A PRELIMINARY REVIEW OF THE *STRATIOMYIDAE* OF CHILE.

PART I

by

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ABSTRACT

The genera *Beridops, Antissa, and Abasanistus* as they occur in Chile are reviewed, and keys are presented to the species. New species are *Beridops nigripes, B. abdominalis, B. penai, Antissa fusca, A. maculata, Abasanistus aureopictus,* and *A. claviger.*

Though some species of this family that are now known to occur in Chile had been described earlier by several authors, the first important collections of Chilean Stratiomyidae were made by Rodulfo Amando Philippi, who published on these and other Diptera in 1865. Only two subsequent studies of importance have dealt with the Chilean fauna, namely, those of Aubertin (1930), as part of the British Museum's series on the Diptera of Patagonia and South Chile, and of Lindner (1943). Both of these studies were concerned exclusively with material collected in Southern Chile and as far northward as the vicinity of Santiago.

The present studies are based primarily on the material taken, a considerable part of it by Malaise trap, in the University of California expedition of M. E. Irwin and E. I. Schlinger in 1966 and 1967. This has been extensively supplemented, however, by material from various museums, particularly the United States National Museum, the Canadian National Collection, the California Academy of Sciences, the Centro de Estudios Entomológicos (Universidad de Chile), Cornell University, and Washington State University. The important additions to these collections by Sr. Luis Peña should particularly be acknowledged. Holotypes and allotypes of all new species, unless otherwise indicated, and in such cases paratypes, are deposited in the Centro de Estudios Entomológicos.

The present paper is the first of a series which is designed to summarize our knowledge, to date, of the Chilean Stratiomyidae and to add information resulting from the study of the new specimen material at hand. A key to the subfamilies, tribes and genera will be presented in the final paper of the series. It should be noted that *Abasanistus* will not trace properly in Aubertin's key, as its flagellum is annulated, and neither will *Antissa,* since the posterior cross-vein (m-cu) is absent in this genus and some species are not metallic.

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SUBFAMILY BERIDINAE

Genus Beridops Enderlein

Beridops Enderlein 1913: 550.

This genus, so far as known, is restricted to Chile and near-by Argentina. Only one species of the type-species of the genus, *B. maculipennis* (Blanchard), has previously been known.

KEY TO THE KNOWN SPECIES OF *Beridops*

1. Wing clouded or patterned, either uniformly light brown or with a distinct apical cloud; humerus black or brown, at most distinctly brownish anteriorly; mesonotum of male with long, dense, mostly appressed, silvery pile, best visible from anterior or anterolateral view, and almost concealing background when so viewed; mesonotum of female with shorter, appressed, coppery hairs 2

   Wing hyaline; humerus wholly yellow to brownish yellow; mesonotum in both sexes with pale yellow to coppery, never silvery, tomentum 3

2. Legs largely black or dark brown, those of female sometimes light brown; wing uniformly brown except the darker stigma, a small area apicad of stigma appearing somewhat lighter to the unaided eye, but wing without a distinct apical cloud ..... *nigripes*, n. sp.

Legs clear yellow; wing with a distinct apical cloud ..... *maculipennis* (Blanchard)

3. Postalar callus, pteropleuron, and abdomen clear yellow, only a very narrow transverse streak on each abdominal tergum darker; cross-vein m-cu absent, vein Cu_1 bordering discal cell for a distance about equal to length of cross-vein r-m; antenna of female shorter than head, flagellum about 1,5 as long as scape plus pedicel ..... *abdominalis*, n. sp.

Postalar callus, pteropleuron, and abdomen, at least dorsally, dark brown to black; cross-vein r-m often distinct, sometimes punctate; antenna in female longer than head, flagellum about 1,75 as long as scape plus pedicel ..... *penai*, n. sp.

Beridops maculipennis (Blanchard)

Beris maculipenis Blanchard, 1852: 400.
Beris trichonota Philippi, 1865: 730.

This is a common species, occurring from Coquimbo Province southward to Aysen and into Río Negro and Neuquén, Argentina. It is found at elevations ranging from sea level to 900 m, from late September to March.

In all specimens which I have examined, the first two antennal segments and a large part of the flagellum are reddish-yellow, whereas in *nigripes*, new species, the basal antennal segment is much darker than the second. Males are easily distinguished from other species of the genus by the dense, appressed silvery hairs of the mesonotum, the wholly bright yellow legs, and the distinctly patterned wings. Differentiation of the females is not so easy. This poses some question as to the identity of *maculipennis*, which was described from females only, but maculation of the wings would indicate that the synonymy gives above, and first proposed by Aubertin (1930), is correct.

I have seen several hundred specimens from the following localities. *Coquimbo Prov.*: Hacienda Illapel, Cerrillos Pobres, Porto Tres Cruces (Vicuña), S. Pedro de Quile, Huintal. *Aconcagua Prov.*: Valle de Pieuquenes, Pisciicultura, Zapado. *Valparaíso Prov.*: Río Marga los Perales, El Canelillo. *Santiago Prov.*: Quebrada Manzano, Las Condes, Los Maitenes, El Canelo, Quebrada de la Plata, el Volcán, Arrayán, Melocotón. El Clarello, Río Colorado, El Alfalfal. *Colchagua Prov.*: Pichilemu. *Curicó Prov.*: Estero Cabrero. *Linares Prov.*: Las Cruces, La Balsa, Villegas, Fundo Macho (Cord. Parral). *Ñuble Prov.*: No locality. *Concepción Prov.*: San Rosendo. *Bío-Bío Prov.*: El Abanico, Tucapel. *Angol Prov.*: Angol, Cerro de Nahuelbuta. *Osorno Prov.*: Puyehue. *Llanquihue Prov.*: Ensenada, Puerto Varas, Casa Pangue. *Chiloé Prov.* (Chiloé Isl.): Dalcahua, Castro. *Aisén Prov.*: Río Maniquales.

Beridops nigripes, new species

Male. Head black; narrower part of frons with more or less bluish reflections. Eyes narrowly separated; virtually bare, only very sparse, short hairs visible under high magnification; upper facets a little smaller than lower, but no clear line of separation between the two areas. Narrowest part of frons slightly broader than half distance from antennal bases to anterior ocellus (ratio, 9:8); about 0,05 head width here, widening to 0,12 at vertex and 0,18 at base of antennae; occipital orbits not developed. A small, bare, shining spot at narrowest part of frons; below this, frons with abundant silvery appressed tomentum-like pile, continuing over entire face and very narrow facial orbits; upper part of frons and ocellar triangle with erect pale yellowish pile, face, in addition to its tomentum-like pile, also with abundant erect yellowish pile which covers also lower part of occiput and posterior part of gena, where it is longer and more whitish; occipital pile otherwise yellowish (above) to whitish (below), appressed or semi-appressed. Antenna in holotype black, second segment reddish-yellow and contrasting with rest of antenna; first segment in some specimens reddish-brown and flagellum sometimes more or less reddish-brown to a variable extent, especially ventrally; antenna structurally as in *maculipennis* (cf. illustration in Aubertin, 1930). Proboscis yellow; palpus two-segmented, second segment twice as long as first, narrower at base but enlarging toward apex;

first segment brownish-yellow, second bright yellow; hairs mostly yellow, a few black.

Mesonotum blue-green, with variable bronze or purplish reflections in certain areas; in some specimens, including holotype, three presutural vittae of blue-green, free from these reflections, are evident in certain lights; scutellum concolorous with mesonotum, with five pairs of spines, median pair largest, spines gradually decreasing in length, most basal pair small, evanescent, or even absent; pleura tending more toward blue-black, especially in glabrous areas. Humerus brownish yellow below, but for most part concolorous with mesonotum. All thoracic pile white, that of mesonotum and apical part of scutellum silvery, dense, appressed, when viewed from in front almost obscuring background. Coxae colored as thorax, legs otherwise mainly brownishblack, yellowish at bases and apices of femora and bases of tibiae, sometimes paler brown and more extensively yellowish, but always distinctly darkened; pile of legs whitish to yellowish. Halteres yellow. Wings pale brownish; veins brown; stigma deep brown; large part of cell R_3, beyond stigma, hyaline and appearing to unaided eye as an indefinitely defined pale spot; no distinct apical cloud, or at most a feeble one. Wings evenly set with microtrichia. Vein Cu_1 forming a substantial part of lower edge of discal cell.

Abdomen dorsally bronze to bronze-green, often with purplish reflections, ventrally more blue; genitalia (Fig. 1) basally black, dististyles, cerci, and aedeagus yellow; aedeagus soft in texture, guards more heavily sclerotized, grooved longitudinally on ventral surface and extending well beyond tip of aedeagus.

Length, 5,5 to 7,0 mm; of holotype, 6,5 mm.

Female. Frons at narrowest 0,20 head width, parallel-sided on upper half, then broadening to antennal bases; mid-frontal glabrous area much larger than in male, diamond-shaped. Pile of upper frons shorter than in male. Mesonotal hairs pale bronze in allotype (varying from this color to bright brassy in some paratypes), more whitish laterally and on pleura, sometimes on scutellum. Color of legs variable, in allotype colored as in holotype, but in some specimens almost as pale as in *maculipennis*. Otherwise as described for the male. Length of allotype, 6,0 mm.

Holotype: ♂, *Coquimbo Prov.,* Fray Jorge National Park, 15 km SW. Pachingo, 100-200 m, October 20, 1966, E. I. Schlinger, M. E. Irwin.

Allotype: ♀, same data.

Paratypes: 10 ♂, 4 ♀, same data; 4 ♂, 7 ♀, *Coquimbo Prov.,* west of Canela Baja, October 23, 1961, L. Peña; 1 ♂, Puerto Oscuro, 31°26′S, 71°37′W, sandy beach, September 23, 1966, Schlinger; 5 ♂, Termas Socos, November 27, 1964, Zapata, Gallizia, Etcheverry; 2 ♂, same but Socos, Herrera; 5 ♂, 3 ♀, *Santiago Prov.,* Quebrada de la Plata, 33°30′S, 70°55′W, near Maipú, October 11, 1966, Schlinger and Irwin: 1 ♂, Las Condes, November 9, 1958, Peña; 8 ♂, *Valparaiso Prov.,* Qda. San Gerónimo (no date), Zapata, Etcheverry, Arrau, Herrera.

Several females, Canela Baja, Fray Jorge National Park, are not designated as paratypes, though I believe they belong to this species. Their leg are paler, in one specimen about as light yellow as in *maculipennis;* the wings are not patterned as in *maculipennis,* however. These may represent an extreme in leg pallidity, or, possibly, hybridization, though neither of these is evident in the associated males.

Beridops abdominalis, new species

Male. Head structurally much like *nigripes* and *maculipennis;* frons narrower, eyes being almost contiguous, at narrowest 0,02 head width, widening to about 0,12 at antennal bases; no glabrous frontal spot. Vestiture of head much as in *nigripes* but facial frontal tomentum not so dense and erect pile of face and frons shorter. Antenna more robust; ratio of segments 11: 9: 28, of terminal flagellomere to rest flagellum 7: 21; comparative maximun width of flagellum 10; mostly bright orange-yellow but upper surface of flagellum from apex of first flagellomere and including all of last flagellomere brownishblack; some hairs on first and second segments black. Proboscis and palpi, also their hairs, bright yellow. Thorax basically greenish-black; entire humerus, a broad supra-alar and postalar area from me-

sonotal suture to scutellum, and larger part of pteropleuron and hypopleuron yellow to brownish-yellow; no trace of mesonotal stripes. Mesonotum without erect hairs, with a few short semi-erect ones, but covered with appressed pile; this later not as dense as in the males of *nigripes* asd *maculipennis,* more nearly like that of the females of those species, also similar in color to those females, being yellow and becoming whitish laterally; pleural hairs white. Legs including coxae entirely yellow to golden yellow, only the coxae being a little more brownish anteriorly; hairs yellow except a few short black or blackish ones on apical tarsomeres. Wing hyaline, veins yellow, stigma brown. Abdomen yellow, pile also yellow; a narrow brown posterior border on terga 1 to 7, not reaching lateral margin except on tergum 1; brown area expanded without clear definition onto base of tergum 2 and onto median area of terga 6 and 7. Length, 6,5 to 7,0 mm, of holotype, 6,5 mm.

Female. Frons at narrowest 0,16 head width, almost parallel-sided on upper half and broadening below to antennal bases; frons with a glabrous area similar to that of *nigripes;* antenna more slender than in male; coloration of thorax, abdomen, legs, and wings, also of thoracic pile, as in male, first, sixth, seventh, and base of second abdominal terga, however, wholly yellow or nearly so. Genitalia (Fig. 2) yellow. Length 5,5 to 6,0 mm, of allotype 5,5 mm.

Holotype: ♂, *Arauco Prov.,* Pichinahuel Mts., January 10-30, 1959, L. Peña. Washington State University type no. 327.

Allotype: ♀, same data.

Paratypes: 3 ♂, 5 ♀, same data; 1 ♂, *Arauco Prov.,* Pichinahuel, January 10-20, 1959, Peña; 2 ♀, Cautín Prov., Los Coigues, Lake Villarica, January 1-15 and 16-25, 1965, Peña.

Beridops penai, new species

Male. Head similar in structure to that of *nigripes* and *maculipennis;* frons narrow, at narrowest 0,03 head width, widening to 0,12 head width at vertex and 0,14 at antennal bases; no glabrous area on frons. Vestiture as in *nigripes.* Antenna in structure similar to that of *maculipennis* and *nigripes;* orange-yellow, flagellum blackened dorsally from base of second flagellomere to apex, terminal flagellomere wholly black. Proboscis and palpi bright yellow. Thorax bluish green with purplish reflections; no traces of vitae; humeri brownish yellow; postalar callus brown, this color not extending onto supraalar area. Mesonotum with moderately abundant semi-erect hairs and well covered with appressed hairs; vestiture yellow, becoming whitish laterally on mesonotum and definitely whitish on pleura, density of dorsal vestiture much as in *abdominalis.* Legs wholly yellow except front coxa, which is partly blackish on anterior surface, and hind coxa, which is largely the color of the abdomen; hairs yellow except some short, black hairs on tarsi. Wing hyaline; veins yellow; stigma light brown; cross-vein m-cu present though sometimes punctiform or, probably, absent. Abdomen dark castaneous, with yellow pile; genitalia (Fig. 3) bright yellow. Length, 5,5 to 6,5 mm, of holotype, 6,0 mm.

Female. Frons at narrowest 0,16 head width, almost parallel-sided on upper half and broadening to antennal bases; glabrous area of frons very small. Antenna elongated, 1,2 as long as head. Color of thorax as in male; no semi-erect hairs on mesonotum; legs wholly yellow, but hind coxa brownish in front. Abdomen dark castaneous but becoming yellowish along incisures at apices of second, third, and fourth terga; yellowish ventrally but becoming castaneous in some specimens in midventral area. Length, 6,0 to 6,5 mm, of allotype 6,0 mm.

Holotype: ♂, *Linares Prov.,* Parral Dist., October 27-30, 1960, L. Peña, Canadian National Collection.

Allotype: ♀, same data.

Paratypes: 2 ♂, same data; 1 ♂, same data but November 11-20; 5 ♂, *Linares Prov.,* Las Cruces, October, 1958, and November, 1960, Peña; 3 ♂, *Cautín Prov.,* 12,3 km N. Loncoche, 280 m, December 18, 1966, E. I. Schlinger, M. E. Irwin.

I take pleasure in dedicating this species to Sr. Luis Peña, who has contributed so much

to taxonomic entomology, not only through his own taxonomic research, but also by his tireless collecting of specimens.

SUBFAMILY CLITELLARIINAE

TRIBE ANTISSINI

Genus Antissa Walker

Antissa Walker, 1854: 63.
Cyanauges Philippi, Rondani, 1863: 88. (Nomen nudum).
Cyanauges Philippi, 1865: 733.
Parantissa Enderlein, 1914: 10.

Brauer (1882) proposed the synonymy of *Cyanauges* and *Antissa,* although in his tabulation of the genera of Stratiomyidae he gave the two separate generic number. Aubertin (1930) concurred with this synonymy and used the name *Antissa* for the Chilean species. Lindner (1943) synonymized *Parantissa* and *Antissa* but considered *ruficornis* Schiner a synonym of *valdivianus* Philippi. The question as to the validity of *Cyanauges* as a genus depends partly on the identity of its type-species, *C. valdivianus* Philippi.

Rondani (1863) described *Oplachantha valdiviana* from a defective female sent to him by Philippi; he credited the species to Philippi but rejected Philippi's proposed name *Cyanauges,* though he mentioned it without characterization. Philippi's (1865) description also was based on a female. His description made the generic name nomenclatorially available. Rondani's and Philippi's species were based on specimens which had the eyes bare or, as Aubertin points out, probably with short, sparse hairs, and these authors had no access to males. Schiner, on the other hand, described his *ruficornis* from specimens of both sexes and stated clearly that the eyes were pilose. The discovery of males of a quite different type, with broadly dichoptic, short pubescent eyes, associated with females which fit Rondani's brief description, lead me to the conclusion that *valdivianus* and *ruficornis* are quite idstinct species though with very closely similar females.

The genus *Antissa* can readily be distinguished from other genera of Clitellariinae by the distinct ventral spur on the middle tibia, a unique character for the Stratiomyidae, and the multiple spines of the scutellum. The following key will separate the known South American species, all known so far to occur only in Chile.

1. Body entirely metallic blue, with purple reflections 2

   Body non-metallic, black, yellow, or brown 3

2. Eyes with distinct pilosity, longer in the male; eyes of male contiguous ..... *ruficornis* (Schiner)

   Eyes short pubescent; eyes of male separated by about one-tenth head width .... *valdiviana* (Rondani)

3. Eyes short-pubescent in both sexes; yellowish brown to brown species, without well defined abdominal spots ..... *fusca,* new species
   Eyes short-pilose in female, long-pilose in male; body largely black, abdominal terga 2 to 4 on each side with a prominent, large orange-yellow spot, tergum 5 sometimes with a similar but smaller one ..... *maculata,* new species

Antissa valdiviana (Philippi)

Oplachantha valdiviana Philippi, *in* Rondani, 1863: 88.
Cyanauges valdivianus Philippi, 1865: 733.

This species was attributed to Philippi by Rondani, and since Philippi clearly intended that it should be a new species, he should be considered the author. The male is apparently undescribed.

In general, Kertész's (1908) description of *ruficornis* applies to this species, but there are some discrepancies. The following characterizes *valdiviana*:

Eyes in both sexes with only short, scattered pubescence which is comparable in length to diameter of one eye facet; eyes of male with facets of nearly uniform size. Frons of male at narrowest 0,10 head width or about as wide as distance between paired ocelli broadening gradually to antennal bases; with setulose punctures except for a short distance anterior to ocellar triangle; frons of female about 0,25

head width, approximately parallel-sided; in both sexes, frons with a median line, not deeply impressed on lower half; frons just above antennal base and extending onto sides of face with fine, white tomentum. Thorax and abdomen with whitish to yellowish apressed hairs, short in both sexes but a little longer in the male. Scutellar spines 4 to 6 on each side, sometimes variable in number in a single specimen. Tarsi becoming yellow apically. Vein R4 almost straight, slightly bowed at base, not sigmoid as in Kertész's illustration of *ruficornis*. Abdomen with five principal segments in both sexes. Male genitalia yellow. Length, 4,5 to 6,5 mm.

The antennal structure is essentially that shown by Kertész (1908, Table VII, fig. 13) except that there are eight flagellomeres, that shown as the fifth by Kertész being a composite of two of approximately equal length. Brauer said there were nine flagellomeres, and in many specimens the divisions are difficult to discern in uncleared material. The terminal section of the style is a littler shorter than in Kertész's illustratios. The antenna is yellow, the style brown.

Kertész states that the palpal structure in *ruficornis* appears to be very interesting, but that details are not evident because of dust covering the palpi. In *valdiviana* the palpus is three-segmented, the ratio being 6: 3: 5; the first two segments are slender and cylindrical, transversely rugulose, with semi-erect yellow hairs; the third is a little broader, oval but becoming acute apically, with pile only at the base but with silvery tomentum elsewhere.

Described from the following specimens: 8 ♀, 2 ♂, *Santiago Prov.,* Quebrada de la Plata, near Maipú, 510 m, 33°30'S, 70°55'W, Malaise trap, January 22 to March 23, 1966, M. E. Irwin; 1 ♂, El Canelo, 33°15'S, 70°27'W January 9, 1967, Irwin; 1 ♀, *Coquimbo Prov.,* Fray Jorge National Park, 100-200 m, October 20, 1966, E. I. Schlinger, M. E. Irwin; 1 ♀, *Malleco Prov.,* Río Blancas, Curacautín, 1100 m, February, 1964, L. E. Peña; 1 ♂, 1 ♀, Angol, December 31, 1950, and January 29, 1951, Ross and Michelbacher; 1 ♀, 22 km. E. of Temuco, June-July, 1951, M. G. Smith.

Antissa fusca, new species

Male. Mostly yellow brown to dark brown, non-metallic. Eyes virtually bare, scant pubescence visible only under high magnification, individual hairs shorter than diameter of any eye facets; eyes completely contiguous for more than half distance from anterior ocellus to antennal bases. Area of smaller, lower facets distinctly separated from that of larger, upper ones. Ocellar triangle and occiput black, subshining, with whitish pile. Face and frons dark brown with yellowish tomentum and some semi-erect whitish pile on face. Palpus similar in structure to that of *valdiviana* but more slender, terminal segment more rounded apically; brown with whitish hairs, terminal segment yellowish with yellow tomentum and a few semi-erect hairs. Antenna similar to that of *valdiviana* but more slender, basal two segments yellow, flagellum reddishbrown at base, gradually becoming brown at apex; hairs yellow.

Mesonotum, scutellum, propleuron, anterior part of mesopleuron, and pteropleuron brown; mesonotum with two broad stripes, median one reaching from anterior margin to base of scutellum, lateral ones abbreviated toward humerus and postalar callus, paler brown areas between dark brown areas narrow; pleura other than noted above dark brown; postscutellum and metanotum dark brown. Pile yellow on mesonotum and scutellum, mostly appressed, whitish on pleura, mostly semi-erect above, appressed below. Scutellum with three pairs of spines, all but lateral pair brown-tipped, median pair strongest and most basal pair weakest. Coxae brown, legs otherwise yellow, hairs yellow. Wing hyaline, veins yellow; vein R_4 elongated, almost straight, slightly bowed at base; vein M_3 abbreviated at apex. Halteres yellow.

Abdomen ovate, broadest at apex of second segment and gradually narrowing beyond, about 1,20 as long as wide; first two segments dorsally and first and sides of second ventrally dark brown, somewhat darker also at apex of tergum 5, otherwise medium brown. Genitalia yellowish brown.

Length, 6,5 mm (holotype), 6,0 mm (paratype).

Female. Occipital orbit poorly developed, as in *valdiviana,* but occiput swollen and consequently prominent from lateral view (cf. Fig. 4). Head yellow, ocellar triangle black, a triangular area on occiput above neck dark brown. Frons at narrowest (just above antennal bases) about 0,33 head width, widening to about 0,40 at vertex; completely bare and shining from vertex to just above antennal bases, then white pollinose or fine tomentose there and also on face. Hairs of face, genae, and occiput white, short. Palpus and antenna as in male but a little more robust; antenna reddish brown, style brown. Dark brown bands of mesonotum variable, sometimes as in male, sometimes more reduced; pleura more extensively pale, dark brown on lower areas only. Abdomen broader than in male, terga usually more extensively dark brown. Length, 6,5 to 7 mm (allotype, 6,5).

Holotype: ♂, *Santiago Prov.,* Quebrada de la Plata, Rinconada, Maipú, 30°31'S, 70°47'W, Malaise trap, march 27, 1966, M. E. Irwin.

Allotype: ♀, same data but march 22.

Paratypes: 1 ♂, 4 ♀, same data but march 22, 24, and 27, april 3.

Antissa maculata, new species

Male. Head, thorax, and abdomen predominantly black. Eyes with white pile which is as long as first antennal segment; contiguous more than half way from anterior ocellus to bases of antennae; areas of smaller (lower) and larger (upper) facets distinctly separated from each other. Frontal triangle and face white tomentose and pollinose. Ocellar triangle and upper part of frons with black pile, pile of head otherwise whitish, that of genae erect. Palpus black, similar to that of *valdiviana* but terminal segment more rounded apically and with some whitish hairs. Antenna similar to that of *valdiviana;* first two segments and style black, rest orange yellow to yellow; hairs usually black, some whitish below.

Humerus, supra-alar region, postalar callus, broad sides of scutellum, and posterior part of pteropleuron brown, this color not sharply separated from the black; pile of mesonotum and scutellum apressed, yellow, becoming whitish laterally, but from certain angles four longitudinal vittae of darker pile (vittae appearing black), not well defined, extending from anterior margin to a distance behind suture (to scutellum in paratype); mesonotum also with scattered black erect pile, more abundant and white laterally. Scutellum with 3 or 4 spines on each side (4 in holotype), two median pairs black, others brown but black tipped. Legs black femora broadly brown at base and apex, more extensively brown ventrally in paratype; hairs white, largely yellow on tarsi below. Wing hyaline, veins yellow; vein R_4 elongated, almost straight, slightly bowed at base; M_3 reaching three-fourths way to apex. Halteres yellow.

Abdomen structurally as in *fusca;* terga 3 and 4 each with a large oval yellow spot on each side, almost length of tergum, and a smaller one in a similar position on apical half of tergum 2, a still smaller one on tergum 5; venter mostly yellow, sternum 1, apex of sternum 5, and sides of others black. Hairs yellow dorsally, whitish ventrally. Genitalia black.

Length, 6,5 mm.

Female. Head (Fig. 4) structurally as in *fusca.* Eyes with white pile which is distinctly shorter than of male. Head black but occular orbits above antennal bases, occipital orbits, and broad sides of occiput to genae, broader above than below, orange; area above antennal bases indefinitely brownish-black. Frons mostly shining, with sparse, very short, whitish hairs; vertex and occiput with silvery to whitish hairs; lower part of frons and face white pollinose and pilose. Third segment of palpus orange outwardly. Antenna as in male but a little more robust; hairs of basal two segments white except a few black ones above. Thorax mostly as in male; pale coloration usually brownish-yellow rather than brown and more extensive; humeri wholly brownish-yellow; pale supra-alar areas extending forward to suture; sides of scutellum yellow,

leaving median third to fourth, from base to apex of scutellum, black; femora largely yellow to brownish-yellow. No erect black pile on mesonotum and but little erect whitish pile laterally; thoracic vittae not evident. Abdomen as is male but more robust. Length, 6,0 to 7,0 mm (allotype, 6,5).

Holotype: ♂, *Santiago Prov.,* Quebrada de la Plata, Rinconada, Maipú, 510 m, 33°31'S, 70°47'W, Malaise trap, march 27, 1966, M. E. Irwin.

Allotype: ♀, Quebrada de la Plata, 33°30'S, 70°55'W, 550 m. Malaise trap, march 24, 1966, M. E. Irwin.

Paratypes: 1 ♂, 4 ♀, same as holotype; 5 ♀, same as holotype but March 23, April 13, and October 26; 6 ♀, same as allotype but March 17 and 23, 550 m, and March 16, 510 m; 1 ♀, *Aconcagua Prov.,* Valle Los Piuquenes, February 7-12, 1964, Peña. Two females from the allotype locality are slightly teneral and are not designated as types.

TRIBE CYPHOMYIINI

Genus Abasanistus Kertész

Abasanistus Kertész, 1923: 90.

This genus, on the basis of information available to him, was treated quite thoroughly by Kertész, who recognized its true position in the family, namely close to *Chordonota*. Its geographical distribution, so far as known, is restricted to Chile.

KEY TO THE KNOWN SPECIES OF ABASANISTUS

1. Flagellum of antenna strongly broadened basally, sublanceolate in outline, strongly tapering toward style (figs. 5, 8), in large part orange to reddish yellow; eyes of male contiguous 2

   Flagellum of antenna narrow basally and more elongated, gradually tapering to a style (figs. 6, 7), black or blackish except at base; eyes of male distinctly separated 3

2. Fourth and fifth abdominal terga, on each side, with a conspicuous patch of deep golden tomentum, the color contrasting strongly with that of the mesonotal tomentum; mesonotum with four sharply defined black vittae against a whitish tomentose background; frons of female reddish yellow from antennal bases to about anterior ocellus .... *aureopictus,* n. sp.

   Tomentum of abdomen whitish, concolorous with that of mesonotum; vittae of mesonotum distinct but sharply defined; frons of female reddish yellow only on two large spots which are frequently connected medially, on lower half (fig. 10) .... *rubricornis* Kertész

3. Terminal flagellomere about three times as long as the preceding one, tapering beyond base, then almost parallel-sided to its rounded apex; female unknown ..... *claviger,* n. sp.

   Terminal flagellomere not more than twice length of preceding one, gradually tapering from base to apex 4

4. Eyes broadly separated in male, frons at narrowest 0,16 head width and distinctly broader than ocellar triangle; frons and vertex of female wholly orange to reddish yellow, at most indistinctly brownish above antennal bases....*rubriceps* (Philippi)[1]

   Eyes more narrowly separated in male, frons at narrowest 0,07 width of head and distinctly narrower than ocellar triangle; female unknown .... *paulseni* (Philippi)[1]

Abasanistus aureopictus, new species

Male. Wholly black except eyes reddish-brown, antennal flagellum except terminal flagellomere orange, and proboscis and tarsi tending to brownish-black. Eyes contiguous for almost half distance from anterior ocellus to bases of antennae, only a very narrow, linear, frontal strip evident; upper area of larger facets distinctly separated from lower area of smaller facets; pile moderately dense, about as long as first two antennal segments combined. Very narrow occipital and facial orbits and frontal triangle with short silvery tomentum; ocellar triangle, upper part of occiput, and upper part of face with silvery pile, that of face appressed; most of face and gena with erect black pile. Antennal segments 15: 10: 70; width of pedicel at base 18, maximum width of flagellum 27 (measured from ventral view).

Mesonotum with lateral margins and four longitudinal vittae black, separated by vittae of soft, usually silvery but sometimes yellow-

[1]Males of these two species are placed here on the basis of tentative identifications. See discussion under headings of the respective species.

wish, tomentum; these tomentose vittae sharply defined, outermost interrupted behind suture, consequently outer black vitta there joined to black margin; inner pair of black vittae reaching from anterior margin of mesonotum to base of scutellum, outer pair abbreviated anteriorly; black vittae with appressed straight black hairs; mesonotum with a few erect black and white hairs, latter apparently limited to silvery tomentose areas. Scutellum silvery tomentose medially to apex, broadly black and with black hairs laterally. Pleura mostly black haired; a white tomentose, white pilose patch on anterior part of mesopleuron and another on posterior part, just in front of wing base; sternopleuron with whitish pile. Wing hyaline, veins brown; stigma yellowish brown. Knob of halter white, stalk yellow.

Abdomen with a large tomentose spot on each side of each of terga 3, 4, and 5, those of 5 almost confluent medially; those of 4 and 5 deep golden, that of 3 whitish to pale yellow, usually intermediate in color between tomentum of apical abdominal terga and that of mesonotum. Appressed pile of abdomen black except on sterna 4 and 5, where it appears whitish to yellow; much of ventral pile, however, except on basal two segments, reflecting silvery light at certain angles. Some erect or semi-erect black pile laterally, at apex mixed whitish and black. Genitalia not significantly different from those of *rubricornis* (cf. Fig. 11); the aedeagus is more delicate and the disistyles more slender.

Length, 4,0 to 6,0 mm., of holotype, 5,0 mm.

Female. Frons bulging when viewed laterally, depressed below and there concave in transverse profile, concavity extending upward as a broad furrow; smooth, without striae or evident punctures; at narrowest, just above antennal bases, 0,37 head width (in allotype), widening upward and downward, 0,44 head width at vertex. Pile of eyes black, shorter but denser than in male. Vertex, center of occiput, most of face and gena black; frons, except just above antennal bases, broad orbits and broad sides of occiput, and terminal segment of palpus, orange-yellow; narrow facial orbits and often an indifinite spot in center of face brownish. Antenna (Fig. 5) much broader than in male; flagellum at broadest 1,5 times width of second antennal segment at apex; ratio of segments 10: 15: 100; maximum width of flagellum, 45. Frons and occipital orbits with some fine but stiff, sparse, erect black hairs; occiput above and frons also with more abundant but less conspicuous whitish to yellowish tomentum; face more distinctly whitish tomentose. Otherwise much as in the male. Length, 4,0 to 7,0 mm; of allotype, 5,0 mm.

Holotype: ♂, *Santiago Prov.,* Quebrada de la Plata, nr. Maipú, 33°30′S, 70°55′W, Malaise trap, February 2, 1966, M. E. Irwin.

Allotype: ♀, same data.

Paratypes: 27 ♂, 39 ♀, same data but February 2, 8, 10, 12, 14, March 9, 12, 16, 17, 23, October 17; 1 ♂, same data but 550 m, March 24; 10 ♂, 13 ♀, same but Rinconada, Maipú, 30°31′S, 70°47′W, January 25, 28, 30, March 23, 24, 26, 27, April 3.

Abasanistus claviger new species

Male. Body and appendages wholly black. Eyes with moderately dense brownish pile which is about as long as first two antennal segments combined. Frons (Fig. 9) at narrowest about five-eighths distance from anterior ocellus to antennal base, at that point 0,12 head width, widening to 0,20 head width at vertex and 0,30 at antennal bases; with a biarcuate transverse furrow, its angle directed ventrad, at narrowest part, below that a median longitudinal furrow separating lower frontal area into two parts, this furrow continued above biarcuation as a less conspicuous groove and vanishing into a grabrous area anterior to anterior ocellus. Occipital orbit narrow but distinct, white pollinose or finely white tomentose, continuing as a narrow facial orbit. Pile of head brownish, some appearing black, that of face rather dense; upper frons except glabrous area before ocellar triangle subshining, lightly and inconspicuously whitish pollinose, lower frons with more evident whitish pollen and tomentum, face white pollen and tomentum medially below anten-

nal bases. Antenna (Fig. 6) slender; ratio of three segments 15: 10: 95; with eight flagellomeres, first seven equal in length; terminal one two and one half times length of preceding, tapering on about its basal third, then parallel-sided, expanding somewhat and rounded at apex, apical setulae minute; basal two segments shining, flagellum white pollinose, sensoria evenly distributed on all flagellomeres to and including basal half of terminal one. Flagellum at broadest 1,25 width of apex of pedicel, about 0,25 as broad as long, thence tapering to terminal flagellomere. Palpus slender, terminal segment somewhat inflated.

Mesonotum with black appressed and erect hairs and silvery tomentum; silvery tomentum lacking on lateral margins and four longitudinal vittae, which consequently appear black, median pair of vittae extending from anterior margin to base of scutellum, outer pair abbreviated anteriorly and posteriorly; these black areas with appressed, fine and inconspicuous but straight hairs; apical half of scutellum silvery tomentose; mesonotal stripes distinct but not sharply margined. Pleura mostly black haired. Leg hairs blackish to off-color white; tarsi with short yellow hairs beneath. Wing dusky hyaline; heavier veins black, others brown; stigma brown. R_{2+3} oblique, R_4 erect, meeting costa at almost a right angle, much longer than cross-vein r-m, which is short. Knob of halter white, stalk brown.

Abdomen with a silvery tomentose spot on each lateral margin of terga 3, 4, and 5, those on 3 and 4 touching anterior but not posterior margin of respective tergum, that on 3 the smaller; those on 5 extending length of tergum and closely approaching each other medially; abdomen otherwise with black appressed hairs. Genitalia black.

Length, 5,5 mm.

Holotype: ♂, *Santiago Prov.,* El Canelo, 33°35'S, 70°47'W, January 9, 1967, M. E. Irwin.

The specific name *claviger,* club-bearing, refers to the club-like structure of the terminal flagellomere.

Abasanistus rubriceps (Philippi)

Cyclogaster rubriceps Philippi, 1865: 732.

The redescription of this species by Kertész (1923) is quite adequate for the identification of the females unless the specimens which I have before me do not belong here. My specimens may represent a different species, but more material should be studied before this can be determined. The antennae (fig. 7) are relatively slender, as Kertész illustrated them. My females differ from the description of Kertész in that the clypeus does not bear snow-white hairs; the pleura are mostly black-haired, though this is variable, to an extent; the extension onto the scutellum of the median white tomentose stripe of the mesonotum is much attenuated and may easily be overlooked, especially if abraded; and the abdominal tomentose areas are light yellow rather than almost golden yellow. The structure of the head, other than the antennae, is much as in *rubricornis;* the puncturing of the frons is not so priminent; though the black pile stands out more conspicuously against the uniform reddish yellow background, and the longitudinal ridges are less prominent.

The male can be referred to this species with even less certainty, but its association with one of the females suggests that it belongs here. It is quite similar to *claviger* but may readily be distinguished from that species by the characters given in the key. It differs, moreover, from the description of *claviger* in the following respects. The pile of the eyes is shorter, about the length of the first antennal segment; the occipital orbits are less clearly differentiated; the pile of the head is mostly light gray on the frons, brown on the face, and shorter and much less dense than in *claviger;* the upper frons is largely clothed with semi-appressed yellowish pile; vein R_4 is subequal in length to r-m. The pile and tomentum of the mesonotum and scutellum is apparently much as in *claviger,* though it is somewhat abraded and, consequently, this cannot be determined accurately.

Described from two females, *Curico Prov.*, Fundo la Montaña, Estero la Palma at Río Teno, 6 km. east of Los Quenes, January 4, 1967, M. E. Irwin, and *Santiago Prov.*, Quebrada de la Plata, 510 m. Rinconada Maipú, 30°31'S, 70°47'W, Malaise trap, March 27, 1966, M. E. Irwin; also, 1 male, 1 female, Chile, E. C. Reed, no other data.

Abasanistus paulseni (Philippi)

Cyclogaster paulseni Philippi, 1865: 732.

This species has been synonymized with *rubriceps* by Kertész (1923), and this synonymy has been generally accepted. However, a male in the United States National Museum, labelled Tanumé, I-27/90, and determined by Aldrich as *Lasiopa paulseni* Philippi, is a different species from the one that I have tentatively referred to *rubriceps*. It may be separated from males of *rubriceps* and *claviger* by the characters given in the key; in addition it differs from the description of *claviger* in the following respects. The lower frons is separated from the upper by a V-shaped suture, probably resulting from the much narrower frons, rather than by a biarcuate one; the sutures on the frons are not as deeply impressed; there is no glabrous area anterior to the anterior ocellus, and the pollen of the upper frons, though not dense, is more conspicuous, so that this area is not subshining; there is some silvery tomentum on the lower frons underlying the hairs of that area; the genital dististyles are yellowish.

Abasanistus rubricornis Kertész

Abasanistus rubricornis Kertéz, 1923: 92.

The original description is for the most part quite adequate. Is the male the tomentum of the frontal triangle is whitish in most specimens, rather than brassy; the erect mesonotal pile is mixed black and white, sometimes predominantly white; and the antennal flagellum is more extensively orange in my series, usually the last two flagellomeres only being blackish. The pile of the eyes is denser than in *aureopictus*. In the female the reddish spots on the lower part of the frons may be separated from each other, as Kertész described them, or they may be confluent; the latter is true in most of the specimens that I have seen. The upper part of the frons (Fig. 10) has three longitudinal ridges, the middle one sometimes divided above and converging below, V-like; the frons is set rather densely with setigerous punctures on most of its length. The male genitalia are as in Fig. 11; the dististyles are soft in texture and oval; the aedeagus is trifid. The species is highly variable in size, its length ranging from 3,5 to 10 mm in the females and from 3,5 to 8 m in the males.

I have seen more than 500 specimens from the following localities. *Coquimbo Prov.*: Fray Jorge National Park; Chiqualoco; Hacienda Illapel. *Valparaíso Prov.*: Quintay; Quintero. *Santiago Prov.*: Cuesta de Ibacache; El Canelo; El Peumo; Quebrada de la Plata, Maipú. *Curicó Prov.*: Los Quenes. *Maule Prov.*: Río Loanco, Fundo Parrón. *Ñuble Prov.*: Cobquecura. Sea level to 550 m. Large series were collected by M. E. Irwin at Maipú in a Malaise trap. Seasonal distribution, September to April.

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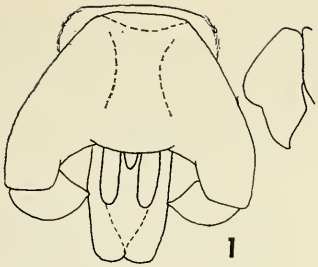
EXPLANATION OF FIGURES

Fig. 1, *Beridops nigripes*, n. sp., male genitalia, ventral view, and dististyle, dorsolateral. Fig. 2, *Beridops abdominalis*, n. sp., same. Fig. 3, *Beridops penai*, n. sp., dististyle, dorsolateral. Fig. 4, *Antissa maculata*, n. sp., head, lateral view. Fig. 5, *Abasanistus aureopictus*, n. sp., antenna, ♀. Fig. 6, *Abasanistus claviger*, n. sp., antenna, ♂. Fig. 7, *Abasanistus rubriceps* (Philippi), antenna, ♀. Fig. 8, *Abasanistus rubricornis* Kertész, antenna, ♀. Fig. 9, *Abasanistus claviger*, n. sp., head, ♂, anterior view. Fig. 10, *Abasanistus rubricornis* Kertész, head, ♀, dorsal view. Fig. 11, *Abasanistus rubricornis* Kertész, male genitalia, dorsal view, ventral view, and aedeagus. All hairs and setae omitted, except those of eyes in figures 9 and 10 and of hypopygium in figure 11; darkened areas shown by stippling in figures 9 and 10.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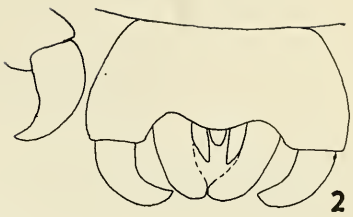
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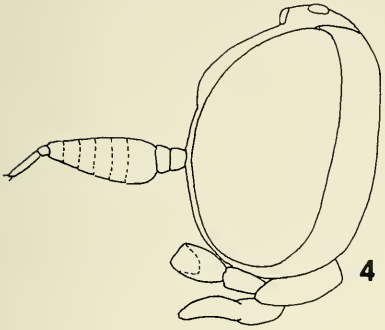
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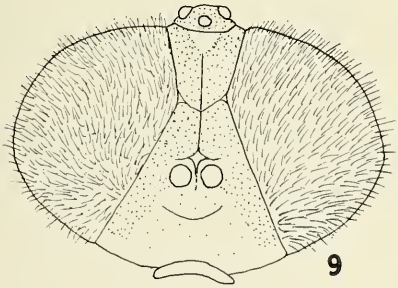
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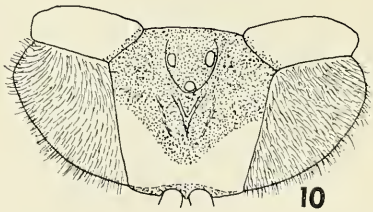
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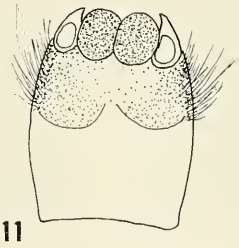
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