

**Notes on the Tropical American Species of Tipulidae (Diptera).
I. The Genus *Teucholabis* Osten Sacken.**

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(With 14 figures)

Under the above general title it seems desirable to publish a series of papers on the larger and more complex genera of Tropical American crane-flies. In time such a program might be expanded to include all of the approximately 2,000 species of these flies now known from the Neotropics. In planning such a series of papers it seems advisable to include a brief summary of generic characters, general distribution and a list of the known species, followed by the descriptions of any new species that may be available at the time of preparation of the report.

Teucholabis Osten Sacken

Teucholabis Osten Sacken; Proc. Acad. Nat. Sci. Philadelphia, 1859: 222; 1859.
Teucholabis Alexander; Encycl. Ent., Diptera, 4: 17-27; 1927.

The extensive genus *Teucholabis* is unusually well represented in Tropical America where approximately 150 species are now known. Elsewhere in the world the number of forms is much reduced. The genus is essentially one of tropical and warm climates, as is shown by its distribution in the Americas, where the number of species becomes much reduced in both temperate zones. Thus in the Nearctic Region, at the present moment there are only seven known species, one of which is the genotype, *complexa* Osten Sacken. Only a few species have been found in the Ethiopian Region but there is a further marked increase in number of forms in the Oriental Region, with a gradual tapering off in the adjoining parts of the Palaearctic and Australasian Regions. No species are found in the western Palaearctic (Europe) or in New Zealand.

The distribution in the Americas, with its marked concentration in the Tropics and with fewer forms in the north quite parallels that of certain families of birds, specifically the humming birds, tyrant flycatchers and tanagers. It may further be noted that there are various other major genera and subgenera of Tipulidae that have this same type of distribution, including *Brachypremna*, *Limonia* (*Rhipidia*), *Limonia* (*Geranomyia*), *Heliopsis*, *Orimarga*, *Austrolimnophila*, *Epiphragma*, *Polymera*, *Hexatoma* (*Eriocera*), *Atarba*, *Shannonomyia*, *Elephantomyia*, *Gonomyia* (*Lipophleps*), *Gnophomyia*, *Cryptolabis*, and others. All of these have from a

score to more than a hundred species in Tropical America whereas north of the Mexican border there are scarcely half a dozen or even fewer species in any one genus. Most of the species of *Teucholabis* are inhabitants of the Tropical and Subtropical zones; fewer species occupy the mountain slopes in the Temperate zone. A small number of forms inhabit the Greater Antilles but there are none in the Chilean subregion.

Generic Characters

In general, the species of *Teucholabis* are of small or medium size, among the smallest being *minuta* with the wing 3 mm. long while among the largest is *audax* having a wing length of 10 mm. The flies have a very distinctive and characteristic appearance, being highly polished and usually colored black or yellow, being frequently patterned with the alternate colors. Many species have a pruinose or silvery longitudinal stripe on the lower thoracic pleura, this color being produced by microscopic appressed silvery setulae. The wings are often plain, with only the more darkened stigma present, but very many species have the wings crossbanded with brown, there commonly being three such bands, the second lying at the cord, the third at the wing tip. Very rarely (subgenus *Euteucholabis*), the wing pattern is spotted and dotted with brown.

The frontal prolongation or rostrum of the head is usually of moderate length but in some species is long and slender, approximately equal to the remainder of head, and somewhat paralleling the condition found in the genus *Helius*. Antennae 16-segmented, short, with no fusion of segments; flagellar segments subglobular to short-oval, the verticils long and conspicuous. Pronotum and cervical region prolonged and narrowed into a slender necklike region. The legs of many species show a curious sexual modification, the males having the proximal ends of the posterior basitarsi slightly dilated and provided with a linear glandular structure; in still further forms (*lais*, *stadelmanni* and others) the posterior tibia of the male has a small knob or flange beyond midlength, this of various shapes and differing in the vestiture in various species.

The most striking single feature of the wing venation is found in the position of vein R_2 at the end of R_s or only a short distance beyond this point, R_{2-3-4} thus being very short or lacking, in no case being as long as vein R_2 itself (Figs. 1-7). Very rarely (as in *submunda*), R_2 lies before the fork of

R_5 and thus slightly basad of the other elements comprising the anterior cord. Other features of the venation are: Anterior arculus usually lacking, in a few species strongly preserved but short; M joins the posterior arculus at a right angle. R_{1-2} short, vein R_1 at or close to its point of union with R_2 bent slightly caudad, forming a gentle loop that is almost invariably present (as noted by Osten Sacken, 1869, and later). Sc variable in length, in many species ending opposite or beyond midlength of R_5 , in others much shorter, terminating about opposite the origin of R_5 (*munda* and others); Sc_1 in cases very long, in others short, Sc_2 sometimes ending opposite or before the origin of R_5 . Cell 1st M_2 usually closed, in several cases open by the atrophy of the basal section of M_3 , the cell when present elongate, widened outwardly; $m-cu$ usually at or close to the fork of M , in others a short distance beyond, in a very few (as *gracilis*) lying far before the fork of M . In the subgenera *Paratropesa* and *Euparatropesa*, vein R_3 is present, oblique to suberect in position, cell R_3 varying in size and shape in different species. In the subgenera *Paratropesa* and *Euteucholabis*, $r-m$ is obliterated by the long fusion of vein R_5 with M_{1-2} .

In the abdomen, a further sexual dimorphism is shown in the males of most species. In such cases there are variously developed and modified sternal pockets on abdominal segment five and, less developed, on sternite six. Such pockets are of various shapes and degrees of vestiture and undoubtedly provide strong specific characters. In most species these structures seem to be very constant and stable but in others (as *sanguinea*) there seems to be a surprising range in the number of setae in the pocket of different individuals of what seems to be a single species. The chief features of the male hypopygium (Figs. 8-14) are as follows: Basistyle, b , in most species with an apical or subapical spine, in some cases with this forked or double, in others (including the genotype) greatly reduced or lacking; very many species have the margin of this spine densely fringed with long yellow setae. In addition to this outer spine, there is frequently a low darkened mesal flange that is variously crenulate or toothed. Two dististyles, the outer more elongate, simple or variously armed or branched, commonly narrowed into an elongate apical spine. Inner dististyle shorter, usually terminating in a flattened blade that is bilobed or bidentate at apex. Aedeagus of various forms, delimiting various groups of species within

the genus, the apical portion providing strong characters for the separation of the species.

Certain other generic characters have been discussed by Osten Sacken (Mon. Dipt. North America, 4: 129-132; 1869).

As known to the present time, the immature stages occur in decaying wood but in a group as developed and diversified as this, it seems certain that further modifications of the larval habitat must exist and may some day be described.

Key to the Subgenera.

1. Wings with cell R_3 present, i. e., R_s with three branches (Fig. 1) . . 2
- Wings with cell R_3 lacking, i. e., R_s with two branches (Figs. 2-7) . . 3
2. Crossvein $r-m$ obliterated by the long fusion of vein R_5 with M_{1-2} , there appearing to be four veins issuing from cell $1st M_2$ (as in Fig. 3) *Paratropesa* Schiner
- Crossvein $r-m$ present, there being only three veins issuing from cell $1st M_2$, in cases (*fasciolaris* group), cell M_2 open by the atrophy of basal section of vein M_3 (Fig. 1) *Euparatropesa*, subgen. n.
3. Crossvein $r-m$ obliterated by the fusion of vein R_5 with M_{1-2} (Fig. 3) *Euteucholabis*, subgen. n.
- Crossvein $r-m$ present, cell $1st M_2$ closed, more rarely open by the atrophy of the basal section of vein M_3 (Figs. 2, 4-7) *Teucholabis* Osten Sacken

Euparatropesa, subgen. nov.

Characters as in *Paratropesa* Schiner, differing in the separate veins R_5 and M_{1-2} and the consequent retention of $r-m$.

Type of subgenus: — *Teucholabis* (*Euparatropesa*) *jactans* Alexander.

The subgenus divides into two groups of species:

1) The *fasciolaris* group, with cell M_2 open by the atrophy of the basal section of M_3 , including the following species: *amatrix*, *fasciolaris*, *fumidapicalis*, *invenusta* and *lindneri*. All Neotropical.

2) The *jactans* group, with cell $1st M_2$ closed, including the following species: *amoena*, *heteropoda*, *jactans*, *praenobilis*, *sanguinolenta* and *xystophanes*. All Neotropical. In addition, *esakii* Alexander, of northern Japan (Hokkaido) likewise falls here and provides a serious problem in geographical distribution.

Euteucholabis, subgen. nov.

Characters as in *Teucholabis*, s. s., differing in the long fusion of veins R_5 and M_{1-2} , obliterating $r-m$; wing pattern spotted.

Type of subgenus: — *Teucholabis (Euteucholabis) paradoxa* Alexander.

The venational condition quite parallels that found in the subgenus *Paratropesa* Schiner. Besides the subgenotype, *nepenthe* belongs here.

List of Species.

Subgenus *Paratropesa* Schiner

<i>chalybeia</i> (Alexander)	Colombia
<i>collaris</i> (Osten Sacken)	Amazonian Brazil, Peru
<i>neocollaris</i> Alexander	Ecuador
<i>nigrocoxalis</i> Alexander	Southeastern Brazil
<i>paracollaris</i> Alexander	Peru
<i>placabilis</i> Alexander	Costa Rica
<i>praeusta</i> (Osten Sacken)	Mexico
<i>singularis</i> (Schiner)	Venezuela
<i>subcollaris</i> Alexander	Ecuador

Subgenus *Euparatropesa*, new

1. The *fasciolaris* group.

<i>amatrix</i> Alexander	Southeastern Brazil
<i>fasciolaris</i> (Wiedemann)	Brazil
<i>fumidapicalis</i> Alexander	Peru
<i>invenusta</i> sp. n.	Costa Rica
<i>lindneri</i> Alexander	Southern Brazil

2. The *jactans* group.

<i>amoena</i> (Alexander)	Venezuela
<i>heteropoda</i> Alexander	Peru
<i>jactans</i> (Alexander)	Southeastern Brazil
<i>praenobilis</i> Alexander	Peru
<i>sanguinolenta</i> (Alexander)	Southeastern Brazil
<i>ystophanes</i> (Alexander)	Northwestern Argentina

Subgenus *Euteucholabis*, new

<i>nepenthe</i> , sp. n.	Southeastern Brazil
<i>paradoxa</i> Alexander	Peru

Subgenus *Teucholabis* Osten Sacken

<i>aequinigra</i> Alexander	Panama
<i>annulata</i> Williston	Lesser Antilles (St. Vincent)
<i>angustapicalis</i> Alexander	Southeastern Brazil
<i>anthracina</i> Alexander	Ecuador, Peru
<i>argentea</i> Alexander	Southeastern Brazil
<i>atripennis</i> Alexander	Ecuador
<i>audax</i> Alexander	Panama
<i>azuayensis</i> Alexander	Ecuador
<i>biacifera</i> Alexander	Southeastern Brazil
(<i>bifasciata</i> Fabricius see <i>trifasciata</i> Enderlein)	
<i>bigladius</i> Alexander	Peru
<i>biramosa</i> Alexander	Ecuador
<i>brevisetosa</i> Alexander	Peru
<i>bruneri</i> Alexander	Cuba

(<i>buscki</i> Alexander see <i>gracilis</i> Osten Sacken)	
<i>catharinensis</i> Alexander	Southeastern Brazil
<i>chalybeiventris</i> (Loew)	Cuba
<i>cinereiceps</i> Alexander	Mexico
<i>circumscripta</i> Alexander	Costa Rica
<i>cockerellae</i> Alexander	Southern Mexico, Guatemala, Costa Rica, Venezuela
<i>cuneiformis</i> Alexander	British Guiana
<i>dampfi</i> Alexander	Mexico
<i>decora</i> Alexander	Eastern Brazil, Peru
<i>dedecora</i> Alexander	Southeastern Brazil
<i>denuda</i> Alexander	Ecuador
<i>diana</i> Alexander	Ecuador
<i>diplaca</i> Alexander	Panama
<i>distijurca</i> Alexander	Ecuador
<i>duidensis</i> Alexander	Venezuela
<i>flavithorax</i> (Wiedemann)	Southeastern Brazil
<i>formosissima</i> , sp. n.	Costa Rica
<i>furva</i> Alexander	Guatemala
<i>fuscoapicalis</i> Alexander	Southeastern Brazil
<i>galatea</i> Alexander	Southeastern Brazil
<i>gowdeyi</i> Alexander	Cuba, Jamaica
<i>gracilis</i> Osten Sacken (<i>buscki</i> Alexander)	Mexico, Panama
<i>hilaris</i> Alexander	Peru
<i>hondurensis</i> Alexander	Honduras
<i>idiophallus</i> Alexander	Peru
<i>immaculipleura</i> , sp. n.	Puerto Rico
<i>inepta</i> Alexander	Peru
<i>i. bisetosa</i> Alexander	Ecuador
<i>inulta</i> Alexander	Southeastern Brazil
<i>invaripes</i> Alexander	Southeastern Brazil
<i>jaliscana</i> , sp. n.	Mexico
<i>jivaro</i> Alexander	Ecuador
<i>jocosa</i> Alexander (close to <i>pleuralis</i> and <i>complexa</i>)	Ecuador, Peru, Venezuela, Argentina, Brazil
<i>jucunda</i> Alexander	Peru
<i>laeta</i> Alexander	Peru
<i>lais</i> , sp. n.	Costa Rica
<i>laterospinosa</i> Alexander	Southeastern Brazil
<i>laxa</i> , sp. n.	Costa Rica
<i>leonora</i> Alexander	Southeastern Brazil
<i>leridensis</i> Alexander	Panama
<i>lethe</i> , sp. n.	Costa Rica
<i>liponeura</i> Alexander	Southeastern Brazil
<i>lipophleps</i> Alexander	Southeastern Brazil
<i>longisetosa</i> Alexander	Peru
<i>longispina</i> Alexander	Ecuador
<i>lugubris</i> Alexander	British Guiana, Brazil
<i>luteicolor</i> Alexander	Ecuador, Peru
<i>manniana</i> , sp. n.	Honduras
<i>marticola</i> Alexander	Colombia
<i>melanocephala</i> (Fabricius)	British & French Guiana
<i>mendax</i> Alexander	Eastern Brazil, Peru, Surinam
<i>miniata</i> Alexander	Panama

<i>minuta</i> Alexander	Mexico
<i>molesta</i> Osten Sacken	Mexico
<i>morionella</i> (Schiner)	"South America"
<i>multispinosa</i> Alexander	Venezuela
<i>munda</i> Alexander	Peru
<i>myersi</i> Alexander	Cuba, Florida
<i>mythica</i> Alexander	Paraguay
<i>neinulta</i> Alexander	Ecuador
<i>neoleridensis</i> Alexander	Ecuador
<i>neosalva</i> Alexander	Peru
<i>nigroclavaria</i> Alexander	Mexico
<i>nigrocorporis</i> Alexander	Southeastern Brazil
<i>nigrocostata</i> Alexander	Southeastern Brazil
<i>nigropostica</i> Alexander	Ecuador
<i>nigrosignata</i> Alexander	Cuba
<i>nocturna</i> Alexander	Venezuela
<i>omissa</i> Alexander	Northwestern Argentina
<i>omissinervis</i> Alexander	Peru
<i>oteroi</i> Alexander	Cuba
<i>pabulatoria</i> Alexander	Guatemala
(parishi Alexander — Genus <i>Gonomyia</i> , subgenus <i>Gonomyina</i> Alexander)	
<i>parishiana</i> Alexander	Peru
<i>patens</i> Alexander	Mexico
<i>perangusta</i> Alexander	Southern Mexico, Venezuela
<i>perlata</i> Alexander	Ecuador
(persimilis Alexander — Genus <i>Gonomyia</i> , subgenus <i>Gonomyina</i> Alexander)	
<i>pilipes</i> (Walker)	"Amazonian Region"
<i>platyphallus</i> Alexander	Central America, Mexico
<i>polita</i> Osten Sacken	Southeastern Brazil
<i>portoricana</i> Alexander	Puerto Rico
<i>projecta</i> Alexander	Southeastern Brazil
<i>pulchella</i> Alexander	Eastern Brazil
<i>retusa</i> Alexander	Peru
<i>rhabdophora</i> Alexander	Ecuador
<i>rostrata</i> Enderlein	Costa Rica, Panama
<i>rubriceps</i> Alexander	Southeastern Brazil
<i>rufula</i> , sp. n.	Mexico
<i>sackeni</i> Alexander	Mexico, Guatemala, Ecuador, Peru
<i>salti</i> Alexander	Colombia
<i>salva</i> Alexander	Peru
<i>sanguinea</i> Alexander	Southeastern Brazil
<i>scabrosa</i> Alexander	Ecuador
<i>scapularis</i> (Macquart)	Brazil
<i>schineri</i> Enderlein	Venezuela
<i>seposita</i> Alexander	Panama
<i>serrulifera</i> Alexander	Costa Rica
<i>sigmoidea</i> Alexander	Southeastern Brazil
<i>simplex</i> (Wiedemann)	Brazil
<i>spica</i> Alexander	Ecuador
<i>spinigera</i> Schiner	Colombia, Venezuela, Peru
<i>stadelmanni</i> Alexander	Honduras
<i>strumosa</i> Alexander	Ecuador
<i>stygica</i> Alexander	British Guiana
<i>subjocosa</i> Alexander	Peru

<i>subleridensis</i> Alexander	Panama
<i>submolesta</i> Alexander	Mexico
<i>submunda</i> Alexander	Peru
<i>subrubriceps</i> Alexander	Ecuador
<i>sultana</i> Alexander	Ecuador
<i>talamancana</i> Alexander	Costa Rica
<i>tartarus</i> Alexander	Southeastern Brazil
<i>trifasciata</i> Enderlein (<i>bifasciata</i> F.)	Panama, Colombia, Venezuela, British Guiana
<i>trifasciata xanthicles</i> , subsp. n.	Costa Rica
<i>tristis</i> Alexander	Peru
<i>tullochi</i> Alexander	Southeastern Brazil
<i>turrialbensis</i> Alexander	Costa Rica
<i>venezuelensis</i> (Macquart)	Venezuela
<i>wighti</i> Alexander	Jamaica
<i>wilhelminae</i> Alexander	Surinam

It should be noted that most of the species described by the early writers have not been recognized by later workers. Some of these are known only from females and will probably never be definitely known.

Description of new Species.

Teucholabis (Euparatropesa) invenusta, sp. n.

Belongs to the *fasciolaris* group; general coloration of mesonotum black, restrictedly patterned with yellow; knobs of halteres light yellow; legs, including all coxae, black; wings whitish subhyaline, unpatterned except for the small brown stigma.

Female. — Length, about 4 mm.; wing, 4 mm.

Rostrum dark brown, relatively short, less than one-half the remainder of head; palpi black. Antennae black throughout; flagellar segments very short-oval to almost subglobular, especially the more proximal ones which are clearly moniliform by short stems; verticils longer than the segments. Head polished dark brown.

Pronotum brownish black, the scutellum and anterior pretergites light yellow. Mesonotum polished black, variegated with yellow, including elongate triangles on the humeral region of praescutum, lateral ends of suture, the broad central area of scutum, involving the adjoining region of the praescutum, posterior borders of the scutal lobes and the dorsopleural membrane. Pleura and pleurotergite black; a short but conspicuous silvery longitudinal stripe extending from the posterior sternopleurite to the base of abdomen. Halteres with stem dusky, the knob light yellow. Legs uniformly black, including all coxae. Wings (Fig. 1) whitish

subhyaline, unpatterned except for the very small brown stigma; veins dark brown, those at base restrictedly more yellowed. Venation: Sc short, Sc_1 ending about opposite one-fifth to one-sixth the length of Rs ; R_2 at fork of Rs ; R_{1-2} exceedingly short, virtually in transverse alignment with R_2 ; vein R_3 oblique, R_4 arcuated, cell R_3 at margin subequal in extent to cell R_2 ; $r-m$ present; cell M_2 open by atrophy of basal section of M_3 , cell

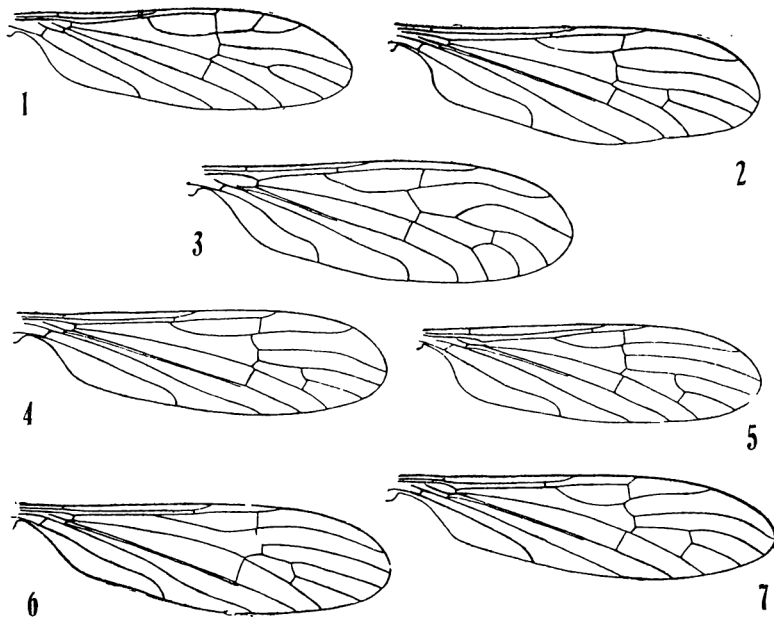


Fig. 1. *Teucholabis (Euparatropesa) invenusta*, sp. n.; venation. — Fig. 2. *Teucholabis (Teucholabis) formosissima*, sp. n.; venation. — Fig. 3. *Teucholabis (Euteucholabis) nepenthe*, sp. n.; venation. — Fig. 4. *Teucholabis (Teucholabis) lethe*, sp. n.; venation. — Fig. 5. *Teucholabis (Teucholabis) manniana*, sp. n.; venation. — Fig. 6. *Teucholabis (Teucholabis) laxa*, sp. n.; venation. — Fig. 7. *Teucholabis (Teucholabis) immaculipleura*, sp. n.; venation.

2nd M_2 longer than its petiole; $m-cu$ at or just beyond the fork of M .

Abdomen black, the posterior borders of the outer sternites narrowly pale; genital shield blackened; cerci stout, horn-yellow.

Habitat: Costa Rica.

Holotype, ♀, La Suiza, Turrialba, April 1922 (Pablo Schild); Alexander Collection, through kindness of Dr. A. L. Melander.

Among the described species of the *fasciolaris* group, as listed earlier, the present fly stands out as being very isolated in its unpatterned wings, with other differences in the coloration of the body and legs.

Teucholabis (Euteucholabis) nepenthe, sp. n.

Allied to *paradoxa*; head polished black; mesonotal praescutum black medially, paler on sides; posterior sclerites of notum black, the central portion obscure yellow; wings with the ground pale yellow, more saturated in the outer radial field, heavily patterned with brown, including solid spots in the basal and costal fields and numerous dots in the cells; fusion of veins R_5 and M_{1-2} extensive, exceeding in length the basal section of vein R_5 ; outer veins at margin strongly recurved or bent backward.

Female. — Length, about 7 mm.; wing, 6 mm.

Rostrum black, about one-half the length of remainder of head; palpi black. Antennae black throughout; flagellar segments oval, with relatively short verticils. Head above polished black.

Pronotum dark chestnut brown, more or less distinctly variegated by black. Mesonotal praescutum black, the lateral portions extensively chestnut brown; posterior sclerites of notum black on sides, the central portion obscure yellow, including the scutum, scutellum and cephalic third of the mediotergite. Pleura and pleurotergite chiefly polished chestnut brown, somewhat darker on the metapleura and adjacent sclerites; no pruinose area on pleura. Halteres dusky. Legs with coxae chestnut brown, the posterior pair still darker; trochanters brown; femora yellow, the tips blackened, the amount subequal on all legs, involving the outer fifth or sixth; tibiae obscure yellow, the tips blackened; tarsi black. Wings (Fig. 3) with the ground pale yellow, more saturated in the outer radial field; continuous major dark brown areas involving the prearcular field, a postarcular spot in cell R , cells C and Sc , origin of R_s , stigma, tip of R_{1-2} , and most of cell $2nd A$; two similar isolated brown spots, at end of vein Cu and at end of cell $1st A$, the latter remote from the veins; remaining cells with numerous brown dots, the outer ends of the marginal cells almost clear, the spots less numerous than in *paradoxa*; veins brown. Venation: Sc_1 ending about opposite midlength of R_s , the latter sinuous or feebly angulated on basal half; fusion of R_5 and M_{1-2} more extensive than in *paradoxa*, exceeding the basal section of R_5 ; free portion of vein R_5 beyond the fusion strongly elevated; veins M_{1-2} to $2nd A$, inclusive, strongly recurved or bent backward at their tips; $m-cu$ close to fork of M .

Abdominal tergites chestnut brown, with more blackened posterior margins; sternites more yellowed but similarly patterned;

basal shields of ovipositor blackened; cerci elongate, horn-color; hypovalvae black.

Habitat: Brazil.

Holotype, ♀, Angra dos Reis, Rio de Janeiro, November 1945 (John Lane). I am indebted to John Lane for many fine Tipulidae from southeastern Brazil.

The present fly is quite distinct from the only other known members of the subgenus, *Teucholabis* (*Euteucholabis*) *paradoxa* Alexander. The differences in coloration of the body and wings, and in the venation, have been indicated above.

Teucholabis (*Teucholabis*) *formosissima*, sp. n.

Head above dark brown; rostrum short, black; pronotum yellow; mesonotal praescutum reddish yellow, the sides with a black area; scutellum, postnotum and pleura black; knobs of halteres yellow; femora yellow, the tips blackened, tibiae and tarsi black; legs (male) without structural modifications; wings whitish subhyaline, with an unusually heavy crossbanded brown pattern; sternal pockets (male) lacking; male hypopygium with the outer lobe of basistyle short and stout, unequally bispinous at apex.

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

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

Rostrum black, relatively short, not or scarcely one-third the length of remainder of head; palpi black. Antennae with scape and pedicel brown, flagellum black; flagellar segments oval, with long conspicuous verticils. Head above reddish brown to dark brown.

Pronotum obscure yellow. Mesonotal praescutum reddish yellow, with faint indications of a linear black median line on the cephalic fifth or sixth of the sclerite; lateral praescutal border behind the pseudosutural foveae with a conspicuous blackened area; scutum reddish yellow, each lobe with two separate blackened areas; scutellum and postnotum uniformly black. Propleura obscure yellow, darkened behind; remainder of pleura black, with a silvery pruinose area restricted to the meral and metapleural regions. Halteres with stem blackened, knob pale yellow. Legs with the fore coxae yellow, remaining coxae brownish black; trochanters yellow; femora yellow, the tips blackened, slightly more extensive on fore legs where nearly the outer fourth is included; posterior femora with about the proximal third similarly blackened, followed by a broad yellow ring that involves about one-half the segment;

tibiae and tarsi black; legs slender, without structural modifications in male. Wings (Fig. 2) whitish subhyaline, very conspicuously banded with brown, the dark areas a little more extensive than the ground; wing apex brown, the inner level of the band lying a little beyond the outer end of cell *1st M*₂, leaving the subbasal portions of cells *2nd M*₂ and *M*₃ narrowly pale; dark band at cord broader than the pale one beyond it, scarcely lighter in color than the included stigmal area; a slightly wider band at level of origin of *Rs*, completely crossing the wing, its outer limit at the tip of *Sc*₁; a much smaller brown spot at arculus; veins brownish yellow, darker in the patterned areas. Venation: *Sc* long, *Sc*₁ ending about opposite midlength of *Rs*, *Sc*₂ some distance from its tip; *R*₂ oblique, a little longer than *R*₂₋₃₋₄; branches of *Rs* generally parallel to one another, the cell a little widened at about one-third the length and slightly more so at its outer end, at margin cell *R*₄ about one-half as extensive as cell *R*₂; cell *1st M*₂ subequal in length to the outer section of vein *M*₃; *m-cu* from about one-third to one-fifth its length beyond the fork of *M*.

Abdominal tergites, including hypopygium and genital region of female, black; sternites a little more piceous. No modified sternal pockets. Male hypopygium (Fig. 8) with the outer lobe of basistyle, *b*, short and stout, at apex narrowed and produced into two very unequal black spines; surface of lobe, except on basal portions, with abundant stout yellow setae; mesal flange relatively conspicuous. Outer dististyle, *od*, narrowed at base, thence moderately expanded, very gradually narrowed outwardly, the tip a sclerotized spine. Inner dististyle, *id*, with the two outer teeth very unequal, separated by a broad notch, the outer spine much larger; basal lobe subcylindrical, with a few setae on its outer portion. Aedeagus, *a*, flattened, the apical spine blackened, gently curved; four major setae and at least one or two smaller ones.

Habitat: Costa Rica.

Holotype, ♂, La Suiza, Turrialba, September 1925 (Pablo Schild); Melander Collection. Allotopotype, ♀. Paratopotype, 1 ♂, August.

I am very deeply indebted to Dr. Melander for the privilege of studying rather numerous Tipulidae from Costa Rica collected by the late Pablo Schild (born, probably, 1878- died, 1928; age 50).

The present fly is very distinct from other regional species in all details of coloration of the body and legs, and in the structure of the male hypopygium. Superficially it most resembles species such as *Teucholabis* (*Teucholabis*) *bigladius* Alexander, *T. (T.) multispinosa* Alexander, *T. (T.) nigrocorporis* Alexander, and others, but is a very different fly.

Teucholabis (*Teucholabis*) *trifasciata xanticles*,
subsp. n.

Male. — Length, about 7 mm.; wing, 6.5 mm.

Agreeing with typical *trifasciata* Enderlein. Rostrum yellow; palpi brownish black. Antennae with scape and pedicel yellow, flagellum brown. Head in front obscure yellow, more blackened behind.

Pronotum uniformly yellow. Mesonotal praescutum and scutum reddish orange, with a narrow brownish black median stripe on the praescutum, widest in front, narrowed behind and becoming obsolete beyond midlength of sclerite; a major circular black spot on either side of praescutum at near middistance between the pseudosutural foveae and the suture; scutum undarkened; scutellum and central portion of mediotergite brownish black, the parascutella and lateral borders of mediotergite conspicuously yellow. Pleura and pleurotergite chiefly blackened, including virtually all of the anepisternum, sternopleurite, dorsal pteropleurite and most of pleurotergite, the yellow color including the restricted dorsopleural region, most of the propleura, and the posterior ventral pleurites; a small silvery pruinose area, almost circular in outline, on the ventral pteropleurite. Halteres with stem dusky, its base obscure yellow, knob conspicuously yellow; stem with long conspicuous setae. Legs with all coxae and trochanters yellow; fore femora yellow with more than the distal fourth abruptly black; posterior femora yellow with about the outer sixth black; tibiae yellow, the tips narrowly dark brown; tarsi passing into brownish black; posterior basitarsus on about its proximal third with a dilated glandular area. Wings yellow, trivittate with brown, the outer band including the broad wing tip, extending basad to beyond the level of outer end of cell *1st M*₂, involving the outer end of the latter cell; band at cord narrow, confluent with the slightly darker brown oval stigma; basal band at level of origin of *Rs* and the tip of vein *2nd A*, narrowed at either end, more expanded at near midlength in cells *M* and *Cu*; veins yellow, darker in the patterned areas. Venation: *Sc*₁ ending about opposite midlength of *Rs*, *Sc*₂ far from its tip,

Sc_1 alone being subequal to $m-cu$; R_2 slightly oblique, subequal to R_{1-2} ; vein R_5 near its tip deflected slightly caudad to the wing tip, widening cell R_4 which is about three-fifths as extensive as cell R_2 ; cell $1st M_2$ a little shorter than the distal section of vein M_{1-2} ; $m-cu$ about one-third to one-fourth its length beyond the fork of M .

Abdomen brownish black, the posterior borders of the outer tergites conspicuously yellow, slightly less in amount than the darkened bases; hypopygium black. Sternal pocket of segment five (male) comprised of relatively few setae, totalling about a score, the outer ones larger and more sinuous; on sternite six with only four major setae on either side, the more posterior ones larger, the others progressively shorter, strongly sinuous. Male hypopygium with the spine of mesal face of basistyle very long, sinuous, gradually narrowed to the acute blackened tip. the surface of rod with abundant delicate setae; mesal flange of basistyle conspicuous, the margin weakly crenulate, the outer angle of the plate produced into a spine. Outer dististyle simple, only about two-thirds as long as the spine of the basistyle and more slender; inner dististyle with both the apical and basal teeth strongly developed; basal lobe stout, especially apically, the truncated tip with several long strong setae. Aedeagus with the terminal spine in direct longitudinal alignment with the axis, elongate, only a little less than one-half as long as the base, almost straight.

Habitat: Costa Rica.

Holotype, ♂, Turrialba, November 1922 (Pablo Schild); Alexander Collection, through Dr. A. L. Melander.

Fabricius (Syst. Antl., p. 31; 1805) from an unknown station in South America described as *Tipula bifasciata* a species that appears to be the same as the fly described later as *Teucholabis trifasciata* (Zool. Jahrb. Syst., 32: 69-70, fig. R_1) by Enderlein. Since the name *bifasciata* is preoccupied, Enderlein's name is now used. There are certain important differences in coloration between the descriptions of the two flies but until more is known of the range in coloration in this genus, the above synonymy may be held as being correct. It may be observed that Enderlein's species calls for a fly having the rostrum polished black and the meso- and metathoraces uniformly polished black, with only the suture ochraceous yellow.

Teucholabis (Teucholabis) lethe, sp. n.

General coloration of mesonotum polished black, the scutellum abruptly yellow; head polished dark brown; knobs of halteres yellow; posterior tibia (male) at three-fifths the length with a

moderately swollen area that is densely set with short black setae; wings light yellow, conspicuously patterned with brown, including the broad apex; sternal pocket of segment five with few setae on either side; male hypopygium with the outer dististyle broadly flattened, at base of blade on inner margin with a small tooth; apical teeth of inner dististyle acute.

Male. — Length, about 7 mm.; wing, 6.3 mm.

Rostrum castaneous, less than one-half the length of remainder of head; palpi dark brown. Antennae with scape and pedicel obscure yellow, flagellum brownish black or black; flagellar segments long-oval to subcylindrical; verticils long and conspicuous. Head above dark brown, polished.

Pronotum reddish yellow; pretergites yellow. Mesonotum almost entirely polished black, variegated by the conspicuous light yellow scutellum. Pleura similarly black, the propleura and metapleura, as well as the wing root, restrictedly reddish yellow; a small pruinose area along the suture at the ventral portion of the pteropleurite and pleurotergite, continued onto the reddened meral region. Halteres brownish black, knobs yellow. Legs with all coxae and trochanters reddish yellow; fore legs chiefly black, the proximal fourth of femora obscure yellow, the central portion of tibiae slightly paler; middle and hind femora yellow, the tips conspicuously and abruptly black, including about the outer fifth of the segment; tibiae yellow, narrowly darkened at both ends, the apex more blackened; tarsi black; posterior tibia at three-fifths the length with a conspicuous blackened dilated area on outer face, this densely set with short black setae; proximal fourth of basitarsus weakly dilated and glandular. Wings (Fig. 4) with the ground light yellow, conspicuously patterned with brown, including the broad wing tip, the latter extending basad virtually to the level of outer end of cell *1st M*₂, leaving a vague brightening in base of cell *2nd M*₂; a very narrow brown seam at cord, beginning at the darker brown oval stigma, gradually narrowed behind through *m-cu*, again more expanded at end of vein *1st A*; the basal band much broken, appearing as small brown spots at origin of *Rs* and tips of vein *2nd A*, the intervening space very vaguely to scarcely darkened, most apparent as a longitudinal wash in basal half of cell *Cu*; cell *Cu*₁ and region of arculus vaguely darkened. Venation: *Sc*₁ ending about opposite one-fourth the length of *Rs*, *Sc*₂ some distance from its tip, *Sc*₁ alone nearly equal to *m-cu*; *R*₂ slightly oblique, a little longer

than R_{1-2} and one-half longer than R_{2-3-4} ; branches of R_s nearly parallel for most of their length, R_5 thence deflected to the wing tip, cell R_4 at margin about four-fifths as extensive as cell R_2 ; cell $1st M_2$ about equal in length to the distal section of vein M_3 ; $m-cu$ about one-fourth its length beyond the fork of M .

Abdominal segments brownish black, the incisures paler; hypopygium brownish black; sternal pocket on fifth segment oval, with only seven or eight major setae on either side. Male hypopygium (Fig. 9) with the apical lobe of basistyle, b , long and powerful, conspicuously flattened, especially at the base, gradually narrowed to the acute spinous tip; surface and margin with abundant long yellow setae; mesal flange of basistyle produced into a few small tubercles. Outer dististyle, od , slightly longer than the lobe of basistyle, very narrow at base, suddenly dilated into a flattened blade that gradually narrows to an acute point, the surface with relatively few long scattered setae; inner edge of style at base of blade with a small acute tooth. Inner dististyle, id , with both apical teeth unusually slender and acute, separated by a U-shaped notch; basal lobe broad, at apex with a small spine or tubercle that is directed laterad, apex of lobe with a few strong setae. Aedeagus, a , with the apex suddenly narrowed into a slender blackened lobe that is bent at an angle of about 45° to the axis; the usual four strong setae present.

Habitat: Costa Rica.

Holotype, ♂, La Suiza, Turrialba, March 1926 (Pablo Schild); Alexander Collection, through Dr. A. L. Melander.

The present fly is entirely distinct from other generally similar regional members of the subgenus. It is most similar to species such as *Teucholabis* (*Teucholabis*) *multispinosa* Alexander, *T. (T.) sackensi* Alexander, and *T. (T.) stadelmanni* Alexander, yet is entirely different. The structure and appearance of the tubercle on the posterior tibia of the male is most like that in *T. (T.) wighti* Alexander, an entirely different fly.

Teucholabis (*Teucholabis*) *manniana*, sp. n.

Thorax almost uniformly orange, the praescutum with three small dark areas, the metapleura blackened; rostrum elongate; head black; halteres uniformly blackened; fore and middle coxae orange, posterior coxae and trochanters black; remainder of legs blackened, the bases of the fore and middle femora yellow; wings with the disk whitish subhyaline, with a broad and virtually unbroken brown border, interrupted at cell Cu ; narrow darker brown seams over cord and outer end of cell $1st M_2$.

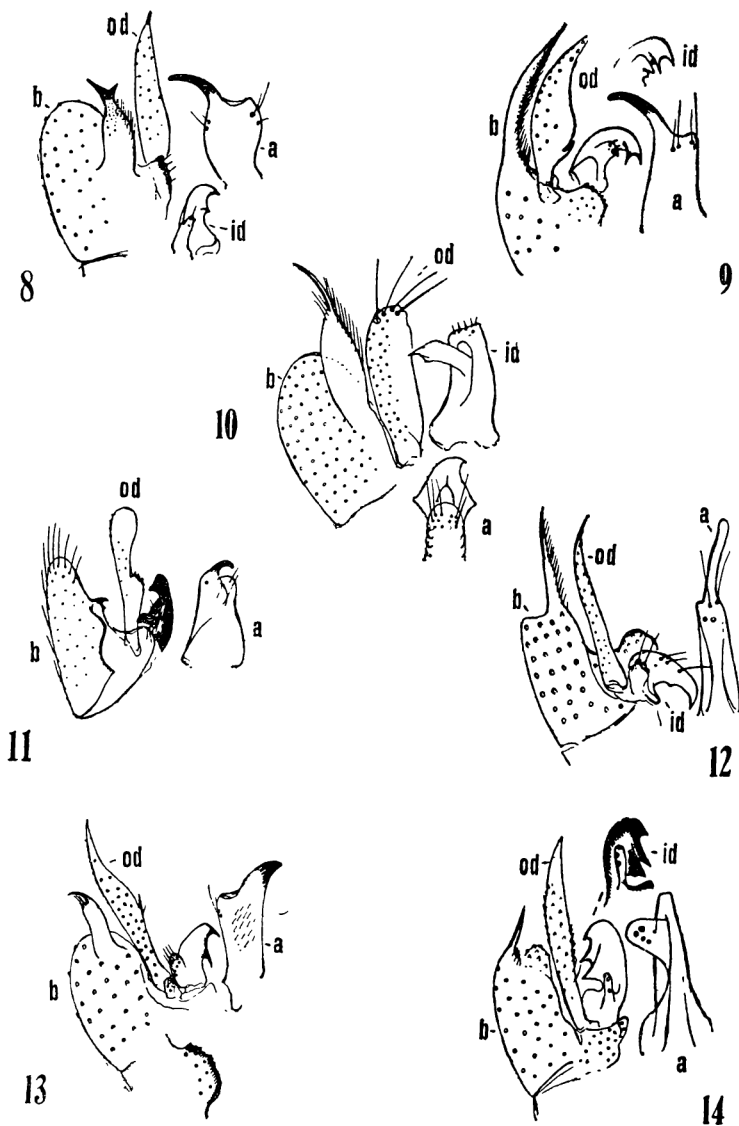


Fig. 8. *Teucholabis (Teucholabis) formosissima*, sp. n.; male hypopygium. — Fig. 9. *Teucholabis (Teucholabis) lethe*, sp. n.; male hypopygium. — Fig. 10. *Teucholabis (Teucholabis) rufula*, sp. n.; male hypopygium. — Fig. 11. *Teucholabis (Teucholabis) jaliscana*, sp. n.; male hypopygium. — Fig. 12. *Teucholabis (Teucholabis) laxa*, sp. n.; male hypopygium. — Fig. 13. *Teucholabis (Teucholabis) lais*, sp. n.; male hypopygium. — Fig. 14. *Teucholabis (Teucholabis) immaculipleura*, sp. n.; male hypopygium. — (Symbols: a, aedeagus; b, basistyle; id, inner dististyle; od, outer dististyle).

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

Rostrum dull black, elongate, nearly as long as the remainder of head; palpi black. Antennae broken. Head dark liver brown, sparsely pruinose, more heavily so on the narrow orbits; anterior vertex about twice the diameter of the scape.

Cervical region infuscated. Prothorax and mesothorax almost uniformly orange, variegated only by a triangular blackened spot on the cephalic fourth or fifth of the praescutum and much smaller, scarcely evident pale brown sublateral spots at near midlength of praescutum; meral region and metapleura beneath the halteres blackened. Halteres uniformly blackened. Legs with the fore and middle coxae orange, the trochanters weakly more darkened; remainder of fore and middle legs black, the femoral bases yellow, including about the proximal fourth of fore legs and more than the proximal third of the middle femora; posterior legs, including the coxae and trochanters, uniformly blackened. Wings (Fig. 5) with the disk whitish subhyaline, with almost the entire margin infuscated, interrupted in cell *Cu*; prearcular and costal fields extensively darkened, the apex more widened, not extending basad to outer end of cell *1st M*₂, the bases of cells *2nd M*₂ and *M*₃ remaining of the ground; stigma and a narrower seam along cord darker brown, the latter ending at *Cu*; outer end of cell *1st M*₂ even more narrowly bordered by dark brown; cell *2nd A* uniformly infuscated; veins brownish black. Venation: *Sc* long, *Sc*₁ ending about opposite three-fourths *Rs*; *R*₂ just beyond the fork of *Rs*; branches of *Rs* very slightly divergent to subparallel, cell *R*₄ at margin only slightly widened, about one-third as extensive as cell *R*₂; cell *1st M*₂ widened outwardly, *m* arcuated, more than one-half longer than the transverse basal section of *M*₂; vein *M*₄ only about one-third as long as cell *1st M*₂; *m-cu* about one-third to one-fourth its own length beyond the fork of *M*.

Abdomen black, the basal two sternites a little paler. Ovipositor with the shield and bases of the valves blackened, the remainder of the strongly upcurved cerci horn-yellow.

Habitat: Honduras.

Holotype, ♀, Lombardia (W. M. Mann); United States National Museum.

I take pleasure in naming this fly for the collector, Dr. William M. Mann, Director of the National Zoological Park, Washington, and distinguished student of ants and ant guests. The most similar species

are *Teucholabis (Teucholabis) decora* Alexander and *T. (T.) pulchella* Alexander, especially the former. These species differ evidently in the wing pattern and venation, including the shape and outline of cell *1st M*₂.

Teucholabis (Teucholabis) rufula, sp. n.

Prothorax and mesothorax almost uniformly orange, the sternal and meral regions restrictedly darkened; head, abdomen, antennae, halteres and legs uniformly black; wings with a strong brownish tinge, the costal border broadly darker brown; *Sc* long, *Sc*₁ ending about opposite three-fourths *Rs*; male hypopygium with the outer dististyle a simple stout blade, its apex obtuse; aedeagus not terminating in a spine.

Male. — Length, about 7.5-8 mm.; wing, 7-8 mm.

Head polished black, the rostrum somewhat more opaque; palpi black. Antennae black throughout; flagellar segments passing through oval to long-oval, longest verticils much exceeding the segments.

Cervical region blackened. Prothorax and mesothorax almost uniformly orange, the sternal and meral regions restrictedly darkened, more extensively so in the paratype. Halteres blackened, base of stem restrictedly yellow. Legs, including all coxae and trochanters, black; posterior basitarsi with proximal portion very slightly dilated. Wings with a strong brownish tinge, the extreme base yellowed; arcular and costal fields as far as the wing tip even darker brown; stigma scarcely differentiated; veins pale brown. Venation: *Sc* long, *Sc*₁ ending about opposite three-fourths to four-fifths *Rs*, *Sc*₂ some distance from its tip, about opposite one-third *Rs*; *R*₂ oblique, subequal to *R*₁₋₂ and longer than *R*₂₋₃₋₄; branches of *Rs* extending almost parallel to one another or slightly convergent near outer ends; cell *1st M*₂ long, widened outwardly, subequal to *M*₄; *m-cu* about one-third its length beyond the fork of *M*.

Abdomen, including hypopygium, black. Sternal pockets relatively small but conspicuous; on sternite five a semioval area near the caudal margin, consisting of numerous, inwardly directed setae of moderate length, with few long strong bristles more laterally; on sternite six the armature includes approximately a score of strong bristles on either side. Male hypopygium (Fig. 10) with the lobe of basistyle a flattened blade, at apex suddenly narrowed into a slender black spine, the margin of the blade fringed with numerous yellow setae. Outer dististyle, *od*, a simple stout

blade, the apex obtuse, all but the lower margin with coarse setae, some near the apex very long. Inner dististyle, *id*, a stout structure bearing a flattened blade at near midlength, the latter terminating in an acute point; apex of style with about ten strong yellow spinous setae. Aedeagus, *a*, not terminating in a spine, as in *rubescens*, the posterior portion with ten or more long conspicuous setae.

Habitat: Mexico.

Holotype, ♂, Venodia (Rusche Collector); United States National Museum. Paratopotype, a broken specimen.

Although it is very similar in its general appearance to *Teucholabis* (*Teucholabis*) *rubescens* Alexander, of the southwestern United States (Utah, Arizona, New Mexico), the present fly is actually quite distinct as shown particularly by the sternal pockets and the structure of the male hypopygium, particularly the basistyle, both dististyles and the aedeagus.

Teucholabis (*Teucholabis*) *jalisca*na, sp. n.

General coloration black, the thorax variegated with yellow, including the scutellum and a median spot at the suture; a broad longitudinal pleural stripe; halteres brownish black throughout; wings whitish subhyaline, stigma oval, dark brown; *Sc* short, *Sc*₁ ending about opposite one-fifth the length of *Rs*; sternal abdominal pockets of male evidently lacking; male hypopygium with the lobe of basistyle reduced to a small blackened spine on inner face of basistyle; outer dististyle long and pale, more or less expanded at apex into a club; aedeagus blackened, the apex produced into a curved blackened spine.

Male. — Length, about 3.5-3.6 mm.; wing, 4-4.3 mm.

Rostrum and palpi black. Antennae black throughout; flagellar segments oval, the outer ones more elongate-oval. Head black, sparsely pruinose to present a grayish appearance.

Pronotum black, the lateral scutellar lobes and pretergites obscure yellow. Mesonotal praescutum, scutum and mediotergite chiefly polished black; posterior median area of praescutum and adjacent part of scutum light yellow; scutellum conspicuously light yellow, parascutella and adjacent parts of sclerite behind and below more infuscated. Pleura and pleurotergite black, the former with a broad yellow longitudinal stripe, with a silvery pruinosity, more evident behind. Halteres brownish black throughout. Legs with the fore coxae and trochanters blackened, middle and hind coxae brownish yellow; trochanters yellow;

femora brownish yellow, brighter basally, the tip blackened; tibiae brownish black, tarsi passing into black; legs long and slender, without sexual modifications. Wings whitish subhyaline, the base restrictedly more yellowed; stigma oval, dark brown; veins brown, more brightened at wing base. Venation: Sc short, Sc_1 ending about opposite one-fifth the length of Rs , Sc_2 a short distance from the tip; R_2 oblique, longer than either R_{2-3-4} or R_{1-2} ; branches of Rs strongly divergent at outer ends, R_5 virtually reaching the wing tip; inner end of cell *1st* M_2 slightly produced; *m-cu* about one-third its length beyond the fork of M , lying before the level of the cord; vein *2nd* A gently convex.

Abdomen, including hypopygium, black, the latter more intensely so; posterior borders of sternites narrowly paler. Sternal pockets (male) lacking. Male hypopygium (Fig. 11) with the apex of basistyle, *b*, produced into an obtuse lobe, at tip with numerous long coarse yellow setae; on mesal face of lobe before midlength with a blackened flange that bears one well-developed black spine and less evident smaller tubercles. Outer dististyle, *od*, long and conspicuous, produced caudad beyond the level of the basistyle, appearing as an elongate pale blade, at apex expanded into a dusky club or head; on margin of style at near midlength produced into an irregularly toothed flange. Inner dististyle with the main body blackened, near base produced laterad into a flattened paler flange or blade. Aedeagus, *a*, blackened, the apex produced into a curved blackened spine.

Habitat: Mexico.

Holotype, ♂, Santa Cruz, near Zapotiltic, Jalisco, altitude 1500 meters, November 21, 1934 (A. M. Dampf); Dampf M. F. 3819. Paratopotypes, 2 ♂♂, pinned with the type.

Teucholabis (*Teucholabis*) *jaliscana* is quite distinct from other regional members of the genus. In general appearance it most resembles species such as *T. (T.) submolesta* Alexander, but in the structure of the male hypopygium shows some characters found in *T. (T.) pabulatoria* Alexander and allies.

Teucholabis (*Teucholabis*) *laxa*, sp. n.

Size relatively large (wing, male, 6.5 mm.); head and abdomen black; thorax uniformly polished orange except for a blackened area on either side of mesonotum, occupying the sublateral region of praescutum and the outer part of each scutal lobe; halteres and legs blackened, the femoral bases obscure

yellow; wings with cells basad of cord very weakly tinged with brown, the apical cells strongly infuscated; vein *Sc* long, branches of *Rs* almost parallel to one another, inner end of cell *1st M*₂ pointed, with *m-cu* at its inner end; male hypopygium with the apex of basistyle truncated, the spine straight; outer dististyle simple; apex of aedeagus a long cylindrical darkened rod.

Male. — Length, about 6.5 mm.; wing, 6.5 mm.

Rostrum black, shorter than the remainder of head; palpi brownish black. Antennae with scape black, pedicel a trifle paler; flagellum broken. Head brownish black.

Pronotum orange. Mesonotum polished orange, on either side of praescutum the usual lateral stripes are present, blackened, crossing the suture to include the outer half of each scutal lobe. Pleura similarly orange. Halteres blackened. Legs with the coxae and trochanters orange; all femora brownish black, restrictedly obscure yellow at bases, more intensely blackened on outer half; tibiae and tarsi black; proximal third of posterior basitarsus dilated, glandular. Wings (Fig. 6) with the cells basad of cord very weakly tinged with brown to almost subhyaline, darker in the costal field and again along the posterior border; beyond the cord, membrane much more strongly infuscated, only a little paler than the oval brown stigma; veins brown. Venation: *Sc* long, *Sc*₁ ending about opposite three-fifths the length of *Rs*, *Sc*₂ a short distance from its tip; *Rs* straight on more than the proximal half, the outer portion gently curved; *R*₂ nearly at end of *Rs*, a little less than *R*₁₋₂; branches of *Rs* extending nearly parallel to one another for their entire lengths, cell *R*₄ thus being narrow, only about one-half wider than cell *R*₅; *m-cu* at fork of *M*; inner end of cell *1st M*₂ pointed and lying proximad of the other elements of cord.

Abdomen, including hypopygium, black. Sternal pocket on segment five large and conspicuous, triangular in outline, with a concentration of setae at the cephalic end or point of the triangle, the remainder of area with numerous blackened pegs, lateral setae relatively numerous; on sternite six with about 10 or 11 strong setae on either side of the wide median space. Male hypopygium (Fig. 12) with the apex of basistyle, *b*, truncated, the inner apical angle produced directly caudad into a straight slender spine, the surface fringed with long yellow setae; mesal flange flattened, conspicuous. Outer dististyle, *od*, simple, appearing as a long, nearly straight rod that narrows gradually

to an acute spine, the surface with long scattered setae. Inner dististyle, *id*, a long flattened blade, its apex acute, the surface with three smaller setae near base and a larger one at about midlength of the outer margin. Aedeagus, *a*, with about the distal third narrowed into a blackened cylindrical rod, at and near base of which are four long setae.

Habitat: Costa Rica.

Holotype, ♂, La Suiza, Turrialba, September 1925 (Pablo Schild); Alexander Collection, through Dr. A. L. Melander.

The most similar and evidently nearly allied species are *Teucholabis* (*Teucholabis*) *atripennis* Alexander and *T. (T.) spinigera* Schiner, which have somewhat the same general appearance but differ conspicuously in the structure of the male hypopygium.

Teucholabis (*Teucholabis*) *lais*, sp. n.

Allied to *multispinosa*; thorax polished black, conspicuously variegated with yellow, including the pronotum, and much of the scutum, scutellum and pteropleurite; femora yellow, the tips very narrowly darkened; posterior tibiae (male) with a conspicuous tubercle at near three-fourths the length; wings whitish subhyaline, with three medium brown crossbands; male hypopygium with the outer lobe of basistyle relatively short, suddenly narrowed into a blackened spine; basal lobe of inner dististyle with about nine strong spinous setae; surface of aedeagus with numerous delicate setae, the apex a stout blackened blade.

Male. — Length, about 6.5 mm.; wing, 6 mm.

Rostrum reddish brown; palpi black. Antennae brownish black; flagellar segments oval, the verticils much longer than the segments. Head dark reddish brown.

Pronotum and pretergites light yellow. Mesonotal praescutum almost entirely and uniformly polished black; scutum reddened, the central posterior portion and the adjoining base of scutellum black; scutellum light yellow, confluent across the parascutella with the pale dorsal pleural region; postnotum polished black. Pleura with the mesepisternum entirely covered by an oval polished black area, narrowed above and virtually confluent with the notal blackened shield; pteropleurite and meral region yellow, the surface with a weak silvery pruinosity. Halteres blackened, the knob light yellow. Legs with the coxae and trochanters yellow; femora yellow, the tips exceedingly narrowly to scarcely darkened;

tibiae yellow, the tips again very inconspicuously darkened; tarsi obscure yellow, the outer three or four segments more infuscated (middle legs lacking); posterior tibiae at near three-fourths the length on outer face with a conspicuous setiferous tubercle; posterior basitarsi dilated on proximal fifth; lobe at proximal end of last tarsal segment only moderately developed. Wings whitish subhyaline, with three medium brown crossbands, the last including the wing tip, its inner border not extending to the outer end of cell *1st M*₂, leaving pale subbasal areas in cells *2nd M*₂ and *M*₃; band at cord relatively narrow, darker in the stigmal portion; a triangular basal area extending from a point at origin of *Rs* to a similar narrowing at end of vein *2nd A*, the area much more expanded along vein *Cu*; veins obscure yellow, brown in the clouded portions. Venation: *Sc* moderately long, *Sc*₁ ending about opposite one-third the length of *Rs*, *Sc*₁ relatively long, only a little shorter than *m-cu*; *R*₂ slightly oblique, nearly twice *R*₂₋₃₋₄ and longer than *R*₁₋₂; vein *R*₅ deflected to the wing tip, cell *R*₄ at margin very wide, fully two-thirds cell *R*₂; *m-cu* about one-fifth its length beyond the fork of *M*.

Abdomen black, ringed with yellow, the posterior borders of the segments being of the latter color, more extensive on the subterminal segments, including all of the reduced segment eight and the posterior half of seven; hypopygium blackened. Sternal pocket on segment five subtriangular or oval in outline, conspicuous, with long conspicuous setae and very numerous blackened spinules; on sternite six the pocket is indicated by two widely separated rows of elongate setae. Male hypopygium (Fig. 13) with the outer lobe of basistyle, *b*, relatively short and stout, its apical fourth suddenly narrowed into a blackened spine, with numerous long yellow setae grouped about its base; mesal flange blackened, conspicuous (drawn separately in figure). Outer dististyle, *od*, a long slender blade, with about the outer third gradually narrowed into a simple spine; on mesal edge at base of the dilated portion with an acute blackened spine. Inner dististyle with both outer spines long and slender, widely separated; basal lobe stout, with about nine strong spinous setae, about as in *multispinosa*. Aedeagus, *a*, with the surface provided with scattered delicate setae, additional to the two major ones at the posterior outer angle; apex of aedeagus a very stout blackened blade.

Habitat: Costa Rica.

Holotype, ♂, La Suiza, Turrialba, July (Pablo Schild); Alexander Collection, through Dr. A. L. Melander.

The most similar described species is *Teucholabis (Teucholabis) multispinosa* Alexander, which has the hypopygium somewhat similar, particularly as regards the dististyles, but differs conspicuously in the structure of the apical lobe of the basistyle and of the aedeagus.

Teucholabis (Teucholabis) immaculipleura, sp. n.

General coloration of mesonotum polished yellow, patterned with black, the scutellum and mediotergite pale; head polished yellow; pleura uniformly pale yellow, unmarked; knobs of halteres yellow; femora yellow, the tips abruptly black; wings whitish hyaline, the small circular stigma dark brown; Sc_1 ending a short distance beyond the origin of Rs ; male hypopygium with the basistyle terminating in a small weak spine; outer dististyle a simple blade, the tip acute and glabrous; inner dististyle with the inner margin of the blade tridentate; aedeagus with a conspicuous lateral flange.

Male. — Length, about 4.5-5 mm.; wing, 4.7-5.3 mm.

Rostrum relatively short, obscure yellow; palpi black. Antennae black, basal segment paler; flagellar segments oval. Head polished yellow.

Pronotum uniformly pale yellow. Mesonotum obscure polished yellow, the praescutum with three blackened areas, including the cephalic median third and sublateral areas of approximately the same size; outer portions of scutal lobes behind the suture blackened; scutellum yellow, the parascutella darker; mediotergite yellow, the lateral portions and the pleurotergite more blackened. Pleura, including the dorsopleural membrane, uniformly pale yellow, with only the ventral sternopleurite a trifle darkened. Halteres brownish black, the knobs yellow. Legs with the coxae and trochanters yellow, the tips rather broadly and conspicuously black, the amount subequal on all legs but appearing to be slightly less on the longer posterior femora; tibiae and basitarsi obscure yellow, the tips narrowly blackened; tarsi black; posterior tibiae at near three-fourths the length with a slightly dilated ring provided with an oval group of setae; proximal fourth of posterior basitarsi slightly dilated. Wings (Fig. 7) whitish subhyaline, the small circular stigma dark brown; cell Sc a trifle darkened; veins dark brown. Venation: Sc_1 ending a short distance beyond origin

of *Rs*, the branches of the latter parallel for most of the length of the anterior one; *m-cu* at or shortly before the fork of *M*; vein *2nd A* straight on basal half, parallel with *1st A*.

Abdominal tergites black, the posterior borders of the segments yellow; basal sternites more extensively yellow, with the incisures blackened; hypopygium black. Male hypopygium (Fig. 14) with the apex of basistyle, *b*, produced into a weak slender spine. Outer dististyle, *od*, a simple, nearly straight blade, its apex acute, the distal fifth glabrous. Inner dististyle, *id*, high, the inner margin of blade tridentate. Aedeagus, *a*, with a conspicuous lateral flange.

Habitat: Puerto Rico (Villalba).

Holotype, ♂, El Semil, altitude 1,700 ft., May 7, 1940 (Wm. A. Hoffman). Paratypes, 2 ♂♂, Toro Negro Dam, altitude 3,400 ft., March 3, 1946 (Jenaro Maldonado Capriles). I am greatly indebted to the late Professor Hoffman and to Dr. Maldonado for several interesting Tipulidae from Puerto Rico. The nearest allies of the present fly are *Teucholabis (Teucholabis) nigro-signata* Alexander and *T. (T.) wighti* Alexander, which differ conspicuously in the coloration and in the structure of the male hypopygium. There is no darkened seam along the cord of the wing as is the case in the two species mentioned.