

BOMBYLIIDAE FROM CHILE AND WESTERN
ARGENTINE
(PART II)

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This paper concludes the account of new and interesting Bombyllidae in the British Museum from this region, begun by Dr. F. W. Edwards in an earlier number of this Journal (Año XL, 1936, pp. 31 - 41). I am indebted to Dr. Edwards for offering me the privilege of undertaking this work, and for much helpful advice. I have also had the use of many of his notes, particularly those on Chilean species in Bigot's collection, now in the possession of Mr. J. E. Collin.

ANTHRACINAE

Anthrax minimaculatus, sp. nov.

Wing: hyaline, with numerous brown spots. These occur in the marginal cell, at the bases of R_2+3 , R_4 , and of the second and third posterior cells. A large spot on the anterior cross-vein spreads round base of the discal cell, and over the posterior cross-vein, and also extends to meet a spot lying over the base of the marginal cell and the middle of the first basal. Another spot in the base of the second basal cell reaches up to the stem of R. The depth of colour of the spots is somewhat variable. R_2+3 , and R_4 , bear long appendices at their bases.

Face and front: black, with yellow scales, and black and yellow hairs. Antennae: basal joint yellow, second red, third black, with a conspicuous pencil of hairs. Hairs on first two joints yellow below, black above. Occiput black with red hairs centrally, white hairs at eyemargins.

Thorax: dull black, with close, rather sparse, red hair, becoming yellowish and mixed with white towards sides, and in front of scutellum. Latter with red hairs. Chaetotactic bristles strong and black. Hypopleurae with bristly black hairs, rest of pleurae white haired, mesopleuron has some yellow above. Halteres brown, white-tipped.

Abdomen: ground-colour of first two segments sooty-black in front, with rather broad red margins. Other segments

with progressively less black, but the amount of black in the pattern of the integument varies. Vestiture, a mixture of white and reddish - brown hairs, former thickest in front half of segments. Rubbing produces black - or brown - spotting, due to integument showing through. Transverse row of long, but sparse, black hairs on each segment. Venter yellow, with white scales.

Legs: yellow, incrustated with white scales; coxae grey.

Length: 10 mm.

Type ♀ and 12 paratype ♀♀, La Rioja, Patquia (K. J. Hayward).

This species is easily distinguished from *oedipus* Fabr. by a much sparser spotting of the wing, and especially by the absence of a row of spots in the costal cell. *A. duodecimpunctatus* Phil. and *bellulus* Phil. are more closely similar, but are easily distinguished, the latter by its lateral tufts of long black scales on the abdomen, and the former by its striped thorax, as well as by lacking the spot in the marginal cell (cell R.).

EXOPROSOPINAE

Genus *Villa* (sensu lat.)

Considering only material from such a limited region, satisfactory subdivision of the genus *Villa* Lioy, sensu lat., is impossible. Restriction of *Villa* Lioy (sensu stricto) to forms with spined fore tibiae separates obviously related species like (*V.*) *albifacies* Rond. and (*Th.*) *vitripennis* Macq.; while there is a well defined group of small yellowhaired species, with very strongly projecting, conical face, and long and tapering antennae including forms standing in the British Museum as *Thyridanthrax fulvago* Phil., and *Th. corrigiolata* Rond. (with bare front tibiae), and *Villa villica* Phil. (with spined front tibiae). At the same time there are in the genus *Villa* as thus restricted two distinct groups, the clearwinged species, and those with half - infuscated wings. The close similarity of the species of the latter group to *Hemipenthes edwardsi* sp. nov. (*calulina* Edwards, Diptera of Patagonia, 1930) suggests that these should be grouped together, despite the presence of pulvilli in some cases and their absence in others.

Sub - genus *Hemipenthes*

Loew (1869) Berlin Entomol. Zeitsch. XIII, 28.

Paramonov (Konowia, Band XIII (1934) Heft 1, p. 28) has referred *Anthrax durvillei* Macq. to the genus *Hemipenthes*,

which is thus extended to include species without pulvilli, and Painter (Journ. Kansas Ent. Soc.) bases the genus on combinations of other characters than this. The four Chilean species *gayi* Macq. (*lemniscata* Phil.), *durvillei* Macq., *porteri* sp. nov. and *edwardsi* sp. nov., together with the Argentine species? *maldonadensis* Macq. are very similar in wing pattern; while seven males of an unnamed Argentinian species differ from *edwardsi* principally in the total absence of pulvilli. For the present, at least, these six species might well be considered together under the name *Hemipenthes*.

Villa (Hemipenthes)? maldonadensis

Macquart: (1849) Dipt. Exot. Suppl. 4, p. 107.
(*Exoprosopa*).

Eight specimens from La Rioja fitting Macquart's description. (All have three submarginal cells, but they are not true *Exoprosopa* as the claws are not toothed). Wing infuscation fills three quarters of first submarginal cell, one third of first posterior, two thirds of discal (leaving tip quite clear), one quarter of third posterior, about one third of fourth posterior, and all but tip of anal cell. There are no lighter flecks present, but the usual scar at the front angle of the basal cell. General appearance like *gayi* Macq., but easily distinguished by conspicuous bulge of black area of the wing into tip of marginal cell. *Length 6 - 10 mm.*

Villa (Hemipenthes) porteri, sp. nov.

Very like *H. durvillei* (Macq.) from which it is distinguished by the wing pattern. Dark area of wing less extensive, not reaching second submarginal, or second posterior cells, and no dark area at tip of discal cell as in *durvillei*. Flecks of lighter colour on cross veins present, but much less prominent.

Face: rounded, proboscis not protruding; black ground, with black hairs and yellow scales. Basal antennal joints reddish with black bristles. Base of third joint conical, style about twice length of base.

Thorax: black, brown dusted; close reddish hairs, especially in front; larger dark brown hairs anteriorly, merging into yellow collar; white lateral strip, and pleural hairs yellow and white. A number of long black hairs on metapleura. Propleural and metapleural tufts white. Bristles black or brown. Halteres brown, yellow head.

Abdomen: like thorax in ground colour. Segment 1 with conspicuous white band; band of close black scales apically on 2 and 3, basally on 5 and 6 and centrally on all segments. Rest of abdomen covered with mixed white and yellow scales. Sparse long black hairs more conspicuous apically. No side tufts except a yellowish one on segments 1-2. Pattern of abdomen therefore paired yellow bars on each segment, with no double line of spots as in *durvillei*.

Legs: yellow, white scales, black bristles. Hind femora somewhat darker. Fore tibiae spined. Pulvilli absent.

Length: 10 mm.

Type ♀ Santiago (F. and M. Edwards); ♂ Marga - Marga (Pirion), and 12 paratypes from Santiago and Llai - Llai (Edwards); Perales and Marga - Marga (Pirion); El Camelo and H. Las Mercedes (F. Ruiz).

In wing pattern this species somewhat resembles *gayi* Macq. and the N. American *catulina* Coq., but these are easily distinguished by their smaller size and black, white - banded, abdomen.

Hemipenthes durvillei (Macq.)

1840. -- *Anthrax durvillei* MACQ. Dipt. Exot. II 1. 65. tab. XIX.
 1868. --- *Anthrax concisa* SCHINER (nec Macq?) Reise der Novara, Dipt. p. 125.

By the courtesy of the Vienna Museum I have seen the specimen described by Schiner, and it is clearly conspecific with a series standing in the British Museum of *Hemipenthes durvillei* (Macq.).

Macquart used the name *A. concisa* twice, for species from Carolina and New Holland respectively, which Schiner presumed to be the same, each wrongly labelled as to locality. This was evidently an error, Schiner probably being misled by the wrong numbering of Macquart's figures, and by the similarity of his drawings for the two species *concisa* and *durvillei*.

Hemipenthes edwarsi, sp. nov.

Wing: black area fills costal cell and marginal as far as tip of costal, including one third of submarginal, and first posterior cells, and filling discal and fourth posterior cells as far as the posterior cross vein. Tip of anal cell clear. Clear area round anterior crossvein. Outer crossvein closing discal cell quite straight.

Face: vertical, proboscis short, not protruding. Face and

vertex covered with black hairs and yellow scales. Antennae mainly black, basal segments lighter inside and black haired. Third segment short and bulbous, with style.

Thorax: sooty, with sparse red hair, yellow collar and yellowish white side margins. Bristles black. Halteres nearly black, with black knob.

Abdomen: with black and yellow scales; yellow band on first segment, white band on fourth. Venter similar. Pair of small white tufts on seventh segment.

Legs: dull yellow, black and yellow scales and black spines; three pairs similarly coloured. Fore tibiae spined. Pulvilli present, nearly as long as claws.

Length: 4 - 8 mm.

Type ♀ Rofuco (F. Ruiz). 6 paratypes: Concepción (F. and M. Edwards); Rena Ca (Reed); Rofuco, H. Las Mercedes, Valle del Longuinay (F. Ruiz).

The two specimens from Concepcion were mentioned by Edwards (Diptera of Patagonia (1930) p. 175) under the name *catulina* Coq. It is possible to separate them from that species, as represented in this Museum, as follows: infuscation not reaching into third posterior cell, which is narrower and less truncated; only the base of fourth posterior cell is filled (cf. nearly half in *catulina*); halteres uniformly dark, not white-tipped; fore femora not noticeably darker than rest as in *catulina*.

Seven other specimens from La Rioja have practically identical wings, except for lack of the clear spot on anterior white-tipped; fore femora not noticeably darker than rest as in *catulina*.

Seven other specimens from La Rioja have practically identical wings, except for lack of the clear spot on anterior crossvein, but have no pulvilli.

Sub-genus THYRIDANTHRAX

Osten - Sacken (1886) Biologia Centrali Americana I p. 123.

Under Bezzi's definition of *Thyridanthrax*, which includes all species with unspined fore-tibiae we have several obviously heterogeneous groups in the Chilean fauna. *Th. hypoxantha* Macq. and its allies with fenestrate wings form a compact group, and it is possible that *H. durvillei* and *H. porteri* really belong here, although they have spined fore-tibiae and in facial and antennal structure are somewhat intermediate between the two groups. *Th. fulvago* and its allies have already

been mentioned, while *vitripennis* Phil., *balleata* Phil., and *detecta* Walk. are entirely clear-winged. In addition there are such species as *fulcipes* Rond., *semilugens* Phil., and *subandina* Phil. which show various degrees of infuscation or spotting.

From such a limited region not enough material is available to subdivide the group, and for the present they must be left under one name.

Villa (Thyridanthrax) una, sp. nov.

Wing: clear except for sub-costal cell, and clouded anterior and posterior crossveins.

Face: prominent, yellow scales, black hairs, latter becoming thicker towards vertex. Antennae black, basal joint with black hairs outside, yellow hairs inside. Third joint short conical, styliform tip. Occiput with deep yellow hairs and whitish scales. Proboscis just protruding.

Thorax: dark brown; reddish yellow covering of scales, with line of white along front of scutellum, laterally, and along front margin. Yellow hairs anteriorly and rather sparsely on pleurae, which are a brownish grey. Propleural tuft yellow. Halteres yellow, with brown and white tip.

Abdomen: dark brown, uniformly covered with yellow scales, except for the white band on first segment. Black hairs towards tip, and laterally. Venter dark.

Legs: reddish brown with yellow scales and black spines. Tarsi darker. No spines are visible on fore-tibiae.

Length: 6 mm.

Type ♀. Marga - Marga (A. Pirion).

This species somewhat resembles *pusio* Phil. and *ingloria* Phil., but lacks the brownish abdominal crossbands of the former, and is not white enough to fit Philippi's description of the latter.

Villa (Thyridanthrax) praeterita, sp. nov.

Wing: hyaline except for yellow costal cell, and slight darkening up to anterior cross vein and base of R. Faint infuscations on posterior crossvein, and on vein separating second basal and discal cells.

Face: black, with brown «bloom» and long and rather thick black hairs round mouth opening. Front similar, but with some yellow scales. Occiput black, black hairs, yellow scales.

Thorax: black, including scutellum, uniformly but rather sparsely covered with short yellow hairs. Bristles yellow,

collar and side hairs yellow. Pleurae black and rather bare. Pleural tufts all black below a line passing just below wing insertion, upper part of mesopleural and metapleural tufts yellow. Halteres yellow, white tip.

Abdomen: like thorax, and no banding, except for a line of more dense hairs along margin of first segment. Black hairs towards tip. Side tufts yellow. Venter black.

Legs: black, tibiae indistinctly yellowish. Front legs normal, tibiae with very tiny spicules.

Length: 5 mm.

Type ♂ Las Mercedes; Allotype ♀ Manqu. (F. Ruiz).

Villa (Th.) batteata Phil. is very similar, but can be distinguished by the whiter and on the first abdominal segment, the absence of black hairs towards the tip of the abdomen, and the light hairs on the lower pleura.

Villa (Thyridanthrax) detecta

Walker (1852) Ins. Saund. Dipt. I, p. 181.

The type of this species is unfortunately broken across the thorax, but as far as can be seen it is identical with specimens determined by Dr. Edwards as *bipenicillatus* Bigot, after comparison with the type. *Th. bipenicillatus* Bigot must therefore be placed as a synonym of *detecta*, which is added to the Chilean list. The type is from W. W. Saunder's collection, and is merely labelled «S. America».

***Villa miniata*, sp. nov.**

A large, reddish - yellow species.

Wings: yellow brown from base to a line cutting across bases of first submarginal and first, third and fourth posterior cells, to tip of anal cell, and filling about half discal cell. Translucent spot in upper corner of second basal cell. First posterior cell narrowed at tip.

Face: moderately protruding, red, with yellow hair down cheeks, and sparse, mainly black hair above. Antennae lower joints red with black hairs, last joint blackish. Third joint long, tapering, conical. Occiput black above, red on each side below. *Proboscis* apparently short and fleshy.

Thorax: deep black, including a strip along base of scutellum; rest of scutellum red. Covering of yellow hairs, and lateral hairs yellow, and reddish, with some black. Chaetotactic bristles mainly black, except in post alar region, where

they are conspicuous and yellow. Pleural hairs yellow, with a little white. Halteres yellow, white knobbed.

Abdomen: yellow at base, becoming redder towards tip. A median black stripe, made up of three broad triangles, and extending to tip of fourth segment. Hairs on first three segments almost all yellow, posteriorly black hairs predominate. Lateral tufts pale yellow on segments 1 - 3, black on the others.

Legs: femora red, tibiae yellow with white scales, ends of tarsi black. Fore tibiae with small spines.

Length: 11 mm.

Type ♂ La Rioja, Patquia (K. J. Hayward).

This species does not group easily with the Chilean forms but at present occupies a rather isolated position. Its venation suggests similarity with *Paranthrax* Bigot, but the long conical antennae and short proboscis isolate it from this group. The former character, together with the general colouration, suggest that the species should be referred to the sub-genus *Chrysanthrax* Osten-Sacken, but it has neither the smooth fore-tibiae nor «punctiform contact of the fourth posterior and discal cells» which are mentioned in the description of this group.

Villa verdensis, sp. nov.

Wings: mainly clear: the foremargin is yellow tinged, and a faint colour spreads backwards over first basal cell, fading out without definite boundary. Discal, second submarginal and all posterior cells are quite clear, but narrow brown areas follow course of stems of R_{4+5} , M_{1+2} , M_{3+4} , Cu, (to a little beyond crossvein) and posterior cross vein.

Face: rather prominent, with white scales, front yellowish towards vertex, and black hairs. Tip of face with conspicuous tuft of black hairs. Proboscis black and rather thick, hardly protruding. Antennae all black, with thick black hairs on two basal segments. Third joint short-conical, with styli-form part over twice length of base. Occiput white scaled, yellow at eye margins.

Thorax: dorsum including scutellum entirely black, with black scales and transverse band of yellow scales in front of scutellum. Front and side margins long yellow hairs, and yellow bristles. Pleurae mixed white and yellow hairs, underside of thorax whitehaired. Halteres yellow, white tipped.

Abdomen: black, with scales mainly black, some yellow. Segments 2 and 4 with anterior white band, 3 with thin yellow one, apical segment white scales. Laterally yellow and white

tuft in front, followed by tufts concolorous with segments. Pair of white apical tufts. Venter largely white.

Legs: all black, with black bristles, but heavily coated with white scales. Coxae grey, white hairs, brown bristles. Anterior tibiae with a few small spines.

Length: 14 mm.

Type ♀ and 1 ♀ paratype, L. Verde (E. P. Reed).

This species is allied to the group including *albifacies* Rond., *argentiflua* Phil., and *vitripennis* Phil., but can be distinguished by its larger size, and greater infuscation of wing. *V. albifacies* is nearest, but has a reddish scutellum.

***Villa albissima*, sp. nov.**

Wing: clear, infuscated along costal border, in first basal cell and on anterior and posterior crossveins, and root of R_{2+3} . Latter with right angle bend and long appendix. Faint cloud on base of R_4 . A number of tiny stumps appear round discal cell.

Face: almost vertical. Thick covering of long white scales, with white, pale yellow and black hairs. Vertex brown, black hairs, and few scattered scales, mainly yellow. Antennae, black with black hairs on first two joints. Third joint short and blubous, with styliform tip. Proboscis short and fleshy. Occiput greyish brown integument, with white scales, especially thick at eye margins.

Thorax: brown; white hairs along sides of scutum and across front of scutellum, and some trace of white scales along middle line. Rest mainly yellow scales, with a black patch towards each side. Chaetotactic bristles black. Collar hairs yellow. Pleurae white haired, except propleura and mesopleura which are patchy yellow. Halteres brown.

Abdomen: same ground colour as thorax, white bands on 2, 4, 6, 7; last two with silvery white bases, laterally. Rest mixed yellow and black scales. Lateral tufts on segments 1 and 2 yellow in front, white behind. Other tufts concolorous with segments. Sparse long black hairs, especially laterally and apically. Venter mixed yellow and white, with black hairs.

Legs: yellow, femora darker outside, especially last pair, which is greyish apically. Tarsi darker. Scales white; spines black, prominent on front tibiae.

Length: 9 mm.

Type ♀ and 1 ♀ paratype Lo Aguirre and Santiago (Ruiz).

This species is closely allied to *quadricincta* Rond., which shows some sexual dimorphism, the females having the facial hairs, and the lateral bands on the thorax, whiter than the males. It should be noted that *A. quadricinctus* Phil. (1865) is probably a distinct species: cf. the descriptions: *Rondani* «luteopilosa, abd. pilis in fascias transversas dispositis. . . . halteres lutescentes» (cf. Edw. (1930) «bands of yellow scales at bases of segments 2 - 5»). *Philippi* «. . . abd. 2, 4, 6, 7, basi albo - fasciatus. . . . Die Swinger sind ebenfalls schwarzlich. . . von der dunkleren Flecken, kaum eine Spur». *V. albissima* sp. nov. is therefore in good agreement with Philippi's description, but the wing - spots are much too distinct to be overlooked.

Genus *Diplocampta* Schiner.

***Diplocampta subsinuata*, sp. nov.**

Wing completely hyaline, except for subcostal cell. S bend of R_{2+3} somewhat less pronounced than in *singularis* Schiner; base of R_{2+3} with small appendix.

Face: greyish - brown, with white scales and yellow hairs, front with yellow scales becoming more numerous above antennae. Antennae grey - black, with black hairs basally, and white scales on inside of basal joint. Third joint short, conical, styliform tip. Black hairs at vertex, occiput well - rounded, with white scales. Proboscis short and concealed.

Thorax: blackish - brown, with thick covering of white scales at sides, and some yellow in middle of dorsum. Brown hairs. Collar hairs pale yellow. Scutellum with yellow scales. Chaetotactic bristles brown or black. Pleurae grey, with yellowish hairs and scattered white scales. Halteres yellow, white - tipped.

Abdomen: brown, evenly covered with yellow scales, segments margined with white; conspicuous white band on first, together with lateral whitish tufts. Fourth mainly white. No prominent lateral tufts on other segments, but black hairs, especially towards tip of abdomen. Venter yellowish.

Legs: femora black, white scales; tibiae yellowish, tarsi darker. Anterior tibiae very thin and smooth.

Length: 6 mm.

Type ♀ and 2 ♀♀ paratypes Bio - Bio (F. Ruiz).

Distinguished from *singularis* Schiner and *secunda* Paramonov, by the less sinuous R_{2+3} and the hyaline wing, and by being generally whiter.

It is noteworthy that the six specimens in the British Museum

which fit Paramonov's description are all males, while the three specimens of *subsinnuata* are females. Since *secunda*, Paramonov, was described from a single male, it is possible that *subsinnuata* may prove to be no more than the female of *secunda*. In the meantime it is best to give it a separate name. Two headless specimens in the British Museum have wings very like *subsinnuata*, but bear traces of dark flecks on the base of R₄, the anterior crossvein, and the base of the third posterior cell.

A. conopas was described by Philippi as the only Chilean species known to him, which has the wings clear basally, and darkened towards the tip. It is possible that *Diplocampta singularis* Schiner or *secunda* Par. was the species in question as these are the only species of Chilean Anthracinae I know with this type of colouration.

