

DIPTERA NEMATOCERA FROM THE DUTCH EAST INDIES.

By

F. W. EDWARDS

(British Museum, Natural History)

III. NEW RECORDS FROM KRAKATAU. *)

In Prof. DE MEIJERE's paper dealing with the new Dipterous fauna of Krakatau (Tijd. v. Ent. LIII. 1910. pp. 58—194) only four species of Nematocera are mentioned: *Sciara* sp., *Plecia fulvicollis* W., *Stegomyia scutellaris* WALK. and *Dicranomyia cf. kobusi* DE MEIJ., all being collected by JACOBSON in one short visit to the islands. More recently Dr. DAMMERMAN has made several excursions to the islands and obtained more extensive collections. Through the kindness of Prof. DE MEIJERE this material has been submitted to me for determination; it comprises no less than 23 species, belonging to 5 different families. As might be expected most of the species are well-known and widely spread forms, but four of them appear to be hitherto undescribed, which of course merely indicates how imperfectly known even yet is the Dipterous fauna of the whole Malayan archipelago. The types of these new species are preserved in the British Museum, through the kindness of Dr. DAMMERMAN and Prof. DE MEIJERE.

MYCETOPHILIDAE.

Sciara rufithorax v. d. WULP.

Krakatau E., IX. 1920, 2 ♀. Verlaten Island, IX. 1920, 1 ♀. A widely spread species throughout the Oriental Region.

Sciara migrator sp. n.

♂. Head moderately shining, black. Ocelli placed close behind the eye-bridges, which are only 2 - 3 facets wide. Antennae blackish, flagellar segments except the first and last, very little longer than broad. Palpi blackish, segments subequal. Thorax somewhat shining, blackish; dorsocentral hair short, dark, acrostichal hair apparently absent. Abdomen blackish, with dark hair. Hypopygium small; claspers stout, swollen on the inner side beyond the middle, with three slender spines in a row before the tip. Legs dark brown, front coxae and femora ochreous; about as long as the tibial diameter.

*) As I & II of this series are to be considered EDWARDS, Diptera Nematocera, Treubia Vol. III p. 180 and Treubia Vol. VI p. 154.

Wings rather smoky, posterior veins not much darkened. Branches of M and Cu bare. $R1$ a little shorter than r and ending just before fM . Costa reaching rather over half way from $R5$ to $M1$; tips of $R5$ and $M2$ practically level; $r-m$ as long as the basal section of M ; stem of cubital fork rather long; anal vein very short. Halteres with blackish knob.

Length of body, 1.7 mm.; wing, 2 mm.

Krakatau, XII. 1919, 1 ♂.

This is perhaps the small species of *Sciara* recorded from the islands by DE MEIJERE. The form of the claspers is rather distinctive.

Delopsis pectenipes SENIOR-WHITE.

Krakatau, XII. 1919, 1 ♂.

Previously known only from Ceylon, but must presumably occur in Java or Sumatra also. The mid-tibial spine formula is 5 . 3 . 4 . 0 ; in colour the species seems well distinguished by the three separate blackish mesonotal stripes.

Delopsis pallida sp.n.

♂. Head shining ochreous. Antennae and palpi completely ochreous. Orbital bristles very small. Thorax ochreous; mesonotum with a small blackish trident immediately in front of the scutellum, this latter black except at the sides; the very small postnotum also black; prothorax lighter. Three propleural bristles. Anepisternite very large and almost rectangular. Fine bristles pale. Abdomen ochreous, lighter at the sides and beneath; first tergite darkened; pubescence pale. Hypopygium small and hidden. Legs ochreous, only the bristles and spurs dark. Middle tibial bristles: 4 dorsal, 1 subdorsal (near the tip), 2 external, 3 ventral, 1 small internal. Wings ochreous-tinged, not very dark. Costa extending very slightly beyond tip of $R5$; fCu far before base of $r-m$. Halteres ochreous.

Length of body, 2.5 mm.

Krakatau, XII. 1919, 1 ♂.

Allactoneura cincta DE MEIJ.

Krakatau, XII. 1919.

BIBIONIDAE.

Plecia javensis EDW.

Verlaten Island, IV. 1920, 1 ♂ 1 ♀.

This is presumably the species already recorded by DE MEIJERE as *P. fulvicollis*. It has only been recorded from Java, and may have reached Krakatau from thence, though it is quite possible it may be found to occur in Sumatra also, when the distribution of the various closely allied species of this group is better known.

CHIRONOMIDAE.

Chironomus sp.

Verlaten Island, IV. 1920, 2 ♀.

A small green species with dark mesonotal stripes and apparently without frontal lobes. By KIEFFER's key to the genera of this group (1921) it runs to *Chironomus* s. str.

CULICIDAE.

The collection contains examples of no fewer than six species of Culicine mosquitoes, all but one of them being common and widely spread; the breeding habits of all six are known. The first three are semidomestic forms whose larvae will live in any small temporary collections of water, especially however in broken ends of bamboos; these three might well have been introduced by human agency, and once on the spot would find no difficulty in maintaining themselves. The remaining three species all have larvae which live in sea water, and these also would certainly find ample breeding-grounds in the small pools left by high tides. It is well-known that many coastal mosquitoes make long flights, doubtless often assisted by the wind, and the same is probably true of these species also. Flight is probably the most important means of dispersal of these coastal forms, though it is by no means impossible that their larvae may be carried by sea currents.

Armigeres obturbans (WALK.).

Sebesi, IV. 1921, 1 ♀.

Armigeres malayi (THES.).

Sebesi, 29. IX. 1920, 1 ♀.

Aedes (Stegomyia) albopictus (SKUSE)

Krakatau, IV. 1920, 1 ♀. Sebesi, 29. IX. 20, 2 ♀♀; IV, 21, 1 ♀.

This is the common species already recorded by DE MEIJERE as *Stegomyia scutellaris*.

Aedes (Ochlerotatus) vigilax (SKUSE).

Krakatau XII. 1919, 1 ♀. Verlaten Island, IX. 1920, 1 ♀.

A very widely spread salt-water mosquito, known from New South Wales to the Philippines and Siam.

Aedes (Skusea) cancrivomes EDW.

Sebesi, 29. IX. 1920, 1 ♀; IV. 1921, 6 ♀.

Described in 1922 from the Andaman Islands, this has since been found by DR. S. L. BRUG in Java. The larvae live in crab-holes along the shore.

Culex sitiens WIED.

Verlaten Island, XII. 1919, 1 ♀; IV, IX. 1920, several ♀♀; Sebesi, IV. 1921.

The common salt-water Culex found on nearly all coasts from Queensland to East Africa.

TIPULIDAE.

Dicranomyia (Pseudoglochima) kobusi DE MEIJ.

• Sebesi, IV. 1921, 1 ♂.

This is the true *D. kobusi*, not the allied species mentioned by DE MEIJERE.

Libnotes notata v. d. WULP.

• Krakatau, IV. 1920.

Previously known from Java and also from Ceylon.

Libnotes signaticollis (v. d. WULP) ((*familiaris* DE MEIJ., ? O.-S.).

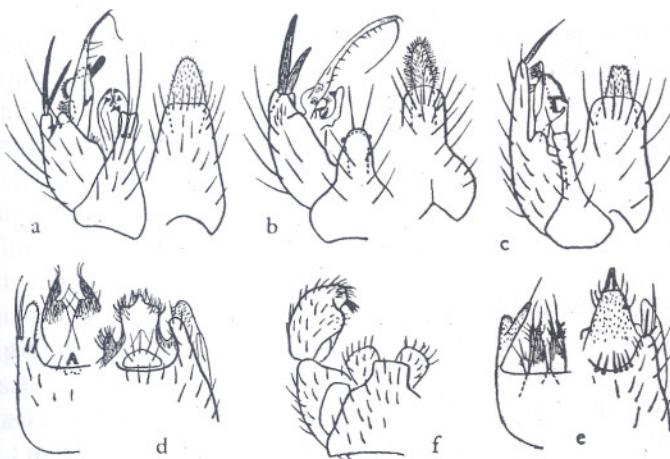
Krakatau, N. W., IX. 1920.

Styringomyia acuta EDW.

Krakatau, N. 1920, 1 ♂; IX. 1920, 1 ♂ 3 ♀.

I have recently described this (Journ. Sarawak Mus., 1925) from a single male from Mt. Dulit, Borneo, as a variety of *S. armata* EDW. Mounts of the

hypopygium however show that there are obvious differences in every part between the type from the Philippine Is. and the Bornean and Krakatau specimens, so that it would probably be better to regard them as a distinct species. The distinctions will be readily appreciated by comparison of the figures given herewith. Apart from the hypopygial differences *S.*



Genitalia of Nematocera: — a, *Styringomyia acuta* EDW., ♂; b, *S. armata* EDW., ♂; c, *S. colona* sp. n., ♂; d, *S. acuta* EDW., ♀; e, *S. colona* sp. n., ♀; f, *Sciara migrata* sp. n., ♂.

armata and *S. acuta* are very much alike, but the former has the palpi all dark while the latter has the last palpal segment yellow. The female specimen recorded by me (Treubia, Vol. VI, 1925, p. 165) from Lampongs, Sumatra, as *S. armata*, shows a somewhat different structure of the ovipositor from that seen in *S. acuta*, and probably represents another distinct species or variety.

Styringomyia ceylonica EDW.

Verlaten Island, IV. 1920, 1 ♀.

A widely-spread species occurring from Ceylon to New Guinea.

Styringomyia colona sp. n.

Head ochreous, in some specimens with a pair of dark spots on the nape; main bristles dark, Antennae ochreous, second segment more or less

dark. Palpi ochreous, each segment dark-tipped. Thorax mainly ochreous; pronotum dark brown except in the middle; a pair of irregular dark brown lines extend along the inner sides of the discal rows of bristles, then turn outwards round the outer margins of the scutum. Bristles black; about 6—9 discal; the four scutal all rather short and slender. Abdomen ochreous; hind margin of each tergite with a pair of dark brown spots. Male hypopygium with the filiform appendage of the sidepiece reduced to a mere knob; spine-bearing projection of side piece unusually long. Ovipositor of ♀ remarkable for having two or three black spiny bristles at the tips of the projections of the seventh sternite. Legs with the usual dark rings rather narrow. Wings almost clear, though with the usual dark spot over r_m and at the base of $Cu\ 1a$; veins not darkened at the tips; A_n gently curved to the margin, tip not darkened. Halteres ochreous.

Length of body, ♂ 5.5 ♀ 4.5 mm.; wing 4 mm.

Sebesi, N. 1921 2 ♂ 1 ♀ (incl. type). Krakatau, XII. 1919 and IX. 1920, 2 ♂ 1 ♀.

This is nearly related to *S. biroi* Edw. and *S. kerteszi* Edw. of New Guinea, differing chiefly in the structure of the genitalia of both sexes.

Erioptera notata DE MEIJ.

Sebesi, IV. 1921, 1 ♀.

Trentepohlia (Mongoma) pennipes O.-S.

Krakatau, IV. 1920, 1 ♂.

***Trentepohlia (Paramongoma) pusilla* n. sp.**

♂. Head blackish, including antennae and palpi; the short proboscis and base of palpi ochreous. Flagellar segments shortly oval, with short verticils. Thorax brownish-ochreous, quite unmarked, surface scarcely shining. Abdomen dark brown, the small hypopygium rather lighter. Legs dark brown; coxae ochreous-brown; end half or more of the tarsi light ochreous. Wings clear; veins dark. Venation normal for the subgenus. R_2 making an angle of about 45 with R_3 ; cell R_3 considerably narrowed beyond the middle, slightly widened again at the tip. Halteres brownish.

Length of body or wing, about 3 mm.

Sebesi, IV. 1921, 1 ♂.

There is only one other oriental member of the subgenus at present known, *T. albifarsis* (DOL.). This differs from *T. pusilla* in its larger size, four black spots on dorsum of thorax, and wholly snow-white tarsi. The new species has a much closer resemblance to the West African *T. nigeriensis* ALEX., which differs chiefly in having R_2 almost at right angles to R_3 .

Conosia irrorata WIED.

Sebesi, IV. 1921, 2 ♀♀.

IV. SPECIES FROM JAVA AND KEI IS.

The present report is based chiefly on very interesting collections made by Dr. H. H. KARNY at Tjibodas, Java, and by H. C. SIEBERS in the Kei Is.; a few new species collected by Dr. DAMMERMAN at Depok are also included; they were sent for determination by Dr. KARNY. As in previous cases the British Museum is indebted to Dr. DAMMERMAN of the Buitenzorg Museum for the privilege of retaining the types of all new species. The most interesting specimens in the collection are perhaps the wingless Sciarine (*Epidapus*) and the examples of the European *Sciara pectoralis*.

MYCETOPHILIDAE.

***Platyura tjibodensis* sp. n.**

♀. Head ochreous, with a small black ocellar spot, the three ocelli rather close together, the middle one placed a little forward. Antennae with the scape ochreous, flagellum brownish, segments cylindrical, a little longer than broad. Palpi ochreous. Thorax entirely ochreous; mesonotum with short black bristles nearly all over, but a bare stripe on each side of the double rows of acrostichal bristles. Small spiracular bristles present; postnotum and pleurotergites bare. Abdomen ochreous, tergites broadly blackish at the base. Legs ochreous. Fine tibial setae arranged in somewhat regular rows. Outer spur of posterior tibiae about half as long as the inner. First front tarsal segment slightly shorter than the tibia. Wings with a slight yellowish tinge; a small grey cloud below tip of costa. *Sc* ending before base of *Rs*; third costal division about two-thirds as long as the fourth; costa reaching half-way to *M₁*; *An* rather strong and dark but not reaching the margin. Halteres with ochreous stem and brown knob.

Length of body, 5 mm.; wing, 5 mm.

Java : Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

***Epidapus tuberculatus* sp. n.**

♀. Colour light brownish, the chitinised parts not much darker than the membrane. Eyes each composed of about 50 facets, 5 of which are in the narrow dorsal portion, which meets its fellow forming a complete bridge. Pubescence of eyes very scanty. Ocelli in a flattened triangle, the middle one just touching the eye-bridge. Antennae a little longer than the head and thorax together; flagellar segments only about one-third longer than broad, with short non-chitinised necks; last segment longer. Each flagellar segment, except the last, bears one or two thicker, paler bristles at the sides, but apparently none at the tip; the ordinary hairs are numerous and not much longer than the diameter of the segments. Palpi with only one distinct segment, which is somewhat truncate apically, where it bears a patch of short, pale, blunt-tipped sensoria; below this patch is a small tubercular projection bearing a

couple of bristles, perhaps representing a second segment, but not separated off. Thorax small, not very much larger than the head, with a few short bristles. No trace of wings, but the halteres represented by a small roundish pubescent tubercle. Abdomen moderately long; first segment short, 2—6 each as long as broad, 7—8 small; cerci rather elongate oval. Legs rather slender but not very long. Tarsi as long as the tibiae. First hind tarsal segment about 4.5 times as long as broad and about equal in length to the next two segments together. Posterior tibiae each with two short, slender and almost bare spurs. Claws simple: empodia and pulvilli indistinct.

Length about 1.5 mm.

Java: Depok, 27. V. 1923, 1 ♀ (DAMMERMAN).

This seems to differ from the European species in possessing vestiges of the halteres; the eyes also have fewer facets than in *E. atomarius* DEG. (*melina* SEHM.), and the legs are rather shorter.

Peyerimhoffia ? brevipetiolata sp. n.

♂. Head dark. Eyes almost bare; bridges four facets wide, in contact with one another and with the ocelli. Face broad. Antennae dark, flagellar segments twice as long as wide, pubescence as long as the diameter, necks short. Palpi yellow, the

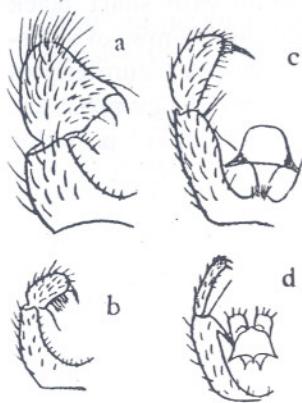


Fig. 1. Hypopygia of Sciarae, seen from below.—a *Peyerimhoffia ? brevipetiolata* sp.n.; b *Termitosciara ? megacantha* sp.n.; c *Sciara karnyi* sp.n.; d *S. dolicholabis* sp.n.

very short, hardly distinguishable; *An* obsolete. Halteres apparently not darkened.

Length of body, about 3 mm.; wing 2.8 mm.

Sumatra: Lampongs district, camp two hours above Wai Lima, 26. XI. 1921, 1 ♂ (KARNY).

On account of the very short cubital fork this species seems referable to *Peyerimhoffia* rather than to *Scythropochroa*, but the Malaya *S. sordidata* Edw. is intermediate in this respect.

Termitosciara ? megacantha sp. n.

♂. Head blackish. Ocelli in an equilateral triangle, the middle one touching the eye-bridges, which are four facets wide. Eyes with very scanty pubescence. Antennae black, flagellar segments over twice as long as broad, not very stout, with short necks, pubescence scarcely as long as the diameter, no hyaline apical appendages. Palpi short, two-segmented, the first much swollen apically, second smaller but quite well developed. Thorax brownish-ochreous, mesonotum mainly occupied by three contiguous blackish stripes, margin and scutellum lighter. Dorsocentral bristles very short and inconspicuous, acrostichal apparently absent. Abdomen dark brown. Hypopygium small, claspers under twice as long as broad, with one very strong apical spine pointing inwards, and rather dense hair on the inner side in the middle. Legs ochreous, tibiae and tarsi darkened. Coxae short. Tibiae each with a single short spur, hind tibial comb strongly developed. Claws small; simple, empodium and pulvilli indistinct. Wings brownish-tinged, all veins rather dark. Costal cell very narrow; Sc very short. R_1 much less than half as long as R , and ending more than its own length before fM . Costa very long, reaching quite seven-eighths of the distance from R_5 to M_1 . R_5 nearly straight. Stem of cubital fork rather long. Halteres yellowish.

Length of body, 2 mm.; wing 2 mm.

Java: Tjibodas, 1400 m., 1923, 2 ♂ (KARNY).

By SCHMITZ's key to the Sciarine genera with reduced maxillary palpi this insect runs to the genus *Termitosciara*, and I therefore so place it provisionally. However on examination of the type *T. biarticulata*, kindly lent me by FATHER SCHMITZ, I find that it has two small spurs and no comb on the hind tibiae. Consequently when the Sciarinae are thoroughly revised it is probable that a new genus may have to be created for the present new species. Similar tibial characters are exhibited by *Sciara quinquelineata* MACQ., *S. politula* EDW. and a few other species, and perhaps greater importance should be attached to these features than to the reduction of the palpi.

Phorodonta flavicingula sp. n.

♀. Head shining black. Ocelli placed close behind the eye-bridges, which are three facets wide. Antennae blackish, flagellar segments about as long as broad. Palpi yellow, segments subequal in length. Thorax entirely brightly shining black; acrostichal bristles absent, dorsocentral bristles minute. Abdomen yellow; tergites 1 and 3-6 shining black; ovipositor short, black. Legs with the coxae, femora and tibiae yellow, tips of tibiae and the tarsi dark. Spurs yellow, rather longer than the tibial diameter. Claws short, toothed in the middle, pulvilli well developed. Wings hyaline, anterior veins only a little darkened, M and Cu pale, bare. R_1 shorter than R and ending well before fM ; costa reaching rather over half-way to M_1 ; branches of median fork almost straight and parallel; fCu just before base of stem of median fork. Halteres with yellow stem and dark knob.

Length of body, about 2.8 mm.; wing, 3.2 mm.

Java: Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

A very distinct species by the shining black thorax and the yellow rings on segments 2 and 7 of the abdomen.

Phorodonta lobifra EDW., var.?

Java: Buitenzorg, 20.1.1923, 1 ♂ at light (KARNY).

The lobe of the claspers is smaller and with longer hair than in the type from Siam.

Sciara (Scatopsciara) politula EDW.

Java: Pangrango, 3000 m., 1923, 1 ♂ (KARNY). Tjibodas, 1400 m., 5 ♀ (KARNY).

This has recently been described from the ♀ only from Malaya. The ♂ is similar, except for the longer antennae. Claspers about three times as long as broad, with a very strong and rather blunt ventro-terminal spine.

Sciara pectoralis STAEG. (*tritici* COQ.)

Java: Depok, XII. 1923, 1 ♂ 2 ♀ (DAMMERMAN).

This rather well-defined species, already recorded from Europe and North America as injurious to seedlings, proves to have a very wide distribution, as I have recently examined specimens also from Mesopotamia. The fact that in England it occurs only as a hot-house pest suggests that if has been introduced from some warmer country, and it will perhaps be found to occur throughout the tropics of at least the old world.

Sciara horrescens EDW. var.

Java: Tjibodas, 1400 m., 1 ♂ (KARNY).

The specimen is smaller than the type from the Malay Peninsula, and has *RI* shorter, ending above instead of just beyond *fM*, but the bristly thorax and the form of the claspers is similar.

Sciara conulifera EDW.

Java: Tjibodas, 1400 m., 1 ♂ (KARNY).

Sciara karnyi sp. n.

♂ Head dull black. Ocelli just behind the eye-bridges, which are three facets wide. Antennae as long as the body, black; flagellar segments over twice as long as broad, necks quite one third as long as the segments; pubescence longer than the diameter. Palpi slender, blackish. Thorax blackish, moderately shining, dorsocentral and acrostichal hair very short and inconspicuous. Abdomen black, with black hair. Hypopygium formed almost as in *Phorodonta fruhstorferi* (Rubs.), the clasper having one very stout terminal spine, but lacking the stout bristle; a distinct basal hair-patch present.

Legs yellowish, tarsi darkened. Spurs rather short, yellow. Claws small and apparently simple. Wings smoky, all veins darkened. R_1 shorter than R and ending just before fM ; costa reaching three-quarters of the distance from R_5 to MI ; branches of median fork parallel and curved downwards; tips of R_5 and M_2 about level; stem of cubital fork rather short; anal vein short. Halteres blackish.

Length of body, barely 2 mm.; wing 2.2 mm.

Java: Tjibodas, 1400 m., 1923, 1 ♂ (KARNY).

The very close resemblance between the hypopygium of this and *P. fruhstorferi* might lead one to suppose that the two were identical, especially as both are from the same locality, but the remaining characters of the specimen before me are not at all as described by RÜBSAAMEN.

Sciara dolicholabis sp. n.

♂. Head dull black. Ocelli just behind the eye-bridges, which are two to three facets wide. Antennae fully as long as the body, black; flagellar segments about 2.5 times as long as broad, with short necks; pubescence shorter than the diameter. Palpi slender, blackish. Thorax black, moderately shining, dorso-central and acrostichal hair short, dark. Scutellum with two long bristles. Abdomen blackish, with black hair. Claspers over four times as long as broad, with two small apical spines. Legs light brownish, tibiae and tarsi darker. Spurs short. Wings hyaline, all veins dark. Venation almost as in the last species. Halteres black.

Length of body, about 1.5 mm.; wing, 2 mm.

Java: Tjibodas, 1400 m., 1923, 1 ♂ (KARNY).

Metanepsia gen. n.

Eyes round, bare. Three large ocelli, the laterals far removed from the eyes, the middle one placed a little forwards. Antennae probably with 2 + 14 segments; second segment more than twice as deep as it is long, rather pointed beneath; flagellar segments flattened, much enlarged beneath, with rather long necks. Mouth-parts very much reduced, very little prominent; palpi consisting of a single minute segment. Thorax much arched, all the bristles rather small, those on the scutellum longer but numerous and not strongly differentiated. Prothorax small. Pleurotergites not very prominent, with a few short bristles. Postnotum bare. Abdomen moderately long, seventh segment moderately large, not retracted; hypopygium of rather simple type; side pieces separate to the base; penis a simple curved tube. Legs not very long. Coxae moderately long, with bristly hair. No tibial bristles, the fine setae irregularly arranged. Spurs normal; no hind tibial comb. Claws small; no empodia. Wings rather short and broad. Microtrichia of membrane irregularly arranged, rather longer towards tip of wing; no macrotrichia. Sc moderately long, but not reaching costa; Sc_2 absent. Base of Rs extremely short, hardly distinguishable, placed far before

middle of wing, its main section long and straight, costa reaching well beyond its tip. Median fork about as long as its stem; *r-m* oblique and not very long. Cubital fork short and widely open, but its base much before that of the median. *An* rather long, but not reaching the margin.

Type *M. javana*, sp. n.

The exact position of this interesting genus is rather problematical. Many of its features seem to suggest a connection with the *Tetragoneura* group of genera, but the weak thoracic bristles and the entire absence of strong tibial bristles seem rather to point to affinity with the Sciarinae. The reduction of the mouth-parts is specially noteworthy. The venation is not unlike that of the fossil genus *Dianepsia*, which differs mainly in having *Sc 1* complete and *Sc 2* present. Besides the new species described below I have seen one from West Africa.

Metanepsia javana sp. n.

♂. Head blackish. Antennae with the first few segments ochreous, the rest gradually darker. Flagellar segments as broad but nearly twice as deep as long, articulated near the upper margin; necks not much shorter than the segments; pubescence rather long, especially at the upper apical corner of each segment. Thorax blackish, moderately shining, upper part of pleurae lighter.

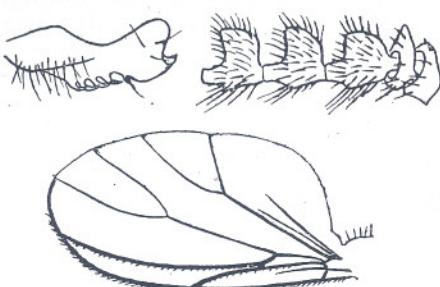


Fig. 2. *Metanepsia javana* sp. n. Wing, base of antenna and clasper.

uniformly smoky. Venation as figured. Halteres with ochreous stem and dark knob.

Length of body, about 3 mm.; wing, 2 mm.

Java: Depok, XII, 1923, 1 ♂ (DAMMERMAN).

Allactoneura cincta DE MEIJ.

Java: Tjibodas, 1400 m., 1923, 1 ♂ (KARNY).

BIBIONIDAE.

Plecia tristis v. d. W.

Java: Tjibodas, 1400 m., 1923, 5 ♂ (KARNY).

The thorax is almost entirely black, with very little grey dusting. Hypopygium (see figure) with the lobes of the ninth tergite very long.

Plecia karnyi sp. n.

♂. Head missing. Thorax mainly red above; the front of the mesonotum and the postnotum black. Pleurae entirely black. Abdomen black.

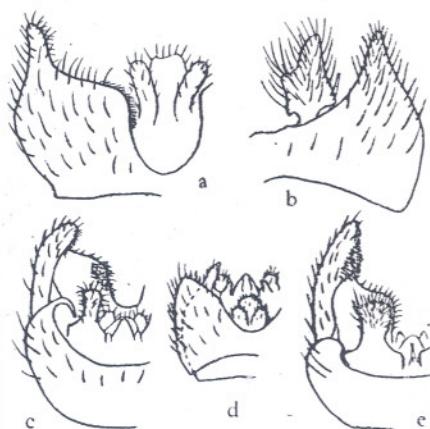


Fig. 3. Hypopygia of *Plecia* spp.—a *P. karnyi* sp. n., from above; b the same from below; c *P. tjibodensis* sp. n., from below; d *P. ruficornis* sp. n., from above; e *P. tristis* v. d. W., from below.

black, with 2 + 7 segments in the ♂, 2 + 8 in the ♀, last segment in both sexes very small, intermediate segments rather broader than long. Palpi black. Thorax red above, pleurae black. Abdomen blackish. Hypopygium with the lobes of the ninth tergite large and prominent, somewhat as in *P. tristis* and in the Malayan *P. forficula* Edw., but details of structure different. Legs black: front tibiae in both sexes rather slender and cylindrical, with short pubescence. Wings smoky, but not so dark as in the preceding species. R_4 longish and almost straight, especially in the ♀. Cell Cu_2 scarcely narrowed at the tip. Halteres black.

Length of body, 3.5—4 mm., wing 5 mm.

Java : Tjibodas, 1400 m., 1923, 1 ♂ 2 ♀ (KARNY).

Plecia ruficornis sp. n.

♂. Coloration probably as in *P. fulvicollis*, with wholly reddish thorax and black abdomen, wings and legs, the black colour however bleached by alcohol. Ocellar tubercle large. Antennae entirely light ochreous, composed of 2 + 7 segments, intermediate ones considerably broader than long, last minute. Front tibiae stout, slightly flattened, pubescence nearly as long as the diameter. Hypopygium (fig. 3d) rather small, constructed somewhat as in *P. aruensis* Edw., but the small lobes of the ninth sternite rather widely separated.

Length of body, 4 mm.; wing, 4 mm.

Kei Is. : Toeal, 1922, 1 ♂ (H. C. SIEBERS).

Hypopygium (fig. 3a) somewhat resembling that of *P. javensis* Edw., neither the ninth tergite nor the side-pieces being produced into forceps-like structures. Legs black; front tibiae stout, almost cylindrical, narrowed at the base, pubescence about as long as the diameter. Wings blackish, all veins very dark. Cell Cu_2 scarcely narrowed apically. Halteres black.

Length of body, about 6 mm.; wing 7 mm.

Java : Tjibodas, 1400 m., 1923, 1 ♂ (KARNY).

Plecia tjibodensis sp. n.

Head black, dusted with grey in the ♀. Ocellar tubercle of ♂ large. Antennae

2 + 8 in the ♀, last segment in both sexes very small, intermediate segments rather broader than long. Palpi black. Thorax red above, pleurae black. Abdomen blackish. Hypopygium with the lobes of the ninth tergite large and prominent, somewhat as in *P. tristis* and in the Malayan *P. forficula* Edw., but details of structure different. Legs black: front tibiae in both sexes rather slender and cylindrical, with short pubescence. Wings smoky, but not so dark as in the preceding species. R_4 longish and almost straight, especially in the ♀. Cell Cu_2 scarcely narrowed at the tip. Halteres black.

Plecia javensis EDW.

Java : Buitenzorg, 17.1.22, 1 ♂.

Dilophus nigriventris DE MEIJ.

Java : Tjibodas, 1400 m., 1923, 1 ♂ 1 ♀ in cop. (KARNY).

The thorax in both these specimens is entirely shining black, but the ♀ agrees structurally with other examples with a normal red mesonotum, and it is doubtless only a variety of DE MEIJERE'S species.

ANISOPODIDAE.

Anisopus javanicus EDW.

Java : Mt. Pangrango, 3000 m., 1923, 2 ♀ (KARNY).

PSYCHODIDAE.

Psychoda flava sp. n.

♀. Integument and almost the whole of the vestiture pale yellow. Antennae with 2 + 12 segments, 3 — 12 with very long necks, verticils reaching just beyond the base of the succeeding segment; the globular basal portions of segments 8—13 are dark, though the colour is hidden by the whitish verticils; 13 and 14 without necks, but not much smaller than 12. Front femora and tibiae with some dark scales in front. Wings with darker markings as follows: a broad outwardly angulate brown band across the middle from the costa to the hind margin, including both fringes, and formed of long erect hair, which is present on all the veins; a small but conspicuous deep black spot in the posterior fringe between the tips of the penultimate and antepenultimate veins, composed of black scales which are scarcely a third as long as the fringe-hairs; a few long dark hairs in the fringe immediately below the tip of the wing. Wings rather narrower than in *Ps. phalaenoides*, but venation practically the same.

Length of body, 1.5 mm.; wing, 2 mm.

Java : Tjibodas, 1400 m., 1923, 2 ♀ (KARNY).

Brunettia (Parabrunettia) trimicra sp. n.

♀? — Head clothed with rather small and close-lying scales which are mostly white. Antennae with 2 + 14 segments, 3 — 13 with long necks, rather longer than the globular basal portion, and with dense and even verticils each reaching forwards to the base of the following segment; askoids not discernible in the dry specimen; 14 — 16 minute, without distinct necks, almost hidden in the verticil of 13. Palpi pendulous, only about a third as long as the antennae. Thorax clothed with whitish scales in front, passing into pale brownish behind; on the front and hind portions of the mesonotum the scales are long, erect and hair-like, but in the middle they are much shorter and lie almost

flat. Abdomen clothed with dark scales with a bronzy lustre, for the most part lying nearly flat, those towards the tip much longer. Legs without long upright hairs; femora and tibiae mostly white above, blackish below; the middle tibiae (and perhaps the others, which are hidden or denuded in the type) with a small blackish mark on the upper side just before the tip; first two tarsal segments narrowly white at the tip, the last three almost all white. Wings distinctly pointed, densely covered on both membrane and veins with flat scales both above and below, hairs confined to a very few at the base only. The scales are mostly dark brown, but mixed with these are some rather lighter ones with slight bronzy (not strongly metallic) reflections; on the outer third of the wing these lighter scales predominate. Fringe unusually short, dark brown except round the tip, where it is pale. Halteres dark.

Length of body, 2.2 mm., wing 3×1.8 mm. (excluding fringe).

Java: Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

TIPULIDAE.

Dicranomyia tenella DE MEIJ.

Java: Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

The collector notes that in life the abdomen was bright green; head, thorax, and tip of abdomen lemon yellow; eyes deep black.

Libnotes (Goniodineura) nigriceps v. d. WULP.

Java: Buitenzorg, 7, III. 23 (KARNY).

Libnotes nigricornis ALEX.

Java: Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

The venation differs slightly from ALEXANDER'S figure, cell *M1* being less retracted at base, and *Cu 1a* nearer base of discal cell. The mesonotum is shining dark brown, much darker than the pleurae. In spite of these differences the specimen probably belongs to ALEXANDER'S species.

Geranomyia nitida DE MEIJ.

Java: Tjibodas, 1400 m., 1923, 1 ♂ (KARNY).

The fleshy claspers are very long, slender and pointed, as in *G. linearis* ALEX.

Geranomyia javanica ALEX.

Java: Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

Orimarga javana DE MEIJ.

Java: Tjibodas, 1400 m., 1923, 1 ♂ (KARNY).

Differs from DE MEIJERE's type in having $r-m$ well beyond the base of cell $M_1 + 2$, but is doubtless the same species.

Orimarga flaviventris sp. n.

♂. Head dark brownish; proboscis rather light ochreous; antennae and palpi dark. Flagellar segments rounded to rather shortly oval. Thorax dark brown, scarcely shining, covered with brownish dusting; pleurae almost all dark. Abdomen rather light ochreous (perhaps faded), hypopygium darker. Claspers very long, curved, both rather pointed and bare at the tips; side pieces each with two rather large hair-brushes at the base, placed close together on low transverse ridges. Ninth segment rather small and unmodified. Legs brown, tips of femora darkened. Wings clear, veins not very dark. Subcostal cross-vein placed beyond tip of Sc . Tip of R_1 turned up and only about half as long as r ; Rs gently curved at base; $r-m$ as long as basal section $M_1 + 2$; cell M_3 rather longer than its stem; $Cu\ 1a$ placed before middle of Rs . $R_2 + 3$ with about 10 macrotrichia.

Length of body, 4 mm.; wing, 4.8 mm.

Key Is.: Toeal, 1922, 1 ♂ (H. C. SIEBERS). Alcoholic.

This is very near the Javan *O. similis* EDW., differing in the unmarked pleurae. Somewhat similar hair-brushes occur on the hypopygium of *O. fryeri* EDW.

Orimarga pictula sp. n.

♀. Head ochreous, palpi and flagellum dark, flagellar segments rounded to shortly oval. Thorax light ochreous above, with grey dusting on the shoulders; pleurae darker, but with a broad longitudinal stripe of silvery-grey dusting on the upper half. Abdomen brownish-ochreous; ovipositor very short. Legs very pale, almost white, but the femora rather broadly black at the tip. Wings short, slightly milky, veins mostly pale. Conspicuous blackish seams on all the cross-veins and forks, and also at the tip

of $R_2 + 3$, Cu_2 and Ax , and along the basal part of An . Sc short, ending only a little beyond base of Rs , which is much before middle of wing; subcostal cross-veins placed beyond tip of Sc , connecting costa with



Fig. 4. Wing of *Orimarga pictula*, sp. n. R_1 , which runs very close to the costa and is not continued beyond r . Rs very long angled and slightly spurred at base, as is $R_4 + 5$ also; $r-m$ above base of cell M_3 ; $Cu\ 1a$ about half-way between base of Rs and fork of M . Ax shorter than in most species, but as usual it is strongly sinuous near the base. Halteres pale.

Length of body, 4 mm.; wing 3 mm.

Key Is.: Gn Daab, 1922 (H. C. SIEBERS).

A remarkably distinct little species on account of the short, spotted wings. Some points in the venation suggest *Orimargula*, but it appears to be a true

Orimarga, agreeing with other members of the genus in the small axillary cell and sinuous base of Ax.

Styringomyia jacobsoni EDW.

Java : Buitenzorg, 1 V. 1923, 1 ♀ (KARNY).

Molophilus javensis sp. n.

♂. Head entirely yellowish above, with yellow hair. Antennae short, with the scape and first few flagellar segments yellow, the rest gradually darkened. Palpi and proboscis deep black. Thorax rather light brownish-ochreous, margin of mesonotum pale yellow. Dorso-central hair rather scanty, black. Abdomen dark brown; hypopygium large, ochreous, the two pairs of claspers black, both of moderate length, pointed and somewhat sickle-shaped, the lower pair slightly enlarged just before the tip. Legs dark brown. Wings clothed with dark hair, except along the costa towards the base, where it is pale. Venation normal. Halteres brownish-ochreous.

Length of body, under 3 mm.; wing, 3.7 mm.

Java : Tjibodas, 1400 m.; 1923, 2 ♂ (KARNY).

This is very near *M. malayensis* EDW. (Malay Peninsula), differing in its smaller size, yellow occiput, lighter mesonotum and halteres, and more pointed lower claspers.

Baeoura pilifera sp. n.

♀. Head with blackish integument, but heavily dusted with light grey, and with some long black hair. Antennae and palpi black; first two or three flagellar segments shortly oval, with long verticils, the rest gradually becoming longer and more slender, but with shorter verticils. Thorax black, somewhat shining, postnotum and pleurae more or less dusted with grey. Pronotum large, dull blackish. Abdomen short, black, with black hair; anal cerci black, genital parts yellow. Legs dark brown, clothed with very long hair, 4—5 times as long as the diameter of the legs, longest on the femora. Wings greyish; a rather large brown blotch over the arculus; another smaller one over the base of *Rs*; a broad brown seam over the cord. Macrotrichia on veins rather long and conspicuous. Cross-vein *r* placed close to base of *R₂*, which is parallel with and not much shorter than *R₃*. *Cu 1a* at middle of stem of cell *M₃*, which is not much widened apically. Halteres whitish.

Length of body, 3.5 mm.; wing, 5 mm.

Java : Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

Differs from the three or four other oriental species of *Baeoura* in its blotched wings and in the longer hair on the veins and legs. The general appearance is rather that of a *Teucholabis*. Although *Baeoura* was proposed by ALEXANDER only as a subgenus, it appears to me to be entitled to generic separation from *Erioptera*.

***Gnophomyia longicellula* sp. n.**

♂. Head missing. Thorax dark brown above, moderately shining; humeral angles yellowish; pleurae brownish-ochreous, without distinct dark spots. Abdomen dark brown, venter and hypopygium lighter. Claspers very long,

slender, gently curved, tips slightly enlarged and pubescent. Legs dark brown. Wings with a rather strongly brownish tinge, veins darker brown. Cell R_2 widened at the tip, not parallel-sided as in most allied species, also more sharply pointed than usual at the base. Discal cell very long, longer than cell M_3 ; $Cu\ 1a$ only a little before the middle. Ax rather strongly curved down at the tip. Halteres blackish.



Fig. 5. Hypopygium of (a) *Gnophomyia longicellula* sp. n.; (b) *Gynoplistia siebersi* sp. n.

Length of body, 5 mm.; wing, 5.5 mm.

Java : Tjibodas, 1400 m., 1923, 1 ♂ (KARNY).

***Gnophomyia orientalis* DE MEIJ.**

Java : Tjibodas, 1400 m., 1923, 1 ♂ (KARNY).

***Trentepohlia* (s. str.) *apicalis* (WIED.).**

Java : Buitenzorg, 27.II. and 8.III. 1923, 2 ♂ at light.

***Trentepohlia* (*Anchimongoma*) *niveipes* sp. n.**

♂. Head and its appendages dull blackish. Antennal segments slender with long hairs. Thorax shining brown, lighter posteriorly, especially on the pleurae. Abdomen dull dark brown, venter lighter. Legs with the coxae and trochanters ochreous; femora dark brown with white tips; tibiae rather broadly snow-white at the base and more so at the tip, the middle part (equalling half the length of the tibia) dark brown; tarsi entirely snow-white. Wings greyish, unmarked; venation as in *T. (A.) simplex* BRUN. Halteres blackish.

Length of body, 6 mm., wing, 6 mm.

Java : Tjibodas, 1400 m., 1923, 1 ♂ (KARNY).

Differs from *T. (A.) simplex* BRUN., the only other member of the subgenus at present known, in the colouring of the legs.

***Gynoplistia siebersi* sp. n.**

♂. Head dark above, with metallic reflections; face ochreous. Antennae 16-segmented, first few segments ochreous, the rest darker; segments 3—11 each with a long projection, the longest about 5 times as long as the segment; 12—16 simple, oval. Thorax brownish; three stripes on praescutum and two patches on scutum shining metallic bluish; pleurae and postnotum heavily dusted with grey. Abdomen shining dark purple; bases of segments 2 and

5 and nearly the whole of 6 and 7 ochreous. Hypopygium mostly ochreous; ninth tergite square-ended; apparently only one pair of claspers, which have some tooth-like projections, as figured; parameres slender, curved, sharp-pointed. Legs brownish. Wings slightly opaque; a spot over the arculus; another squarish spot over the base of Rs , a large patch over the cord, and a spot on the middle of An blackish. $R_4 + 5$ arising at almost the same point as R_2 and R_3 ; cell M_1 about as long as its stem; Ax very sinuous. Halteres with pale stem and black knob.

Length of body, 5 mm.; wing, 5.5 mm.

Kei Is.: Toeal, 1922, 1 ♂ (H. C. SIEBERS).

Apparently related to *G. occipitalis* DE MEIJ. (New Guinea) but evidently quite distinct.

Eriocera nigricans sp. n.

♀. Belongs to the *verticalis* group; most nearly related to *E. fusca* EDW. (Ceylon), from which it differs as follows: — Front very little swollen. Scape of antennae clear ochreous. Palpi shorter, apparently composed of only three rather short segments. Mesonotum slightly and uniformly shining, therefore not appearing striped. Legs without metallic blue reflections. Venation: tip of R_1 sharply turned up at r , which is placed on $R_2 + 3$ well before the fork; R_2 much shorter than $R_2 + 3$.

Length of body, 10 mm.; wing, 11 mm.

Java: Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

The male of this species may be expected to have short antennae like those of the female.

Pselliophora rubella EDW.

Java: Depok, 23. IV. 23, 1 ♀ (KARNY).

Prionota xanthomelana (WALK.).

Java: Tjibodas, 1400 m., 1923, 1 ♂ 1 ♀ (KARNY).

Ctenaeroscelis umbrinus (WIED.).

Java: Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

Tipula quadrinotata BRUN.

Java: Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).

Tipula tjibodensis ALEX.

Java: Tjibodas, 1400 m., 1923, 2 ♀ (KARNY).

The specimens agree well with Alexander's description and figure except that the head has a dark median line and the tip of cell R_1 is not pale. The space between Cu and the sub-cubital vein is not darkened. Legs light brownish. Anal valves of ovipositor rather short, blunt-tipped.

Tipula nigrinervis sp. n.

Nearly related to *T. tjibodensis* ALEX., with which it agrees in its ringed

flagellum, uniformly yellowish thorax, blackish costal cell and stigma, etc., but differing as follows:

Antennae of ♂ a little longer than the head and thorax together. Ninth tergite of ♂ hypopygium with the median notch only; claspers very differently shaped (though as in *T. tjibodensis* there is apparently only one pair present), blackened only along the posterior margin, which is conspicuously serrate; eighth sternite ending in a pair of divergent hairy finger-like processes, the bases of which are placed close together near the middle line. Wings with less distinct brown tinge, veins darker; apical cells rather longer and narrower. Space between *Cu* and the subcubital vein or fold black.

Java: Tjibodas, 1400 m., 1923, type and paratype ♂, the latter immature (KARNY).

Both specimens differ from the females identified above as *T. tjibodensis* in having no dark line on the head and the tip of cell *R1**pale.

Tipula (Tipulodina) tinctipes EDW.

Buitenzorg, 11. V. 1923, 1 ♂ (SIEBERS).

The legs are even darker than those of the type ♀ (which was also from Buitenzorg); the only distinct white marking is the sub-basal ring on the hind tibiae, the other tibial rings being very narrow and indistinct, also the white of the first tarsal segments is replaced by brown. Hypopygium almost exactly as figured by Alexander for *T. pedata*, the eighth sternite being similarly produced into a sharp point. This last feature seems sufficient to distinguish the species from *T. fuscitarsis* EDW.; there is also a distinct difference in the length of the antennae, which in the present specimen are noticeably shorter and not longer than the head and thorax together; also cell *Ax* of the wings though very narrow is somewhat broader than in *T. fuscitarsis*. As in the type ♀ the spot in cell *M* is placed just before the middle. Since there appears to be no structural difference *T. tinctipes* should perhaps be regarded as merely a dark variety of *T. pedata*. The Japanese *T. joana* ALEX. must be very similar.

Nephrotoma triplasia (v. D. WULP).

Java: Tjibodas, 1400 m., 1923, 1 ♀ (FULMEK).

The black marks adjoining each eye are continued backwards and meet on the nape. The bent-down front ends of the lateral stripes of the praescutum are continued a short distance on to the pleurae, forming a dull black spot. Scutellum shining, with a black spot in the middle. Postnotum with a pair of confluent shining blackish spots close to the base.

Nephrotoma virgata (Coq.).

Syn. *Pachyrrhina scurroides* de MEIJ.

Java: Tjibodas, 1400 m., 1923, 3 ♂ 3 ♀ (FULMEK).

Nephrotoma immaculata (v. D. WULP).

Syn. *Pachyrrhina ochripleuris* DE MEIJ.

Java: Tjibodas, 1400 m., 1923, 1 ♀ (KARNY).