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**Undescribed Neotropical Trichoceridae
and Tipulidae (Diptera)**

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Undescribed Neotropical Trichoceridae and Tipulidae (Diptera)

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(With 44 figures)

In the present paper I am discussing various crane flies chiefly from Chile where they were collected by the veteran entomological student Senor Luis E. Peña, of the Estación Experimental Agronomica, Universidad de Chile, Santiago. Fewer species from the mountains of northern Panama were taken by my friend and former student, Lt. Col. Gordon Field, presently with the Department of Plant Pathology and Entomology of the University of Rhode Island, Kingston. A single species of unusual interest was reared in Mexico by Dr. Carlos R. Beutelspacher Baigts, of the Instituto de Biologia, Mexico D. F., originally sent to me for determination by Dr. Howard E. Hinton, of Bristol, England. I express my sincere thanks to all of the above for their continued cooperation in making known the exceedingly rich crane fly fauna of Tropical America. The types of the species are preserved in my personal collection except where indicated otherwise.

Preoccupied Names

I am indebted to Dr. Alan Stone for calling to my attention two preoccupied names in the Tipulidae.

Limonia (Rhipidia) platyphallus, new name, for *Limonia (Rhipidia) euryphallus* Alexander, *Studia Entomologica*, 10: 336; 1967. Preoccupied by *Limonia (Geranomyia) euryphallus* Alexander, *Ann. Natal Mus.*, 15: 16; 1960.

Limonia (Rhipidia) praesuffusa, new name, for *Limonia (Rhipidia) persuffusa* Alexander, *Studia Entomologica*, 10: 341; 1967. Preoccupied by *Limonia persuffusa* Alexander, *Ruwenzori Expedition 1934-35, British Museum (Natural History)*, Vol. 1, no. 7 Tipulidae, p. 203, in key, couplet 53; 1956. The latter name and other descriptions in the key were intended for inclusion in a special report on the species of the Belgian Congo that still has not appeared in press.

Trichoceridae

Paracladura scimitar sp. n.

Mesonotal praescutum with three confluent dark brown stripes, humeral and lateral borders, with the posterior sclerites, yellowed; pleura brown anteriorly, mesepimeron and posterior pleurites yellowed; wings whitish hyaline, unpatterned; male hypopygium with dististyles long and slender, with very long dark colored setae; phallosome with gonapophyses incurved, each appearing as a flattened blade that narrows into a long needlelike spine.

Male. — Length, about 4 mm.; wing, 4.2 mm. Rostrum and palpi brown. Antennae brown throughout. Head dark brown, paler anteriorly.

Pronotum dark brown. Mesonotal praescutum with disk chiefly covered by three confluent dark brown stripes, humeral and lateral borders obscure yellow; scutal lobes brown, central area, with the scutellum and mediotergite yellow. Pleura brown anteriorly, including the propleura and mesepisternum, the mesepimeron and posterior pleurites yellowed. Halteres brown, base of stem yellow. Legs with coxae and trochanters testaceous yellow; remainder of legs brown. Wings (Fig. 1) whitish hyaline, unpatterned; veins brown, those in prearcular field more yellowed. Venation: Sc_2 shortly beyond one-third the length of Rs ; $m-cu$ on M_4 .

Abdominal tergites dark brown, sternites paler brown, pleural membrane more yellowed; hypopygium brown, the dististyles more intensely so. Male hypopygium (Fig. 2) with the dististyles, d , long and slender, broadest on proximal third, narrowed to the obtuse tip, surface with very long conspicuous dark colored setae, the longest nearly one-half the style. Phallosome, p , with each gonapophysis, g , appearing as a conspicuous incurved flattened blade, broad on more than proximal half, thence narrowed into a long needlelike spine, without lateral spines or points; aedeagus a central flattened pale paddlelike structure.

Habitat: Chile.

Holotype, ♂, Pucatrihue, Osorno, April 10-12, 1968 (Peña).

The previously described South American species were discussed in an earlier paper by the writer (Diptera Patagonia and South Chile, 1 : 222-227, Text-fig. C; 1929). The species most similar to the present fly is *Paracladura edwardsi* Alexander, which has the male hypopygium quite distinct, including the shorter dististyles with pale setae, and the different gonapophyses. The long scimitar shaped apophyses of the present fly are very distinctive.

As has been indicated elsewhere it now seems certain that the fly described by Bigot as *Tricyphona pusilla* (Miss. Scient. Cape Horn, VI, Zool., pt. 2: 10; 1888) from Tierra del Fuego actually is a member of the present genus.

***Paracladura spicata* sp. n.**

General coloration brown, scutellum and pleurotergite yellowed; knobs of halteres brownish black; legs brown; wings subhyaline, *m-cu* at fork of M_{3-4} ; male hypopygium with dististyle simple; aedeagus with a subtending spearlike rod, its tip acute; gonapophysis, *g*, a powerful smooth horn, the outer fourth bent at nearly a right angle into an acute spine.

Male. — Length, about 2.8-3 mm.; wing, 3.4-3.8 mm.

Female. — Length, about 2.8 mm.; wing, 3.5 mm.

Rostrum and palpi black. Antennae black, apex of pedicel more yellowed. Head dark brown.

Pronotal scutum brown, scutellum obscure yellow. Mesonotum brown, scutellum, pleurotergite and dorsal pteropleurite yellowed. Pleura dark brown. Halteres with stem brownish yellow, knob elongate, brownish black. Legs with coxae and trochanters obscure yellow; remainder of legs brown, femoral bases restrictedly paler. Wings subhyaline, prearcular and costal fields slightly more yellowed; veins brown. Venation: *M* in direct longitudinal alignment with M_{1-2} ; cell M_1 subequal in length to its petiole; *m-cu* at or just beyond fork of M_{3-4} ; cell 2nd *A* narrow.

Abdomen dark brown, including the pleural membrane. Ovipositor with cerci dusky, long-triangular, narrowed to the sub-obtuse apex, both margins nearly straight. Male hypopygium (Fig. 3) with the dististyle, *d*, simple, relatively short, the length slightly less than four times the diameter, outer face with long pale setae. Phallosome, *p*, distinctive, including the slender aedeagus, *a*, and a subtending somewhat shorter spearlike rod, its tip acute; gonapophysis, *g*, appearing as a powerful smooth horn, base broad, the outer fourth bent at nearly a right angle into an acute spine.

Habitat: Chile.

Holotype, ♂, Chepu, Chiloe Island, April 4-6, 1968 (Peña). Allotopotype ♀ and paratopotype ♀ pinned with the type. Paratypes, ♂♂, Pucatrihue, Osorno, April 10-12, 1968 (Peña).

The present fly is readily told from the most similar species, *Paracladura chilensis* Alexander, by the hypopygium, especially the phallosome, including the spearlike rod that subtends the aedeagus and by the acutely pointed gonapophyses.

Tipulidae

Tipulinae

Tipula (Eumicrotipula) nubleana sp. n.

Allied to *jaennickeana*; mesonotal praescutum gray with four light brown stripes, the intermediate pair broken on anterior half; femora yellow with a vague pale brown subterminal ring; wings yellowish brown, only slightly patterned, the stigmal area more conspicuous; male hypopygium with mesal lobe of basistyle bilobed; appendage of eighth sternite long and narrow, especially the outer third, apex glabrous.

Male. — Length, about 17 mm.; wing, 16 mm.; antenna, about 6.8 mm. Frontal prolongation of head brown; palpi brown, outer end of terminal segment yellowed. Antennae with proximal three segments yellowed, succeeding two segments bicolored, brown, basal enlargement darker, outer segments more uniformly darkened. Head brown.

Pronotum obscure brownish yellow, sides vaguely grayish. Mesonotal praescutum gray, with four light brown stripes, more clearly defined on posterior half, intermediate pair widened and broken anteriorly; scutum dark gray, more obscured medially; scutellum brownish yellow with a vague capillary brown line, parascutella yellow; mediotergite gray with a brown central line, posterior border restrictedly darkened. Pleura with mesepisternum gray, dorsal sternopleurite paler, mesepimeron and posterior sclerites paler yellowish gray; propleura and dorsopleural membrane yellowed. Halteres brown, base of stem yellowed. Legs with coxae brownish gray, yellow apically, posterior pair more uniformly yellow; trochanters yellow; femora yellow with a vague narrow pale brown subterminal ring; remainder of legs obscure yellow, passing into light brown, outer segments dark brown; claws of male small, with a strong basal spine. Wings yellowish brown, only slightly patterned, the most conspicuous dark area stigmal, pale brown, proximal end more yellowed; cells *C* and *Sc* unvariegated; poststigmal brightening in cell *R*₂ conspicuous; obliterative areas at cord restricted, in outer end of cell *R* and in center of 1st *M*₂; veins brown. Venation: Basal section of *R*₄₋₅ very short, *Rs* almost in alignment; petiole of cell *M*₁ slightly exceeding *m*, *m-cu* at near three-fourths *M*₃₋₄.

Abdominal tergites yellow with three narrow brown stripes, interrupted at the sutures, lateral pair more evidently so, lateral tergal borders broadly yellow; sternites yellow with a conspicuous darkened central stripe; hypopygium chiefly yellowed. Male hypo-

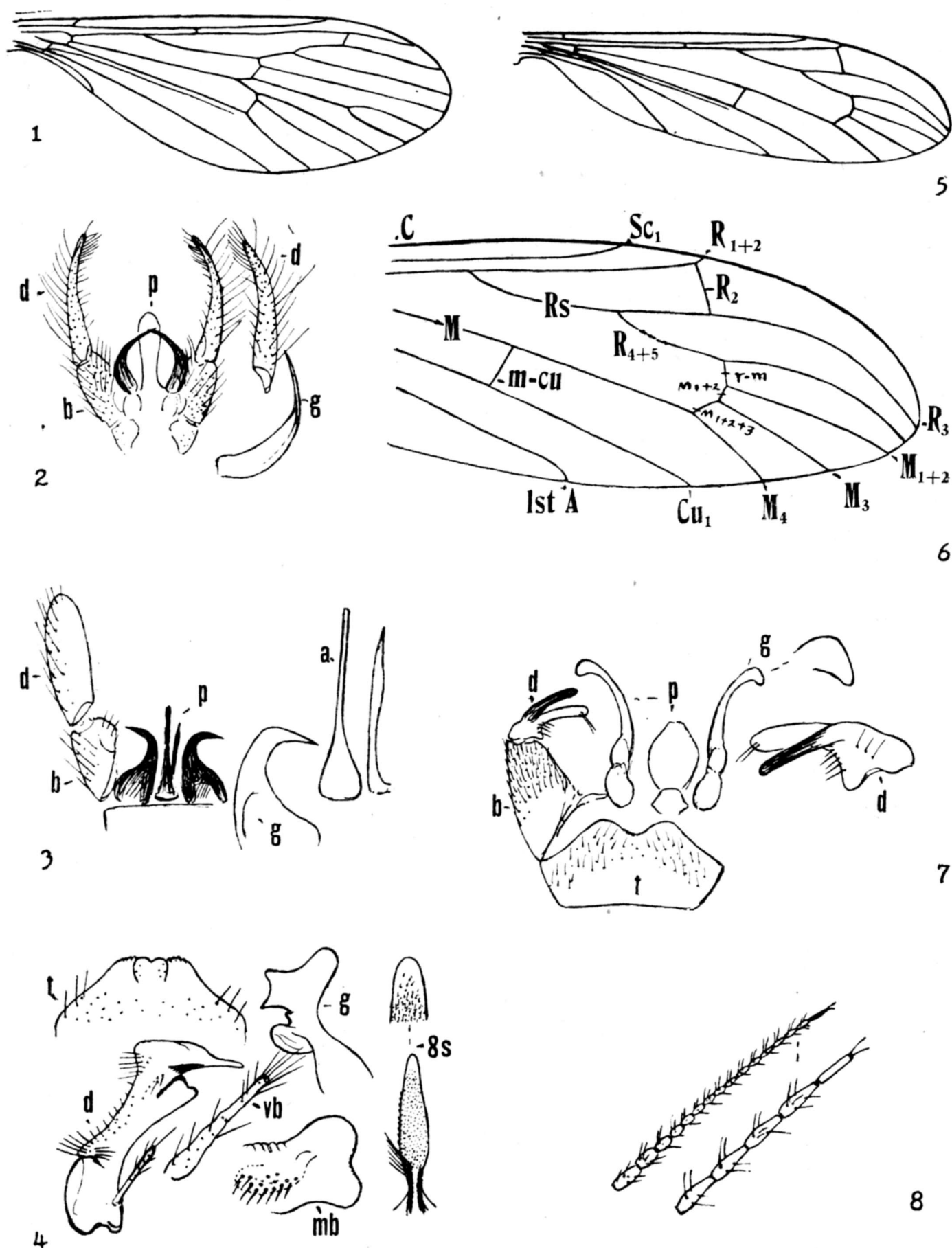


Fig. 1. *Paracladura scimitar* sp. n.; venation. — Fig. 2. *Paracladura scimitar* sp. n.; male hypopygium. — Fig. 3. *Paracladura spicata* sp. n.; male hypopygium. — Fig. 4. *Tipula (Eumicrotipula) nubleana* sp. n.; male hypopygium. — Figs. 5, 6. *Araucoxenia paradoxa* sp. n.; venation. — Figs. 7, 8. *Araucoxenia paradoxa* sp. n.; male hypopygium and antenna. — (Symbols, Venation: A, Anals; C, Costa; Cu, Cubitus; M, Media; m-cu, medial-cubital crossvein; R, Radius; r-m, radial-medial crossvein; Sc, Subcosta. Male hypopygium: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; mb, mesal lobe of basistyle; p, phallosome; s, sternite; t, tergite).

pygium (Fig. 4) generally as in *jaennickeana*, differing in details of structure, especially the appendage of the eighth sternite, less evidently in the basistyle. Ninth tergite, *t*, narrowed outwardly, apex virtually truncate, microscopically roughened, with a scarcely evident microscopic central emargination. Basistyle with mesal lobe, *mb*, large, flattened, shallowly emarginate to form two broadly obtuse lobes, the lower one with dense short setulae; ventral lobe, *vb*, long and slender, more dilated basally, with scattered long yellow setae, more numerous at apex. Gonapophysis, *g*, as figured. Eighth sternite, *8s*, with the lobe a long and unusually narrow blade, especially the outer third; a dense group of long yellow setae near base, as in *jaennickeana*; surface of blade with abundant short delicate setae, more sparse and smaller near outer end, apex glabrous.

Habitat: Chile.

Holotype, ♂, Fdo El Roble, Niblinto River, 35 km east of Coihueco, Ñuble, altitude 650 meters, January 18-20, 1968 (Peña).

The most similar species is *Tipula* (*Eumicrotipula*) *jaennickeana* Alexander, which differs chiefly in hypopygial characters, as described. Other somewhat similar species include *T. (E.) backströmi* Alexander, *T. (E.) fazi* Alexander, and *T. (E.) wittei* Alexander, all differing still more evidently in hypopygial structure.

Limoniinae

Limoniini

Araucoxenia gen. n.

Rostrum short, apex obtuse; palpi yellow, darker outwardly. Antennae (Fig. 8) 16-segmented; in male scape elongate, about twice as long as the pedicel; proximal flagellar segments oval, outer segments more elongate, verticils subequal to or shorter than the segments, arranged chiefly in a transverse row at near one-third the length of segment.

Pronotal scutum of moderate size. Praescutum with tuberculate pits lacking; region of pseudosutural foveae a long pale impressed line. Meron greatly reduced, middle and posterior coxae contiguous. Legs with tibial spurs lacking; claws smooth, empodia small. Wings (Figs. 5, 6) with vein *Sc* very long, *Sc*₁ ending about opposite the fork of *Rs*, *Sc*₂ far retracted, *Sc*₁ being approximately equal in length to the main stem of *Sc*; *R*₂ very long, *R*₁₋₂ short to very short, vein *R*₃ strongly decurved, ending

at or shortly beyond wing tip, vein R_{4-5} similarly decurved, generally parallel to R_3 , the cell narrowed at wing margin; Medial field with three branches, as figured, with cell M_2 broadly sessile, $r-m$ and M_{1-2} subequal, slightly longer than basal section of M_{1-2} ; vein M_4 originating at the cord, leaving an element M_{1-2-3} , as in the Tipuline genus *Nephrotoma*; $m-cu$ far retracted, about opposite two-fifths the length of R_s ; cell 2nd A broad.

Ovipositor with both cerci and hypovalvae long and slender. Male hypopygium (Fig. 7) with ninth tergite, t , relatively large, transverse, posterior border shallowly emarginate, setae numerous but pale and inconspicuous. Two dististyles, d , united basally; outer style a parallel-sided smooth blackened rod, tip obtuse, inner style slightly longer and broader. Phallosome, p , including long divergent pale apophyses, their tips foot-shaped; central organ a depressed-flattened pale plate, narrowed outwardly, apex truncate.

Genotype. — *Araucoxenia paradoxa* sp. n. — Chile.

This new genus is one of the more interesting discoveries in the Tipulidae. The closest relative appears certainly to be *Thaumastoptera* Mik, presently known by seven species, including two in Europe, one being the genotype, *calceata* Mik, together with single species in South Africa, Madagascar, South India, Mindanao, and western North America. All of these have the venation of the medial field of the wing quite different from the condition occurring in the present fly, having cell M_2 petiolate by a basal element M_{1-2-3} , shortest in *Thaumastoptera natalensis* Alexander, which suggests an approach to the present genus. The male hypopygium in *Thaumastoptera* has the dististyle single but in some species, including the genotype, there is a conspicuous basal lobe that might appear to presage the bipartite style found in the present fly and representing a common condition throughout the entire family. The vast genus *Limonia* Meigen in its various subgenera shows a nearly comparable evolution of the dististyle, from the simple unmodified condition in typical *Limonia* to a profoundly divided style in most subgenera, producing nearly separate dorsal and ventral styles. The interpretation of the venation of the medial field in the new genus and the comparison with the condition in the Tipuline genus *Nephrotoma* Meigen should be emphasized.

Araucoxenia paradoxa sp. n.

Size relatively large (wing of female to about 8 mm.); general coloration of body yellow; legs yellow, femoral tips narrowly dark brown, tibiae yellow, extreme base brown; wings with a faint grayish suffusion; vein Sc very long, Sc_1 subequal to vein Sc ; outer radial veins deflected strongly caudad, cell R_2 at margin very extensive, outer medial field with three subequal branches, cell M_2 broadly sessile, $m-cu$ about opposite two-fifths R_s .

Male. — Length, about 5.5 mm.; wing, 6.5-6.8 mm.; antenna, about 1.4 mm.

Female. — Length, about 6 mm.; wing, 8 mm.

Rostrum light yellow; palpi very pale brown. Antennae (Fig. 8) yellow; structure as described under the genus. Head light yellow; anterior vertex broad.

Pronotum yellow, pretergites paler yellow; pronotum with sparse powerful erect setae. Mesonotal praescutum with a grayish brown central area and vague more ferruginous lateral stripes, the interspaces and lateral borders yellow; posterior sclerites of notum yellow, scutal lobes more ferruginous. Pleura chiefly of the latter color, pteropleurite and metapleura more yellowed, dorsopleural membrane clear light yellow; mesothorax virtually glabrous. Halteres with stem light yellow, apices of knobs vaguely darker. Legs with coxae and trochanters yellow; femora light yellow, tips narrowly dark brown; tibiae yellow, extreme bases brown, about one-half as extensive as the femoral darkening; tarsi yellow. Wings (Figs. 5, 6) subhyaline, with a faint grayish suffusion, base more yellowed; veins yellow. Macrotrichia on longitudinal veins beyond origin of *Rs*, including *M* and *Cu*₁ distad of *m-cu*; very sparse trichia at outer end of vein *2nd A*, lacking on *1st A*. Venation as described under the genus.

Abdomen obscure yellow, genital shield of female clear light yellow. Ovipositor with cerci gently upcurved on outer fifth, tip subacute. Male hypopygium (Fig. 7) as described under the genus.

Habitat: Chile.

Holotype, ♂, Pichinahuel, Nahuelbuta, Arauco, altitude 1.100-1.400 meters, January 23-31, 1954 (Peña). Allotype, ♀, Butamalal, Nahuelbuta, altitude 1.100-1.400 meters, January 23-31, 1954. Paratopotype, 1 ♂.

There is no allied or generally similar species known in the Neotropical fauna. The Californian *Thaumastoptera hynesi* Alexander has been figured [Alexander, Crane-flies of California, 1967: 175, fig. 66 (venation), fig. 260 (♂ hypopygium)]. A photographic figure of the wing of the genotype of *Thaumastoptera* has been provided by Edwards in his important paper considering the British short-palped crane flies (Trans. Soc. for British Entomology, 5, part 1, plate 1, fig. 17; 1938).

Limonia (Dicranomyia) dibelone sp. n.

General coloration of head and thorax brown, praescutum paler, with a darker central stripe; antennae dark brown; wings strongly darkened, the oval stigma only slightly darker; posterior border of tergite

of male hypopygium with a deep V-shaped emargination, the conspicuous lobes obtuse, their borders narrowly darkened; apex of dorsal dististyle narrowly obtuse, ventral style large and fleshy, about four times the size of the basistyle, rostral prolongation very small, with two long black spines that are longer than the prolongation.

Male. — Length, about 6.5 mm.; wing, 7.5 mm.; antenna, about 1.2 mm. Rostrum brown, palpi darker brown. Antennae dark brown; flagellar segments suboval, subequal to their longest verticils. Head brown.

Pronotum brownish yellow, narrowly dark brown medially. Mesonotum yellowish brown, praescutum with a darker central stripe, more intense anteriorly; centers of scutal lobes darker brown; mediotergite dark brown. Pleura brown, metapleural region tinged with green. Halteres with stem yellowed, knob darkened. Legs with fore coxae dark brown, tips narrowly pale, remaining coxae and all trochanters pale green; remainder of legs brown. Wings strongly darkened, the oval stigma only slightly darker; veins brown. Venation: Sc_1 ending opposite origin of Rs , Sc_2 slightly removed, Sc_1 alone about one-fourth Rs ; cell *1st* M_2 relatively long, rectangular, *m-cu* shortly before fork of M .

Abdominal tergites dark brown, sternites yellowed, outer segments slightly more darkened. Male hypopygium (Fig. 14) with posterior border of tergite, *t*, with a deep V-shaped emargination, the conspicuous lobes obtuse, their borders narrowly darkened. Basistyle, *b*, only about one-fourth the area of the ventral dististyle; ventromesal lobe small, oval. Dorsal dististyle, *d*, small, apex narrowly obtuse; ventral style large and fleshy, setae small and sparse; rostral prolongation very small, with two long black spines, the outer one smaller, more than three times the prolongation beyond its insertion, both spines exceeding the prolongation in length. Gonapophysis, *g*, pale throughout.

Habitat: Chile.

Holotype, ♂, Fdo El Roble, Niblinto River, 35 km east of Coihueco, Ñuble, altitude 650 meters, January 18, 1968 (Peña).

The present fly is most readily told by the hypopygial structure, particularly the tergite, dorsal dististyle, and rostral prolongation of the ventral style. The nature and arrangement of the rostral spines is somewhat as in *Limonia* (*Dicranomyia*) *selkirki* Alexander, *L. (D.) stuardoi* Alexander, and *L. (D.) weiseriana* (Alexander), but all are quite distinct from the present fly in other features.

Limonia (Dicranomyia) labellata sp. n.

Size medium (wing of female 8.5 mm.); mesonotum brownish yellow, patterned with brown; rostrum dark brown, longer than the antennal scape and subequal to the labial palpi; femora yellow, with a narrow light brown nearly terminal ring; wings yellowish white with a very restricted pale brown pattern, Sc_1 ending beyond origin of Rs , Sc_2 slightly retracted, $m-cu$ before fork of M ; abdominal tergites yellowed, posterior borders slightly darker, sternites more extensively yellowed; ovipositor with cerci long and slender, virtually straight.

Female. — Length, about 8.5 mm.; wing, 8.5 mm.; antenna, about 1.3 mm. Rostrum dark brown, in length exceeding the antennal scape; labial palpi similarly lengthened, subequal to the rostrum, only slightly shorter than the maxillary palpi, appearing as long flattened brownish yellow blades with conspicuous erect setae; maxillary palpi brownish black, terminal segment exceeding the penultimate. Head gray; anterior vertex about two and one-half times the diameter of scape.

Pronotal scutum very light brown, more yellowed laterally, scutellum and pretergites yellow. Mesonotal praescutum brownish yellow, humeral region clearer yellow; disk with four brown stripes, intermediate pair virtually confluent, slightly darker than the sublateral pair, crossing the suture and comprising the outer half of each scutal lobe, median area of the latter and the scutellum obscure yellow, vaguely tinged with light brownish gray; mediotergite brownish gray, darker behind, outer margin and the pleurotergite more yellowed. Pleura obscure brownish yellow, darker on propleura, anepisternum and ventral sternopleurite. Halteres obscure yellow, knob slightly darker. Legs with anterior face of fore coxae dark brown, remainder of coxae and all trochanters yellow; femora yellow with a narrow light brown nearly terminal ring; tibiae and proximal three tarsal segments yellow, the remainder dark brown; claws very small, the apex only about twice the length of outer spine, basal spinules more reduced. Wings (Fig. 9) yellowish white, with a very restricted pale brown pattern, including a small spot at origin of Rs and narrow vague seams over cord and outer end of cell $1st M_2$; stigmal region brown, narrowly darker over vein R_2 ; prearcular field whitened; veins pale brown, Sc , R , basal half of M and $1st A$ and most of Rs yellowed. Longitudinal veins beyond general level of origin of Rs with trichia, more sparse on outer ends of both Anal veins. Venation: Sc ending beyond origin of Rs , Sc_2 slightly retracted to shortly beyond this origin; Rs long, more

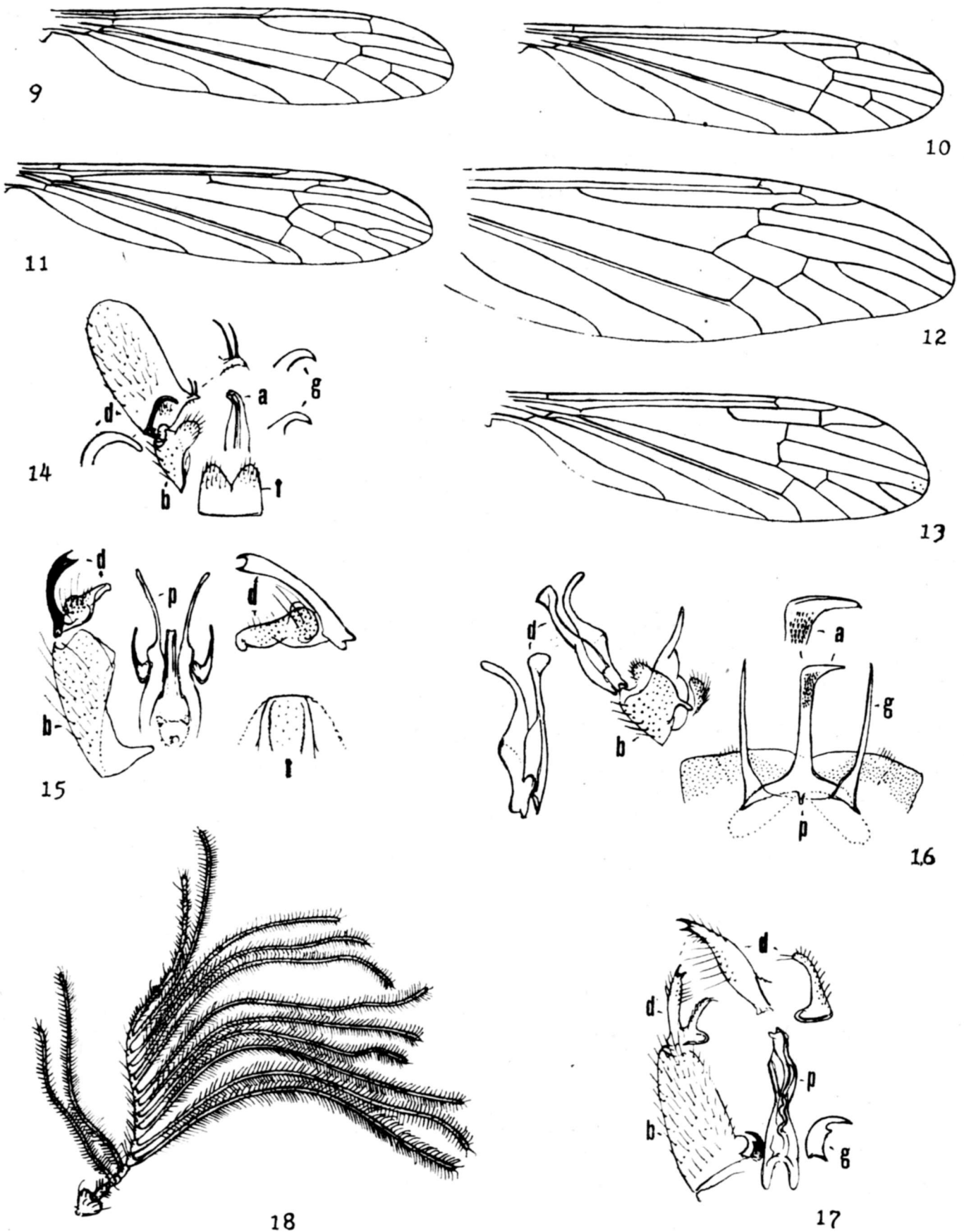


Fig. 9. *Limonia (Dicranomyia) labellata* sp. n.; venation. — Fig. 10. *Limonia (Dicranomyia) subchlorotica* sp. n.; venation. — Fig. 11. *Paralimnophila nigratarsis* sp. n.; venation. — Fig. 12. *Gynoptlistia (Dirhipis) longiramus* sp. n.; venation. — Fig. 13. *Shannonomyia neoseclusa* sp. n.; venation. — Fig. 14. *Limonia (Dicranomyia) dibelone* sp. n.; male hypopygium. — Fig. 15. *Paralimnophila nigratarsis* sp. n.; male hypopygium. — Fig. 16. *Gynoptlistia (Dirhipis) longiramus* sp. n.; male hypopygium. — Fig. 17. *Shannonomyia neoseclusa* sp. n.; male hypopygium. — Fig. 18. *Gynoptlistia (Dirhipis) longiramus* sp. n.; male antenna. — (Symbols: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; p, phallosome; t, tergite).

than twice the basal section of R_{4-5} ; M_{3-4} slightly exceeding M_4 ; $m-cu$ about one-third its length before fork of M .

Abdominal tergites yellowed, darker on slightly less than the posterior half of segment, extreme border again pale; sternites more extensively yellowed, their posterior ends narrowly and vaguely darkened. Ovipositor with cerci light horn color, long and slender, virtually straight, tips narrowly obtuse; hypovalvae darker brown.

Habitat: Chile.

Holotype, ♀, Pucatrihue, Osorno, April 10-12, 1968 (Peña).

In the wing pattern and venation the most similar species appears to be *Limonia (Dicranomyia) catamarcana* Alexander, which differs in head structure and in various details of coloration as well as in vein trichiation. The weak crossvein in cell Sc in this latter species presumably represents an adventitious element and not a constant supernumerary character.

***Limonia (Dicranomyia) subchlorotica* sp. n.**

General coloration of mesonotal praescutum and scutal lobes brown, pleura and pleurotergite yellowed; rostrum relatively short, slightly less than the black palpi; head blackened, pruinose, strongly narrowed posteriorly, anterior vertex broad; stem of halteres and coxae strongly tinged with green, remainder of legs light brown, outer tarsal segments brownish black; wings subhyaline, restrictedly patterned with brown, vein Sc_1 about two-thirds as long as Rs ; abdominal tergites brown, sternites light yellow; cerci straight, flattened, tips obtusely rounded.

F e m a l e. — Length, about 12 mm.; wing, 10.5 mm.; antenna, about 1.5 mm. Rostrum relatively short, brown, sparsely pruinose; labial palpi oval, blackened, with dense short erect setulae; maxillary palpi longer than rostrum, proximal segment yellowed, remainder black. Antennae black, proximal half of scape obscure greenish yellow; flagellar segments oval, subequal to the longest verticils, terminal segment about one-fourth longer than the penultimate. Head blackened, conspicuously gray pruinose, strongly narrowed behind; anterior vertex broad, about five times the diameter of the scape.

Pronotal scutum light brown, broadly darker medially, scutellum and pretergites obscure yellow. Mesonotal praescutum with a broad subnitidous brown stripe and paler more pruinose laterals, humeral and lateral borders more yellowed; scutal lobes brownish black, median area more yellowed, the color continued backward over central part of scutellum, parascutella paler; medio-tergite narrowly brown on central part, the broad lateral borders

and the pleurotergite more yellowed. Pleura obscure yellow. Halteres with stem light green, apex of knob dark brown. Legs with all coxae and trochanters, with the metapleural region, strongly tinged with light green; remainder of legs light brown, femoral bases narrowly more yellowed, outer three tarsal segments brownish black; claws with two basal teeth, the outer one larger. Wings (Fig. 10) subhyaline, with no trace of yellow color; a restricted brown pattern, including the stigma and a confluent slightly darker cloud over the fork of *Rs*, with a comparable darkening over *m-cu* and distal section of *Cu*₁; wing tip and a cloud at midlength of vein *Cu* in cell *M* much paler brown; cell *Sc* darkened except at outer end; veins brown, paler in the prearcular field. Longitudinal veins beyond general level of origin of *Rs* with trichia, including also the outer third of vein *2nd A*, lacking on *1st A*. Venation: *Sc*₁ ending opposite origin of *Rs*, *Sc*₂ retracted, *Sc*₁ alone about two-thirds *Rs*, the latter more than twice the more arcuated basal section of *R*₄₋₅; *m-cu* at fork of *M*, *M*₃₋₄ longer than vein *M*₄.

Abdominal tergites brown, sternites light yellow, with a vague greenish tinge. Ovipositor with cerci straight, flattened, tips obtusely rounded, margins microscopically roughened; hypovalvae broadly flattened at base, narrowed to the obtuse apex.

Habitat: Chile.

Holotype, ♀, Fdo El Roble, Niblinto River, 35 km east of Coihueco, Ñuble, altitude 650 meters, January 18, 1968 (Peña).

The present fly suggests certain other regional species but differs from all in various respects. Such generally similar species include *Limonia* (*Dicranomyia*) *andicola* (Alexander), *L. (D.) chlorotica* (Philippi), *L. (D.) sanctaecruzae* Alexander, *L. (D.) thixis* Alexander, and some others. In nature, along the Rio Niblinto, the fly was associated with various species of the genera *Aphrophila* Edwards and *Cryptolabis* Osten Sacken, both having strictly aquatic immature stages.

Hexatomini

***Paralimnophila nigratarsis* sp. n.**

Size medium (wing of male over 10 mm.); mesonotum chiefly black, sparsely pruinose, pleura gray; legs almost uniformly medium brown, including the femora; wings light brown, restrictedly patterned with darker, *R*₁₋₂ long, about three times *R*₂, basal section of vein *R*₅ long, obliterating *r-m* or virtually so, cell *M*₁ deep, nearly twice its petiole; male hypopygium with outer dististyle terminating in two spinous points; phallosome with long slender apophyses.

Male. — Length, about 11.5-12 mm.; wing, 10.5-12 mm.; antenna, about 1.5-1.6 mm. Rostrum black, gray pruinose; palpi black. Antennae brownish black, scape pruinose; flagellar segments oval, becoming more elongate outwardly, the intermediate ones somewhat shorter than their verticils. Head gray; anterior vertex broad, more than three times the diameter of scape.

Pronotum black, pruinose. Mesonotal praescutum black, the color dulled by a sparse gray pruinosity; posterior sclerites of notum more heavily pruinose, parascutella light brown. Pleura gray, dorsopleural membrane and region surrounding the wing base more yellowed. Halteres with stem yellow, knob infuscated. Legs with coxae obscure yellow, fore pair with anterior face blackish gray; trochanters yellow; remainder of legs almost uniformly medium brown, tips of femora and outer tarsal segments slightly darker. Wings (Fig. 11) chiefly light brown, restrictedly patterned with darker, the more conspicuous areas including the origin of *Rs*, stigma and anterior cord, remainder of cord less evidently darkened; very insignificant clouds in cell *R* adjoining vein *R* at near middistance and a similar small area at tip of vein *R*₃; cells *R*, *R*₁, *R*₂ beyond the stigma, and basal two-thirds of *1st A* more yellowed; veins light brown. Venation: *Rs* long, square and long-spurred at origin; *R*₂₋₃₋₄ shorter than basal section of *R*₅, the latter virtually contiguous with cell *1st M*₂, obliterating *r-m*; cell *M*₁ nearly twice its petiole, *m-cu* about one-half its length beyond fork of *M*.

Abdomen dark brown to brownish black. Male hypopygium (Fig. 15) with the outer dististyle, *d*, terminating in two spinous points, the lower one stouter in type, more acute in the paratype; inner style at base with two oval lobes, the larger one with abundant conspicuous circular setigerous punctures, some of the setae very long, the punctures likewise occurring on basal half of outer blade of style, the smaller lobe without setae. Phallosome, *p*, with gonapophyses long and slender, gently sinuous, tips narrowly obtuse.

Habitat: Chile.

Holotype, ♂, Butamalal, Nahuelbuta, Arauco, altitude 1100-1400 meters, January 23-31, 1954 (Peña). Paratype, ♂, Pichinahuel, Nahuelbuta, altitude 1100-1400 meters, January 23-31, 1954 (Peña).

The most similar regional species are *Paralimnophila diffusior* Alexander and *P. stygipes* (Alexander) which differ in venation and in coloration of the body and wings. The fly further differs from virtually

all other species with the exception of *P. diffusior* in the bispinous outer dististyle of the hypopygium, the other species having the lower spinous point rounded or lacking. The various members of the genus differ evidently among themselves in the details of structure of the phallosome, especially the apophyses.

Shannonomyia neoseclusa sp. n.

General coloration of thorax brownish yellow, praescutum with three darker brown stripes; antennae black, more than one-third the wing; wings yellow, stigma brown, with a very vague brown cloud at the cord, especially over *r-m*, anterior prearcular field light yellow; a small group of trichia in outer end of cell R_5 ; vein R_2 close to outer end of R_{2-3-4} , cell M_1 present; abdomen brownish black, hypopygium slightly paler.

Male. — Length, about 7 mm.; wing, 6 mm.; antenna, about 2.3 mm. Rostrum brownish black, palpi black. Antennae black, relatively long; flagellar segments elongate, exceeding the verticils, slightly narrowed at either end; surface with abundant dense short setulae, terminal segment less than one-half the penultimate. Head brown with a yellow pollen, clearer on orbits.

Pronotum dull dark brown. Mesonotal praescutum brownish yellow, with three darker brown stripes, the central one more evident; posterior sclerites of notum brown, pollinose. Pleura dark brown, pruinose on propleura and anterior mesopleura, more yellowed on pteropleurite and meral region. Halteres with stem light yellow, apex of knob weakly darkened. Legs with fore coxae dark brown, remaining coxae and trochanters obscure yellow; remainder of legs brown, almost uniform except for the paler femoral bases. Wings (Fig. 13) brownish yellow, stigma brown, relatively conspicuous; a very vague brown cloud over cord, especially the arcuated *r-m*, anterior prearcular field light yellow; veins light brown. Abundant trichia on veins beyond general level of origin of *Rs*, including also the outer ends of both Anal veins; a very limited number of trichia in extreme outer end of cell R_5 (position indicated by stippling in figure). Venation: Sc_1 ending shortly before fork of *Rs*, Sc_2 longer; *Rs* relatively short, R_2 close to fork of R_{2-3-4} , at near midlength of stigma; venation of radial field as shown, cell R_3 at margin nearly one-half more extensive than cell R_2 ; cell M_1 shorter than its petiole; *m-cu* at near midlength of M_{3-4} .

Abdomen brownish black, hypopygium slightly paler. Male hypopygium (Fig. 17) with outer dististyle, *d*, slender, the outer point slightly longer than the more acute inner one, setae of

lower face pale but very long; inner style with a conspicuous basal lobe. Aedeagus long, moderately convoluted.

Habitat: Chile.

Holotype, ♂, Dalcahue, Chiloe Island, April 1-3, 1968 (Peña). Paratopotype, ♂.

The most similar regional species having cell M_1 of the wings preserved include *Shannonomyia feriata* (Alexander), *S. seclusa* (Alexander), and *S. sparsissima* (Alexander), all differing from the present fly in coloration, degree of trichiation of the wing cells, and especially in details of structure of the male hypopygium, particularly the phallosome.

Gynoplistia (Dirhipis) longiramus sp. n.

Size large (length of male nearly 35 mm.); general coloration of thorax light gray, abdomen almost uniformly yellowish brown; antennae of male unusually large, including the exceedingly long flagellar branches, the longest of these slightly exceeding the entire antenna.

Male. — Length, nearly 35 mm.; wing, 25 mm.; antenna, about 9 mm., the longest branch 9.5 mm. Rostrum dark brown, palpi brown, outer segment paler, subequal in length to the combined segments two and three. Antennae (Fig. 18) with proximal fourteen segments brown, the branches and outer simple segments brownish yellow; antennae 22-segmented, the formula being 2+2+10+8; flagellar branches exceedingly long and slender, the longest exceeding the entire antenna; branches of proximal two segments slightly more than one-half the longest, succeeding ten segments with branches that are not greatly different in length or diameter, the outer three or four progressively shorter; vestiture of all branches long and very delicate, pale and relatively inconspicuous; outer eight segments simple, the first (segment fifteen) longest, the remainder progressively shorter, the last again lengthened, nearly twice the penultimate, slightly constricted at near midlength. Head dark brown.

Thoracic notum almost uniformly light gray pruinose over a brown ground, the four slightly darker praescutal stripes barely evident, lateral praescutal borders still more whitened, extreme margins darker. Pleura clear light gray, vaguely patterned by darker gray. Halteres brown. Legs with coxae grayish white; remainder of legs light brown, tips of femora and tibiae very slightly darker, outer tarsal segments dark brown; claws small, base of lower margin microscopically serrulate. Wings (Fig. 12) almost uniformly fulvous yellow, costal border and cells beyond

cord more saturated, anal field paler basally; stigma only slightly darker than the ground, very narrowly ringed with darker brown at proximal end above Sc_2 ; anterior prearcular field darkened, the color including the proximal half of cell Cu ; very small dark seams over h , origin of Rs , cord, outer end of cell $1st M_2$ and fork of M_{1-2} ; veins yellowed, darkened in patterned areas except in the oblitative parts of the cord. Veins unusually glabrous, beyond cord with a sparse scattered series on distal section of R_5 . Venation: Rs long, R_{2-3-4} and basal section of R_5 subequal; petiole of cell M_1 about one-half longer than m ; $m-cu$ beyond midlength of M_{3-4} .

Abdomen almost uniformly yellowish brown, the tergites narrowly and vaguely darker laterally. Male hypopygium (Fig. 16) generally as in other members of the subgenus, differing only in slight details.

Habitat: Chile.

Holotype, ♂, Pucatrihue, coastal Osorno, February 5, 1968 (Salgado, through Peña).

The present fly represents the extreme development of branching of the antennae in the entire family and, proportional to body size, probably in the entire insect world. Other members of the subgenus, including *Gynoplistia (Dirhipis) fusca* Jaenicke, *G. (D.) luteola* Alexander, *G. (D.) riedeliana* (Enderlein), and *G. (D.) striatipennis* Alexander, all have the flagellar branches much shorter, in no case exceeding three-fourths of the antennal length. The figure of the antenna provided herewith was drawn by the aid of an optical machine and the proportions of the various branches are reasonably accurate. The length of these branches proportionate to the total length of the antenna is greater than in the two species of the Tipuline genus *Phacelodocera* Enderlein, *P. herroni* Alexander and *P. margaritae* Alexander, both of New Caledonia, which previously marked the extreme in such development of the antenna.

In addition to the species of *Dirhipis* Enderlein above listed, there are at least two other members of the genus that appear to belong to this subgenus but remain insufficiently known. *Gynoplistia flavipennis* (Philippi), described as a *Ctedonia*, was based on a single female taken at Lake Ranco, Valdivia, Chile. It agrees with *luteola* in coloration of the wings but is much smaller, the length being given as about 20 mm., the wing about 16 mm. The antennae are 22-segmented, as in other known members of *Dirhipis* but there are differences that appear to separate it from *luteola* which seems to be the most similar species. *Gynoplistia pictipennis* (Philippi), described in *Ctedonia*, similarly has not been recognized but from the structure of the antennae, described as being 22-segmented, this too appears to be correctly assigned to *Dirhipis*. Like the last species discussed this was described from a single female taken in Valdivia, Chile. Like the last it is a very small species to be a member of this subgenus, the length being about 16 mm., wing about 13 mm. Philippi's description of coloration, especially of the wings and abdomen, differs from all Chilean species of *Gynoplistia* presently recognized.

Atarba (Atarba) distispina sp. n.

General coloration of thorax uniformly dull yellow; antennae of male very long, more than two-thirds the wing, chiefly light yellow, the outer ends of the flagellar segments narrowly darkened, the color increasing in amount outwardly, outer six or seven segments uniformly darkened; all flagellar segments with abundant long pale setae that exceed the diameter of the segment but are shorter than the verticils; legs pale brown; wings with *Sc* long, *Sc*₁ ending about opposite three-fourths *Rs*; male hypopygium with tergal spines parallel to one another; outer dististyle with all spines grouped at and near apex, the terminal one stout; aedeagus long and sinuous, apex slightly dilated.

Male. — Length, about 5 mm.; wing, 5.6 mm.; antenna, about 4 mm. Rostrum yellow, palpi light brown. Antennae of male very long, more than two-thirds the wing; scape, pedicel and most of flagellum light yellow, the more proximal flagellar segments with outer ends infuscated, scarcely indicated on first segment, including the outer fifth on segments two and three, gradually becoming more extensive outwardly, terminal six or seven segments uniformly darkened; flagellar segments long-cylindrical, the first longest, the remainder gradually shorter outwardly; all segments with abundant long pale setae that exceed the diameter of the segment but are much shorter than the dark verticils. Head clear light yellow.

Pronotum obscure yellow. Mesothorax almost uniformly dull yellow, dorsopleural membrane slightly infuscated. Halteres brownish yellow, knob darker brown. Legs with coxae and trochanters yellow; remainder of legs very pale brown. Wings very faintly tinted with brown, prearcular and costal fields more yellowed, stigma not indicated; veins pale brown. Venation: *Sc* long, *Sc*₁ ending about opposite three-fourths *Rs*, *Sc*₂ slightly removed; cell *1st M*₂ long, nearly rectangular, *m-cu* at near three-fifths its length.

Abdominal tergites light brown, sternites and hypopygium more yellowed. Male hypopygium (Fig. 23) with tergal spines, *t*, arising from a narrow band, extending outwardly generally parallel to one another, basal half slightly dilated, thence narrowed into a slender spine. Outer dististyle, *d*, with all spines grouped at and near apex, terminal spine stout, the others much smaller; inner style with apex pale, submembranous, slightly expanded. Aedeagus, *a*, long and sinuous, the curved apex slightly dilated, the actual tip acute.

Habitat: Panama.

Holotype, ♂, El Volcán, Chiriqui, altitude 4200 feet, May 11, 1954 (Field).

Other regional members of the subgenus having characters somewhat as in the present fly include *Atarba* (*Atarba*) *panamensis* Alexander, *A.* (*A.*) *religiosa* Alexander, and some others, all differing among themselves in details of the antennae and male hypopygia. The long chiefly yellow antennae of this species are noteworthy.

***Atarba* (*Atarba*) *pustulata* sp. n.**

Mesonotal praescutum and scutum brownish yellow, posterior sclerites of notum brownish black; antennae of male relatively long, about two-thirds the wing, proximal flagellar segments bicolored, brown, the bases narrowly yellowed, outer segments uniformly brown; flagellar segments with abundant microscopic pustules that bear small pale setae, much smaller than the black verticils; legs yellow, tips of femora narrowly and abruptly black; wings brownish yellow; abdomen bicolored, yellow, posterior ends of segments dark brown, subterminal segments uniformly darkened; male hypopygium with tip of outer dististyle decurved, subtended by a long spine, with further smaller spines in a compact group at near two-thirds the length of style; aedeagus a flattened nearly straight blade, expanded at outer end.

Male. — Length, about 5.5-5.7 mm.; wing, 5.4-5.6 mm.; antenna, about 3-3.1 mm. Rostrum yellowed, palpi slightly darker. Antennae of male about two-thirds the length of wing or body; scape and pedicel yellowed, proximal flagellar segments brown, the base narrowly yellowed, the amount decreasing on outer segments, becoming obsolete on about the fifth segment; flagellar segments long-cylindrical, with very abundant microscopic pustules that bear small pale setae, much smaller than the sparse black verticils. Head yellowish brown.

Pronotum brown. Mesonotal praescutum and scutal lobes polished brownish yellow, the posterior sclerites brownish black, Pleura brownish yellow, meral region more brightened. Halteres obscure yellow. Legs with coxae obscure brownish yellow; trochanters light yellow; femora light yellow, tips narrowly but conspicuously black; remaining segments yellow, the outer tarsal segments very faintly darkened. Wings brownish yellow, pre-arcular and costal fields clear light yellow; stigma very pale brown, scarcely darker than the ground; veins brownish yellow, clearer yellow in the brightened fields. Venation: *Sc* short, *Sc*₁ ending immediately before origin of *Rs*, the latter relatively short, in oblique alignment with basal section of *R*₅; *m-cu* at near one-fourth *M*₃₋₄.

Basal abdominal segments bicolored, yellow, posterior ends dark brown, seventh and eighth segments uniformly darkened to form a ring; hypopygium yellow. Male hypopygium (Fig. 24) with tergal plate, *t*, gently widened outwardly, each lateral angle produced into a small darkened spine. Outer dististyle, *d*, with apical point slender, the tip decurved, outer margin of style with a long appressed spine, at near two-thirds the length with a compact group of about five smaller spines, the more basal ones smallest; inner style slightly longer, slender, apex obtuse. Aedeagus, *a*, a flattened blade, nearly straight, widened outwardly, the apex slightly adz-shaped, its point acute.

Habitat: Panama.

Holotype, ♂, El Volcán, Chiriqui, altitude 4200 feet, April 4, 1954 (Field).

Various other Neotropical species have the aedeagus of the male hypopygium generally as in the present fly, differing in other features of the hypopygium and antennae, the most similar such species being *Atarba (Atarba) scutata* Alexander, of Mexico, *A. (A.) tatei* Alexander, of Ecuador. Various other members of the genus in Panama, including *A. (A.) apicispinosa* Alexander, *A. (A.) fieldiana* Alexander, and *A. (A.) panamensis* Alexander, have the hypopygial details quite distinct.

***Atarba (Atarba) serena* sp. n.**

General coloration of thoracic dorsum deep yellow, pleura clearer yellow; antennae of male long, exceeding one-half the body, proximal flagellar segments dark brown with narrow yellow bases; normal setae of flagellar segments exceeding the diameter of the segment or about one-half as long as the verticils; femora and tibiae yellow; abdominal tergites brownish yellow, subterminal segments brown to form a broad ring; male hypopygium with outer dististyle long, narrow, outer margin with from five to eight spines, the more basal ones progressively smaller; aedeagus relatively short, appearing as a narrow curved blade, the apex obliquely truncated.

Male. — Length, about 5.2-5.5 mm.; wing, 5-5.2 mm.; antenna, about 3-3.2 mm.

Female. — Length, about 6 mm.; wing, 6 mm.

Rostrum yellow, palpi dark brown with pale incisures, terminal segment long, nearly equal to the preceding two segments combined. Antennae of male long, exceeding one-half the body or wing; scape and pedicel yellow, proximal flagellar segments dark brown, bases narrowly yellow, on proximal segments including about the basal fourth, decreasing in amount outwardly, becoming obsolete on about the ninth segment, apices of seg-

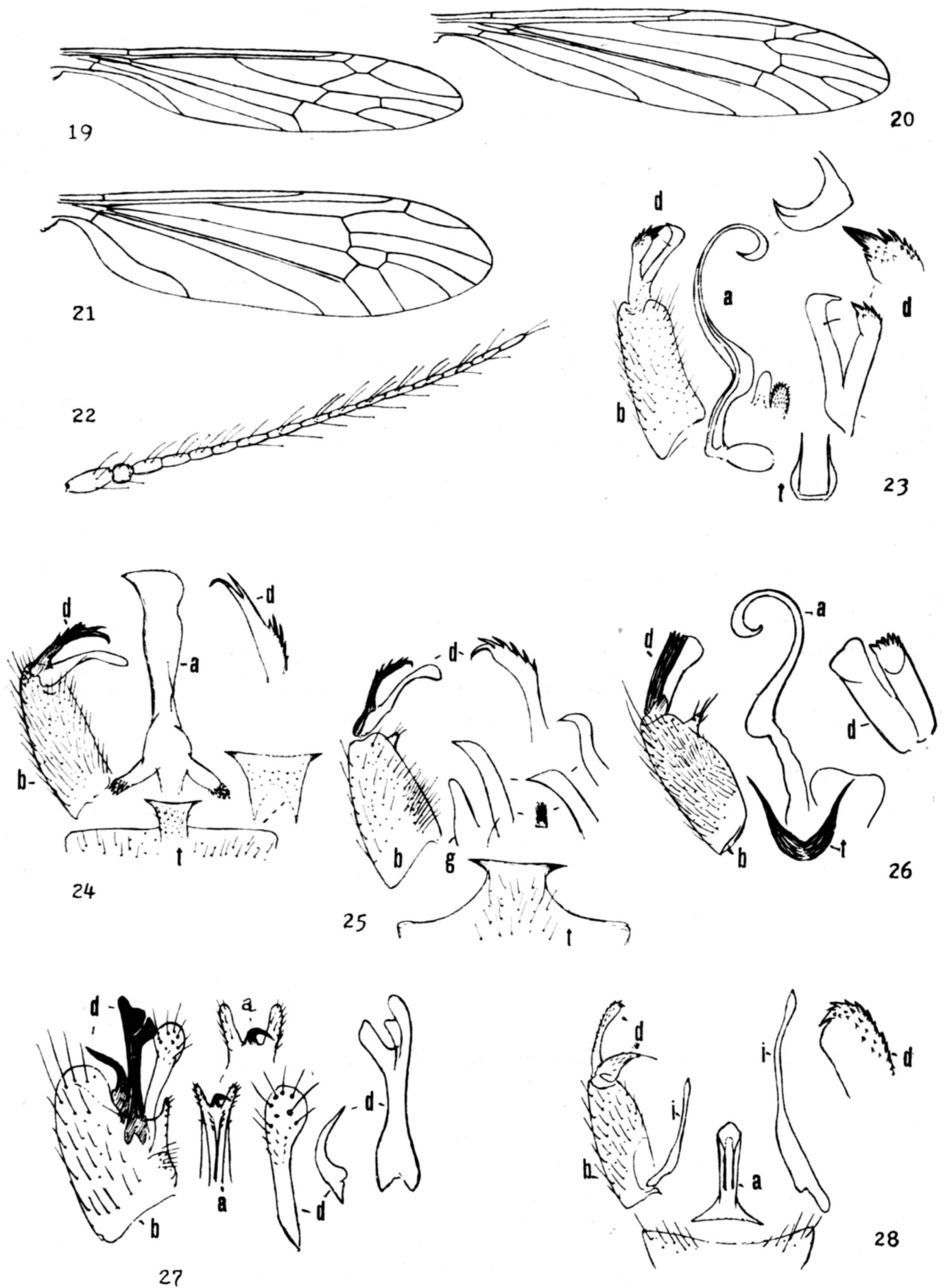


Fig. 19. *Trentepohlia (Paramongoma) bromeliae* sp. n.; venation. — Fig. 20. *Gonomyia (Progonomyia) chiloensis* sp. n.; venation. — Fig. 21. *Rhabdomastix (Sacandaga) parvicornis* sp. n.; venation. — Fig. 22. *Rhabdomastix (Sacandaga) parvicornis* sp. n.; male antenna. — Fig. 23. *Atarba (Atarba) distispina* sp. n.; male hypopygium. — Fig. 24. *Atarba (Atarba) pustulata* sp. n.; male hypopygium. — Fig. 25. *Atarba (Atarba) serena* sp. n.; male hypopygium. — Fig. 26. *Atarba (Atarba) subpatens* sp. n.; male hypopygium. — Fig. 27. *Gonomyia (Progonomyia) chiloensis* sp. n.; male hypopygium. — Fig. 28. *Rhabdomastix (Sacandaga) parvicornis* sp. n.; male hypopygium. — (Symbols: a, aedeagus; b, basistyle; d, dististyle; i, interbase; t, tergite).

ments very narrowly yellowed; flagellar segments with abundant erect setae that exceed the diameter of the segment, the longest about one-half the verticils. Antennae of female shorter. Head brownish yellow.

Thoracic dorsum deep yellow, subnitidous, pleura light yellow. Legs with all coxae and trochanters yellow; remainder of legs yellow, outer tarsal segments brown, the extreme tips of femora faintly infuscated. Wings brownish yellow, prearcular and costal fields light yellow; veins brownish yellow. Venation: Sc_1 ending opposite origin of R_s , branches of the latter gradually divergent, cell R_2 at margin about one-half as extensive as cell R_4 ; $m-cu$ at to shortly beyond fork of M .

Abdominal tergites brownish yellow, sternites and hypopygium yellow; segments seven and eight, with outer half of six, dark brown to form a broad ring. Male hypopygium (Fig. 25) with outer lateral angles of tergal plate, t , produced laterad into acute spines to form a straight angle. Outer dististyle, d , long and narrow, axial spine slender, decurved, outer margin of style with from five to eight spines, the strong outer ones more appressed, the spines progressively smaller basad, inner style narrowest at near midlength, apex obtuse. Aedeagus, a , relatively short, less than the dististyle, outer half a narrow curved blade, apex obliquely truncated to appear pointed.

Habitat: Panama.

Holotype, ♂, El Volcán, Chiriqui, altitude 4200 feet, May 11, 1954 (Field). Allotopotype, ♀, May 15, 1954. Paratopotypes, several ♂ ♀, April 4 - May 30, 1954 (Field).

Other species that are generally similar to the present fly in the coloration and vestiture of the male antennae include *Atarba (Atarba) boliviana* Alexander, *A. (A.) megaphallus* Alexander, *A. (A.) procericornis* Alexander, *A. (A.) thamia* Alexander, and some others, all differing especially in the male hypopygium. A few further species have the flagellar setae very long and delicate, being even longer than in any of the above species and exceeding the verticils in length. Such species include *A. (A.) aperta* Alexander, *A. (A.) hirticornis* Alexander, *A. (A.) lyriformis* Alexander, *A. (A.) subdentata* Alexander, and some others.

***Atarba (Atarba) subpatens* sp. n.**

Thorax obscure dull brownish yellow; antennae relatively short, less than one-half the wing, flagellar segments with pale setae that are shorter than the verticils; legs brownish yellow; wings unpatterned, Sc long, Sc_1 ending about opposite two-thirds the long R_s , cell M_2 open by atrophy of basal section of M_3 ; male hypopygium with tergal spines

long, divergent; outer dististyle subcylindrical, the small blackened spines concentrated at apex; aedeagus very long.

Male. — Length, about 5.5 mm.; wing, 5.8 mm.; antenna, about 2.5 mm. Rostrum obscure yellow, palpi yellowish brown. Antennae relatively short, less than one-half the wing, almost uniformly light brown; flagellar segments cylindrical, with abundant pale setae that are shorter than the darkened verticils. Head brown.

Thorax almost uniformly obscure dull brownish yellow, praescutum vaguely lined longitudinally with darker. Halteres dull yellow. Legs with coxae and trochanters yellow, remainder of legs uniformly brownish yellow. Wings faintly infuscated, unpatterned, prearcular and costal fields light yellow; veins brownish yellow. Macrotrichia on longitudinal veins beyond general level of origin of *Rs*. Venation: *Sc* long, *Sc*₁ ending about opposite two-thirds the long *Rs*; cell *M*₂ open by atrophy of basal section of *M*₃.

Abdomen brownish yellow, pleural membrane darkened by dense microscopic setulae. Male hypopygium (Fig. 26) with tergal spines, *t*, long, divergent, from a narrow base. Outer dististyle, *d*, subcylindrical, the small blackened spines concentrated at apex; inner style stouter, outer end slightly enlarged. Aedeagus, *a*, very long, slightly dilated before midlength, thence narrowed and curved, apex slightly expanded, narrowed into a curved pale spine.

Habitat: Panama.

Holotype, ♂, El Volcán, Chiriqui, altitude 4200 feet, May 11, 1954 (Field).

In its venation, especially the long vein *Sc* and open cell *M*₂, the present fly most resembles *Atarba* (*Atarba*) *aperta* Alexander and *A.* (*A.*) *subaperta* Alexander, differing especially in antennal structure and vestiture and in details of hypopygial structure.

Eriopterini

Trentepohlia (Paramongoma) bromeliae sp. n.

Mesonotal praescutum yellow, with two contiguous brown lines before the suture, scutal lobes, scutellum and mediotergite dark brown; femora light brown, tips narrowly white, tibia with base narrowly, apex broadly white, basitarsi extensively darkened; wings narrow, grayish brown, anterior third light yellow, especially cells *C* and *Sc*, stigma dark brown; abdominal tergites dark brown, margined with yellow, sternites yellowed.

Male. — Length about 7.5 mm.; wing, 6×1.2 mm.

Female. — Length, about 9 mm.; wing 7×1.5 mm.

Described from alcoholic materials. Rostrum very reduced, yellow, palpi short, pale brown. Antennae brownish black, base of first flagellar segment pale; flagellar segments subcylindrical, verticils short. Front yellow, vertex more brownish yellow.

Pronotum obscure yellow. Mesonotal praescutum brownish yellow on front and sides, posterior half at midline with two contiguous brown lines; scutal lobes dark brown, central area yellow; scutellum dark brown, parascutella yellow; mediotergite dark; pleurotergite yellow. Pleura uniformly yellow. Halteres with stem pale, knob weakly darkened. Legs with coxae and trochanters yellow; femora light brown, tips narrowly white, preceded by a subequal slightly darker brown ring; tibiae light brown, base narrowly whitened, slightly less than the femoral apex, tips whitened, including approximately the distal seventh; basitarsus with proximal two-thirds to three-fourths brown, apex whitened, remainder of tarsi slightly more infuscated. Wings (Fig. 19) narrow, as shown by the measurements, yellowed on anterior third, posterior part grayish brown, cells *C* and *Sc* conspicuously light yellow; stigma dark brown; pale brown washes at wing tip and basad along *Rs*, chiefly in radial field. Venation: *Rs* relatively long, in length slightly exceeding the petiole of cell *R*₃; *m-cu* and outer section of *Cu*₁ not forming a virtual straight angle, as in *bromeliadicola*; cell *2nd A* in holotype narrower than in the allotype female.

Abdominal tergites chiefly dark brown, outer segments with posterior borders narrowly yellow, sides more broadly so; sternites yellowed, hypopygium blackened. Ovipositor with valves relatively short and very slender.

Habitat: Mexico.

Holotype, alcoholic ♂, Cerro el Vigia, Santiago Tuxtla, Vera Cruz; larvae collected in middle of September 1967, adults emerged in October; larvae found in water in basal axils of a Bromeliad, *Aechmea mexicana* Baker, collected by Dr. Carlos R. Beutelspacher Baigts, type returned to Hinton and presented by him to the British Museum (Natural History), allotype in Alexander Collection. Materials of the early stages in the Instituto de Biología, Mexico, D. F.

The species differs in leg coloration from the other Mexican bromeliadiculous species of the genus, *Trentepohlia* (*Paramongoma*) *leucoxena* (Alexander) and *T. (P.) subleucoxena* Alexander, being more like *T. (P.) bromeliadicola* (Alexander), of Costa Rica, from which it differs in the small size, narrow wings, and coloration of the legs. A summary of the habits and occurrence of the species as previously known is included in an early paper by the writer (Cornell University, Agr. Expt. Sta. Memoir 38: 943-945; 1920).

Gonomyia (Progonomyia) chiloensis sp. n.

General coloration gray, praescutum with three dark brown stripes, posterior pleurites more yellowed; legs light brown; wings pale brown, the small stigma darker brown; male hypopygium having outer end of intermediate dististyle with two arms, the outer one shallowly emarginate to appear bilobed, all lobes obtuse; apex of aedeagus with long pale lateral lobes that extend beyond the level of the small central hook.

Male. — Length, about 6.5 mm.; wing, 7.2 mm. Rostrum brown, sparsely pruinose, palpi black. Antennae black throughout; flagellar segments oval, the outer ones longer, verticils short. Head light gray, center of vertex patterned with brown.

Pronotum brownish gray, clearer gray laterally. Mesonotal praescutum gray with three dark brown stripes, the lateral pair narrow; posterior sclerites of notum gray, scutellum on sides and behind vaguely more yellowed. Pleura gray, the meron, metapleura and adjoining parts pale yellow. Halteres long, stem pale yellow, knob dark brown. Legs with coxae dark brownish gray; trochanters brown; remainder of legs light brown, outer two tarsal segments brownish black. Wings (Fig. 20) pale brown, stigma small, slightly darker brown; veins brown. Venation: R_2 preserved but pale and inconspicuous; vein R_3 subequal to combined petiole of cell R_3 ; *m-cu* about one-third its length before fork of *M*.

Abdomen dark brown, hypopygium slightly more yellowed. Male hypopygium (Fig. 27) with outer lobe of basistyle, *b*, broadly obtuse. Outer dististyle, *d*, a gently curved rod that narrows to an acute point, outer half blackened; intermediate style distinctive, blackened, with two main outer arms, the outer one shallowly emarginate to appear bilobed, all lobes obtuse; inner style a long pale club, outer end more expanded, with several unusually strong setae. Aedeagus, *a*, with a small curved central hook at apex, subtended by conspicuous long pale lobes that are sparsely provided with setae.

Habitat: Chile.

Holotype, ♂, Chepu, Chiloe Island, April 4-6, 1968 (Peña).

Other regional members of the subgenus include *Gonomyia* (*Progonomyia*) *synchroa* Alexander, and its subspecies *setosivena* Alexander, of central Chile, and the more northern *G. (P.) weiseri* Alexander, of Chile and Argentina, occurring at high altitudes. All of these are most readily separated by hypopygial characters, particularly the dististyles and aedeagus. It may be noted that in the original account of the subgenus by the writer (Diptera Patagonia and South Chile, 1: 180, 181, pl. 10, fig. 221; 1929) where the species and race were defined, the description and figure of the hypopygium are incomplete, especially as regards the third or inner dististyle, which actually is a stout darkened club with its stem very short.

Rhabdomastix (Sacandaga) parvicornis sp. n.

General coloration of thorax dull brownish yellow, pleura clearer yellow; antennae of male short, if bent backward extending about to the wing root, intermediate segments of flagellum about four times as long as broad, only slightly exceeding their verticils; wings pale, prearcular and costal fields more yellowed; male hypopygium with interbase slightly enlarged basally, outer half slender, the slightly pointed apex more hyaline.

Male. — Length, about 4.5 mm.; wing, 5 mm.; antenna, about 1 mm. Rostrum light yellow, palpi black. Antennae (Fig. 22) short, if bent backward extending about to wing root; scape, pedicel and proximal four flagellar segments yellow, outer segments passing into brown; intermediate flagellar segments about four times as long as broad, only slightly exceeding their verticils, the latter at near one-third to two-fifths the length of segment, pale setae of outer segments short and relatively inconspicuous. Head grayish yellow; anterior vertex broad.

Thorax almost uniformly dull brownish yellow, praescutum with scarcely evident darker stripes; pleura clearer yellow. Halteres with stem whitened, knob weakly infuscated. Legs with coxae yellow the elongate trochanters more whitened; remainder of legs brownish yellow. Wings (Fig. 21) very pale, prearcular and costal fields slightly more yellowed; stigma pale brown. Macrotrichia on veins R_4 , distal half of R_{3-4} , R_5 , distal section of M_{1-2} , M_3 and M_4 , more sparse on second section of M_{1-2} ; a few trichia at outer end of 1st A. Venation: Sc long, ending about opposite two-thirds the very long Rs , Sc_2 not apparent; vein R_3 nearly transverse, about equal to distance on costa between R_{1-2} and R_3 ; R_{2-3-4} a trifle shorter than R_4 ; m subequal to basal section of M_3 ; $m-cu$ at midlength of M_{3-4} .

Abdominal tergites brownish yellow, sternites clearer yellow, eighth and ninth segments weakly infuscated to form a poorly indicated subterminal ring, hypopygium yellowed. Male hypopygium (Fig. 28) with outer dististyle, d , about two-fifths the length of basistyle, outer end very slightly expanded, the outer margin with appressed points, the larger apical one a stout spike. Interbase, i , slightly more than one-half as long as basistyle, proximal end slightly enlarged, outer half slender, the slightly pointed apex more hyaline.

Habitat: Chile.

Holotype, ♂, Los Cipreces, Talca, altitude 1050 meters, January 13-15, 1968 (Peña).

The three presently known regional members of the subgenus are most readily separated by the relative lengths of the antennae of the male. The present fly has the shortest antennae, *Rhabdomastix (Sacandaga) synclera* Alexander the longest, with *R. (S.) intermedia* Alexander about twice as long as in this species, extending to shortly beyond the base of the abdomen, in *synclera* about to midlength. In the latter species the intermediate flagellar segments are from about six to eight times as long as broad, with the verticils placed close to the base, and with abundant erect pale setae that are only a little shorter than the verticils. In the early account of the species (Diptera Patagonia and South Chile, 1: 182; 1929) the structures of the hypopygium here interpreted as being interbases had been believed to be gonapophyses and thus part of the phallosome.

Cryptolabis (Procryptolabis) nigrita sp. n.

General coloration of body black, sparsely pruinose; legs black; wings strongly darkened; Sc relatively short, Sc_1 about opposite midlength of R_s , the latter in direct alignment with R_5 ; male hypopygium with both dististyles simple, aedeagus straight.

Male. — Length, about 3 mm.; wing, 3.3 mm. Rostrum and palpi black. Antennae black. Head polished black posteriorly, gray pruinose in front.

Pronotal scutum brownish black, scutellum obscure yellow. Mesonotum black, sparsely pruinose laterally. Pleura black, very sparsely pruinose, dorsopleural membrane obscure yellow. Halteres with stem black, knob pale yellow. Legs black, coxae slightly pruinose. Wings (Fig. 29) strongly darkened; veins dark brown. No macrotrichia in wing cells, as in the subgenus. Venation: Sc relatively short, Sc_1 about opposite midlength of R_s , Sc_2 apparently lacking; R_s straight, in direct alignment with R_5 ; $r-m$ at fork of R_s ; $m-cu$ shortly beyond midlength of M_{3-4} .

Abdomen brownish black, hypopygium more intensely blackened. Male hypopygium (Fig. 31) with proximal part of basistyle, *b*, with very few setae, outer lobe gradually narrowed to the obtuse tip. Both dististyles, *d*, simple, outer style blackened, apex microscopically notched, setae coarse and conspicuous; inner style a pale club, apex obtuse, setae small and inconspicuous. Phallosome, *p*, with aedeagus straight, relatively long, as figured.

Habitat: Chile.

Holotype, ♂, Fdo El Roble, Niblinto River, 35 km east of Coihueco, Ñuble, altitude 650 meters, January 18-20, 1968 (Peña).

Other regional members of the subgenus include *Cryptolabis* (*Procryptolabis*) *argentinensis* Alexander and *C. (P.) barilochensis* Alexander, of Argentina and the Chilean border, and *C. (P.) pedanophallus* sp. n., of coastal Chile. These differ evidently from the present fly in body coloration, venation, and especially in hypopygial structure. The members of the subgenus lack the trichia in the wing cells, evidently a weak and insufficient character in the light of the diverse hypopygial structures found in the different species.

***Cryptolabis* (*Procryptolabis*) *pedanophallus* sp. n.**

General coloration of mesonotum reddish brown patterned with yellow; antennae dark brown, scape yellowed beneath; knobs of halteres brown; wings weakly tinted, anterior third slightly more whitened; male hypopygium with apex of basistyle constricted to form an obtuse lobe; dististyle long, terminating in a slender darkened beak; phallosome compact, shield-shaped, terminating in two incurved blackened spines; aedeagus short, straight.

Male. — Length, about 3.5 mm.; wing, 4.5 mm. Rostrum yellow, palpi with basal segment yellow, remainder dark brown. Antennae dark brown, scape yellowed beneath; flagellar segments oval, crowded. Head yellow, center of vertex weakly infuscated.

Pronotum and pretergites light yellow. Mesonotal praescutum and scutum reddish brown, humeral and lateral borders yellowed, scutellum yellow, postnotum brown, more ferruginous laterally, the interpostnotal suture yellowed. Pleura light brown, dorsal sternopleurite broadly yellow, dorsopleural membrane light yellow. Halteres with stem light brown, base yellowed, knob brown. Legs with coxae and trochanters testaceous yellow; femora and tibiae yellowed, the latter with tips weakly darkened; basitarsi yellowed, outer segments dark brown. Wings weakly tinted, anterior third slightly more whitened; veins light brown, yellowed in prearcular field. Venation: Sc_1 ending opposite *r-m*, Sc_2

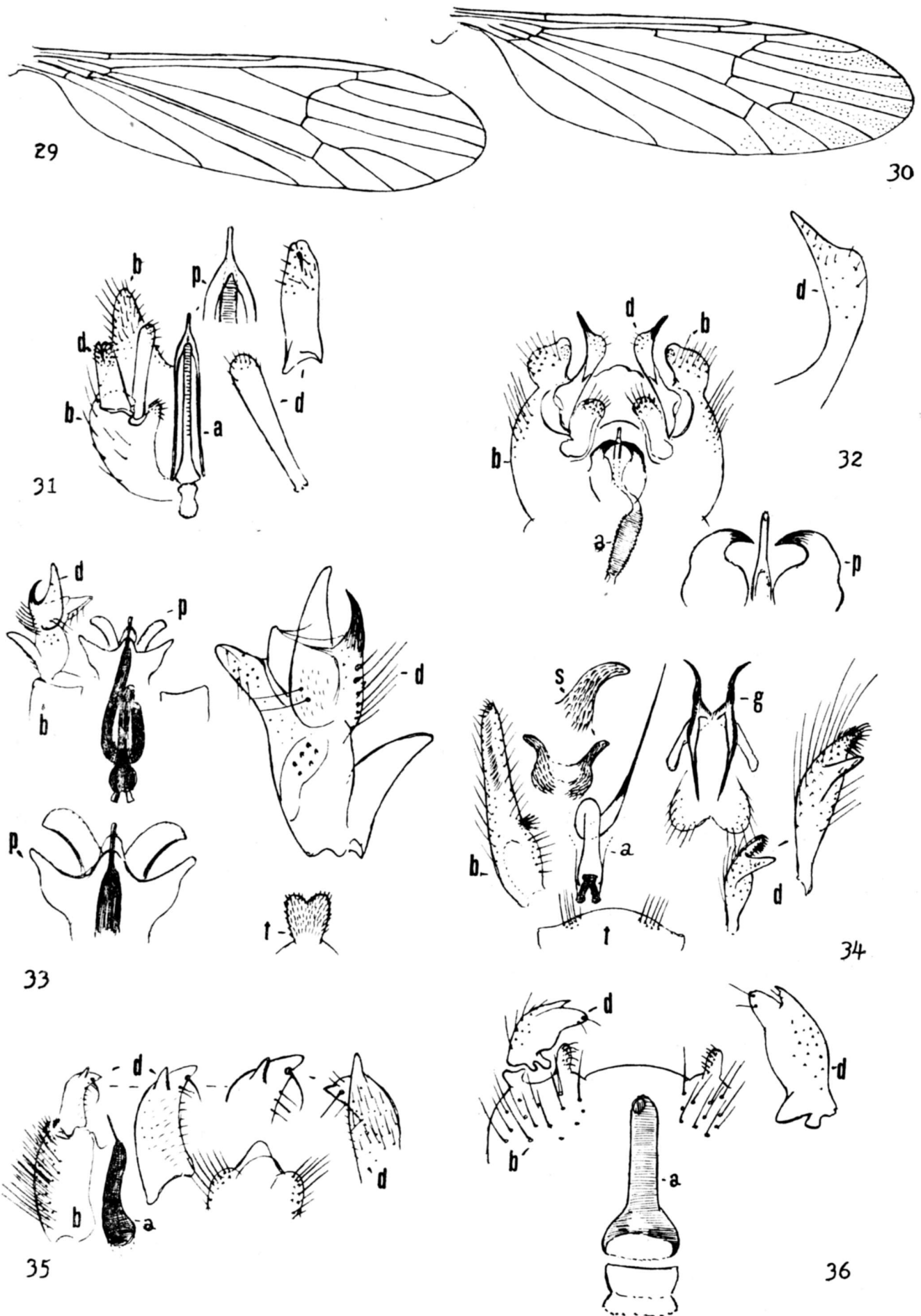


Fig. 29. *Cryptolabis (Procryptolabis) nigrita* sp. n.; venation. — Fig. 30. *Cryptolabis (Cryptolabis) clausula* sp. n.; venation. — Fig. 31. *Cryptolabis (Procryptolabis) nigrita* sp. n.; male hypopygium. — Fig. 32. *Cryptolabis (Procryptolabis) pedanophallus* sp. n.; male hypopygium. — Fig. 33. *Cryptolabis (Cryptolabis) chiriquiana* sp. n.; male hypopygium. — Fig. 34. *Cryptolabis (Cryptolabis) clausula* sp. n.; male hypopygium. — Fig. 35. *Cryptolabis (Cryptolabis) pallidivena* sp. n.; male hypopygium. — Fig. 36. *Cryptolabis (Cryptolabis) uniformis* sp. n.; male hypopygium. — (Symbols: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; p, phallosome; s, sternite; t, tergite).

retracted, Sc_1 about one-half longer than $r-m$; Rs relatively long, $r-m$ shortly before its fork; $m-cu$ near midlength of M_{3-4} ; cell *2nd A* relatively narrow, especially outwardly.

Abdomen brown. Male hypopygium (Fig. 32) with apex of basistyle, b , constricted to form an obtuse lobe. Dististyle, d , long, constricted at near midlength, terminating in a slender darkened beak. Phallosome, p , compact, shield-shaped, ending in two incurved blackened spines, tips acute; aedeagus unusually short, straight, surface finely transversely wrinkled.

Habitat: Chile.

Holotype, ♂, Pichinahuel, Nahuelbuta, Arauco, altitude 1100-1400 meters, January 23-31, 1954 (Peña).

Cryptolabis (Procryptolabis) pedanophallus is readily told from all regional members of the subgenus by the somewhat peculiar structure of the male hypopygium.

***Cryptolabis (Cryptolabis) chiriquiana* sp. n.**

General coloration of mesonotum dark brown, the pleura still darker, dorsopleural region and adjoining notal border obscure yellow; knobs of halteres clear light yellow; legs brown; wings strongly darkened, Rs long and sinuous, about three times R_{2-3-4} , in direct alignment with R_5 ; male hypopygium with dististyle complex, including a strong blackened spine on margin of body of style, aedeagus very long and stout, with double convolutions.

Male. — Length, about 4.5 mm.; wing, 4.8 mm. Rostrum and palpi black. Antennae brownish black; flagellar verticils very long. Head dark gray.

Pronotum brown, obscure yellow laterally. Mesonotum almost uniformly dark brown, polished, pleura darker brown, the dorsopleural region and narrow praescutal border obscure yellow. Halteres with stem light brown, yellowed basally, knobs clear light yellow. Legs with coxae and trochanters very small, yellow; legs brown, tips of femora and tibiae vaguely darker. Wings strongly darkened, veins brown. Macrotrichia in outer cells from R_2 to M_4 , lacking in bases of cells; a sparse row of trichia in outer end of cell *1st A*. Venation: Rs long and sinuous, about three times R_{2-3-4} , in direct longitudinal alignment with R_5 ; $m-cu$ close to midlength of M_{3-4} .

Abdomen dark brown. Male hypopygium (Fig. 33) with the dististyle, d , complex, including an outer leaflike blade and a larger inner structure that bears a strong blackened spine.

Aedeagus, *a*, very long and stout, with double convolutions, surface smooth, without transverse wrinkles or corrugations.

Habitat: Panama.

Holotype, ♂, El Volcán, Chiriqui, altitude 4200 feet, April 20, 1954, at light (Field).

The present fly is allied to species such as *Cryptolabis* (*Cryptolabis*) *longiradialis* Alexander and *C. (C.) monacantha* Alexander, differing evidently in hypopygial structure.

***Cryptolabis* (*Cryptolabis*) *clausula* sp. n.**

General coloration of thorax variegated dark brown and yellow, especially the pleura; legs yellowish brown, outer tarsal segments darker; wings with trichia in all outer cells from R_2 to *Cu*, cell *1st M*₂ closed; male hypopygium with each basistyle produced caudad into a long slender fingerlike lobe; dististyle bifid, provided with very long setae; aedeagus convoluted, surface smooth.

Male. — Length, about 3.5-3.6 mm.; wing, 4-4.2 mm.

Female. — Length, about 3.6-4 mm.; wing, 4-4.8 mm.

Rostrum brownish black, palpi black. Antennae black. Head brown, front and orbits more yellowed.

Pronotum light yellow, narrowly darkened medially. Mesonotal praescutum dark brown, humeral region light yellow, lateral borders more or less brightened; scutal lobes blackened, median region brown; scutellum yellow, parascutella black and yellow; mediotergite dark brown to black, pleurotergite with anapleurotergite yellow, katapleurotergite blackened. Pleura conspicuously variegated with brownish black and light yellow, the latter including the dorsopleural region, propleura and dorsal sternopleurite, ventral pleurites uniformly darkened. Halteres light brown. Legs with coxae brown, trochanters more yellowed; remainder of legs yellowish brown, tips of tibiae and outer tarsal segments darker. Wings (Fig. 30) weakly tinged with darker, prearcular and costal fields paler, especially the former; veins brown. Macrotrichia in all outer cells from R_2 to *Cu*, more abundant in cells R_3 to M_3 (their position indicated in figure by stippling). Venation: Sc_1 long, ending about opposite fork of R_{2-3} ; *r-m* shortly before fork of R_s , the latter in longitudinal alignment with R_5 ; veins R_{2-3-4} and R_{2-3} subequal, in oblique alignment; cell *1st M*₂ closed; *m-cu* far distad, at from two-thirds to four-fifths M_{3-4} .

Abdomen dark brown, genitalia more yellowed. Male hypopygium (Fig. 34) entirely distinctive, as shown. Ninth tergite,

t, with posterior border slightly convex, with very few pale setae on either side of midline. Basistyle, *b*, produced caudad into a long slender fingerlike lobe, at its base on mesal face with a concentration of long dark colored setae; face of lobe on outer half with a longitudinal row of abundant very long setae that are directed slightly basad. Dististyle, *d*, with a strong lateral arm to appear bifid, the arm nearly glabrous, remainder of style with strong setae, some very long, exceeding one-half the length of style. Phallosomic structures, *p*, complex, about as shown; aedeagus, *a*, very stout, convoluted, surface with transverse corrugations, apex extended into a long terminal filament; gonapophyses, *g*, appearing as paired slender gently divergent black spines, their basal plates extended into longer straight black spines of nearly equal diameter but longer than the posterior pair. What appears to be a sternal organ, *s*, is a broad lyre-shaped structure with divergent arms, with abundant setae all directed backward or basad.

Habitat: Chile.

Holotype, ♂, Fdo El Roble, Niblinto River, 35 km east of Coihueco, Ñuble, altitude 650 meters, January 18, 1968 (Peña). Allotopotype, ♀. Paratopotypes, ♂ ♀, mostly in poor condition, some mounted on slides with the types, January 18-20, 1968.

Cryptolabis (Cryptolabis) clausula is entirely distinct from other regional species in the venation, especially the closed cell 1st M_2 , and in hypopygial structure, including the produced basistyles and the complex phallosomic structures.

***Cryptolabis (Cryptolabis) pallidivena* sp. n.**

General coloration of head and thorax yellow; antennae, halteres and legs yellowed; wings pale brownish yellow, veins light yellow, very inconspicuous against the ground, cells beyond the cord with numerous trichia; male hypopygium with dististyles bidentate, axial blade broader than the lower spine; aedeagus short, nearly straight.

Male. — Length, about 4-4.5 mm.; wing, 4.2-4.8 mm.

Female. — Length, about 4.5 mm.; wing, 4.5 mm.

Rostrum yellow, palpi slightly darker. Antennae yellow. Head uniformly light yellow.

Mesonotum almost uniformly dull yellow to yellowish brown, light yellow laterally; praescutum with abundant pale yellow setae. Prothorax and pleura yellow. Halteres and legs yellowish white. Wings very pale brownish yellow; veins light yellow, very in-

conspicuous against the ground. Outer wing cells with trichia extending basad to cord, lacking in the more proximal cells. Venation: *Rs* gently convex, nearly twice the arcuated *r-m*; *m-cu* near outer end of M_{3-4} .

Abdominal tergites light brown, sternites and genitalia light yellow. Male hypopygium (Fig. 35) with the dististyle, *d*, bidentate, the axial blade pointed at tip, broader than the short lower spine, style before apex with long erect spinoid setae, with other normal bristles more basally (subfigures show different aspects of style). Aedeagus, *a*, short, nearly straight to very gently sinuous outwardly.

Habitat: Panama.

Holotype, ♂, and allotype, ♀, mounted on a single microscope slide, El Volcán, Chiriqui, altitude 4200 feet, May 22, 1954, at light (Field). Paratopotypes, numerous ♂ ♀, May 8-30, 1954.

Some other related regional species have the hypopygial structure generally the same, including the bidentate dististyle and short aedeagus, such species including *Cryptolabis* (*Cryptolabis*) *diversipes* Alexander, *C. (C.) luteicosta* Alexander, *C. (C.) perdistans* Alexander, and *C. (C.) uniformis* sp. n. All of these differ among themselves in details of coloration of body and legs, venation, and in hypopygial structure. The Mexican *C. (C.) luteola* Alexander is more similar in general coloration of the body, legs and wings, but has the hypopygial structure different, including the simple dististyle and longer aedeagus.

***Cryptolabis* (*Cryptolabis*) *uniformis* sp. n.**

General coloration of body dark brown; rostrum, palpi and antennae black; legs uniformly brown; wings almost uniformly light brown, pre-arcular and costal fields slightly paler, *Rs* short, cell R_1 being roughly equilateral in outline, *m-cu* before fork of M_{3-4} ; male hypopygium with dististyle bidentate at apex, aedeagus short and straight.

Male. — Length, about 2.8 mm.; wing, 4.2 mm.

Female. — Length, about 3 mm.; wing, 4.8 mm.

Rostrum, palpi and antennae black. Head dark brownish gray.

Pronotum, pretergites and lateral praescutal border light yellow, remainder of mesonotum especially anteriorly almost uniformly dark grayish brown, praescutal interspaces slightly paler, with white setae; scutellum and mediotergite somewhat paler brown. Pleura dark brown, dorsopleural membrane yellowed. Halteres light brown. Legs with coxae light brown, trochanters obscure yellow; remainder of legs uniformly brown, only the

femoral bases slightly paler. Wings almost uniformly light brown, prearcular and costal fields slightly paler; veins light brown. Trichia in cells beyond cord excepting R_1 ; more sparse trichia in outer half of cell R and in outer ends of cells Cu and $1st A$. Venation: R_s short, slightly convex, subequal to vein R_1 , cell R_1 thus being roughly equilateral in outline; $m-cu$ at near three-fourths the length of M_{3-4} .

Abdomen uniformly dark brown. Male hypopygium (Fig. 36) with the dististyle, d , terminal, relatively broad, tip unequally bidentate, outer spine relatively slender, acute. Aedeagus, a , short and straight, base slightly dilated.

Habitat: Panama.

Holotype, ♂, El Volcán, Chiriqui, altitude 4200 feet, May 13, 1954, at red light (Field). Allotopotype, ♀, pinned with type.

Other regional species having the male hypopygium somewhat as in the present fly include *Cryptolabis* (*Cryptolabis*) *diversipes* Alexander and *C. (C.) pallidivena* sp. n., which differ evidently in the coloration of the body and legs.

***Amphineurus* (*Rhamphoneurus*) *chiloeanus* sp. n.**

Size very large (wing of male 8 mm.); mesonotum yellowed, patterned with brown, pleura more extensively yellowed; wings light yellow, cells beyond cord and along posterior border clouded with pale brown; male hypopygium with mesal lobe of basistyle a pale rounded plate with abundant delicate setulae; phallosome a powerful blackened rod, outer end bent at a right angle into a long sinuous spine, with two small straight spikes at near midlength.

Male. — Length, about 7 mm.; wing, 8 mm.; antenna, about 1.7 mm. Rostrum and palpi black, the former slightly exceeding one-half the remainder of head. Antennae with scape and pedicel light yellow, proximal flagellar segments brownish yellow, the outer twelve brown, long-subcylindrical; longest verticils of proximal five flagellar segments exceeding the segment, verticils of remaining segments progressively shorter. Head grayish brown.

Pronotal scutum brown in front, yellowed on posterior half or more, sides brownish yellow, scutellum light yellow. Mesonotal praescutum with ground yellow, humeri clear light yellow, disk with two virtually confluent central stripes and much paler laterals that continue caudad to include the scutal lobes, the latter yellowed posteriorly; scutellum brown, margined with obscure yellow;

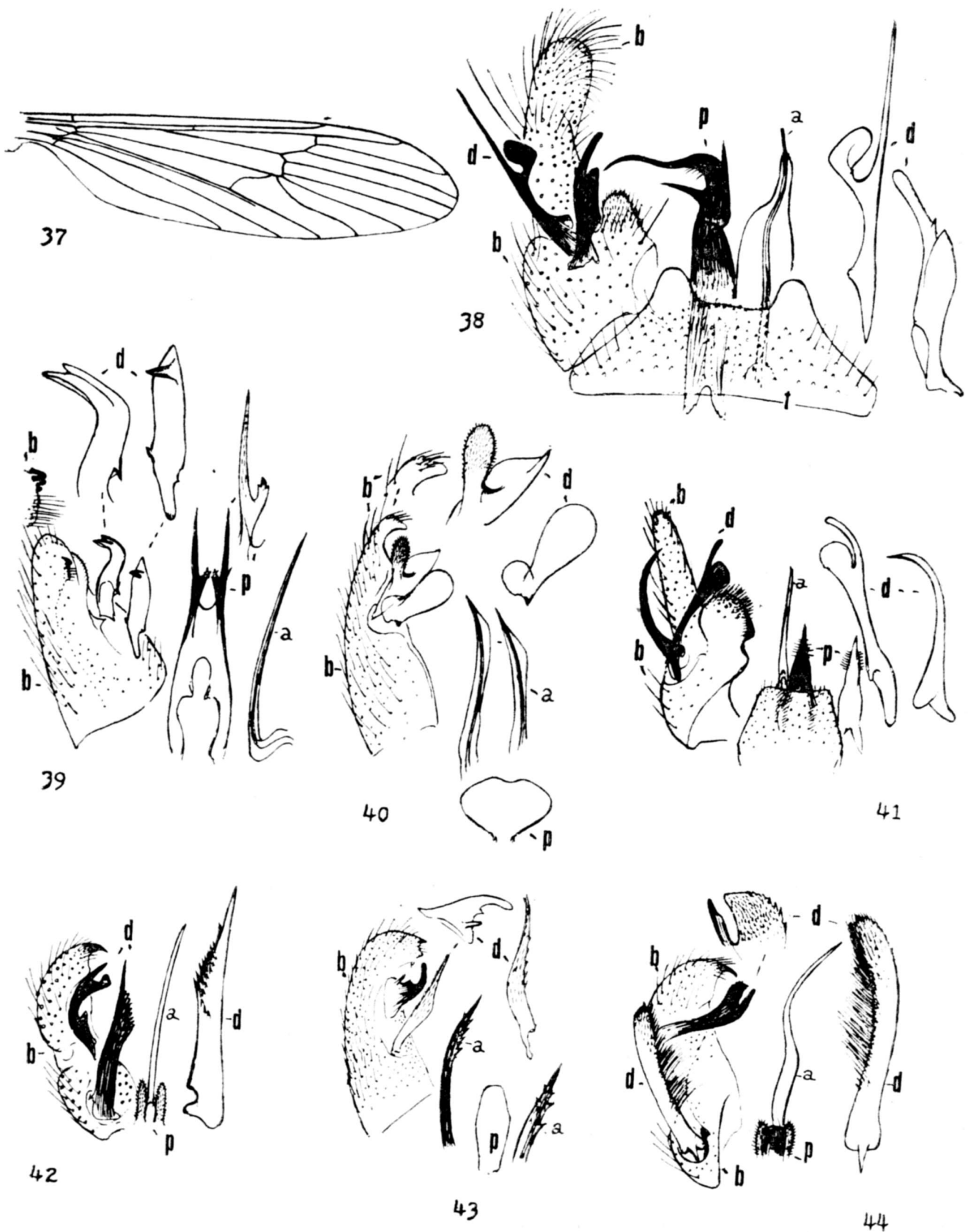


Fig. 37. *Amphineurus (Rhamphoneurus) chiloeanus* sp. n.; venation. — Fig. 38. *Amphineurus (Rhamphoneurus) chiloeanus* sp. n.; male hypopygium. — Fig. 39. *Molophilus (Molophilus) bipugiatus* sp. n.; male hypopygium. — Fig. 40. *Molophilus (Molophilus) copelatus* sp. n.; male hypopygium. — Fig. 41. *Molophilus (Molophilus) heliscus* sp. n.; male hypopygium. — Fig. 42. *Molophilus (Molophilus) neanerasta* sp. n.; male hypopygium. — Fig. 43. *Molophilus (Molophilus) pugiunculus* sp. n.; male hypopygium. — Fig. 44. *Molophilus (Molophilus) sarotes* sp. n.; male hypopygium. — (Symbols: a, aedeagus; b, basistyle; d, dististyle; p, phallosome).

mediotergite brown, yellowed on sides, pleurotergite brown. Pleura yellow, vaguely more darkened dorsally. Halteres with stem brown, base broadly light yellow, apex of knob more obscure yellow. Legs with coxae and trochanters yellow; femora and tibiae obscure yellow, appearing darker from abundant blackened setae; tarsi brownish black. Wings (Fig. 37) with the ground light yellow, outer cells clouded with pale brown, more extensive beyond cord and in outer cubital and anal cells, before cord virtually all of the yellow ground; stigmal region obscure yellow, darker at either end; veins brown. Venation: *m-cu* oblique, gently to more strongly sinuous, joining *M* close to its outer end; elements *M*, *M*₁₋₂₋₃ and basal section of *M*₁₋₂ all very short, subequal.

Abdomen yellowish brown to light brown, darker brown laterally. Male hypopygium (Fig. 38) with posterior border of tergite, *t*, more darkened, emargination broad and shallow, lateral lobes relatively small. Dististyle, *d*, as figured; outer style a long needlelike rod with a conspicuous inner arm as shown. Basistyle, *b*, with mesal lobe appearing as a low pale rounded plate, provided with abundant delicate setulae, not sclerotized and variously modified as in other species of the subgenus, the plates virtually alike on the two sides. Phallosome, *p*, distinctive, shaped as figured, the long apical spine gently sinuous, narrowed to the acute tip, lateral spikes relatively small.

Habitat: Chile.

Holotype, ♂, Dalcahue, Chiloe Island, April 1-4, 1968 (Peña). Paratopotype, ♂, with the type.

The present fly is the largest regional member of the genus so far discovered. It is readily told from all other species of the subgenus by the unusually distinct male hypopygium, including the simple unmodified mesal lobes of the basistyle which are virtually identical on the two sides, and by the somewhat remarkable phallosome.

Molophilus (Molophilus) bipugiatus sp. n.

Allied to *cervus*; general coloration of mesonotum brown, postnotum and pleura darker brownish gray; male hypopygium with phallosome including a basal plate that divides into two long straight spines or arms lying almost parallel to one another, each arm with a small lobe that terminates in three small knobs; aedeagus long and slender, pale, unmodified.

Male. — Length, about 4.5-4.6 mm.; wing, 4.9-5 mm.; antenna, about 1.3 mm.

F e m a l e. — Length, about 4 mm.; wing, 4 mm.

Rostrum dark brown, palpi black. Antennae dark brown; flagellar segments oval, with dense erect white setae, the verticils of proximal segments very long. Head gray.

Pronotal scutum obscure yellow, scutellum light yellow. Mesonotal praescutum and scutum almost uniform brown, scutellum more yellowish brown; postnotum gray, lateral borders of mediotergite obscure yellow. Pleura dark brownish gray. Halteres with stem obscure yellow, knob infuscated. Legs with fore coxae and trochanters dark brown, of the other legs obscure yellow; remainder of legs uniformly brown. Wings weak brownish yellow, prearcular and costal fields clearer yellow; veins light brown, trichia darker. Venation; R_2 slightly distad of level of $r-m$; petiole of cell M_3 (vein M_{3-4}) about two and one-half times $m-cu$, with vein $2nd A$ ending about opposite one-fourth its length.

Abdomen dark brown. Male hypopygium (Fig. 39) with beak of basistyle, b , subterminal, appearing as a larger outer darkened protuberance with smaller points and setae more cephalad, outer end of style with a low inner flange. Outer dististyle, d , curved, narrowed and slightly darkened outwardly, apex divided into two unequal points; basal style a nearly straight stout darkened rod, pointed, before tip with a stout blackened spine directed laterad. Phallosome, p , distinctive, including a paler basal plate that divides into two long straight spines or arms that lie almost parallel to one another, tips acute; on inner margin near base with a small lobe that terminates in from three to five small knobs or points; in the holotype one arm bears a small slender spine on outer margin opposite the lobe, lacking in other specimens. Aedeagus long and slender, pale, without armature or modifications as in related species.

Habitat: Chile.

Holotype, ♂, Butamalal, Nahuelbuta, Arauco, altitude 1100-1400 meters, January 23-31, 1954 (Peña). Allotype, ♀, Pichinahuel, Nahuelbuta, altitude 100-1400 meters, January 23-31, 1954. Paratopotypes, ♂♂. Paratype, one ♂, pinned with the allotype.

The most similar species is *Molophilus (Molophilus) cervus* Alexander which differs conspicuously in the male hypopygium, particularly the distinctive phallosome. The Argentinian *M. (M.) bicaudatus* Alexander has the phallosome somewhat the same but differs in other hypopygial characters.

Molophilus (Molophilus) copelatus sp. n.

Allied to *pretiosus*; general coloration of thorax fulvous brown, pleura darker above; head light gray; halteres clear light yellow; wings light yellow, veins slightly darker; male hypopygium with outer dististyle short and stout, blackened, outer arm densely provided with short black setulae, inner style a broad whitened paddle without vestiture; aedeagus without armature; phallosomic plate glabrous, broad, posterior border narrower, very shallowly emarginate.

Male. — Length, about 3.8 mm.; wing, 4 mm.; antenna, about 0.9 mm. Rostrum and palpi dark brown. Antennae paler brown; flagellar segments long-oval, vestiture very long and erect, verticils of proximal segments longer. Head light gray.

Pronotal scutum light fulvous brown, scutellum and pretergites clear light yellow. Mesonotal praescutum and scutum almost uniformly fulvous brown, humeral region yellowed; scutellum light yellow, postnotum light brown. Pleura light brown dorsally, darker on anepisternum, the ventral pleurites and dorso-pleural membrane yellow. Halteres clear light yellow. Legs with coxae and trochanters yellow; remainder of legs yellow, tips of femora narrowly and vaguely darkened, outer two tarsal segments dark brown. Wings clear light yellow, veins slightly darker yellow, trichia pale brown. Venation: M_{3-4} about one-fourth longer than the oblique *m-cu*; vein 2nd A long, ending opposite base of M_{3-4} .

Abdomen brown, hypopygium more yellowed. Male hypopygium (Fig. 40) with beak of basistyle, *b*, extended to apex of style. Outer dististyle, *d*, short and stout, blackened, both arms broad, the outer a long oval blade that is densely provided with short black setulae, inner blade broader, scooplike; basal style a broad whitened paddle, entirely without vestiture. Phallosomic plate, *p*, glabrous, broad, the narrower posterior border very shallowly emarginate. Aedeagus, *a*, without armature, blackened, the penis tube enclosed.

Habitat: Chile.

Holotype, ♂, Pelluhue, Maule, altitude 600 meters, December 2, 1953 (Peña).

Most nearly related to species such as *Molophilus (Molophilus) exemptus* Alexander, *M. (M.) flavexemptus* Alexander, and *M. (M.) pretiosus* Alexander, having the same general structure of the aedeagus but differing in all other hypopygial characters, including the beak of the basistyle, bifid outer dististyle with its setuliferous outer arm, the entirely glabrous paddleshaped basal style, and the phallosomic plate.

Molophilus (Molophilus) heliscus sp. n.

Belongs to the *gracilis* group, *ruficollis* subgroup; general coloration of mesonotum dull orange, pleura broadly dark brown above; halteres yellow; male hypopygium with outer lobe of basistyle long and slender; phallosomic structure a short blackened spike that narrows to a point, before apex with short erect black setae.

Male. — Length, about 4.8-5 mm.; wing, 5.5-5.8 mm.; antenna, about 1.6-1.7 mm. Rostrum light brown, palpi black. Antennae with scape and pedicel light yellow, flagellum brown; flagellar segments long-oval, verticils of the more proximal segments long, approximately one-half longer than the segment. Head dark brownish gray.

Pronotal scutum obscure yellow, dark brown on sides; scutellum and pretergites light yellow. Mesonotum dull orange, mediotergite with central portion brownish black. Pleura with a very broad dark brown dorsal stripe, ventral sclerites and dorso-pleural membrane yellowed. Halteres yellow. Legs with coxae and trochanters yellow; femora brown, paler basally; tibiae and tarsi brownish yellow, outer tarsal segments dark brown. Wings yellowed, prearcular and costal fields clearer yellow; veins darker yellow. Venation: R_2 shortly beyond level of *r-m*; petiole of cell M_3 slightly longer than the oblique *m-cu*, vein *2nd A* ending shortly beyond the latter.

Abdomen dark brown, outer parts of hypopygium slightly brightened. Male hypopygium (Fig. 41) with outer lobe of basistyle, *b*, long and slender, narrowed very gradually to the obtuse tip, vestiture yellow; mesal lobe of style low, with dense short yellow setae. Outer dististyle, *d*, with apex unequally bifid, outer arm longer, slender, tip obtuse, inner arm broad, sub-circular in outline; inner style subequal in length, appearing as a slender spine, curved gently to the acute point. Phallosomic structure, *p*, unique, appearing as a short blackened spike that narrows to a point, before apex with short erect black setae. Aedeagus relatively small, slender.

Habitat: Chile.

Holotype, ♂, Dalcahue, Chiloe Island, April 1-4, 1968 (Peña). Paratopotype, ♂.

The present fly differs from other regional species by the distinctive hypopygium, especially the phallosomic structure. Such other related species include *Molophilus (Molophilus) bellicosus* Alexander, *M. (M.) pirioni* Alexander, *M. (M.) richardsi* Alexander, and some others.

Molophilus (Molophilus) neanerasta sp. n.

Belongs to the *plagiatus* group; general coloration of thorax grayish brown; antennae of male elongate, approximately one-half the wing, flagellar segments strongly nodulose, with numerous long outspreading setae; halteres yellow; legs brownish black; wings strongly darkened, prearcular field yellowed; male hypopygium with basal dististyle a straight rod terminating in a long acute spine, margin at near two-thirds the length with a comb of appressed blackened spines.

Male. — Length, about 4.5-5 mm.; wing, 4.8-6 mm.; antenna, about 2.5-2.8 mm.

Female. — Length, about 5.5-6 mm.; wing, 6-6.5 mm.

Rostrum dark brown, palpi brownish black. Antennae brown, in male elongate, flagellar segments strongly nodulose; each segment strongly narrowed outwardly, the dilated part with very long outspreading setae, the longest exceeding the segment, in cases to about one-third longer. Head brownish gray.

Thorax almost uniformly grayish brown, humeral region of praescutum yellowed; vestiture of notum long, whitened. Halteres yellow. Legs with coxae and trochanters obscure yellow; remainder of legs brownish black, femoral bases narrowly more yellowed. Wings strongly darkened, prearcular field yellowed; veins and trichia darker brown. Venation: R_2 far beyond level of $r-m$, R_{2-3} about three times R_{4-5} ; petiole of cell M_3 about twice $m-cu$; vein $2nd\ A$ strongly sinuous.

Abdominal tergites reddish brown to dark brown, darker laterally, sternites paler; hypopygium brownish black. Male hypopygium (Fig. 42) with beak of basistyle, b , blackened, terminating in a slightly decurved spine. Basal dististyle, d , a straight rod, terminating in a long acute spine, margin at near two-thirds the length with a comb of appressed spines about 15 in number, the outer ones smaller.

Habitat: Panama.

Holotype, ♂, El Volcán, Chiriqui, altitude 4200 feet, May 15, 1954 (Field). Allotopotype, ♀, pinned with type. Paratopotypes, 6 ♂ ♀, May 12-15, 1954.

Other regional species with the male antennae elongate and conspicuously nodulose with outspreading setae on the nodes include *Molophilus (Molophilus) anerasta* Alexander, *M. (M.) bierigi* Alexander and *M. (M.) subtenebricosus* Alexander, all differing among themselves chiefly in hypopygial characters, especially the basal dististyle.

Molophilus (Molophilus) pugiunculus sp. n.

Allied to *pretiosus*; general coloration of praescutum light brown, posterior sclerites and pleura darker brown; legs brownish yellow, femoral bases yellowed; wings evenly suffused with light brown; male hypopygium with basal dististyle a narrow pale blade that tapers into a slender spine; aedeagus blackened, outer third with several acute blackened spinules.

Male. — Length, about 3.8-4 mm.; wing, 4.3-4.5 mm.; antenna, about 1.1-1.2 mm. Rostrum brown, palpi brownish black. Antennae dark brown; flagellar segments long-oval, with dense erect pale setae; verticils of proximal segments very long, more than two and one half times the segment. Head dark brown.

Pronotal scutum light brown, scutellum and pretergites light yellow. Mesonotal praescutum light brown, slightly darker at anterior end, scutum and postnotum darker brown, scutellum slightly paler. Pleura dark brown. Halteres obscure brownish yellow. Legs with coxae and trochanters obscure yellow; femora obscure yellow basally, outer half to two-thirds darker; remainder of legs brownish yellow, outer tarsal segments slightly darker. Wings evenly suffused with light brown, prearcular and costal fields more yellowed; veins and trichia slightly darker brown than the ground. Venation: R_2 very shortly before level of $r-m$; petiole of cell M_3 (M_{3-4}) about twice $m-cu$; vein 2nd A long.

Abdomen dark brown. Male hypopygium (Fig. 43) with outer beak of basistyle, b , small and weak. Outer dististyle, d , with basal spur relatively short; basal style distinctive, appearing as a slender pale blade, outer half narrowed gradually into a slender spinelike extension, outer two-thirds with microscopic inconspicuous pale setae; not darkened and spinoid as in allied species. Phallosomic plate, p , long-suboval, broadest at near mid-length, apex very obtuse to subtruncate. Aedeagus blackened, outer third with several acute blackened spinules that are directed outwardly, not recurved or truncated at tips, as in some allies.

Habitat: Chile.

Holotype, ♂, Butamalal, Nahuelbuta, Arauco, altitude 1100-1400 meters, January 23-31, 1954 (Peña). Paratopotypes, ♂♂ (Peña).

The most nearly related species include *Molophilus (Molophilus) exemptus* Alexander, *M. (M.) flavexemptus* Alexander, and *M. (M.) subexemptus* Alexander, all differing among themselves chiefly in hypopygial characters. The critical structures in the present fly are the basal dististyle and the aedeagus.

Molophilus (Molophilus) sarotes sp. n.

Belongs to the *plagiatus* group; general coloration of body dark brown, humeral and lateral praescutal borders paler; wings faintly tinged with brownish yellow, unpatterned; male hypopygium with basal dististyle a gently curved blade, its inner margin with numerous very long setae, more crowded and spinoid at the obtuse apex which terminates in a short point; phallosome profoundly divided.

Male. — Length, about 4.2-4.3 mm.; wing, 4.5-4.8 mm.; antenna, about 1.2-1.3 mm. Rostrum and palpi dark brown. Antennae dark brown; flagellar segments long-suboval, becoming progressively longer and more slender outwardly. Head dark brown.

Pronotum brown, pretergites light yellow. Mesonotal praescutum brown, sparsely gray pruinose, humeral and lateral borders slightly paler; posterior sclerites of notum paler brown, scutal lobes darker. Pleura dark brown, dorsopleural membrane paler. Halteres with stem yellowed, clearer basally, knob brown. Legs with coxae and trochanters obscure yellow; femora and tibiae yellowish brown, tarsi darker, subbasal ring of fore tibia still darker. Wings faintly tinged with brownish yellow, unpatterned; veins and trichia light brown. Venation: R_2 in nearly transverse alignment with $r-m$; petiole of cell M_3 about twice $m-cu$; vein $2nd\ A$ gently sinuous, ending about opposite midlength of the petiole.

Abdomen brown. Male hypopygium (Fig. 44) with beak of basistyle, b , slender. Outer dististyle, d , with branches very unequal, the inner arm slender, outer blade broad, with microscopic spinules. Basal dististyle a gently curved blade, apex obtuse, inner margin with numerous long delicate setoid spines, the series totalling more than 50 elements, the more basal ones erect, outer spines more appressed and crowded, at apex with a short strong point, back from apex style with a linear row of short spines. Phallosome, p , profoundly divided, with a short glabrous base, on either side with an elongate pale setiferous lobe.

Habitat: Panama.

Holotype, ♂, El Volcán, Chiriqui, altitude 4200 feet, May 20-22, 1954, at red light (Field). Paratopotypes, ♂♂.

The present fly is distinguished from other generally similar regional species by hypopygial structure, especially the basal dististyle.