

RECORDS OF INDIAN TRYPETIDAE (DIPTERA) WITH DESCRIPTIONS OF SOME APPARENTLY NEW SPECIES.

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In considering the Trypetidae of the Oriental Region, it seems that the only work dealing with them as a whole is Bezzi's monograph published in 1913—over twenty years ago. Since then numerous species have been described but little appears to have been done to clear up the confusion that is evident as soon as one attempts to work with representatives of the Oriental forms of this family. Both Bezzi's work on the African, and Hendel's on the palaeartic Trypetidae have some bearing on them and the latter's keys to the genera of the world are of much use. Added to this an increasing amount of work is being done on the Australian Trypetidae, and Shiraki's recent monograph on the Trypetidae of the Japanese Empire, dealing as it does with that outlying portion of the Oriental Region, Formosa, cannot be ignored.

It was with much interest, therefore, that I received from the Indian Museum, Calcutta, a small collection of Trypetidae and I take this opportunity of expressing my sincere thanks to the Assistant Superintendent in charge of the Entomological Section for his kindness in sending me the material.

As regards the species that appear to be undescribed, one can only feel that there must remain some element of doubt as there are still so many species described by earlier workers (Walker and others) that have not been recognised again since their description. The position can only satisfactorily be dealt with by an examination, and re-description, of the types, discarding names when types are no longer extant. There would, however, be no possibility of this being done at an early date, so that a description, even as a synonym, may be of some ultimate use.

The types of all the species are deposited in the Indian Museum, Calcutta.

***Dacus (Zeugodacus) gavisus*, sp. nov.**

Allied to *caudatus* F. and *tetrachaetus* Bez. (Bezzi 1919, p. 419) but differs from the former in having only two inferior orbital bristles, the narrow costal stripe on the wing not dilated at the apex and the yellow thoracic markings more pronounced, and from the latter as the yellow supra-alar fasciae are not extended beyond the suture, although the wing-pattern is similar.

Type (No. $\frac{1034}{H6}$), a male, Barkuda Id., Chilka Lake, Ganjam district, Madras Presidency, 15-22.vii.16, F. H. Gravely.

Length, 6.3 mm., of wing 4.0 mm. *Head* yellow, normal; *occiput* reddish brown with a wide yellow margin, about one-third distance between orbit and neck; *frons* twice as long as wide, flat, yellowish, a dark lateral spot, darker centrally towards the front, and slightly raised and yellow before lunule, bristles black, thin, one superior orbital, two

inferior, the ocellars very small but distinct; *lunule* small, brownish; *antennae* a little longer than face, third joint about three times longer than wide; *arista* brown, bare; *face* flat with a pair of large round black spots; cheeks narrow, *genae* moderate; *palpi* flat, light brownish, not strongly curved; *proboscis* short.

Thorax rugose, black with pale pubescence and extensive yellow markings; *dorsum*, before suture, the middle third chestnut with grey dust just crossing suture on median line, and a narrow dark median stripe; on the sides black; *humeri* yellow; behind suture shining black with a wide median and a pair of wide supra-alar yellow fasciae from suture to *scutellum*; suture broadly yellow on sides; *pleura*: *propleura* brownish, *mesopleura* yellow touching *humeri* with rather less than half on the lower anterior corner black; double *hypopleural* spot yellow; *sterna* black with a broad yellow bar along top, touching yellow of *mesopleura*. *Scutellum* yellow; *post-scutellum* and *mesophragma* black; *bristles* black, one supra-alar and *pre-scutellars* present, no *humeral*. *Legs* yellow, *tarsi* slightly darkened, *hind tibiae* moderately so. *Halteres* yellow. *Wing* normal, a narrow *costal* stripe from *stigma* to beyond end of third vein where it is not dilated; *anal* streak slight mainly marked by darkish hairs along point of *anal* cell which is about two-thirds of the length of the end of the sixth vein; *supernumerary lobe* moderate.

Abdomen yellow, first segment blackish, second with black anterior edge, third black on anterior third the black extended as a narrow, median line to the end of fifth segment, fourth black on lateral third, fifth on anterior corner; segments well marked. *Venter* and *genitalia* blackish-brown.

Dacus (Chaetodacus) diversus Coq.

A male, Cochin State, ix.1914. F. H. Gravely.

The frontal bristles in this species are rather small and thin; two inferior and one superior orbitals; the ocellars are very small and hair-like, but distinct. There is a double yellow *hypopleural* spot.

Chelyophora Rond.

While Bezzi (1918, p. 229) accepted his genus *Stictaspis* as a synonym of *Chelyophora* Rond., although with some doubt, on Hendel's statement that he had examined the genotype of *Chelyophora*, Enderlein (1920, p. 355) placed both *Stictaspis* Bez. and *Acroceratitis* Hend. as synonyms of Rondani's genus. From material I have been able to examine, I have no doubt that *Stictaspis* and *Acroceratitis* are the same. Further, as Hendel's name was published in February 1913 and Bezzi's in May of the same year, *Acroceratitis* must take precedence. The type of *Chelyophora* seems to be *borneana* Rond., a species quite unknown to me, and one, moreover, apparently overlooked and not recorded again by later writers. At present Hendel's statement quoted above may be accepted. Shiraki (1933, p. 133) in his study of the Japanese Trypetidae uses only *Acroceratitis* omitting reference to the other two names, only quoting *Chelyophora histrionica* de Meij. as a synonym of *Acroceratitis plumosa* Hend.

***Chelyophora siamensis*, sp. nov.**

A large species allied to *Ch. striata* Frogg. from Ceylon. Both differ from the other two Oriental species, *separata* Bez. and *plumosa* Hend. in having the marginal band on the wing broadly united to the basal and the cubital free. In *striata* the scutellum is black, while in this new species it is divided into the three black apical spots by narrow yellow lines.

Type (No. $\frac{1035}{H6}$), a male, Lat Bua, Kao, East Siam, 18.x.16, C. Boden Kloss.

Length 7.1 mm., of wing 6.8 mm. *Head* short as in species of *Trirhithrum* Bez., length half and height $\frac{7}{8}$ the width, light yellowish-brown; *occiput* flat above, moderate below; *frons* a little longer than wide and wider than an eye; slight darkish pubescence, ocellar dot black, vertical plates moderately marked, bristles strong, black, two superior and two inferior orbitals, ocellars strong; *lunule* small; *antennae* normal, second joint rather large and bristly, third about three times as long as wide, narrowed outwardly with a rather sharp apical point; *arista* plumose, plumosity wider than third antennal joint; *face* flat with shallow grooves; cheeks narrow; *genae* twice width of third antennal joint and with black setulae, the bristle strong; *palpi* with black setulae at end; *proboscis* apparently with rather long labellae.

Thorax: dorsum yellow and black with yellow pubescence, the yellow as a pair of sub-median stripes united along hind edge and a pair of narrow lateral stripes from above humeri rather indistinctly across suture ending in a distinct elongate spot at inner posterior supra-alar bristle; *pleura* and *sterna* mostly blackish yellow, more yellow along top of mesopleura and the hypopleural spots. Scutellum with yellow base and three more or less quadrate apical black spots; post-scutellum shining black, mesophragma shining blackish-brown; bristles black, cervicals paler, dorso-central on line of anterior supra-alar, two mesopleurals and four scutellars. *Halteres* yellow. *Legs* yellowish brown, front femora with a row of strong black bristles and black setae at end of hind femora, middle tibiae with a single apical spur, clothing brownish, hind tibiae rather arcuate. *Wing* normal; pattern yellowish brown, a slight, humeral band and rather few basal brown streaks, a strong basal band and united marginal, the medial is united to the marginal but the cubital is free; third vein bristly and costal bristle strong.

Abdomen normal; first and second segments yellowish-brown, the pubescence pale, but black on hind margin; third segment short, black, with black pubescence; fourth whitish, blackish with black pubescence on front edge and in middle, fifth yellowish with blackish pubescence; strong setae on hind edge of fifth and moderate on hind edges of third and fourth segments. *Venter* yellowish-brown, genitalia blackish.

***Taeniostola limbata* Hend.**

A specimen from Pashok, alt. 2,000 feet Darjiling district, East Himalayas, 26.V—14.VI.16, F. H. Gravely.

This agrees closely with the description and also with a paratype I have had on loan from the Deutsches Entomologisches Institut in

Berlin-Dahlem. The wing is a little longer, 8.0 mm. and only 7.0 mm. in the paratype, and the spot on the end of the scutellum is larger, extending from between apical bristles towards base for two-thirds the length of the scutellum.

***Acrotaeniostola spiralis*, sp. nov.**

This is a typical *Acrotaeniostola* the other three species of which genus are recorded from Japan. It seems closest to *sexvittata* Hend. but differs from this and from *scutellaris* Mats. (a variety or a synonym of *sexvittata*) by the yellow scutellum. *A. flavoscutellata* Shir. also has a yellow scutellum, but is otherwise a much blacker species. *A. spiralis* differs from all the others in the simpler, reduced, more or less spiral, wing-pattern.

Type (No. $\frac{103^3}{H0}$), a female, Rangamati, Chittagong Hill Tracts, Bengal, 11-16.VII.15. R. Hodgart.

Length 7.1 mm., of wing 6.6 mm., of base of ovipositor 1.0 mm. A brownish-yellow species. *Head* and appendages brownish; *occiput* flat above, lower swellings moderate; *frons* about a quarter longer than wide, parallel-sided, slight blackish pubescence anteriorly and appearing grey-dusted obliquely, ocellar dot blackish, bristles normal, two superior and three inferior orbitals, ocellars strong, as long as anterior of the upper orbitals; *lunule* small; *antennae* about as long as face, third joint about three times as long as wide; arista plumose; *face* rather concave with the edge of epistome slightly upturned; cheeks almost linear, genae barely as wide as third antennal joint; palpi with strong black setae at end, proboscis retracted in specimen.

Thorax: dorsum brown, pleura rather paler but blackened posteriorly; light brown, shining pubescence on dorsum, bristles black, cervicals strong, dorso-centrals on line of anterior supra-alars, two mesopleurals, sternopleural and pteropleural present. Scutellum yellow, rather flat on top, four bristles; post-scutellum and mesophragma shining brownish black. *Halteres* brown. *Legs* rather paler brown than pleura. *Wing* (Fig. 1) stigma short and acute apically; third vein bristly; the pattern consists of a short humeral bar and a brown stripe that more or less encircles the wing.

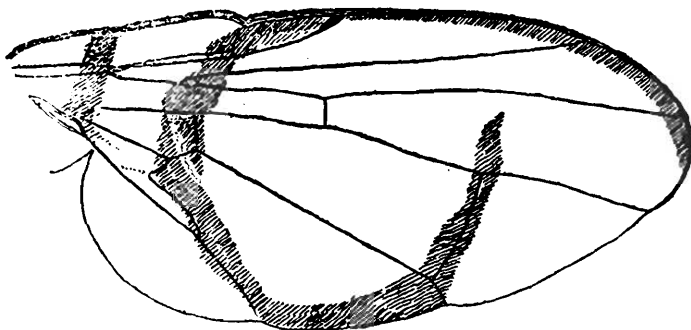


FIG. 1.—*Acrotaeniostola spiralis*, sp. nov. Wing.

Abdomen yellowish-brown, more or less shining brownish-black on segments 4, 5 and 6 and on sides of third; pubescence black, brown-shining. Base of ovipositor short conical, flattened in specimen, brownish-black with black pubescence; second joint brownish, third shining black nib-shaped.

***Acrotaeniostola apiventris*, sp. nov.**

A smaller species that may be placed in *Acrotaeniostola* : the antennae and point of the anal cell are quite typical, but it differs in having two inferior orbital bristles, long ocellars and an atypical wing-pattern.

Type (No. $\frac{1037}{H6}$), a male, Pashok, alt. 2,000 feet Darjiling district, East Himalayas, 26.V—14.VI.16. F. H. Gravely.

Length 4.7 mm., of wing 5.3 mm. *Head* yellowish, length half, height two-thirds width; *occiput* brown centrally, lower swelling not prominent; *frons* nearly a third longer than wide, vertical plates and ocellar triangle somewhat glistening, scanty brownish pubescence anteriorly, bristles black, two superior orbitals, the anterior one before middle of frons, two inferior, the ocellars long and strong; *lunule* small; *antennae* rather darker yellow, third joint about twice as long as wide, upper edge straight, the lower curved upward to apical point, arista brown, plumose; *face* concave, cheeks linear, genae narrow, eye rounded, palpi and proboscis retracted in specimen.

Thorax brown, a yellowish bar from humeri along sides of dorsum above wing-base to scutellum and extended to pleura to include mesopleura except their anterior lower corner, and a pair of yellow hypopleural spots; dorsal pubescence pale; bristles black, normal, dorso-centrals on line of anterior supra-alars. Scutellum yellow with four bristles. *Halteres* yellowish. *Legs* yellow, hind femora brown. *Wing* (Fig. 2) pattern a small series of rather disconnected brownish transverse bars; stigma brown; third vein bristly.

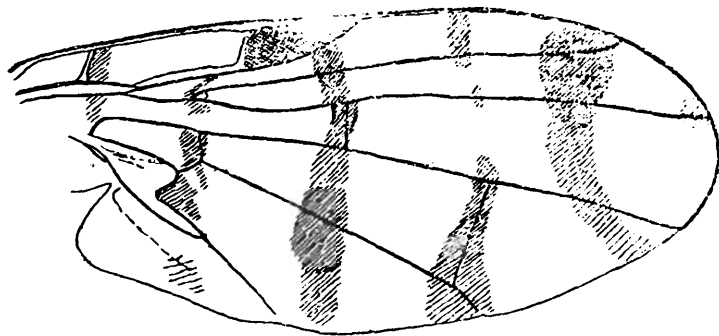


FIG. 2.—*Acrotaeniostola apiventris*, sp. nov., Wing.

Abdomen reminiscent of that of a honey-bee and is striking on account of the great development of the second segment which reaches the middle of the abdomen and is broadly developed on the sides, it is yellow with pale pubescence and some grey dust on hind margin (more extensively laterally) where it is also blackened; the third segment projects as a thin, narrow, black edge behind the second; the fourth is of more normal size, blackish anteriorly, yellowish with whitish dust posteriorly; the fifth segment is an obscure reddish-yellow with black hind margin which is interrupted in the middle line; there are some black setulae on the hind edges of the segments and four bristles on the fifth. Genitalia and venter yellowish but obscured by folding of abdomen.

Gastrozona montana, Bez.

Bezzi, 1913, p. 106.

A pair, Pashok, alt. 2,000 feet Darjiling district, East Himalayas, 26.V—14.VI.16. F. H. Gravely. The male is labelled "*Gastrozona montana* Bez., compared with type, C. Paiva."

Phagocarpus immsi Bez.

Bezzi, 1913, p. 131, Pl. x, fig. 72.

There is a pair of specimens "Sureil, Mangpu, Darjiling district 5,000 feet IV-V.17. S. W Kemp" The female also bears a label "*Phagocarpus immsi* Bez. compared with type, C. Paiva. 2 specimens"

After careful comparison with available literature, it is difficult to decide whether these are really *immsi* or not. There are slight differences to be noted and on these it might be possible to describe each specimen as a separate new species. Such a course, however, is not considered advisable owing to the small amount of data and material available. It may be noted that only the single male type of *immsi* has been recorded, and in regard to these two specimens, it is difficult to say whether the observed differences are sexual or specific.

Specimen A, male. This may be a genuine male of *immsi*, but is rather smaller than the type, length 4.2 mm., wing-length 5.0 mm. It is generally darker than appears to be the case in *immsi*. In the latter Bezzi states the head is entirely yellow, but in this specimen it is brownish and the frons almost reddish brown and it does not seem that this is due to discolouration. In *immsi* the thorax is stated to be dark reddish on the dorsum, pale reddish on the sides; here it is generally more blackish. The wing pattern is almost identical. The hyaline spot above the discal cell in the first basal is much smaller and rather inconspicuous. At the base of the wing both costal cells and immediately below the inner are quite hyaline, while in the figure of *immsi* there is shown a faint infuscation to the extreme base, leaving only the outer costal cell hyaline (except its outer end brown in each case). Further, in this male, the basal half of the discal cell is not yellowish.

Specimen B, female. This is rather larger than the type: length 6.6 mm., wing-length 6.0 mm. and differs in one point that may be of some specific value, namely the greater length of the third antennal joint.

Before discussing this, it may be as well to consider somewhat the other species of the genus. In the Formosan species, *vulgaris* Shir. the third vein is bristly for its whole length. In *permundus* Harris the extreme base of the wing is heavily infuscated. In the four other species the third vein is bristly to the upper cross-vein and the extreme base of the wing (at least the outer costal cell) hyaline. As regards the length of the third antennal joint, in *permundus*, Hendel (1927, p. 94) says nothing as to there being any difference in the sexes, although Shiraki (1933, p. 184) would seem to imply that it is shorter in the male. In *formosanus* Shir., although both sexes are described nothing is said of the relative lengths of this joint. Of *connexus* Shir. and *immsi* Bez. only the male has been described. The question therefore is whether in this female, the greater length of the third antennal joint is merely sexual or not.

The general colouration is dark as in the male just noted, but the frons is more yellowish. The slight pubescence is brownish and the bristles black, two inferior and three superior orbitals, the ocellars thin and short; the antennae are nearly as long as the face, the third joint yellow and about three times as long as wide, rather elongate oval, somewhat more narrowed on the distal half; the arista is pubescent. The thorax seems much as described for *immsi* but darker. On the wing the extreme base is hyaline as described in the male above, the basal half of the discal cell is however yellow and the hyaline spot in the first basal cell large, nearly the width of the cell, and squarish. The abdomen is shining black with black pubescence as is the base of the ovipositor; the greyish hind margins of first and third segments rather narrow and not pronounced; base of ovipositor short cylindrical, about as long as last two segments of pre-abdomen.

***Hemilea cnidella*, sp. nov.**

This species appears to be close to *Acidia (Ocneros) praestans* Bez. (1913, p. 141) but differs in having the forepart of the wing entirely brown, no hyaline spots on the costa and only a narrow posterior hyaline margin which is broken by a short brown streak at the lower cross-vein; in the last point it differs from *punctilabris* Bez. (1928, p. 107).

Type (No. $\frac{1038}{H6}$), a male, Pashok, alt. 2,000 feet Darjiling district, East Himalayas, 26.V—14.VI.16. F. H. Gravely.

Length 5.2 mm., of wing 5.5 mm. *Head* light yellowish brown, length about half, height five-sixths of width; *occiput* flat, moderate below; *frons* flat, blackened on hind half, deeper yellow in front, slight black pubescence, about a quarter longer than wide, bristles black, two superior, three inferior orbitals (four inferiors on one side), ocellars moderate; *lunule* small; *antennae* yellow, two-thirds length of face, third joint rounded at end, arista pubescent; *face* flat with shallow grooves, cheeks narrow, genae a little wider than third antennal joint; palpi and proboscis apparently normal but retracted.

Thorax moderately swollen, dorsum light yellowish brown, translucent, with black pubescence; pleura humeri and scutellum rather paler, mesophragma somewhat blackened; bristles normal, black, dorso-centrals rather nearer pre-scutellars than anterior supra-alars, two mesopleurals, sternopleural and pteropleural present, four scutellars.

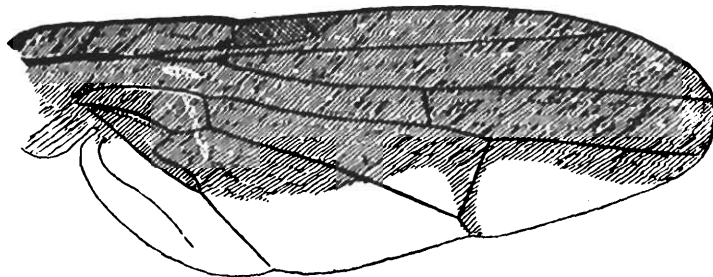


FIG. 3.—*Hemilea cnidella*, sp. nov., Wing.

Legs pale yellowish brown. *Halteres* yellow. Wing (Fig. 3) third vein bristly, fore part of wing brown with only sub-hyaline basal fold-streaks.

Abdomen shining black with black pubescence, first and second segments mottled yellow and also a spot on front centre of third. Venter and genitalia black.

Vidalia ceratophora Bez.

Bezzi, 1913, p. 136, Pl. ix, fig. 42.

A specimen from Pashok, alt. 2,000 feet Darjiling district, East Himalayas, 11.VI.16. L. C. Hartless. It is labelled "*Vidalia ceratophora* Bez. compared with type"

It may be noted that the wing is brown to the tip—in Bezzi's figure the tip is represented as broken off, and the spot in the first posterior cell is rather sub-hyaline.

Euleia Walk.

I have used the name *Euleia* for *Myioleja* Rond. 1856 and *Myiolia* Hendel 1927 and Shiraki 1933 as proposed by Bates (1933, p. 101).

Euleia (Acidiostigma) apicalis (Bez.).

Bezzi, 1913, p. 144, Pl. ix, fig. 47 (*Acidia*).

A pair, Darjiling, 6,000-7,000 feet East Himalayas, 12.VI.14. F. H. Gravely. One specimen is labelled "*Acidia apicalis* Bez. compared with type, C. Paiva"

Euleia (Acidiostigma) lucens, sp. nov.

Allied to *apicalis* (Bez.) but differs as the wing-pattern forms a continuous band from base to apex and the cheeks are narrower.

Type (No. $\frac{1039}{H6}$), a female, Darjiling, 6,000-7,000 feet East Himalayas, 12.VI.14. F. H. Gravely.

Length 6.0 mm., of wing 6.4 mm. *Head* yellowish brown, length two-thirds, height about five-sixths width; *occiput* rather convex and moderate below; *frons* rather more than one and a half times long as wide, slight blackish pubescence, strongly silvery shining obliquely, ocellar dot black, bristles normal, black; two superior and three inferior orbitals, ocellars rather small and thin; *lunule* small; *antennae* two-thirds length of face, third joint rounded at end, arista pubescent; *face* flattish with moderate grooves, cheeks narrow, genae wider than third antennal joint, eye rather rounded; proboscis and palpi normal.

Thorax: dorsum black with black pubescence and moderate strongly shining silvery dust, rest of thorax, including edges of dorsum and scutellum yellowish brown, only a narrow stripe from humeri to wing-base yellowish and post-scutellum and mesophragma shining black with slight dust. Scutellum slightly convex and a little blackish pubescence on sides. Bristles normal, black, dorso-centrals on line of anterior supra-alars, lower of the two mesopleurals weak, sternopleural and pteropleurals present, four scutellars. *Legs* and *halteres* concolourous with pleura,

middle tibiae with single spur. *Wing* (Fig. 4) large, costal bristle absent, stigma elongate, narrow, third vein bristly.

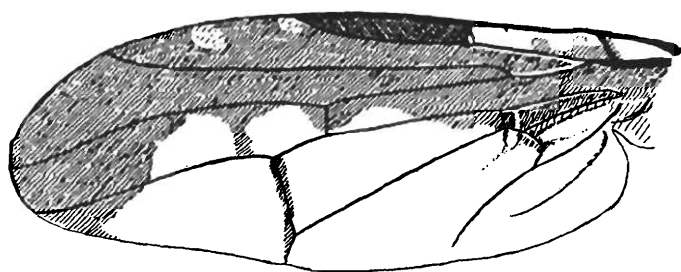


FIG. 4.—*Euleia (Acidiostigma) lucens* n. sp., Wing.

Abdomen shining black with black pubescence, segments one and two yellow, third more or less broadly yellow in middle and slightly on sides, fourth slightly yellow in centre and somewhat along hind edge, fifth on hind edge and sixth more broadly so. Base of ovipositor short, only a little longer than fifth segment, shining black with black pubescence, flattened in specimens. Venter yellowish.

***Euleia (Acidiella) erythraspis* Bez.**

Bezzi, 1913, p. 145, Pl. x, fig. 50.

Two females, one "near Ghoom, 6,000-7,000 feet Darjiling district, East Himalayas, 11.VI.14. F. H. Gravely" and labelled "*Acidia erythraspis* Bez. compared, C. P." the other "Birch Hill Park, Darjiling, East Himalayas, 7.VI.23. H. S. Rao"

***Tephrella decipiens* Bez.**

Bezzi, 1913, p. 152, Pl. x, fig. 56.

One specimen, Sureil, Mangpu, Darjiling district 5,000 feet IV-V.17, S. W. Kemp. Labelled "*Tephrella decipiens* Bez. compared with Indian Museum specimens, C. Paiva."

***Acanthoneura* Macq.**

In this genus one finds much confusion which has to some extent been cleared up by Hendel (1927, p. 57) although as he says a critical review of the Oriental forms is necessary, and this should include comparison with related African groups. Apart from anything else, to obtain the necessary material presents a serious problem, and added to this is the necessity of examining genotypes and types of species scattered in various European institutions and elsewhere.

A mistake to be noted is that the *Acanthoneura* described by Bezzi (1913, p. 116) is not Macquart's genus, but *Themara* Walk. Hendel's differentiation (l. c.) seems correct and is acceptable, namely that in *Acanthoneura* the fifth vein is bare, but bristly in *Themara*. In the absence of specimens it is not possible to allocate correctly the various species described under *Acanthoneura*. For example those placed in this genus by Enderlein (1911, p. 414 *et sec.*) may be put into at least four genera. Nothing is said as to whether the fifth vein is bristly or not, although it is represented as bare in the figures given.

Acanthoneura gravelyi, sp. nov.

This species may be distinguished from others that may be assigned to this genus by the different wing pattern. The base is generally more hyaline and in particular, the hyaline indentation on the basal half of the stigma is extended across the submarginal cell to the second vein.

Type (No. $\frac{1040}{H6}$), a male, Pashok, alt. 2,000 feet Darjiling district, East Himalayas, 26.V—14.VI.16. F. H. Gravelly.

Length 6.4 mm., of wing 8.4 mm. *Head* yellow, about one quarter higher and two-thirds wider than long; *occiput* translucent, glistening, convex not markedly prominent below; *frons* yellow on hind two-thirds, vertical plates glistening whitish and a short narrow streak from black ocellar dot less so, reddish on anterior third, moderate brown pubescence, about a third longer than wide and a fourth narrower than an eye; bristles black, two superior, one inferior orbital, ocellars small, hair-like; *lunule* small; *antennae* (third joint of right missing) about two-thirds length of face, third joint about three times as long as wide, brownish, blackened above and at rounded apex, arista brownish, plumose; *face* with shallow grooves, epistome somewhat prominent, cheeks linear and genae about as wide as third antennal joint, both glistening silvery obliquely, genal bristle strong; proboscis short, palpi broadly black at apex.

Thorax yellowish brown with black pubescence, pleura rather lighter and humeri yellowish; *scutellum* as thorax, almost bare, with a small yellow apical spot; post-scutellum and mesophragma blackish-brown; bristles normal, black; two mesopleurals, sternopleural strong, dosrocentrals half way between pre-scutellars and anterior supra-alars, six scutellars, the middle pair small. *Legs* as thorax, with brownish clothing, middle tibiae with single spur. *Wing* (Fig. 5) third vein bristly.

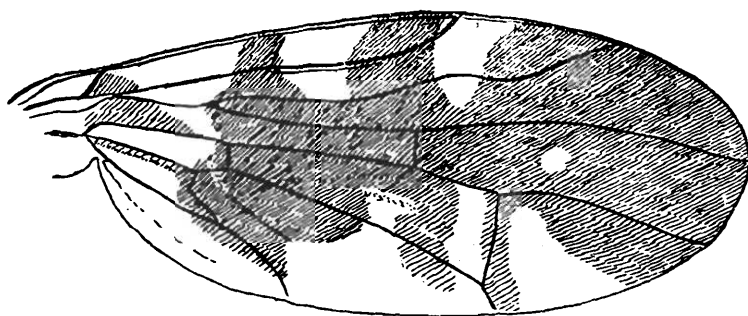


FIG. 5.—*Acanthoneura gravelyi*, sp. nov., Wing.

Abdomen: first segment yellowish, second with anterior third black, third anterior two-thirds, fourth black, yellowish on hind margin, fifth black; pubescence brownish to black, paler on yellow, setae on hind margins of segments moderate, stronger on sides and at end of fifth; venter black to yellow; genitalia shining black.

Rioxa quinquemaculata Bez.

Bezzi, 1913, p. 115, Pl. ix, fig. 27.

A female, Pashok, alt. 2,000 feet Darjiling district, East Himalayas, 26.V—14.VI.16. F. H. Gravelly. Labelled "*Rioxa quinquemaculata* Bez. det. Paiva".

Bezzi's figure shows that the first vein ends mid-way between the ends of the auxiliary and second veins, while in this specimen it ends nearer to the end of the second vein.

***Sophira phlox*, sp. nov.**

Very close to *Sophira venusta* Walk. (1857, p. 34); it differs in the thoracic markings, the absence of black bands on the abdomen and a somewhat different, although very similar, wing-pattern.

Type (No. $\frac{1041}{H6}$), a female, above Tura, Garo Hills, Assam, 3,500—3,900 feet 15.VII-30.VIII.17. S. Kemp.

Length 8.2 mm., of wing 8.6 mm. *Head* brownish, almost spherical; *occiput* moderate, convex; *frons* brown, flat, very slight pubescence anteriorly, slightly narrower than an eye and width about two-thirds length, bristles black, rather weak, two superior and one inferior orbital, no ocellars; *lunule* small; *antennae* yellow, two-thirds length of face, third joint somewhat narrowed to rounded end; *arista* sparsely plumose; *face* with rather deep grooves, *epistome* moderately prominent; *cheeks* narrow, almost linear, *genae* about as wide as third antennal joint; *palpi* brownish, rather small; *proboscis* brown, short.

Thorax reddish-brown, shining, pale brownish pubescence, a lateral black stripe from above humeri narrowing and disappearing towards dorso-central bristle (there is no lateral sutural stripe as in *venusta*), a transverse black bar from one inner posterior supra-alar to the other before but not touching scutellum; *pleura* lighter, more reddish-brown, *post-scutellum* yellow, *mesophragma* shining black, yellowish in middle, *scutellum* as dorsum, small; bristles normal, there are cervicals, humeral, one mesopleural; the pteropleural and sternopleural are missing on specimen and are apparently absent; dorso-centrals behind line of anterior supra-alars, three-fifths the distance between suture and scutellum from suture. *Wing* (Fig. 6) flame yellow with broad brown markings along costa and some veins; third vein bristly. *Legs* elongate, coloured as *pleura*. *Halteres* blackish.

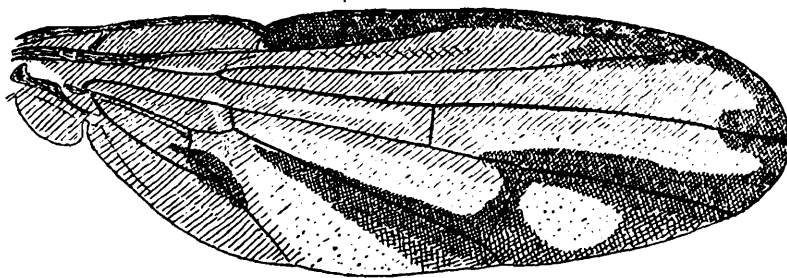


FIG. 6.—*Sophira phlox*, sp. nov., Wing.

Abdomen narrow, yellow, no black bands, pubescence yellow, segments well-marked and conspicuously overlapping; sixth short; base of ovipositor short, flat in specimen, colour and pubescence as pre-abdomen, a little longer than fourth segment (or than fifth and sixth together); *venter* yellowish.

Elaphromyia pterocallaeformis Bez. *var.*

Two pairs, Sureil, Mangpu, Darjiling district 5,000 feet IV-V.17. S. W. Kemp.

As far as can be judged in the absence of additional material for comparison, these may be regarded as at least only a variety of *pterocallaeformis* Bez. (1913, p. 155). They agree as well as may be expected with Bezzi's description, but it may be noted that the more hyaline spots along the costa are very variable (as they are, too, in the African species, *E. adatha* Walk.) These specimens differ in having three pairs of spots on the abdomen, in the female a pair on the fourth, fifth and sixth segments, in the male one pair on the fourth, and two on the fifth segment, the latter rather inclined to form a pair of short streaks. Generally speaking too the colouration of the head, legs and body seem darker and not as yellow as one would suppose to be the case in *pterocallaeformis*. A careful comparison with the description of *E. siva* Frey (1917, p. 19) from Ceylon would seem to suggest that it is very little different from *pterocallaeformis* Bez.

Paratephritis abstractus, sp. nov.

Allied to *Paratephritis fukaii* Shir. (1933, p. 436) from Japan, but differs in having four inferior orbital bristles, rather wider cheeks (eyemargins, Shiraki) and a more projecting epistome; there are more numerous sub-hyaline spots on the wing (as in *P. formosensis* Shir.) and the hind margin behind the longitudinal hyaline streak is reticulate. The number of the lower inferior orbital bristles is not of very great importance in these forms; in his generic diagnosis Shiraki states there are two in *Paratephritis*, but in the figure of the head of *P. fukaii* three are shown.

Type (No. $\frac{1042}{R6}$), a male, Lebong, 6,600—6,000 feet Darjiling district 13.VI.14. F. H. Gravely.

Length 4.5 mm., of wing 4.5 mm. *Head* brown with slight grey dust more or less all over, length three-fifths, height four-fifths width; *occiput* flat above and blackish centrally, moderate and paler below, the bristles dirty yellow with some black setulae on sides; *frons* flat, one-fifth longer than wide, with moderate, coarse, yellow pubescence, ocellar dot black, round it paler and vertical plates faintly greyish, bristles black, upper of two superior orbitals yellow, four inferior orbitals, ocellars strong; *lunule* moderate; *antennae* short, two-thirds length of face, third joint more or less rounded; arista dark brown, short pubescent; *face* concave, epistome moderately prominent (more so than in *fukaii*); cheeks broad (wider than in *fukaii*) about two-thirds width of third, antennal joint, genae about one-third wider than this joint; proboscis and palpi retracted, the former short.

Thorax blackish-brown, blacker on dorsum with brown dust and yellow pubescence; bristles black, normal, dorso-centrals a little before line of anterior supra-alars. *Scutellum* flat, more or less triangular, yellowish at apex, four bristles. *Legs* brown, hind femora with short row of bristles at outer end. *Wing*: third vein with a few weak setulae at extreme base; brown, costal cells and stigma almost entirely brown,

otherwise with numerous yellow sub-hyaline spots ; across outer quarter a hyaline transverse bar, irregular in width ; a basal hyaline bar across second basal, anal and discal cells to line of upper cross-vein, there being a couple of brown spots on the hyaline in the discal cell ; behind this longitudinal hyaline bar, that is including the axillary cell and the third posterior except broadly at its outer end, reticulate, so that the hyaline bar is not as pronounced as is case in *fukaii*.

Abdomen black, second segment broadly yellowish on hind margin, third and fourth slightly so, and fifth moderately ; pubescence black except on paler areas and on median line yellow. Venter black, genitalia yellow.

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