

DIPTERA OF PATAGONIA AND SOUTH CHILE

PART VI

FASCICLE 3.—EPHYDRIDAE (Supplement), SYRPHIDAE, CONOPIDAE.

EPHYDRIDAE.

(Supplement.)

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of Entomology.

SINCE the main collection of Ephydriidae was submitted to Mr. Cresson a rather large amount of additional material has been found in the British Museum Patagonian collections, including examples of two very distinct new species. In order to complete the account of the Patagonian Ephydriidae these new species are described below, and the opportunity is taken of making some further slight additions and corrections to Mr. Cresson's paper.

Ditrichophora puella, Cresson.

Since the remainder of the material was submitted to Mr. Cresson, a large number of additional specimens of this species have been discovered in the collection, having previously been placed with the Drosophilidae. These additional specimens are from the following localities: Bariloche, Casa Pangué, Peulla, Ensenada, Puerto Varas, Castro; also a long series from Los Andes.

The species varies somewhat in size, but its coloration appears constant. The pollinosity of the head and thorax is dark brown rather than ochreous as described by Mr. Cresson.

Ditrichophora polita, sp. n.

Structurally similar to *D. puella*, but body wholly shining black; legs with only the tarsi partly yellow.

♀ (?). Length, 2.3–2.8 mm.; wing, 2.3–2.8 mm.

Head wholly black and shining, devoid of pollen except on the small antennal grooves, but slightly roughened above antennae

and there less shining. Antennae small and wholly black. Chaetotaxy exactly as in *D. puella*, also shape and width of frons and face.

Thorax and *abdomen* wholly shining black; bristles and hairs as in *D. puella*.

Legs with coxae, femora and tibiae wholly shining black; first segment of front tarsi and first two segments of middle tarsi yellow, remaining tarsal segments black.

Wings hyaline; venation as in *D. puella* except that the second vein is less distinctly curved upwards to costa at tip; second section of costa over twice as long as third. Halteres with black stem and pure white knob.

Holotype, ♀ (?), L. Gutierrez.

Paratype, ♀ (?), Peulla.

In the type the thorax has a slight blue-green metallic gloss, which is not perceptible in the paratype. The species is perhaps most similar to *D. aliena*, Cresson, of Western North America, which has a white-dusted face.

Ilythea cressoni, sp. n.

A much larger species than either *I. fusca* or *I. niveoguttata*, also differing in wing-markings as described below.

♂ (?). Length, 3 mm.; wing, 3.5 mm.

Head covered with dense and coarse whitish-ochreous dust on the whole face except for the central knob, which is dark, dust somewhat whiter in antennal grooves, but as seen from above with light falling from in front the whole face appears almost silvery-white, not only the antennal grooves as in *I. niveoguttata*; there is also a similar small silvery-white spot between roots of antennae. Upper orbits more distinctly shining than in *I. niveoguttata*. Chaetotaxy of head as in *I. niveoguttata*, except that the fronto-orbital bristles are still closer together, the distance from the short lower to the long upper fronto-orbital being only about one-third instead of one-half that from the upper-fronto-orbital to the vertical. Third antennal segment only very narrowly yellowish at base.

Thorax scarcely shining, dark brownish with greyish pollinose markings arranged much as in *I. niveoguttata*: a faintly indicated but more or less continuous median line, most distinct in front of scutellum, and a row of three spots just inside the line of the dorso-central bristles; outside these are two more spots which are not traceable in the type of *I. niveoguttata*.

Abdomen shining blackish.

Legs ochreous with dark coxae; femora, especially front pair, somewhat darkened except at tips.

Wings with numerous dark brown spots arranged much as in *I. niveoguttata*, but larger and darker, in particular the spot below

tip of first vein larger, very dark, and completely filling space between first and second veins almost as far as base of latter. By reflected light many of the clear areas appear white, particularly those on each side of the large spot between third and fourth veins. Halteres yellowish.

Holotype, ♂ (?), Meechuque I.

Paratype, ♂ (?), Bariloche.

In both specimens the labella are provided with a remarkable fringe of close-set transparent scales; no such structure is visible in the other two *Ilythea* described by Mr. Cresson, nor in any other Ephydridae in the collection, but without mounting specimens for comparison it is not possible to say whether this scaly fringe is peculiar to this species or is merely hidden in the others. It is not visible in the allied British *I. spilota*, Hal., of which I have examined numerous specimens.

***Parydra aureola*, Cresson.**

Mr. Cresson writes that the species with which this was compared was *P. humilis*, Williston; the name was inadvertently spelt *humeralis* both in the text and in the footnote.

***Dimecoenia prionopectera* (Thomson).**

In discussing the identity of Thomson's *Ephydra prionopectera*, Mr. Cresson suggested that it might be one of the species he described under the generic name *Dimecoenia*. Having recently received Thomson's type on loan from Prof. Sjöstedt, I find that Mr. Cresson's supposition was correct; *E. prionopectera* belongs to the genus *Dimecoenia* and is identical with *D. densa*, Cresson, this name falling as a synonym.

***Scatella guttipennis* (Bigot).**

1888. *Palloptera guttipennis*, Bigot, Miss. Sci. Cap Horn, Zool.

Reference to this species was omitted by Mr. Cresson, doubtless owing to the fact that the describer placed it in the wrong genus. Bigot's figure obviously depicts an Ephydrid, and is most probably a species of *Scatella* closely related to *S. vulgata*, Cresson, though with somewhat different wing-markings. The type should be in the Paris Museum, but cannot be traced.

Tierra del Fuego.

SYRPHIDAE.

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INTRODUCTION.

THE present paper is based mainly on material obtained by Shannon and Edwards in 1926, but it has been amplified by consideration of specimens already in the British Museum Collections. One of us (R. C. S.) has had access to the types in the United States National Museum, while the other (D. A.) has examined Walker's, Bigot's and Macquart's types in the British Museum Collection, further types of Bigot and Macquart kindly lent by Mr. J. E. Collin, and, by permission of Dr. Zerny, Wiedemann's types of certain species of *Eristalis* in the Museum at Vienna.

Systematic papers on the South American Syrphidae are not very numerous, and, for the most part, deal with isolated groups within the family. In addition most of them are based on material obtained, as a general rule, from regions further north than Patagonia and the southern part of Chile.

The most comprehensive revision of the family is that published by Shannon.¹ The majority of species occurring in S. Chile can be identified from Philippi's paper,² which is very much more extensive and illuminating than Blanchard's³ and is based mainly on his own collection. F. Lynch Arribalzaga⁴ published a revision of the Syrphidae of Argentina which is some help with the collection under discussion. Curran has dealt with the genera *Mesogramma*⁵ and *Baccha*⁶ and has also published a revision of the subfamilies Eristalinae⁷ and Volucellinae,⁸ but we are not always entirely in agreement with his interpretation of the species of the older authors. Porter⁹ gives a list of Syrphidae collected in various parts of Chile, and species have been described by Wiedemann, Macquart, Bigot, Rondani and Schiner.

In the key here given to the subfamilies a group called the

¹ 1927. Proc. U.S. Nat. Mus., 70, 9: 1-34.

² 1865. Verh. zool.-bot. Ges. Wien, 15: 733-750.

³ 1852. In: Gay, Hist. Chile, Zool., 7: 403-413.

⁴ 1891-2. Ann. Soc. Cient. Argent., 32-34.

⁵ 1930. Amer. Mus. Nov., 405: 1-13.

⁶ 1930. Amer. Mus. Nov., 403: 1-16.

⁷ 1930. Amer. Mus. Nov., 411: 1-27.

⁸ 1930. Amer. Mus. Nov., 413: 1-23.

⁹ 1923. Rev. Chil. Hist. Nat., 25: 446-447.

Chilosiinae has been split off from the Syrphinae, and is here treated as a subfamily, largely as a matter of convenience. The group, even in our region, is practically inseparable from the Xylotinae, as certain genera, e.g. *Hemixylota* and *Valdivia*, may more properly be placed in Xylotinae. The characters used for the separation of the group are easily recognizable, even if not of the taxonomic value assigned to them, and the present arrangement appears to simplify the work of identification.

In the generic keys an attempt has been made to include all genera which occur in South America, while in the specific keys, only species described from the geographical area under discussion, or those which may be reasonably suspected to occur there, are included. The names of genera and species which are not definitely known to occur in Patagonia or South Chile are enclosed in square brackets, both in the keys and in the headings of the notes thereon. The fauna of South Chile is rather different from that of the northern part and it is not always possible to ascertain the exact locality from which specimens in the older collections were obtained; all species recorded from Chile have therefore been included in this paper.

Of the twenty-four genera represented in the present collection from S. Chile and Patagonia, ten are found all over the world (*Microdon*, *Melanostoma*, *Syrphus*, *Scaeva*, *Baccha*, *Chrysogaster*, *Tropidia*, *Eristalis*, *Mallota*, *Volucella*), two (*Allograpta* and *Toxomerus*) are restricted to the New World, and the remaining eleven (*Fazia*, *Chamaesphagina*, *Hemixylota*, *Valdivia*, *Eriophora*, *Stilbosoma*, *Sterphus*, *Odyneromyia*, *Macrometopia*, *Philippimyia*, *Dolichogyna*) are found only in southern South America. The remaining genera, included in the keys but unrepresented in the collection, are mainly confined to South America, although one or two may be represented in the southern part of North America. The subfamily Cerioidinae is absent from the southern part of the continent, and the subfamily Microdontinae appears to be represented by a single species, *M. violaceus*, Macq.

Although approximately 100 genera of Syrphidae occur in the American north temperate zone only a little more than one-fourth of this number are now known from the south temperate region. Moreover, there are but a few species known for each of the genera; seven have but a single representative, and the largest number in any one genus is five. The area included in our study, of course, is far smaller than the north temperate area.

Of special interest is the fact that certain rather typical north temperate groups of Syrphidae apparently have their South American representatives only in Patagonia and Chile, although it is likely that they occur elsewhere in the higher altitudes of the Andes, as this mountain system probably afforded these representatives the means of reaching this distant region. Thus,

fairly typical species of the genera *Chilosia*, *Pipiza*, *Chrysogaster*, *Melanostoma*, *Syrphus*, *Myiolepta* and *Tropidia* are found here, while other genera are represented as follows: *Helophilus* by *Dolichogyna*; *Spegina* by *Chamaespegina*; *Xylota* by *Hemixylota*, *Odyneromyia*, *Stilbosoma*, *Sterphus*, *Philippomyia*; and *Criorrhina* by *Macrometopia* and *Eriophora*.

Six of the genera herein recorded are new or of recent erection. We have been able definitely to assign *Penium* and *Ortholophus* to synonymy—to *Pipiza* and *Tropidia* respectively; to confirm the generic status of *Eriophora* and *Dolichogyna*; to ascertain that *Priomerus haemorrhoidalis*, Phil., is a true *Myiolepta*; that *Doros odyneroides* typifies a new genus (*Odyneromyia*, tribe Xylo-tini) and that *Macrometopia* constitutes a very distinct genus.

Apart from the distinctive genera peculiar to the region under discussion, the fauna of southern South America does not present any general facies which would distinguish it from the fauna of the rest of the continent, except possibly, a certain predominance of orange colouring on head, body and wings. An examination of the New Zealand material in the British Museum Collections does not reveal any marked resemblance between species occurring in Chile and in the southern Australian region.

It has been impossible, in the case of certain genera and species not represented in the present collections, to obtain enough data to place them in the keys. Any relevant information that the descriptions afford, is given in the following list.

DESCRIBED GENERA AND SPECIES UNAVAILABLE FOR EXAMINATION.

[*Argentinomyia*, F. Lynch Arribalzaga (1891).] This genus should probably be placed in the Chilosiniæ, but sufficient data are not available for including it in the key to the genera of this subfamily. The type species, *A. testaceipes*, F. Lynch A., was described from specimens taken in Buenos Aires.

[*Eristalis chilensis*, Phil. (1865).] Santiago.

[*Eristalis concolor*, Phil. (1865).] Valparaiso. Appears to have bare, spotted eyes.

Eristalis croceimaculata, Jacobs. (1900). Recorded from Staten Island, Tierra del Fuego. The description and figure might perhaps refer to *E. bogotensis*, Macq.

[*Mallota xylotaeformis*, Schin. (1868).] Chile. Probably not a *Mallota*; a rather bare, dark species with black marks on inner ends of suture; antennæ orange, face yellow, jowls black; hind femora swollen, with white woolly hair underneath; wings darkened by a line at base; abdomen long, more or less parallel-sided, the segments shimmering white anteriorly so that in certain lights only a central line and posterior fleck of ground-colour are visible.

[*Syrphus auropulveratus*, Macq. (1842).] Chile, Santiago; collected by Gay. Probably not a member of the genus *Syrphus*.

[*Syrphus decemmaculatus*, Rond. (1863).] Chile; collected by Philippi. Should probably be placed either in *Tozomerus* or *Allograpta*.

[*Syrphus octoguttatus*, Jaen. (1867).] Chile. Possibly *Tozomerus philippii*, Snn.

[*Syrphus pallipes*, Big. (1884).] Chile. The type should be in Bigot's collection, but we have been unable to find it.

[*Syrphus punctatus*, Macq. (1842).] Chile, collected by Gay. May belong to another genus.

[*Syrphus vertebratus*, Rond. (1863).] Chile, collected by Philippi. Should be placed either in *Toxomerus* or *Allograpta*.

[*Syrphus sexmaculatus*, Macquart (1849).] Chile. Five females of *Scaeva melanostoma*, Macq., are found in Bigot's collection above the label "*sexmaculatus*? Macq.," but from the description, the latter species would appear to be something different; it is, however, insufficiently characterized for recognition.

Syrphus walkeri, F. Lynch Arribalzaga (1892). Patagonia. This name was proposed for *Syrphus unicolor*, Walk. (1837). The type of the species is practically unrecognizable, but probably belongs to the genus *Melanostoma*, as suggested by F. Lynch Arribalzaga. The unique female type was recorded from Patagonia.

Ocyrtamys? *valdivianus*, Philippi (1865). Valdivia. We have been unable to find a species which fits in with this description, and it is doubtful if *Ocyrtamys* is the right genus in which to place it. The Catalogue suggests *Melanostoma*, but the description does not fit in very well with this, either.

[*Xylota aurifacies*, Big.] The description of this species does not appear to have been published, although the name is used by Schiner; it must rank as a *nomen nudum*.

KEY TO SUBFAMILIES OF SOUTH AMERICAN SYRPHIDAE.

1. Antenna with a terminal style[CERIOIDINAE.]
- Antenna with a dorsal arista2.
2. Antennae elongate, porrect, first segment about four times as long as broad; third longitudinal vein with a free-ending branch projecting into first posterior cell; fourth vein strongly recurrent
- MICRODONTINAE (p. 124).
- Antennae shorter, first segment never much longer than broad; no free-ending branch projecting into first posterior cell from third longitudinal vein, or fourth vein not recurrent.....3.
3. Humeral calli and interhumeral region destitute of pile; discal cross-vein joins fourth vein well before middle of discal cell; ♂, as well as ♀, with five abdominal segments, exclusive of hypopygium, visible
- SYRPHINAE (p. 124).
- Hair on humeri as long as elsewhere on dorsum of thorax¹; ♂ with not more than four abdominal segments, exclusive of hypopygium, visible4.
4. Apical section of fourth vein recurrent, arista plumose
- VOLUCELLINAE (p. 166).
- Apical section of fourth vein not recurrent (except in *Alipumilio*, where spurious vein is absent, and in *Chrygogaster* (*Orthoneura*) where frons and face are rugose); arista bare, or at most slightly pubescent.....5.
5. Third vein deeply looped into first posterior cell, metasternum pilose; medium-sized flies.....ERISTALINAE (p. 158).
- Third vein straight, or very slightly depressed into first posterior cell (if markedly depressed, large flies with brilliant yellow markings).....6.
6. Discal cross-vein joining fourth longitudinal vein well before middle of discal cell; metasternum usually bare (pilose in *Myiolepta*)
- CHELOSIINAE (p. 139).
- Discal cross-vein joining fourth longitudinal vein at, or beyond middle of discal cell.....7.

¹ Pile on humeri and on dorsum of thorax microscopic in *Chamaesphagina*, absent in *Alipumilio*.

7. Large flies, generally with brilliant yellow markings; marginal cell closed.....[MILESINAE.]
 Medium-sized flies, less brilliantly marked with yellow; marginal cell open.....XYLOTINAE (p. 151).

MICRODONTINAE.

1803. *Microdon*, Meigen, Illiger's Mag., 2: 275.

A large genus with representatives all over the world; in South America species have been recorded from all regions except Patagonia.

Microdon violaceus (Macquart).

1842. *Aphritis violaceus*, Macquart, Dipt. Exot., 2, (2) : 13.

A fairly common Chilean species, metallic blue in colour, with greyish-hyaline wings.

1 ♂, Concepcion; also recorded from Coquimbo, Santiago, Illapel, Colchagua and Valdivia, and from the province of San Luis in Argentina.

SYRPHINAE.

KEY TO GENERA.

1. Squamae, squamal cilia and plumula¹ well developed, cilia of lower squama equal to at least half length of haltere.....2.
 Squamae, squamal cilia and usually the plumula considerably reduced10.
2. Face entirely black3.
 Face largely yellow5.
3. Face not broader than length of arista.....[*Xanthandrus*, Verr.]
 Face much broader than length of arista.....4.
4. First antennal segment as long as, or not much longer than, second
 Melanostoma, Schin. (p. 132).
 First segment much longer than second.....[*Braziliana*, Curr.]
5. Metasternum² long-pilose.....6.
 Metasternum bare.....9.
6. Oral opening about twice as long as broad.....7.
 Oral opening four or more times as long as broad...*Fazia*, Snn. (p. 126).
7. Head of the normal *Syrphus*-type.....8.
 Head much inflated; antennae widely separated at base; face with paired longitudinal grooves[*Claraplumula*, Snn.]
8. Small flies; abdomen narrow and parallel-sided *Allograpta*, O.-S. (p. 130).
 Large flies, very similar in appearance to *Syrphus*; abdomen broad, more or less oval in shape.....[*Epistrophe*, Walk.]
9. Wings without villosity, glassy in appearance; head large, inflated
 Scaeva, F. (p. 127).
 Wings villose, head not abnormally inflated; pleurae and margin of dorsum of thorax without yellow markings.....*Syrphus*, F. (p. 125).

¹ A small feathery structure lying below the squama.

² Area in front of and between hind coxae.

10. Second abdominal segment strongly constricted, or narrow throughout its length, at least twice as long as broad and generally longer, abdomen more or less circular in section.....11.
Abdomen more or less parallel-sided, dorso-ventrally flattened, second visible segment broader than long, sometimes constricted at base...13.
11. A distinct row of stiff hairs across anterior margin of mesonotum
[*Ocyptamus*, Macq.] (p. 137).
Mesonotum without a row of hairs anteriorly.....12.
12. Third longitudinal vein dipping deeply into first posterior cell, or at least somewhat depressed; hind femora armed with short spines distally.....[*Salpingogaster*, Schin.] (p. 134).
Third vein straight; hind femora without spines...*Baccha*, F. (p. 135).
13. Apical section of fourth vein upright; a distinct black spot at apex of wings; second abdominal segment moderately constricted
[*Calostigma*, Snn.]
Apical cross-vein directed obliquely outwards; wing without a black spot, face projecting below antennae.....*Toxomerus*, Macq. (p. 137).

SYRPHUS, Fabricius.¹

1775. *Syrphus*, Fabricius, Systema Ent. : 762.

1933. *Syrphidis*, Goffe, Trans. Ent. Soc. S. of Engl., 8 : 78.

The genus is world-wide in distribution and very uniform in appearance; it is surprising that so few South American species have been clearly defined.

Syrphus octomaculatus, Walker.

1837. *Syrphus octomaculatus*, Walker, Trans. Linn. Soc. Lond., 17 : 344.

1842. *Syrphus gayi*, Macquart, Dipt. Exot., 2, pt. 2 : 90.

1865. *Syrphus poecilogaster*, Philippi, Verh. zool.-bot. Ges. Wien, 15 : 747.

1892. *Syrphus patagonus*, F. Lynch Arribalzaga, Anal. Soc. Cient. Argent., 33 : 115.

Abdominal pattern variable, but composed entirely of paired yellow spots.

S. octomaculatus, Walk., appears to be the only common species of *Syrphus* in the region; it shows a considerable amount of variation in abdominal pattern and colour of the legs. In the typical form, the bulk of the abdomen is yellow with a thin network of black, the bases of the femora are dark and the posterior end of the venter black. In some specimens the yellow pattern is reduced and has the appearance of rounded spots, which do not reach the margin of the abdomen on the second visible segment, although there are yellow marginal patches to which they might break through. In this form the femora are pale luteous brown, or even clear yellow. It is very probable that a number of descriptions of species of *Syrphus* in which the characters given appear inadequate for purposes of identification, are based on specimens of this very variable species.

34 ♂♂, 22 ♀♀. S. ARGENTINA : Bariloche, L. Gutierrez, L.

¹ Pending a decision of the International Committee as to the correct genotype of *Syrphus*, the name is employed here in the usually accepted sense, with type *ribesii*, Linn.

Nahuel Huapi (Puerto Blest); Rio Gallegos. S. CHILE: Llanquihue, Casa Pangué; Concepcion, Angol; Tierra del Fuego, Rio Grande.

Also recorded from Coquimbo, Valdivia and Santiago.

[*Syrphus similis*, Blanchard.]

1852. *Syrphus similis*, Blanchard in Gay, Hist. Chile, Zool., 7: 410.

1927. *Syrphus reedi*, Shannon, Proc. U.S. Nat. Mus., 70, 9: 27.

Abdomen with at least two unbroken transverse yellow bands.

There are six males and four females in Bigot's collection. The species has been fully described by one of us (R. C. S.) under the name *S. reedi*, and its affinities with *S. ribesii*, L., are there discussed. It remains only to note that the frons in both sexes is thinly covered by glistening golden tomentum.

Recorded from Santa Rosa, Valparaiso, Santiago, Cautin, La Ligua and La Serena, all in Chile.

FAZIA, Shannon.

1927. *Fazia*, Shannon, Proc. U.S. Nat. Mus., 70, 9: 25.

This genus is similar in general appearance to *Syrphus*, but is characterized by the forwardly projecting face, and consequent elongation of the oral opening. It is at present known only from South Chile and South Argentina; the genotype is *F. bullaephora*, Snn.

Fazia bullaephora, Shannon. ^{tubercle at height}
^{of face, rounded}

1927. *Fazia bullaephora*, Shannon, Proc. U.S. Nat. Mus., 70, 9: 25.

Pleurae and margin of mesonotum with yellow markings; third segment of antenna reddish beneath; lower part of face projecting less than in *F. macquarti*, Blanch., and yellow abdominal spots rounder.

5 ♂♂, 1 ♀. CHILE: Concepcion and Angol. ARGENTINA: Terr. Rio Negro.

Fazia macquarti (Blanchard). ^{tubercle at middle}
^{of face, not up}

1852. *Syrphus macquarti*, Blanchard in Gay, Hist. Chile, Zool., 7: 411.

1868. *Syrphus macquarti*, Schiner, Reise der Novara: 354.

1927. *Fazia australis*, Shannon, Proc. U.S. Nat. Mus., 70, 9: 26.

Pleurae and mesonotum without definite yellow markings; third segment of antenna entirely black.

The specimens in Bigot's collection above the label *S. macquarti* agree perfectly with those in the present collection, and also with Blanchard's description. Schiner amplifies this description and suggests that the species is closely related to *Syrphus umbellatarum*, F.; the resemblance, however, lies merely in the appearance of the abdominal pattern; it is improbable that close relatives of *S. umbellatarum*, F., occur in South America.

1 ♂, 7 ♀♀. S. CHILE: Casa Pangué, Castro, Peulla, Ensenada, Condes.

Also recorded from La Serena, Valdivia, Valparaíso, Aconcagua and Río Blanco in Chile, and from Mendoza in Argentina.

SCAEVA, Fabricius.¹

1805. *Scaeva*, Fabricius, Syst. Antl.: 248.

1844. *Lasiophthicus*, Rondani, N. Ann. Sci. Nat. Bologna (2), 2: 459.

1877. *Catabomba*, Osten-Sacken, Bull. U.S. Geol. Surv., 3: 326.

A small genus, occurring, with the exception of the Australian region, all over the world. It is characterized by the swollen frons and face, and glassy wings which are devoid of microscopic hairs (microtrichia) on the membrane. The abdominal pattern is not invariably lunulate, and it is possible that certain species of *Syrphus* should be transferred to this genus.

KEY TO SPECIES.

1. Face and legs entirely yellow.....*flavipes*, sp. n.
At least the facial tubercle and hind femora darkened.....2.
2. Sides of face pale-haired.....3.
Sides of face with numerous dark and pale hairs intermixed; lateral margins of epistome more or less infuscated.....4.
3. Jowls and lateral margins of epistome yellow; abdominal spots narrow and lunulate.....[*pyrastris*, L.]
Abdominal spots larger and more rotund.....[*occidentalis*, Snn.]
4. Lunules on second visible segment reduced to two small spots
punctata, sp. n.
Lunules on second visible abdominal segment as fully developed as the remaining two pairs.....*melanostoma*, Macq.

Scaeva flavipes, sp. n. = *fallax* *Bis.* *

A fly with abdominal markings of the *Syrphus* type, hyaline non-villous wings, and dilated clear yellow face.

♂. Length, 11 mm.; wing, 8 mm.

Head: Eyes bare, contiguous for a short space; ocellar triangle black, bearing a mixture of soft dark and pale hairs; frons slightly swollen, yellowish-aeneous above, shining near base of antennae, covered with tomentum and pale hair along eye-margins; face, epistome and jowls clear yellow, face blown out laterally, with bands of silver tomentum along eye-margins; first and second antennal segments dark brown to black, third segment reddish-brown, paler underneath; palpi yellow.

Thorax shining green, thickly covered with upstanding light brown hair, rather paler on pleurae than on dorsum; scutellum orange-yellow, yellow-haired.

Abdomen black, with large yellow lunules (Text-fig. 22, b) on

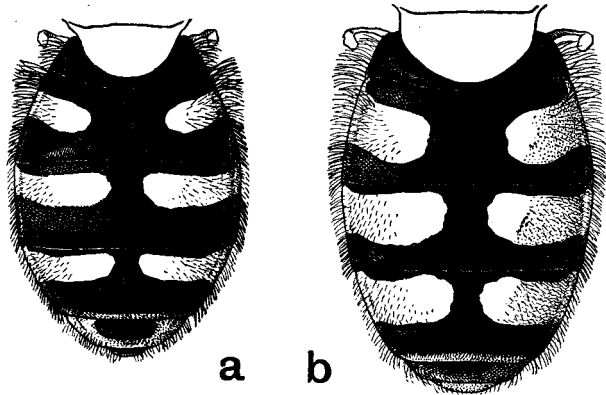
¹ This genus has usually been known as *Catabomba* or *Lasiophthicus*, but there appears to be no reason for disputing Curtis' designation of *pyrastris*, Linn., as the genotype of *Scaeva*, and Fabricius' name must therefore take precedence over the other two.

* This fly is a true *Syrphus* of the *reticulatus* group; with *melanostoma*. (23. 7. 20)

second, third and fourth visible segments (posterior pair of lunules darkened in both specimens, but outlines can be traced), posterior margin of fifth segment dark orange; hairs pale on yellow markings, elsewhere black; venter yellow, pale-haired, darkened posteriorly; male hypopygium inconspicuous.

Wings hyaline; squama white, lower lobe with long pale fringe; halteres yellow.

Legs clear yellow; coxae and trochanters brown.



TEXT-FIG. 22.—*Scaeva flavipes*, sp. n. Abdomen of ♂ (b), and ♀? (a).

Two males of this species are to be found in Bigot's collection, over the label "*flavipes*, Chili," but the description of the species does not appear to have been published. A specimen from Bariloche with the abdomen patterned as in Text-fig. 22, a, may well be the female of this species. The distance between the eyes at the vertex is about two-thirds the width of one eye, the frons shining black except above the bases of the antennae, with a faint transverse band of tomentum which extends down the eye-margins.

Scaeva punctata, sp. n.

A blackish-looking insect with the yellow abdominal markings much reduced in size.

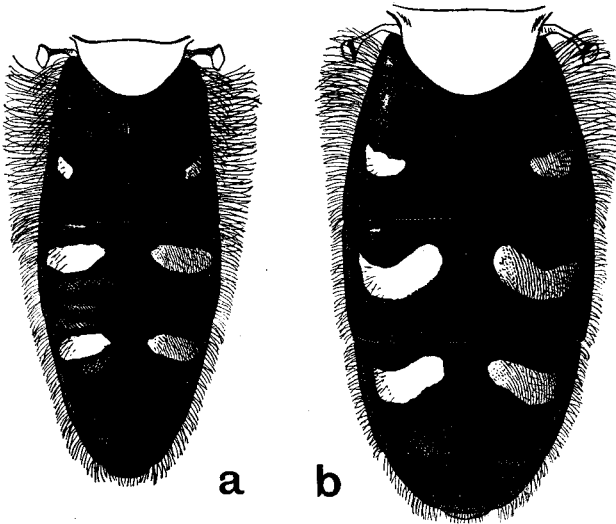
♂. ♀ Length, 11 mm. Wing, 9 mm.

Head: Eyes holoptic, covered with short pale hair; ocellar triangle shining black; frons luteous, dark at eye-margins and above insertion of antennae, dark-haired; face testaceous covered with a mixture of dark and pale hairs, central knob and epistome rather diffusely darkened; post-ocular region with a fringe of white hairs, some fine black hairs intermixed at vertex; antennae black.

* — in one of the types of Bigot's *S. flavipes*, the label "*flavipes*" being merely a label in error. *Text-fig. 22, a, b.*

Thorax shining aeneous, with a distinct greenish tinge, covered with long upstanding white hair; scutellum rather more purple-brown than green, also sparsely covered with long white hair.

Abdomen (Text-fig. 23, *a*) shining black, with dull black patches in certain lights; first pair of lunules reduced to two small yellow spots lying towards lateral margins, second and third pair rather small, not markedly concave on anterior margins; fourth segment very narrowly yellow-margined posteriorly; venter brownish-black; whole abdomen covered with long white hairs, thickest on lateral margins of second segment; a few short, rather decum-



TEXT-FIG. 23.—Abdomen of *Scaeva punctata*, sp. n. ♂ (*a*) and *S. melanostoma* (Macq.) ♂ (*b*).

bent black hairs on posterior dorsal margins of fourth and fifth segments.

Wings hyaline; squama white with long white fringe.

Legs brown, tarsi and bases of femora rather darker; femora with thin fringes of long white hairs on postero-dorsal surface.

Holotype, ♂, Bariloche (*R. & E. Shannon*), U.S. Nat. Mus.

[*Scaeva occidentalis*, Shannon.]

1927. *Scaeva occidentalis*, Shannon, Proc. U.S. Nat. Mus., 70, 9 : 29.

♀. Length, 13 mm.; wing, 10 mm.

Female.—Closely allied to *melanostoma*, but differs in having the front and face narrower; facial pile entirely pale; scutellum entirely yellowish;

hind femur less extensively black, almost half of the apical half yellowish; tarsi more yellowish; the yellow abdominal spots distinctly larger and less arcuate, the black separating the spots in each pair narrower than the length of (front to back) the spots (in *melanostoma* the black separating the spots much broader than the length of the spots)."

"This species can hardly be that described as *melanostoma* by Macquart, as the yellow abdominal spots are distinctly larger and more rotund than in *pyrastris*" (Shannon).

Type locality, Santiago.

Macquart recorded *S. pyrastris*, Linn., from Chile, and Porter has recorded it from Lampa and La Serena in Chile, and Mendoza in Argentina; it is unrepresented in the present collection, and it is possible that Macquart's and Porter's records were based on misidentifications; the species recorded may be *S. occidentalis*, Snn.

Scaeva melanostoma (Macquart).

1842. *Syrphus melanostomus*, Macquart, Dipt. Exot., 2, pt. 2: 87.

This is the common species of *Scaeva* in southern South America. Four of the specimens are quite typical, with the anterior margins of the second pair of lunules markedly concave (see Text-fig. 23, b), but two females have the anterior margins of the second pair of lunules straight, and much nearer the anterior margin of the segment than in the typical specimens.

1 ♂, 5 ♀♀. CHILE: Concepcion; Condes; Coquimbo. ARGENTINA: Bariloche; Chubut Terr.

Also recorded from Valdivia, Santiago, Valparaiso and Maipu in Chile, and Mendoza in Argentina.

Scaeva, sp. indet.

A single, badly preserved specimen in the British Museum, taken at Chubut, Patagonia, is very similar to *C. melanostoma*, Macq., but larger. The abdomen is rather broader than the thorax, and the lunules are parallel-sided and concave in front. This specimen probably represents a new species, but we prefer to wait for further specimens before describing it.

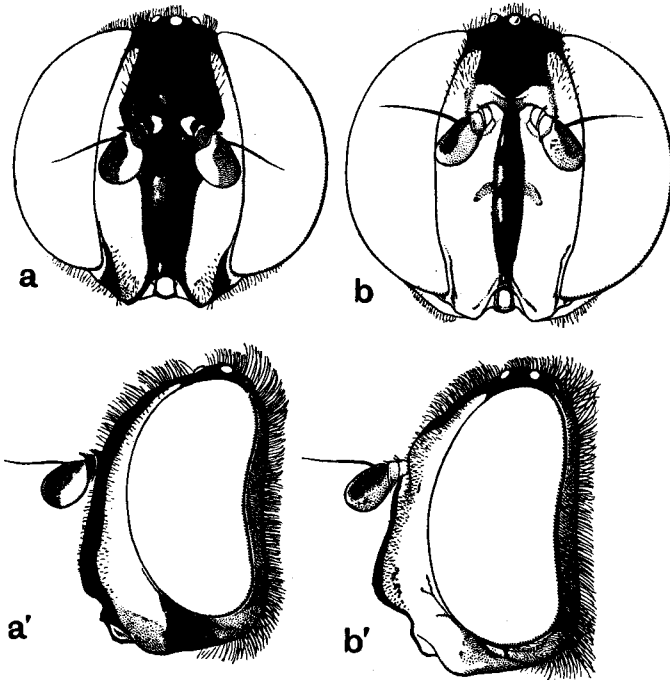
ALLOGRAPTA, Osten-Sacken.

1876. *Allograpta* Osten-Sacken, Bull. Buffalo Soc. Nat. Hist., 3: 49.

A small genus, restricted to North and South America; it is characterized by the yellow markings on the pleurae and almost parallel sides to the face. In certain species there are peculiar longitudinal yellow markings on the fourth and fifth abdominal segments, but they are not of universal occurrence and cannot be regarded as diagnostic of the genus.

KEY TO SPECIES.

1. Fourth and fifth abdominal segments with paired longitudinal yellow lines between the spots.....[*exotica* (Wied.)]
Fourth and fifth abdominal segments without longitudinal yellow stripes.....2.
2. Legs dark brown; black frontal stripe in ♀ surrounding bases of antennae and broadly continuous with facial stripe.....*hortensis* (Phil.).
Legs mainly yellow; tarsi brown, hind femora with a brown fleck distally, hind tibiae brown distally and brown-flecked near base; in ♀ frontal black stripe constricted anteriorly; only continuous with facial stripe between bases of antennae.....*pulchra*, Snn.



TEXT-FIG. 24.—Head, from in front and in profile, of *Allograpta hortensis*, Phil. ♀ (a, a') and *A. pulchra*, Snn. ♀ (b, b').

***Allograpta hortensis* (Philippi).**

1865. *Syrphus hortensis*, Philippi, Verh. zool.-bot. Ges. Wien, 15: 746.

(Text-fig. 24, a, a'; Text-fig. 25, a.)

22 ♂♂, 40 ♀♀. S. CHILE: Casa Pangué. S. ARGENTINA: Bariloche, L. Gutierrez, L. Nahuel Huapi (Eastern End), L. Correntoso.

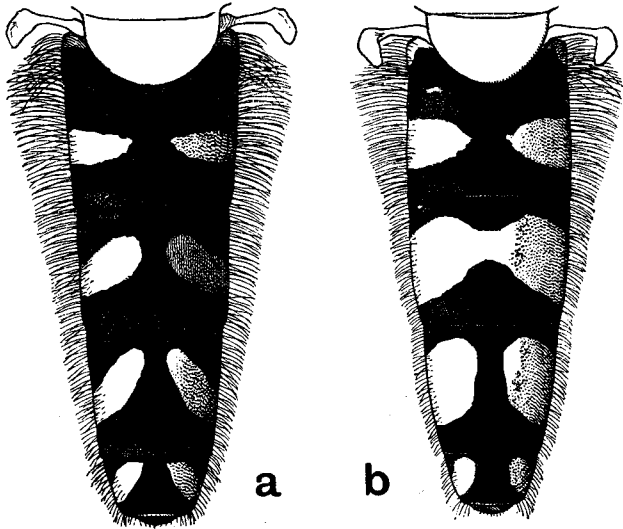
Also recorded from Santiago and Valparaiso in Chile, and Mendoza in Argentina.

***Allograpta pulchra*, Shannon.**

1927. *Allograpta pulchra*, Shannon, Proc. U.S. Nat. Mus., 70, 9 : 25.

(Text-fig. 24, b, b'; Text-fig. 25, b.)

5 ♂♂, 10 ♀♀. CHILE : Puerto Montt, Angol, Concepcion, Los Andes, Llai Llai, Santiago.



TEXT-FIG. 25.—Abdomen of *Allograpta hortensis*, Phil. ♂ (a), and *A. pulchra*, Snn. ♂ (b).

MELANOSTOMA, Schiner.

1860. *Melanostoma*, Schiner, Wien. Entom. Monatschr., 4 : 213.

A large genus, with representatives all over the world. The species have black faces and the abdominal markings are often bluish instead of yellow. The three commonest and most widely-spread species, *M. mellinum*, L., *M. scalare*, F., and *M. stegnum*, Say, have been recorded from South America, but are not represented in the present collection, and may not occur so far south.

KEY TO SPECIES.

- 1. Legs entirely reddish-brown.....[*chalconotum* (Phil).]
- At least the hind legs dark brown.....2.
- 2. Abdomen with orange spots, slightly dusted with silver tomentum; antennæ black; face uniformly covered with grey tomentum
edwardsi, sp. n.

These species are really Platygasteria rather than Melanostoma
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- Spots on abdomen bluish in appearance (sometimes slightly orange),
 tomentum covering face thinly in such a way as to give it a punctate
 appearance.....3.
 3. Oral opening three times as long as broad.....*fenestratum* (Macq.).
 Oral opening twice as long as broad.....*reynoldsi*, sp. n.

[*Melanostoma chalconotum* (Philippi).]

1865. *Syrphus chalconotus*, Philippi, Verh. zool.-bot. Ges. Wien, 15 : 747.

There are six specimens above the label "*chalconota*" in Bigot's collection: two females (locality uncertain) agree well with Philippi's description, three specimens labelled Mexico belong to another species, and the remaining specimen is unlabelled and belongs to yet a third species.

M. chalconota, Phil., has the spotted, protuberant face characteristic of *M. fenestrata* (Macq.), but the abdominal spots are almost clear yellow and the legs uniformly pale brown. The species is unrepresented in the present collection, but has been recorded from Santiago.

Melanostoma edwardsi, sp. n.

A fly with yellow abdominal markings, brown legs and greyish thorax; face thickly covered with grey tomentum.

♂. Length, 10 mm.; wing, 8 mm.

Head: Eyes bare, contiguous for a short space; ocellar triangle, frons and face black, latter evenly covered with grey tomentum and bearing a sparse covering of pale and dark hairs; face in profile tuberculate, not markedly protuberant opening of epistome being about twice as long as broad; antennae black.

Thorax shining aeneous, pale-haired, dorsum with two faint longitudinal stripes; humeri, post-alar calli and pleurae very thinly dusted with grey tomentum.

Abdomen black, second, third, fourth and fifth visible segments with paired yellow spots, thinly dusted with grey tomentum; venter testaceous.

Wings hyaline; squama white with pale fringe; halteres with dark brown knobs and rather paler stems.

Legs: front and middle legs reddish-brown, femora and tarsi darkened; hind legs dark brown, femora almost black in middle; hind metatarsi slightly swollen.

Holotype, ♂, Bariloche.

Melanostoma fenestratum (Macquart).^{*}

1842. *Syrphus fenestratus*, Macquart, Dipt. Exot., 2, pt. 2 : 103.

?1849. *Syrphus productus*, Macquart, Dipt. Exot., Suppl. 4 : 154.

?1888. *Melanostoma punctulatum*, van der Wulp, Tijds. v. Ent., 31 : 375.

This common and widely spread species is characterized by the punctate appearance of the face and the length of the opening of

K

^{*} Probably several species confound under this name (test 2.20.)