NEW ARGENTINE *LYOPHLAEBA* (DIPTERA: BOMBYLIIDAE)[1]

Jack C. Hall[2]

While going over several collections of beeflies for determination, the following undescribed species were discovered. They are being described at this time in order to have the names available for inclusion in the forthcoming section on Bombyliidae in the Catalog of Neotropical Diptera.

Lyophlaeba (Lyophlaeba) chorista, **NEW SPECIES**

This species runs to couplet 7 in Paramonov's (1948)[3] key to species. It differs from both *haywardi* (Edwards) and *transandina* (Edwards) by the entirely black scutellum, the series of white tomentose spots down the midline of the abdominal dorsum and by the somewhat paler wing markings.

From other species of *Lyophlaeba, chorista* may be separated by the divided first posterior cell, the very narrowly open anal cell, the hyaline base and apex of the anal cell; the white tomentose stripe in the middle and along the sides of the abdomen and the dark antennal segments.

Male.—Black, oral margin, tibiae, partially so, and venter of abdomen testaceous. Eyes separated by less than width of median ocellus, hair white to pale yellow, slightly darker medially. Antennae grayish pruinose; first segment nearly three times longer than second segment which is as wide as long, both with long pale yellow to white hair; a few black hairs also present on dorsum near apex; third segment nearly one and one-half times length of two basal segments combined, narrow, linear, rather evenly tapering from base to acuminate apex. Face white pilose. Proboscis projecting at least length of antennae beyond tip of antennae. Palpi brown with pale yellow hair. Occiput pale yellow pilose and tomentose, the hair short; cervical fringe yellow. Ground color of

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[3]Uebersicht der Bombyliiden-Gattung *Lyophlaeba* Rond., nebst einer Bestimmungstabelle. Rev. de Ent. 19(1-2):115-148.

mesonotum with three grayish longitudinal stripes; disc of mesonotum with short black hair which is a little longer towards scutellum, anterior half of mesonotum with longer and denser yellowish hair, hair on lateral margin between humeral callus and wing base white; tomentum long, hair-like predominately yellow, spot of black tomentum above post-alar callus, white tomentum overlying the three gray stripes in ground color, anteriorly this white tomentum becomes longer, denser and more hair-like, (dorsum of mesonotum is partially abraded but there are indications that the three white tomentose stripes begin at the anterior margin and run posteriorly to near base of post-alar callus, the midline is connected with the spot of white tomentum at the base of the scutellum) lateral margin between wing base and post-alar callus densely white tomentose; bristles pale yellow. Pleura white pilose and tomentose, pteropleura bare for the most part. Coxae white pilose and tomentose; a few pale hairs on fore femur, rest apilose; tomentum of shiny white scales on all femora, black scales on anterior side of all femora, bristles black; tibiae a dusky yellowish-brown with small pale scales, anterioventral surfaces of mid and hind tibiae with black scales, setulae hair-like, black; tarsi brown with black bristles, pulvilli well developed, nearly as long as claws. Halter stem and knob yellow the latter may be paler. Squama yellowish with fringe of long white hair. Scutellum black, black hair in middle, yellow hair at sides towards base, tomentum black, entire margin of scutellum yellow tomentose, white tomentose spot in middle at base and at sides at base; bristles pale yellow.

Extreme base of basicosta with yellow setulae, rest of basicosta with black setulae. Wing banded with pale brown color, hyaline portions at base, middle and tip chalky white; basal brown band reaches from costa through basal half of first basal cell, middle of second basal and anal cells leaving base and apex of both clear to a little beyond second anal vein; apical band of color extends from costal margin to posterior margin of wing, color does not extend basally beyond middle of discal cell or beyond tip of anal cell, apically color extends only slightly beyond a line drawn from tip of first posterior cell upward to anterior margin; sides in bend at end of radial vein not parallel; four submarginal cells; first posterior cell divided by an adventituous crossvein beyond apex of discal cell; first posterior cell open at wing margin about length of r-m crossvein; anal cell very narrowly open at wing margin; axillary cell a little wider than anal cell; alula only moderately developed.

Abdominal dorsum yellowish pilose, slightly paler towards base of abdomen, short black hair present on last three or four segments; tomentum black, that across posterior margin of first segment white, yellow tomentum on posterior margins of second to sixth segments, spots of white tomentum along midline from segment two to posterior margin of seventh segment, spots are not connected except on sixth and seventh segments, white tomentum along side of abdomen forming a lateral stripe which extends from second to seventh segments; lateral margin of abdomen pale yellow pilose, a few black hairs on third and following segments, amount of black increasing posteriorly; ninth tergite with a median shallow depression; venter of abdomen pale yellow to white pilose and white tomentose.

Female.—The only female specimen on hand is somewhat teneral and denuded but the following differences from the male can be made out: Eyes separated by twice width of ocellar tubercle; black hair on ocellar tubercle and in middle of front. First antennal segment tending towards rufous below. Legs a little paler (teneral?). Bristles surrounding ovipositor large and spatulate. Otherwise the female is very similar to the male.

Holotype male, allotype female and three paratypes collected at Mendoza, Mendoza Prov., Argentina, with no other data. All but two paratypes retained by the author are in the U. S. National Museum.

Lyophlaeba (Lyophlaeba) peridema, NEW SPECIES

Similar in many respects to the Chilean *L. consobrina* (Philippi). *L. peridema* is immediately separated from *consobrina* by the absence of the median longitudinal stripe on the abdomen, the more predominately white pilose mesonotum and the lighter and less extensive coloration in the wing.

Male.—Black, oral margin and posterior margins of ventral abdominal segments testaceous, legs dark ferruginous. Eyes separated by less than width of median ocellus; ocellar tubercle with black hair. Front with white hair, a few black hairs present in middle above. Antennae black, first two segments with black hair above, pale yellow to white below; first segment more than three times length of second; second segment a little wider than long; third segment linear rather evenly tapering from base to apex, as long as two basal segments together. Face white pilose. Proboscis reaching less than length of antennae beyond tip of antennae. Palpi with pale yellow hair. Occiput and cervical fringe with short yellowish hair. Mesonotum with short black hair, longer towards scutellum, hair anterior to wing bases dusky white, what little tomentum is present is short and pale yellow to white, a patch of dense white tomentum above root of wing, a small patch of whitish tomentum in middle of posterior margin; prealar bristles pale, post-alar bristles black. Pleura and coxae pale yellow to white pilose and tomentose; pteropleura bare. Femora with pale yellow to white bristle-like hair, tomentum shiny white, a few black scales towards the apices of the femora; bristles black; tibiae white tomentose with black bristles; pulvilli well developed, nearly as long as claws. Halter stem brown, knob yellowish. Squama whitish with fringe of white hair. Scutellum with black hair and tomentum, white hair and tomentum at sides and along posterior margin; bristles pale yellow.

Basicosta with black setulae. Wing infuscated with light brown, color interrupted along costal margin creating two bands of color; basal band short, not extending posteriorly beyond middle of second basal cell; apical band does not reach posterior margin; tip and middle of wing chalky white; with four submarginal cells; radial vein broadly recurved towards apex, sides of curve divergent; anal and axillary cells nearly equal in width; alula moderately developed; anal cell open in wing margin about length of r-m crossvein.

Abdominal dorsum whitish pilose, a few black hairs in middle of second, third and fourth segments, black hair increasing in extent posteriorly so that sixth and seventh segments entirely black haired; tomentum black, patch of white tomentum in middle of posterior margin of first segment and across posterior margins of rest of abdominal segments to the seventh, sides of segments two to seven with a patch of white tomentum which increases in amount posteriorly; lateral margin of abdomen whitish pilose, with black hair in middle of second segment, most of third and all of fourth and following segments; ninth tergite with a small median parallel sided notch. Abdominal venter white pilose and tomentose.

Female.—Like the male except eyes separated by twice width of ocellar tubercle; more black hair on front; black hair on mesonotum denser and longer especially towards anterior margin; white tomentum on first abdominal segments extends across the segment along posterior margin; otherwise as described for the male.

Holotype, allotype and two paratypes collected at Zapala, Neuquen Province, Argentina, XII-19-22-46 (Hayward and Willin). Holotype and allotype in U. S. National Museum, both paratypes in author's collection.

Lyophlaeba (Lyophlaeba) hypoxantha, NEW SPECIES

The pale wing markings, black scutellum, short pulvilli, short proboscis and banded abdomen without a median longitudinal stripe or series of spots should serve to separate *hypoxantha* from the congeners. In general habitus it appears to be not too far removed from *koslowskyi* (Edwards), *landbecki* (Philippi) or *pallipennis* Paramonov.

Male.—Black; front, face flavo-cinereous, basal half of first antennal segment testaceous-cinereous, palpi, legs except knees and tarsi, lateral margin of last four abdominal segments and venter of abdomen testaceous. Eyes separated by less than width of median ocellus; ocellar tubercle with black hair; front pale yellow to white pilose, median portion immediately above base of antennae bare. First antennal segment four times length of round second segment, both with short black hair above, longer and pale yellow to white below; third segment shorter than two basal segments combined, in lateral view widest near middle, apical portion beyond middle slightly tapering to acuminate apex. Face white pilose. Palpi with yellow hair. Proboscis short, barely exceeds tip of antennae. Lower half of occiput cinereous, upper half black, with pale yellow hair and tomentum; cervical fringe pale yellow. Mesonotum with short black hair, longer towards post-alar calli, buff colored hair anterior to wing bases, much more dense than black hair; when viewed from above sides of mesonotum show white hair, when viewed laterally hair appears buff colored, spot of whitish hair above wing base; tomentum yellow hair-like, thin, scattered; spot of whitish tomentum in middle of posterior margin; all thoracic bristles reddish. Pleura pale yellow to white pilose and tomentose. Coxae white pilose, fore and middle coxae with long yellow bristle-like hair; legs whitish pilose and tomentose, setulae and bristles black; pulvilli while developed are short and do not exceed half length of claws. Squama white with fringe of white to pale yellow hair. Halter stem testaceous, knob whitish. Scutellum in some lights shows two faint reddish spots, these normally are not visible; hair and tomentum yellowish, bristles reddish.

Basicosta entirely covered with black setulae. Wing lightly infuscated with brown, color along anterior margin not interrupted and as a consequence wings not banded. color extends in marginal cell to apex of subcosta, along vein R_5 to branch of R_4, color is expanded around r-m crossvein forming a broadly connected spot of brown, most of first basal cell infuscated, spot of color at base of third posterior cell, color margining veins at base of wing to discal cell somewhat diffused into surrounding cells, anal and axillary cells except extreme base, hyaline; tip, middle and base partially chalky white, rest of wing hyaline; vein R_1 broadly recurved, sides of curve subparallel; first posterior cell open at least length of r-m crossvein at wing margin; axillary cell a little wider than anal cell; alula moderately developed, entirely brown.

Abdominal dorsum pale yellow to whitish pilose, a few black hairs present on sixth and following segments, amount increases posteriorly; tomentum black, whitish tomentum across posterior margins of segments one to seven and along sides forming broad lateral stripes; side of abdomen with at most only a few black hairs towards apex, at least none anterior to sixth segment; venter whitish pilose and tomentose. Small median notch in middle of posterior margin of ninth tergite.

Female.—Shows a considerable amount of variation from the male, especially in the amount of black hair present and in the darker and more extensive wing coloring. Eyes separated by less than twice width of ocellar tubercle; front above with a few black hairs.

Buff colored pile on anterior half of mesonotum not as long or as dense as in male; mesonotal tomentum shiny yellow, dense; yellow tomentose spot in middle of posterior margin. Scutellum with black hair, yellow tomentum becoming whitish towards sides at base. Wing color dark brown, interrupted along anterior margin, color mainly along veins but broadly so, does not reach posterior margin; brown color extends beyond apex of subcosta in marginal cell, beyond base of vein R_4 along vein R_5, along veins bordering second, third and fourth posterior cells; first and second basal cells nearly entirely infuscated, spot of color in apical fourth of anal cell. Black hair on abdomen more prevalent, present on both dorsum and along lateral margin from fourth segment to apex; pale tomentum across posterior margins of abdominal segments more yellowish. Female otherwise as described for male.

While the variation expressed in any one sex is slight there is a considerable amount of dimorphism between the two sexes. The females tend to be much darker colored than the males and the wing is much darker and more extensively patterned in the female.

Holotype male and allotype female from Rio Colorado, Rio Negro, Argentina II-15-20-46. Both deposited in U. S. National Museum.

Twenty-four paratypes, topotypic, same data as types, deposited in U. S. National Museum and author's collection.

Lyophlaeba (Lyophlaeba) melanothrix, NEW SPECIES

This species is unlike any of the congeners in that it is about one-fourth the size of a "normal" sized *Lyophlaeba.* The specimens on hand do not exceed 8 mm in length. The sexes exhibit considerable dimorphism mainly in that the male is predominately black haired and has 7-8 faintly colored spots in the wing while the female is predominately pale haired with 10-11 darker colored spots in the wing.

The distinguishing characteristics may be found in the shining black integument, spotted wings, short proboscis, absence of pale colored tomentum on the abdomen in the male, predominate black hair in the male and the small size.

Male.—Shiny black, knob of halter pale, pleura and legs brownish-black. Eyes separated at narrowest point by half width of ocellar tubercle. Front black haired, bare in middle immediately above antennae. First antennal segment five times length of second segment; second segment twice as wide as long, both segments with black hair above and below; third segment one and one-half times length of two basal segments combined, at broadest point as wide as width of first segment, broadest before middle then tapering to a narrowed but not acuminate apex. Face with black hair. Proboscis short, not extending beyond middle of third antennal segment. Palpi with black hair. Hair on occiput and cervical fringe black. Mesonotum with long black hair, pale yellow hair mixed in on anterior half; tomentum hair-like, scattered, yellow, a rather loose patch of yellow tomentum in middle of posterior margin; bristles black. Hair on pleura black,, pale yellow patch of hair on anterior portion of mesopleuron. Pile and tomentum on coxae and legs black; bristles black; pulvilli well developed, nearly as long as claws. Squama pale with fringe of pale yellow hair. Scutellum black pilose, pale yellow tomentose, the tomentum long, hair-like, confined to apical half of scutellum, base of scutellum devoid of tomentum; bristles black.

Basicosta with black setulae. Wings hyaline with 7-8 faint spots of color located as follows: one at base of radial vein extending into first basal cell, in middle of vein R_{2+3} above r-m crossvein, on r-m crossvein, on vein at base of fourth submarginal cell, at base of discal cell, on posterior crossvein and in middle of second basal cell; in some lights

extremely faint spots may be seen at bases of second and third posterior cells; bend at apex of radial vein narrow, sides diverging; four submarginal cells, knee of vein R_4 at base of fourth submarginal cell with a long appendage; first posterior cell broadly open in wing margin as is anal cell; axillary cell much narrower than anal cell; alula at most only slightly developed.

Abdomen black pilose and tomentose, tomentum along midline reflects a yellowish cast in some lights, tomentum forming an obscure median longitudinal stripe, a few scattered pale yellow short hairs along sides, not easily discernible nor forming any pattern; lateral margin entirely black pilose; venter black pilose; posterior margin of ninth tergite with a narrow, rounded depression; dististyli of genitalia long and narrow, prominent.

Female.—Quite different from the male. Eyes at narrowest point separated only slightly more than width of ocellar tubercle. Front yellow haired, a few black hairs on ocellar tubercle. Third antennal segment narrow, linear, parallel sided until near tip. Face whitish to pale yellow pilose. Occiput and cervical fringe with yellow hair. Mesonotum yellow pilose and tomentose; bristles yellow. Pleura with pale yellow to white hair. Fore and mid coxae with black hair, hind coxae with pale yellow hair. Scutellum yellow pilose, pale yellow tomentose; bristles yellow.

Wing hyaline with 10-11 darkly colored spots, spots of color on all crossveins and in middle of marginal, first submarginal and second basal cells.

Abdominal dorsum yellow haired, black hair present on fifth and following segments; tomentum whitish, forming a broad median longitudinal stripe from middle of second segment to apex of abdomen, posterior margins of all segments broadly whitish tomentose, basal half of second segment black tomentose, paired black tomentose spots, either side of midline on segments three to seven; sides whitish tomentose; lateral margin of abdomen with yellow hair, black hair present from fourth segment to apex, increasing in amount posteriorly. Venter pale yellow haired on basal half, black haired on apical half, tomentum overall whitish. Female otherwise as described for male.

Holotype male and allotype female together with one paratype male from 19.5 km. E. Shaman, Chubut Province, Argentina, 650 m., XI-19-66 (E. I. Schlinger, M. E. Irwin). All three specimens in author's collection.

Lyophlaeba (Lyophlaeba) amegiston, NEW SPECIES

Not unlike *holoxantha* in habitus, *L. amegiston* differs from *holoxantha* and other similar species (*consobrina* (Philippi) by the black hair along the side of the abdomen from the second segment to the apex, the absence of the median longitudinal stripe on the abdomen and by the lack of dimorphism in the wing coloring and pattern between the sexes.

This is a small species, 10 mm or less, with banded wings, black legs, predominately white pile and a short proboscis.

Male.—Black, at most tibiae may be brownish, knob of halter white. Eyes separated by less than width of median ocellus. Ocellar tubercle with black hair. Front white pilose, black hair in a narrow line down middle. First antennal segment three times longer than second segment; second segment a little wider than long, both with short black hair above, longer white hair below, apex of first segment with a tuft of black hair below; third antennal segment about equal in length to first segment, somewhat lanceolate, tip acuminate. Face white pilose. Proboscis not reaching beyond middle of third

antennal segment. Palpi with white hair. Occiput with pale yellow hair, becoming darker above; cervical fringe white. Mesonotum with short black hair, longer posteriorly, anterior portion in front of wing base white pilose with long black hair mixed in especially across anterior margin, sides of mesonotum white haired with scattered black hair in front of pre-alar bristles; tomentum white, short, hair-like, scattered; prealar bristles yellow, post-alar bristles black. Pleura white pilose. Coxae white pilose. Femora with mixed black and pale hair; tomentum white, black scales on anterior surface; tibiae white tomentose, scattered black scales on anterior surface of hind tibia; pulvilli well developed, nearly as long as claws. Squama pale with fringe of white hair. Halter stem testaceous, knob white. Scutellum black haired, tomentum black, white along posterior margin and at base; bristles yellow.

Basicosta with black setulae. Wing hyaline and brown, color forming a short basal band and an incomplete apical band, color does not reach hind margin of wing, anal and axillary cells pure hyaline, upper portion of second basal cell brown, lower portion hyaline, apex of wing chalky; bend at end of radial vein broad, sides diverging; base of fourth submarginal cell without a stump of a vein; first posterior cell broadly open in wing margin; and cell narrowly open in wing margin; anal and axillary cells of nearly equal width; alula moderately developed.

Abdominal dorsum predominately white pilose, black hair in middle of second segment then increasing in amount posteriorly so that last three segments nearly entirely black haired; tomentum black, white tomentum across posterior margins of segments two to seven, not dense, and at lateral apical corners of these same segments; side of first segment and base of second white pilose, rest of lateral margin to fifth segment mixed black and white pilose, apical segments entirely black haired; venter with white hair and tomentum; ninth tergite with a small median notch on posterior margin.

Female.—Eyes separated only slightly more than width of ocellar tubercle. Upper half of front with black hair and pale yellowish to white tomentum. Tomentum on mesonotum pale yellow, not forming a definite pattern. Female other than the more dense tomentum on the abdomen does not differ appreciably from the description of the male.

Holotype male and allotype female from 2.4 km. S. Fitz Roy, Santa Cruz Province, Argentina, 210 m. XII-12-66 (M. E. Irwin, E. I. Schlinger). Both in author's collection.

Paratypes.—Twenty-six topotypic, same data as types. Three from 2 km. S. Caleta Olivia, Santa Cruz Province, Argentina, 10 m. XII-12-67 (E. I. Schlinger, M. E. Irwin), in coastal dunes. Three from 3 km. N. Puerto Lobos, Chubut Province, Argentina, 20 m. XII-14-66 (E. I. Schlinger, M. E. Irwin) dunes.

NEW ARGENTINE *LYOPHLAEBA* (DIPTERA: BOMBYLIIDAE)

ABSTRACT.—Five new species of *Lyophlaeba* from Argentina are described, namely *chorista, peridema, hypoxantha, melanothrix* and *amegiston.* Each is compared and differences pointed out with congeners. Distribution for each new species is given.—Jack C. Hall, Division of Biological Control, University of California, Riverside CA 92502

Descriptors: Diptera; Bombyliidae; *Lyophlaeba,* new species: *chorista, peridema, hypoxantha, melanothrix,* and *amegiston;* Argentina.

The Entomologist's Record

To encourage the publication of concise and useful new distribution records, corrections of previously published erroneous records, misidentifications, short field notes, and current news items about entomologists, amateur and professional, entomology departments and museums, prompt (monthly) publication is offered in this department.

THE ABILITY OF A SPITTING SPIDER, *SCYTODES HEBRAICA*, TO CAPTURE FLYING PREY[1]

Scytodes hebraica (Scytodidae) was common on the walls both inside and outside a house on the outskirts of Cali, Colombia (el. 1000 m, 4° N) in an area classified by Espinal (1968) as dry tropical forest. The spiders were inactive during the day, crouching in cracks and corners, but at night they came out on the walls. Spiders were generally immobile at night, resting facing down just off the surface of a wall on a very sparse mesh of threads.

The spiders captured prey by spitting on them as do other *Scytodes* (e.g. Bristowe 1958), but differed from those described in that they could apparently "shoot down" flying insects as well as capture those walking or entangled in webs. On several occasions I saw a *S. hebraica* capture an insect which flew near or collided with a spider. A small experiment showed that the spiders probably detect and react to flying prey rather than simply waiting passively for collisions. Covering my mouth and nose with my hand (to avoid blowing on the spider), I hummed loudly (approximately middle C) near a series of ten spiders. Some cringed or moved away as if disturbed, but several responded by immediately lifting their legs I or pawing the air rapidly for a moment with legs I and (?) II; and one responded by immediately spitting onto one of its front legs, then cleaning the sticky material off in its mouth. This suggests that the spiders respond to the sound of flying prey by attempting to touch them with their legs, and then spitting to cause them to stick to their legs.

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Hall, Jack Clayton. 1973. "New Argentine Lyophlaeba Diptera Bombyliidae." *Entomological news* 84, 149–156.

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