The Genus *Austroleptis* from South Chile and Patagonia (Diptera, Rhagionidae)

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Abstract

The genus *Austroleptis* from South Chile and Patagonia is revised and three new species are added. So, there are eight known species, five of which are from South Chile and Patagonia and three from Australia and Tasmania.

Key words: Taxonomy, Insecta, Austroleptinae, Relics, Australia.

Introduction

The genus *Austroleptis* is peculiar among the Rhagionidae and may possibly represent a new family (NAGATOMI, 1976, 1982). A careful study of the immature stages is necessary to make a final decision.

Two species of *Austroleptis* have hitherto been known from South Chile (MALLOCH, 1932) and three from Australia and Tasmania (PARAMONOV, 1962).

We have 9 specimens (3♂♂, 6♀♀) of *Austroleptis* from South Chile and Patagonia, which represent 5 species, 3 of which seem to be new to science. The material on hand is scanty, but we venture to describe them.

The structural characters of head, the relative lengths of wing veins and leg segments are mostly based on a single specimen and the range of variation cannot be learned.

The relative lengths of the palpal segments 1-2 and their shapes seem to be important in separating species, although they are not macerated with KOH solution in this study and may vary considerably according to individual condition.

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The pile on several parts of body may vary in length and arrangement according to species, but its exact description is not possible at present simply because of the paucity of material. However, some apparent specific characters in this respect are presented.

Abbreviations for wing veins

A, vein R_5 ; B, vein between R_5 and r-m crossvein ; C, vein between M_1 and r-m crossvein ; D, m-cu crossvein ; E, antero-terminal vein of anal cell ; F, petiole of anal cell.

Genus *Austroleptis* HARDY

Austroleptis HARDY, 1920, Pap. Roy. Soc. Tasmania, 1919 : 126. Type species : *Austroleptis rhyphoides* HARDY 1920 from Tasmania. By original designation.

For diagnosis of *Austroleptis,* see NAGATOMI (1982).

The known species of Australia and Tasmania differ from those of South Chile and Patagonia by having the wing mottled (see Figs. 30-31 in NAGATOMI, 1982). However, it is certain that both of them belong to one and the same genus.

The male genitalia of *A. rhyphoides* HARDY, 1920 (from Tasmania) and *A.* sp. (=probably *atrata* sp. n. from Chile) were described and illustrated by NAGATOMI (1984) ; female genitalia of *A. collessi* PARAMONOV, 1962 (from Tasmania) by NAGATOMI and IWATA (1976) ; mouthparts of *A. collessi* PARAMONOV, 1962 (from Tasmania) by NAGATOMI and SOROIDA (1985).

The biology and immature stages of *Austroleptis* are unkown.

Austroleptis is unique among the Tabanomorpha (including Stratiomyidae, Xylophagidae, Rhagionidae, Tabanidae, etc.) by the presence of the female sternum 9. This was indicated by NAGATOMI and IWATA (1976) in *A. collessi* from Tasmania, and is now confirmed in *atrata, atriceps* and *penai* from Chile. The female sternum 9 may also be present in *breviflagella* and *fulviceps* .

Austroleptis is unique among the Pelecorhynchidae, Rhagionidae, Athericidae and Tabanidae by having the clypeus concave. The Xylophagidae s. lat. possess this type of clypeus.

The male genitalia of *Austroleptis* are peculiar among the Rhagionidae. For details of this structure, see NAGATOMI (1984).

Some common characters of *Austroleptis* species are given below.

In mesonotum, anterior border, area above wing base, and area above metapleura bare ; humeral and posterior calli with hairs ; pleura (except pro- and upper part of mesopleura), lateral and posterior borders of scutellum, and abdominal sternum 1 bare.

The tibial spurs are weak and 0 : 2 : 2. However, the hind tibial spurs appear to be absent in the specimens (2♂♂, 1♀) of *atriceps* on hand.

Costa and vein R_1 with microtrichia; basal and 2nd sections of veins R_4+R_5 and sometimes vein R_5 with some microtrichia; wing margin ciliated.

Key to species of *Austroleptis* from South Chile and Patagonia (based on female)

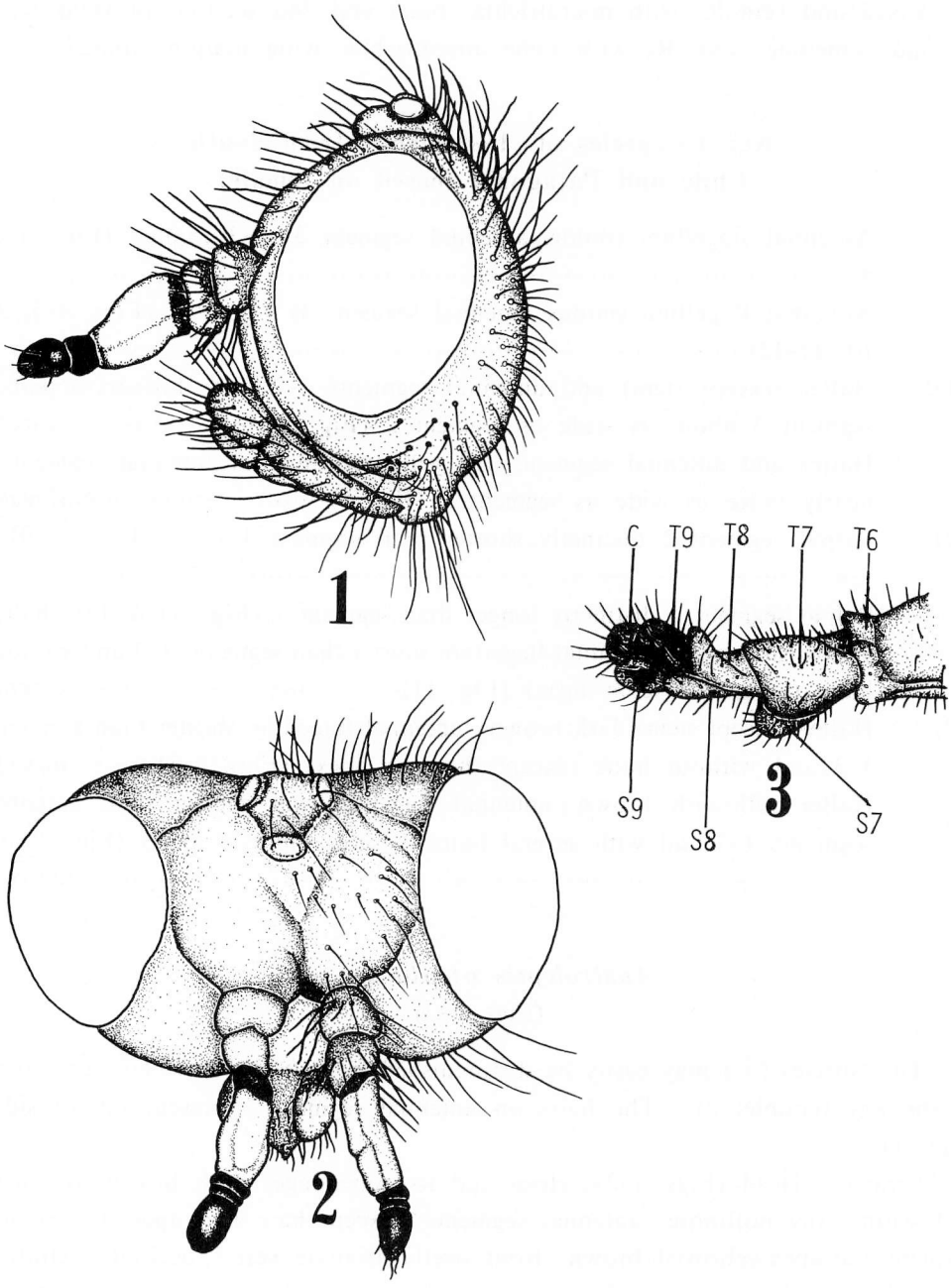
1. Antennal flagellum (minus antennal segment 3) 2-3 jointed (Figs. 1-2, 8) 2
— Antennal flagellum (minus antennal segment 3) 4-jointed (Figs. 4-5, 9-10, 11-12) 3
2(1). Halter (except stem) and antennal segments 1-2 dark brown; antennal segment 3 about as wide as segment 2 (Fig. 1) ..... *atrata*
— Halter and antennal segments 1-2 yellowish brown; antennal segment 3 nearly twice as wide as segment 2 (Fig. 8) ..... *breviflagella*
3(2). Palpal segment 2 distinctly shorter than segment 1 (Figs. 1, 4, 7, 9) 4
— Palpal segment 2 distinctly longer than segment 1 (Figs. 11 & 13); halter yellowish brown; antennal flagellum shorter than segments 1-3 and without hairs (except those at apex) (Fig. 11) ..... *penai*
4(3). Halter (except stem) dark brown; antennal flagellum shorter than segments 1-3 and without hairs (except those at apex) (Figs. 4-5) ..... *atriceps*
— Halter yellowish brown; antennal flagellum not shorter than antennal segments 1-3 and with several hairs (besides those at apex) (Figs. 9-10) ..... *fulviceps*

Austroleptis atrata sp. n.

(Figs. 1-3)

This species (♀) may easily be distinguished from *breviflagella* (♀) as shown in the key (couplet 2). The hairs on antennal segment 1 present on all sides (Fig. 1).

Female. Head (Figs. 1-2): Head and its appendages dark brown to black, and white gray pollinose; antennal segment 3 except base and apex and palpal segment 2 at apex yellowish brown; front, ocellar triangle, vertex, occiput (including cerebrale), cheek, palpus, proboscis, antennal segments 1-2 and apex of antenna with black hairs which are shorter on apex of antenna; hairs on antennal segment 1 present on all sides and longer than those on segment 2; it appears in the specimen on hand that antennal flagellum (minus antennal segment 3) is 2-jointed from outer surface and 3-jointed from inner surface; width of one eye at greatest



Figs. 1-3. *Austroleptis atrata,* female. 1-2, head, lateral and direct frontal views ; 3, terminal part of abdomen, lateral view ; C, cercus ; T6-T9, terga 6-9, ; S7-S9, sterna 7-9.

point from a direct frontal view 1.15 times distance from antenna to median ocellus, 0.4 times width of face at lowest portion from a direct frontal view, and 0.5 times width of front just above antenna; width of front at median ocellus 0.9 times that just above antenna, 1.1 times that at narrowest point, and 2.7 times width of ocellar triangle; ocellar triangle 1.2 times as wide as long; space between antennae 0.4 times width of ocellar triangle; distance from circular line below proboscis to antenna 1.9 times that from antenna to median ocellus; distance from circular line below proboscis to top of clypeus 1.9 times length of mid-upper face and 1.1 times width of clypeus; clypeus 0.4 times as wide as face at top of clypeus and 1.2 times as wide as parafacials on a mid line; antenna 2.0 times as long as distance from antenna to median ocellus; relative lengths of antennal segments 1, 2, 3 and flagellomeres 1+2 and 3 (along mid-inner surface) 88 : 100 : 250 : 75 : 125 and their relative widths from the side 150 : 150 : 163 : 75 : 100; antennal flagellum (minus antennal segment 3) 0.5 times as long as antennal segments 1-3; antennal segment 3, 1.5 times as long as wide; palpus 0.8 times, and proboscis (along ventral surface) 0.7 times distance from circular line below proboscis to antenna; palpal segment 2, 1.2 times as long as wide, and 0.5 times as long as and 1.2 times as wide as segment 1.

Thorax: Brown to dark brown, and white gray pollinose; mesonotum with three broad darker stripes which are separated by two white gray pollinose vittae; mesonotum, scutellum, pro- and upper part of mesopleura with black hairs.

Wing: Membrane brown fumose; stigma not distinctly marked; veins brown to dark brown; halter dark brown, with stem yellowish brown; A 3.8 times as long as B, which is 0.7 times as long as C; F 0.35 times as long as E and 1.1 times as long as D.

Legs: Brown; tarsal segments 2-5 darker; coxa and femur with black hairs; relative lengths of segments (excluding coxa and trochanter) of fore leg 285 : 346 : 100 : 23 : 19 : 19 : 65, of mid leg 323 : 369 : 100 : 27 : 23 : 23 : 69, of hind leg 392 : 423 : 108 : 27 : 27 : 23 : 69 and in hind leg from the side, relative widths of femur, tibia and tarsal segments 1-3, 69 : 38 : 31 : 31 : 27.

Abdomen: Dark brown to black; above and below with black hairs.

Female terminalia (Fig. 3): The presence of tergum 10 is not confirmed in the specimen on hand.

Length: Body 5.3 mm; wing 5.7 mm; fore basitarsus 0.3 mm.

Distribution. Chile.

Holotype: ♀, Pto. Williams, 700 m, Magallanes, I. Navarino, 17. I. 1964, J. BOYD.

Holotype is deposited in Bishop Museum, Honolulu.

There is one male specimen which is perhaps identical with *atrata*. This specimen is in poor condition and the antennal segment 3, mid leg except coxa, and hind tarsus are lacking and the hairs on mesonotum and scutellum are rubbed

off. The male genitalia of this specimen were described and illustrated by NAGATOMI (1984) as *Austroleptis* sp. This male specimen is similar to the female of *atrata* except as follows : Head : Palpus entirely dark brown ; hairs on antennal segments 1-2 and palpal segment 1 very long (this may be true of vertex and occiput) ; eyes divided into two portions by difference in size of facets and dividing line between them situated opposite below antenna ; eyes contiguous for a distance which equals length of ocellar triangle ; width of one eye at greatest point from a direct frontal view 1.3 times distance from antenna to median ocellus, 0.7 times width of face at lowest portion from a direct frontal view, and 2.3 times width of front just above antenna, which is 1.4 times width of ocellar triangle ; ocellar triangle 1.1 times as wide as long ; space between antennae 0.3 times width of ocellar triangle ; distance from circular line below proboscis to antenna 1.2 times that from antenna to median ocellus ; distance from circular line below proboscis to top of cylpeus 2.1 times length of mid-upper face and ? times width of clypeus [which is not measured] ; relative lengths of antennal segments 1-2 (along mid-inner surface) 80 : 100 and their relative widths 140 : 130 ; palpus 1.1 times, and proboscis (along ventral surface) 0.9 times distance from circular line below proboscis to antenna ; palpal segment 2, 1.2 times as long as wide, 0.3 times as long as and 1.0 times as wide as segment 2.

Wing : A 3.6 times as long as B, which is 0.8 times as long as C ; F 0.4 times as long as E and 1.0 times as long as D.

Legs : Relative lengths of segments (excluding coxa and trochanter) of fore leg 271 : 343 : 100 : 29 : 22 : 22 : 64, of mid leg ?, of hind leg 378 : 407 : ? : ? : ? : ? : ?, and in hind leg from the side, relative widths of femur and tibia 64 : 36.

Genitalia : Described and illustrated by NAGATOMI (1984).

Length : Wing 5.7 mm ; fore basitarsus 0.35 mm.

Distribution. Argentina (Tierra del Fuego).

Specimen examined : 1♂, Ushuaia, 8-26. II. 1961, B. MALKIN.

Austroleptis atriceps MALLOCH

(Figs. 4-6)

Austroleptis atriceps MALLOCH, 1932, Diptera of Patagonia and South Chile, Part 5, Fascicle 3, p. 203. Type locality : Casa Pangue, Chile.

The female specimen, described below as *atriceps* , differs from the original description as follows : Head yellowish brown ; parafacials without hairs below antenna ; stigma of wing darker than rest of membrane. In the original description of *atriceps* , head black ; parafacials with 1-3 long hairs below antenna ; stigma of wing not distinctly marked. However, the characters above may be variable or tend to be overlooked according to the specimen condition.

This species (♀) may easily be distinguished from *fulviceps* (♀) as shown in the key (couplet 4).

This species (♀) may also be characterized by having the width of one eye at greatest point from a direct frontal view shorter (c. 0.8 times) than distance from antenna to median ocellus, and distance from circular line below proboscis to top of clypeus c. 3.0 times length of mid-upper face.

Male. Head : Head and its appendages dark brown to black and more or less white gray pollinose ; antennal segments 1-2 and palpal segment 2 are yellowish brown to brown and base of antennal segment 3 may have yellowish brown to brown tinge ; ocellar triangle, vertex, occiput, cheek, palpus, proboscis, antennal segments 1-2, dorsal part (except apical portion) of antennal segment 3, and apex of antenna with black hairs ; parafacials below antenna with 1-3 black hairs ; some hairs on base of antennal segment 3 long ; in antennal segment 1, hairs are longer than in segment 2 and confined to dorsal surface ; eyes divided into two portions by difference in size of facets and dividing line between them situated opposite below antenna ; heads are crushed in specimens on hand and only some parts of structural characters can be given below : antenna 1.1 times as long as distance from antenna to median ocellus ; relative lengths of antennal segments 1-3 and flagellomeres 1-4 (along mid-inner surface) 75(75) : 100 : 232(213-250) : 50(50) : 50(50) : 63(50-75) : 125(125) and their relative widths from the side 119(113-125) : 125(125) : 188(175-200) : 82(75-88) : 75(75) : 75(75) : 82(75-88) ; flagellomeres 1-4, 0.7 times as long as antennal segments 1-3 ; antennal segment 3, 1.21-1.25 times as long as wide ; palpal segment 2, 1.5-1.8 times as long as wide, 0.7 times as long as and 1.3-1.5 times as wide as segment 1 ; data based on 2 specimens.

Thorax ; Brown to dark brown, and more or less white gray pollinose ; mesonotum with three broad darker stripes ; scutellum yellowish brown to brown ; mesonotum, scutellum, pro- and upper part of mesopleura with black hairs.

Wing : See Fig. 31 in NAGATOMI, 1984 ; membrane brown fumose ; veins brown to dark brown ; stigma large and darker than rest of membrane ; halter dark brown, with stem yellowish bwown to brown ; A 2.8 times as long as B, which is 0.8 times as long as C ; F 0.35-0.45 times as long as E and 0.8-1.0 times as long as D ; (N=2).

Legs : Yellowish brown to brown, and tarsal segments 2-5 and apex of basitarsus darker ; coxa and femur with black hairs, some of which are longer on ventral part of hind femur ; hind tibial spurs appear to be absent ; relative lengths of segments (excluding coxa and trochanter) of fore leg 211(210-211) : 265(263-267) : 100 : 22(21-22) : 17(16-17) : 17(16-17) : 41(39-42), of mid leg 238(237-239) : 287(284-289) : 103(100-106) : 22(21-22) : 19(17-21) : 17(16-17) : 49(47-50), of hind leg 292(289-295) : 338(332-344) : 109(106-111) : 22(21-22) : 19(17-21) : 17(16-17) : 55(53-56) and in hind leg from the side, relative widths of femur, tibia and tarsal segments 1-3, 46(44-47) : 30(28-32) : 19(17-21) : 19(17-21) : 19(17-21) ; (N=2).

Abdomen : Dorsum brown to dark brown and venter yellowish brown to brown, and both more or less white gray pollinose ; above and below with black hairs which are longer on sides of dorsum.

Genitalia : Very similar to sp. (=perhaps *atrata)* described and illustrated by NAGATOMI (1984). It is necessary to examine more material in order to find definite differences. It appears that "spoon", in anterior bar of aedeagus, is not circular but chestnut-shaped or somewhat triangular (tapering posteriorly) in *atriceps.*

Length : Body 4.6 mm (N=1) ; wing 5.6-6.3 mm (N=2) ; fore basitarsus 0.45-0.48 mm (N=2).

Female. Similar to male except as follows : Head (Figs. 4-5) : Head and its appendages yellowish brown ; antennal flagellum dark brown to black (as in ♂) and antennal segment 3 except base somewhat darkened ; front with black hairs ; parafacials below antenna without hairs in the specimen on hand ; width of one eye at greatest point from a direct frontal view 0.8 times distance from antenna to median ocellus, 0.3 times width of face at lowest portin from a direct frontal view, and 0.4 times width of front just above antenna ; width of front at median ocellus 0.95 times that just above antenna, 1.03 times that at narrowest point, and 3.0 times width of ocellar triangle ; ocellar triangle 1.3 times as wide as long ; space between antennae 0.4 times width of ocellar triangle ; distance from circular line bellow proboscis to antenna 1.75 times that from antenna to median ocellus ; distance from circular line below proboscis to top of clypeus 3.0 times length of mid-upper face and 1.6 times width of cylpeus ; cylpeus 0.4 times as wide as face at top of clypeus and 1.4 times as wide as parafacials on a mid line ; antenna 1.7 times as long as distance from antenna to median ocellus ; relative lengths of antennal segments 1-3 and flagellomeres 1-4 (along mid-inner surface) 100 : 100 : 325 : 50 : 50 : 50 : 175 and their relative widths from the side 175 : 200 : 250 : 125 : 113 : 100 : 100 ; flagellomeres 1-4, 0.6 times as long as antennal segments 1-3 ; antennal segment 3, 1.3 times as long as wide ; palpus 0.7 times, and proboscis (along ventral surface) 0.7 times as long as distance from circular line below proboscis to antenna ; palpal segment 2, 1.7 times as long as wide, 0.6 times as long as and 1.2 times as wide as segment 1.

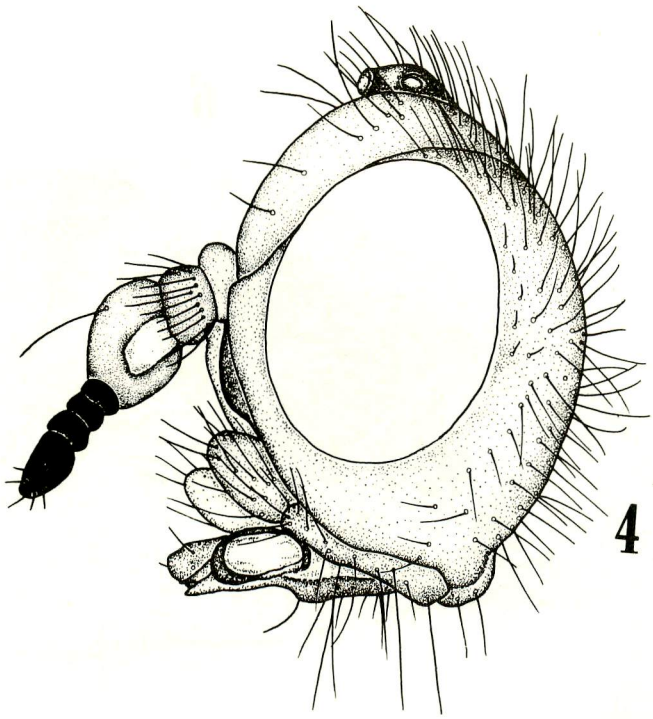
Thorax : Yellowish brown ; mesonotum may have three broad somewhat darker stripes.

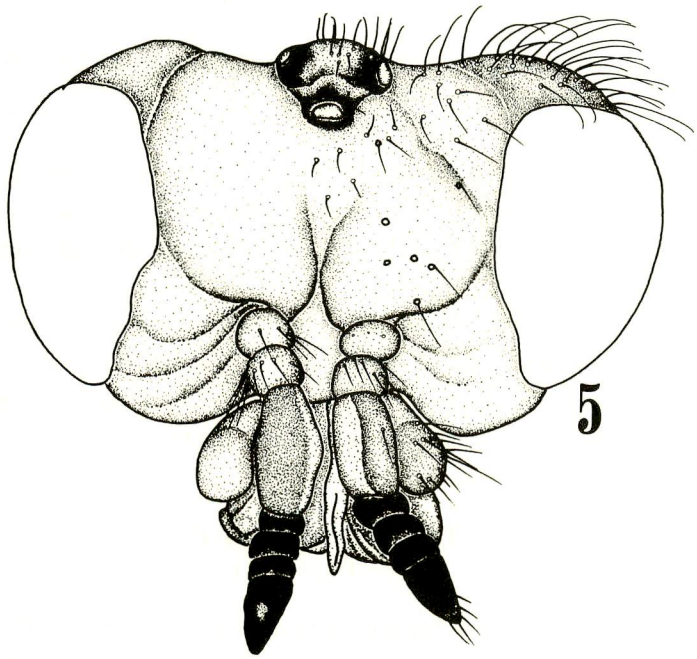
Wing : A 4.2 times as long as B, which is 0.7 times as long as C ; F 0.5 times as long as E and 1.3 times as long as D.

Legs : Relative lengths of segments of fore leg 245 : 285 : 100 : 20 : 15 : 15 : 55, of mid leg 275 : 300 : 95 : 20 : 20 : 20 : 60, of hind leg 335 : 365 : 100 : 25 : 20 : 20 : 65, and in hind leg from the side, relative widths of femur, tibia and tarsal segments 1-3, 55 : 30 : 23 : 23 : 20.

Abdomen : As in male.

Female terminalia (Fig. 6) : Tergum 10 well developed and not divided into





Figs. 4–5. Female head of *Austroleptis atriceps,* lateral and direct frontal views.

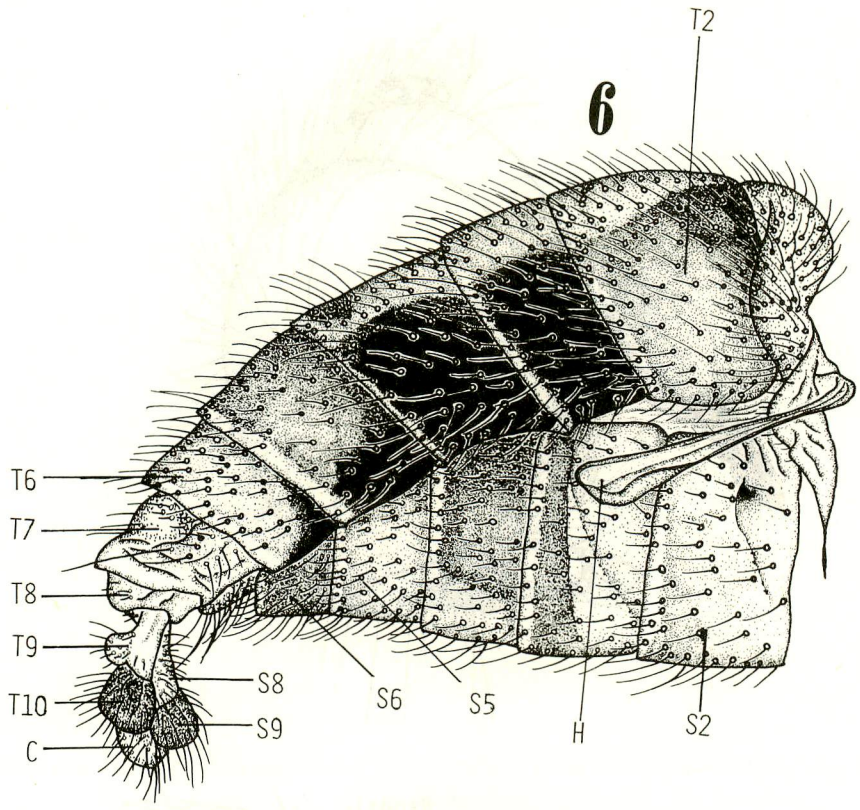


Fig. 6. Female abdomen of *Austroleptis atriceps*. C, cercus ; H, halter ; T2-T10, terga 2-10 ; S2-S9, sterna 2-9.

a pair of sclerites. The presence of tergum 10 is not confirmed in *atrata* and *penai* in the present study. The female terminalia themselves are not seen in *breviflagella* and *fulviceps* because of the contraction of abdomen in the material on hand.

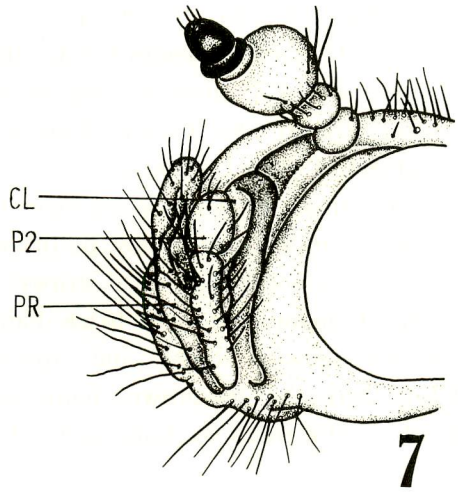
Length : Body 6.2 mm ; wing 7.5 mm ; fore basitarsus 0.50 mm.

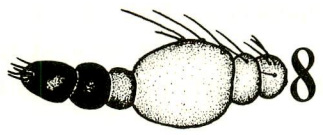
Specimens examined (2♂♂, 1♀) : 1♂, Olguita, SW. of Cameron, T. del F. Magellanes, 25. XI. 1960, PENA ; 1♂, Puerto Aysen, Aysen, 24-26. I. 1961, PENA ; 1♀, Rio Manihuales, Aysen, 3-6. VII. 1961, PENA.

Austroleptis breviflagella sp. n.

(Figs. 7-8)

The antennal flagellum (minus antennal segment 3) of *breviflagella* (♀) is 3-jointed (not 4) (Fig. 8). This species (♀) may easily be distinguished from *atrata* (♀) as shown in the key (couplet 2). It may also be characterized by having the apical portions of costal, subcostal and 1st basal cells darkened (as





Figs. 7-8. *Austroleptis breviflagella,* female. 7, part of head, antero-lateral view; 8, antenna, inner view; CL, clypeus; PR, proboscis; P2, palpal segment 2.

well as stigmal spot).

Female. Head (Figs. 7-8): Brown, and more or less white gray pollinose; antennal segments 1-3, flagellomere 1 and palpal segment 2 yellowish brown, and apical 2 flagellomeres blackened; front, vertex (probably plus ocellar triangle), occiput (including cerebrale), cheek, palpus, proboscis, antennal segments 1-2, dorsoproximal part of segment 3, and apex of antenna with black hairs; the hairs on antennal segment 1 are confined to dorsal surface and about as long as those on segment 2; width of one eye at greatest point from a direct frontal view 1.15 times distance from antenna to median ocellus, 0.43 times width of face at lowest portion from a direct frontal view, and 0.63 times width of front just above antenna; width of front at median ocellus equals that just above antenna, 1.1 times that at narrowest point, and 3.2 times width of ocellar triangle; ocellar triangle 1.2 times as wide as long; space between antennae 0.7 times width of ocellar triangle; distance from circular line below proboscis to antenna 2.0 times that from antenna to median ocellus; distance from circular line below proboscis to top of clypeus 3.2 times length of mid-upper face and 1.3 times width of clypeus; clypeus 0.54 times as wide as face at top portion of clypeus and 1.7 times as wide as parafacials on a mid line; antenna 1.9 times as long as distance from antenna to median

ocellus ; relative lengths of antennal segments 1-3 and flagellomeres 1-3 (along mid-inner surface) 67 : 100 : 333 : 67 : 100 : 167 and their relative widths from the side 133 : 133 : 250 : 117 : 133 : 117 ; flagellomeres 1-3, 0.7 times as long as antennal segments 1-3 ; antennal segment 3, 1.3 times as long as wide ; palpus 0.8 times and proboscis (along ventral surface) 0.85 times as long as distance from circular line below proboscis to antenna ; palpal segment 2, 1.2 times as long as wide, 0.4 times as long as and 1.7 times as wide as segment 1.

Thorax : Brown, and more or less white gray pollinose ; scutellum yellowish brown ; mesonotum with three distinct darker broad stripes ; mesonotum, scutellum, pro- and anteroupper part of mesopleura with black hairs.

Wing : Membrane brown fumose ; stigma and apical portions of costal, subcostal and 1st basal cells darker ; veins brown ; halter yellowish brown ; A 3.1 times as long as B, which is 0.9 times as long as C ; F 0.3 times as long as E and 0.7 times as long as D.

Legs : Yellowish brown to brown ; tarsal segments 2-5 and apex of basitarsus may be darker ; coxa and femur with black hairs ; relative lengths of segments (excluding coxa and trochanter) of fore leg 212 : 259 : 100 : 29 : 18 : 18 : 35, of mid leg 235 : 288 : 106 : 35 : 18 : 18 : 35, of hind leg 312 : 353 : 118 : 35 : 24 : 18 : 41 and in hind leg from the side, relative widths of femur, tibia and tarsal segments 1-3, 41 : 29 : 18 : 18 : 18.

Abdomen : Brown to dark brown ; sterna 1-2 may be yellowish brown ; above and below with black hairs which are shorter on venter and middle of dorsum.

Length : Body 3.1 mm ; wing 5.1 mm ; fore basitarsus 0.43 mm.

Male. Unknown.

Distribution. Chile.

Holotype : ♀, Dalcahue, Isla Chiloe, Chiloe, 17-31. I. 1962, PENA.

Holotype is in the Canadian National Collection (Ottawa).

Austroleptis fulviceps MALLOCH

(Figs. 9-10)

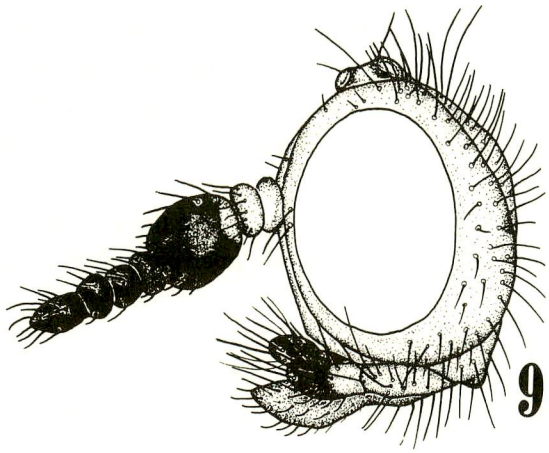
Austroleptis fulviceps MALLOCH, 1932, Diptera of Patagonia and South Chile, Part 5, Fascicle 3, p. 202. Type locality : Casa Pangue, Llanquihue province, Chile.

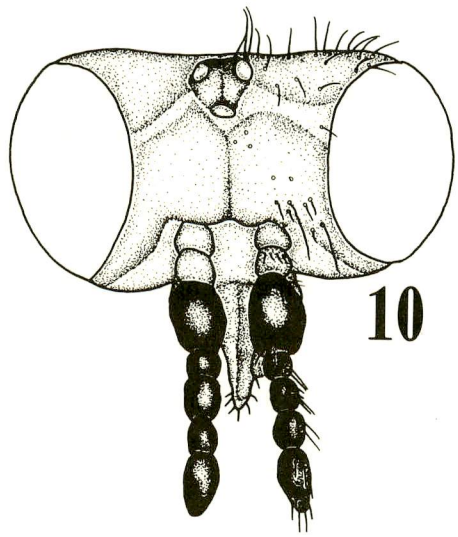
Famale : Head yellowish brown, but antenna (except segments 1-2), palpal segment 2 (except base) and proboscis blackened ; antennal flagellum (minus antennal segment 3) 4-jointed, not shorter than rest of antenna, and with several hairs (besides those at apex) ; halter yellowish brown ; thorax yellowish brown and abdomen dark brown to black.

This species (♀) is also characterized by having the antenna about 3 times as long as distance from antenna to median ocellus and distance from circular

line below proboscis to top of clypeus less than 1 1/2 (c. 1.2 times) length of mid-upper face.

Famale. Head (Figs. 9-10): Head and its appendages yellowish brown, but antennal segment 3 and flagellum, palpal segment 2, and proboscis dark brown to black; extreme base of antennal segment 3 may have yellowish brown tinge; ocellar triangle with dark brown tinge; front, vertex (probably plus ocellar triangle), occiput (including cerebrale), cheek, palpus, proboscis, antennal segments 1-2, dorsal portion of antennal segment 3, and antennal flagellum with black hairs; it appears that the hairs on antennal segment 1 are confined to dorsal surface; width of one eye at greatest point from a direct frontal view 1.2 times distance from antenna





Figs. 9-10. Female head of *Austroleptis fulviceps*, lateral and direct frontal views.

to median ocellus, 0.4 times width of face at lowest portion from a direct frontal view, and 0.55 times width of front just above antenna ; width of front at median ocellus 1.05 times that just above antenna, 1.1 times that at narrowest point, and 3.0 times width of ocellar triangle ; ocellar triangle 1.2 times as wide as long ; space between antennae 0.4 times width of ocellar triangle ; distance from circular line below proboscis to antenna 2.6 times that from antenna to median ocellus ; distance from circular line below proboscis to top of clypeus 1.2 times length of mid-upper face and 1.2 times width of clypeus ; clypeus 0.4 times as wide as face at top of clypeus and 1.3 times as wide as parafacials on a mid line ; antenna 2.9 times as long as distance from antenna to median ocellus ; relative lengths of antennal segments 1-3 and flagellomers 1-4 (along mid-inner surface) 67 : 100 : 267 : 67 : 100 : 100 : 167 and their relative widths from the side : 150 : 167 : 267 : 133 : 167 : 133 : 133 ; flagellomeres 1-4 as long as antennal segments 1-3 ; antennal segment 3 as long as wide ; both palpus and proboscis (along ventral surface) 0.8 times as long as distance from circular line below proboscis to antenna ; it appears that palpal segment 2 is 1.25 times as wide as long, 0.4 times as long as and 1.3 times as wide as segment 1.

Thorax : Yellowish brown ; mesonotum may have three broad somewhat darker stripes ; mesonotum, scutellum, pro- and anteroupper part of mesopleura with black hairs.

Wing : See Fig. 14 in MALLOCH, 1932 ; membrane brown fumose ; stigma not distinctly marked ; veins yellowish brown to brown ; halter yellowish brown ; A 4.1 times as long as B, which is 0.6 times as long as C ; F 0.3 times as long as E and 0.8 times as long as D.

Legs : Brown to dark brown and tarsal segments 2-5 and apex of basitarsus darker ; coxa and femur with black hairs ; relative lengths of segments (excluding coxa and trochanter) of fore leg 214 : 264 : 100 : 29 : 21 : 19 : 43, of mid leg 250 : 300 : 100 : 29 : 21 : 19 : 43, of hind leg 286 : 343 : 114 : 36 : 25 : 19 : 43 and in hind leg from the side, relative widths of femur, tibia and tarsal segments 1-3, 50 : 29 : 21 : 21 : 19.

Abdomen : Dark brown to black and more or less shining ; sterna 1-2 may have yellowish brown tinge ; above and below with black hairs.

Length : Body 3.8 mm ; wing 4.1 mm ; fore basitarsus 0.35 mm.

Male. Unknown.

Distribution. Chile.

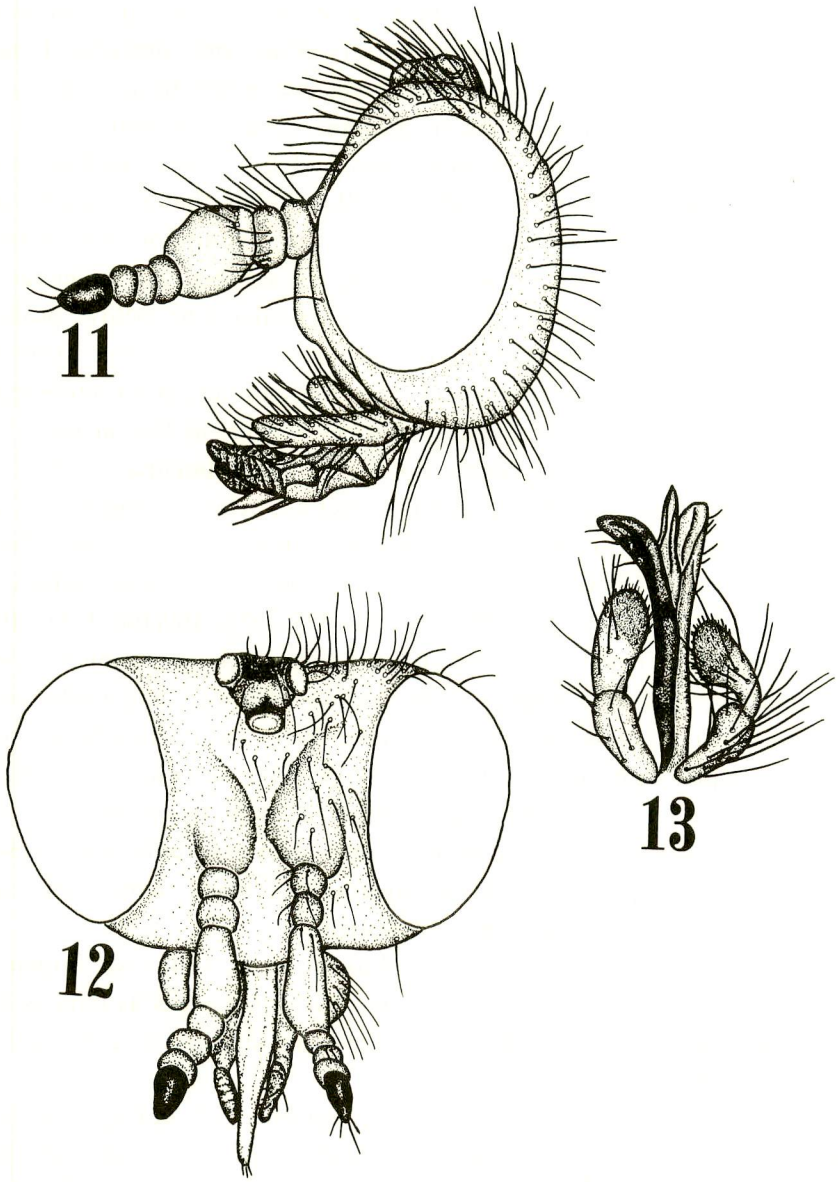
Specimen examined : 1♀, Dalcahue, Isla Chiloe, Chiloe, 17-31. I. 1962, PENA.

Austroleptis penai sp. n.

(Figs. 11-13)

This species (♀) is easily distinguished from *atriceps* (♀) and *fulviceps* (♀) by having the palpal segment 2 longer than segment 1 (Figs. 11 & 13).

Female: Yellowish brown; apical 1 to 3 flagellomeres of antenna blackened;



Figs. 11-13. *Austroleptis penai,* female. 11-12, head, lateral and direct frontal views; 13, proboscis and palpi, ventral view (based on 2nd specimen).

antennal flagellum (minus antennal segment 3) 4-jointed and antennal segment 3 about as long as wide.

Female. Head (Figs. 11-13) : Head and its appendages are yellowish brown and may have white gray pollen ; apical 1 to 3 flagellomeres blackened ; ocellar triangle may have dark brown tinge ; sometimes proboscis may be darker ; front, ocellar triangle, vertex, occiput (including cerebrale), cheek, palpus, proboscis, antennal segments 1-2, dorsoproximal part of antennal segment 3, and apex of antenna with black hairs which are short on proboscis and apex of antenna ; hairs on antennal segment 1 confined to dorsal surface and somewhat longer than those on segment 2 ; width of one eye at greatest point from a direct frontal view 1.2 times distance from antenna to median ocellus, 0.45 times width of face at lowest portion from a direct frontal view, and 0.7 times width of front just above antenna ; width of front at median ocellus equals that just above antenna, 1.1 times that at narrowest point, and 2.4-2.6 times width of ocellar triangle ; ocellar triangle 1.1-1.3 times as wide as long ; space between antennae 0.4-0.5 times width of ocellar triangle ; distance from circular line below proboscis to antenna 1.9 times that from antenna to median ocellus ; distance from circular line below proboscis to top of clypeus 1.8-1.9 times length of mid-upper face and 1.1 times width of clypeus ; clypeus 0.6 times as wide as face at top of clypeus and 2.1 times as wide as parafacials on a mid line ; antenna 2.1-2.2 times as long as distance from antenna to median ocellus ; relative lengths of antennal segments 1-3 and flagellomeres 1-4 (along mid-inner surface) 71(67-75) : 100 : 246(225-267) : 50(50) : 59(50-67) : 59(50-67) : 117(100-133) and their relative widths from the side 117(100-133) : 146(125-167) : 246(225-267) : 109(100-117) : 100(100) : 100(100) : 100(100) ; flagellomeres 1-4, 0.6-0.7 times as long as antennal segments 1-3 ; antennal segment 3 as long as wide ; palpus 0.8 times, and proboscis (along ventral surface) 1.1-1.2 times as long as distance from circular line below proboscis to antenna ; palpal segments 2, 3.0-3.3 times as long as wide, 1.4-2.0 times as long as and 1.2-1.3 times as wide as segment 1 ; data based on 2 specimens.

Thorax : Yellowish brown and more or less white gray pollinose ; mesonotum, scutellum, pro- and upper part of mesopleura with black hairs, some of which are longer and stiff on mesonotum and scutellum.

Wing : Membrane faintly tinged with brown ; veins yellowish brown ; stigma not distinctly marked ; halter yellowish brown ; A 2.8-3.1 times as long as B, which is 0.9-1.0 times as long as C ; F 0.5-0.7 times as long as E and 1.2-1.4 times as long as D ; (N=2).

Legs : Yellowish brown to brown ; tarsal segments 2-5 and apex of basitarsus may be somewhat darker ; coxa and femur with black hairs ; relative lengths of segments (excluding coxa and trochanter) of fore leg 210(206-213) : 247(244-250) : 100 : 32(31-33) : 24(22-25) : 19(19) : 40(39-41), of mid leg 239(233-244) : 280(278-281) : 100(100) : 32(31-33) : 27(25-28) : 19(19) : 39(38-39), of hind leg 307(300-313) :

350(344-356) : 128(117-138) : 39(38-39) : 27(25-28) : 21(19-22) : 42(39-44), and in hind leg from the side, relative widths of femur, tibia and tarsal segments 1-3, 44(44) : 27(25-28) : 21(19-22) : 18(17-19) : 18(17-19) ; (N=2).

Abdomen : Yellowish brown to brown ; abdomen may be somewhat darker than thorax ; segments 1-2 may be paler than rest of abdomen ; abdomen above and below clothed with black hairs.

Female terminalia : The presence of tergum 10 is not confirmed in the specimens on hand.

Length : Body 3.5-3.9 mm ; wing 4.9-5.3 mm ; fore basitarsus 0.40-0.45 mm.

Male. Unkown.

Distribution. Chile.

Holotype. ♀, Puerto Cisnes, 72°40W. 44°45'S. Aysen, 1-15. II. 1961, PENA.

Paratype. ♀, L. Villarica. N. Los Coigues, Cautin, 16-25. I. 1965, PENA.

Holotype and paratype are deposited in the Canadian National Collection (Ottawa).

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