarginal arc, scattered shorter setae; T-shaped sclerite with arms curved and slightly longer than stem. Ovipositor

valvulae (Fig. 17): all valvulae blunt apically.

Female sculpture of integument. As described for male except with vague areoles mesad of each eye.

Female pilosity. As described for male.

Holotype. Apterous ♀, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 2 ♂, 3 ♀ paratypes and 4 nymphs (1 ♂,2♀ INPA 1 ♂, 1 ♀ ELM).

Tapinella maracana new species

Diagnosis. Species of Category II-B, similar to **T. chamelana** in head marking, but with legs banded dark and light and without dorsal dark markings of abdomen.

Female measurements. F 301, T 388, t_1 230, t_2 51, t_3 54, f_1 96, f_2 93, f_3 108, 10 239, D 142, P_4 77.

Female color. Compound eyes black; head otherwise tawny yellow with medium brown border of eye and of median ecdysial line; medium brown paired central spot on frons; purplish brown band from eye through antennal base to postclypeus. Antennae medium brown. Mx_4 purplish brown in basal half, contrasting with nearly colorless remainder of palpus. Thorax tawny yellow with dark purplish brown band above leg bases interrupted between segments, and medium brown band along dorsal margins of pleura. Legs medium brown with white distal end of each tibia and distal one-third of each t_1. Abdomen tawny yellow with dark purplish brown u-shaped mark, open posteriorly, on each side of each segment 3-8.

Female structural characters. Apterous, without ocelli. Thin-walled sensilla of mx_4: 3 long, pointed, 1 intermediate blunt, 2 short, blunt. Lacinial tip normal for genus (Fig. 18). Pretarsal claw with no basal seta, one preapical tooth, three minute denticles before tooth. Subgenital plate (Fig. 19) with marginal ciliation normal for genus; ciliation of disc including 8 setae longer than others, 6 in submarginal arc and 2 more anteriorly; scattered shorter setae; T-shaped sclerite with very short arms, stem relatively long. Ovipositor valvulae (Fig. 20): v_1 relatively slender, blunt-tipped; v_2 pointed at tip.

Female sculpture of integument. Entire facial region densely bacilloid patterned; parietal areas vaguely areolate. Abdominal terga with dense transverse areoles, their surfaces densely chagreened.

Female pilosity. Head with vertex and frons sparsely beset with long, fine setae (mostly missing), each somewhat longer than diameter of antennal socket; postclypeus with denser, shorter setae. Each abdominal tergum to t_9 with row of setae across its middle, the setae of different lengths from one-half to about one-fourth length of tergum.

Male unknown.

Holotype. ♀, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 4 ♀ paratypes (2 INPA, 2 ELM), 2 nymphs.

Tapinella gamma new species

Diagnosis. Species of category II-A-2, differing from **T. campanensis**, **T. columbiana**, and **T. stenomedia** in much shorter stem and longer arms of T-shaped sclerite.

Female measurements FW 1383, HW 1173, F 343, IO 287, D 152, P_4 105.

Female color. Compound eyes black, rest of head, thorax, abdomen and wings uniformly pale brown.

Female structural characters. Macropterous, ocelli well developed. Thin-walled sensilla of mx_4: 2 long, pointed, 4 intermediate, blunt. Lacinial tip normal for genus. Forewing (Fig. 22) with areola postica long and low. Subgenital plate (Fig. 23) with posterior margin decidedly arched, its marginal ciliation normal for genus; disc with 8 setae longer than others, 6 in submarginal arc and 2 more anteriorly; scattered shorter setae but with large hiatus before apex; T-shaped sclerite with exceedingly short stem and long curved arms. Ovipositor valvulae (Fig. 24): v_1 slender, slightly sinuate; v_2 blunt-tipped, about two-thirds length of v_3; v_3 sculptured with scale pattern medially. Epiproct with two posterior setae developed as short, strong spines. Paraproct with four trichobothria with basal florets and one slender seta with simple base in sense cushion.

Female sculpture of integument. Entire facial region bacilloid patterned with vague areoles in parietal regions. Clunium with transverse areoles densely chagreened; sculpture of preclunial terga not clearly discernible.

Female pilosity. Vertex and frons with sparse setae about equal to diameter of antennal socket or less in length; postclypeus with denser, shorter setae. Abdominal terga each with transverse row of short setae in middle.

Male Unknown.

Holotype. ♀, Rafael ≠ 2.

Family Musapsocidae

Genus **Musapsocus** Mockford

This genus contains 7 previously described species which have been found from the tropical lowlands of Mexico south to central Brazil and central Perú.

Musapsocus newi new species

Diagnosis. Sharing with **M. huastecana** Mockford, **M. creole** Mockford, **M. mockfordi** New; and **M. insularis** Garcia Aldrete character of vein IIA ending freely in forewing. Differing from **M. haustecana, M. creole**, and **M. mockfordi** in having broad base of phallosome. Differing from **M. insularis** in having no median field of papillae on clunium. Differing from **M. tabascensis** Mockford in having two papillar fields on each side of clunium.

Male measurements. FW 2143, HW 1794, F 515, T 880, t_1 318, t_2 119.

Male color. Not clearly discernible on single specimen. Body apparently dull medium brown; some purplish brown pigment laterally on abdomen. Wings clear, unmarked.

Male structural characters. Lacinial tip (Fig. 25) typical of genus. Pretarsal claws typical of genus; cowl of outer claw (Fig. 26) with spinulose surface. Forewing (Fig. 27) normal for genus with areola postica relatively long and low, IIA curving towards but not reaching IA. Hypandrium (Fig. 28) with distal margin depressed in middle and heavily sclerotized. Phallosome (Fig. 29) rounded basally; each lateral strut terminating in two pointed prongs and a rounded clear sac containing granules and an irregular concretion. Clunium (Fig. 30) with four major transverse fields of elongate papillae plus a few scattered papillae not in the fields. Eighth tergum with one median transverse field of short papillae. Paraproctal sendorium with 12/12 trichobothria with basal rosettes.

Female unknown.

Holotype. ♂. Rafael ≠ 2.

Family Amphientomidae

Genus **Seopsocus** Roesler

This genus was previously known from two species, both from southern Brazil. In all of the known species the forewing is largely dusky with a series of colorless marginal spots, one in each of cells R_1, R_3, R_5, M_1, M_2, and M_3. The species differ most obviously in facial color pattern and details of external genitalia.

Seopsocus rafaeli new species

Diagnosis. Differing from **S. acuminatus** Roesler and **S. rotundatus** Roesler in female being fully winged. Differing from these species and from **S. fasciatus** n. sp. in details of facial markings (Fig. 31).

Female measurements. FW 3209, HW 2477, F 702, T 1232, t_1 809, t_2 103, t_3 119, f_1

272, f_2 220, f_3 193, 10 448, d 244, D 413, P_4 176.

Female color. Compound eyes black with faint indication of horizontal banding. Remainder of head largely dusky brown with complex pattern of brown and creamy yellow on face (Fig. 31). First two flagellomeres brown in basal three-fourths, white in distal one-fourth; remaining flagellomeres brown. Thorax dusky brown; likewise legs except distal ends of femora, a band in middle and distal end of each tibia, and distal two-thirds of each t_1 creamy yellow. Forewing dusky brown with series of colorless marginal spots: one in each of cells R_1, R_3, R_5, M_1, M_2, M_3. Hindwing unmarked, with faint gray wash. Abdomen largely pale dusky brown on preclunial segments, variegated dorso- and ventro-laterally with dark purplish brown; clunium, subgenital plate, spiproct, and paraprocts dusky brown.

Female structural characters. Ocelli close together, laterals separated by about 4X diameter of one and separated from median by about 3X diameter of one. Lacinial tip (not illustrated) with elongate lateral tine, short median tine. Fore femur with row of pointed teeth of irregular sizes along anterior carina (Fig. 32). Pretarsal claw (Fig. 33) with, from base, four short setae, one short tooth, one short seta, one large tooth. Coxal organ a flat field of minute scales with conspicuous mirror. In forewing (Fig. 34) Sc not rejoining R stem; Rs fork stem relatively long, about half length of R_{2+3}; M stem relatively long, about half length of M_1; distal wing margin sinuate in cells M_1-Cu_{1a}. Hindwing (Fig. 35) normal for genus. Subgenital plate (Fig. 38) with basal and distal region, the two partially separated by clear membrane; entire surface well ciliated, longer setae at and near distal end of distal region; y-shaped sclerite with arms tapering distally. Spermapore (Fig. 36) surrounded by sclerotic ring covered on posterior margin by heavier sclerite with posterior process. Spermathecal duct (Fig. 37) slender and coiled in spermapore region, becoming broader distally and terminating in broad spinose basal whorl of sac; remainder of sac membranous, unadorned. Ovipositor valvulae (Fig. 39) typical of genus; v_3 deeply bilobed. Paraproctal sensorium including 8 trichobothria with basal florets and one short seta; remainder of paraproct with 6 very long, slender setae and numerous shorter ones. Epiproct with numerous long setae distally, 4 on each side longer than others.

Holotype. ♀, Rafael ≠ 1.

Seopsocus fasciatus new species

Diagnosis. Differing from the other described species in details of facial markings (see description, below).

Male measurements. FW 3069 (tip broken), HW 2506, F 685, T 1187, t_1 765, t_2 84, t_3 125, f_1 252, f_2 199, 10 481, d 244, D 361.

Male color. Compound eyes black but with 4 dark brown horizontal bands in each.

Face marked with complex pattern of four dark brown transverse bands on creamy yellow background; entire postclypeus and labrum dark brown. Antennal scape and pedicel white, first two flagellomeres medium brown (remainder missing). Thorax with terga medium brown centrally fading to creamy yellow peripherally; pleura creamy yellow with two purplish brown longitudinal bands, one above leg bases and one below dorsal margin, both broken at segment lines and major sutures. Legs with coxae variegated medium brown and dark purplish brown; femora creamy yellow on base followed by broad purplish brown band to about middle, remainder creamy yellow except dark purplish brown ring, incomplete dorsally, near distal end; tibiae medium brown in basal half followed by darker brown ring, inconspicuous on hind tibia, followed by creamy yellow apex; front and middle tarsi with t_1 medium brown in basal one-third, pale brown in remainder, t_2 and t_3 medium brown; hind tarsus uniformly medium brown. Forewing tawny brown with colorless marginal marks as indicated for **S. rafaeli.** Preclunial abdominal segments creamy yellow with scattered purplish brown pigment on sides; clunium, hypandrium, epiproct and paraprocts medium brown.

Male structural characters. Ocelli relatively close together; laterals about 4.5X diameter of one apart and each about 3X diameter of one from median. Lacinial tip (not illustrated) apparently typical of genus, with elongate lateral tine bearing three low cusps before tip. Fore femur with row of pointed teeth of irregular sizes along anterior carina (Fig. 40). Pretarsal claw (Fig. 41) with, from base, four short setae; one minute, truncated denticle; one minute, pointed denticle; one large tooth. Coxal organ as described for **S. rafaeli**. In forewing (Fig. 42) Sc not continuous but detached segment rejoining R stem; Rs stem about two-thirds length of R_{2+3}; M stem relatively long, slightly shorter than Rs stem; distal wing margin somewhat sinuate at least in cells M_3 and Cu_{1a}. Hindwing (Fig. 43) normal for genus. Hypandrium (Fig. 44) of broad basal region and somewhat narrower distal region with flattened distal margin; entire surface of hypandrium well ciliated, several setae somewhat longer than others near distal margin of distal region. Phallosome (Fig. 45) with stem and basal struts forming Y-shaped body; distal end exceedingly complex, apparently each strut producing two distal lobes: inner lobe without pores, rounded at tip, meeting its opposite on midline; outer lobe (modified external paramere?) bearing numerous pores, bending around under inner lobe and becoming continuous with inner membranous region, with somewhat heavier sclerotization of membrane along midline and away from, parallel to midline, latter area bearing numerous pores. Paraproct with basal and distal sclerotized regions; membrane between these and distal region heavily setose; sensorium with 8/9 trichobothria with basal florets (poorly developed). Epiproct heavily setose on margin, with few setae medially.

Holotype. ♂, Rafael ≠ 1.

Seopsocus albiceps new species

Diagnosis. Differing from **S. acuminatus** and **S. rotundatus** in female being fully

winged. Differing from all other described species in details of facial marking.

Female measurements. FW 3808, HW 2819, F 746, T 1283, t_1 902, t_2 92, t_3 147, f_1 324, f_2 254, f_3 272, IO 506, d 261, D 399.

Female color. Compound eyes black; ocelli ringed in dark purplish brown; remainder of head white lightly spotted with medium brown forming band along midline of vertex, band bordering each compound eye medially, band across frons, area of spots on each side of postclypeus plus a few scattered spots forming vague postclypeal striations. Mx palpus with mx_1 and mx_2 white, mx_3 medium brown in basal half, white in distal half, mx_4 medium brown. Antenna pale brown. Thorax with terga variegated white and pale brown; pleura largely white with narrow dark purplish brown band over leg bases interrupted between segments and at sutures. Legs largely white except hind coxa medium brown; a dark purplish brown semi-ring ventrally just distad of half length of each femur and another at distal end of each femur; each tibia with dark purplish brown external semi-ring just distad and complete ring of same color just distad of middle; front and middle tarsi with t_1 dark brown in basal one-third, pale brown in remainder, t_2 and t_3 dark brown; hind tarsus same except t_1 dark brown only in basal one-fifth. Forewing (Fig.46) medium brown, darker in spot basal to pterostigma and spot sundistally in pterostigma; colorless in marginal spots of cells R_1, R_3, R_5, M_1, M_2, M_3, but spot of M_1 submarginal; nearly colorless in large distal area of cells Cu_2 and IA . Hindwing clear, unmarked, with slight reddish brown wash. Abdomen with preclunial region pale brown with narrow purplish brown longitudinal stripe along dorsal midline and broader longitudinal stripe of same color along each side; subgenital plate, clunium, epiproct, and paraprocts medium brown.

Female structural characters. Ocelli close together, laterals separated by about 3.5X diameter of one and separated from median by about 2.5X diameter of one. Lacinial tip (Fig. 47): lateral tine with 3 large cusps on lower edge, 3 smaller ones on upper edge. Fore femur with row of pointed teeth of irregular sizes along anterior carina (Fig. 48). Pretarsal claw (Fig. 49) with, from base, three minutes, slender denticles, one minute seta, one small pointed denticle, one larger pointed denticle. Coxal organ as described for **S. rafaeli**. In forewing (Fig. 46) Sc not rejoining R stem; closing vein of pterostigma very faint; Rs fork stem short, slightly less than one-third length of R_{2+3}; M stem relatively long, about 1.5X length of Rs fork stem; distal wing margin sinuate in cells M_2, M_3, and Cu_1. Hindwing normal for genus. Subgenital plate (Fig.50) with basal and distal regions partially separated by constriction; entire surface of plate well ciliated, with long setae tending to concentrate on and near apex; Y-shaped sclerite with arms sinuately curved. Spermapore (Fig. 51) surrounded by round ring bearing distal process; spermathecal duct slender and coiled near spermapore, becoming wider distally, entering spermathecal sac in heavily spinose, coiled basal region; remainder of sac thin walled with few, scattered, inwardly directed spines (Fig. 52). Ovipositor valvulae (Fig. 53) with v_1 slightly widened near blunt tip, v_3 deeply bilobed.

Paraproctal sensorium with 6/8 trichobothria with basal florets and 1/2 shorter setae with no basal floret; remainder of paraproct with 7 very long setae and numerous shorter ones. Epiproct with numerous long setae distally, 3 on each side longer than others.

Holotype. ♀, Rafaeli ≠ 1.

Other material examined. Two ♀ paratypes (1 INPA, 1 ELM), 4 nymphs.

Suborder PSCOMORPHA
Family Dolabellopsocidae

Genus **Isthmopsocus** Eertmoed

This genus contains six previously described species found from Panama south to the Mato Grosso.

Isthmopsocus barbatus new species

Diagnosis. Differing from **I. imperfectus** Badonnel by much shorter Rs fork stem and longer Rs fork in forewing. Similar to **I. ornatus** (New), differing in much shorter Rs-M crossvein and distal configuration of Rs fork veins in forewing and absence of very heavy sclerites, one to each side of radular band of phallosome. Differing from other described species in details of male genitalia.

Male measurements. FW 2367, HW 1833, F 645, T 963, t 367, t 117, JO 117, d 228.

Male color. Compound eyes and ocelli black; remainder of head medium brown. Body, legs and wings essentially colorless, underlying tissues showing through as creamy yellow; wings with pale tawny brown wash; genitalic region of abdomen pale brown.

Male structural characteres. Anterior ocellus about half diameter of lateral. Lacinial tip (Fig. 54) with lateral tine truncate and slightly roughened at tip, median tine truncated at tip. Pretarsal claw (Fig. 55) with pulvillus slender, curved in basal half, decidedly swollen at apex. Pearman's organ of radiating denticulate ridges forming rasp, mirror well differentiated. Forewing (Fig. 56) typical of genus; Rs-M crossvein less than half length of Rs segment before it; Rs fork stem about one third length of R_{2+3}; R_{2+3} curved anteriorly, R_{4+5} sinuate in distal one-fourth. Hindwing typical of genus. Hypandrium (Fig. 57) bilobed distally, lobes well ciliated at and near apices. Phallosome (Fig. 58) with base relatively broad; external parameres bluntly pointed apically, each with field of pores laterally; endophallus with elongate radular strap with moderately sclerotized lobe to each side. Paraproct with large sensorium; some minute chagreening in ventral half. Epiproct with few setae and minute papillae distally. Clunium with long transverse papillar field along posterior margin (Fig. 59), the median papillae of posterior row much longer than wide.

Female measurements. FW 2412, HW 1852, f_1 462, IO 354, d 128.

Female color. As in male except head paler with slightly indicated postclypeal striations as slender purple lines.

Female structural characters. Ocelli, lacinial tip, pretarsal claw, hindwing and Pearman's organ as described for male. Forewing as in male except Rs-M crossvein relatively longer, slightly more than half length of Rs segment before it. Subgenital plate (Fig. 60) weakly sclerotized, rounded distally, well ciliated over entire surface. Ovipositor valvulae (Fig. 61) normal for genus. Epiproct and paraprocts normal for genus.

Holotype. ♂, Rafael ≠ 4.

Other material examined. Rafael ≠ 4, 6 ♂, 5 ♀ (paratypes and allotype 4 ♂, 3 ♀, INPA, 2 ♂, 2 ♀ ELM). Rafael ≠ 2, 3 ♂, 2 ♀ paratypes (2 ♂, 2 ♀ INPA, 1 ♂ ELM).

Isthmopsocus lanceatus new species

Diagnosis. Differing from **I. imperfectus** by having much shorter Rs fork stem and longer Rs fork in forewing. Differing from all other described species by having denticulate ridge in middle of hypandrium.

Male measurements. FW 2712, HW 2170, IO 230, d 197.

Male color. Same as described for **I. barbatus**.

Male structural characters. Anterior ocellus very small, slightly less than half diameter of lateral. Lacinial tip (Fig. 62) with lateral tine truncated and with 3 rounded lobes apically; median tine pointed at tip. Forewing (Fig.63): Rs-M crossvein slightly longer than preceding Rs segment ; veins R_{2+3}, R_{4+5}, and M_2 flexuous in distal one-third. Hindwing typical of genus. Hypandrium (Fig. 64) with median longitudinal ridge in distal one-third bearing two parallel rows of denticles; a field of smaller denticles to each side of middle at and near posterior margin. Phallosome (Fig.65) with short, rather slender base; external paramers slender in basal half, becoming abruptly much broader distally, the broad distal part bearing numerous pores; aedeagal arch irregularly lobed apically; endophallus with median radular strap divided into short, club shaped denticulate apical piece, and long, coiled basal piece; latter articulating at distal end with a large, well sclerotized plate on each side. Epiproct and paraproct as described for **I. barbatus**. Clunium (Fig. 66) with field of papillae along posterior margin in 4 relatively discrete rows, most distal of longest papillae, each row becoming shorter and the papillae more scatteres basally.

Female measurements. FW 3148, HW 2443, F 828, T 1334, t_1 494, t_2 135, $t_1$ct 24, IO 382, d 134.

Female color. As described for male of **I. barbatus**.

Female structural characters. Ocelli as described for male. Lacinial tip (Fig.

67) with lateral tine broader than in male. Pretarsal claw as described for **I. barbatus**. Forewing as in male, except Rs-M crossvein much shorter, about one-third length of proceding Rs segment; all Rs and M veins flexuous distally. Subgenital plate (Fig. 68) truncate distally; many of its setae serrulate (Fig. 68, inset). Ovipositor valvulae (Fig. 69), epiproct, and paraprocts normal for genus. Clunium with scattered minute papillae along posterior margin.

Holotype. ♂, Rafael ≠ 3.

Other material examined. Rafael ≠ 3, 3 ♂, paratypes (2 INPA, 1 ELM) and 1 ♀(allotype).

Isthmopsocus speculatus new species

Diagnosis. Differing from **I. imperfectus** by much shorter radial fork stem and longer radial fork in forewing. Differing from all other described species in details of male genitalia.

Male measurements. FW 2046, HW 1610, F 528, T 877, t_1 334, t_2 99, $t_1$ct 20, IO 130, d 202.

Male color. As described for **I. barbatus** except head somewhat darker brown.

Male strucutural characters. Ocelli as described for **I. lanceatus**. Lacinial tip (Fig. 70) with lateral tine relatively short and broad, distinctly trilobed at truncate tip; median tiny truncate at tip. Pretarsal claw and Pearman's organ as described for **I. barbatus**. Forewing (Fig. 71): Rs-M crossvein about two-thirds length of preceding Rs segment; Rs fork veins both curved anteriorly at distal ends. Hindwing normal for genus. Hypandrium (Fig. 72) flat along posterior region, ciliation relatively sparse. Phallosome (Fig. 73) with base relatively long, slender; external parameres uniformly broad, curved around and meeting at distal end of phallosome, bearing numerous pores; endophallus with radular strap compact (at rest), subtended by transverse sclerotic band between bases of external parameres Epiproct and paraproct as described for **I. barbatus** except no papillae on epiproct. Clunium with slight cowl over base of epiproct (Fig. 74), bearing poorly defined lobes and minute papillae.

Female measurements. FW 2190, HW 1652, F 548, T 902, t_1 345, t_2 97, $t_1$ct 20, IO 289, d 102.

Female color. Differing from **I. barbatus** as noted for male.

Female structural characters. Ocelli, lacinial tip, pretarsal claw, and Pearman's organ as described for male and/or **I. barbatus**. Wings as described for male. Subgenital plate (Fig. 75) rounded distally, sparsely ciliated, a few distal setae serrulate. Ovipositor valvulae (Fig. 76) with distal process slender, well sclerotized, acuminate at apex. Ninth sternum with small field of spines on each side of spermapore (Fig. 77). Epiproct and paraprocts normal for genus.

Holotype. ♂, Rafael ≠ .

Other material examined. Rafael ≠ 4. 1 ♂ paratype (ELM), 1 ♀ (allotype, INPA).

Isthmopsocus sp.

A single specimen represents a species close to, but distinct from, **I. ornatus** (New), described from the Mato Grosso. It differs in the phallosome characters of shorter base and more tapering aedeagal arch and in the hypandrium characters of broader median lobe and more prominent lateral lobes. The specimen is in such poor condition, lacking forewings and legs, that I decline to base a new species on it.

Material examined. Rafael ≠ 5, 1 ♂.

Genus **Dolabellopsocus** Eetmoed

This genus contains 13 previously described species and has been found from southern Mexico south to Santa Catarina State in Brazil. Eertmoed (1973) has shown clusters within the genus which are used here as species groups.

Dolabellopsocus ctenatus (New)

Epipsocus ctenatus New 1972a:480.
Dolabellopsocus ctenatus (New), Eertmoed 1973:397.

New's figures (1972a, 1974) accurately portray the genitalic characters of this species. The three outer lobes of the clunial comb each bear a small apical spine pointing medially. In material at hand vein R_{2+3} of the forewing is straight in the middle, not curved posteriorly. Ocelli are absent, as in the other members of the **roseus intermedius** species group, but in well pigmented males there is a brown spot on the frons with pale, somewhat bulging central region which resembles an ocellar tubercle. The species was described from the Mato Grosso.

Material examined. Rafael ≠ 1, 9 ♂ , 15 ♀; Rafael ≠ 5, 2 ♂.

Dolabellopsocus carcinus new species

Diagnosis: Member of **roseus-intermedius** group (Eertmoed, 1973) differing from **D. intermedius** Eertmoed and **D. pectenatus** Eertmoed by longer Rs fork, from **D. ctenatus** by male genitalic details, from **D. roseus** Eertmoed and **D. flavipennis** (Roesler) in color.

Male measurements. FW 2146, HW 1523, F 601, T 932, t_1 357, t_2 116, $t_1$ct 17, 10 164, d 189.

Male color. Compound eyes black. Rest of body and appendages creamy yellow, scattered purple pigment on thoracic pleura above leg bases forming vague band, continuing on sides of abdomen. Wings clear.

Male strucutural characters. Ocelli absent. Lacinial tip (Fig. 78) with lateral tine slender, bilobed apically; median tine short, truncated apically. Pretarsal claw with pulvillus curved near base, flared at apex. Pearman's organ as in **Isthmopsocus.** In forewing (Fig. 79) Rs-M crossvein about half length or proceding Rs segment; Rs fork stem short, about one-fourth length of R_{2+3}; areola postica long and low, about 3.5X as long as greatest height; vein 1A a minute remnant in base of anal cell. Hindwing normal for genus. Hypandrium (Fig. 80) evenly rounded posteriorly, moderately ciliated. Phallosome (Fig. 81) lacking sclerotized base; external parameres broad, flat, with apices bent back (in preparation), field of pores on outer surface in distal half; aedeagal arch with arms once branched near base, inner branches joining endophallus near midline, outer branches forming rounded arch; endophallus of two basal papillate lobes and two distal lobes with internal spine plus median area of spines before aedeagal arch apex. Epiproct (Fig. 82) with two appendages projecting forward reminiscent of crab chelae; minute papillae and few setae distally. Paraproct with large sensorium, field of small papillae along median margin.

Holotype. ♂, Rafael ≠ 4.

Other material examined. 1 ♂ paratype, Rafael ≠ 4 (ELM).

Dolabellopsocus catenatus new species

Diagnosis. Member of **roseus-intermedius** group, differing from **D. ctenatus** and **D. pectenatus** by absence of clunial comb, from **D. carcinus** by absence of epiproctal appendages, from **D. intermedius** by absence of wing banding, from **D. roseus** and **D. flavipennis** in body color.

Male measurements. FW 2188, HW 1615, F 592, T 945, t_1 362, t_2 102, $t_1$ct 16.

Male color. Head color not discernible. Thorax and abdomen creamy yellow with broad, spotty lateral band of purple. Wings clear, unmarked.

Male structural characters. Lacinial tip (Fig. 83) with lateral tiny relatively short and wide, trilobed at tip; median tiny short, truncated apically. Pretarsal claw as described for **D. carcinus.** In forewing (Fig. 84) Rs-M crossvein about half length of proceding Rs segment; Rs fork stem about one-fourth length of R_{2+3}, latter vein flexuous throughout; R_{4+5} flexuous in distal half; M branches relatively straight; areola postica somewhat higher than in **D. carcinus.** Hindwing normal for genus. Hypandrium as described for **D. carcinus.** Phallosome (Fig. 85) decidedly protruding beyond hypandrium in profile; lacking sclerotized base; external parameres as described for **D. carcinus,** aedeagal arch simple; endophallus of two basal lobes, one squamate-surfaced, other smooth with lengthwise sclerotic strap, distal region of squamae and long spines, squamate area

bulging beyond aedeagal arch. Epiproct (Fig. 86) with median field of dense papillae. Paraproct (Fig. 87) with large sensorium, median papillar field.

Holotype. ♂, Rafael ≠ 4.

Other material examined. 2 ♂ paratypes, Rafael ≠ 4 (1 INPA, 1 ELM).

Dolabellopsocus pictus new species

Diagnosis. Closely similar to **D. intermedius**, differing in details of forewing markings and size difference between external parameres and lateral lobes of endophallus.

Male measurements. FW 2367, HW 1767, IO 172, d 168.

Male color. Compound eyes black. Remainder of head and thorax medium brown with, on thorax, a broad lateral reddish brown longitudinal band. Forewing (Fig. 88) with cloudy brown spots over most of cells R_1, Cu_{1b}, and Cu_2; a small brown spot in basal half and another in distal half of pterostigma, spot of same color on margin in cells R_1 and R_3; brown band along wing margin from distal end of cell R_5, covering most of cells M_1, M_2, distal half of M_3, most of Cu_{1a}, interrupted along M stem, with large cloudy brown spot in base of cell R_5 and cell R_1. Hindwing (Fig. 89) with cloudy brown spot on margin in cell R_5 and another in cell M. Color of legs and abdomen not discernible.

Male structural characters. Ocelli absent. Lacinial tip (Fig. 90) with lateral tiny bilobed apically, median tiny short, truncate apically. In forewing (Fig.88) Rs-M crossvein short, about one-third length of proceding Rs segment; Rs fork stem about same length as R_{2+3}, the stem following slightly zig-zag course beyond basal one-fourth; Rs branches flexuous; these as well as M branches, Cu_1 branches, and M-Cu stem somewhat zig-zagged; Cu_{1a} once-branched. Hindwing normal for genus. Hypandrium with posterior margin curved; surface sparsely setose. Phallosome (Fig. 91) with basal struts flexuous, outcurved and broadened basally; external parameres relatively small, rounded distally, with moderate number of small pores; aedeagal arch thick, rounded apically, continuous on each side with large, thick-walled lateral endophallic lobe containing large internal teeth and two papillate bodies. Epiproct with few small papillae on distal edge. Paraproct with large, well sclerotized sensorium, few small papillae on median edge.

Female measurements. FW 2303, HW 1822, f_1 454.

Female color. Only discernible on wings, these in agreement with those of male.

Female structural characters. Genitalic segments and legs missing. Other characters in agreement with those of male.

Holotype. ♂, Rafael ≠ 4.

Allotype. ♀, Rafael ≠ 5.

Dolabellopsocus similis new species

Diagnosis. Closely similar to **D. ctenatus**, differing in darker body pigmentation and details of clunial comb; differing from **D. ctenatus** and **D. pectenatus** Eertmoed in details of phallosome.

Male measurements. FW 2872, HW 2149, F 819, T 1367, t_1 498, t_2 139, $t_1$ct 22, f_1 598, f_2 418, f_3 382, IO 275, d 221.

Male color. Compound eyes black. Remainder of head dusky brown except white u-shaped mark on vertex, closed anteriorly, arms extending from anterior margin nearly to posterior margin of vertex. Thorax dark brown, extending onto bases of middle and hind coxae; remainder of legs white except tarsi pale brown. Wings clear, unmarked. Abdomen with preclunial segments white with some purple pigment along sides; clunium and hypandrium dark brown,; epiproct and paraprocts white.

Male structural characters. Ocelli absent. Lacinial tip (Fig. 92) with lateral tiny relatively long, slender, slightly rough at apex; median tiny short, truncate apically. Pretarsal claws normal for genus. In forewing (Fig. 93) Rs-M crossvein nearly as long as preceding Rs segment; Rs fork stem about one-fourth to nearly one-half length of R_{2+3}; R_{2+3} flexuous from its middle distad, R_{4+5} slightly curved in distal half; M_2 slightly flexuous distally; areola postica long and low, about 3.0 to 3.5X as long as its greatest height. Hindwing normal for genus . Hypandrium (Fig. 94) with flat posterior margin; well sclerotized, pigmented, and ciliated over most of surface. Phallosome (Fig. 95) with basal struts broadening basad, relatively well sclerotized; external parameres broad basally, pointed apically, with numerous pores; aedeagal arch shaped as in **D. ctenatus**; endophallic strucuture not discernible due to eversion in specimen. Clunial comb (Fig. 96) with sizeable gap on midline; lobes of each half arched, the lobes longer than in **D. ctenatus** and each bearing distal seta; a heavily sclerotized, heavily sculptured field on clunium basal to each paraproct. Epiproct truncated and with well developed papillar field distally. Paraproct normal for genus.

Female measurements. FW 2998, HW 2307, F 849, T 1427, t_1 490, t_2 154, $t_1$ct 23, f_1 603, f_2 406, f_3 388, IO 353, d 142.

Female color. As described for male except preclunial abdominal segments dark purplish brown on 1-3 and 7, with slender dorsal longitudinal band and broad lateral band of same color on intervening segments.

Female structural characters. Pre-genital characters as described for male except lateral tiny of lacinial tip (Fig. 97) somewhat longer and smoother apically. Subgenital plate (Fig. 98) well sclerotized and pigmented, truncated apically. Ovipositor valvulae absent. Sclerotizations of 9th sternum as in Fig. 99. Epiproct with distal brush of setae (Fig. 100). Paraproct normal for genus.

Paraproct normal for genus.

Holotype. ♂, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 3 ♂, 4 ♀ (paratypes and allotype) and 9 nymphs (2 ♂, 3 ♀ INPA; 1 ♂ , 1 ♀ ELM). Rafael ≠ 5, 1 ♂ paratype (INPA).

Dolabellopsocus lobatus new species

Diagnosis. Member or **roseus-intermedius** group, differing from all other described species in having clunial adornment in form of pair of posteriorly directed arm-like projections.

Male measurements. FW 2301, HW 1744, F 639, T 1000, t_1 364, t_2 128, $t_1$ct 16, f_1 514, IO 221, d 183.

Male color. Compound eyes black; rest of head, body, and legs pale straw brown with broad pale reddish brown strips along side of head, thorax, and preclunial abdominal segments. Wings clear, unmarked, with slight straw-brown wash.

Male structural characters. Ocelli absent. Lacinial tip (Fig. 101) with outer tine of moderate length and width, bilobed at tip, median tiny short, truncate-tipped. Pretarsal claws normal for genus. In forewing (Fig. 102) Rs-M crossvein about three-fourths length of preceding Rs segment; Rs fork stem slightly less than half length of R_{2+3}; R_{2+3} and r_{4+5} flexous in distal half; M branches relatively straigth; areola postica high and relatively short, about 2.5X as long as greatest height. Hindwing normal for genus. Hypandrium damaged in mounting, apparently sparsely ciliated, with flat posterior margin. Phallosome (Fig. 103) with basal struts weakly sclerotized, much broadened near bases; external parameres broad basally tapering to point distally with numerous pores; aedeagal arch curving inward to slender apex; endophallus of two lobes with granulate surface. Clunium (Fig. 104) with two long processes extending postero-laterally over base of epiproct, one bearing four, the other six lobes on distal and median margin, each lobe with a terminal seta. Epiproct (Fig. 105) truncate apically, with two longitudinal ranks of setae paralleling sides, apical field of small papillae. Paraproct with relatively small sensorium, small median field of minute papillae.

Holotype. ♂, Rafael ≠ 1.

Other material examined. 1 ♂ paratype, Rafael ≠ 1 (INPA).

Dolabellopsocus spinosus new spcies

Diagnosis. Member of **apiatus-ecuadorensis** group (Eertmoed 1973), differing from species with known males (**D. apiatus** Eertmoed, **D. eertmoedi** Badonnel, **D. maculatus** Eertmoed, **D. maculosus** Eertmoed) in having external parameres bilobed, two arched rows of long, curved spines in endophallus. Differing from **D. guttatus** Eertmoed in much longer Rs-M crossvein of forewing; differing from that species and **D. incertus** Badonnel in details of lacinial tip. Lateral tiny of lacinial tip much as in **D. pygmaeus** (New), but tip of

median tiny well separated from lateral and Rs fork of forewing decidedly longer than in **D. pygmaeus**,

Male measurements. FW 2201, HW 1620, F 601, T 905, t_1 385, t_2 97, $t_1$ct 21, f_1 351, 10 162, d 227.

Male color. Head color not recorded.Thorax and abdomen creamy yellow with two longitudinal broken pleural bands of dark purplish brow, one over leg bases continuing length of preclunial abdomen; other below dorsal margin continuing onto base of abdomen. Forewing clear, unmarked, with slight tawny wash; stigmasac black and black pigment along Cu_{1b} to wing margin; nodulus dark.

Male structural characters. Lateral ocelli present but reduced. Lacinial tip (Fig. 106) with lateral tiny bearing 3 prominent denticles; median tiny truncate apically. Pretarsal claw normal for genus. In forewing (Fig. 107) Rs-M crossvein long, about two-thirds length of precedings Rs segment, Rs fork stem about same length as R_{2+3}; R_{4+5} flexuous and somewhat zig-zagged in distal half; M_3 flexuous. Hindwing normal for genus. Hypandrium only slightly arched along posterior margin, sparsely ciliated. Phallosome (Fig. 108) with basal struts weak, external parameres with short, blunt outer lobe, tapering blunt-tipped inner lobe with pores near apex; aedeagal arch characteristic for genus; endophallus with curved comb of long spines on each side surrounded by denticulate membrane. Clunium with several rows of minute papillae on posterior margin. Epiproct with setae and papillae along posterior margin. Paraproct with large sensorium, minute papillae along median margin.

Holotype. , Rafael 1.

Other material examined. 1 paratype, Rafael 1 (ELM).

Family Epipsocidae

Genus **Epipsocus** Hagen

In this genus there are 41 species, including five described here, known as adults from South and Central America. For facilitation of comparisons, the following artificial classification in offered.

Group I. Species with more than 3 median branches in the forewing.

Subgroup A. Pterostigma-Rs crossvein in forewing. **E. taitubai** New.

Subgroup B. Lacking pterostigma-Rs crossvein in forewing. **E. bordoni** Badonnel, **E. capitulatus** New, **E. fuscareolatus** New, E. **obscurus** New, E. **semiclarus** n. sp.

Group II. Species with 3 median branches in the forewing.

Subgroup C. Forewing clear, unmarked. **E. argutus** New, **E. aviceps** Badonnel, **E. beguiristaini** Williner, **E. merulus** New, **E. molinai** Williner, **E. quurcus** Roesler, **E. uniformis** New, **E. verrucosus** New, **E. willineri** New, **E. foliatus** n. sp., **E. roraimensis** n. sp.

Subgroup D. Forewing marked with spots and/or bands, or entirely dark.

Infrasubgroup 1. Forewing entirely dusky or dark. **E. acanthus** New, **E. atratus** New, E. **fuscatus** New, E, **niger** New.

Infrasubgroup 2. Forewing with series of cloudy spots in distal cells. **E. latistigma** Roesler, **E. maculithorax** New, **E. nebulosus** Roesler, **E. nepos** Enderlein, **E. pennyi** New, **E. pictus** Banks, **E. plaumanni** Roesler, **E. stigmaticus** n. sp.

Infrasubgroup 3. Forewing with a band along posterior (and/or distal) margin. **E. bogotanus** Roesler, **E. pereirai** Badonnel, **E. phaeus** New, **E. roncadorensis** New, **E. sinuatus** New.

Infrasubgroup 4. Forewing with spots at ends of most veins; other marks principally confined to pterostigma and areola postica. **E. brasilianus** New, **E. brevistigma** New, **E. brunellus** New, **E. pechi** Williner, **E. petenensis** Mockford, **E. roesleri** New, **E. serenus** Roesler, **E. badonneli** n. sp.

Epipsocus atratus New (?)

E. atratus New 1980: 204.

The species was previously recorded from the Reserva Ducke, Amazonas, Brazil. The material on hand differs from that of the Reserva Ducke in details of the lacinial tip (Fig. 109) but is the same in wing venation and color.

Only males have been found, all from Malaise traps, implying that females are less mobile.

Material examined. Rafael ≠ 2, 5 ♂ ; Rafael ≠ 3, 1 ♂.

Epipsocus phaeus New

E. phaeus New 1980:198.

This very distinctively marked species was described from the Reserva Ducke. The present specimen differs somewhat from the holotype in that the branches of the Rs fork are flexuous.

Material examined. Rafael ≠ 1, 1 ♂, 2 nymphs.

Epipsocus taitubai New

E. taitubai New 1972:460.

The complex and variable forewing venation, as well as the distinctive wing markings and body coloration allow this species to be readily identified. In both forewings of both specimens on hand the pterostigma-Rs crossvein is present; Rs is 3-branched and M 5-6 branched.

These specimens differ from the female figured by New in that there is a sizeable emarginate area on the anterior margin of the subgenital plate in which pigmentation is lacking.

The species was originally describe from the Mato Grosso and has not been recorded elsewhere until now.

Material examined. Rafael ≠ 1, 2 ♀.

Epipsocus stigmaticus new species

Diagnosis. Species of category II-D-2. Differing from other described species of this category in having pterostigma dark in distal one-third and clear in remainder.

Male measurements. FW 2975, HW 2167, IO 305, d 190.

Male color. Compound eyes black; remainder of head dark brown. Thorax pale brown except medium brown on anterior mesonotal lobes, a broad longitudinal band below wing bases, and dark brown over hind leg base. Fore coxae and fore and middle femora pale brown; middle and hind coxae dark brown; other leg parts missing. Forewing (Fig. 110) mostly clear with faint brown wash; pterostigma with dark brown spot covering most of distal one-third; pale brown spot in each of cells R_3 (barely discernible), R_5, M_1, M_2, M_3, Cu_{1a}; large pale brown spot in cell Cu_{1b} immediately before nodulus; dark brown spot covering nodulus and at distal end of each of veins R_{2+3}, R_{4+5}, M_1, M_2, M_3, Cu_{1a}, Cu_{1b}. Hindwing clear with dark brown spot at end of each of veins R_{2+3}, R_{4+5}, and M and pale brown spot in distal end of cell Cu_2. Abdominal color poorly preserved, apparently dark purplish brown on sides preclunial segments, pale brown elsewhere.

Male structural characters. Fronto-clypeal suture absent in middle. Lacinial tip (Fig. 111): lateral tiny with four lobes, median tiny simple, pointed. Forewing (Fig. 110): pterostigma relatively short and deep; Rs fork stem slightly longer than R_{4+5}; R_{2+3}, R_{4+5}, M_2 and M_3 flexuous; areola postica with greatest height slightly before middle length about twice greatest height. Hindwing normal for genus. Hypandrium (Fig. 112) rounded posteriorly with numerous long setae on and near posterior margin. Phallosome (Fig. 113) open basally; posterior process short, broad, truncated apically; endophallus with scattered short spines. Epiproct rounded apically, without papillae. Paraproct (Fig. 114) with moderate sensorium containing, in addition to normal trichobothria with

distinct basal rosettes, two central trichobothria shorter than others with basal rosettes weakly outlined; straight ridge on paraproct near median margin bearing several setae and papillae.

Holotype. ♂, Rafael ≠ 2.

Epipsocus semiclarus new species

Diagnosis. Species of category I-B, differing from **E. bordoni** in much broader distal process of phallosome, from E. capitulatus in lack of marginal band through median cells and cell Cu_{1a}, from **E. fuscareolatus** in having areola postica largely unpigmented, from **E. obscurus** in lacking spots at most main vein junctions (excluding marginal ones) in forewing and in having distal process of phallosome undivided.

Male measurements. FW 2843, HW 2109, F 747, T 1212, t_1 615, t_2 147, t_1ct 33, f_1 691, f_2 585, IO 388, d 216.

Male color. Compound eyes black; remainder of head dusky medium brown. Thorax pale brown except darker brown above hind coxa. Leg color not noted except middle and hind coxae dark brown, fore coxae pale brown. Forewing (Fig. 115) with sub-basal and apical brown spot in pterostigma; brown spot on distal end of each Rs and M branch, base of areola postica, and on nodulus. Abdominal color not readily discernible, apparently medium brown with some purplish brown pigment on sides.

Male structural characters. Fronto-clypeal suture present in middle. Lacinal tip (Fig. 116): lateral tiny with 6 teeth, innermost small and separated from others; median tiny simple, pointed. Pretarsal claw with basal seta, pointed preapical tooth. Forewing (Fig. 115): pterostigma moderately deep; Rs fork stem longer than R_{4+5}; R_{2+3} and R_{4+5} flexuous in distal half; areola postica relatively high, highest point before middle; about twice as long as greatest height. Hindwing normal for genus. Hypandrium (Fig. 117) with sides straight, slanting to flattened apex. Phallosome (Fig. 118) open basally, with very broad distal process truncated at apex; endophallus membranous. Epiproct rounded, lacking papillae. Paraproct with moderate sensorium containing numerous normal trichobothria and one central shorter seta with poorly defined basal rosette.

Holotype. ♂, Rafael ≠ 3.

Other material examined. Rafael ≠ 3, 2 ♂ paratypes (INPA); Rafael ≠ 2, 1 ♂, paratype (INPA); Rafael ≠ 4, 3 ♂ paratypes (2 ELM, 1 INPA); Rafael ≠ 5, 4 ♂ paratypes (INPA).

Epipsocus badonneli new species

Diagnosis. Member of category II-D-4, differing from all other described species of category in shape and pigmentation of pterostigma.

Male measurements. FW 4192, HW 2906, IO 464, d 241.

Male color. Compound eyes and ocellar field black; rest of head orange-brown. Thorax pale brown with dark brown notal lobes. Legs (hind leg only) medium tawny brown. Forewing /Fig. 120) mostly clear with dark brown distal two-thirds of pterostigma. Abdomen with preclunial segments ringed with purplish brown on light brown background, the rings not continuous ventrally; terminal segments dark brown.

Male structural characters. Fronto-clypeal suture absent in middle. Lacinial tip (Fig. 119): lateral tiny broad, with 7 denticles; median tiny short, simple, pointed. In forewing (Fig. 120), pterostigma very deep and angulate; Rs fork stem flexuous, slightly longer than R_{4+5}; Rs and M branches straight; areola postica short and high, greatest height before middle; about 1.5X as long as greatest height. Hindwing normal for genus. Hypandrium (Fig.121) well sclerotized and pigmented; posterior margin slightly depressed in middle; setae concentrated at sides, sparse in middle. Phallosome (Fig. 122) open basally but with membranous connection between struts; aedeagal arch forming bilobed ridge before distal process, the process short and broad; endophallus mostly membranous, finely shagreened posteriorly. Epiproct broad, hemispherical. Paraproct with large sensorium including numerous trichobothria with basal florets and one median trichobothrium with basal floret less pronounced; median margin of paraproct straight, bearing setae and small papillae.

Holotype. ♂, Rafael ≠ 3.

Other material examined. Rafael ≠3. 2 ♂ (paratypes, 1 INPA, 1 ELM).

Epipsocus foliatus new species

Diagnosis. Species of category II-C, differing from other species with known males (**E. argutus**, **E. aviceps**, **E. meruleus**, **E. verrucosus**, **E. roraimensis** n. sp.): from **E. aviceps**, **E. verrucosus**, and **E. roraimensis** n. sp. in nature of endophallic sclerotizations, from **E. beguiristaini** in much shorter forewing, from **E. molinai** in shorter, broader radial fork and in shape of pterostigma, from **E. quurcus** and **E. uniformis** in lower, longer areola postica, from E. **willineri** in longer areola postica and straight Rs and M branches in forewing.

Male measurements. FW 2396, HW 1820, F 673, T 1075, F_1 704, IO 279, d 176.

Male color. Compound eyes black; remainder of head medium brown except colorless around antennal base. Body color not discernible from the material. Wings clear, unmarked.

Male structural characters. Fronto-clypeal suture distinct im middle. Pretarsal claw with basal seta, preapical tooth pointed. Lacinial tip (Fig. 123): lateral tiny with 6 principal denticles, well separated; mediam tiny small, pointed, no gap between median and lateral tinys. Forewing (Fig. 124): pterostigma shallow, rounded posteriorly, Rs fork stem curved, slightly longer than R_{4+5}; Rs branches, M_2, and M_3 flexuous, M_1 down-curved; areola postica relatively long, about 2.5X as long as greatest height.

Hindwing normal for genus. Hypandrium (Fig. 125) curved on hind margin with long setae concentrated on sides. Phallosome (Fig. 126) with basal struts wide at bases, each bearing a leaf-like inner lobe (external paramere?) before curving medially to form distal process; distal process rounded at tip; endophallus a dense sheaf of broad, flattened, heavily pigmented scales resembling a pine cone. Epiproct (Fig. 127) rounded distally, heavily sclerotized and pigmented around edges, membranous in middle. Paraproct normal for genus.

Holotype ♂, Rafael ≠ .

Paratypes, 2 ♂, Rafael ≠ 5 (1 INPA, 1 ELM).

Epipsocus roraimensis new species

Diagnosis. Species of category II-C, differing from **E. argutus** by longer Rs fork with flexuous branches, from **E. aviceps** and **E. verrucosus** by lack of endophallic sclerotizations, from **E. beguiristaini** and **E. molinai** by flexuous Rs branches and higher areola postica, from **E. meruleus** by posessing a slender distal process of phallosome, from **E. quurcus** by flexuous M_2 vein in forewing and areola postica being highest decidedly before middle, from **E. uniformis** by flexuous M_2 in forewing and shape of areola postica, from **E. willineri** by much shorter forewing with straight vein M_3, from **E. foliatus** by nature of endophallus.

Male measurements. FW 2320, HW 1752, F 533, JO 258, d 161.

Male color. Body color not discernible in specimen. Forewing clear, unmarked except for slight darkening at distal ends of Rs branches, M branches and Cu_{1a}; membrane with slight brown wash . Hindwing clear, unmarked.

Male structural characters. Fronto-clypeal suture not present im middle. Lacinial tip (Fig. 128): lateral tiny broad with five denticles, innermost more extruded than others; median tiny short, simple, pointed. In forewing (Fig. 129), pterostigma gently curved posteriorly, Rs fork branches flexuous; M_2 flexuous; areola postica relatively high, highest before middle, about twice as long as greatest height. Hypandrium (Fig. 130) curved posteriorly, straight in middle, with long setae concentrated laterally. Phallosome (Fig. 131) open basally with membrane connecting lateral struts slightly sclerotized on sides; distal process slender, blunt-tipped; endophallus covered with minute spinelets. Epiproct rounded with sparse setae somewhat concentrated posteriorly. Paraproct with moderately large, ovate sensorium including numerous trichobothria with basal florets and 1-2 median sockets with poorly developed basal floret; median margin of paraproct with setae and minute spinelets or papillae.

Holotype. ♂, Rafael ≠ 4.

Family Neurostigmatidae

Genus **Neurostigma** Enderlein

The genus contains five previously described species and is known to occur from southern Mexico south to Santa Catarina State in Brazil.

Neurostigma radiata new species

Diagnosis. Differing from other described species by combination of characters: brown marks in several cells in middle of forewing and long space between most distal crossvein of pterostigma and distal margin of pterostigma.

Male measurements. FW 33?4, HW 2430, F 641, T 1081, t_1 387, t_2 161, $t_1$ct 15, 10 440, d 141.

Male color. Head and body color not well preserved. Head (except compound eyes), thorax, and abdomen apparently light to medium brown. Scattered black hairs among long hairs of vertex and thoracic nota. Forewing (Fig. 132) with all crossveins of pterostigma bordered in dark brown; a pale brown spot in base of cell r_5; a darker, more compact spot in cell M_3 near base; a cloudy brown spot running most of length of cell Cu_{1b}; remainder of membrane clear. Hindwing with cloudy brown spot running through basal half of cell Cu_1 and another of same color in basal one-third of cell Cu_2.

Male structural characters. Fronto-clypeal suture absent in middle. Lacinial tip (Fig. 133) with lateral tiny broad, bearing 5 principal denticles; median tine short, simple, pointed. Pretarsal claw with basal seta, pointed preapical tooth. Forewing (Fig. 132): pterostigma nearly half length of wing, with 7 crossveins, most distal one curving distad but separated on wing margin from distal end of pterostigma by nearly its own length; Rs fork narrow, slightly curved; vein M dipping decidedly posteriorly beyond Rs-M crossvein; areola postica high (but free from M), separated from vein Cu_1 by about half its own length. In hindwing Rs fork long, narrow. Hypandrium curved distally, well ciliated. Phallosome (Fig. 134) open basally, with distal process of moderate length, truncated apically; endophallus with two long pointed spines directed anterolaterally, each arising from dense field of shorter spines; these fields surrounded by spinulose membrane. Epiproct hemispherical, bearing setae in distal half. Paraproct with sensorium of moderate size, containing numerous trichobothria with distinct basal florets and 1-2 central florets indistinct.

Holotype. ♂, Rafael ≠ 2.

Family Asiopsocidae

Genus **Notiopsocus** Banks

Four species have been described from tropical America and two from the African tropics. Little attempt has been made at assessment of characters of taxonomic importance. Comparison of five neotropical species in my collection suggests the following characters to be important:

1) Details of lacinal tip;
2) Details of ovipositor valvulae;
3) Number of trichobothria in female paraproctal sensorium;
4) Forewing membrane darkened in distal cells or not;
5) Shape of pterostigma;
6) Relative length of Rs-M fusion in forewing;
7) Relative length of Rs fork stem in forewing;
8) Shape of cell R_5 in forewing;
9) M branched or not in forewing;
10) Cu_2 ciliated or not in forewing;

Notiopsocus simplex Banks (?)

N. simplex Banks 1913:84.

The specimens on hand agree essentially with Banks' description in size (1.89mm in one measured female versus 1.7 mm total length stated by Banks), color except that these specimens have the femur darker than the tibia on all legs, and details of the wing venation and ciliation, including the rather unique form of the pterostigma. The species is redescribed here.

Diagnosis. Cu_2 in forewing ciliated. Differing from other described species with this character (**N. aldretei** Badonnel, **N. neotropica** Machado.Allison & Papavera, **N. vilhenai** Badonnel) in unique shape of pterostigma, being deepest at apex with apical limit nearly straight antero-posteriorly or slightly bent basad near wing margin.

Male measurements. F 298, T 407, t_1 106, t_2 80.

Male color. Not readily discernible on specimen. Thorax and legs (head missing) apparently as described for female.

Male structural characters. Hypandrium (Fig. 135) gently curved on posterior margin, moderately sclerotized, longer setae concentrated laterally. Phallosome (Fig. 136) with base rounded, aedeagal arch tapering to blunt tip; external parameres broad, exceeding tip of aedeagal arch only slightly, with numerous pores; endophallus comprising a median spinose process flanked by two hemispherical lobes.Epiproct semicircular, with setae stronger than others on posterior margin,other scattered setae mostly in posterior half. Paraproct (Fig. 137) with duplex marginal spine long, flanked by strong ventral and weaker dorsal seta; sensorium diffuse with 8 trichobothria; an area bare of pigment and setae lateral to duplex spine.

Female measurements. FW 1357, HW 1105, F 344, IO 385, d 63.

Female color. Compound eyes black; ocellar field dark brown; remainder of head medium brown except paler in band from antennal base to side of ocellar field and postero-laterally from there nearly to hind margin of vertex. Thorax medium brown. Legs with femora and tarsi medium brown, tibiae very pale brown, darker at distal ends. Wings uniform pale brown except slightly darker on pterostigma. Preclunial abdominal segments pale brown, terminal segments medium brown.

Female structural characters. Lacinial tip broad (Fig. 138) with one edge raised and bearing a few rounded lobes. Pretarsal claw normal for genus. Forewing (Fig. 139) with pterostigma relatively shallow basally, deepest at apex; Rs-M junction about one-half to three-fourths length of Rs fork stem; Rs fork stem about 1.25X length of R_{4+5}; cell R_5 deep in middle, slightly to moderately constricted at wing margin; M branched with M_1 arched forward; Cu_2 ciliated at least for distal half. Hindwing (Fig. 140) with R_{2+3} transverse; long setae on distal and hind wing margin from about middle of cell R_3 nearly to wing base. Subgenital plate (Fig. 141) rounded posteriorly, with well defined pigmented area; setae of moderate length concentrated on and near posterior margin. Spermatheca (Fig. 142) with spermapore on rounded plate; duct with short sheath and well defined sclerotized neck. Ovipositor valvulae (Fig. 143): v_1 short, semimembranous; v_2 parallel-sided, rounded at tip, v_3 well sclerotized, about half length of v_2, with long seta at distal end. Paraproct with 8/9 trichobothria in sensorium, otherwise normal for genus. Epiproct with three setae in transverse row on distal end, 2 long setae before these and 2 long setae on sides plus scattered shorter setae.

Material examined. Rafael ≠ 1, 1 ♂ (thorax and abdomen only), 6 ♀.

Notiopsocus facilis new species

Diagnosis. Differing from all other described species in having M in forewing simple and Rs-M junction in forewing very short and thick (Fig. 144).

Female measurements. FW 1859, HW 1433, F 566, T 786, t 271, t 122, f 299, IO 382, d 99.

Female color. Compound eyes and ocellar field black; remainder of head medium brown except paler to each side of ocellar field, and darker on postclypeus, labrum dark brown. Thorax medium brown, somewhat darker on notal lobes and meso-precoxal bridge. Wings uniformly pale tan but somewhat darker over most of pterostigma. Legs tan. Preclunial abdominal segments pale tan; terminal abdominal segments medium brown.

Female structural characters. Lacinial tip (Fig. 145) with one edge raised and slightly roughened on surface. Pretarsal claw normal for genus. In forewing (Fig. 144) pterostigma shallow basally, deepest before apex; Rs-M junction short, not over one-sixth length of Rs fork stem, the vein thick; Rs stem about 1.3X length of R_{4+5}; cell R_5

deepest in middle, constricted at wing margin; M simple; Cu_2 bare. Subgenital plate (Fig. 147) as described for **N. simplex**. Spermatheca (Fig. 146) with spermapore on rounded plate; duct with very short sheath, relatively long sclerotized neck region. Ovipositor valvulae (Fig. 148) with v_1 relatively long, v_2 parallel sided, rounded distally, v_3 slightly less than half length of v_2, with long seta placed in membrane immediately beyond its apex. Epiproct and paraproct as described for **N. simplex**, including number of trichobothria in paraproctal sensorium.

Holotype. ♀, Rafael ≠ 1.

Family Caeciliidae

Genus **Caecilius** Curtis
posticus group (Mockford 1965)

Caecilius claristigma New & Thornton (?)

C. claristigma New & Thornton 1975:38.

The species was described from females collected in the Mato Grosso. Two females in the Maraca Island material agree in all particulars described by New and Thornton. One male, collected separately from the females, agrees with the original description in wing markings. It is assigned to this species and described below.

Male measurements. FW 2443, HW 1859, F 476, T 785, t_1 264, t_2 86, $t_1$ct 21, 10 200, d 233.

Male color. Compound eyes black; remainder of head entirely medium brown, including ocellar field. Thorax medium brown dorsally, pale brown on sides. Legs white. Forewing (Fig. 150) with usual banding pattern for the species group; colorless triangle in cells Cu_{1b}, Cu_2, and 1A reaching into radial cell; brown band along Rs fork stem and R_{2+3} emphasized along basal half of Rs fork stem, paler in distal half, and emphasized along R_{2+3}. Abdomen colorless in preclunial segments, pale brown in terminal segments.

Male structural characters. Lacinial tip (Fig. 149) normal for species group. Mesoprecoxal suture absent. Forewing (Fig. 150) with cell R_5 somewhat constricted distal to basal bulge, the limiting veins parallel where reaching wing margin; areola postica high and long, longer than distance from nodulus to vein Cu_{1b}. Hypandrium (Fig. 151) with posterior margin curved, well ciliated. Phallosome (Fig. 152) with base flat, slender, external parameres with numerous pores; aedeagal arch wide and blunt at tip; endophallus with small, granular median lobe. Paraproct with small field of minute, slender papillae near median margin (Fig. 153). Epiproct with raised median granular field.

Female structural characters. As described by New & Thornton (1975). Spermatheca (Fig. 154) with sheath elongate, nearly equal in length to sac, at widest about one-third its length.

Material examined. Rafael ≠ 3, 1 ♂ ; Rafael ≠ 1, 2 ♀.

Caecilius gemmatus new species

Diagnosis. Differing from **C. falciferrens** Williner (probably of this group) in having M cells of forewing entirely brown. Differing from **C. claristigma** in details of male external genitalia correlated with much smaller colorless 'triangle' in cells Cu_{1b} and Cu_2 of forewing. Differing from C. posticoides n. sp. as noted in diagnosis of that species.

Male measurements. FW 2007, HW 1523, F 415, f_1 354, 10 188, d 223.

Male color. Same as described for **C. claristigma** except in forewing markings (Fig. 155): colorless 'triangle' (here rounded anteriorly) of cells Cu_{1b} Cu_2, not reaching half-way anteriorly through Cell Cu_{1b}; brown band along Rs fork stem and R_{2+3} dark its entire length. Hindwing pale brown.

Male structural characters. Lacinial tip normal for species group. Meso-precoxal suture absent. Forewing (Fig. 155): cell R_5 with only slight basal bulge followed distally by slight constriction and slight expansion in region of wing margin; areola postica as described for **C. claristigma** but somewhat lower. Hypandrium with posterior margin gently rounded; rather sparsely setose with long setae concentrated laterally. Phallosome (Fig. 156) with base bowed, slender; external parameres with pores concentrated at distal two-thirds, sparse beyond; aedeagal arch rounded at tip; endophallus with sizeable central mass covered with rough scales, two lateral masses of same texture. Paraproct with compact papillar field near median margin (Fig. 157). Epiproct (Fig. 158) with raised compact papillar field in middle.

Holotype. ♂. Rafael ≠ 4.

Paratypes. 2 ♂, Rafael ≠ 5 (1 INPA, 1 ELM).

Caecilius posticoides new species

Diagnosis. Differing from **C. falciferrens** as noted for **C. gemmatus**. Differing from **C. claristigma** and **C. gemmatus** in details of male genitalia and in cell R_3 being colorless posterior to brown border of vein R_{2+3}.

Male measurements. FW 2130, HW 1518, F 417, T 973, t_1 225, t_2 86, $t_1$ct 19, 10 178, d 207.

Male color. Compound eyes black; remainder of head dark brown, likewise thorax. Legs apparently white. Forewing (Fig. 159) with usual banding pattern for species group; dark brown border of Rs fork stem not reaching distal end of stem, thus not continuous with brown border of R_{2+3}; colorless area of cells Cu_{1b}, Cu_2, and IA rounded anteriorly, not reaching half-way forward in cell Cu_{1b}. Hindwing mostly pale brown, colorless

around distal end of vein Cu_2 and wing base. Abdomen reddish brown on preclunial segments, pale brown on terminal segments.

Male structural characters. Lacinial tip normal for species group. Meso-precoxal suture present. Forewing (Fig. 159); cell R_5 with well developed basal bulge, the constriction distal to it being only about two-thirds width of cell at widest in the bulge; distal end of cell flared out; areola postica relatively low and short, not longer than distance from nodulus to vein Cu_{1b}. Hypandrium (Fig. 160) with posterior margin gently rounded; sparsely setose with long setae laterallu on and near margin. Phallosome (Fig. 161) with base broad, slightly curved, heavy; external parameres with pones restricted to distal one-third; aedeagal arch tapering to relatively narrow tip; endophallus with relatively long, rough-surfaced central mass; relatively large, rough-surfaced lateral masses. Paraproct with large median papillar field (Fig. 162). Epiproct (Fig. 163) with large raised central papillar field.

Holotype. ♂, Rafael ≠ 5.

fasciatus group (Mockford 1965)

Caecilius fasciatus Enderlein
C. fasciatus Enderlein 1906:82.

The species was described from Pará State, Brazil. I also have records from Trinidad, West Indies.

Material examined. Rafael, ≠ 4, 1 ♀.

H-1 group (Mockford 1965)

The original diagnosis is augmented to note that the inner anterior margin of the labrum is sculptured with regular chain-link areoles (Fig. 164).

This group appears to be composed of three species complexes, all represented in the Roraima material:

1) **C. micans** complex. Forewing with a dark stripe bordering anterior and posterior margin, not otherwise marked. **C. micans** New and Thornton.

2) **C. albofasciatus** complex. Forewing with extensive brown banding pattern. **C. albofasciatus** n. sp.

3) **C. tuberculatus** complex. Forewing unmarked but generally with a brown wash (absent in poorly pigmented specimens). **C. tuberculatus** New and Thornton, **C. claripennis** n. sp., **C. obscuripennis** n. sp.

The group may now be called the micans group after that included species.

Caecilius micans New & Thornton

C. micans New & Thornton 1975:33.

This species, readily recognized by its forewing markings (New & Thornton 1975, Fig. 20), was described from the Mato Grosso. The spermatheca is typical of the species group.

Material examined. Rafael ≠ 1, 4 ♀.

Caecilius albofasciatus new species

Diagnosis. Differing from **C. micans** by having extensive banding pattern in forewing (Fig. 165).

Female measurements. FW 2622, HW 1959, F 528, T 861, t_1 273, $t_1$ct 16, f_1 337, f_2 278, f_3 237.

Female color. Compound eyes and ocellar field black; parietal areas creamy white becoming mottled pale brown near posterior margin; a dark brown spot from ocellar field to fronto-clypeal suture; genae reddish brown; postclypeus and labrum medium brown; antennae pale brown. Thorax with notal lobes dark brown, surrounding cuticle pale brown; entire prothorax white contrasting with dark brown meso- and metapleura. Legs white except meso-coxae medium brown, hind coxae and femora dark brown. Forewing (Fig. 165) banded with brown: broad median transverse band through distal end of cell R, basal one-third of cell M_3, continuing to wing margin and broadening in cells Cu_{1b}, Cu_2, and 1A; spot through middle of pterostigma continuing into cell R_1, continuing as diffuse band through cell R_5 and cell M_3 to marginal band, latter continuing forward to vein R_{4+5}; R_{2+3} bordered with brown. Hindwing (Fig. 166) medium brown along anterior margin in middle, remainder of wing membrane pale brown. Abdomen with preclunial segments creamy white, terminal segments medium brown.

Female structural characters. Lacinial tip (Fig. 167) normal for species group. Meso-precoxal suture absent. Forewing (Fig. 165) with Rs-M junction longer than preceding Rs segment; Rs fork stem very long, the fork very short: stem about 3X length of R_{2+3}; cell R_5 curved, only slightly swollen basally; areola postica relatively high and short, length less than distance from nodulus to Cu_{1b}; Cu_2 ciliated. Subgenital plate (Fig. 168, badly damaged on specimen) with well pigmented arms, short distal apophyses. Spermatheca (Fig. 169) with very wide, rounded sheath, very short duct beyond sheath, well sclerotized and pigmented sac. Ovipositor valvulae (Fig. 170): v_1 and v_2 short, pointed at tip, v_3 with seta placed medially. Epiproct and paraproct normal for genus.

Holotype. ♀, Rafael ≠ 1.

Caecilius tuberculatus New & Thornton

C. tuberculatus New & Thornton 1975:30.

The species was described from the Mato Grosso. Two specimens in the material from Pacaraima agree with the original description in size, color, venational details, absence of ciliation on Cu_2 in the forewing, and male genitalic details (except paraproctal papillar field more diffuse). Therefore, they are assigned to this species. The female is previously unknown and is described below.

Female measurements. FW 3432, HW 2520, F 745, T 1242, t_1 433, t_2 147, $t_1$ct 25.

Female color (head missing). Thorax tawny brown, darkest on notal lobes with wide colorless region between lateral mesonotal lobes. Legs tawny brown. Wings clear, unmarked, with tawny brown wash. Abdonimal color not discernible.

Female structural characters. Forewing with Rs fork stem longer than R_{4+5}; areola postica relatively long and low, nearly as long as distance from nodulus to Cu_{1b}; Cu_2 not ciliated. Subgenital plate with pigmented arms exceedingly faint, long setae moderately dense near posterior margin, no apophyses on posterior margin. Ovipositor valvulae with v_1 and v_2 short, pointed apically; membranous portion of v_2 reticulate sculptured; v_3 with seta on edge of sclerotized area. Paraproct with scattered slender papillae in dorsal half. Epiproct with two elongate, curved setae arising near posterior margin not knobbed at apex.

Material examined. Rafael ≠ 3, 1 ♂, 1 ♀.

Caecilius claripennis new species

Diagnosis. Member of **C. tuberculatus** species complex, differing from **C. tuberculatus** and **C. obscuripennis** n. sp. in having vein Cu_2 of forewing ciliated its entire length, from **C. tuberculatus** im much wider male epiproctal papillar field, from **C. obscuripennis** in lacking knobbed tips of paired elongate setae of female epiproct.

Male measurements. FW 2872, HW 2209, F 683, T 1106, t_1 451, t_2 118, $t_1$ct 28, f_1 527, f_2 418, f_3 392, IO 226, d 296.

Male color. Compound eys and ocellar field black; remainder of head creamy yellow but well colored specimen with pale brown spot from ocellar field to fronto-clypeal suture and postclypeus pale brown; antennae medium brown. Thorax with notal lobes pale brown, white along dorsal midline between lobes; pleura and legs pale brown. Wings clear, unmarked except pale brown in cell 1A. Abdomen apparently pale brown throughout.

Male structural characters. Lacinial tip (Fig. 171) with high lateral and lower median tiny with minute denticle between. Meso-precoxal suture absent. Forewing (Fig. 172) with cell R_5 somewhat constricted by posterior flexion of Rs fork beyond basal

bulge; vein R_{2+3} curved, areola postica relatively low, Cu_2 ciliated. Hypandrium slightly sclerotized and pigmented laterally, gently curved distally, moderately ciliated with long setae concentrated laterally. Phallosome (Fig. 173) with base thick, bowed, external parameres slender, rounded at tips, bearing pores in distal half; aedeagal arch with flexuous sides, tip rounded; endophallus with wide median mass. Epiproct (Fig. 174) with transversely broad papillar field, the papillae relatively slender; a long seta arising at each side of field. Paraproct with small papillar field near median margin (Fig. 175).

Female measurements. FW 3259, HW 2420, F 747, T 1157, t_1 444, t_2 125, $t_1$ct 27, f_1 555, f_2 426, f_3 396, IO 386, d 206.

Female color. As described for male except well colored specimens with some brown pigment along median ecdysial line of head, brown wash on wings.

Female structural characters. Lacinial tip as described for male. Meso-precoxal suture absent. Forewing with much variation: Rs-M junction from a point to relatively long fusion; cell R_5 decidedly to only slightly constricted beyond base; vein R_{2+3} curved to relatively straight; Cu_2 always ciliated. Subgenital plate (Fig. 176) with slightly pigmented arms, distal margin slightly bilobed. Spermatheca (Fig. 177) normal for species group. Ovipositor valvulae (Fig. 178) with v_1 curved in basal half; v_2 broad, with slender tip; v_3 remnant with 1-3 setae on edge or immediately beyond edge of sclerotization. Epiproct with pair of elongate setae near distal margin slender at tips.

Holotype. ♂, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 5 ♂, 10 ♀ (allotype and paratypes, 2 ♂, 2 ♀ paratypes ELM, remainder INPA) and 1 nymph; Rafael ≠ 3, 1 ♀ (paratype INPA); Rafael ≠ 4, 1 ♀ (terminal abdominal segments missing).

Caecilius obscuripennis new species

Diagnosis. Member of **C. tuberculatus** species complex, differing from **C. claripennis** in having vein Cu_2 of forewing bare; from **C. tuberculatus** and **C. claripennis** in having tips of paired elongate setae of female epiproct knobbed (Fig. 183).

Female measurements. FW 3230, HW 2383, F 649, T 967 , t_1 319, t_2 125, $t_1$ct 20; f_1 496, f_2 411, f_3 375, IO 399, d 196.

Female color. As described for **C. claripennis** except antennae, spot before and behind ocellar field, and thoracic notal lobes dark brown in well colored specimen.

Female structural characters. Lacinial tip as described for **C. claripennis**. Meso precoxal suture absent. Forewing (Fig. 179) with Rs-M junction about two-thirds length of preceding segment of Rs, cell R_5 only slightly constricted beyond basal bulge, Rs and

M branches relatively straight except R_{4+5} curved forward near distal end; areola postica relatively high and short; Cu_2 lacking ciliation. Subgenital plate (Fig. 180) with slight indication of pigmented arms; apex flat. Spermatheca (Fig. 181) much as in **C. clapipennis** but neck and tapered portion of sac slightly longer. Ovipositor valvulae (Fig. 182): v_1 long, slender, slightly curved in distal half; v_2 with tip slender, sclerotized region relatively wide; v_3 remnant with small constellation of papillae or thickened islets distal to seta. Epiproct (Fig. 183) with pair of elongate setae near distal margin kn bbed at tip, two relatively long setae on flanks tipped with minute knobs. Paraproct with one long seta near median margin with slightly swollen tip.

Holotype. ♀, Rafael ≠ 1.

Paratype. ♀, Rafael ≠ 1 (INPA).

flavidus Group (Mockford 1965)

Caecilius adrianae new species

Diagnosis. Differing from other described members of species group in having well developed banding pattern of forewing.

Male measurements. FW 2051, HW 1560, F 423, T 723, t_1 262, t_2 103, $t_1$ct 22, f_1 418, f_2 277, f_3 245, IO 190, d 188.

Male color. Compound eyes and ocellar field black; remainder of head with vertex medium brown posteriorly, abruptly creamy yellow anteriorly and over most of frons; genae and postclypeus medium brown; a spotty, narrow reddish-brown band through frons in middle; antennae pale brown. Thorax medium brown, paler between notal lobes; a reddish brown band from behind compound eyes, along neck dorso-laterally, along dorsal edge of pleuron, continuing dorso-laterally entire length of abdomen. Legs white except fore tibiae pale brown. Forewing (Fig. 185) banded with brown; a broad band completely across wing in basal half, a band across pterostigma in middle; a distal band including all of cells R_3, R_5, M_1, M_2 and distal two-fifths of M_3. Hindwing unmarked, with brown wash. Abdomen pale brown except for lateral reddish brown stripe.

Male structural characters. Lacinial tip (Fig. 184) typical of species group. Meso-precoxal suture absent. Forewing (Fig. 185) with Rs-M junction nearly as long as preceding Rs segment; pterostigma relatively deep; cell R_5 with basal bulge deep due to flexion of M stem; areola postica relatively low and long; vein Cu_2 bare of setae. Hypandrium (Fig. 186) slightly sclerotized and pigmented laterally, distal margin moderately curved, ciliation moderate with postero-lateral setae somewhat longer than median. Phallosome (Fig. 187) with base flat, relatively stout; external parameres rounded apically, bearing pores only from distal two-thirds to tip, pores sparse at tip; aedeagal arch somewhat truncated apically; endophallus with broad median mass, thin lateral masses.

Epiproct (Fig. 188) with central field of small papillae flanked on each side by large seta. Paraproct with large field of small papillae near median margin (Fig. 189).

Holotype. ♂, Rafael ≠ 1.

Genus **Enderleinella** Badonnel

This genus was previously known from two species found in Europe and New Zealand.

Enderleinella occidentalis new species

Diagnosis. Differing from **E. zelandica** (Tillyard) by having acuminate lateral cusp of lacinial tip. Differing from **E. obsoleta** (Stephens) by relatively longer acuminate point of lacinial tip and details of ovipositor valvulae.

Female measurements. FW 2257, HW 1670, F 415, T 668, t_1 245, t_2 95, t_1 ct 17, f_1 286, f_2 280, f_3 240, IO 180, d 172.

Female color. Compound eyes black; remainder of head creamy yellow, antennae pale brown. Thorax pale brown on sides and notal lobes, white between notal lobes. Legs and abdomen creamy yellow. Wings clear, unmarked, with slight brown wash.

Female structural characters. Ocelli minute on well defined ovoid field (Fig. 190). Lacinial tip (Fig. 191) with lateral cusp attenuated, median cusp short, blunt. Forewing (Fig. 192) typical of genus; Rs fork stem relatively longer, the fork relatively shorter than in **E. obsoleta**. Subgenital plate (Fig. 193) with posterior margin curved slightly depressed in middle; numerous long setae on and near posterior margin. Spermatheca (Fig. 194) with sheath abuting against expanded region of neck; sac long oval. Ovipositor valvulae (Fig. 195) with v_1 slender-tipped, its base spinulose medially; v_{2+3} blunttipped, the tip region spinulose. Paraproctal sensorium (Fig. 196) with diffuse trichobothria and one short seta lacking basal floret.

Holotype. ♀, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 36 ♀ paratypes (4 ELM, remainder INPA) 2 nymphs.

Genus **Xanthocaecilius** Mockford

The 11 previously described species of this genus occur from southern Canada south to southern Brazil. Species complexes were defined by Mockford (1989).

Xanthocaecilius granulosus Mockford (?)

X. granulosus Mockford 1989:278.

Females of this genus offer very few diagnostic characters. The single specimen at Mockford

hand runs to this species in the key (Mockford, 1989) and is tentatively assigned to it. The species was previously known from northern Mexico south to Panama.

Material examined. Rafael ≠ 2, 1 ♀.

Xanthocaecilius pallidus new species

Diagnosis. Member of C-2 species complex (Mockford, 1989). No other member of this complex is described.

Female measurements. FW 2406, HW 1878, F 505, T 898, t_1 329, t_2 105, $t_1$ct 25, f_1 463, f_2 395, f_3 326, IO 224, d 185.

Female color. Compound eyes black. Remainder of head, thorax, abdomen, and appendages creamy yellow. Wings clear, unmarked, with slight yellow wash.

Female structural characters. Lacinial tip (Fig. 197) normal for genus, with high lateral and low median cusp. Forewing (Fig. 198) with Rs-M fusion slightly longer than preceding Rs segment; pterostigma shallow; cell R_5 expanded at wing margin primarily by downcurve of vein M_1; areola postica small, semicircular. Subgenital plate (Fig. 199) prominently bilobed; long, bristly setae along entire posterior margin. Spermatheca (Fig. 200) normal for genus, sheath shorter than neck and not complete to spermapore. Ovipositor valvulae (Fig. 201): v_1 with slender, upcurved tip region, v_2 with broad base tapering abruptly in middle to long, slender tip region; v_3 remnant with distal end separated by slight indentation from v_2; bearing 2 long setae apically. Paraproct (Fig. 202) with median margin protruding in middle; sensorium somewhat diffuse; with one central seta, shorter than others, arising from weak basal floret.

Holotype. ♀, Rafael ≠ 1.

Family Amphipsocidae

Genus **Polypsocus** Hagen

The 17 previously described species are almost entirely South American, although one species ranges north into southern Canada. The following artificial classification is offered for convenience in comparisons.

Group I. Forewing clear, unmarked. **P. nervulosus** Enderlein.

Group II. Forewing entirely dark or with a banding pattern.

Subgroup A. Forewing entirely dark. **P. fuscus** (Enderlein), **P. suffusus** Roesler, **P. unicolor** Roesler.

Subgroup B. Forewing with longitudinal dark band. **P. griseolineatus** (Enderlein) **P. quadriguttatus** (Enderlein), **P. serpentinus** n. sp.

Subgroup C. Forewing with dark crossbands. **P. bimaculatus** Enderlein, **P. delunatus** Roesler, **P. fasciatus** Banks, **P. fastosus** Roesler.

Subgroup D. Clear area in distal one-fourth of forewing; wing otherwise dark.

Infrasubgroup 1. Clear area reaching distal end of wing. **P. desectus** (Enderlein).

Infrasubgroup 2. Clear area a crescent-shaped region including little, if any, of areola postica. **P. coleopterus** Roesler, **P. corruptus** Hagen, **P. falcifer** Roesler, **P. selenius** Roesler.

Infrasubgroup 3. Clear area a transverse band extending over, at least in female, all or most of areola postica. **P. fuscopterus** n. sp., **P. lineatus** n. sp. **P. ohausianus** (Enderlein).

Polypsocus serpentinus new species

Diagnosis. Member of category II-B, near **P. griseolineatus** Enderlein, differing in having dark longitudinal band of forewing extending to wing base, covering nearly all of cell R_3.

Female measurements. FW 4169, HW 3030, F 875, T 1398, t_1 457, T_2 189, $t_1$ct 17, f_1 552, f_2 456, f_3 371, IO 461, d 196.

Female color. Compound eye and ocellar field black; rest of head white except dark brown across hind margin, extending forward on sides through eye and antennal base onto side of postclypeus; medium brown bordering median ecdysial line and bordering each compound eye medially. Antennae pale brown. Thorax with anterior mesonotal lobe dark brown in front half, pale brown in hind half; lateral notal lobes dark brown in lateral half, pale brown in median half; region between lobes pale brown; thoracic pleura and legs pale brown. Forewing (Fig. 203) marked as indicated in diagnosis. Hindwing unmarked except for faint brown band extending from distal end of cell R to wing tip in cell R_5. Abdomen apparently pale brown.

Female structural characters. Lacinial tip (Fig. 204) bicuspid with high, rounded lateral cusp and low, pointed median cusp. Forewing (Fig. 203) with pterostigma deep, rounded posteriorly Rs-M junction a short fusion; cell R_3 mostly straight-sided, but R_{2+3} curved forward at wing margin; areola postica about 1.5X as long as distance from nodulus to Cu_{1b}. Subgenital plate (Fig. 205) with flat posterior margin, faint pigmented

arms, sparse setae relatively long on and near posterior margin. Spermartheca (Fig.206) and ovipositor valvulae (Fig. 207) normal for genus.

Holotype. ♀, Rafael ≠ 1.

Paratypes. 2 ♀, Rafael ≠ 1 (1 INPA, 1 ELM).

Polypsocus fuscopterus new species

Diagnosis. Member of category II-D-3, near **P. lunulatus** Enderlein differing (in female) in having colorless distal band of forewing broader in cells R_1, R_3, and R_5 and reaching wing margin in these cells.

Male measurements. FW 3048, HW 2233, F 687, T 1127, t_1 383, t_2 151, $t_1$ct 22, IO 199, d 296.

Male color. Compound eyes black; ocellar field dark brown; remainder of head apparently medium brown. Color of thorax and abdomen poorly preserved. Legs medium brown. Forewing (Fig. 208) reddish brown, except colorless on vein Sc closing base of pterostigma, nearly colorless on distal end of cell R_1, continuing posteriorly across cells R_3, R_5, and into M_1. Hindwing reddish brown.

Male structural characters. Lacinial tip (Fig. 210) bicuspid with high, rounded lateral cusp, short median cusp. Forewing (Fig. 208) with areola postica deep, rounded posteriorly, heavily sclerotized and setose in broad anterior band; Rs-M junction a long crossvein; cell R_3 curved anteriorly in distal two-thirds, broadest before middle; areola postica about twice as long as distance from nodulus to vein Cu_{1b}. Hindwing (Fig. 209) with Rs fork slightly longer than its stem. Hypandrium (Fig. 211) with single median and two lateral sclerotized areas; median bare, laterals bearing sparse, long setae. Phallosome (Fig. 212) with base weak, external parameres with pores only near apex; aedeagal arch tapering to slender apex, the apex granulose; endophallus with clearly divided median mass, lateral masses delimited on sides by regions of dense spinules.

Female measurements. FW 3862, HW 2748, F 795, T 1197, t_1 385, t_2 151, $t_1$ct 17, f_1 592, f_2 418, f_3 343, IO 423, d 183.

Female color. Compound eyes and ocellar field black; rest of head pale to medium brown except dark brown across posterior margin and extending forward on each side through eye to antennal base. Antenna with scape, pedicel, and f_1 black; other flagellomeres (present through f_4) white in basal two-thirds, black in distal one-third. Thorax and legs medium brown. Forewing (Fig. 213) as described for male except pale distal band paler and broader, extending across cells M_1 and M_2 and along wing margin through entire areola postica. Hindwing as described for male. Abdominal color not discernible except terminal segments medium brown.

Female structural characters. Lacinial tip and forewing as described for male

except in forewing (Fig. 213) heavy sclerotization along hind border of vein R_1, broadest near pterostigma and along basal one-third of pterostigma. Subgenital plate (Fig. 214) well pigmented on arms and on posterior margin; margin flat, slightly bulging in middle. Spermatheca (Fig. 215) and ovipositor valvulae (Fig. 216) normal for genus.

Holotype. , Rafael 1.

Other material examined. Rafael ≠ 1, 4 ♂ (paratypes, 2 INPA, 2 ELM); Rafael ≠ 5, 3 ♂(paratypes, 2 INPA, 1 ELM); Rafael ≠ 4, 2 ♀(allotype, INPA, paratype ELM).

Polypsocus lineatus new species

Diagnosis. Member of category II-D-3, near **P. lunulatus**, differing as indicated for **P. fuscopterus**. Differing from **P. fuscopterus** in wider and longer colorless band of forewing, higher and longer areola postica, and genitalic details.

Female measurements. FW 3887, HW 2922, F 857, f_1 521, IO 400, d 264.

Female color. Not discernible on specimens except for wings. Forewing (Fig.217) reddish brown except Sc closing pterostigma colorless, distal clear band covering distal end of pterostigma, continuing around with only slight contriction in cells R_5 and M_1 to cover entire areola postica to its base. Hindwing uniformly reddish brown.

Female strucutural characters. Lacinial tip (Fig. 219) bicuspid with high, bluntly pointed lateral cusp, low, pointed median cusp. Forewing (Fig. 217) as described for **P. fuscopterus** except cell R_3 not strongly curved forward distally, areola postica longer, about 3X as long as distance from nodulus to vein Cu_{1b}. Hindwing (Fig. 218): Rs fork stem about one-fourth length of fork. Subgenital plate (Fig. 220) with pigmented arms terminating as acuminate points, otherwise as described for **P. fuscopterus**. Spermatheca (Fig. 222) normal for genus. Ovipositor valvulae (Fig. 221) with v_1 and v_2 slender; v_3 remnant short, appearing cut off.

Holotype. ♀, Rafael ≠ 2.

Other material examined. Rafael ≠ 2, 1 ♀ (paratype, INPA).

Polypsocus ohausianus (Enderlein), new combination

Monocladellus ohausianus Enderlein, 1909:267.

Genus **Monocladellus** was based on the unbranched M of the forewing at a time when few characters other than wing venation were known for psocid classification. The species differs from **P. limeatus** only in its unbranched M, presence of colorless spot in the forewing around the nodulus (Fig. 223), and shorter tails on the arms of the subgenital plate (Fig. 224). The hindwing venation, lacinial tip, ovipositor valvulae (Fig. 225), and spermatheca are essentially identical with those of **P. lineatus**. Although unbranched

M in combination with the very long areola postica (shared with **P. lineatus**) is a useful species recognition character, it has no generic value.

Specimen examined. Rafael ≠ 3, ♀.

Family Elipsocidae

Genus **Nepiomorpha** Pearman

Nepiomorpha pallida New

N. pallida New 1973a:126.

The species, readily identifiable from New's description and figures, was previously known from the Mato Grosso. The single adult specimen in the Roraima material differs from New's forewing illustration in having no crossvein from pterostigma to R_{2+3}, and having an areola postica to which M_3 joins. Only one forewing is present.

Material examined. Rafael ≠ 1, 1 ♀ , 1 nymph.

Family Philotarsidae

Genus **Aaroniella** Mockford

Aaroniella bruchi (Williner), new combination

Philotarsus bruchi Williner, 1943:119.

The species was originally described from Misiones, Argentina. The lacinial tip, phallosome, and male clunial ornamentation are figured here (Figs.226-228). The epiproct and paraproct are very similar to those illustrated for **A. dentata** (Mockford & Evans 1976, Fig. 11) described from Trinidad, West Indies.

Specimen examined. Rafael ≠ 1, ♂.

Family Pseudocaeciliidae

Genus **Pseudocaecilius** Enderlein

Pseudocaecilius tahitiensis (Karny)

Epipsocus tahitiensis Karny, 1926:288.
Pseudocaecilius tahitiensis (Karny), Lee & Thornton, 1967:5.

The species, originally described from Tahiti, is widespread in the Pacific and in the American tropics and North American subtropics.

Material examined. Rafael ≠ 1, 2 ♀.

Genus **Scytopsocus** Roesler

The genus is known from Cuba and southern Mexico south to southern Brazil. Three species have been described.

Scytopsocus fluminis new species

Diagnosis. Differing from females of described species in having clear, unciliated lobe forming distal margin of v_3; prong of v_2 elongate, extending well beyond rounded tip of valvula.

Female measurements. FW 1828, HW 1560, F 397, T 664, t_1 236, t_2 104, $t_1$ct 14, f_1 296, f_2 176, f_3 135, IO 433, d 106.

Female color. Compound eyes black; remainder of head, thorax, and legs deep chestnut brown. Antennae medium brown. Forewing reddish brown, darkest on pterostigma, pale along margin from nodulus to Cu_{1b}. Hindwing clear with brown wash.

Female structural characters. Forewing (Fig. 229) with venation distinct; pterostigma shallow, of equal depth its entire length; Rs segment before Rs-M crossvein heavily sclerotized; cell R_3 elongate, vein R_{2+3} bent forward near wing margin; cells M_1 and M_2 slender, vein M_3 present; areola postica very low, about equal in length to distance from nodulus to Cu_{1b}; ciliation normal for genus, likewise hindwing venation and ciliation. Subgenital plate (Fig. 230) with heavily sclerotized and pigmented areas clearly delimited; apical process bilobed at tip, each lobe bearing 4 setae. Ovipositor valvulae (Fig.231): v_1 normal for genus, v_2 with prong decidedly exceeding rounded tip of valvula, spinulose on its median surface; v_3 with well sclerotized and pigmented portion triangular, bearing sparse setae; distal margin extended as a clear membrane without setae. Paraproct quadrate (Fig. 232), its sensorium compact, bearing some papillae in medio-ventral area. Epiproct semicircular.

Holotype. ♀, Rafael ≠ 1.

Other material examined. Rafael ≠ 1. 4 ♀(paratypes, 2 INPA, 2 ELM).

Family Archipsocidae

Subfamily Pararchipsocinae

Genus **Notarchipsocus** new genus

Diagnosis. With characters of the subfamily (Badonnel **et al.**, 1984) but retaining well developed closed cell in hindwing; male unknown. Female with epiproct and paraprocts elongate; epiproct with a distal setose turret but otherwise bare except for two long setae on each side near base. Paraproct with setae of zone B long, forming transverse row; Md isolated; remaining setae of zone C forming transverse band bordering ventral surface of paraproct. Clunium with row of long setae on margin before epiproct. Ovipositor valvulae: v_3 very broad, at least 1.5X as broad as long.

Type species: **Archipsocus macrurus** New

Discussion: Badonnel **et al.** (1984) published a cladogram of relationships within Archipsocidae, in which '**Archipsocus**' **macrurus** was shown to occupy an isolated position within subfamily Pararchipsocinae. Thus, generic status was indicated. The Roraima material has allowed comparison of two species within this genus.

Notarchipsocus macrurus (New), new combination

Archipsocus macrurus New, 1973:6.

The species was described from the Mato Grosso and also recorded from Trinidad (West Indies) and Panama.

The lacinial tip and ovipositor valvulae differ somewhat from those illustrated by New, and figures are included (Figs. 233, 234). The clunial setal row at the base of the epiproct was illustrated by Badonnel (1983, Fig. 26).

Material examined. Rafael ≠ 1, 2 ♀.

Notarchipsocus fasciipennis new species

Diagnosis. Similar to **N. macrurus**, differing in having colorless band across forewing in middle, subgenital plate more protruding at tip, more than twice as many macrochaetes on edge of clunium before epiproct, other details of terminal abdominal segments.

Female measurements. FW 1694, HW 1433, F 414 (F+Tr 539), T 634, t_1 120, t_2 109, Sc 47, P 85, f_1 186, f_2 103, f_3 102, f_4 96, f_5 90, f_6 91, f_7 81, f_8 80, f_9 78 (f_{10-11} missing) IO 469, d 158, P_4 114.

Female color. Compound eyes black; remainder of head medium brown, somewhat paler towards posterior margin of vertex. Antennae pale brown. Thorax medium brown dorsally, somewhat darker on sides with scattered reddish brown pigment above leg bases. Legs with femora pale brown, tibiae and tarsi white. Forewing (Fig. 235) extensively medium brown but with extensive basal region colorless, out to nodulus on hind margin, nearly colorless band across wing from pterostigma to areola postica. Hindwing uniformly pale brown. Abdominal color not discernible.

Female strucutural characters. Macropterous, ocelli well developed. In antenna f_1 2.2 P $f_2 + f_3$; f_1 with 2 sensilla close together in basal one-third. Lacinial tip (Fig. 236) with lateral cusp prominent, pointed, median cusp shorter, spatulate; a broad denticle between cusps. Wings normal for genus (Figs. 235, 237); venation distinct in basal two-thirds of forewing. Subgenital plate (Fig. 238) with posterior margin decidelly protruding in middle; anterior emargination moderate. Ovipositor valvulae (Fig. 239) with v_2 relatively broad at base, acuminate apically; v_3 very broad, with 28/28 marginal setae, most median marginal seta slightly more than half length of next one. Epiproct (Fig. 240) tapering to short apical turret; 2 long setae near base on each side. Paraproct (Fig. 240) with single D seta with well developed basal floret; zone B with row of 5/5 setae; zone C with large number of densely placed setae in band bordering ventral margin. Clunial margin before epiproct with 28 macrosetae (mostly missing, represented only by sockets, on specimen).

Holotype. ♀, Rafael ≠ 1.

Note. New (1973) mentioned finding specimens with the wings marked as in this species but did not find differences in other features.

Subfamily Archipsocinae

Genus **Archipsocus** Hagen

Badonnel (1976, 1978) and New (1973) have proposed characters which allow a classification of the included species. A tentative classification is offered here. Only Western Hemisphere species are assigned, and in one case, data do not suffice for assigment.

Group 1. Flagellar diagram saw-toothed (i.e., alternating longer and shorter segments); male 10th abdominal tergum laterally with field of heavy setae or spines; phallosome truncated apically, open basally **A. cayennensis** New, **A. castrii** Badonnel, **A. enderleini** New, A. **gibberophallus** New, **A. lenkoi** Badonnel, **A. newi** Badonnel, **A. panama** Gurney, **A. pearmani** New.

Group 2. Flagellar diagram smooth, i.e., $f_1 - f_{10}$ subequal in length; male 10th abdominal tergum without field of heavy setae or spines; phallosome usually rounded apically, usually (some exceptions) closed basally.

Subgroup A. With combination $t_1 > t_2$, $P < f_1 \cong f_2 + f_3$. A **mockfordi** New, **A. tenebricosus** New, **A. broadheadi** Badonnel.

Subgroup B. With $t_1 < t_2$.

Infrasubgroup b-a. With $P > f_1$. **A. brazilianus** Enderlein, A. **cervinus** New, **A.**

costalimai New, **A. gurneyi** Mockford, **A. minutillus** New, **A. floridanus** Mockford, **A. modestus** New, **A. nomas** Gurney, **A. granulosus** Badonnel, **A. lineatus** New, **A. indentatus** n. sp.

Infrasubgroup bb. With P $\leq f_1$. **A. nadleri** New, **A. badonneli** New, **A. vittatus** New.

Species **incertae sedis**. **A.venezuelensis** New.

Group I

Archipsocus castrii Badonnel

A. castrii Badonnel, 1978:179.

This species was described from São Paulo. The Roraima material agrees well with described female morphological characters and measurements. Color is not well preserved in the Roraima specimens.

Material examined. Rafael ≠ 1, 4 ♀.

Group II-A

Archipsocus mockfordi New

A. mockfordi New, 1973:72.

The species was reported by New from Surinam, Venezuela, Peru, Trinidad (West Indies), and Brazil (Belém, São Paulo, Mato Grosso) and by Badonnel (1983) from Panama. The Roraima specimens agree well with New's description and figures.

Material examined. Rafael ≠ 1, 1 ♂, 7 ♀M, 1 ♀m.

Group II-B-a

Archipsocus gurneyi Mockford

A. gurneyi Mockford, 1953:120.

This species was described from Florida and was recorded from Jamaica, but has not been found previously in South America.

Material examined. Rafael ≠ 1, 4 ♀.

Archipsocus minutillus New

A. minutillus New, 1973:91.

The species was described from the Mato Grosso. The specimens from Roraima agree in measurements, color, and phallosome shape with the original description, but the subgenital plate (micropterous females) has a shallower anterior emargination and protrudes more posteriorly (Fig. 241), and v_2 is blunt-tipped.

Material examined. Rafael ≠ 1, 1 ♂, 3 ♀.

Archipsocus indentatus new species

Diagnosis. Sharing distinctive cololation of **A. lineatus** New but differing in having deep indentation of subgenital plate.

Male measurements. F 209 (Tr+F 274), T 311, t_1 54, t_2 71, Sc 27, P 55, f_1 46, f_2 24, f_3 27, f_4 29, f_5 29, F_6 31, f_7 32, f_8 27, f_9 26, f_{10} 26, f_{11} 58, P_4 472.

Male color. Compound eyes black; remainder of head with vertex and frons pale brown, genae and postclypeus medium brown. Thorax pale creamy brown dorsally, dark brown laterally. Legs and antennae white. Abdomen with preclunial segments pale creamy brown dorsally and ventrally, dark reddish brown laterally; terminal segments variegated medium brown and dark reddish brown.

Male strucutural characters. Micropterous, without ocelli. Lacinial tip (Fig. 242) with lateral tine prominent; a low, rounded denticle between median and lateral tines; median tine short. In antenna P $\cong$ 0.8 (f_1 + f_2), f_1 $\cong$ f_2 + f_3; f_1 with 1 sensillum about one-third distance from base, another before apex. Fore winglet minute, extending only slightly beyond mesothorax, bearing a subapical seta. Hind winglet apparently absent. Hypandrium with moderate concentration of long setae laterally on and near hind margin. Phallosome (Fig. 243) with struts joined basally by membrane; external parameres distinct and bearing several pores; aedeagal arch thickened throughout broad region in middle; endophallus discernible. Paraproct (Fig. 244): zone A with 1 D seta; zone B with La + 1/2 setae; zone C with 5/6 setae. Epiproct (Fig. 244).

Female measurements. FW 93, F 260 (Tr+F 337), T 391, t_1 64, t_2 74, Sc 27, P 68, f_1 60, f_2 28, f_3 30, f_4 32, f_5 34, f_6 34, f_7 33, f_8 35, f_9 33, f_{10} 30, f_{11} 64.

Female color. As described for male.

Female structural characters. Micropterous; ocelli developed as 2 small black spots. Lacinial tip and antenna as described for male except both sensilla of f_1 close together near apex. Fore winglet slender, reaching nearly to hind margin of metathorax. Hind winglet minute, pointed. Subgenital plate (Fig. 245) with pigmented area distinct.

its anterior emargination deep, its sides rounded. Ovipositor valvulae (Fig. 246): v_2 acuminate-tipped; v_3 with 13/11 M setae, 5/6 L setae (Badonnel 1976). Paraproct (Fig. 247): zone A with 1D seta; zone B with La plus 2/1 setae; zone C with 14/12 setae. Epiproct normal for genus.

Holotype. ♀, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 2 ♂ (allotype, INPA, paratype, ELM), 1 nymph.

Group II-B-bb

Archipsocus sp.

Three female specimens in a poor state of preservation appear to represent category II-B-bb.

Material examined. Rafael ≠ 1, 3 ♀.

Genus **Archipsocopsis** Badonnel

Archipsocopsis inornata New

A. inornata New 1973:94.

This species was described from the Mato Grosso and was recorded from several other Brazilian localities, as well as Surinam, Venezuela, Trinidad (West Indies), and Panama.

Material examined. Rafael ≠ 1, 2 ♀ M.

Archipsocopsis virgata New (?)

A. virgata New, 1973:96.

Three females represent either this species or an undescribed one very close to it. They agree with the description in color, wing shape and venation, and subgenital plate shape. A dissected macropterous female has 5 setae on the epiproct, the middle seta being than others. Paraproctal setae: zone A, 1; zone B, 3, zone C, 8/7. Measurements (μm) are somewhat different, with T = 322, t_1 = 57, f_3 = 49, f_{11} = 62, otherwise very similar. These differences can probably be attributed to geographic variation in this rather wide-ranging species. It has been recorded from Belém in Brazil, as wellas Venezuela, Surinam, and French Guiana.

Material examined. Rafael ≠ 1, 2 ♀M, 1 ♀m.

Family Lachesillidae

Genus **Lachesilla** Westwood

Pedicularia group (Garcia Aldrete, 1974)

Lachesilla aethiopica Enderlein

Pterodela pedicularia var. aethiopica Enderlein, 1902:11
Lachesilla aethiopica (Enderlein), Badonnel, 1949a:53.

This species, originally described from tropical Africa, was recorded by Badonnel & Garcia Aldrete (1980 or 1984) from Nova Teutonia, Santa Catarina, Brazil, as well as Costa Rica, Guatemala, Belize, Mexico, Jamaica, Dominican Republic, and Puerto Rico.

Material examined. Rafael ≠ 1, 2 ♀.

Lachesilla acuminata new species

Diagnosis. Differing from all other described species of the genus in having subgenital plate prolonged posteriorly as elongate tongue, ovipositor valvula terminating in long, acuminate point. Probably closest to species "p-4" and "p-6" illustrated by Garcia Aldrete (1974).

Female measurements. FW 1625, HW 1249, F 305, T 581, t_1 230, t_2 88, $t_1$ct 19.

Female color. (Head missing). Thorax and legs apparently medium reddish brown. Wings clear, unmarked, forewing with slight reddish brown wash, somewhat darker along distal end of pterostigma, distal end of areola postica and distal ends of Rs and M branches; in forewing, at rest wing catch, distal end of vein R_1, and nodulus dark reddish brown. Abdominal color not discernible from specimen.

Female structural characters. Pretarsal claw (Fig. 248) with pulvillus slender, slightly flexuous, expanded at tip. Forewing (Fig. 249) with Rs-M junction a short fusion; cell R_3 decidedly constricted beyond basal swelling; forewing and hindwing otherwise normal for genus. Subgenital plate (Fig. 250) as described in diagnosis; distal tongue setose, primarily on sides, truncated apically; base of plate bearing pair of small crescentic sclerotizations. Ovipositor valvulae (Fig. 251) as described in diagnosis. Epiproct and paraproct slightly elongate, with setae primarily at distal end; paraproctal sensorium with 9 sensilla including 1 in latero-basal corner lacking floret.

Holotype. ♀, Rafael ≠ 1.

Bicornata group

(= H group of Garcia Aldrete, 1974)

Lachesilla bicornata New & Thornton

L. bicornata New & Thornton, 1975:43.

The species was described from the Mato Grosso. The specimen differs from the male figured by New & Thornton in that the strut of the phallosome does not expand but tapers to a point anteriorly.

Specimen examined. Rafael ♂ 1, 1 ♂.

Discussion. **L. bicornata** clearly belongs to the species group designated H by Garcia Aldrete (1974). The single species assigned to the group by that author, designated H-1, remains undescribed and is from southern Brazil. It is likely that **L. amarilla** New, **L. capreola** New, and **L. palmera** New, described from palms in the Mato Grosso, also belong to this species group.

Forcepeta group (Garcia Aldrete, 1974)

Lachesilla denticulata new species

Diagnosis. With characters of the group, differing from other described species in having small denticles on median margin of clasper shaft.

Male measurements. FW 1743, HW 1315, F 339, T 618, t_1 213, t_2 90, $t_1$ct 20, IO 234, d 141.

Male color. Discernible only on wings due to poor preservation. Forewing clear, unmarked, with slight brown wash. Hindwing same.

Male structural characters. Pretarsal claw with pulvillus relatively broad, bent near base, expanded at tip. Forewing (Fig. 252) with Rs-M junction at a point, both wings otherwise normal for genus. Hypandrium (Fig. 253) curved on hind margin, slightly concave on anterior margin, sparsely ciliated. Phallosome (Fig. 253) with struts fused as simple rod forked near distal end; each prong of fork bearing broad, triangular blade. Clasper (Fig. 254) loosely attached to hypandrium along base; shaft curved outward, slender, tapering to blunt tip; denticles along median margin of shaft for about three-quarters of length from base. Paraproct with compact sensorium including 10/11 sensilla with one on lateral edge lacking basal rosette; small raised area on median margin (Fig. 255). Epiproct (Fig. 256) moderately wide transversely, with bilobed raised area in middle. Clunial edge slightly emarginate before epiproct.

Female measurements. FW 1820, HW 1436, F 356, T 673, t_1 209, t_2 91, $t_1$ct 17, IO

380, d 123.

Female color. Compound eyes black; ocellar field colorless; remainder of head pale brown marked with medium brown: 4 bands lengthwise through vertex, 2 bordering compound eyes, 2 bordering median ecdysial line, continuing around ocellar field to postclypeus; band from each of latter bands before ocellar field extending to compound eye above antennal base; another band from lower edge of compound eye to lower edge of antennal base. Thorax medium brown; legs pale brown; wings as described for male. Abdomen with scattered dark reddish brown subcutilar pigment, perhaps forming segmental rings in well preserved specimens; most of abdomen pale brown.

Female structural characters. Lacinial tip (not illustrated) with high lateral, low median tine. Pretarsal claw and wing venational characters as described for male. Subgenital plate (Fig. 257) with flat posterior margin bordered by rounded shoulders, base broad; lacking pigmentation. Ovipositor valvula (Fig. 258) a broad flap bent medially near its base, bearing scattered setae, some relatively long. Spermapore plate papillate (Fig. 259). Epiproct and paraproct as described for male except lacking raised areas.

Holotype. ♂, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 2 ♀ complete (allotype, INPA, paratype ELM) 1 ♀ head and prothorax.

Lachesilla garciai new species

Diagnosis. With characters of the group, differing from **L. denticulata** in lacking denticles on clasper shaft, from **L. nevermanni** Navás (re-described by New, 1976) in lacking squared shoulders on bases of claspers and in having much broader blades at distal end of phallosome. Differing from the described North American species with outcurved claspers in having claspers swollen and spoon-like distally.

Male measurements. FW 1696, F 352, T 631, t_1 225, t_2 97, $t_1$ct 20.

Male color. (Head missing). Thorax medium brown. Legs pale brown. Wings clear, unmarked, forewing with slight brown wash. Abdominal color not discernible from specimen.

Male structural characters. Pretarsal claw (Fig. 260) with pulvillus relatively wide, slightly swollen and bent near base, expanded at tip. Forewing (Fig. 261) with Rs-M junction a fusion for short distance/at a point; wings otherwise normal for genus. Hypandrium (Fig. 262) weakly sclerotized, slightly convex distally, slightly concave basally, with sparse setae. Phallosome (Fig. 262) with distal blades broad, each tapering to point laterally. Clasper (Fig. 262) gradually tapering from base to shaft, expanded at tip with spoon-like depression on medial surface. Epiproct transverse, setose in distal half. Paraproct with thickened region on median surface; sensorium with 12/11

sensilla including 1 in baso-lateral corner without basal floret.

Holotype. ♂, Rafael ≠ 1.

Lachesilla megaforcepeta new species

Diagnosis. With characters of the group. Close to **L. nevermanni** (redescribed by New, 1976) but with claspers very large, phallosome blades not extending to bases of clasper shafts.

Male measurements. FW 2159, HW 1610, F 515, T 872, t_1 290, t_2 114, $t_1$ct 19, f_1 303, IO 357, d 151.

Male color. Not well preserved in specimen. Compound eyes black; remainder of head apparently pale to medium brown. Thorax dark brown on notal lobes, creamy yellow between lobes; pleura and legs pale brown. Wings clear, unmarked, with pale brown wash. Abdomen with preclunial segments pale brown in about basal half, becoming darker distally; terminal segments dark brown, claspers darkest.

Male structural characters. Lacinial tip (not illustrated) with high lateral and relatively high median tine. Pretarsal claw (Fig. 263) with pulvillus relatively slender, bent near base, expanded at tip. Forewing (Fig. 264) with long Rs-M fusion; no constriction in basal half of cell R_3; forewing and hindwing otherwise normal for genus. Hypandrium (Fig. 265) of two segments, heavily sclerotized and densely ciliated in distal segment, more lightly sclerotized and sparsely ciliated in basal segment; distal segment concave on distal margin. Phallosome (Fig. 265) with basal strut slightly curved; distal blades broad, heavily sculptured. Claspers (Fig. 265) very large, shafts heavy, denticulate at tips. Epiproct (Fig. 266) transverse, well sclerotized, ciliated in distal half. Paraproct (Fig. 266) well sclerotized in dorsal half; sensorium with 14/13 sensilla, all with basal florets.

Holotype. ♂, Rafael ≠ 4.

Lachesilla sp.

A single female specimen in very bad condition is thought to belong to this species group. It may represent one of the species described above from the male.

Specimen examined. Rafael ≠ 1, 1 ♀.

Genus **Notolachesilla** Mockford & Sullivan

A single species has been described in this genus, **N. avispana** Mockford & Sullivan, from Madre de Dios Province, Peru.

Notolachesilla maracana new species

Diagnosis. With characters of the genus. Differing from **N. avispana** Mockford & Sullivan primarily in having base of phallosome membranous, clunial projections relatively shorter and broader.

Male measurements. FW 2243, HW 1762, F 691, T 1080, t_1 474, t_2 129, $t_1$ct 26, f_1 590, IO 264, d 202.

Male color. Not discernible from specimen except wings clear, unmarked, with slight brown wash.

Male structural characters. Lacinial tip (Fig. 267) as in **N. avispana** but lateral tine somewhat shorter. Forewing (Fig. 268) with venation and ciliation as in **N. avispana**. Hindwing with venation normal for family, lacking setae. Hypandrium (Fig. 269) with posterior margin gently curved (result of preparation?), ciliation similar to that of **N. avispana**. Phallosome (Fig. 270) with base broad, membranous; bases of aedeagal arch heavy; otherwise as in **N. avispana**. Processes of clunial shelf over base of epiproct (Fig. 271) with warty surfaces. Epiproct as in **N. avispana**, likewise paraproct except 18/18 sensilla in sensorium including 1 in each without basal floret.

Holotype. ♂, Rafael ≠ 3.

Genus **Peripsocus** Hagen

Twenty-seven species of this genus are previously known from the Western Hemisphere. Although Thornton & Wong (1968) proposed species groups for 9 species of the Pacific basin, these require more information than is available for some of the Western Hemisphere species. On that account, and in absence of a more comprehensive classification, the following artificial one is proposed. It is likely that some close relatives are separated to different taxa in this system. On that account, diagnoses are extended to compare presumed close relatives in other groups.

Group I. Forewing marked with distinct pattern, always involving some colorless spots surrounded by pigmented membrane or colorless band(s) across wing in its basal half.

Subgroup A. Forewing with colorless bands (i.e. extending to wing margin) but no colorless spots (i.e., surrounded by darker pigment). Male clunial adornment one or more rows of denticles. **P. nigrescens** Williner, **P. madidus** Hagen, **P. pauliani** Badonnel, **P. reductus** Badonnel, **P. quadrifasciatus** (Harris), **P. nubifer** n. sp.

Subgroup B. Forewing with colorless spots (**alboguttatus** group of Mockford, 1971). **P. alboguttatus** (Dalman), **P. alachuae** Mockford, **P. maculosus** Mockford, **P. madescens**

(Walsh), **P. monticola** Mockford, **P. potosi** Mockford, **P. teutonicus** Mockford, **P. minimus** Mockford, **P. australis** Mockford.

Group II. Forewing clear, or uniformly gray or brown washed, or, if spotted or banded, pattern usually consisting of darker marks surrounded or bordered by paler membrane. Colorless spots, if present, confined to cells of distal wing margin.

Subgroup A. Forewing essentially colorless or with slight pigmentation in pterostigma. **P. juniperi** Turner, **P. incoloratus** Turner.

Subgroup B. Forewing essentially uniform gray or brown. **P. weinigeri** Turner, **P. chekei** Turner, **P. chamelanus** Badonnel, **P. tristis** n. sp., **P. subtristis** n. sp., **P. placidus** n. sp.

Subgroup C. Forewing with darker spots or bands on less pigmented background. **P. dolichophallus** Badonnel, **P. longivalvus** Badonnel, **P. incertus** Badonnel, **P. peruanus** Banks, **P. stagnivagus** Chapman.

Group III. Without forewings. **P. terricolis** Badonnel.

Species **incertae sedis**. **P. minutus** Banks, **P. nebulosus** Navás.

Peripsocus tristis new species

Diagnosis. Member of II-B, differing from **P. chamelanus** in shape of subgenital plate; differing from all other members of the category in much longer v_2 and much shorter v_3: Similar to **P. australis**, differing in complete lack of pattern on forewing.

Female measurements. FW 2015, HW 1533, F 324, T 634, t_1 175, t_2 97, $t_1$ct 15, F_1 213, IO 344, d 94.

Female color. Compound eyes and ocellar field black; remainder of head creamy white except medium brown along median ecdysial line, median borders of compound eyes, and on postclypeus. Antennae and legs pale brown. Thorax medium brown on heavily sclerotized areas, creamy yellow to pale brown on remainder. Wings uniformly pale brown. Abdominal color poorly preserved; preclunial segments probably with purplish brown segmental rings, incomplete ventrally, on pale brown blackground; terminal segments medium to dark brown.

Female structural characters. Forewing (Fig. 272) with basal bulge or cell R_5 symmetrical antero-posteriorly; the cell strongly constricted in middle; forewing otherwise, and hindwing, normal for genus. Subgenital plate (Fig. 273) with relatively long, sparsely setose distal process; setae of base largely concentrated in row along base of

each pigmented arm; arms short, directed forward. Ovipositor valvulae (Fig. 274): v_1 long with distal process curved upward; v_2 slightly exceeding tip of v_1, with field of setae in distal one-fourth; v_3 a short, triangular setose flap. Epiproct and paraproct normal for genus.

Holotype. ♀, Rafael ≠ 1.

Peripsocus subtristis new species

Diagnosis. Member of category II-B, differing from **P. tristis** and **P. chamelanus** in shape of subgenital plate, from **P. chekei** and **P. weinegeri** in relatively much shorter v_3.

Female measurements. FW 1725, HW 1336, F 388, T 660, t_1 148, t_2 87, $t_1$ct 11, f_1 204, f_2 148, f_3 134, IO 262, d 120.

Female color. As described for **P. tristis** except antennae and legs medium brown, preclunial abdominal segments uniformly purplish brown.

Female structural characters. Forewing (Fig. 275): basal bulge of cell R_5 slightly greater anteriorly than posteriorly; forewing otherwise, and hindwing normal for genus. Subgenital plate (Fig. 276) with short, slightly bilobed distal process, sparsely setose over distal half; base with pigmented arms broadly joined in middle, each with pointed "tail" trailing forward. Ovipositor valvulae (Fig. 277): v_1 relatively stout, blunt-tipped; v_2 relatively short and broad, with apical setose field; v_3 short, rounded, its setae mostly on and near lateral margin. Epiproct and paraproct normal for genus.

Holotype. ♀, Rafael ≠ 1.

Peripsocus placidus new species

Diagnosis. Member of category II-B, differing from **P. tristis**, and **P. subtristis** in shape of subgenital plate, from **P. chekei** and **P. weinigeri** in much larger number of setae on v_2 (15/16 vs 4). Probably close to **P. stagnivagus**, differing in having forewing completely uniform in color, pigmented arms of subgenital plate curved, not straight.

Female measurements. FW 1749, HW 1357, F 272, T 563, t_1 153, t_2 93, $t_1$ct 13, f_1 149, f_2 124, f_3 117, IO 235, d 141.

Female color. As described for **P. tristis** except preclunial abdominal segments uniformly pale grayish brown.

Female structural characters. Forewing (Fig. 278): basal bulge of cell R_5 greater posteriorly than anteriorly; veins of Rs fork slightly flexuous; forewing otherwise, and hindwing, normal for genus. Subgenital plate (Fig. 279) with distal process short, wide, bilobed, each lobe at tip with 4/3 long setae plus 4/5 shorter ones; base with distinct,

separated pigment arms curving antero-laterally to slender tips. Ovipositor valvulae (Fig. 280): v_1 slender, straight, acuminate apically; v_2 short, broad, apex with 15/16 long setae in row; v_3 slightly over half length of v_2, setae of outer margin each on apex of small protuberance. Paraproct (Fig. 281) with bilobed median margin. Epiproct normal for genus.

Holotype. ♀, Rafael ≠ 1.

Peripsocus nubifer new species

Diagnosis. Member of category I-A, differing from **P. nigrescens** and **P. quadrifasciatus** by much paler pigmented bands and spots on forewing, from **P. madidus** by having pigment spot in base of cell R_5, from **P. pauliani** and **P. reductus** in details of forewing markings and shape of pigmented arms of subgenital plate.

Female measurements. FW 1841, HW 1399, F 318, T 598, t_1 156, t_2 95, $t_1$ct 15, f_1 196, f_2 151, IO 292, d 127.

Female color. Compound eyes and ocellar field black; remainder of head creamy yellow except pale brown along median ecdysial line, median border of each compound eye, reticulate marking in upper-middle region of fronto-postclypeus; labrum dark brown. Antennae medium brown. Thorax with lateral mesonotal lobes and all of metanotum dark brown; remainder of thorax pale brown except mesepimeron dark brown. Forewing (Fig. 282) with clear and pale brown areas: pela brown spot covering distal end of cell R_1, bases of cells R_1 and M_3; another in middle of cell Cu_1, another in base of cell R_5; pale brown band covering distal end of wing from cell R_1 to cell M_3. Hindwing clear, unmarked. Abdomen with preclunial segments uniformly medium, slightly purplish, brown; terminal segments dark brown.

Female structural characters. Forewing (Fig. 282): basal bulge of cell R_5 almost symmetrical antero-posteriorly; veins of Rs fork straight. Subgenital plate (Fig. 283) with distal process short, bilobed, setose in distal half; base with pigmented arms broadly joined in middle, tapering to narrow tips antero-laterally. Ovipositor valvulae (Fig. 284): v_1 relatively broad in middle, tip acuminate; v_2 short, wide, with 10/11 apical setae; v_3 subquadrate, about two-thirds length of v_2, setae of outer margin not on protuberances. Paraproct and epiproct normal for genus.

Holotype. ♀, Rafael ≠ 1.

Family Psocidae
Subfamily Psocinae

Genus **Trichadenotecnum** Enderlein

Several of the Western Hemisphere species which have been assigned to this genus

really belong in the genera **Loensia**, **Ptycta**, and **Psocomesites**. The species of true **Trichadenotecnum** appear to be **T. alexanderae** Sommerman, **T. castum** Betz, **T. desolatum** (Chapman), **T. innuptum** Betz, **T. slossonae** (Banks), **T. merum** Betz, and **T. unum** Sommerman from North America; **T. decui** Badonnel and **T. gonzalezi** (Williner) from South America, and **T. circularoides** Badonnel, now recorded from both continents.

Within this assemblage of 'true **Trichadenotecnum**', several species clusters can be seen. **T. alexanderae**, **T. castum**, **T. merum**, and **T. innuptum** form one. **T. circularoides** and **T. gonzalezi** form a second (discussed below). **T. desolatum**, alone, appears to form a third. **T. decui**, **T. slossonae**, and **T. unum** appear to form a fourth.

Trichadenotecnum circularoides Badonnel

T. circularoides Badonnel, 1955:229.

The species was first described from Angola, and later was recorded from southeastern United States. This is apparently the first record from South America.

Wing venation and marking are essentially identical to those of **T. gonzalezi** (Williner). The differences in the two species appear to be: 1) background color of forewing of **T. circularoides** is darker, 2) the subgenital plate of **T. circularoides** is slightly bilobed apically versus flat in **T. gonzalezi** (Fig. 285), 3) the space between the pigmented arms of the subgenital plate is much broader in the apical region in **T. circularoides** than in **T. gonzalezi** (Fig. 285), 4) v_1 is relatively shorter in **T. circularoides** than in **T. gonzalezi** (Fig. 286).

Specimen examined. Rafael ≠ 1, 1 ♀.

Trichadenotecnum gonzalezi (Williner), new combination

Psocus gonzalezi Williner, 1945:235.

The species was described from Misiones, Argentina. Genitalic characters have not been described, and the subgenital plate (Fig. 285) and ovipositor valvulae (Fig. 286) are illustrated here. Differences from the very similar species **T. circularoides** Badonnel are noted under that species.

Material examined. Rafael ≠ 1, 2 ♀.

Trichadenotecnum decui Badonnel

T. decui Badonnel, 1987:177.

The species was described from Venezuela and was hitherto known only from the female. The male is described below. In wing marking it differs from the female only in having a few addtional spots distally in cell R and in basal half of cell R_1.

Male measurements. FW 2222, HW 1720, F 395, T 796, t_1 259, t_2 99, $t_1$ct 16, f_1 420, f_2 400, f_3 360, IO 178, d 292.

Male color. Compound eyes and ocellar field black; remainder of head pale brown except dark brown along hind margin, broad border of median ecdysial line, narrow borders of lateral ecdysial lines, genae, and ventro-median region of postclypeus. Thorax variegated pale and medium brown dorsally, pale brown on sides with two longitudinal dark brown bands: a broad one below wing bases, a narrower one above leg bases. Coxae dark brown; rest of leg (hindleg only present) dark on trochanter and femur, pale brown on tibia with darker ring near distal end; tarsus medium brown. Forewing (Fig. 287) marked with complex pattern. Hindwing clear, unmarked except for grayish brown clouding along anterior margin and distal ends of Rs fork veins. Abdomen with preclunial segments medium brown with slight purple tinge; terminal segments dark brown.

Male structural characters. Forewing (Fig. 287) as in female. Hypandrium (Fig. 288) symmetrical, distal segment with central clear area bearing long, slender tongue with denticulate surface; distal end of segment a pair of rounded lobes subtended by pair of pointed processes; hypandrium moderately ciliated over basal segment and basal half of distal segment. Phallosome (Fig. 289) a broad hexagonal ring drawn out as short apodeme anteriorly and with two short processes posteriorly. Clunial arms large, heavily sclerotized, broadened and denticulate on apex (Fig. 290). Paraproct normal for genus, i.e. articular area short, weak; sensorium near base; distal process acuminate, bearing 1 large seta. Epiproct (Fig. 291) slightly bilobed anteriorly, bluntly pointed, with few setae posteriorly.

Specimen examined. Rafael ≠ 1, 1 ♂.

Subfamily Cerastipsocinae
Tribe Cerastipsocini

Genus **Psococerastis** Pearman

Psococerastis callangana (Enderlein)

Complete synonymy in Mockford, 1981:257.

The species was originally described from Peru and was re-described by Mockford (1981), who added records from Brazil (Manaus, Rio de Janeiro, Pedra Azul, Caruaru, Nova Teutonia), Panama, Trinidad (West Indies), and a new Peruvian locality.

Material examined. Rafael ≠ 1, 1 ♂; Rafael ≠ 2, 1 ♂.

Psococerastis fasciata Mockford, emended name

Psococerastis faciata [sic] Mockford, 1981:260.

The species has been recorded from Belize, several localities throughout Brazil, southern Mexico, and Panama.

Material examined. Rafael ≠ 1, 1 ♂, 4 ♀.

Psococerastis opulenta (Navás)

Complete synonymy in Mockford 1981:270.

The species has been recorded from several localities throughout Brazil south to São Paulo, also Colombia, French Guiana, southern Mexico, Panama, Surinam, Trinidad (West Indies), and Venezula.

Material examined. Rafael ≠ 1, 1 ♂, 4 ♀.

Genus **Dactylopsocus** Roesler

This genus was originally assigned subgeneric status in **Cerastipsocus** by Roesler (1940b) and later raised to generic status (Mockford, 1981). It contains one previously described species, **D. fumigatus** (Kolbe), known from central and southern Brazil.

Dactylopsocus similis new species

Diagnosis. Differing from single described species, **D. fumigatus** (Kolbe), in details of subgenital plate (Fig. 292 vs. 297), fewer elongate setae across distal end of female epiproct (4 vs. 8), shape of spermapore sclerite (Fig. 293 vs. 298).

Female measurements. FW 5597, HW 3803, F 1386, T 2116, t_1 588, t_2 227, $t_1$ct 24, f_1 1376, f_2 1421, f_3 1279, 10 637, d 238.

Female color. Compound eyes and ocellar field black; remainder of head orange-yellow with slender purplish brown striations on postclypeus. Antenna with scape and pedicel orange-yellow, flagellum black. Thorax with median mesonotal lobe dark brown, other notal lobes medium brown, region between lobes orange-yellow; sides variegated orange-yellon and medium brown. Legs (represented by one hindleg) orange-yellow from base nearly to tip of tibia, from there to end of tarsus dark brown. Forewing clear with brown wash, unmarked except pterostigma orange-yellow. Abdomen with preclunial segments orange-yellow ventrally, variegated orange-yellow and pale purplish brown dorsally; terminal segments dark brown variegated with orange-yellow.

Female structural characters. Forewing (Fig. 294): Rs-M junction at point; R_{2+3} curving anteriorly in middle; $M+Cu_{1a}$ section of fore margin of areola postica about 3X length of Cu_{1a} section. Subgenital plate (Fig. 292) with slender stem of T design about 1.5X as long as its least width; cross-piece of T with scattered setae not forming distinct rows; lateral areas of cross-piece subquadrate. Spermapore sclerite (Fig. 293)

weakly pigmented, broad across spermapore area. Ovipositor valvulae (Fig. 295) with v_2 acuminate distally, otherwise normal for tribe. Epiproct (Fig. 296); paraproct normal for tribe.

Holotype. ♀, Rafael ≠ 2.

Tribe Metylophorini

Genus **Metylophorus** Pearman

Nine species have been described previously from the Western Hemisphere, excluding those of **Ophthalmopsocus** Roesler, here treated as a separate genus.

To facilitate comparisons, the following artificial classification is proposed.

Group I. Hypandrium symmetrical. **M. yanesi** Badonnel (Mexico), **M. denticulatus** (Enderlein) (Paraguay, Brazil), **M. symmetricus** n. sp.

Group II. Hypandrium asymmetrical.

Subgroup A. Phallosome broad at tip. **M. purus** (Walsh) (United States), **M. ctenatus** New (Brazil), **M. hispidus** n. sp.

Subgroup B. Phallosome narrow at tip. **M. hoodi** (Chapman) (United States, Mexico), **M. novaescotiae** (Walker) (Canada, United States), **M. bishopi** New (Brazil), **M. calcaratus** n. sp.

Group III. Only females known. Distal lobe of subgenital plate, v_1 and v_2 very long. **M. fasciatus** New (Brazil), **M. pallidus** New (Brazil).

Metylophorus calcaratus new species

Diagnosis. Member of category II-B, differing from the other species of category in details of hypandrium.

Male measurements. FW 5386, HW 3401, F 1319, T 2328, t_1 861, t_2 227, $t_1$ct 36, 10 636, d 254.

Male color. Compound eyes and ocellar field black; remainder of head dark brown dorsally, pale to medium brown ventrally with dark brown labrum and slender purplish brown striations on postclypeus. Thorax mostly dark brown dorsally, paler around wing bases; sides medium to pale brown. Coxae medium brown; femora medium brown dorsally, yellow ventrally; tibiae dusky yellow in basal half, black distally; tarsi black. Wings clear, unmarked except pterostigma dark brown around edges and over distal half, pale

brown in basal half. Abdominal color not discernible except well sclerotized regions of terminal segments dark brown to black.

Male structural characters. Forewing (Fig. 299) with moderate Rs-M crossvein; areola postica high. Hypandrium (Fig. 300) with two short, pointed processes on right, three on left; distally with a rounded, unpigmented, spinulose lobe on right, a pointed process medial to it, another pointed process on left. Phallosome (Fig. 301) a closed ring, broad basally, curved left in distal half; apex narrow, blunt, heavily sculptured; endophallus bilobed, with scaly surface. Clunium extended as simple, truncated shelf over base of epiproct (Fig. 302). Epiproct semi-circular. Paraproct with elongate sensorium; distal process acuminate; distal end of paraproct rounded, partially papillate (Fig. 303).

Holotype. ♂, Rafael ≠ 2.

Metylophorus hispidus new species

Diagnosis. Member of category II-A, differing from both other included species by having band of denticles running length of hypandrium.

Male measurements. FW 3832, HW 2743, F 817, T 1538, t_1 537, t_2 184, $t_1$ct 27, f_1 818, I0 467, d 257.

Male color. Compound eyes black; ocellar field dark brown; rest of head dusky brown dorsally, paler brown ventrally except labrum and narrow clypeal striations dark brown. Antennal scape and pedicel medium brown, flagellum black. Thorax dark brown dorsally but with pale brown spot in middle of mesonotum; sides medium to dark brown. Legs dark brown. Forewing (Fig. 304) clear, unmarked, except bases dusky brown. Preclunial abdominal segments pale brown with faint purplish brown rings. Terminal segments dark brown to black.

Male structural characters. Forewing (Fig. 304): pterostigma rounded posteriorly; Rs-M junction a short fusion; areola postica narrow. Hypandrium (Fig. 305) with ridge beset with several rows of denticles running entire length in left half; distal margin of hypandrium with several lobes. Phallosome (Fig. 306) closed frame with somewhat narrowed, rounded anterior end, expanded middle; asymmetrical, much expanded apex. Clunium (Fig. 307) extended in middle over most of epiproct as broad, bilobed shelf. Epiproct quadrate. Paraproct (Fig. 308) with sensorium rounded; basal articular process very long; prong with finely pointed tip; distal lobe bearing heavy setae.

Holotype. ♂, Rafael ≠ 1.

Metylophorus symmetricus new species

Diagnosis. Member of category i, differing from **M. yanesi** and **M. denticulatus** by

hypandrium and phallosome being more narrow and elongate.

Male measurements. FW 4713, HW 3230, F 966, T 1768, t_1 526, t_2 218, $t_1$ct 21, f_1 1199, IO 464, d 278.

Male color. Only dark body colors and wing color suitably preserved. Compound eyes and ocellar field black; vertex with dark reticulate markings on paler background; postclypeus with fine dark brown striations on paler background. Antennal scape and pedicel medium brown, flagellum black. Thoracic notal lobes dark brown; regions between lobes and sides paler. Wings clear with brown wash, unmarked, except pterostigma brown. Preclunial abdominal segments extensively purplish brown dorsally, white ventrally; terminal segments medium to dark brown.

Male structural characters. In forewing (Fig. 309) Rs-M junction short crossvein; pterostigma angulate posteriorlly; R_{2+3} curved forward before middle; areola postica low and wide. Hypandrium (Fig. 310) bilobed distally, lobes bearing denticles apically, acuminate spinules on sides. Phallosome (Fig. 311) elongate, base weakly sclerotized, sides parallel, denticulate on outer surfaces near apex; apex a slender beak with reticulate surface, truncated at end; endophallus bilobed, surface rugose. Clunium extending over epiproct as broad shelf Epiproct truncated distally. Paraproct (Fig. 312) with sensorium elongate; articular process long; prong sharp-pointed, a lateral swelling near base of prong.

Holotype. ♂, Rafael ≠ 2.

Other material examined. Rafael ≠ 2, 2 ♂ (paratypes, 1 INPA, 1 ELM).

Genus **Ophthalmopsocus** Roesler

This genus was originally designated a subgenus of **Metylophorus**. Distinctive aspects of the external genitalia of both sexes warrant its recognition as a genus.

Opthalmopsocus pallidus (New), new combination

Metylophorus pallidus New, 1972:217.

The species was originally described from the Mato Grosso. Although the single female in the Roraima collection is somewhat teneral, it agrees with the original description in color, venational details, and external genitalia.

Specimen examined. Rafael ≠ 1, 1 ♀.

Subfamily Amphigerontiinae

Psocidus quadrisignatus (Banks)

Psocus quadrisignatus Banks, 1920:305.

Psocidus quadrisignatus (Banks), Smithers, 1967:110.

The species was originally described from Brazil and was subsequently described in greater detail from a male taken at the Reserva Ducke, Amazonas (New, 1979).

Female genitalic characters are illustrated here (Figs. 314-316). I follow Smithers & New in retaining this unusual species in the 'holding genus' **Psocidus** for the present. The subfamilial placement of the species is tentative.

Specimen examined. Rafael ≠ 1, 1 ♀.

Genus **Blaste** Kolbe

This is a large genus in great need of revision at the subgeneric and specific levels. Sixteen species have been assigned to it for Central and South America, but it is possible that some of these belong in other genera and that some assigned to other genera belong to **Blaste**. The species dealt with here have affinities either (1) with a species cluster known primarily from northern South America and Cuba (**B. macrura** New, **B. serrata** n. sp., **B. longispina** n. sp., **B. hamata** n. sp.) or (2) with a species cluster found primarily in Mexico and northern Central America (**B. caudata** n. sp.).

Blaste macrura New

Blaste (**Blastopsocidus**) **macrurus** New, 1972:201.

The species was described from the Mato Grosso. It is a true **Blaste**, s. str. not related to the African-Madagascan genus **Blastopsocidus**, and apparently belongs to a species group including **B. auricularia** Badonnel (Venezuela), **B. capricornuta** Mockford, **B. longicauda** Mockford, and **B. fasciata** Mockford (Cuba). The sclerotizations of the ninth sternum are illustrated (Fig. 317).

Material examined. Rafael ≠ 1. 5 ♀.

Blaste serrata new species

Diagnosis. Differing from other described New World species in having combination of male characters: no processes on hypandrium and only short terminal prong on paramere. Apparently in same species group as **B. macrura**.

Male measurements. FW 2643, HW 1936, F 520, T 1002, t_1 324, t_2 105, $t_1$ct 20, f_1 576, f_2 513, IO 247, d 283.

Male color. Compound eyes and ocellar field black; rest of head creamy white with medium brown borders of hind margin of compound eyes medially, and of median ecdysial line; medium brown striations of postclypeus. Antennae dark brown. Thoracic notal lobes

dark brown, regions between white to pale brown; pleura pale to medium brown. Legs medium brown. Forewing pale brown throughout, somewhat darker on pterostigma. Hindwing clear, unmarked, with pale brown wash. Abdomen pale brown on preclunial segments, medium to dark brown on terminal segments.

Male structural characters. Forewing (Fig. 318): pterostigma rounded posteriorly with well developed stigmasaum; Rs-M junction a short fusion; $M+Cu_{1a}$ margin of areola postica longer than preceding Cu_{1a} margin. Hypandrium (Fig. 319) with distal margin slightly bulging in middle;on each side a rounded, serrate-edged knob.Parameres (Fig.320) separate, straight, broadened at lateral muscle attachment; terminating distally as single lateral-projecting pointed process. Epiproct (Fig. 321) broad based, constricting in middle, truncated distally, articulating to clunium along median shelf of latter. Paraproct with sensorium near distal end; prong short, broad.

Female measurements. FW 3077, HW 2233, F 577, T 1126, t_1 362, t_2 124, $t_1$ct 24, f_1 582, f_2 533, 10 416, d 226.

Female color. Specimen somewhat teneral, apparently colored as in male.

Female structural characters. Forewing as described for male except pterostigma slightly more angulate, Rs-M junction a short crossvein. Subgenital plate (Fig. 322) with distal process relatively short, about 2.5X as long as wide; pigmented arms of base indistinct, only slightly enlarged at ends. Ninth sternum with concentric arches around spermapore (Fig. 323). Ovipositor valvulae (Fig. 324); v_1 slender, executing wide curve from attachment point; v_2 very long, far exceeding end of v_1; tip blunt, spinose.

Holotype. ♂, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 1 ♀ (allotype); terminal abdominal segments of 1 ♂.

Note. Association of the sexes is tentative, based on similarity of size, color, and wing venation.

Blaste longispina new species

Diagnosis. In same species group as **B. macrura** and **B. serrata**, differing from both in having distal process of subgenital plate intermediate in length, v_2 relatively shorter than in either. Differing in same ways from **B. longicauda** and **B. capricornuta**; these structures longer than in **B. fasciata**; forewing coloration darker than in **B. auricularia**.

Female measurements. FW 3382, HW 2509, F 608, T 1258, t_1 331, t_2 138, $t_1$ct 24, f_1 756, 10 447, d 197.

Female color. As described for male of **B. serrata** but wings darker and pterostigma not contrasting with surrounding membrane as much.

Female structural characters. Forewing (Fig. 325); pterostigma rounded posteriorly; Rs-M junction a short crossvein; R_{4+5} slightly sinuous; $M+Cu_{1a}$ section of cubital loop shorter than preceding section. Subgenital plate (Fig. 326): distal process moderately long, about 3X as long as greatest width; pigmented arms strongly sclerotized in basal stems, subquadrate distally. Ninth sternum (Fig. 327). Ovipositor valvulae (Fig. 328): v_1 and v_2 elongate; v_2 with well differentiated distal process.

Holotype. ♀, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 4 ♀ (paratypes, 2 INPA, 2 ELM).

Blaste hamata new species

Diagnosis. Close to **B. longispina**, differing in having median prong on hypandrium; longer single terminal hook on paramere.

Male measurements. FW 2436, HW 1815, f_1 449, f_2 393, f_3 382, IO 248, d 235.

Male color. As described for **B. serrata** but pterostigma not contrasting as much with surrounding membrane.

Male structural characters. Forewing (Fig. 329): pterostigma rounded posteriorly, with well developed stigmasaum; Rs-M junction a short crossvein; $M+Cu_{1a}$ segment of cubital loop slightly longer than preceding segment; Cu_{1a} after leaving M directed postero-distally. Hypandrium (Fig.330) with median prong on hind margin; side of margin heavily sclerotized, with serrulate edge subtended by papillar field. Parameres (Fig. 331) joined at base, markedly diverging beyond junction region, each with lateral extension at muscle attachment, strong distal hook. Epiproct short, gently rounded distally, articulating on shelf extending backward in middle of clunium. Paraproct (Fig. 332) with basal swelling; large, central sensorium; short, rounded prong.

Female measurements. FW 2677, HW 1988, F 472, T 888, t_1 268, t_2 101, $t_1$ct 18, f_1 486, f_2 436, f_3 382, IO 353, d 148.

Female color. As described for **B. serrata** and male.

Female structural characters. Forewing with Rs-M junction a short fusion; $M+Cu_{1a}$ segment of cubital loop slightly shorter than preceding segment, otherwise as described for male. Subgenital plate (Fig. 333): distal process short, wide, setose only at apex; pigmented arms of base short, wide, quadrate at sides. Ninth sternum (Fig. 334) with large sclerotized ring around spermapore, small triangular sclerite posterior to ring. Ovipositor valvulae (Fig. 335): v_1 slender, slightly swollen before long, acuminate tip; v_2 moderately long, tapering to acuminate tip; v_3 with relatively short distal lobe.

Holotype. ♂, Rafael ≠ 1.

Allotype. ♀, Rafael ≠ 1.

Note. Association of the sexes is tentative, based on similarity in size, color, and wing venation.

Blaste caudata new species

Diagnosis. Similar to the described species of **B. posticata** complex (Mockford, 1984) in structure of subgenital plate and ovipositor valvulae; differing from all known species except **B. obscura** (New) in having long Rs-M crossvein in forewing. Differing from **B. obscura** in details of subgenital plate and ovipositor valvulae.

Female measurements. FW 2930, HW 2159, F 510, T 1016, t_1 282, t_2 124, $t_1$ct 21, f_1 496, f_2 437, f_3 424, 10 355, d 180.

Female color. As described for **B. serrata** except pterostigma pale in basal one-third and around edges, dark in distal two-thirds.

Female structural characters. Forewing (Fig. 336): pterostigma rounded posteriorly, with well developed stigmasaum; Rs-M crossvein about two-thirds length of preceding Rs segment; M+Cu_{1a} segment of cubital loop much longer than preceding Cu_{1a} segment. Subgenital plate (Fig. 337) with spade-shaped distal process not strongly pigmented; basal pigmented arms terminating anteriorly in attenuated tails. Ninth sternum (Fig. 338) with large drop-shaped sclerotization around spermapore, rounded semimembranous areas to each side and posterior to median sclerotization. Ovipositor valvulae (Fig. 339): v_1 slender throughout; v_2 abruptly narrow at distal three-fourths, forming strong, spinose distal process.

Holotype. ♀. Rafael ≠ 1.

Blaste sp.

Parts of 3 individuals, including a whole abdomen (♂) and 2 sets of terminal abdominal segments (♀) appear to represent either 1 or 2 additional species.

Material examined. Rafael ≠ 1, 1 ♂, 2 ♀.

Genus **Blastopsocus** Roesler

Originally designated a subgenus of Blaste, this taxon has been treated subsequently by various authors as a genus.

Blastopsocus mockfordi Badonnel

B. mockfordi Badonnel, 1986:217.

This species was originally described from near Bogotá, Colombia.

Material examined. Rafael ≠ 1, 1 ♂, 1 ♀.

Blastopsocus sp.

Female terminal abdominal segments and a separate female specimen missing terminal abdominal segments appear to represent a second, still undescribed species of this genus.

Material examined. Rafael ≠ 1, 2 ♀ parts.

Family Myopsocidae

Genus **Myopsocus** Hagen

This relatively large genus of some 75 described species is known primarily from the Old World tropics and subtropics. Only 13 species, including those described here, are known from the New World. The three species described here are readily distinguished from presumed close relatives by characters of wing shape and color.

Myopsocus vespertilio new species

Diagnosis. With characters of true **Myopsocus** as defined by Mockford (1982), but with distal anal outpocketing of forewing well developed, as in **Lophopterygella** Enderlein and postero-distal forewing margin scalloped as in that genus (see note at end of description). Differing from M. **albomaculatus** (New) and **M. cinctus** (New) in having scalloping of distal forewing margin much more prominent.

Female measurements. FW 3903, HW 3001, F 769, T 1320, t_1 443, t_2 59, t_3 91, $t_1$ct 19, f_1 675, f_2 511, f_3 482, IO 522, d 289.

Female color. Compound eyes and ocellar field black; rest of head white with medium to dark brown spotting except labrum dark brown. Antenna pale brown through f_2, darker brown beyond. Thorax dull white with extensive medium to dark brown spotting. Coxae, trochanters, and femora in basal two-thirds dark brown; rest of leg white except distal end of tibia, t_2, and t_3 dark brown. Forewing (Fig. 340) marked with complex pattern. Hindwing unmarked except for banding on anterior margin, pale brown over entire surface. Abdominal color not discernible.

Female structural characters. Forewing (Fig. 340) with characters described in diagnosis plus following: pterostigma deep, angulate, with small spur vein from hind angle; Rs-M junction and M-Cu_{1a} junction both at a point; small basal anal pocket in addition to larger distal one. Hindwing (Fig. 341) with short Rs-M fusion; M directed posteriorly from fusion. Subgenital plate (Fig. 342) with distal process slender, slightly protruding between distal setal pair; base with distinctly outlined pigmented area, arms tapering laterally. Ovipositor valvulae (Fig. 343) typical of genus.

Holotype. ♀, Rafael ≠ 1.

Note. This species and its South American relatives apparently represent a parallel development with the Old World **Lophopterygella** and, contrary to New (1979), do not belong in that genus. Enderlein (1907, 1908) clearly stated and illustrated that the species which he assigned to that genus have an Rs-M crossvein in the hindwing and a bilobed end of the subgenital plate. No forms of this sort have yet been found in the New World.

Myopsocus parvus new species

Diagnosis. Similar in size to M. minor (New & Thornton) and **M. minutus** (Mockford), differing from both species in details of forewing markings.

Male measurements. FW 2743, HW 2099, F 541, T 1026, t_1 385, t_2 49, t_3 84, $t_1$ct 17, IO 292, d 306.

Male color. Compound eyes black; ocellar field dark brown; rest of head creamy white, mottled across hind margin, margins of eyes, across frons and genae with medium brown ; large dark brown U-shape mark on postclypeus open upward. Thorax mottled medium brown and creamy white. Coxae and basal two-thirds of femora dark brown; colorless band at distal two-thirds of femur followed by dark brown distal end; tibiae white except distal end dark brown; tarsus; t_1 white except basal end dark brown; t_2 and t_3 dark brown. Forewing marked with complex pattern (Fig. 344). Hindwing unmarked except banded along anterior border; membrane light-brown washed. Preclunial abdominal segments creamy white flecked dorsally and laterally with purplish brown; terminal segments medium brown.

Male structural characters. Forewing (Fig. 344): pterostigma deep, angulate posteriorly with minute spur vein from angle; Rs-M junction a short fusion; M-Cu_{1a} junction minute crossvein; anal sac almost non-existent. Hypandrium (Fig. 345) short, wide; distally with 3 broad, rounded lobes, middle higher than laterals. Phallosome (Fig. 346) with median style most of its length; parameres broad distally, the apices areolate-sculpteued. Clunium with short, rounded spinulose projection before epiproct. Epiproct (Fig. 347) hexagonal, disto-lateral sides longer than others and heavily sclerotized; surface papillate near distal end. Paraproct (Fig. 348) with long articular process; sensorium in middle; prong short, blunt.

Female measurements. FW 2948, HW 2296, F 565, T 1049, t_1 386, t_2 51, t_3 88, $t_1$ct 19, IO 448, d 224.

Female color. As described for male except preclunial abdominal segments dull white throughout.

Female structural characters. Forewing as described for male. Subgenital plate (Fig. 349): distal process very short and wide, bearing 4 terminal setae; pigmented area of base distinct; arms almost separated in middle, wide laterally. Ninth sternum with

small sclerotized rod associated with spermapore. Ovipositor valvulae (Fig. 350) normal for genus.

Holotype. ♂, Rafael ≠ 1.

Allotype. ♀, Rafael ≠ 1.

Myopsocus pallidus new species

Diagnosis. Very close to M. parvus differing from it and other small **Myopsocus** species in having top and front of head completely white, including all of postclypeus.

Female measurements. FW 2775, HW 2120, F 547, T 976, t_1 347, t_2 44, t_3 78, $t_1$ct 16, f_1 564, f_2 416, IO 399, d 247.

Female color. Compound eyes black; head otherwise white except ocelli (not the field) black; genae and labrum medium brown. Antennae medium brown. Thorax variegated creamy yellow and medium brown, dark brown on anterior mesonotal lobe. Legs dark brown except colorless preapical ring on each femur, each t_1 white area occupying distal two-thirds of front and middle t_1, distal one-third of hind t_1. Forewing (Fig. 351) marked with complex pattern. Hindwing unmarked except for marginal banding, membrane brown-washed. Preclunial abdominal segments dull white flecked with purplish brown along sides; terminal segments medium brown.

Female structural characters. Forewing (Fig. 351); margin before pterostigma bulging forward; pterostigma deep but rounded posteriorly, without spur vein;Rs-M junction short crossvein; likewise M-Cu_{1a} junction; Cu_{1a} segment before junction curved. Subgenital plate (Fig. 352): distal piece terminating as slender process bearing 10 setae on and near tip; base with distinctly outlined pigmented area, the arms narrowly joined in middle, broad laterally. Ninth sternum with slender sclerotized rod associated with spermapore. Ovipositor valvulae (Fig. 353) typical of genus.

Holotype. ♀, Rafael ≠ 1.

Genus **Lichenomina** Enderlein

Eight species have been described previously from the New World, although most were assigned by their authors to other genera. On the basis of male external genitalia, two groups can be recognized:

Group I. Parameres separate; hypandrium long-triangular. **L. conspersa** Enderlein, **L. lugens** (Hagen), **L. sparsa** (Hagen), **L. varia** (Navás).

Group II. Parameres joined, hypandrium short and broad. **L.ariasi** (New).

Species **incertae sedis**. **L. argentina** Williner, **L. pulchella** (New & Thornton), **L. clypeofasciata** (Mockford), **L. thorntoni** n. sp., **L. timmei** n. sp.

Lichenomima ariasi (New)

Myopsocus ariasi New, 1979:778.
Lichenomima ariasi (New), Mockford, 1982:217.

The species was described from the Reserva Ducke, Amazonas, Brazil. The Roraima specimens differ somewhat from the type in that the pallosome has a stronger median style and more strongly bent parameres (Fig. 354). The hitherto unknown female is described here.

Female measurements. FW 4074, HW 2956, F 736, T 1406, t_1 474, t_2 66, t_3 96, $t_1$ct 18, f_1 902, f_2 854, f_3 554, 10 489, d 258.

Female color. Same as in male except lateral mesonotal lobes pale brown, subgenital plate dark brown.

Female structural characters. Forewing with Rs-M junction a short crossvein, M-Cu_{1a} junction a point. Hindwing with Rs-M crossvein longer than in male, about twothirds length of preceding M segment. Subgenital plate (Fig. 355): distal piece emarginate posteriorly, with 3 setae in longitudinal row through middle; basal pigmented area with deep anterior indentation; arms extended laterally in vasal half. Ninth sternum with broad plate tapering anteriorly to smal rounded nodule immediately before spermapore. Ovipositor valvulae (Fig. 356): v_1 curved inward near apex; otherwise normal for genus.

Material examined. Rafael ≠ 1, 15 ♂, 17 ♀.

Lichenomima thorntoni new species

Diagnosis. Very similar to **L. clypeofasciatus** (Mockford) of Cuba in female genitalia and unique head markings, differing in having hind femur partially white.

Female measurements. FW 3742, HW 2712, F 721, T 1323, t_1 462, t_2 55, t_3 106, $t_1$ct 22, 10 470, d 219.

Female color. Compound eyes black; head otherwise creamy yellow with dark brown band of coalescing spots running through middle of entire vertex, frons and postclypeus; genae largely medium brown. Thoracic notal lobes dark brown; rest of thorax creamy yellow with dark brown band through middle of pleuron. Foreleg white except brown subapical ring on femur; distal end of tibia, t_1 and t_2 dark brown; middle leg with coxa and basal half of femur dark brown, otherwise as foreleg; hind leg as middle leg except basal two-thirds of femur dark brown. Forewing (Fig. 357) marked with complex pattern. Hindwing unmarked except for banded front margin; rest of wing brown washed. abdominal color not discernible.

Species **incertae sedis**. **L. argentina** Williner, **L. pulchella** (New & Thornton), **L. clypeofasciata** (Mockford), **L. thorntoni** n. sp., **L. timmei** n. sp.

Lichenomima ariasi (New)

Myopsocus ariasi New, 1979:778.
Lichenomima ariasi (New), Mockford, 1982:217.

The species was described from the Reserva Ducke, Amazonas, Brazil. The Roraima specimens differ somewhat from the type in that the pallosome has a stronger median style and more strongly bent parameres (Fig. 354). The hitherto unknown female is described here.

Female measurements. FW 4074, HW 2956, F 736, T 1406, t_1 474, t_2 66, t_3 96, $t_1$ct 18, f_1 902, f_2 854, f_3 554, IO 489, d 258.

Female color. Same as in male except lateral mesonotal lobes pale brown, subgenital plate dark brown.

Female structural characters. Forewing with Rs-M junction a short crossvein, M-Cu_{1a} junction a point. Hindwing with Rs-M crossvein longer than in male, about twothirds length of preceding M segment. Subgenital plate (Fig. 355): distal piece emarginate posteriorly, with 3 setae in longitudinal row through middle; basal pigmented area with deep anterior indentation; arms extended laterally in vasal half. Ninth sternum with broad plate tapering anteriorly to smal rounded nodule immediately before spermapore. Ovipositor valvulae (Fig. 356): v_1 curved inward near apex; otherwise normal for genus.

Material examined. Rafael ≠ 1, 15 ♂, 17 ♀.

Lichenomima thorntoni new species

Diagnosis. Very similar to **L. clypeofasciatus** (Mockford) of Cuba in female genitalia and unique head markings, differing in having hind femur partially white.

Female measurements. FW 3742, HW 2712, F 721, T 1323, t_1 462, t_2 55, t_3 106, $t_1$ct 22, IO 470, d 219.

Female color. Compound eyes black; head otherwise creamy yellow with dark brown band of coalescing spots running through middle of entire vertex, frons and postclypeus; genae largely medium brown. Thoracic notal lobes dark brown; rest of thorax creamy yellow with dark brown band through middle of pleuron. Foreleg white except brown subapical ring on femur; distal end of tibia, t_1 and t_2 dark brown; middle leg with coxa and basal half of femur dark brown, otherwise as foreleg; hind leg as middle leg except basal two-thirds of femur dark brown. Forewing (Fig. 357) marked with complex pattern. Hindwing unmarked except for banded front margin; rest of wing brown washed. abdominal color not discernible.

Female structural characters. Forewing (Fig. 357): pterostigma rounded posteriorly, Rs-M junction short crossvein; M-Cu_{1a} junction a point. Rs-M crossvein in hindwing about two-thirds length of preceding M segment. Subgenital plate (Fig. 358): distal piece rounded apically; basal region well pigmented with relatively shallow anterior indentation in pigment. Ninth sternum with short, stout rod-shaped sclerite (Fig. 359). Ovipositor valvulae (Fig. 360): v_3 with outer margin heavily sclerotized and free of setae except at base; distal end slightly pointed; valvulae otherwise typical of genus.

Holotype. ♀, Rafael ≠ 1.

Lichenomima timmei new species

Diagnosis. Differing from **L. sparsa, L. lugens, L. ariasi, L. pulchella, L. clypeofasciata, L. thorntoni,** and **L. onca** n. sp. in female external genitalia. Differing from **L. varia, L. pulchella, L. conspersa** and **L. argentina** in details of forewing markings.

Female measurements. FW 4986, HW 3671, F 1035, T 1900, t_1 633, t_2 72, t_3 130, $t_1$ct 25, f_1 1099, f_2 974, IO 692, d 259.

Female color. Compound eyes black; head otherwise creamy white heavily spotted and barred with medium brown, spotting coalescing to form slender band down middle of postclypeus. Thorax largely creamy white variegated with pale to medium brown spotting; lateral mesonotal lobes extensively medium brown mesally, pale brown to creamy white laterally. Legs creamy white except middle and hind coxae medium brown; distal ends of tibiae and t_1's, also entire t_2 and t_3 dark brown; hind femur with 3 medium brown spots dorsally in distal half. Forewing (Fig. 361) marked with complex pattern. Hindwing unmarked except for banding along fore and distal margins; brown washed. Abdominal color not discernible.

Female structural characters. Forewing (Fig. 361): pterostigma deep, rounded posteriorly; Rs-M junction at point, likewise M-Cu_{1a} junction. In hindwing Rs-M crossvein slightly less than half length of preceding M segment. Subgenital plate (Fig. 362): distal piece relatively slender, bearing small field of setae in middle; pigmented area of base somewhat vague, with very deep anterior indentation, moderate lateral extensions. Ninth sternum with short asymmetrical knob near spermapore and two wing-shaped sclerites joined on middle behind knob (Fig. 363). Ovipositor valvulae (Fig. 364); v_1 curved mediad, slightly broadened before acuminate tip; valvulae otherwise normal for genus.

Holotype. ♀, Rafael ≠ 1.

Other material examined. 13 ♀ paratypes (9 INPA, 4 ELM).

Lichenomima onca new species

Diagnosis. Species of group I, differing from the described species in much smaller size of male. Differing from **L. argentina**, **L. pulchella**, and **L. clypeofasciata** in details of forewing markings, from **L. pulchella** also in pigmentation of subgenital plate.

Male measurements. FW 3069, HW 2291, F 667, T 1236, t_1 439, t_2 59, t_3 92, $t_1$ct 23, 10 423, d 234.

Male color. Compound eyes black; rest of head grayish white extensively spotted and barred with dark brown. Antennae mostly dark brown, paler on f_1. Thoracic notal lobes dark brown, regions between lobes grayish white; pleura medium brown on mesopleuron, mostly creamy white on metapleuron. Coxae through femora medium brown; tibiae white with medium brown distal end; each t_1 white with medium brown distal end; each t_2 and t_3 medium brown. Forewing (Fig. 365) marked with complex pattern. Hindwing unmarked except for banded fore margin; membrane washed. Preclunial abdominal segments grayish white, mottled along sides and dorsal midline with purplish brown; terminal segments dark brown.

Male structural characters. Forewing (Fig. 365): pterostigma relatively shallow, rounded posteriorly; Rs-M junction short crossvein; M-Cu_{1a} junction short fusion. Hindwing with Rs-M crossvein about two-thirds length of preceding M segment. Hypandrium (Fig. 366) triangular with gently curved lobulate apex, base with short extensions forward at sides. Phallosome (Fig. 367): parameres joined only by membrane; each shaft somewhat swollen in distal one-third, with shelf-like lateral process before apex. Epiproct (Fig. 368) rounded, heavily sclerotized and spiculate on anterior margin. Paraproct (Fig. 369): sensorium near base; apical hook arising from tapering sclerotization; median margin before apex heavily sclerotized, squamate.

Female measurements. FW 4986, HW 3677, F 969, T 1768, t_1 550, t_2 74, t_3 121, $t_1$ct 24, f_1 978, f_2 929, f_3 816, 10 670, d 243.

Female color. As described for male except all femora dark brown most of length, white at distal end.

Female structural characters. Wings as described for male except M-Cu_{1a} junction short crossvein. Subgenital plate (Fig. 371): distal piece slender with 3 setae along midline, slightly bilobed at apex; base with pigmented area clearly outlined, with broad anterior indentation; pigmentation faint in middle, only slightly extended at sides. Ninth sternum with paired rod before pair of wing-shaped sclerites separated in middle (Fig. 372). Ovipositor valvulae (Fig. 373): v_1 straight, relatively stout; valvulae otherwise typical of genus.

Holotype ♂, Rafael ≠ 1.

Other material examined. Rafael ≠ 1, 6 ♂, 31 ♀ (allotype and paratypes; 4 ♂, 27 ♀ INPA, 2 ♂, 4 ♀ ELM).

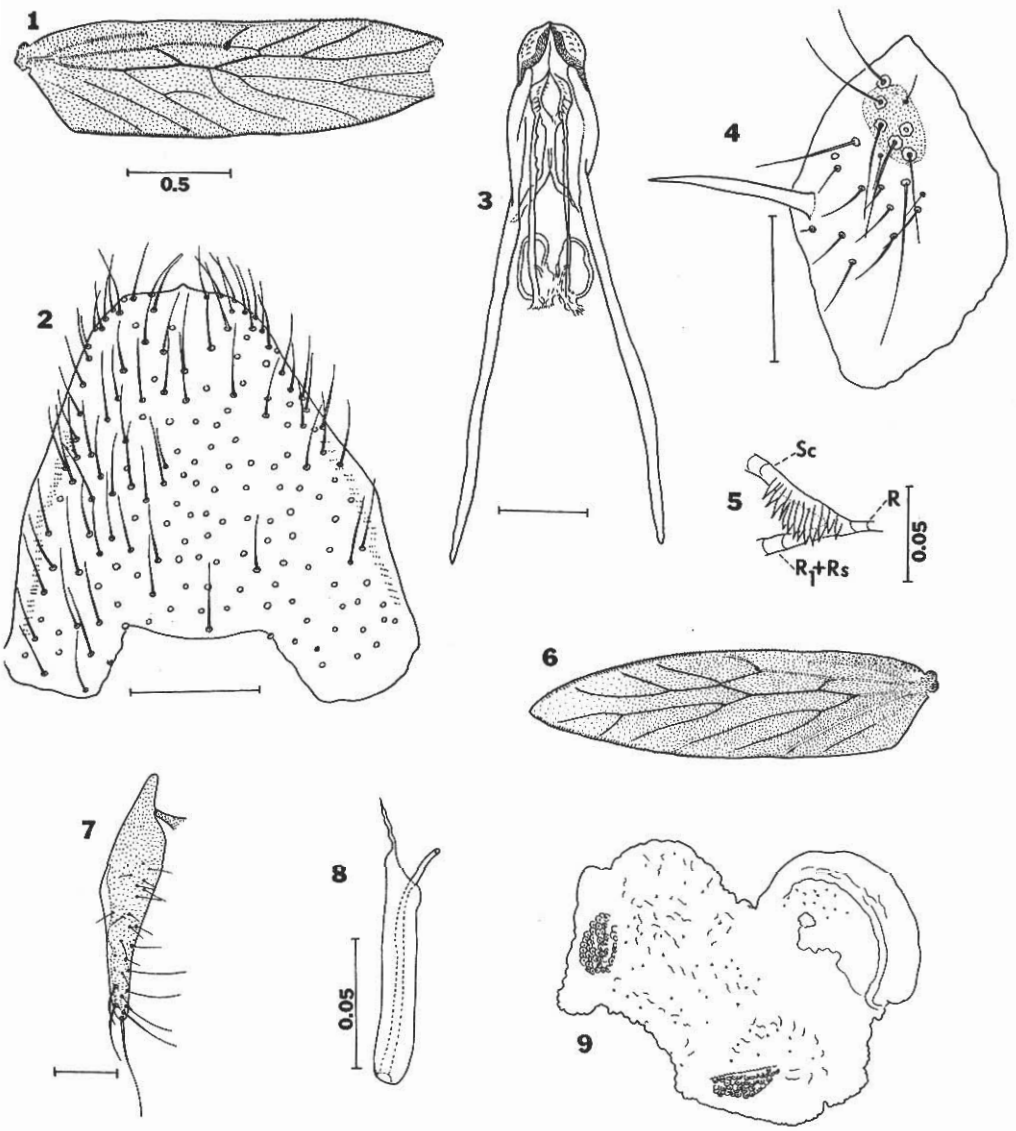
Lichenomima sp.

It was not possible to assign to species fragments of 9 female specimens of this genus.

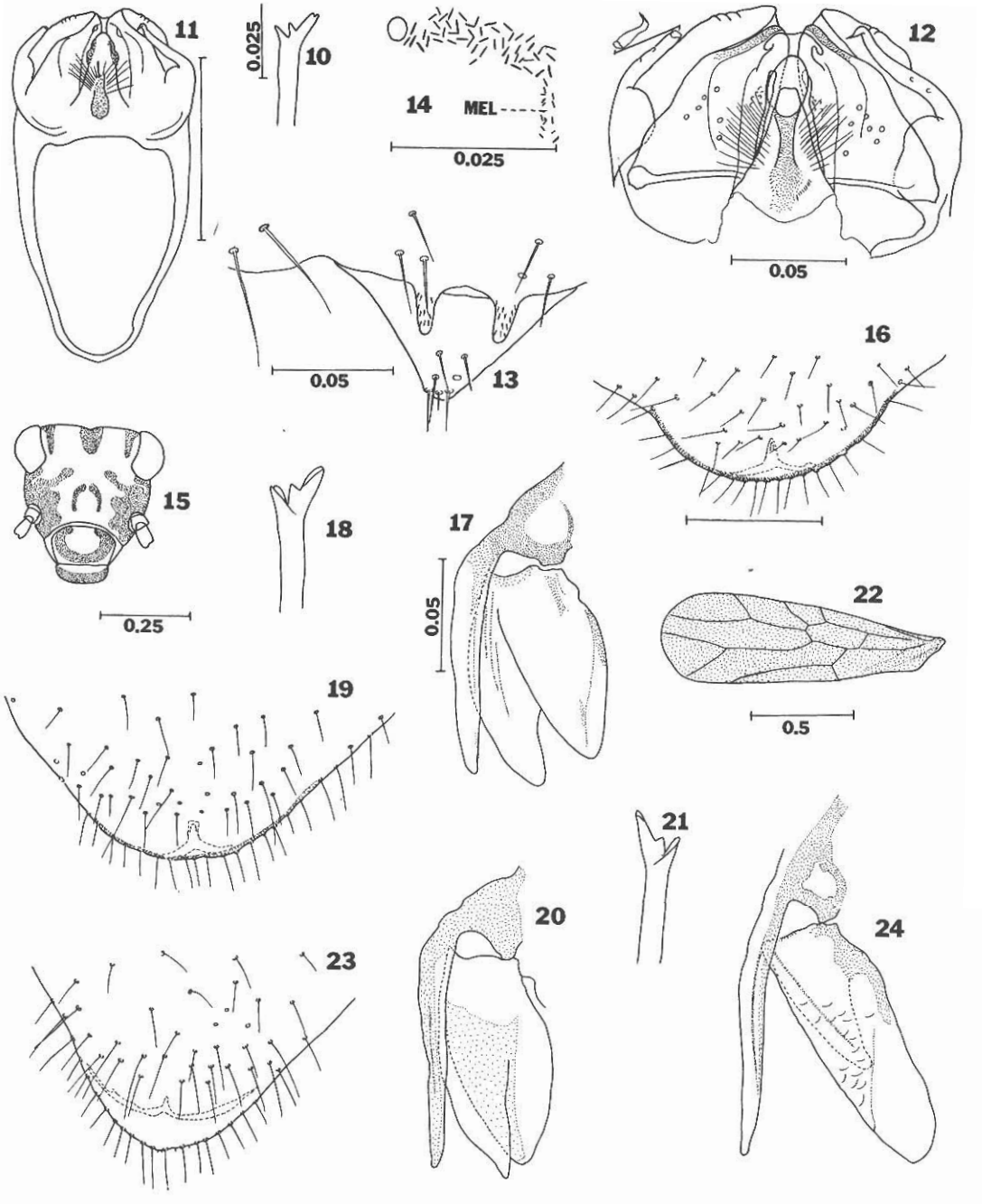
Material examined. Rafael ≠ 1, 9 ♀.

RESUMO

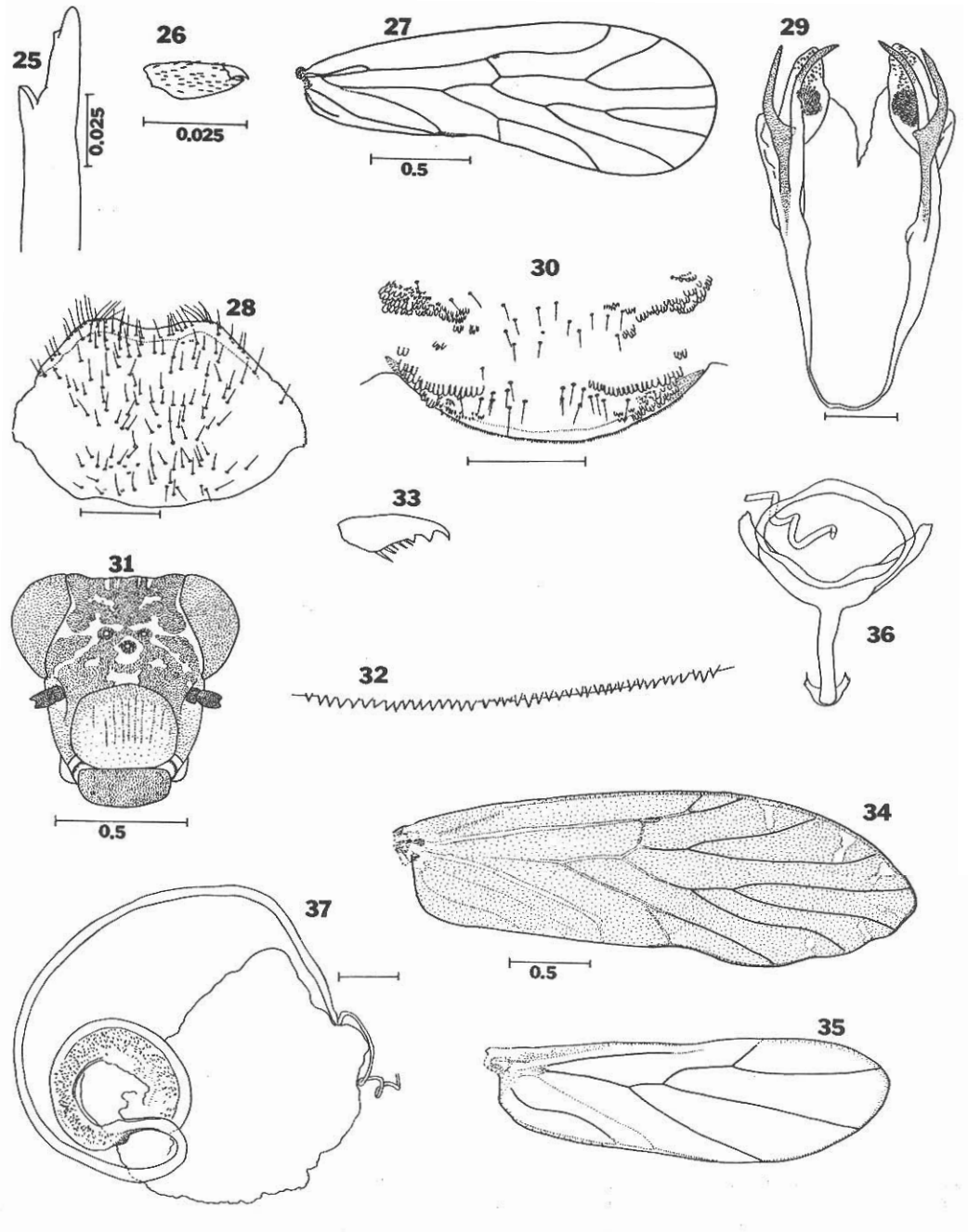
103 espécies de Psocoptera são registradas na Estação Ecológica de Maracá e Paca raima, Estado de Roraima, Brasil. Sessenta e duas espécies novas são descritas e figu radas nos seguintes gêneros: **Echmepteryx** (2), **Tapinella** (3), **Musapsocus** (1), **Seopsocus** (3), **Isthmopsocus** (3), **Dolabellopsocus** (6), **Epipsocus** (5), **Neurostigma** (1), **Notiopsocus** (1), **Caecilius** (6), **Enderleinella** (1), **Polypsocus** (3), **Scytopsocus** (1), **Archipsocus** (1), **Lachesilla** (4), **Notolachesilla** (1), **Peripsocus** (4), **Dactylopsocus** (1), **Metylophorus** (3), **Blaste** (4), **Lichenomima** (3), **Myopsocus** (3). *O gênero* **Notarchipsocus**, *gen. n. é criado para* **Archipsocus macrurus** *New e uma espécie nova. O gênero* **Monocladellus** *Ender lein é sinonimizado com* **Polypsocus** *Hagen. As espécies sul americanas transferidas ao gênero* **Lophopterygella** *Enderlein por New (1979) são retransferidas ao gênero* **Myopsocus** *e representam uma linhagem paralela neste gênero.*



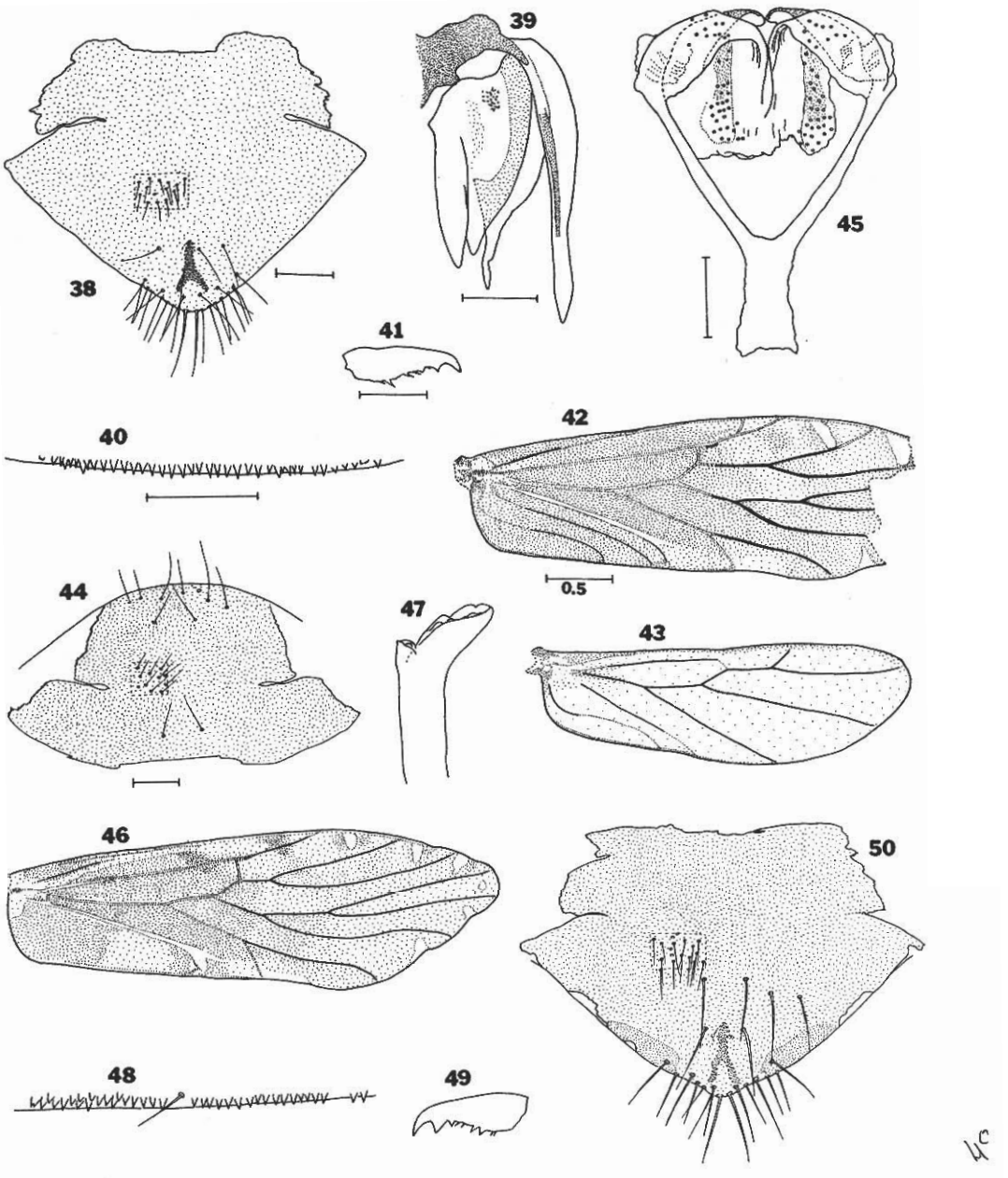
Figs. 1-9. **Echmepteryx** spp. Figs. 1-4. **E. lutosus** n. sp. ♂. Fig. 1. Forewing. Fig. 2. Hypandrium. Fig. 3. Phallosome. Fig. 4. Paraproct. Figs. 5-9. **E. uniformis** n. sp. ♀. Fig. 5. Anterior wing catch. Fig. 6. Forewing, scale of Fig.1. Fig. 7. Right ovipositor valcula. Fig. 8. Collar of spermathecal duct. Fig. 9. Spermathecal sac, scale of Fig. 8. Scales are in mm.; those unmarked = 0.1 mm.



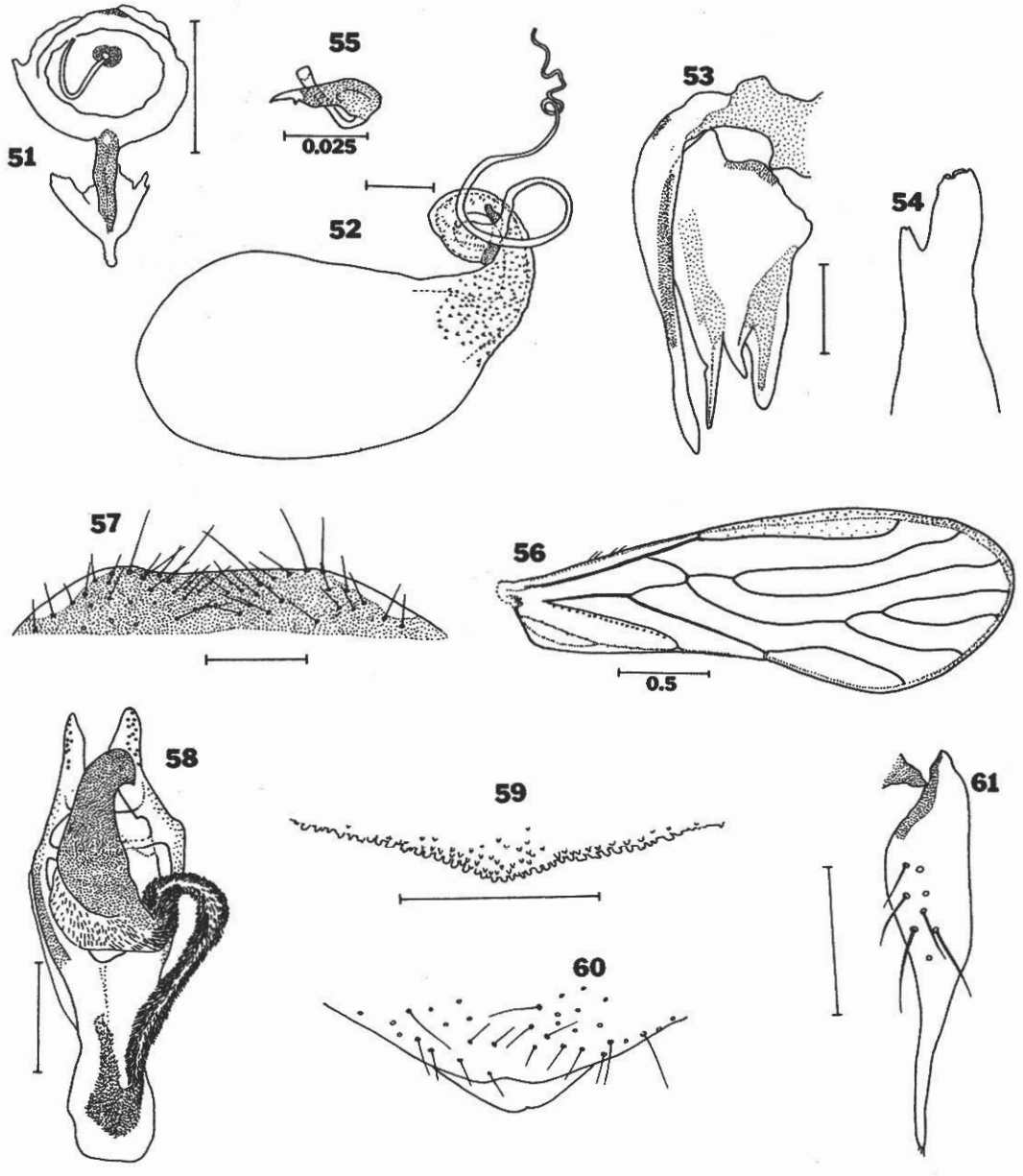
Figs. 10-24. Tapinella spp. Figs. 10-17. **T. ornaticeps** n. sp. Fig. 10. ♂, lacinial tip. Fig. 11. ♂, phallosome. Fig. 12. ♂, enlargement of distal end of phallosome. Fig. 13. ♂, hind margin of clunium and epiproct. Fig 14. ♀, bacilloid sculpture of vertex along median ecdysial line (MEL) to nearest seta follicle (round structure). Fig. 15. ♀, facial color pattern. Fig. 16. ♀, subgenital plate. Fig. 17. ♀, ovipositor valvulae. Figs. 18-20. **T. maracana** n. sp. ♀. Fig. 18. Lacinial tip, scale of Fig. 10. Fig. 19. Subgenital plate, scale of Fig. 16. Fig. 20. Ovipositor valvulae, scale of Fig. 17. Figs. 21-14. T. **gamma** n. sp. ♀. Fig. 21. Lacinial tip, scale of Fig. 10. Fig. 22. Forewing. Fig. 23. Subgenital plate, scale of Fig. 16. Fig. 24. Ovipositor valvulae, scale of Fig. 17. Scales are in mm; those unmarked = 0.1 mm.



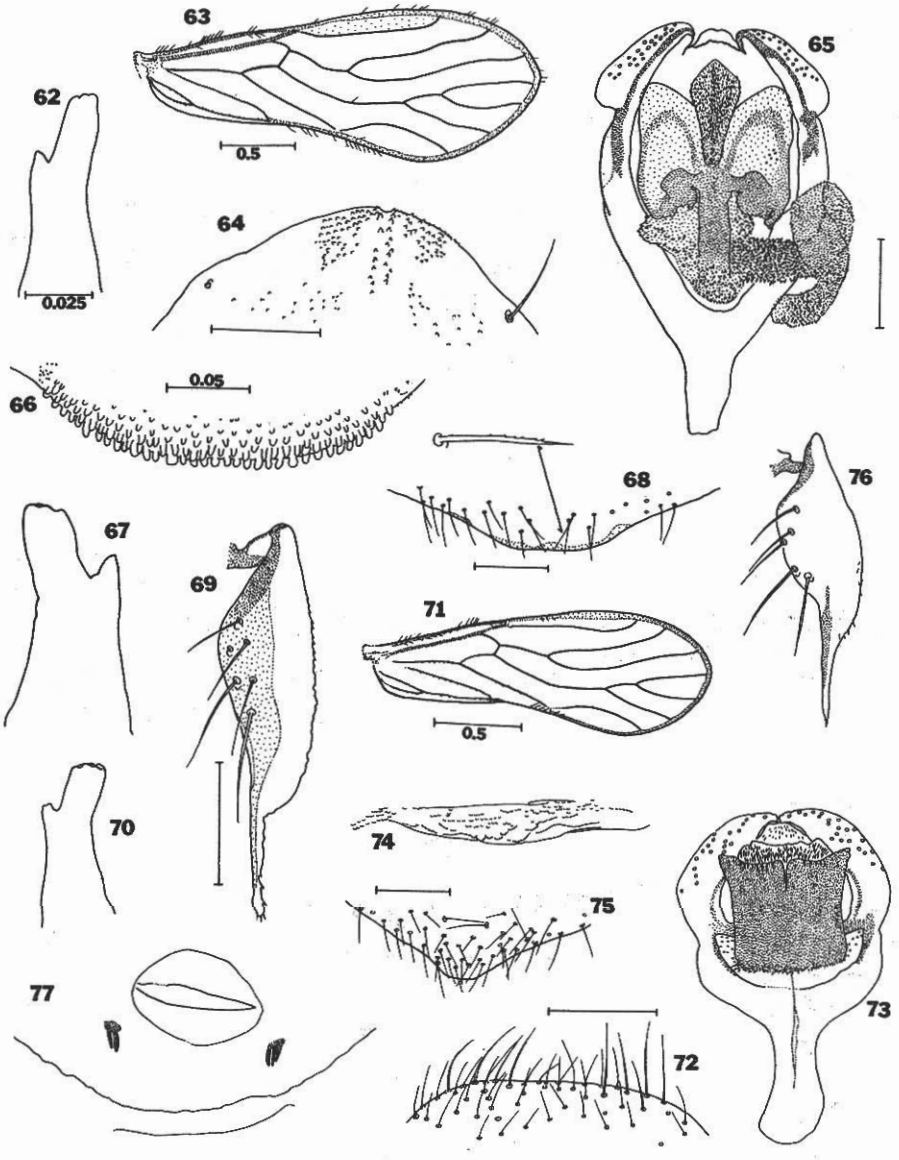
Figs. 25-37. Figs. 25-30. **Musapsocus newi** n. sp. ♂. Fig. 25. Lacinial tip. Fig. 26. Foliate pretarsalclaw. Fig. 27. Forewing. Fig. 28. Hypandrium. Fig. 29. Phallosome. Fig. 30. Clunium. Figs. 31-37. **Seopsocus rafaeli** n. sp. ♀. Fig. 31. Facial color pattern. Fig. 32. Row of denticles on anterior carina of fore femur, scale of Fig. 30. Fig. 33. Pretarsal claw, scale of Fig. 25. Fig. 34. Forewing. Fig. 35. Hindwing, scale of Fig. 34. Fig. 36. Spermapore sclerite, scale of Fig. 30. Fig. 37. Spermatheca. Scales are in mm; those unmarked = 0.1 mm.



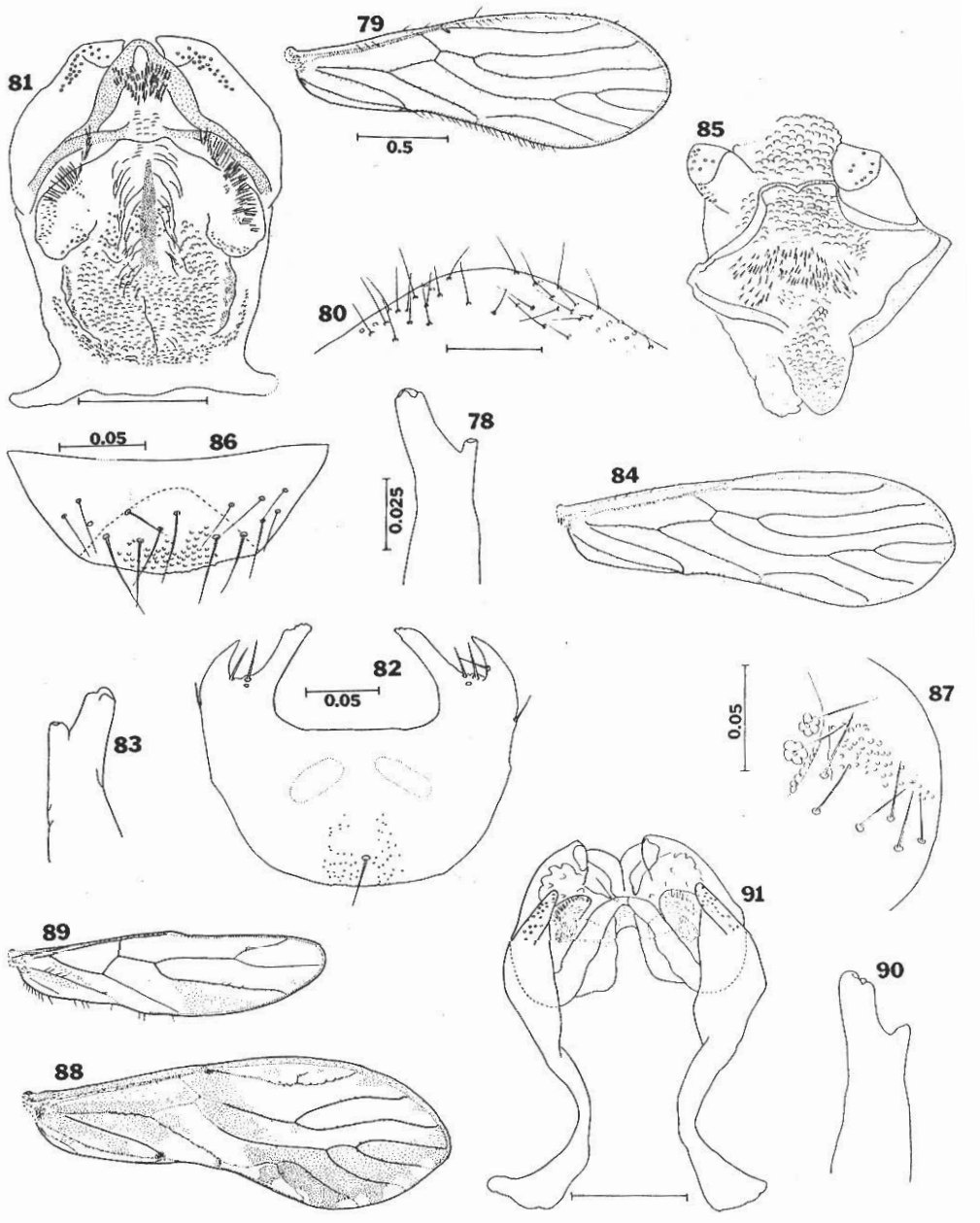
Figs. 38-50. Seopsocus spp. Figs. 38-39. S. **rafaeli** n. sp. ♀. Fig. 38. Subgenital plate (ciliation typical of surface shown in small rectangle). Fig. 39. Ovipositor valvulae. Figs. 40-45. S. **fasciatus** n. sp. ♂. Fig. 40. Row of denticles on anterior carina of fore femur. Fig. 41. Pretarsal claw. Fig. 42. Forewing (distal end broken). Fig. 43. Hindwing, scale of Fig. 42. Fig. 44. Hypandrium (ciliation typical of surface shown in small rectangle). Fig. 45. Phallosome. Figs. 46-50. S. **albiceps** n. sp. ♀. Fig. 46. Forewing, scale of Fig. 42. Fig. 47. Lacinial tip, scale of Fig. 41. Fig. 48. Row of denticles on anterior carina of fore femur, scale of Fig. 40. Fig. 49. Pretarsal claw, scale of Fig. 41. Fig. 50. Subgenital plate (ciliation typical of surface shown in small rectangle), scale of Fig. 38. Scales are in mm; those unmarked = 0.1 mm.



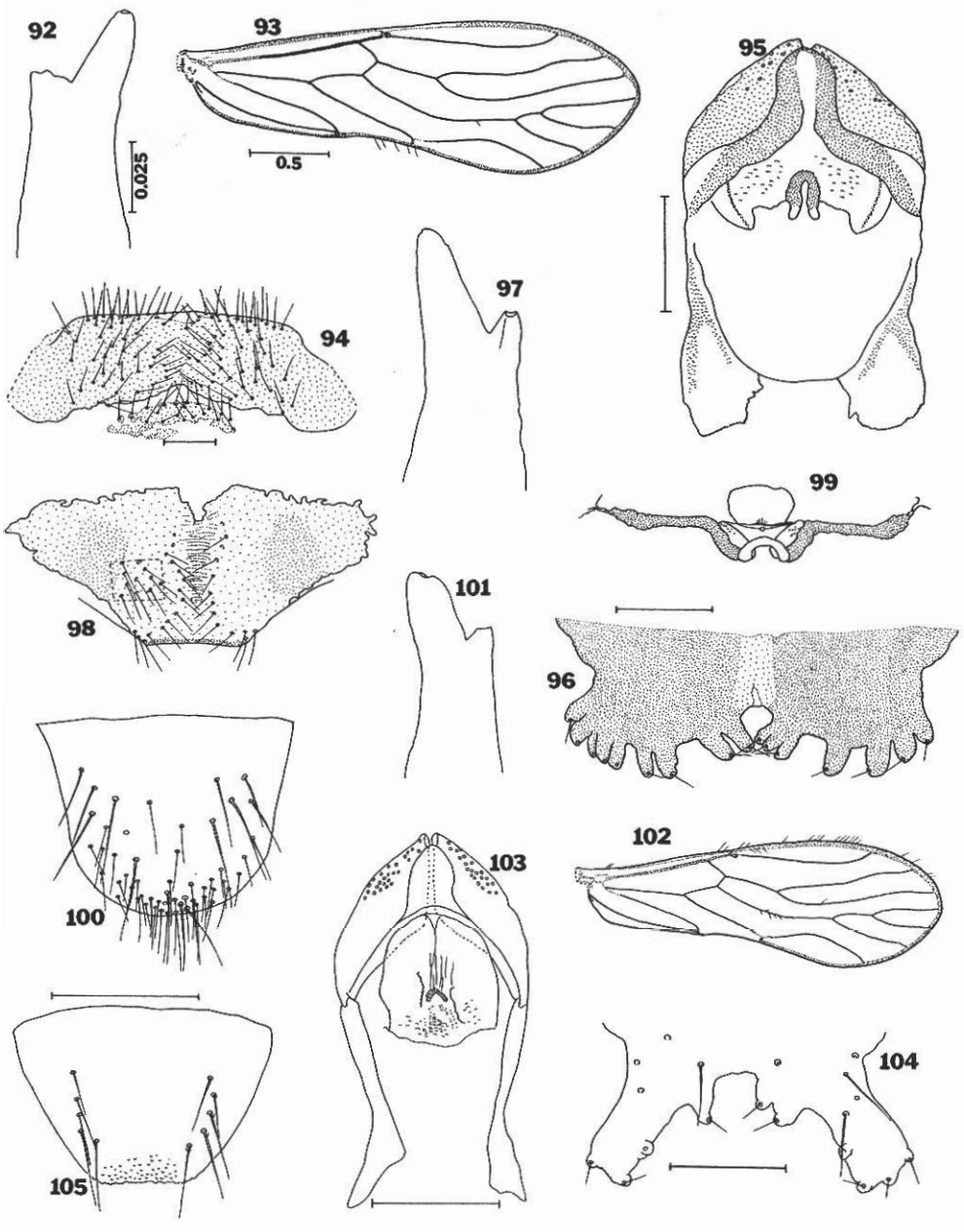
Figs. 51-61. Figs. 51-53. **Seopsocus albiceps** n. sp. ♀. Fig. 51. Spermapore sclerite. Fig. 52. Spermatheca. Fig. 53. Ovipositor valvulae. Figs. 54-61. **Isthmopsocus barbatus** n. sp. Fig. 54. ♂, lacinial tip, scale of Fig. 55. Fig. 55. ♂, pretarsal claw. Fig. 56. ♂, forewing. Fig. 57. ♂, distal end of hypandrium. Fig. 58. ♂, phallosome. Fig. 59. ♂, hind margin of clunium. Fig. 60. ♀ subgenital plate, scale of Fig. 53. Fig. 61. ♀, ovipositor valvula. Scales are in mm; those unmarked = 0.1 mm.



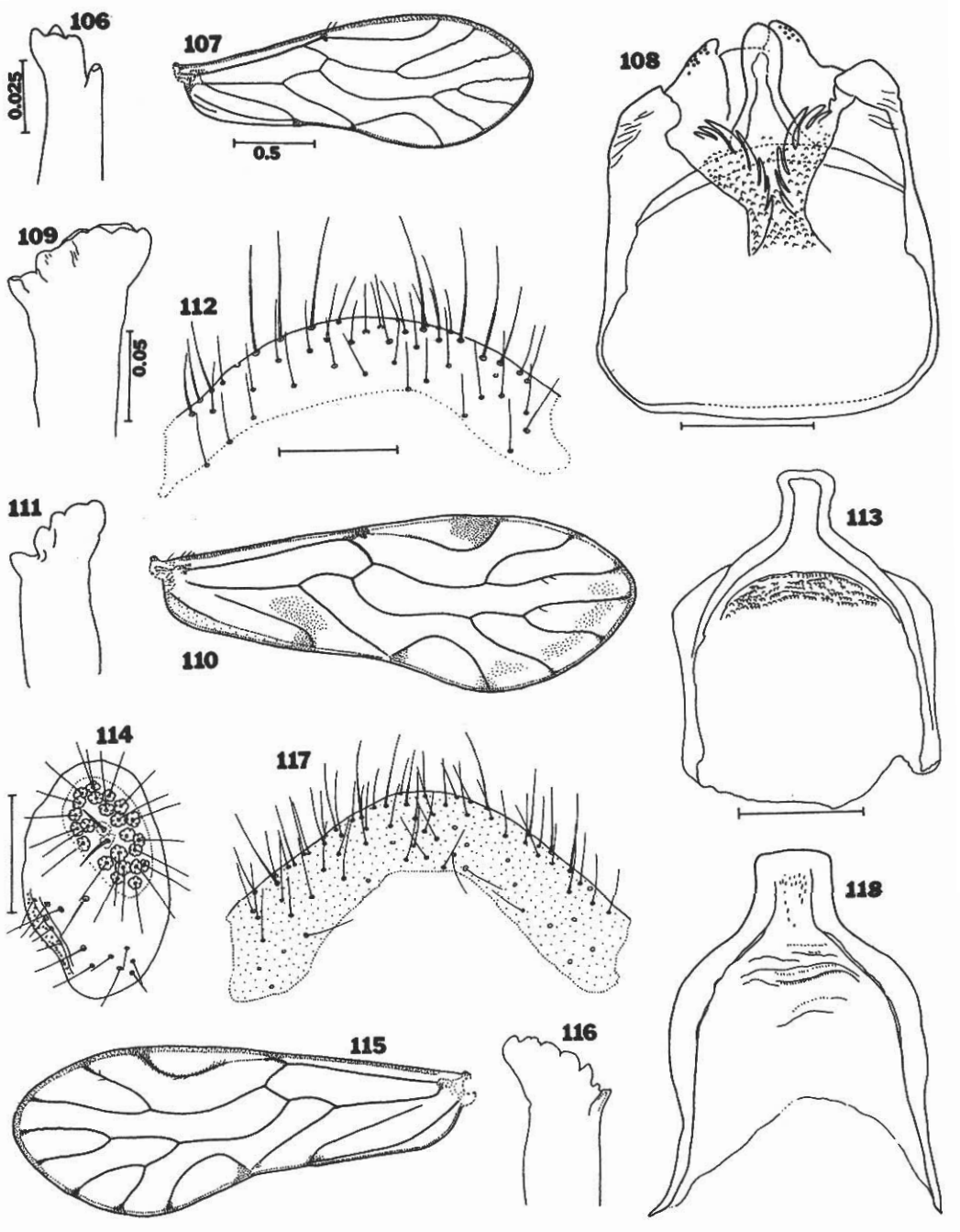
Figs. 62–77. **Isthmopsocus** spp. Figs. 62–69. I. **lanceolatus** n. sp. Fig. 62. ♂, lacinial tip. Fig. 63. ♂, forewing. Fig. 64. ♂, hypandrium. Fig. 65. ♂, phallosome. Fig. 66. ♂, hind margin of clunium. Fig. 67. ♀, lacinial tip, scale of Fig. 62. Fig. 68. ♀, subgenital plate (inset, enlargement of a serrulate seta). Fig. 69. ♀, ovipositor valvula. Figs. 70–77. I. **speculatus** n. sp. Fig. 70. ♂, lacinial tip, scale of Fig. 62. Fig. 71. ♂, forewing. Fig. 72. ♂, hypandrium. Fig. 73. ♂, phallosome, scale of Fig. 65. Fig. 74. ♂, hind margin of clunium, scale of Fig. 62. Fig. 75. ♀, subgenital plate. Fig. 76. ♀, ovipositor valvula, scale of Fig. 69. Fig. 77. ♀, sclerotizations of ninth sternum, scale of Fig. 66. Scales are in mm; those unmarked = 0.1 mm.



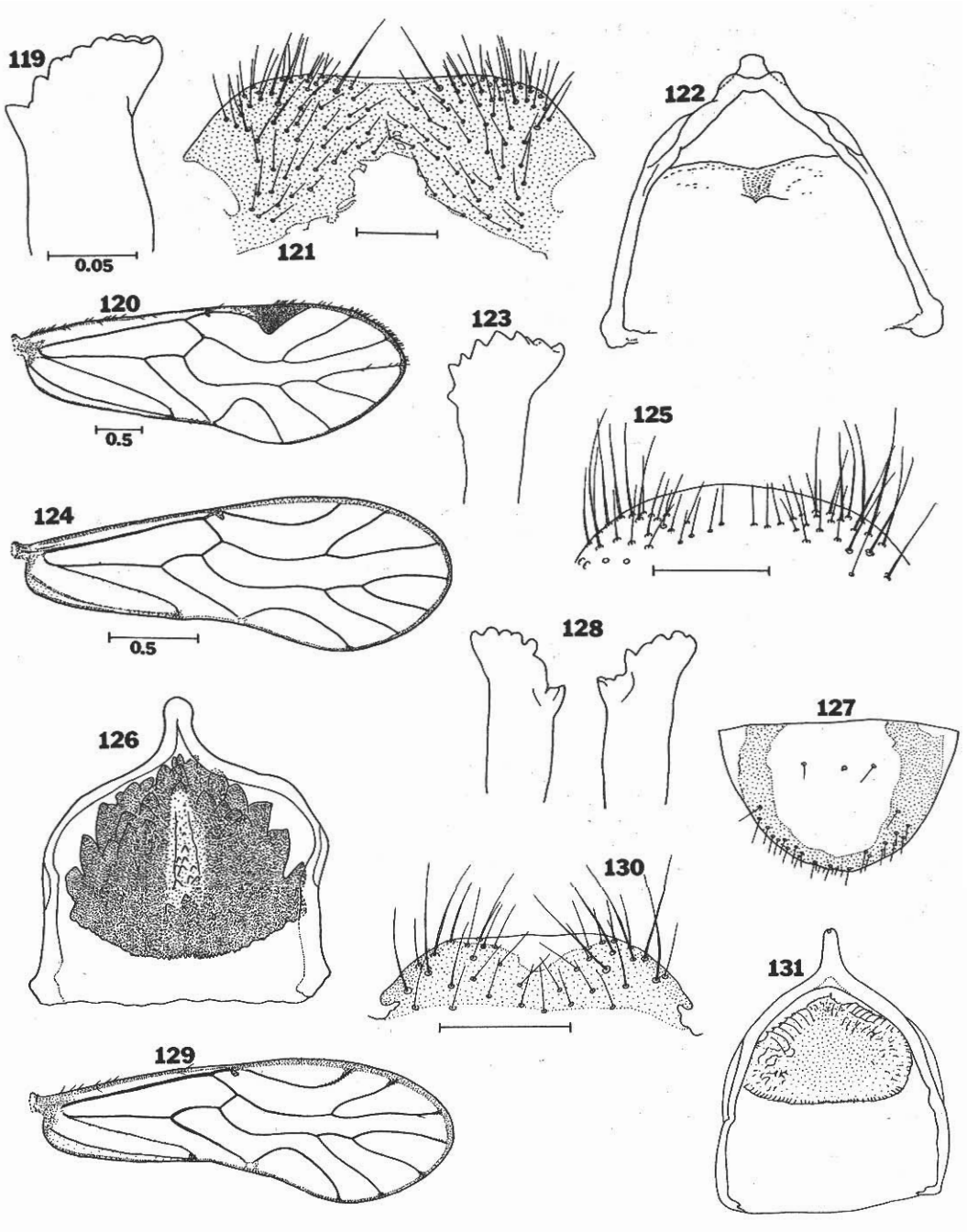
Figs. 78-91. **Dolabellopsocus** spp. Figs. 78-82. **D. carcinus** n. sp. ♂. Fig. 78. Lacinial tip. Fig. 79. Forewing. Fig. 80. Hypandrium. Fig. 81. Phallosome. Fig. 82. Epiproct. Figs. 83-87. **D. catenatus** n. sp. ♂. Fig. 83. Lacinial tip, scale of Fig. 78. Fig. 84. Forewing, scale of Fig. 79. Fig. 85. Phallosome, scale of Fig. 81. Fig. 86. Epiproct. Fig. 87. Paraproct. Figs. 88-91. D. **pictus** n. sp. ♂. Fig. 88. Forewing, scale of Fig. 79. Fig. 89. Hindwing, scale of Fig. 79. Fig. 90. Lacinial tip, scale of Fig. 78. Fig. 91. Phallosome. Scales in mm; those unmarked = 0.1 mm.



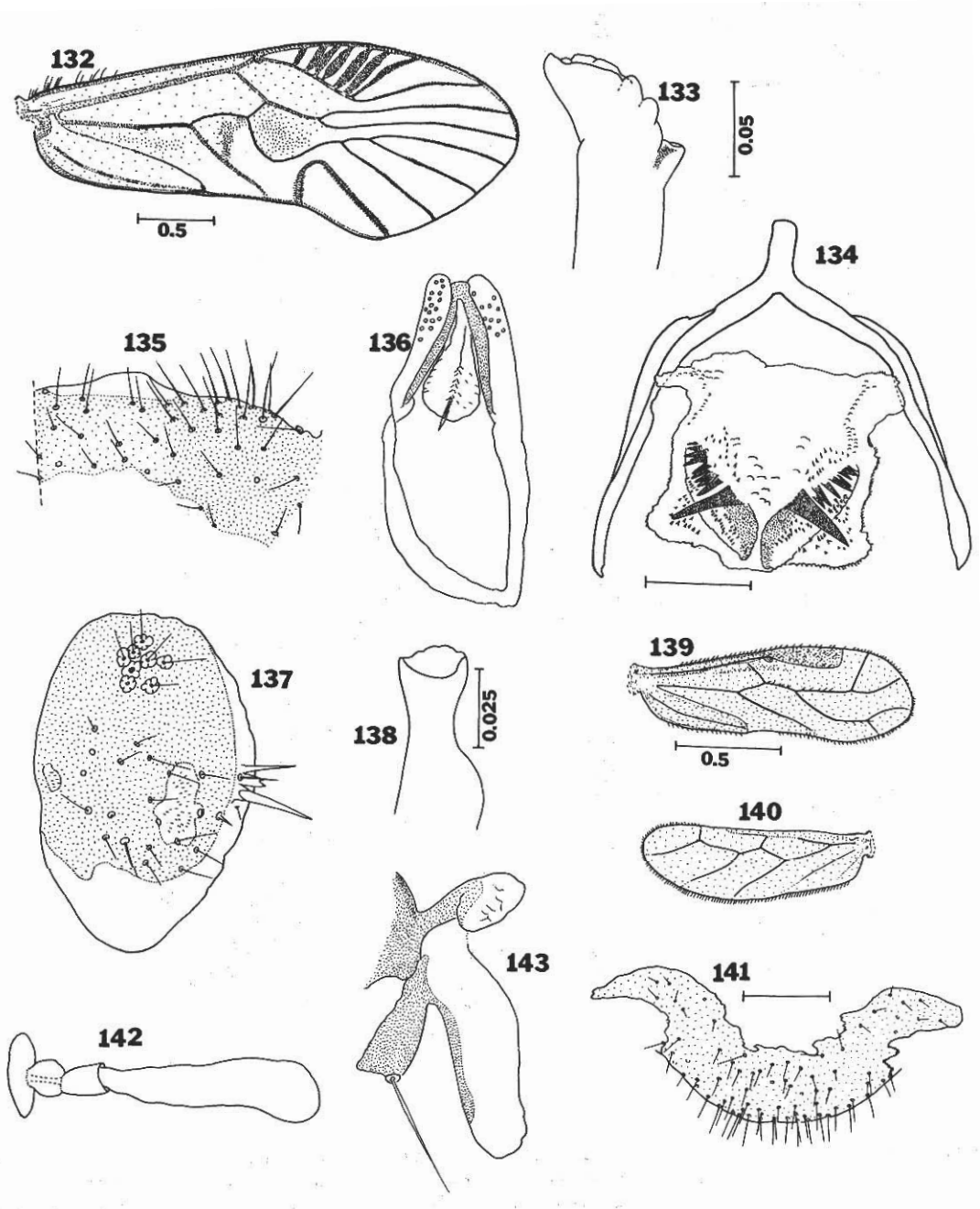
Figs. 92–105. Dolabellopsocus spp. Figs. 92–100. **D. similis** n. sp. Fig. 92 ♂, forewing. Fig. 94. ♂, hypandrium. Fig. 95. ♂, phallosome. Fig. 96. ♂, phallosome. Fig. 96. ♂, hind margin of clunium. Fig. 97 ♀, Lacinial tip, scale of Fig. 92. Fig. 98. ♀, subgenital plate (ciliation typical of surface show in small rectangle), scale of Fig. 96. Fig. 99. ♀, sclerotizations of ninth sternum, scale of Fig. 96. Fig. 100. ♀, epiproct, scale of Fig. 95. Figs. 101–105. **D. lobatus** n. sp. ♂. Fig. 101. Lacinial tip, scale of Fig. 92. Fig. 102. Forewing, scale of Fig. 93. Fig. 103. Phallosome. Fig. 104. Hind margin of clunium. Fig. 105. Epiproct. Scales are in mm; those unmarked = 0.1 mm.



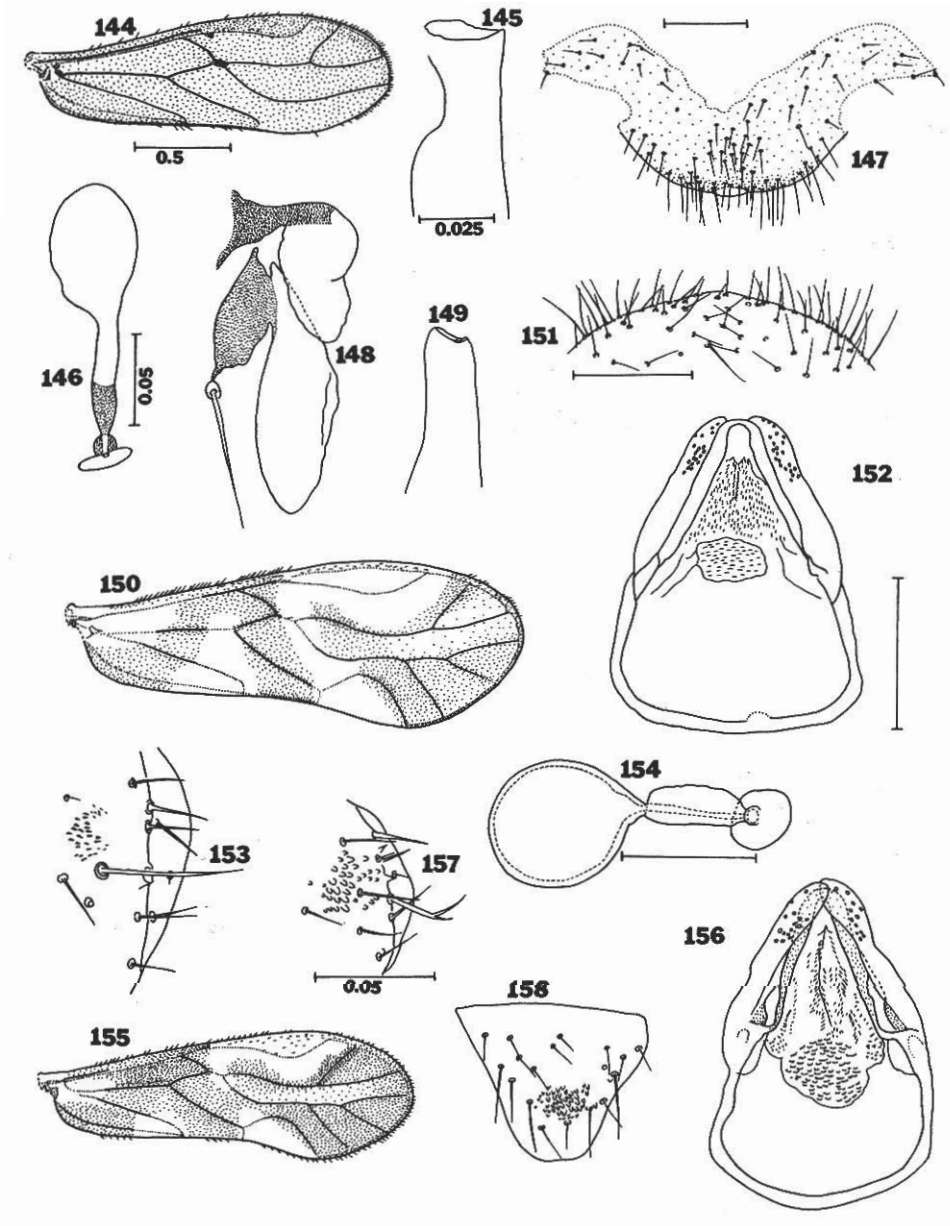
Figs. 106-118. Figs. 106-108. **Dolabellopsocus spinosus** n. sp. ♂. Fig. 106. Lacinial tip. Fig. 107. Forewing. Fig. 108. Phallosome. Fig. 109. **Epipsocus atratus** New ♂, lacinial tip. Figs. 110-114. **Epipsocus stigmaticus** n. sp. ♂. Fig. 110. Forewing, scale of Fig. 107. Fig. 111. Lacinial tip, scale of Fig. 109. Fig. 112. Hypandrium. Fig. 113. Phallosome. Fig. 114. Paraproct. Figs. 115-118. **Epipsocus semiclarus** n. sp. ♂. Fig. 115. Forewing, scale of Fig. 107. Fig. 116. Lacinial tip, scale of Fig. 109. Fig. 117. Hypandrium, scale of Fig. 112. Fig. 118. Phallosome, scale of Fig. 113. Scales are in mm; those unmarked = 0.1mm.



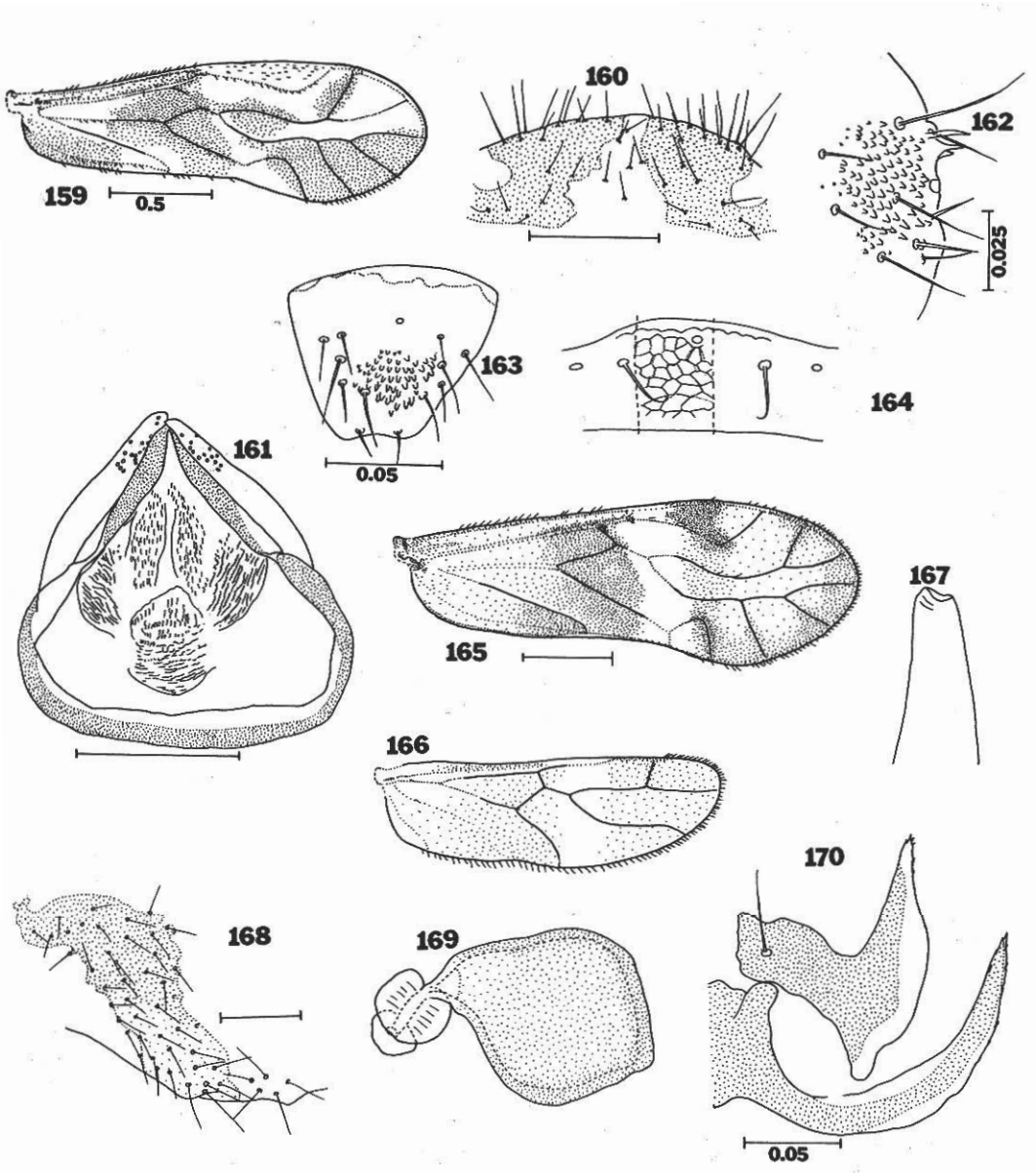
Figs. 119–131. **Epipsocus** spp. Figs. 119–122. **E. badonneli** n. sp. ♂. Fig. 119. Lacinial tip. Fig. 120. Forewing. Fig. 121. Hypandrium. Fig. 122. Phallosome, scale of Fig. 121. Figs. 123–127. **E. foliatus** n. sp. ♂. Fig. 123. Lacinial tip, scale of Fig. 119. Fig. 124. Forewing. Fig. 125. Hypandrium. Fig. 126. Phallosome, scale of Fig. 125. Fig. 127. Epiproct, scale of Fig. 130. Figs. 128–131. **E. roraimensis** n. sp. ♂. Fig. 128. Left and right lacinial tips, scale of Fig. 119. Fig. 129. Forewing, scale of Fig. 124. Fig. 130. Hypandrium. Fig. 131. Phallosome, scale of Fig. 130. Scales are in mm; those unmarked = 0.1 mm.



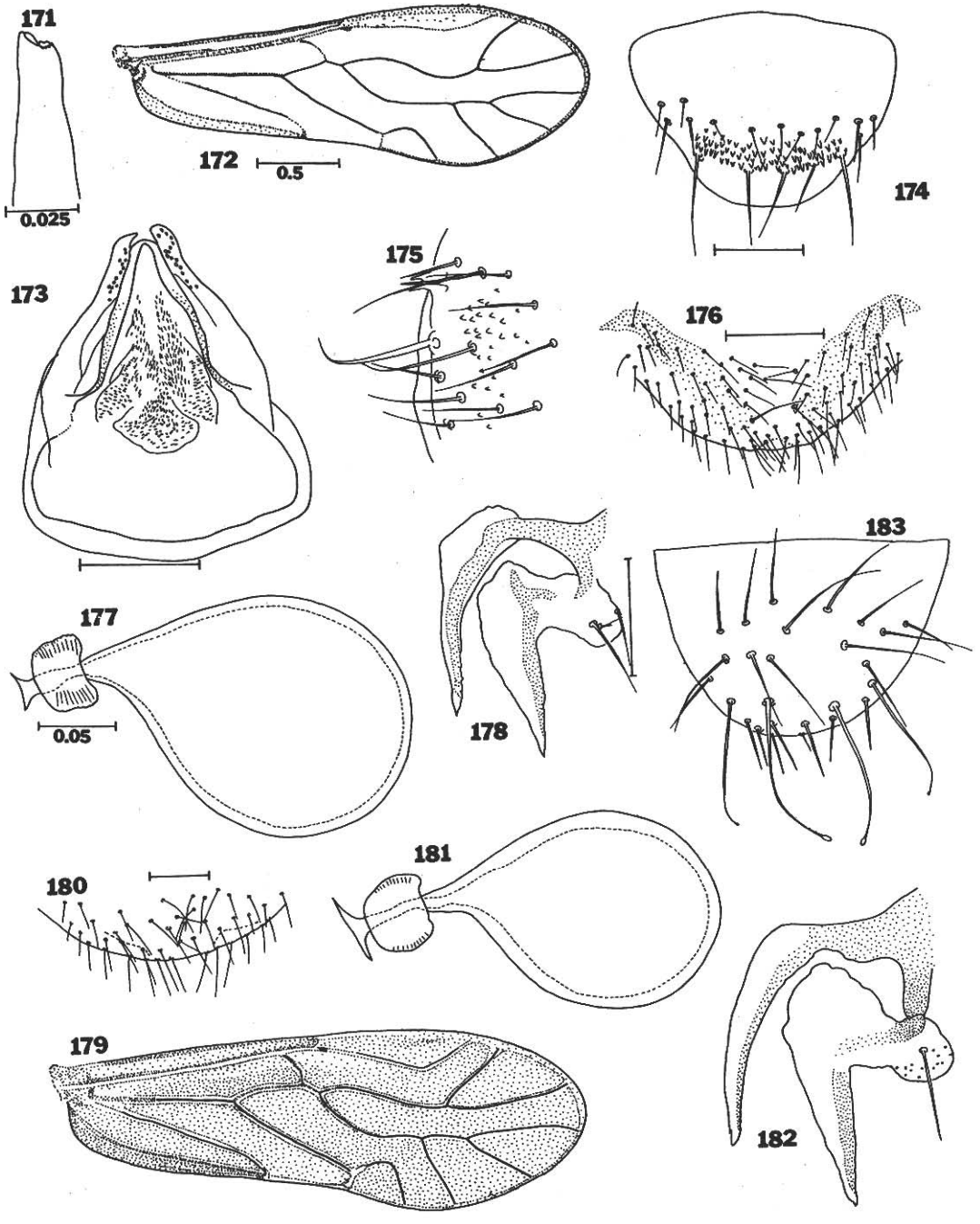
Figs. 132-143. Figs. 132-134. **Neurostigma radiata** n. sp. ♂. Fig. 132. Forewing. Fig. 133. Lacinial tip. Fig. 134. Phallosome. Figs. 135-143. **Notiopsocus simplex** (Banks). Fig. 135. ♂, hypandrium, scale of Fig. 133. Fig. 136. ♂, phallosome (mounted on bias), scale of Fig. 133. Fig. 137. ♂, paraproct, scale of Fig. 133. Fig. 138. ♀, lacinial tip. Fig. 139. ♀, Forewing. Fig. 140. ♀, hindwing, scale of Fig. 139. Fig. 141. ♀, subgenital plate. Fig. 142. ♀, spermatheca, scale of Fig. 138. Fig. 143. ♀, ovipositor valvulae, scale of Fig. 138. Scales are in mm; those unmarked = 0.1 mm.



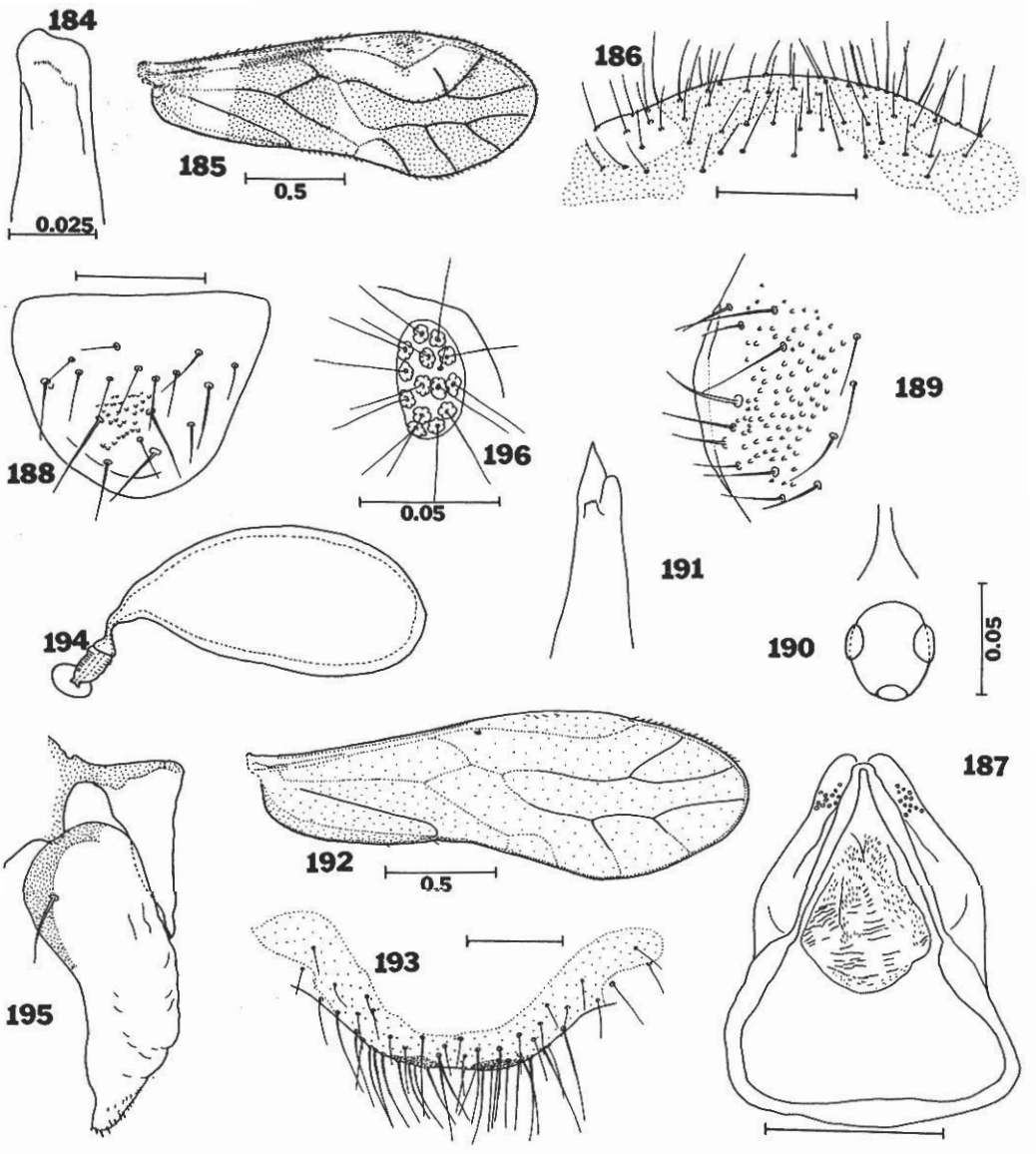
Figs. 144-158. Figs. 144-148. **Notiopsocus facilis** n. sp. ♀. Fig. 144. Forewing. Fig. 145. Lacinial tip. Fig. 146. Spermatheca. Fig. 147. Subgenital plate. Fig. 148. Ovipositor valvulae, scale of Fig. 145. Figs. 149-158. **Caecilius** spp. Figs. 149-154. **C. claristigma** New and Thornton. Fig. 149. ♂, lacinial tip, scale of Fig. 145. Fig. 150. ♂, forewing, scale of Fig. 144. Fig. 151. ♂, hypandrium. Fig. 152. ♂, phallosome. Fig. 153. ♂, paraproctal papillar field and adjacent margin, scale of Fig. 145. Fig. 154 ♀, spermatheca. Fig. 155-158. **C. gemmatus** n. sp. ♂ . Fig. 155. Forewing, scale of Fig. 144. Fig. 156. Phallosome, scale of Fig. 152. Fig. 157. Paraproctal papilar field and adjacent margin, scale of Fig. 146. Fig. 158. Epiproct, scale of Fig. 146. Scales are in mm; those unmarked = 0.1 mm.



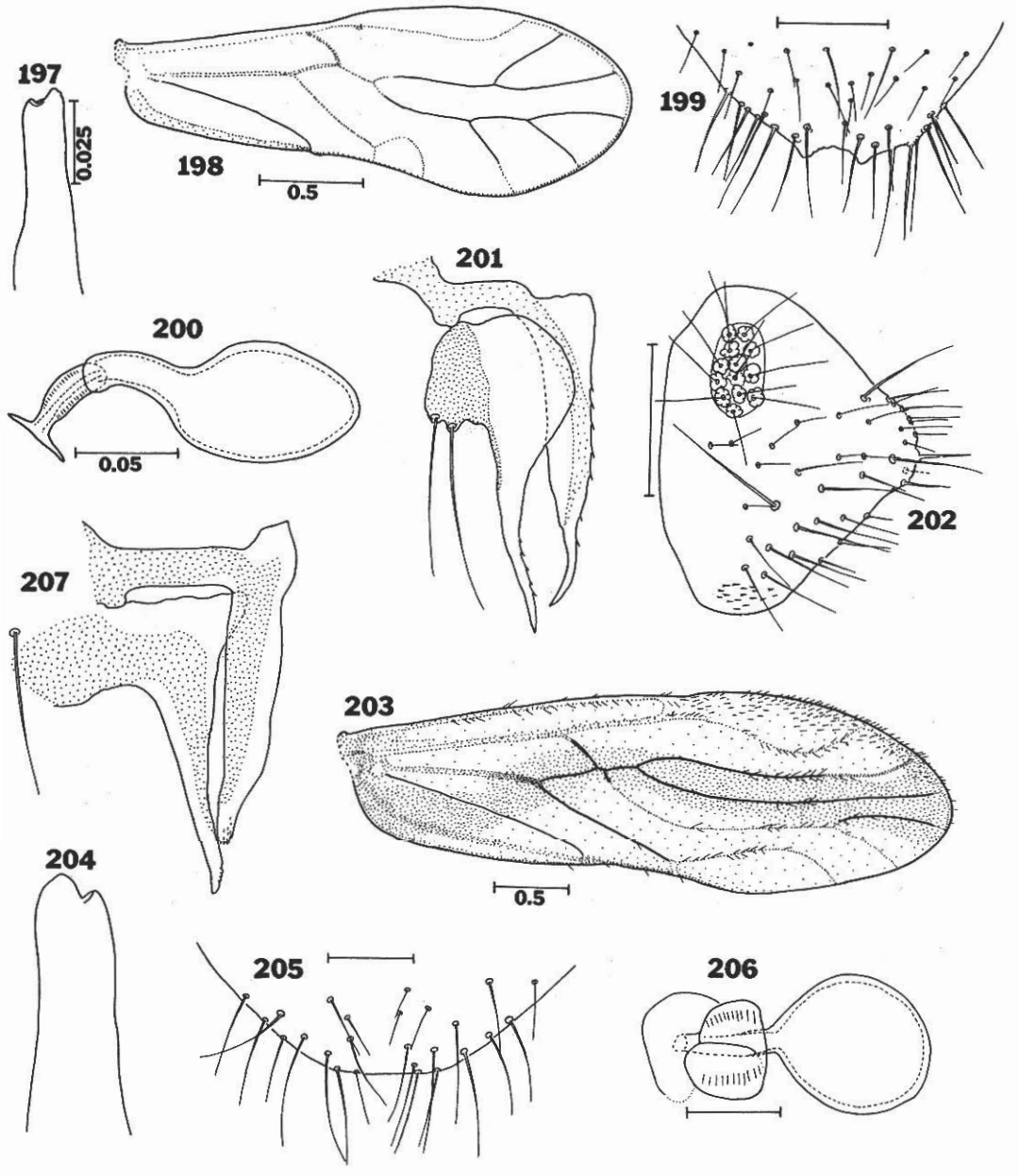
Figs. 159–170. **Caecilius** spp. Figs. 159–163. **C. posticoides** n. sp. ♂. Fig. 159. Forewing. Fig. 160. Hypandrium. Fig. 161. Phallosome. Fig. 162. Paraproctal papillar field and adjacent margin. Fig. 163. Epiproct. Fig. 164. **C. tuberculatus** New and Thornton ♂, free margin of labrum showing sensilla and (between dashed lines) reticulate sculpture, scale of Fig. 162. Figs. 165–170. C. albofasciatus n. sp. ♀. Fig. 165. Forewing. Fig. 166. Hindwing, scale of Fig. 165. Fig. 167. Lacinial tip, scale of Fig. 162. Fig. 168. Subgenital plate (left pigmented arm not shown). Fig. 169. Spermatheca, scale of Fig. 161. Fig. 170. Ovipositor valvulae. Scales are in mm; those unmarked = 0.1 mm.



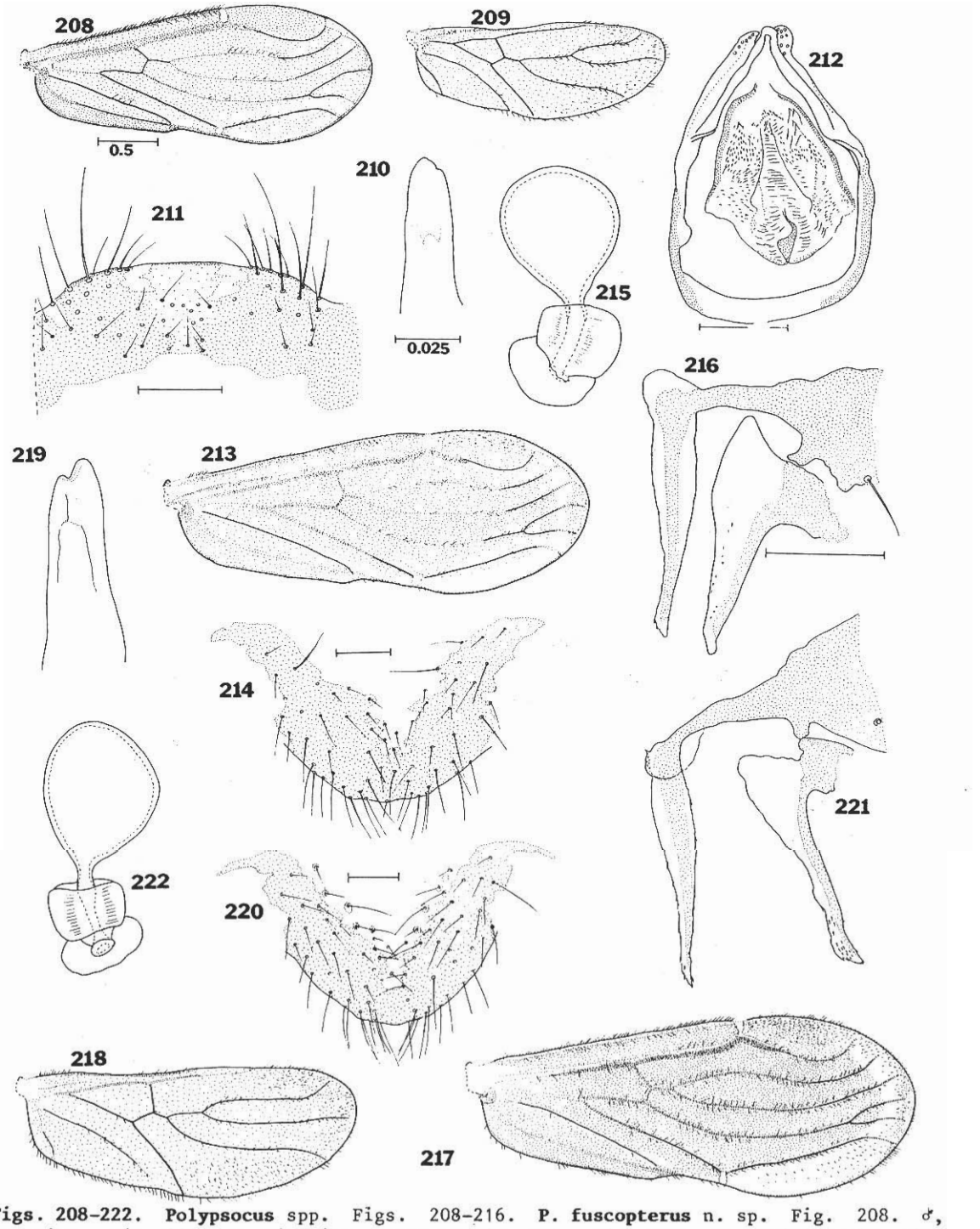
Figs. 171–183. **Caecilius** spp. Figs. 171–177. **C. claripennis** n. sp. Fig. 171. ♂, lacinial tip. Fig. 172. ♂, forewing. Fig. 173. ♂, phallosome. Fig. 174. ♂, epiproct. Fig. 175. ♂, paraproctal papillar field and adjacent margin, scale of Fig. 171. Fig. 176. ♀, subgenital plate. Fig. 177. ♀, spermatheca. Fig. 178, ♀, ovipositor valvulae. Figs. 179–183. **C. obscuripennis** n. sp. ♀. Fig. 179. Forewing, scale of Fig. 172. Fig. 180. Subgenital plate, distal margin. Fig. 181. Spermatheca, scale of Fig. 177. Fig. 182. Ovipositor valvulae, scale of Fig. 177. Fig. 183. Epiproct, scale of Fig. 177. Scales are in mm; those unmarked = 0.1 mm.



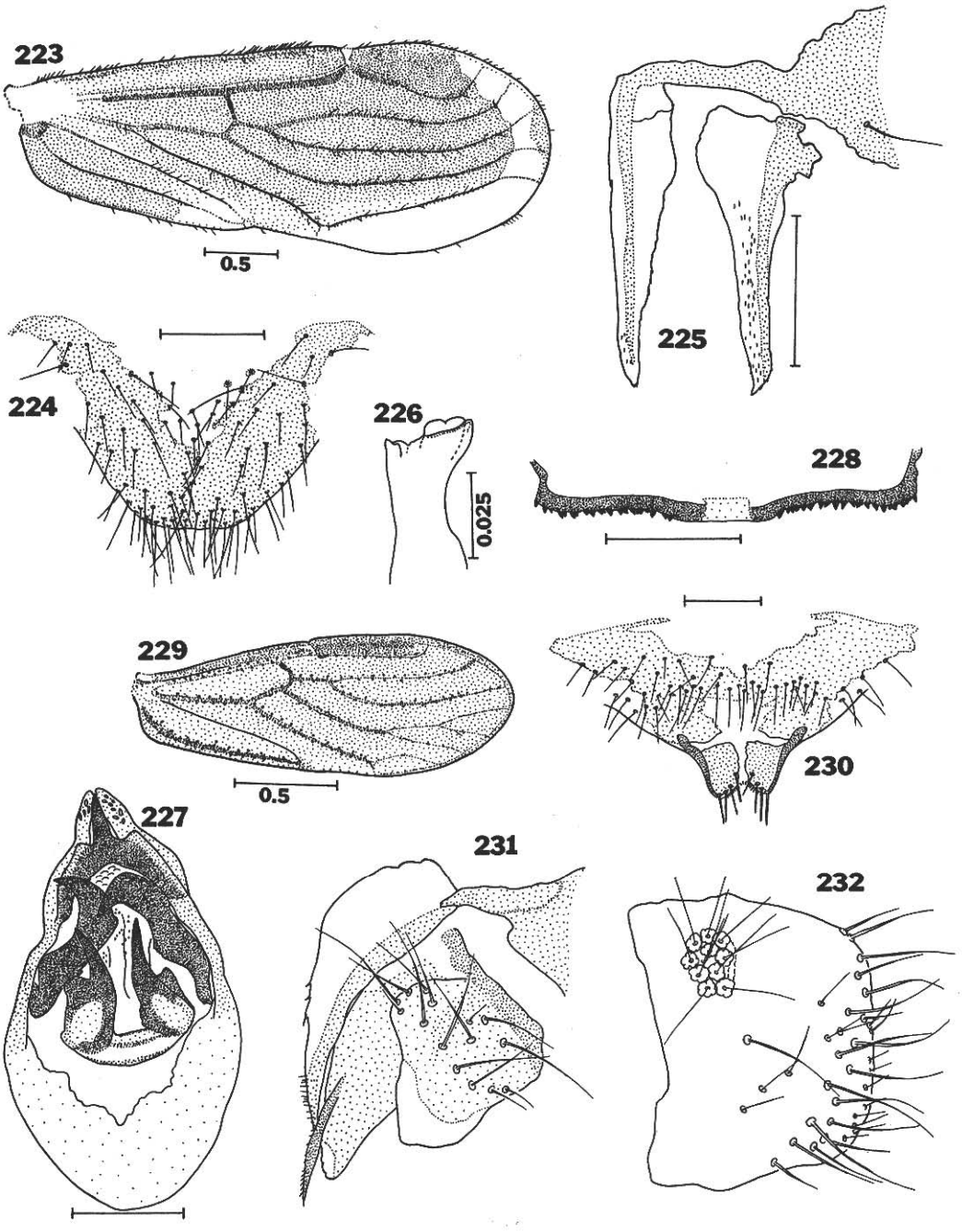
Figs. 184-196. Figs. 184-189. **Caecilius adrianae** n. sp. ♂. Fig. 184. Lacinial tip. Fig. 185. Forewing (extra vein running forward from Rs fork is an anomaly). Fig. 186. Hypandrium. Fig. 187. Phallosome. Fig. 188. Epiproct. Fig. 189. Paraproctal papillar field and adjacent margin, scale of Fig. 186. Figs. 190-196. **Enderleinella occidentalis** n. sp. ♀. Fig. 190. Ocelli and anterior end of median ecdysial line. Fig. 191. Lacinial tip, scale of Fig. 184. Fig. 192. Forewing. Fig. 193. Subgenital plate. Fig. 194. Spermatheca, scale of Fig. 186. Fig. 195. Ovipositor valvulae, scale of Fig. 190. Fig. 196. Paraproctal sensorium. Scales are in mm; those unmarked = 0.1 mm.



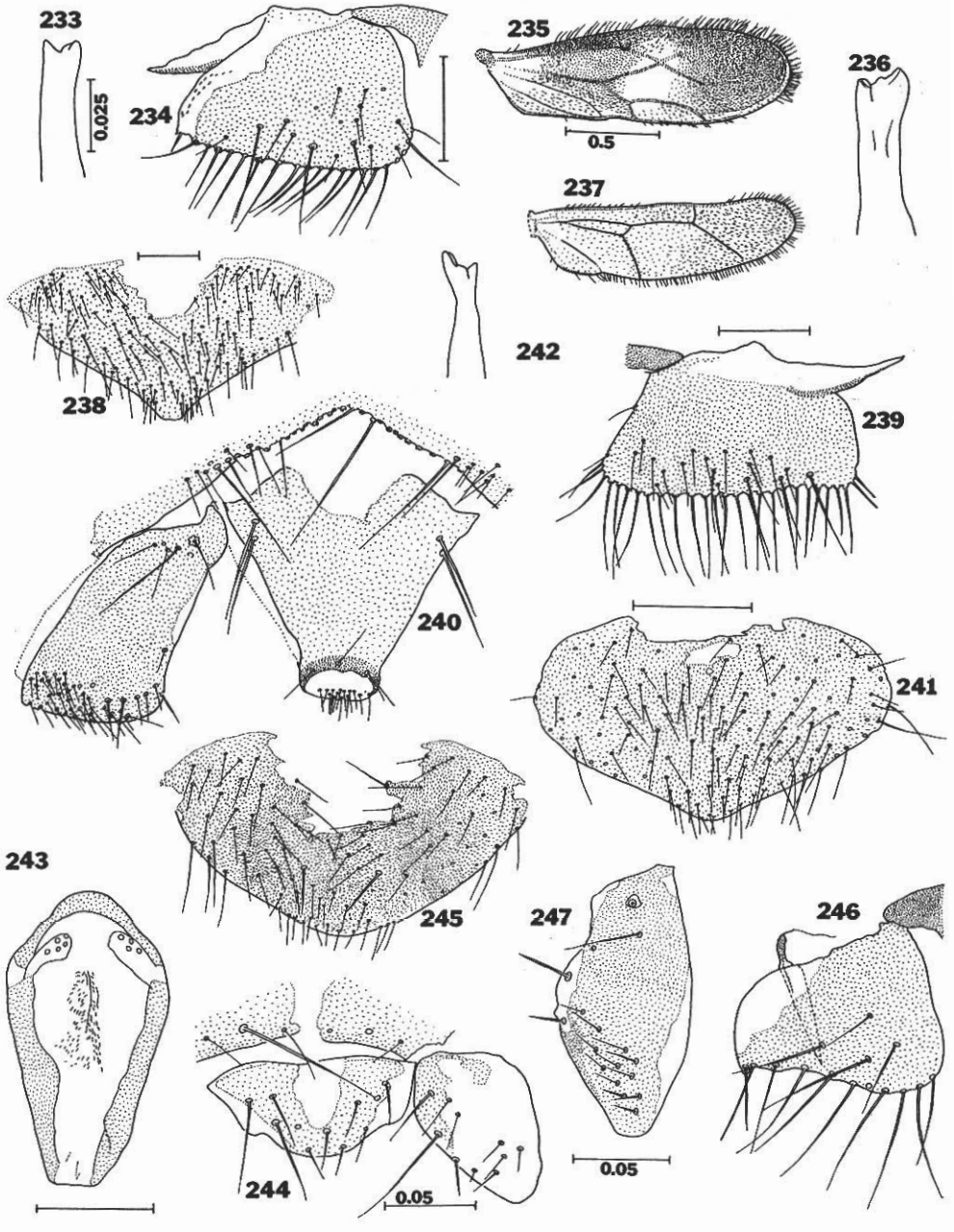
Figs. 197-207. Figs. 197-202. **Xanthocaecilius pallidus** n. sp. ♀. Fig. 197. Lacinial tip. Fig. 198. Forewing. Fig. 199. Subgenital plate. Fig. 200. Spermatheca. Fig. 201. Ovipositor valvulae, scale of Fig. 200. Fig. 202. Paraproct. Figs. 203- 206. **Polypsocus serpentinus** n. sp. ♀. Fig. 203. Forewing. Fig. 204. Lacinial tip, scale of Fig. 197. Fig. 205. Subgenital plate, distal margin. Fig. 206. Spermatheca. Fig. 207. Ovipositor valvulae, scale of Fig. 202. Scales are in mm, those unmarked = 0.1 mm.



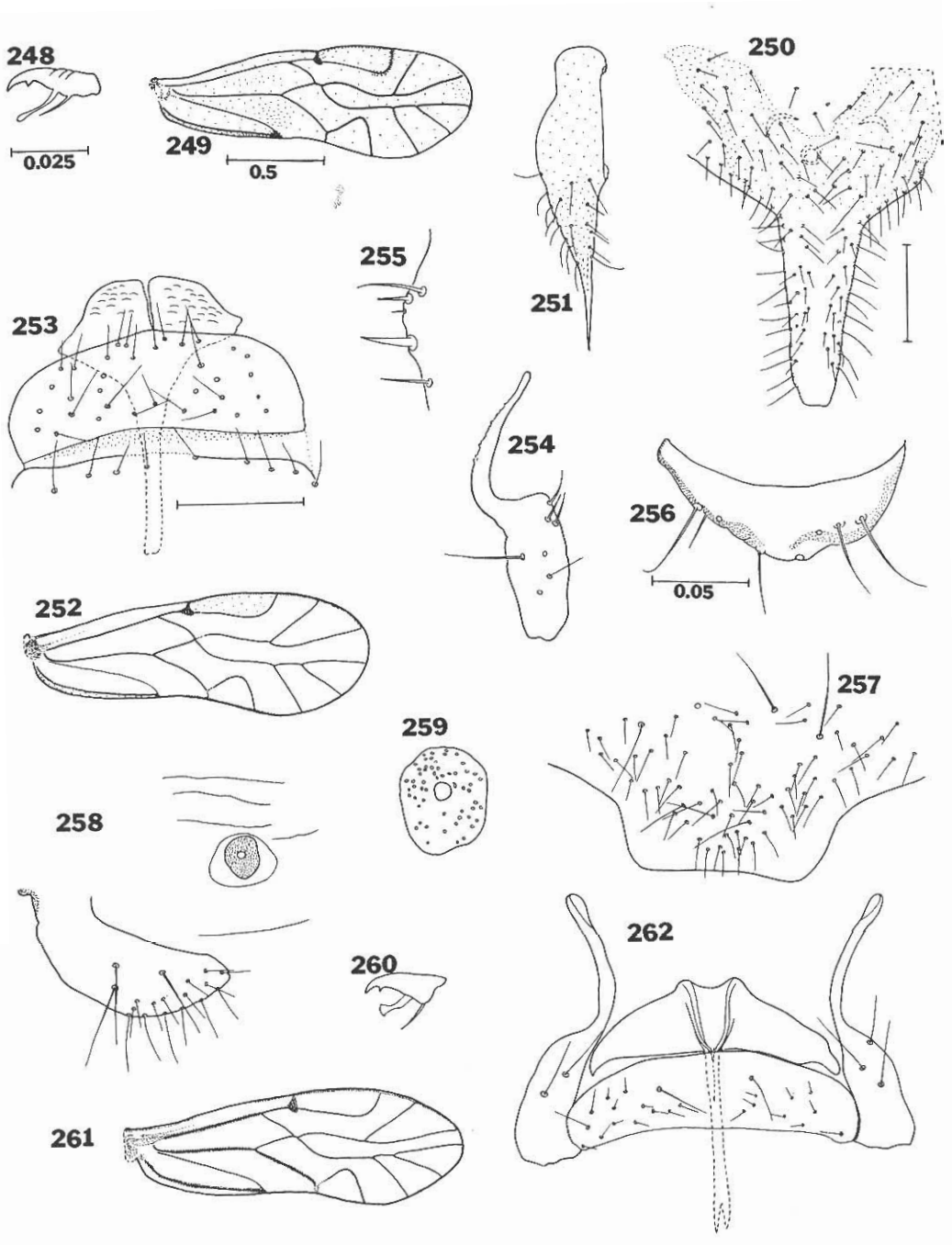
Figs. 208–222. **Polypsocus** spp. Figs. 208–216. **P. fuscopterus** n. sp. Fig. 208. ♂, forewing. Fig. 209. ♂, hindwing, scale of Fig. 208. Fig. 210. ♂, lacinial tip. Fig. 211. ♂, hypandrium. Fig. 212. ♂, phallosome. Fig. 213. ♀, forewing, scale of Fig. 208. Fig. 214. ♀, subgenital plate. Fig. 215. ♀, spermatheca, scale of Fig. 212. Fig. 216. ♀, ovipositor valvulae. Figs. 217–222. **P. lineatus** n. sp. ♀. Fig. 217. Forewing, scale of Fig. 208. Fig. 218. Hindwing, scale of Fig. 208. Fig. 219. Lacinial tip, scale of Fig. 210. Fig. 220. Subgenital Plate. Fig. 221. Ovipositor valvulae scale of Fig. 216. Fig. 222. Spermatheca, scale of Fig. 212. Scales are in mm; those unmarked = 0.1 mm.



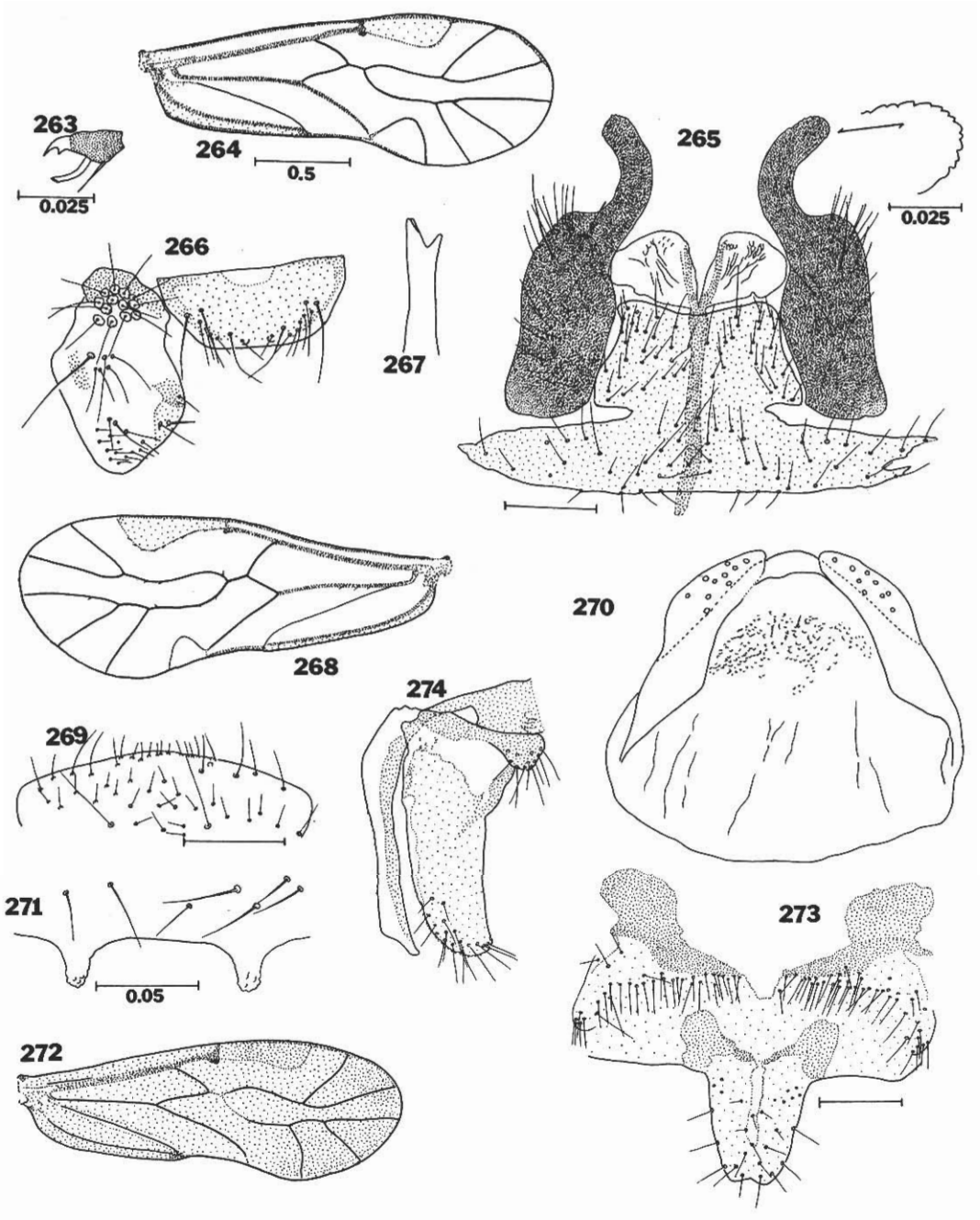
Figs. 223-232. Figs. 223-225. **Polypsocus ohausianus** (Enderlein) ♀. Fig. 223. Forewing. Fig. 224. Subgenital plate. Fig. 225. Ovipositor valvulae. Figs. 226-228. **Aaroniella bruchi** (Williner) ♂. Fig. 226. Lacinial tip. Fig. 227. Phallosome. Fig. 228. Hind margin of clunium. Figs. 229-232. **Scytopsocus fluminis** n. sp. ♀. Fig. 229. Forewing. Fig. 230. Subgenital plate. Fig. 231. Ovipositor valvulae, scale of Fig. 225. Fig. 232. Paraproct, scale of Fig. 225. Scales are in mm; those unmarked = 0.1 mm.



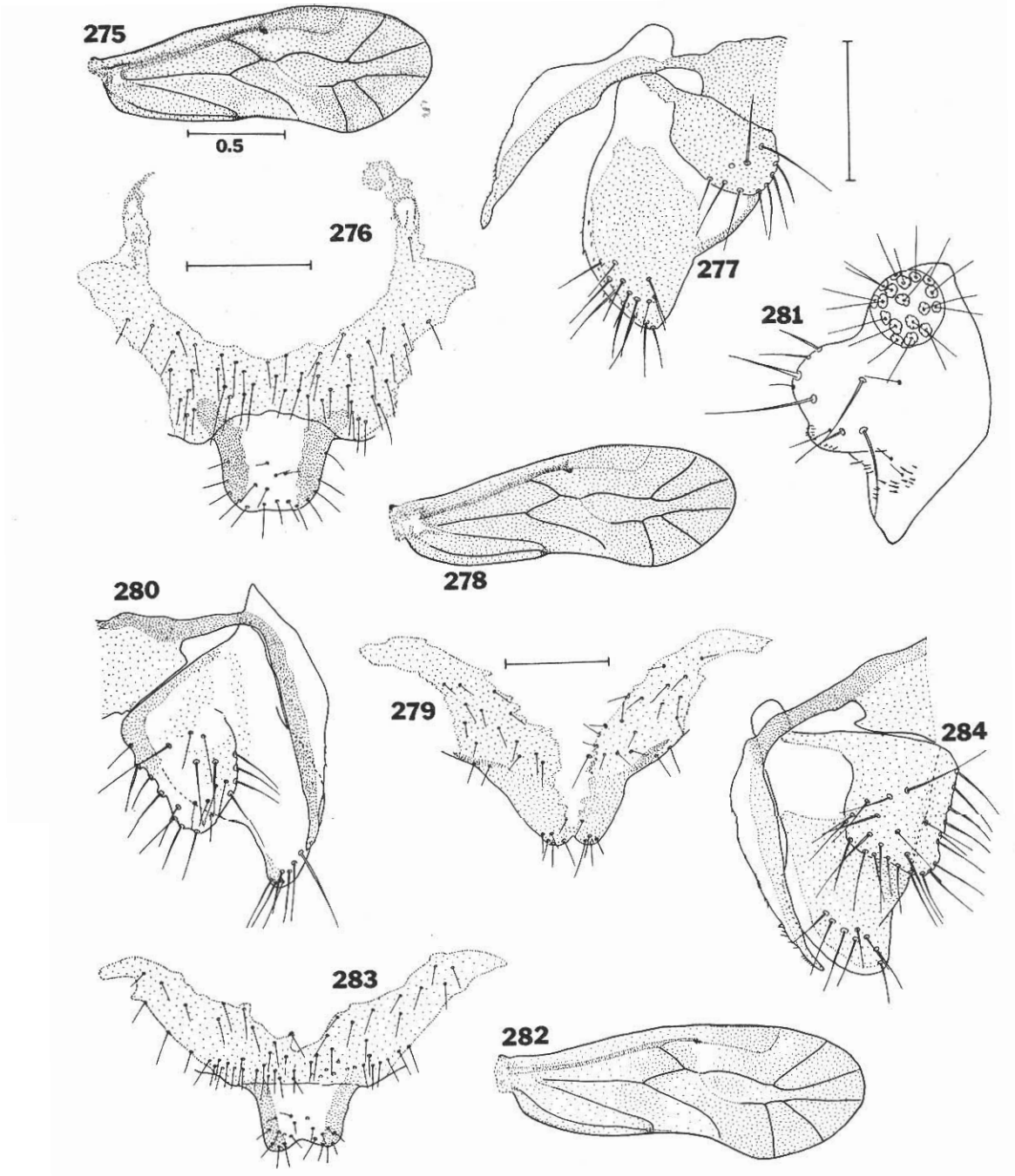
Figs. 233-247. Figs. 233-240. **Notarchipsocus** n. gen. spp. Figs. 233-234. **N. macrurus** (New) ♀. Fig. 233. Lacinial tip. Fig. 234. Ovipositor valvulae. Figs. 235-240. **N. fasciipennis** n. sp. ♀. Fig. 235. Forewing. Fig. 236. Lacinial tip, scale of Fig. 233. Fig. 237. Hindwing, scale of Fig. 235. Fig. 238. Subgenital plate. Fig. 239. Ovipositor valvulae. Fig. 240. Epiproct, paraproct, and hind margin of clunium, scale of Fig. 239. Fig. 241. **Archipsocus minutillus** New ♀, subgenital plate. Figs. 242-247. **Archipsocus indentatus** n. sp. Fig. 242. ♂, lacinial tip, scale of Fig. 233. Fig. 243, ♂, phallosome. Fig. 244. ♂, epiproct, paraproct, and himd margin of clunium. Fig. 245. ♀, subgenital plate, scale of Fig. 241. Fig. 246. ♀, ovipositor valvulae, scale of Fig. 244. Fig. 247. ♀, paraproct. Scales are in mm; those unmarked = 0.1 mm.



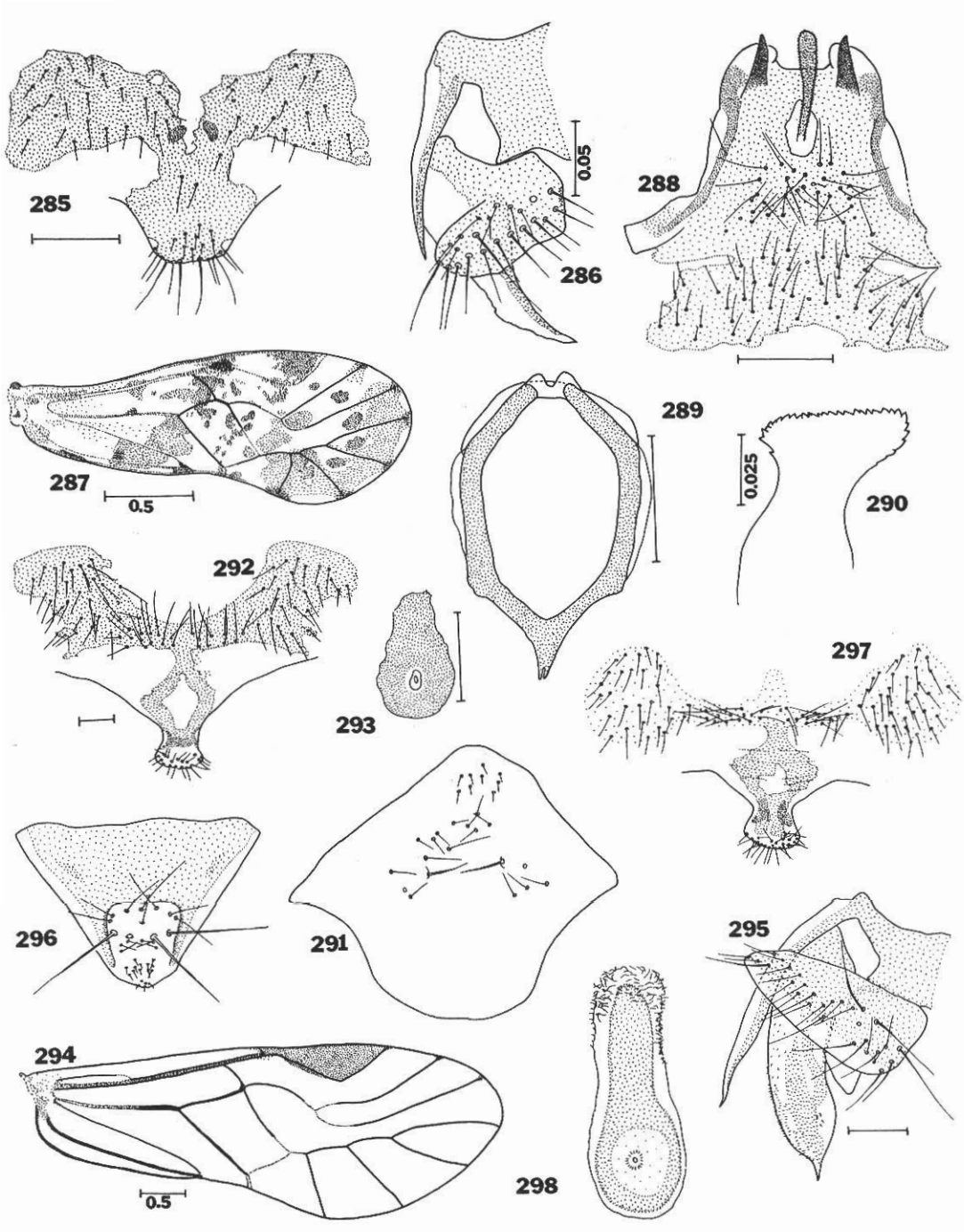
Figs. 248-262. **Lachesilla** spp. Figs. 248-251. **L. acuminata** n. sp. ♀. Fig. 248. Pretarsal claw. Fig. 249. Forewing. Fig. 250. Subgenital plate. Fig. 251. Ovipositor valvulae, scale of Fig. 250. Figs. 252-259. **L. denticulata** n. sp. Fig. 252. ♂, forewing, scale of Fig. 249. Fig. 253. ♂, hypandrium and phallosome. Fig. 254. ♂, right clasper, scale of Fig. 253. Fig. 255. ♂, median margin of paraproct, scale of Fig. 248. Fig. 256. ♂, epiproct. Fig. 257. ♀, subgenital plate, scale of Fig. 250. Fig. 258. ♀, ovipositor valvulae and ninth sternum, scale of Fig. 253. Fig. 259. ♀, spermapore sclerite, scale of Fig. 248. Figs. 260-262. **L. garciai** n. sp. ♂. Fig. 260. Pretarsal claw, scale of Fig. 248. Fig. 261. Forewing, scale of Fig. 249. Fig. 262. Hypandrium, phallosome, and claspers, scale of Fig. 253. Scales are in mm; those unmarked = 0.1 mm.



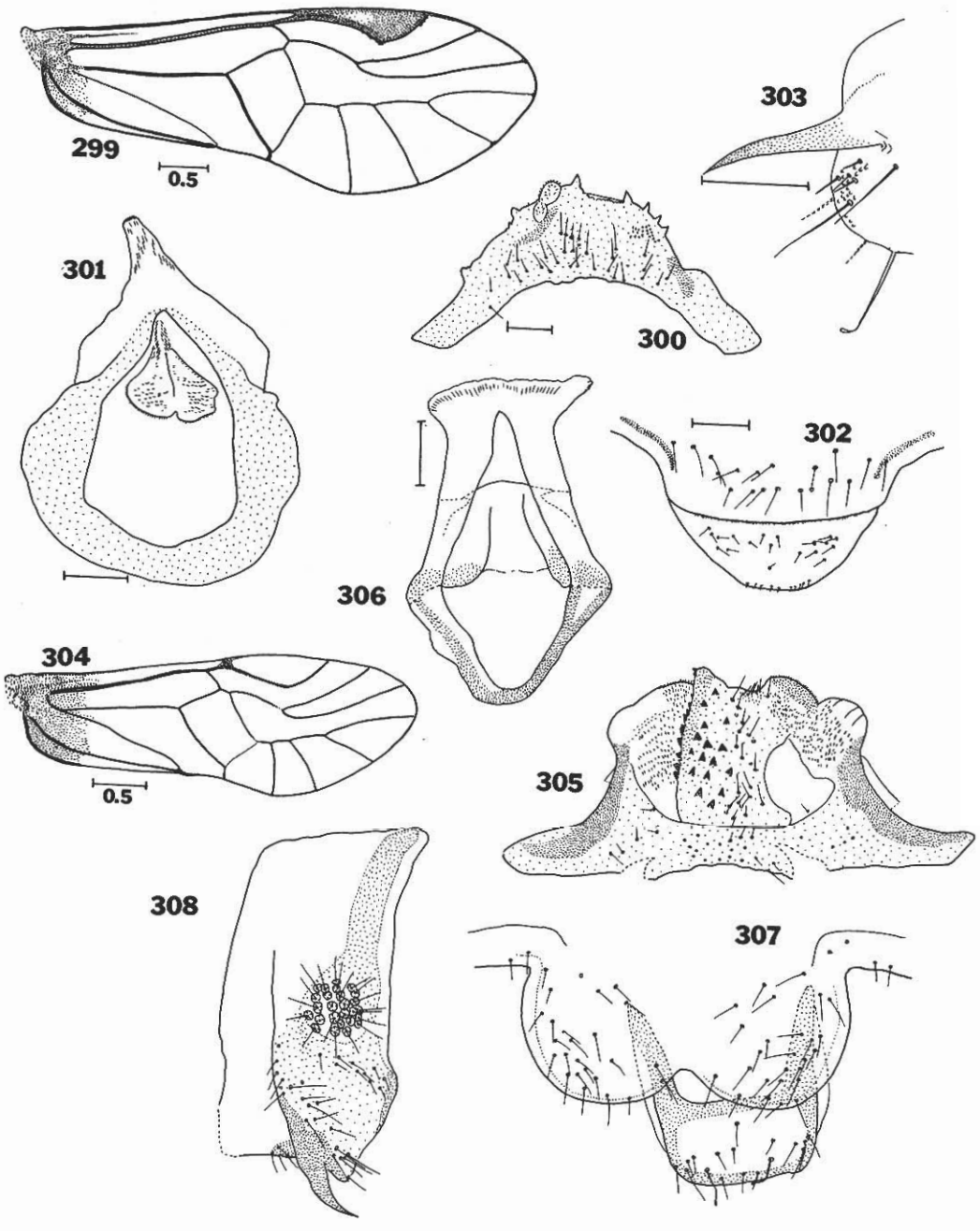
Figs. 263-274. Figs. 263.266. **Lachesilla megaforcepeta** n. sp. ♂. Fig. 263. Pretarsal claw. Fig. 264. Forewing. Fig. 265. Hypandrium, phallosome, and claspers (inset, detail of clasper tip). Fig. 266. Epiproct and left paraproct, scale of Fig. 265. Figs. 267-271. **Notolachesilla maracana** n. sp. . Fig. 267. Lacinial tip, scale of Fig. 263. Fig. 268. Forewing, scale of Fig. 264. Fig. 269. Hypandrium. Fig. 270. Phallosome, scale of Fig. 263. Fig. 271. Hind margin of culunium. Figs. 272-274. **Peripsocus tristis** n. sp. ♀. Fig. 272. Forewing, scale of Fig. 264. Fig. 273. Subgenital plate. Fig. 274. Ovipositor valvulae, scale of Fig. 273. Scales are in mm; those unmarked = 0.1 mm.



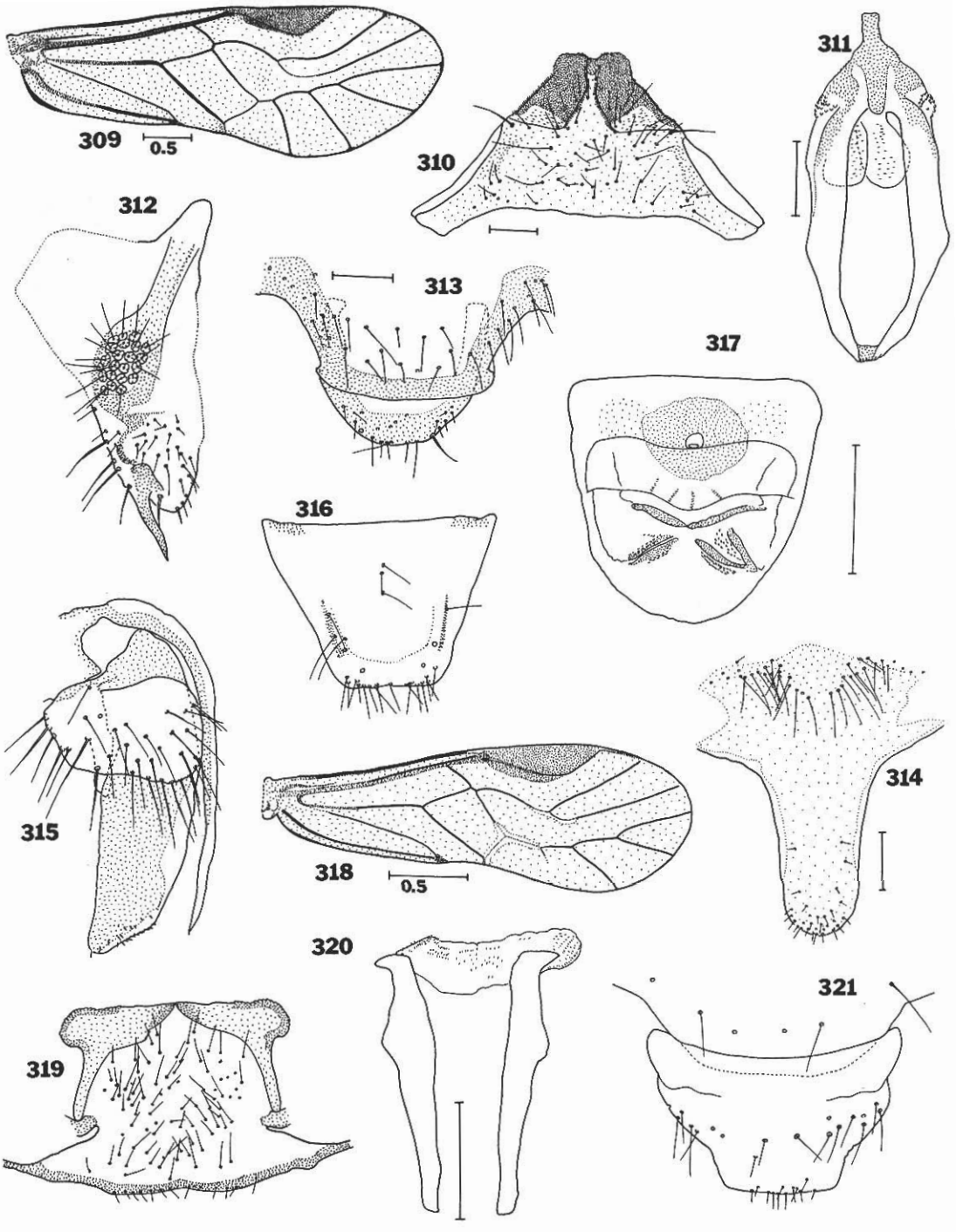
Figs. 275-284. **Peripsocus** spp. Figs. 275-277. **P. subtristis** n. sp. ♀. Fig. 275. Forewing. Fig. 276. Subgenital plate. Fig. 277. Ovipositor valvulae. Figs. 278-281. **P. placidus** n. sp. ♀. Fig. 278. Forewing, scale of Fig. 275. Fig. 279. subgenital plate. Fig. 280. Ovipositor valvulae, scale of Fig. 277. Fig. 281. Paraproct, scale of Fig. 277. Figs. 282-284. **P. nubifer** n. sp. ♀. Fig. 282. Forewing, scale of Fig. 275. Fig. 283. Subgenital plate, scale of Fig. 279. Fig. 284. Ovipositor valvulae, scale of Fig. 277. Scales are in mm; those unmarked = 0.1 mm.



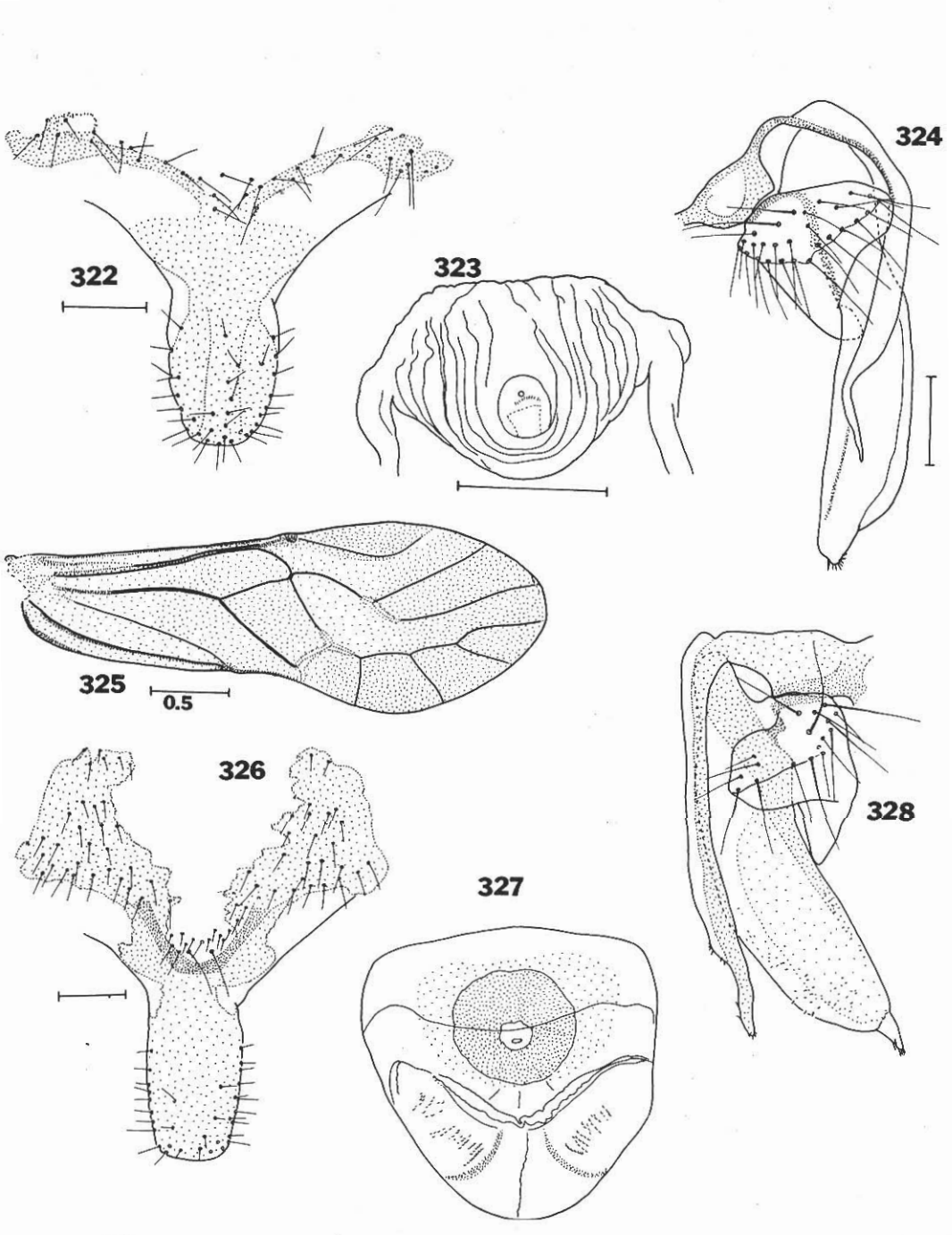
Figs. 285-298. Figs. 285-291. **Trichadenotecnum** spp. Figs. 285-286. **T. gonzalezi** (Williner) ♀. Fig. 285. Subgenital plate. Fig. 286. Ovipositor valvulae. Figs. 287-291. **T. decui** Badonnel ♂. Fig. 287. Forewing. Fig. 288. Hypandrium. Fig. 289. Phallosome. Fig. 290. Clunial arm. Fig. 291. Epiproct, scale of Fig. 286. Figs. 291-298. **Dactylopsocus** spp. Figs. 292-296. **D. similis** n. sp. ♀. Fig. 292. Subgenital plate. Fig. 293. Spermapore sclerite. Fig. 294. Forewing. Fig. 295. Ovipositor valvulae. Fig. 296. Epiproct, scale of Fig. 295. Figs. 297-298. **D. fumigatus** (Kolbe) ♀. Fig. 297. Subgenital plate, scale of Fig. 292. Fig. 298. Spermapore sclerite, scale of Fig. 293. Scales are in mm; those unmarked = 0.1 mm.



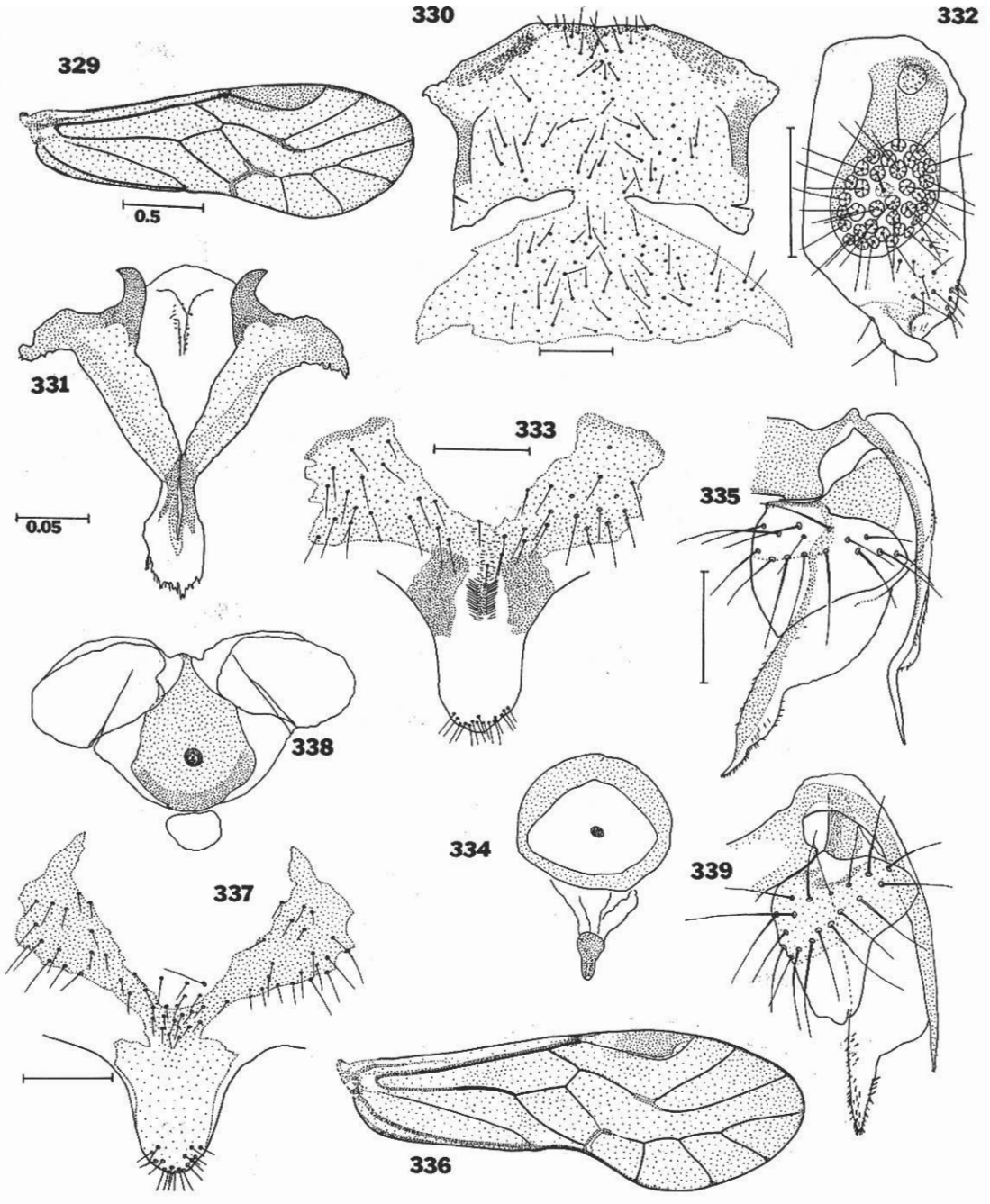
Figs. 299-308. Metylophorus spp. Figs. 299-303. **M. calcaratus** n. sp. ♂. Fig. 299. Forewing. Fig. 300. Hypandrium. Fig. 301. Phallosome. Fig. 302. Epiproct and hind margin of clunium. Fig. 303. Distal end of paraproct. Figs. 304-308. **M. hispidus** n. sp. ♂. Fig. 304. Forewing. Fig. 305. Hypandrium, scale of Fig. 300. Fig. 306. Phallosome. Fig. 307. Epiproct and hind margin of clunium, scale of Fig. 306. Fig. 308. Paraproct, scale of Fig. 306. Scales are in mm; those unmarked = 0.1 mm.



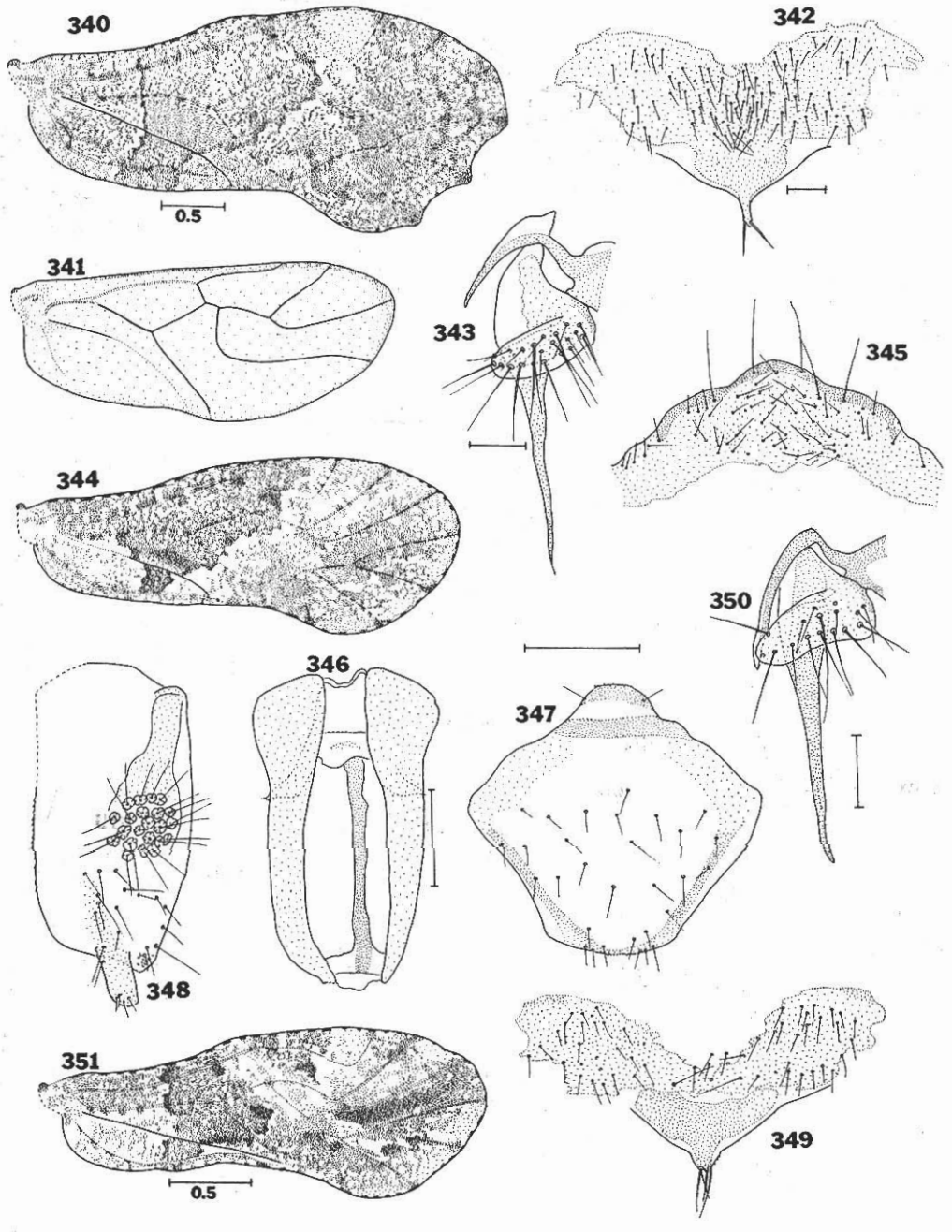
Figs. 309-321. Figs. 309-313. **Metylophorus symmetricus** n. sp. ♂. Fig. 309. Forewing. Fig. 310. Hypandrium. Fig. 311. Phallosome. Fig. 312. Paraproct, scale of Figs. 311. Fig. 313. Epiproct and hind margin of clunium. Figs. 314-316. **Psocides quadrisignatus** (Banks) ♀. Fig. 314. Subgenital plate. Fig. 315. Ovipositor valvulae, scale of Fig. 311. Fig. 316. Epiproct, scale of Fig. 311. Figs. 317-321. **Blaste** spp. Fig. 317. **B. macrura** New ♀. Ninth sternum. Figs. 318-321. **B. serrata** n. sp. ♂. Fig. 318. Forewing. Fig. 319. Hypandrium, scale of Fig. 310. Fig. 320. Phallosome. Fig. 321. Epiproct and hind margin of clunium, scale of Fig. 320. Scales are in mm; those unmarked = 0.1 mm.



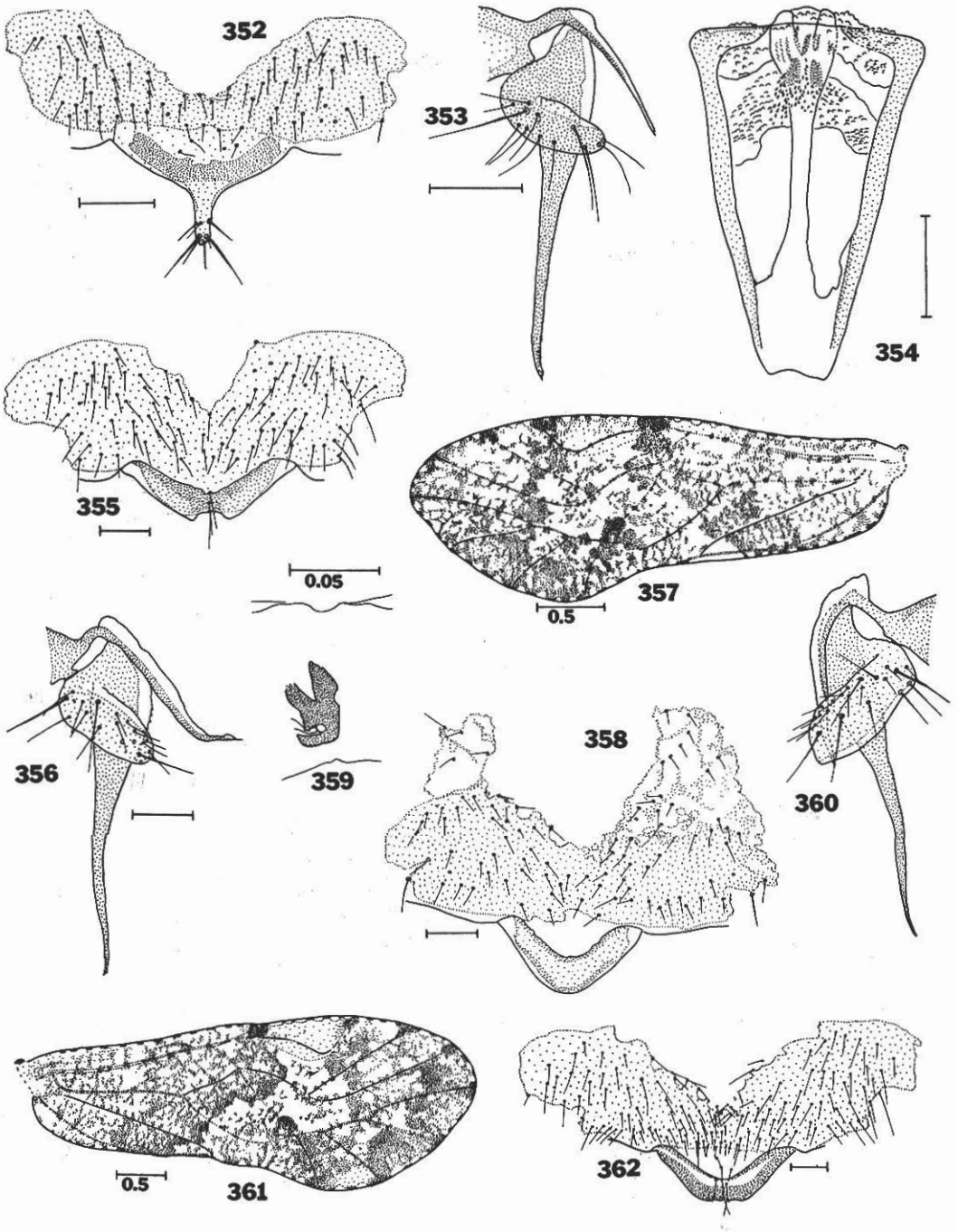
Figs. 322-328. Blaste spp. Figs. 322-324. **B. serrata** n. sp. ♀. Fig. 322. Subgenital plate. Fig. 323. Ninth sternum. Fig. 324. Ovipositor valvulae. Figs. 325-328. **B. longispina** n. sp. ♀. Fig. 325. Forewing. Fig. 326. Subgenital plate.Fig. 327. Ninth sternum, scale of Fig. 323. Fig. 328. Ovipositor valvulae, scale of Fig. 322. Scales are in mm; those unmarked = 0.1 mm.



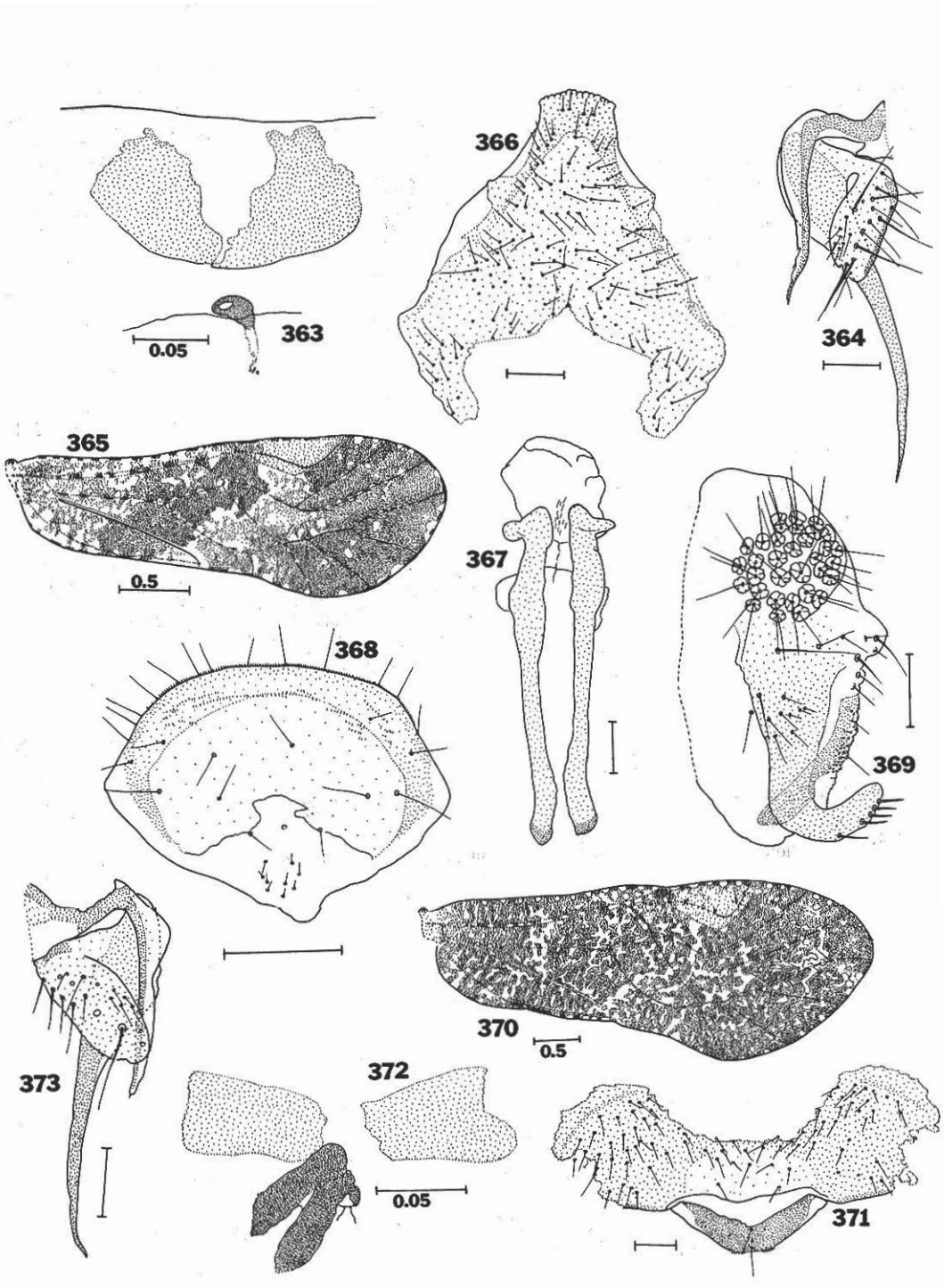
Figs. 329-339. Blaste spp. Figs. 329-335. B. hamata n. sp. Fig. 329. ♂, forewing. Fig. 330. ♂, hypnadrium. Fig. 331. ♂, phallosome. Fig. 332. ♂, paraproct. Fig. 333. ♀, subgenital plate. Fig. 334. ♀, sclerotizations of ninth sternum, scale of Fig. 332. Fig. 335. ♀, ovipositor valvulae. Figs. 336-339. **B. caudata** n. sp. ♀. Fig. 336. Forewing, scale of Fig. 329. Fig. 337. Subgenital plate. Fig. 338. Ninth sternum, scale of Fig. 332. Fig. 339. Ovipositor valvulae, scale of Fig. 335. Scales are in mm; those unmarked = 0.1 mm.



Figs. 340-351. **Myopsocus** spp. Figs. 340-343. **M. vespertilio** n. sp. ♀. Fig. 340. Forewing. Fig. 341. Hindwing, scale of Fig. 340. Fig. 342. Subgenital plate. Fig. 343. Ovipositor valvulae. Figs. 344-350. **M. parvus** n. sp. Fig. 344. ♂, forewing, scale of Fig. 340. Fig. 345. ♂, hypandrium, scale of Fig. 343. Fig. 346. ♂, phallosome. Fig. 347. ♂, epiproct. Fig. 348. ♂, paraproct, scale of Fig. 346. Fig. 349. ♀, subgenital plate, scale of Fig. 343. Fig. 350. ♀, ovipositor valvulae. Fig. 351. **M. pallidus** n. sp. ♀, forewing. Scales are in mm; those unmarked = 0.1 mm.



Figs. 352-362. Figs. 352-353. **Myopsocus pallidus** n. sp. ♀. Fig. 352.Subgenital plate. Fig. 353. Ovipositor valvulae. Figs. 354-362. **Lichenomima** spp. Figs. 354-356. **L. ariasi** New. Fig. 354. ♂, phallosome. Fig. 355. ♀, subgenital plate. Fig. 356 ♀, ovipositor valvulae. Figs. 357-360. **L. thorntoni** n. sp. ♀. Fig. 357. Forewing. Fig. 358. Subgenital plate. Fig. 359. Sclerotization of ninth sternum. Fig. 360. Ovipositor valvulae, scale of Fig. 356. Figs. 361-362. **L. timmei** n. sp. ♀. Fig.361. Forewing. Fig. 362. Subgenital plate. Scales are in mm; those unmarked = 0.1 mm.



Figs. 363-373. **Lichenomima** spp. Figs. 363-364. **L. timmei** n. sp. ♀. Fig. 363. Sclerotizations of ninth sternum. Fig. 364. Ovipositor valvulae. Figs. 365-373. **L. onca** n. sp. Fig. 365. ♂, forewing. Fig. 366. ♂, hypandrium. Fig. 367. ♂, phallosome. Fig. 368. ♂, epiproct. Fig. 369. ♂, paraproct. Fig. 370. ♀, forewing. Fig. 371. ♀, subgenital plate. Fig. 372. ♀, sclerotizations of ninth sternum. Fig. 373. ♀, ovipositor valvulae. Scales are in mm; those unmarked = 0.1 mm.

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