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LIX.—*Studies upon Diptera in the British Museum.*
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SEVERAL years ago the author was privileged to study an accumulation of undescribed Syrphid flies in the British Museum of Natural History. This paper presents the descriptions of miscellaneous species; the types are in the British Museum of Natural History. I wish to extend my thanks to the staff of the Museum for courtesies shown me.

Epistrophe hirsutifera, sp. n.

A species with yellowish face and inflated, yellowish front, the abdomen narrow, with three pairs of yellow spots; related to *hudsoni* Miller, the eyes, however, are holoptic. Length, 12mm.

MALE.—*Head*: Vertex shining black, rather protuberant, with thick, black pile which becomes pale yellow behind upon the occiput. The eyes are large, the upper facets enlarged. There is a rounded, notch-like incision upon the posterior eye margin situated below the middle of the eyes. The posterior margin of the eyes then gradually encroaches upon the occiput above until the occiput is completely hidden in profile. The margin of the occiput is very densely bluish to greyish-white pollinose, completely obscuring the ground colour and with many thick rows of silvery pile; extreme lower occiput behind the cheeks brownish-yellow. The cheeks appear to be divided by a deep crease, the continuation

of the subfacial eye-marginal crease on both sides of the crease the cheeks are deep brown diffusely fading into light yellow both anteriorly and posteriorly. The face is pale yellow and shining transversely striate, the stria more or less subcircular but microscopic and not apparent. Down the middle of the face the colour is pale brown, diffusely merging with the yellow of the sides; the facial tubercle is large but low and nasiform. The pile of the face is rather abundant along the sides and long and black, continuing up along the sides of the front. Front concolorous with the face, obscurely dark brown in the middle, becoming blackish along the diffuse lunule above each antennæ. Immediately above each antennæ there is a dorso-lateral, shining, light yellow lunulate area. Antennæ short, the first two segments and the diagonal basiventral half of the third segment reddish brown; remainder of third segment very dark brown; the third antennal segment is thickened and nearly orbicular in shape; arista missing. *Thorax*: Mesonotum polished metallic black with, on either side, a slender, scarcely apparent, shining, linear vitta of nearly the same colour. The notopleura become yellowish posteriorly where they are rather protuberant and thickly yellowish pollinose, the pollen fading out anteriorly, but the yellow area and their pollen continuing along the posterior margin of the upper third of the mesopleura; pleura otherwise metallic black with æneous reflections. The pile of the mesonotum and pleura is everywhere thick, long and pale yellowish to brownish white; the scutellum is opaque light brownish yellow and quite convex along the apical margin; the basal margin and the lateral corners more widely are metallic black. Pile of scutellum long, abundant, erect and entirely black. The ventral margin has a fringe of very long pile which is black except for one or two lateral hairs. *Abdomen*: Narrow with parallel sides and curled margins; jet black in colour, apparently largely opaque, but with prominent, brassy fascia along the post margin of second, third and fourth segments and brassy along the entire lateral margin and upon the whole of the first segment. Just past the middle of the first segment is an oblique yellowish spot, its inner ends a little more narrow; these spots are widely separated, and from above they appear to reach the lateral margin.

Third and fourth segments with a pair of similar spots, those upon the third segment lying more nearly along the middle of the segment, those upon the fourth segment beginning postero-laterally beyond the middle of the segment and extending diagonally forward to reach the anterior third of the segment. Fifth segment with sub-basal, narrow, yellow, diagonal, fasciate spot on either side. *Legs*: All of the femora rather light reddish brown, becoming light orange brown at the apex, their tibiæ on the first and middle pairs light orange brown with a mere suggestion of darker colour in the form of a diffuse annulus beyond the middle. Posterior tibiæ dark brown, becoming diffusely lighter on the basal third. The middle and anterior tarsi are dark brown above, rather light reddish below. Hind tarsi blackish with black dorsal pile and brassy pile below. Pile of the hind femora rather long and pale yellow with some short black setæ dorsally and laterally towards the apex. *Wings*: Very pale brownish hyaline, the stigma light brown, the vena spuria dark, the third vein with a curve, the sub-apical cross vein sigmoid, the lower corners of the first posterior and discal cells with long spurs, the end of the anal cell slightly attenuate, the alulæ long and rather well developed.

Holotype.—A male, Mt. Aurum, N.Z., 19.i.1921 (G. E. Hudson).

Paragus azurea, sp. n.

Very similar to *serratus* Fabricius but the mesonotum is shining bluish black without the prominent pair of yellowish-white vittate stripes of pollen which are characteristic of *serratus*, besides several other distinctions. Length 6.5 mm.

FEMALE.—*Head*: The front and vertex are shining bluish black; the sides of the front upon the lower two-thirds narrowly yellowish-white pollinose, but the middle of the front is without the V-shaped spot of pollen which lies on the upper part in *serratus* and without the two small, oval, diagonal spots of pollen which lie in front of the ocelli in that species. The face has a black stripe and the eyes have approximately three bands of opaque whitish pile, rather similar to *serratus* but more narrow. The antennæ are rather similar, the third segment perhaps

a little shorter. *Thorax*: The whole mesonotum and pleura are shining bluish black without pollen except for a minute, quite linear stripe occupying the medial half of the transverse suture. The pile is considerably longer than in the female of *serratus* and is erect and white in colour. The scutellum has the basal half black with the posterior half light yellow; the margin carries 13 prominent teeth which are scarcely, if any, shorter than in *serratus*. The scutellar pile, however, is long, erect and white like that of the mesonotum. *Abdomen*: In general similar to *serratus* in which the abdomen is said to be highly variable. In *azurea* the first segment is widely brownish orange in the middle, the sides and the anterior collar-like knob shining black; the second segment is also light brownish red or orange except upon the lateral fourth on the basal half. The black colour upon the sides proceeds more narrowly down the entire lateral margin to the apical corner of the segment. The reddish central colour widens on the posterior half of the segment, becomes more yellowish and almost reaches the posterior corner. There is a small triangle of blackish colour in the middle of the segment a short distance from the posterior margin. The basal third of the third segment represents a widening continuation of the reddish-yellow colour on the second segment. The remainder of this segment is shining black. The fourth segment has a slender, slightly arcuate, reddish band on the basal third covered with yellowish-white pollen. It is more narrow than in *serratus* and it is widely interrupted in the middle. Fifth segment with a semi-circle of similar pollen, rather narrow, the ground colour black in front, sepia brown behind and likewise interrupted in the middle. The posterior margin of the reddish-brown spot which occupies most of the second and third segments is yellowish-white pollinose. *Legs*: Similar to *serratus*; hind femora dark reddish brown along the basal two-thirds, pale yellow on the apical fifth. Hind tibiae yellowish at the base, light reddish brown apically, a little darker in the middle. Hind basitarsi reddish brown with light reddish pile. *Wings*: Similar to the female of *serratus*; the first posterior cell is a little more elongate.

Holotype.—A female, Sokotra, 2500 ft., 3.i.1899 (W. R. O. Grant)

Paragus nigrocœrulea, sp. n.

A shining blue-black species with the first two segments of the abdomen black and the third and fourth light orange or red. Related to *tibialis* Fallén with which it has been compared. The front is much wider and there is a complete lack of the brassy or greenish reflections present in *tibialis* and some differences in the punctuation and arrangement of creases upon the abdomen. Length 6 mm.

FEMALE.—*Head*: Front and vertex shining black, white pilose and considerably wider than in *tibialis*. Sides of the face yellowish white, the middle and the cheeks and epistomal margin with a prominent shining black stripe. The face is a little narrower across the epistoma than it is above. In profile it is rather similar to *tibialis*, produced a little more forward below. The first and second segments of the antennæ are wholly black, the third segment is elongate, subcylindrical, apically pointed and except for a small reddish basal spot on the medial surface it is entirely brownish black. The arista is dark brown. Eyes thickly short, white pilose, without bands. *Thorax*: The mesonotum and scutellum and pleura are shining black with a distinct bluish reflection, especially upon the sides and pleura. The pile is fine, abundant, erect and white. *Abdomen*: Elongate oval, the first two segments shining black with bluish reflections upon the sides and in the middle of the third segment there is a wide, semi-circular, flattened, deeply punctate area. The third segment is almost entirely light brownish orange; it is also subtranslucent, but this may be a defect of preservation. It is thickly but quite minutely punctured, its pile entirely erect and whitish. The posterior corners of this segment are shining bluish black, the sides emarginate. Fourth segment with a basal fascia orange brown occupying the transverse crease and the region before it but not sharply marked off from the shining black upon the posterior part of the segment. The middle of the segment bears a large, somewhat rounded, shining reddish brown spot connected with the basal fascia and to the posterior margin of the segment which in the middle is also reddish brown. Last segment entirely metallic blackish and here somewhat brassy. All of the abdominal segments are emarginate with crease; all of the abdominal pile nearly

white. *Legs*: The basal third of the anterior and middle femora shining black, the middle third orange, the remainder pale yellow. The basal third of the anterior tibiæ, the basal half of the middle tibiæ pale yellow, the remainder of their tibiæ and their tarsi orange; the pile is light shining yellow; more than the basal half of the hind femora is blackish, becoming dark brown, then reddish and the apex pale yellow. Basal two-fifths of the tibiæ pale yellow; remainder of the tibiæ and tarsi orange, all of the pile pale. *Wings*: Hyaline, the pterostigma pale yellow.

Holotype.—A female. South West Africa, December 1929 (*R. E. Turner*).

Paragus punctatus, sp. n.

An entirely black species, the face narrowly yellow upon the sides and quite widely black in the middle. Related to *tibialis* Fallén, the face is more widely black and the second, third and fourth segments are widely appressed black setate in the middle. There is considerable difference in the punctuation and a complete lack of a brassy or greenish black reflection characteristic of *tibialis*. Length 6 mm.

FEMALE.—*Head*: The front and vertex are shining black, the former with a faint bluish reflection; the pile of the vertex and upper part of the front is black and the lower part of the front white with a few black hairs just above the antennæ. The post ocellar pile is very pale yellow, becoming quite white along the lower part of the occiput. Eyes with rather abundant, fine, white pile, but with no bands. The face is widely shining black with long, appressed abundant, whitish pile. It is narrowly yellowish white on the upper half, but more widely yellowish on the sides below. The epistomal margin and cheeks are shining black with a thin band of whitish pubescence along the ventral portion of the eye margin as in *tibialis*. The antennæ are elongate, the first two segments quite black, the third segment likewise jet black, with whitish sheen and with a minute, obscure reddish spot at the base of the ventral surface. Apex rather pointed. The third segment appears more narrow, but possibly is somewhat shrunken. The short bare arista is black. *Thorax*: Mesonotum and scutellum shining

black with a distinct bluish reflection upon the sides of the mesonotum, especially upon the notopleura and to some extent upon the shining black pleura. Mesopleura and upper sternopleura quite long, whitish pilose and with some faint, pale pubescence or pollen. Pile of mesonotum and scutellum fine, erect and white. *Abdomen* : Elongate, the sides of the first two segments parallel, the third and fourth segments somewhat wider and widest at the end of the third segment. The abdomen is entirely brownish black and shining. The pile upon the sides yellowish white, but widely appressed, thickly black pilose over the middle of the second, third and fourth segments ; these segments, however, are narrowly erect, white pilose along their basal margins. Fifth segment with subappressed, longer yellowish pile ; pile of the sixth segment sparse but rather long and black. *Legs* : Basal third of anterior and middle femora very dark reddish brown ; their apices are pale yellow and the remainder orange brown. The hind femora is dark shining brown upon all except the apical fifth or sixth which is pale yellow. The anterior and middle tibiæ are pale yellowish basally, a very little more reddish distally, the posterior tibiæ yellowish at base, yellowish brown on the apical fifth and reddish brown in the middle. The hind tarsi are light reddish brown, their ventral pile deep golden, their upper pile brassy ; anterior four tarsi yellow. *Wings* : Hyaline, the pterostigma distinctly light brownish yellow ; the alula appears to be a little longer and a little more slender than in *tibialis*.

Holotype.—A female. Swellendam, Cape Province, Nov. 1933 (*R. E. Turner*).

Bacca brunnea, sp. n.

A large species with the anterior border of the wing and a large central triangle dark brown, a pair of yellow spots on the third segment of the abdomen and the remainder of the abdomen of a bright violet black colour upon the dorsal surface. Related to *refulgens* Austen. Length 15 mm.

MALE.—*Head* : The vertex is dull black with a single row of blackish hairs. The front is shining bluish black with a shallow depression across the middle and with long, erect, white pile upon the sides ; the face is wholly

bluish black with abundant, short, white pile which is longer on each side of the antennæ. The tubercle is large, long and low. The first two segments of the antennæ are brown, the third brownish orange, the arista light brown. *Thorax*: Shining brownish black upon which there is a slight brownish reflection becoming faintly coppery along the sides but greenish in the middle of the notopleura, the pile is suberect, dark brown across the middle, yellowish anteriorly and posteriorly and with long, brownish yellow pile on the lower part of the notopleura. The entire notopleura and a stripe down the middle of the pleura is light brownish yellow pollinose; beneath this pollen on the mesopleura the ground colour is reddish, the pleural pile brownish yellow. Squamæ with fringe and border deep brownish yellow; halteres dark brown. The scutellum is convex, very polished and shining, the basal half dark brown, almost black, shading gradually into the more yellowish brown apical portions. The discal pile is quite long, sparse and yellowish, the ventral fringe consists of many, very long, fine yellowish hairs. *Abdomen*: Elongate and slightly spatulate, the first segment is entirely brownish black with a greenish reflection, the second segment is subcylindrical, seven or eight times as long as wide, black in colour with a greenish reflection at the immediate base and all of the remainder bright violet in reflection viewed from above, but the entire lateral margin is blue-green, the third segment expands rather rapidly, but gradually; its apex is about two and a half times as wide as its base and it is about three-fourths the length of the second segment. A short distance from the end of the third segment there is a pair of oblique, light brownish yellow, leaf-shaped spots which may narrowly touch or be completely fused across the midline. The spots point towards the apical corners of the segment but are well separated from all margins. Fourth segment about as long as wide, about as wide posteriorly as anteriorly and entirely purplish black and shining. Fifth segment similar but quite short. Hypopygium greenish black, the pile of the first and second segments is long and abundant, especially upon the sides, and yellowish white but becomes a little more reddish brown towards the apex of the second segment. There is some subappressed, blackish pile in the middle of

the second segment on the posterior half. Pile of the remainder of the abdomen quite flat appressed and black except for a few long, erect, yellowish hairs on either side of the third segment close to the base. *Legs*: The four anterior legs are entirely light yellowish brown, the hind femora is light brown, slightly but diffusely darker near the apex, their tibiæ are quite dark sepia on all except the basal two-fifths which is more yellowish. Hind basitarsi dark brown, becoming light brown close to the apex, the remaining segments light brown. The hind basitarsi appears to be perhaps longer than usual. *Wings*: With much dark brown as follows: the entire anterior border of the wings, basally including both basal cells, apically including the marginal cell and the apex of the sub-marginal cell and narrowly the lower side of the second vein as well as a large central triangle reaching to the posterior border of the wing across the end of the anal cell. End of anal cell attenuate. The third vein is without any dip but the apical portion is slightly drawn down with the costa at the apex of the wing.

Holotype.—A male, Soekaboemi, Java, v. 1926 (*E. Le Moult*). Two paratype males with the same data.

I have carefully checked this species against the descriptions of the numerous species by Walker, de Meijere, Doleshall and others but I fail to identify it with any species known to me.

Baccha vittiger, sp. n.

A brownish-yellow species, the wide abdomen with six continuous, blackish vittæ, apical half of wings hyaline, the base yellow, the middle with a brownish band. Related to *anera* Curran. Length 11 mm.

FEMALE.—*Head*: The vertex is raised, the ocellarium convex and opaque black, the black vertical pile while not concentrated in the middle is confined to several rows. The posterior part of the vertex is yellowish brown pollinose. The front is light yellowish brown or ochraceous with a wide, metallic black, anteriorly expanded and pointed vitta in the middle which, however, does not reach to the shining, swollen, subtranslucent preantennal area of the front. The preantennal area is sharply set off by a crease; the antennal callus is large, round and black. Face and cheeks entirely shining yellowish,

largely subtranslucent, chiefly black pilose and with a narrow band of yellowish white pubescence along the eye margins; the tubercle well developed. The antennæ are entirely brownish orange; the arista is yellow on the basal half, blackish apically; antennal pile black. Occiput yellow pubescent with long, simple, golden hairs composed of a single row above, three rows in the middle. The middle of the eye margins is not indented on the sides although the occiput there is slightly wider. *Thorax*: Widely metallic greenish or olivaceous brown through the middle with four prominent, opaque blackish vittæ, the outer pair widely interrupted at the suture and margined with yellow or golden pollen. Sides of the mesonotum, the scutellum and the entire pleura light brownish yellow or brownish orange. Mesonotal pile short, erect and blackish but longer and golden upon the sides and the notopleura and short and erect and abundant upon the scutellum. The base of the scutellum is paler yellow when viewed laterally, the ventral fringe consists of about 15 long reddish brown hairs. Squamæ and fringe and halteres light orange brown. Pleural pile wholly reddish golden. *Abdomen*: The abdomen is wide and elongate yet rather constricted at the base of the second segment which is less than two-thirds the width of the second segment at its apex. First segment light brownish yellow, narrowly light brown and shining on the posterior margin and with thick, long, black pile upon the sides. The second segment has a subapical, medially widened and medially interrupted, slightly oblique, brownish fascia, which near the midline sends forward two slender, narrowly separated vittæ. These vittæ do not, however, extend much beyond the middle of the segment. The remainder of the segment is yellowish or light orange brown; third, fourth and fifth segments brownish yellow with six continuous sepia brown vittæ. These vittæ include a stripe upon each lateral margin and a pair of narrowly separated medial stripes and in the intervening area on each side an additional stripe slightly wider than any of the others. Sides of fourth and fifth segments slightly emarginate, more pronounced upon the fifth. The pile of the second and fifth segment blackish, especially abundant along the lateral margins. The end of the fourth segment is but

little less wide than the end of the second segment; the greatest width of the first segment is but little less wide than the end of the second segment. *Legs*: First four legs, the posterior coxæ, trochanters, the basal third of the hind femora and their apex and the whole of the hind tarsi light orange yellow with golden pile. The hind femora have a wide, smoky brown, subapical band which is sepia brown pilose; the whole of the hind tibiæ also light brown and sepia pilose. The colour of these tibiæ, however, is made to seem darker by the dark pile. *Wings*: Pterostigma pale yellowish brown, the remainder of the apical half beyond the small cross vein hyaline, the small cross vein, however, brownish on both sides and on the basal side connected with a central, wedge-like or subtriangular central brown spot which extends widely on both sides of the cubital vein to the apex of this vein. Basal fourth of the wing and the whole of the costal cell yellowish. Third vein strongly curved backward on its basal half and forward on its outer half.

Holotype.—A female. Dark Forest, Moraballi Creek, Essequibo River, British Guiana, 6.xi.1929, Oxford University Expedition. Figured in illustrations 245, 384, in *Baccha* Studies by Hull, Entomologica Americana, vol. 27, nos. 3 and 4 (1949).

Baccha pictula, sp. n.

A reddish-brown species with light orange-brown fascia and vittæ. The sides of the abdomen nearly parallel, the wings tinged with brown throughout and the face yellow. Related to *cultrata* Austen, but with a different pattern. Length 11 mm.

MALE.—*Head*: Vertex black, golden-brown pollinose behind the ocelli, the pile black and placed in a single row. The front is light orange brown, nearly opaque except in front of the callus, which is round and shining black. Face and cheeks entirely yellow with white pile below and blackish hairs above; frontal pile black. The occiput is greyish-yellow pollinose, rather deeply incised laterally in the middle and obliterated by the eye above on the upper part. The occipital pile is golden, not scale-like, and in the middle of the eye margin with at least three rows which give way to a single row above and two rows below. The first, second and basal half of the third

antennal segments orange, the remainder brown; arista yellowish at the base, blackish outwardly. *Thorax*: Mesonotum widely blackish through the middle, the humeri, the lateral margins, post calli, scutellum and the whole of the pleura light brownish orange as well as the squamæ and halteres. The black central portion of the mesonotum is largely brassy with a pair of widely separated yellowish pollinose vittæ. The black areas are largely obscured by the preservation. The mesonotal pile is reddish yellow but erect and long and black and sparse upon the scutellum; scutellar fringe restricted to five or six long, slender black hairs. *Abdomen*: With nearly parallel sides, the third and fourth segments scarcely wider than the second. The first segment is entirely reddish brown with the sides yellowish, the second segment is broadly reddish brown upon a little more than the basal third and similarly coloured posteriorly. There is left in the middle a wide, slightly arched, complete yellow fascia which is light orange. Upon the third segment the arrangement is similar except that the central, brownish orange fascia is wider, its posterior margin not concave and there is a pair of narrow, orange, marginal spots that become attenuated laterally and do not reach the sides and which are narrowly separated in the middle of the segment. The fourth segment has a pair of wide orange vittæ narrowly separated, indented sub-basally by a dark-brown triangle and beyond this triangle the yellow vitta sends a slender, diagonal, yellow, arm-like projection almost to the lateral margin. The large paired vittæ curve outward posteriorly upon their medial surface and do not quite reach the posterior margin of the segment. Fifth segment with four orange-brown vittæ, each lateral pair basally united. The pile of the abdomen is black with a few reddish-brown hairs anteriorly upon the sides of the first segment. *Legs*: Light brownish yellow, the hind femora appear to be without an apical brown annulus. There is only the merest suggestion of such a band when they are viewed obliquely. Pile of hind femora and tibiæ reddish golden and similarly coloured throughout on the legs. Hind tarsi wholly light yellow and golden pilose. *Wings*: Light yellowish brown, the pterostigma and the marginal cell slightly darker.

Holotype.—A male. Wallaba Forest, Moraballi Creek, Essequibo River, British Guiana, 23.ix.1929, Oxford University Expedition. Figured in illustration 235 in *Baccha* Studies by Hull, *Entomologica Americana*, vol. 27, nos. 3 and 4 (1949).

Cheilosia bombylioides, sp. n.

A large species with thick, reddish pile in the middle of the abdomen. Related to *versicolor* Curran. There is a large rounded area of black pile on each side of the third segment besides other differences in the wing, the pile and the face. Length 13.5 mm.

FEMALE.—*Head*: Face bluntly obconical, the tubercle large the sides thickly covered with yellowish to reddish pubescence, but without pile except on the very wide facial strips where the pile is reddish golden and very long. The strips also are brownish yellow pubescent. The front and vertex are quite wide, micropunctate on a semi-circle along the eye margins, microgranulate in the middle with an impressed medial line on the lower half of the front. The occipital pile is shining yellow to reddish. Frontal and vertical pile thick and long and red; there are three or four long black hairs between the ocelli; the antennal callus is orange. The first two segments of the antennæ and the basal portion of the third segment below are reddish brown; remainder of third segment dark brown with yellowish brown pollen and numerous, minute, elongate, slit-like pores on the medial surface; arista black, thick pubescent, without pile. Eyes densely long black pilose. *Thorax*: Pile of the mesonotum chiefly reddish orange in the middle but widely black behind the suture above the wing as far as the anterior margin of the postcalli; outer pile of postcalli yellowish white, the pile along its inner margin and in front of the scutellum orange. The notopleural pile is pale yellow, the notopleura, mesopleura, sternopleura and pteropleura thickly pale yellowish grey pollinose with long yellowish-white pile which is also quite thick. There are eight or ten slender, black hairs on the mesopleura widely interspersed among the pale ones. The scutellum is shining blackish; most of the pile on the disc is long, erect and black, the pile on the sides near the base

narrowly all around the margin and the copious ventral fringe reddish orange ; in the fringe, however, are four or five black hairs on each side and the ventral fringe is quite long. The squamæ are brown, with brownish golden fringes. *Abdomen* : Black, the first segment and the basal half of the second more or less olive-brown pollinose ; the pile of the first segment and the whole of the second segment, except for a tuft in the posterior corner, is bright reddish orange, thick, quite long, broadly appressed and flat lying through the middle and the pile becomes a little more yellowish and still longer along the sides of the second segment ; it is almost white in the anterior corners. The third segment has the reddish pile continued widely through the middle, the lateral margins of the segment have a large, round spot of long, thick, erect black pile occupying the whole length of the segment. Pile of the fourth and fifth segments is entirely long and pale brownish yellow. *Legs* : Femora black, the apices narrowly brown ; the pile of the hind femora laterally and ventrally is black but with a ventral, lateral fringe of about eighteen, quite long, pale yellow hairs which are restricted to the basal two-thirds. The anterior and middle tibiæ are light brown, obscurely darker in the middle ; the hind tibiæ are dark brown ; all of the tarsi are dark brown ; dorsal pile of the tarsi black. *Wings* : Greyish hyaline ; middle of wing in front of the fourth vein distinctly but diffusely brownish ; pterostigma light brown. The apical cross vein joins the third vein at a right angle quite remote from the wing apex.

Holotype.—A female. Adung Valley, North Burma, 1931, collected by Lord Cranbrook.

Cheilosia antipoda, sp. n.

A small black species with prominent face and tubercle and orange fasciate abdomen. Distinct in pattern from other described New Zealand species. Wings with a brown cloud. Length 7 mm.

FEMALE.—*Head* : The vertex is shining black with brassy reflections between the ocelli and both front and vertex quite wide. The front is black, with a shining reddish to brassy reflection with sparse, long, black pile

on the upper half and shorter yellowish white pile below. There are minute granulations where each hair arises. Pile of the vertex black ; of the occiput yellowish white ; the eyes appear to be quite bare. The face is much produced forward upon the lower half with a prominent tubercle which is rounded apically and directed somewhat upward. Its line of axis is oblique ; however, it makes a right angle with the upper portion of the face below the antennæ. The face is black and shining with a strong reddish to brassy reflection and with numerous microscopic, diagonal striations along the sides. Pile of face sparse, short and white. There is a very little yellowish-grey pubescence beneath the antennæ and a narrow, linear band of the same along the eye margin joining the occiput below and extending up along the lower third of the front. The antennæ are short, the pits quite widely separated by nearly the length of the first two segments. First antennal segment black, the second reddish brown, and almost black ; the third is deep brownish red, the dorsal margin narrowly blackish ; the arista is black, quite short, much thickened on the basal half. *Thorax* : The mesonotum is moderately shining black with rather strong reddish reflection which in some lights appears faintly as four vittæ, the sublateral ones brighter and more distinct. The pleura similarly are black with bronze reflections ; pile of the pleura and mesonotum short and white and sparse and microgranulate ; it is considerably longer on the notopleura and upper mesopleura. The scutellum is polished black with reddish or purplish luster ; its pile erect, mostly blackish and microscopically short as well as sparse ; upon the margin the ventral fringe is microscopically short and golden ; the squamæ are white with pale-yellow borders and fringes ; halteres dark brown. *Abdomen* : Widely oval, considerably wider than the thorax, the first segment shining black, brassy laterally, the second is shining black with a faint suggestion of two narrow, orange-brown vittæ in the middle. Since the middle lateral margins are obscurely reddish it may be that this segment is sometimes red fasciate. Third segment shining black with anterior half light orange brown, this orange fascia over most of its width is separated from the

margin by a narrow, basal, polished, brownish black band and is divided medially by an anterior extension from the posterior black fascia. Fourth segment similar in every respect, the medial vitta considerably more narrow, the posteromedial corners of the orange spots rounded. Fifth segment similar except that there is no basal, linear, black margin and the divided orange fascia on each side has a convex posterior margin. The pile of the abdomen is microscopically short and appressed, pale yellowish on the first and second segments and on the remaining segments yellowish on the orange area and black upon the black portions. *Legs*: The femora and tibiae are rather light brown, perhaps slightly reddish brown. All of the tibiae bear near the middle, obscure diffuse bands of slightly darker brown. All of the tarsi are very dark brown, the anterior tarsi somewhat enlarged. The pile of all of the femora and tibiae very short and appressed and golden. The hind basi-tarsi are thickened, the hind tibiae somewhat bent laterally, especially near the apex. *Wings*: With characteristic venation for the genus. The middle of the wing and the whole of the marginal and submarginal cell are slightly tinged with brown, the pterostigma yellowish brown; the last third of the subapical cross vein meets the third vein at a right angle. There are prominent spurs at the lower corners of the discal and the first posterior cell. The anterior cross vein is brown clouded and situated at the end of the first fifth of the length of the discal cell.

Holotype.—A female. L. Manapouri, New Zealand, 4000 ft. (*S. Lyndsay*).

Cheilosia milleri, sp. n.

A shining black species with strong purplish or reddish reflections about the face and front and the abdomen dark purplish brown or sepia. Related perhaps to *romana* Miller. Length 6.8 mm.

FEMALE.—*Head*: Vertex and front shining black with strong reddish or violet reflections, the pile exceptionally sparse, rather long and black with a few whitish hairs before the antennæ. There is a very shallow, arcuate, rather wide depression across the lower third of the

front and several striate, divergent grooves longitudinally directed away from the very low, inconspicuous antennæ callus. The face is shining reddish black with very strong tubercle directed somewhat upwardly. The sides of the face are prominently striate as in *Chrysogaster* : the face is nearly bare with only a little grey pubescence immediately beneath the antennæ and a few scattered white hairs. There is a short, linear patch of white pubescence along each eye on the lower third of the front. The face is considerably produced forward. The antennæ are short, the first two segments black, the third short oval and very dark brownish red ; the arista is sepia black. *Thorax* : Mesonotum shining black, the reddish reflection much more faint, but more prominent on the notopleura. The thorax is not vittate, the pile quite short, erect and yellowish to light reddish brown. The pleura are concolorous with the dorsum, very polished and almost wholly bare. There are a few yellowish hairs along the posterior margin of the mesopleura and again upon the upper sternopleura. Scutellum shining black, the margin with reddish reflections, not thinned or depressed but with a preapical, shallow impression on the surface of the disc. The pile is very sparse and pale. There is a microscopically short ventral fringe of whitish pubescence. Squamæ yellowish white with pale yellow borders and long yellow fringes, of which there is near the outer edge an especially long, fan-like extension of hairs, some of them bifurcate. Halteres dark brown, the stalks a little paler. *Abdomen* : Quite flattened, but the sides not emarginate, very narrowly curved, the disc microscopically transversely striate and shining reddish sepia ; the pile is quite appressed and yellowish in colour. *Legs* : The femora are very dark reddish brown and almost black, becoming light reddish brown diffusely near their apical sixth ; the hind pair is somewhat thickened. The pile of the femora is everywhere short and appears to be entirely light reddish brown. The tibiæ are light reddish brown, the anterior pair with a diffuse, dark brown annulus just past the middle, the middle pair with a similar but less conspicuous, incomplete annulus ; the hind pair is similar to the front pair, their pile light reddish. All of the tarsi are dark brownish black excepting that the basal half of the middle basitarsi and extreme base of the

front basitarsi are reddish. *Wings*: Hyaline, faintly tinged with dilute brown, the pterostigma dark brown, the first posterior and discal cells with long spurs, the spurious vein restricted to a faint fold, the anterior cross vein straight and situated at the end of the first third of the length of the discal cell, the subapical cross vein slightly sinuous, the anal vein very strongly and convexly bowed backward.

Holotype.—Female. Otira, New Zealand, December 1908 (*G. B. Hudson*).

I take pleasure in naming this species for Mr. David Miller, who has so enthusiastically studied the Syrphids of New Zealand.

Pipiza hirsutops, sp. n.

A very thickly pilose species with elongate, black antennæ; the dense pile of the much flattened abdomen yellowish and quite appressed. Wings with a brown cloud in the centre. Perhaps related to *belluda* Williston. Length 9 mm.

MALE.—*Head*: Vertex and front shining black; both with thick, long, black pile, the pile of the greyish white pollinose occiput, however, becomes long and whitish at the top of the occiput; behind the vertex and mixed with it are five or six black hairs. Eyes very densely long, light reddish brown pilose throughout, the upper anterior facets somewhat enlarged. Face quite wide with parallel sides, short and retreating with a very low, raised spot in the middle of the profile of the face, which is scarcely sufficient to be called a tubercle. From this raised area to the epistoma the face is very shallowly concave. The pile of face is very dense and long on both sides, including the cheeks, but narrowly excluding the middle of the face. The pile of the face is blackish with a few white hairs intermixed. Pile along epistoma and the cheeks black becoming white behind on the occiput. Eye margins linearly white pubescent, the pubescence, forming an almost semilunar spot near the upper part of the face and continuing linearly and inconspicuously up along the margin of the front. Antennæ quite elongate, all of the segments black. The first and second segments with abundant, rather long black pile, are nearly equal

in length, the third scarcely longer. The arista is light brownish yellow, microscopically pubescent for two-thirds of its length, a little thickened on the basal half. *Thorax* : Mesonotum, including scutellum black and a little shining, more so posteriorly, without vittæ, the pile long, thick, nearly erect and for the most part pale yellow. There are some quite long, fine black hairs on the notopleura above the wing, one or two upon the postcalli and a few still longer ones in front of the scutellum. The scutellar pile is pale, longer upon the margin, with a few black hairs on margin and disc ; there are no bristles. Pleural pile long and pale, becoming blackish on the posterior margin of the mesopleura and the upper part of the pteropleura. Squamæ pale brown, the margin a little darker, the long fringes yellowish, the halteres dark brown, the distal half of the stalks orange.

Abdomen : Elongate oval, at least as wide as the mesonotum and quite flattened ; the sides are emarginate, the colour black, rather shining, quite shining upon the entire fourth segment and with an æneous reflection. The pile is quite appressed and pale brassy yellow everywhere. On either side of the midline the pile appears to be directed posterolaterally, so much so that from a lateral view the pile may appear to be divided into half in some lights.

Legs : The femora are brownish black, only the extreme apices of the first two pair yellowish brown. The femoral pile is pale yellowish basally becoming blackish towards the apex ; the tibiæ are brownish black widely over the middle of the first two pairs, their extreme apex and narrow base diffusely reddish brown ; the whole hind tibiæ are blackish. All of the tarsi except the first two segments of the middle tarsi are blackish ; these other middle tarsal segments are rather light reddish brown, especially upon the third segment. The apex of the thickened hind basitarsi is narrowly light reddish ; upper hind tarsal and anterior basitarsal pile black, the pile of the middle basitarsi yellow and black intermixed. The hind femora are very strongly but gradually thickened, especially apically ; laterally near the apex is a strong, rounded, platelike protuberance bearing four or five micronodulate protuberances, the plate black pilose, but not spiniferous. There is a similar, not quite so extensive medial plate at the subapex, *Wings* : Pale-brownish

hyaline beyond the middle with a darker brown cloud in the centre. Anterior cross vein straight but oblique, lying slightly beyond the end of the basal third of the length of the discal cell. Subapical cross vein nearly straight, lower corners of discal and first posterior cell with long spurs, the stigma brown.

Holotype.—A male. Oaxaca, Mexico (58.135).

LX. *Neue Malacodermata aus der Sammlung des British Museum, London*. (2. Beitrag zur Kenntnis der *Malacodermata* Afrikas). Von W. WITTMER, Buenos Aires.

Cantharidæ.

AFRONYCHA, gen. nov.

Diese Gattung stelle ich auf für einige aus Südafrika beschriebene Cantharidæ, welche bisher alle in die Gattung *Cantharis* L. gestellt wurden. Mit der Gattung *Cantharis* haben die aus Südafrika beschriebenen Arten nicht das Geringste zu tun, fehlt ihnen doch das wichtigste Merkmal, die gespaltene oder mit einem Zahne versehene innere Klaue der Tarsen, im männlichen Geschlecht, welche vollständig einfach sind. Ein weiteres Merkmal, welches die Gattung von *Cantharis* entfernt, ist das bis auf den Grund gespaltene letzte Abdominaltergit, das in der Form, je nach der Art, stark variiert. Die einfachen Klauen erinnern an *Chauliognathus* Hentz, von welchem sie jedoch leicht zu trennen ist, durch das gespaltene letzte Abdominaltergit und das beilförmige letzte Kiefertasterglied, das bei *Chauliognathus* oval ist. In die Gattung *Afronycha* gehören mit Sicherheit vorläufig folgende Arten und wahrscheinlich auch die meisten anderen aus Südafrika beschriebenen *Cantharis*:

- Cantharis bivittata* F., Ent. Syst. Suppl., 1798, p. 69.
 „ *caffra* Boh., Ins. Caffr. I, ii. 1851, p. 451.
 „ *circumdata* Boh., l. c., p. 456.
 „ *nigrina* Boh., l. c., p. 457.
 „ *verticalis* Boh., l. c., p. 455.
 „ *picta* Wiedem., in Germ. Mag., iv, 1821, p. 126.