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Culex (Lophoceratomyia) fraudatrix, Theo., var. **solomonis**, nov.

Larvae and pupae were found in a tree-hole at Tenaru with other species listed under *Aedes albolineatus*. Two males and a female were reared.

Culex (Lophoceratomyia) hilli, Edw., var. **buxtoni**, Edw.

One male specimen, apparently of this variety, was collected under a mango tree at Banika with *Uranotaenia albescens*.

Culex (Culiciomyia) papuensis, Taylor.

I did not meet with this species, but specimens were reared from larvae found by Mr. E. G. Sayers at Roviana in 1929, in coconut husks, associated with *Uranotaenia quadrimaculata*, *Aedes variegatus*, *A. argenteus*, *A. albolineatus* and *Armigeres malayi* var. *breinli*.

3. *Descriptive Notes on the Material.*

(F. W. EDWARDS.)

The material collected by Paine includes examples of two new species and two new varieties, besides the hitherto unknown larvae and pupae of several other species. The types of the new forms have been placed in the British Museum collection.

Rachionotomyia solomonis, Edw.

LARVA (fig. 1).—*Head* rather large, rounded, pale in colour. Clypeal spines moderately stout. Dorsal hairs all rather far forward: *A*, *B* and *C* in a slightly convex line at about level of insertion of antennae, *B* almost equidistant from and slightly in front of *A* and *C*, *d* placed much further forwards, almost directly in front of *C*; *A* always simple, *B* and *C* double or occasionally triple; *d* as long as *A*, *B* or *C*, simple or double; *e* small and simple. *Antennae* not half as long as head, almost cylindrical on basal two-thirds, but with outer margin somewhat concave, apical third tapering; at two thirds of the length of the antenna on its inner aspect is a stout spine-like bristle (almost as thick as the clypeal spines) which is usually bifid near its middle. *Mentum* with a very prominent central tooth and about nine on each side. *Maxillae* longer than broad, somewhat narrowed apically, with about ten slender teeth along inner margin and a tuft of 15—20 bristly hairs at tip; palp about half as long as maxilla itself. Mandible very much as figured by Howard, Dyar and Knab for *Wyeomyia sororcula*; round basal portion without denticles.

Thorax with numerous stellate tufts each composed of about 10 slightly plumose branches; six of these occur on middle of dorsum of the thorax, a pair on each of the three divisions, prothoracic pair rather close together and set in small chitinous plates. Mesothorax laterally with a stout trifid spine set in a rather large plate; upper division of spine about twice as long as middle division, which again is about twice as long as lower division. Between the spine and the dorsal stellate tuft of the mesothorax is a group of four single hairs set separately in small plates, the outermost of these hairs much longer than the others. Metathorax with a trifid lateral spine similar to that of mesothorax, but longer and even stouter. Pleural hairs*: Prothoracic anterior dorsal moderately long, double; anterior ventral slightly longer, single; posterior dorsal very short, single; posterior ventral nearly twice as long as anterior, single. Mesothoracic anterior dorsal very long, 4-branched; anterior and posterior ventral of the same length, single; posterior dorsal very short, single. Metathoracic anterior dorsal very long, 6-branched; anterior ventral still longer, single; posterior dorsal and ventral both short, single.

Abdomen with numerous large stellate tufts similar to those of thorax, dorsally laterally and ventrally, each tuft with about 10 branches; on dorsum of each segment

* See Puri's paper in Ind. Journ. Med. Res. xvi, 1928, p. 519.

four such tufts are present, except that the eighth segment has only two. Eighth segment with lateral plates well chitinised; comb of 8-10 long, sharp teeth, of which the lowermost three or four are smaller and placed closer together. *Siphon* short, dark, narrow at tip, index about 2.5. Dorsally and dorsolaterally are a few rather short, irregularly arranged double hairs; ventrally close to base is a pair of rather short triple hairs, and more distally a slightly irregular mid-ventral row of about

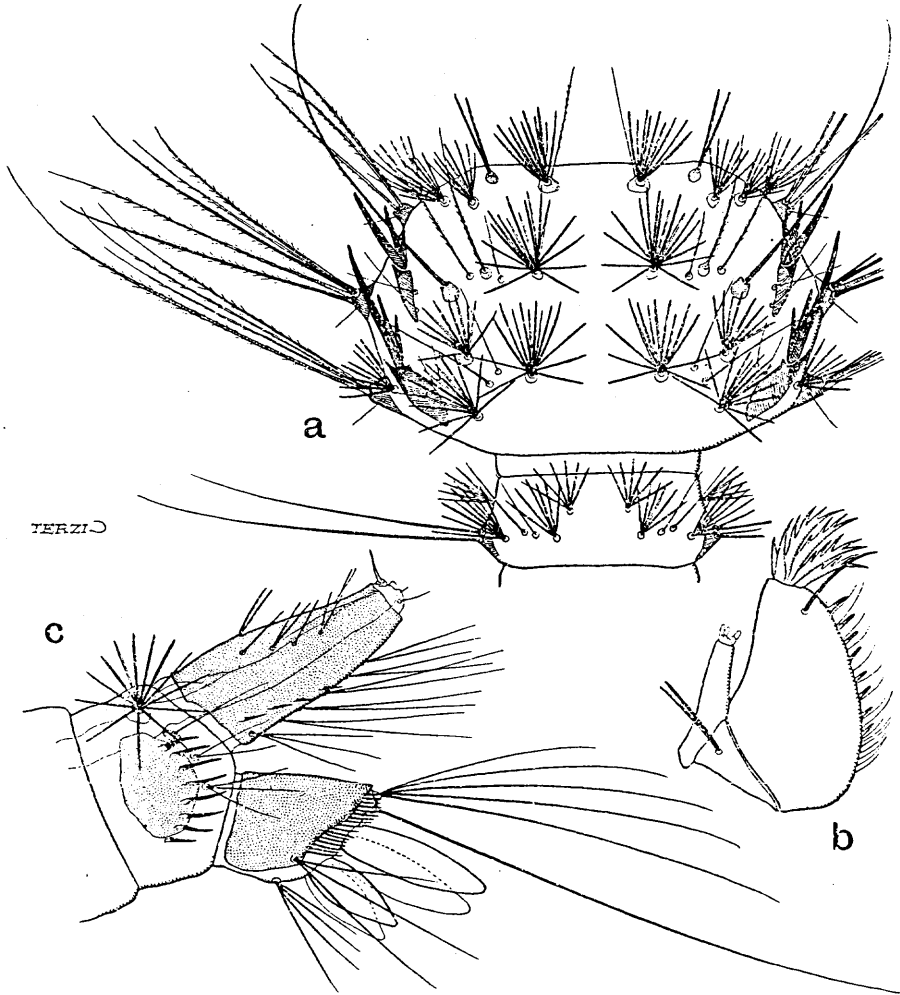


Fig. 1. *Rachionotomyia solomonis*, Edw., larva: a, thorax and 1st abdominal segment, from above; b, maxilla; c, tip of abdomen, from side.

six double hairs each of about the same length as the siphon. Dorsal valves with a rather strong spine, ventral valves with a single hair. Pecten of four or five simple, widely spaced teeth. *Anal segment* with rather large saddle, with about 20 needle-like teeth on each side posteriorly. Outer dorsal hair single, inner 6-branched; ventral tuft 5-6-branched; lateral hair of saddle long, stout, double or triple. Gills fusiform, pointed, upper pair slightly longer than saddle, lower about half as long as upper.

PUPA.—Very similar to that of *R. caledonica* as described and figured by Buxton (Researches in Polynesia and Melanesia, p. 75), but lateral tuft of eighth segment longer than the segment itself; paddles relatively small, not extending beyond end of tuft of eighth segment; and submedian hairs on posterior margin of tergites 3-7 smaller.

In the morphology of its early stages *R. solomonis* proves to be a typical *Rachionotomyia*, although the larva is well distinguished from most others known by the stout antennal bristle and the strong trifold spine of the mesothorax, as well as by the form of the teeth on the maxilla and other details. We must therefore conclude that the adult features of comparatively short proboscis and long male palpi, which distinguish this species and *R. atripes* from the genotype, are of secondary importance only. The larva of *R. atripes* has been described by Cooling (1924) and is evidently very similar to that of *R. solomonis*, but the stout antennal bristle is simple and the larger spines of the comb are blunt-ended.

Rachionotomyia (Rachisoura) filipes (Walk.).

LARVA (fig. 2).—*Head* large, somewhat longer than broad, pale in colour. Clypeal spines long, moderately stout. Dorsal hairs rather far forward: *A* and *B* near level of insertion of antennae, *C* almost directly behind and at a rather great distance from *B*, *d* in front of and well inside *B*; *A*, *B* and *e* double, *C* and *d* simple, *C* much longer than the others. *Antennae* short, cylindrical, about four times as long as broad, with a fine single hair on outer side near tip. *Mentum* broad and short, central tooth and last but one on each side prominent; about seven teeth on each side of central tooth. *Maxillae* of very remarkable form: main portion about half as long again as broad, not much narrowed apically, with about five short, broad teeth on inner margin and one additional tooth ventrally; at apex of maxilla are two strong articulated hooks, the larger hook as long as the maxilla itself, the smaller a little more than half as long; at the base of the smaller hook are a number of small spinules which perhaps represent the tuft of bristles found in other species. Palp almost as long as main portion of maxilla, the whole structure closely similar to the maxilla of *Lesticocampa rapax* as figured by Howard, Dyar and Knab. Mandible very similar to that of *L. rapax*, with a number of small teeth on the basal rounded portion.

Thorax bare in middle, without conspicuous stellate tufts. On prothorax the innermost pair of tufts are only triple and set very far apart. Mesothorax laterally with a group of five single hairs close together, one very much longer than the others, none in the least spine-like. Metathorax without dorso-lateral spine, the place of this being taken by a large 8-10-branched tuft, the branches long, slender and plumose; chitinous plate at base of tuft very small. Pleural hairs somewhat as in *R. solomonis*, but prothoracic anterior dorsal with about four branches; mesothoracic anterior dorsal scarcely longer than prothoracic and about 6-branched; metathoracic posterior dorsal quite five times as long as the posterior ventral, which is very minute.

Abdomen without stellate tufts; dorsum of first segment bare except for a sub-lateral pair of small chitinous plates, each of which includes the bases of two hairs, the anterior double, the posterior 3-4-branched, the branches rather stout; on remaining segments there is only one short sublateral hair, usually 4-branched. Eighth segment without chitinous plates; comb of 7-9 strong, pointed teeth, each with a pair of strong basal denticles. *Siphon* short, black; posterior margin straight, anterior margin parallel with posterior for a short distance, then converging, so that tip of siphon is not more than one third the diameter of the base. A dorsal row of 8-10 hair-tufts, each 3-4-branched and about as long as basal diameter of siphon; a ventral row of 11-14 hair-tufts, each 3-4-branched and almost as long as length of siphon. Pecten of about 7 sharp, simple teeth, first tooth at one-fourth, last at

three-fourths length of siphon; an additional tooth at extreme tip of siphon. Dorsal valves with a stout bristle, ventral valves with a long 4-branched hair. *Anal segment* with rather small saddle, with a group of 4-5 stout teeth on each side posteriorly. Outer dorsal hair single, inner 7-8-branched; ventral tuft long, 6-7-branched; lateral hair of saddle long, stout, simple. Gills very long, slender, pointed, dorsal pair nearly four times as long as saddle, ventral pair not much shorter.

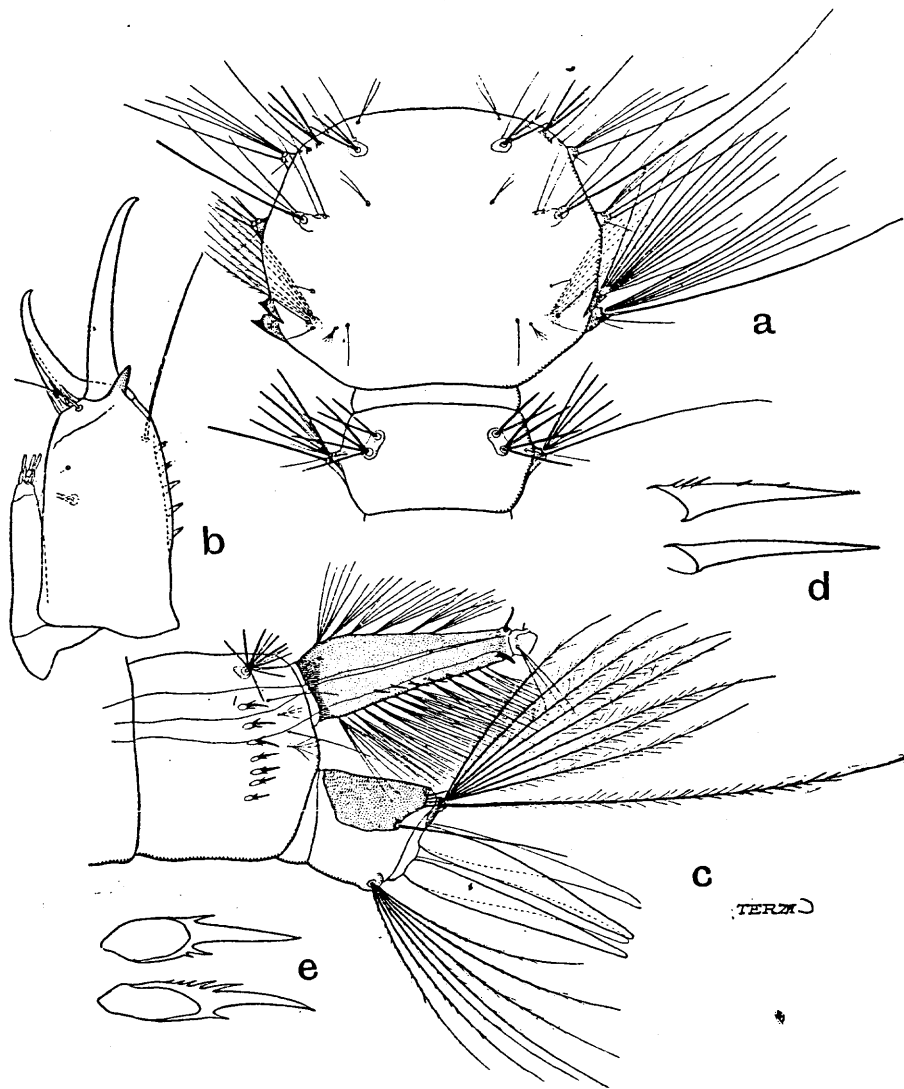


Fig. 2. *Rachionotomyia filipes*, Walk., larva: a, thorax and 1st abdominal segment, from above; b, maxilla; c, tip of abdomen, from side; d, pecten teeth; e, comb teeth.

PUPA.—Very similar to that of *R. solomonis*, but respiratory horn longer, about 2.2 instead of 1.3 times as long as its greatest breadth.

In many respects the larva described above is very different from all other *Rachionotomyia* larvae hitherto discovered, notably in the form of the maxillae,

the very slight development of stellate tufts on the thorax and abdomen, and the absence of the metathoracic spine. These distinctions are so very pronounced that after studying these larvae I was led to re-examine the adults in the expectation of finding some character that might lead to the exclusion of the species from the genus *Rachionotomyia*. The closest scrutiny however has failed to reveal any character which distinguishes the adult *R. filipes* from all other species of the genus, except the presence on the postnotum of from one to three minute bristles. These bristles are so small that they have previously been overlooked, and it may be doubted whether they are constantly present.

The divergence of *R. filipes* larva from other *Rachionotomyia* is not less striking than the resemblance it shows to the tropical American genus *Goeldia* (*Lesticocampa*), especially in the structure of the maxillae. Both *R. filipes* and *Goeldia* larvae are known to be predacious, and the maxillae are evidently modified for the purpose of capturing their prey. The similarity in form of these organs may therefore be due to convergence brought about by similar habits; but it should be noted that *Sabethinus*, another allied American genus which has adopted a predatory mode of life and has used its maxillae (rather than any other organs) for purposes of capture, has modified them in a different way. It seems, therefore, more probable that the resemblance between *R. filipes* and *Goeldia* implies a real relationship, though exactly how the two genera are connected cannot at present be determined. More light may be thrown on the matter when the larvae of some of the more or less aberrant species of *Rachionotomyia* recently found in New Guinea are made known. Meanwhile it may be justifiable to revive Theobald's name *Rachisoura* for this species, treating it provisionally as a subgenus of *Rachionotomyia*.

***Uranotzenia argyritarsis*, Leic., var.**

♂. *Head* black-scaled in middle, with a broad blue border round eyes. Proboscis slightly longer than abdomen, very much swollen apically, entirely dark, with a few short hairs above towards tip. Palpi dark. Antennae with the last segment nearly twice as long as penultimate, latter only about twice as long as antepenultimate. *Thorax* dark brownish, with black bristles and dark brown scales on scutum. A conspicuous line of flat blue scales in front of wing-root. Prothoracic lobes clothed with pale blue scales; a line of similar scales across middle of sternopleura, continued as a whitish pollinose line (without scales) across mesepimera; on each side of this line the pleural integument is somewhat darkened. *Abdomen* blackish; a large white apical patch on the fourth tergite, and a few white scales also on third tergite. *Legs* mainly dark brownish; femora pale beneath. On front and middle legs the tibia and first tarsal segment are lighter brown, the last four tarsal segments entirely cream-coloured. On hind legs the last three tarsal segments and the tip of the second are pure white. Fourth segment of middle tarsus (seen in side view) appearing somewhat thickened. Hind tibiae slightly bent outwards just before one-fourth of their length; immediately before the bend they are slightly thickened and carry on the outer surface two curled bristles. Middle tibia much longer than either the front or hind tibia. *Wings* with the scales mainly dark; stem vein (basal section of radius) with white scales along its lower edge; a long row of white scales on base of cubitus. Upper fork-cell less than one-third as long as its stem. Wing-length, 2.5 mm.

PUPA.—Respiratory trumpets nearly four times as long as their width at tip darkened on basal half, outer margin of tip gently concave. Hair behind trumpet 6-branched. Abdominal segment 2 with one simple sublateral hair and a trifid hair close to it. Segments 3–7 with the lateral hairs small and simple; sublateral as long as the segments, 3–4-branched; submedian somewhat shorter than sublateral, 5-branched. Apical lateral hair of eighth segment rather small, 3-branched. Paddles

with a transverse black line at base, somewhat pointed in shape; apical fringe very fine and indefinite on outer portion, more obvious on inner portion. Apparently no hair at tip of midrib.

Many of the characters noted above, particularly the peculiar formation of the hind tibia, were not mentioned by Leicester in his description of the male, but the specimen before me agrees rather closely with Leicester's types. The most obvious difference, perhaps indicating that the Solomons form is varietally distinct, is that the tip of the second hind tarsal segment is white as well as the whole of the last three segments; in this respect the male from the Solomons agrees with a female from New Britain. This last specimen further differs from Leicester's female in having the white scales of the abdomen confined to the third and fourth tergites, as in the male of both forms.

Uranotaenia quadrimaculata, sp. n.

♂♀. *Head* clothed with bluish-grey scales without markings. Proboscis about same length as abdomen, scarcely swollen at tip, entirely dark. Palpi dark. Antennae of ♂ with last two segments subequal in length, each longer than the three preceding together. *Thorax* with ground-colour mainly yellowish brown; pleurae lighter, pale yellowish. Prothoracic lobes pale yellowish, with scales of the same colour. Scutum with black bristles and narrow blackish-brown scales; no broad flat scales on front margin or in front of wing-roots. A rather large roundish black spot immediately in front of each wing-root, the area occupied by this spot bare of scales; on upper margin of spot a row of whitish scales which are slightly longer and broader than those on remainder of scutum; above this row of scales is a bare area of clearer yellow integument, emphasising the black spot to which it forms a border. Scutellum brownish with dark brown scales as usual. Postnotum dark brown, paler at sides. Posterior pronotal lobes (proepimera) pale yellowish in front, posterior half or more occupied by a large black spot. Pleurae pale yellowish, unmarked, and apparently devoid of scales. *Abdomen* entirely blackish. *Legs* dark brown, without any special modification in ♂. *Wings* without any white scales; on veins at tip of wing the scales are rather broadly oval. Upper fork-cell in ♂ not one-third as long as its stem. Wing-length, 2.5 mm.

LARVA.—Closely resembles that of *U. obscura* Edw. (described in Bull. Ent. Res., xviii, p. 338, 1928), and like it having the chitinous plates of the eighth segment connected by a dorsal saddle, a character at present known only in these two species. The only distinctions from *U. obscura* in the two specimens before me are that the head is paler in colour; the siphonal and subsiphonal tufts have only two instead of four branches; and the comb-teeth have no basal fringe.

PUPA.—Respiratory trumpet short, only about twice as long as its greatest breadth; on the middle of its inner margin is a small semicircular emargination. Hair behind trumpet 3-4-branched. Abdominal segment 2 with two strong simple bristles placed close together towards each side. Segments 3-7 each with a short stiff bristle laterally, somewhat behind the posterior corner, and a simple sublateral bristle, about two-thirds as long as the segment, on posterior margin; remaining bristles on these segments minute and inconspicuous, except that segment 7 has an additional simple bristle at the posterior corner. Lateral apical bristle of eighth segment simple or bifid. Paddle with the part within the midrib much larger than the outer part, also more extended apically, where it is provided with a loose fringe of spinules; on outer part of paddle the spiny fringe is much shorter and closer. A small simple hair placed at apex of midrib, and a longer one slightly external to this.

In the possession of two conspicuous black spots on each side of the thorax, one on the posterior pronotum and the other in front of the wing-root, this species resembles *U. nigerrima*, Taylor. No other species of the genus known to me show

similar markings; *U. mashonaensis*, Theo., and *U. bimaculata*, Leic., have the second of the two black spots, but lack the first. The Solomons specimens were at first thought to be merely rather light-coloured examples of *U. nigerrima*, but a closer examination revealed differences which seem to be specific. The British Museum possesses specimens of *U. nigerrima* in perfect condition from Rabaul, New Britain (*Heydon*), and others (damaged, but obviously conspecific with the first) from Milne Bay, Papua (*Breinli*), the type locality.

These specimens show the following differences from *U. quadrimaculata*:—

Thorax much darker in general colour (not yellowish-brown as stated in Taylor's description). On front margin of scutum immediately above pronotum on each side is a patch of small, flat, whitish scales. The scales forming the whitish line above the posterior black spot are decidedly broader and more numerous; integument immediately above these scales not lighter but rather darker brown than remainder of scutum. Posterior pronotum almost entirely black, its anterior margin only narrowly pale. Upper part of sternopleura and most of mesepimera dark brown; lower part of pleurae with slight bluish dusting as seen from above.

The *Uranotaenia* recorded by me (1926) from Port Purvis, Gela, is *U. quadrimaculata*, not *U. nigerrima*.

***Pardomyia aurantia* var. *nigrescens*, nov.**

Differs from typical *P. aurantia* as follows: Abdominal scales mainly black, the golden yellow scales almost confined to pairs of dots on each of tergites 2-4, and median patches (not very large, but extending to hind margin) on each of tergites 5-7. Legs darker, femora and tibiae with much less conspicuous yellow mottling.

Larva similar to that of the type form (described in Bull. Ent. Res., xviii, p. 341, 1928), but antennae slightly longer, and siphon distinctly longer, with index about 2.7. Pupa closely resembling that of the type form.

An error in the description of the larva of *P. aurantia* must be corrected. The comb-scales are not simple and sharp (though they appear so in side view), but are bluntly rounded and fringed at the tip.

***Armigeres malayi*, Theo., var. *breinli*, Taylor.**

The larvae differ from those of *A. obturbans* in the much smaller development of the hair-tufts on the thorax and abdomen. The longer tufts of the thorax, including the long pleural hairs, have at most two branches, and the lateral tufts of the first seven abdominal segments are also only two-branched. The larvae are in almost all respects similar to some Malayan examples in the British Museum determined by Theobald as *Desvoidya fusca* (= *A. malayi*), and as the hypopygia of the two forms are also identical *A. breinli* is best treated as a variety of *A. malayi*.

***Aedes imprimens*, Walk.**

In general appearance this species resembles *A. (Aedimorphus) vexans*, Mg., but I rather strongly suspect that *A. (Banksinella) brugi*, Edw., may be the male of *A. imprimens*, in which case the species belongs to the subgenus *Banksinella*.

***Aedes (Stegomyia) albolineatus*, Theo.**

Both adults and larvae are quite similar to Oriental specimens. The larvae have been described by Brug (Bull. Ent. Res., xiv, p. 433, 1924).

***Aedes (Finlaya) kochi* var. *samoana*, Grünb.**

A single female, agreeing well with Samoan examples in regard to colouring and absence of outstanding scales on the 5th abdominal sternite, has recently been received

from Mr. E. G. Sayers by Dr. P. A. Buxton. It was captured by a nursing sister at Roviana, New Georgia, in the act of biting, at 6 a.m., 16.vi.1929. This is the first record of this variety outside the islands of the Samoan and Tongan groups.

Aedes (Finlaya) flavipennis, Giles.

A single female, somewhat damaged but no doubt belonging to this very distinct species, was included in the same collection with the last, captured on a verandah at Roviana at 6 a.m. This appears to be the first record of the species from the Australasian region.

Aedes (Finlaya) albilabris, Edw.

The specific name was bestowed in reference to the white patch at the tip of the proboscis in the female type. Subsequently (Bull. Ent. Res., xvii, p. 110, 1926) additional material showed that this marking is absent in the male. In the series now before me it is present only in a proportion of the females and constantly absent in the males. The species is, therefore, to be distinguished from the common Australian *A. notoscriptus* chiefly by the slight difference in thoracic marking.

LARVA.—*Head* dark, especially posteriorly. Clypeal spines very stout, curved, hook-like. Hair *A* double, *B* and *C* single, *d* not traceable, *e* rather long, fine, simple. Antennae about half as long as head, slender, cylindrical, with a fine single hair at two-thirds, shaft otherwise smooth. Mentum triangular, with large central tooth and about ten teeth on each side.

Thorax with the dorsal stellate hairs very small and inconspicuous. Prothoracic hairs mostly rather short and simple, one of the pleural hairs double. Mesothoracic lateral tuft 4–6-branched, as is one of the hairs in the pleural group; corresponding hairs on metathorax 6–8-branched.

Abdomen with dorsal stellate hairs very small and inconspicuous. Lateral hairs of first three segments double, of following segments smaller, but triple. Comb of about 25 scales, rather long, but blunt-ended and finely fringed. *Siphon* short, dark, index about 1.3. Pecten of about 8 teeth extending to nearly two-thirds, teeth with strong basal denticles; tuft 3–4-branched, at level of and inside end of pecten. *Anal* segment with large saddle, fringed on upper part of posterior margin, with about 8 teeth on each side, below which are some fine short denticles. Lateral hair missing in all specimens examined. Gills about half as long again as saddle, lower hair shorter.

The larva is evidently very similar to that of *A. notoscriptus* as described and figured by Cooling (Commonwealth of Australia Dept. of Health, Service publication no. 8, p. 21, 1924). Its most striking feature is the unusual stoutness of the clypeal spines.

Aedes (Skusea) longiforceps, sp. n.

♂. *Head* clothed above and at sides with flat scales, dark brown in colour with a purplish gloss. Eyes touching above antennae. Bristles black. Proboscis dark brown, distinctly longer than front femora. Palpi slender, about one-fifth as long as proboscis. Antennae with plumes moderately developed; last segment longer than penultimate, the two together not much shorter than remainder of antenna. *Thorax* with integument mainly dark brown; scutellum, pleural sutures, and metapleura (behind mesothoracic spiracle) pale yellowish. Scales of scutum and scutellum narrow, dark brown; bristles black. Pronotal lobes (anterior and posterior) with small dark flat scales. Sternopleura with whitish scales posteriorly, and rather numerous short pale hairs below, bristles black. Mesepimera with the bristles of the upper tuft black, a small patch of whitish scales adjacent to them; lower half without scales or bristles, but with some fine pale hairs posteriorly. *Abdomen* dark brown above, tergites with small basal lateral creamy-white patches. Hypopygium:

side-pieces over three times as long as broad, somewhat narrowed in middle (on dorsal margin) without basal or apical lobes, but with a small patch of hair at base. Clasper strap-shaped, but rather rigid, with long slender terminal spine inserted at right angles to its main axis. Ninth tergite with small lobes, each with two or three short bristles. Ninth sternite small, pubescent. Mesosome short, scoop-shaped, as in the subgenera *Ochlerotatus* and *Finlaya*. Legs dark brown, femora pale beneath. Front coxae with dark brown scales, posterior coxae with fewer and lighter scales. Hind tibiae normal, without fringe, bristles few and short. Hind claws simple. Wings with dark scales, outstanding scales on outer veins narrow. Bases of fork-cells almost level, upper about as long as its stem. Wing-length 2.8 mm.

This species is evidently closely allied to *A. fimbripes*, Edw. (New Britain) and *A. tonsus*, Edw. (Amboina), from both of which it differs in the narrow scutellar scales and in details of the hypopygium, also from *A. fimbripes* in the simple hind tibia. These three species together form a rather well-marked group which is not clearly related to any of the other species-groups included in the subgenus *Skusea*, but on the other hand has several points in common with the subgenus *Pseudoskusca*, notably the long terminal spine of the male clasper and the simple, scoop-shaped mesosome.

***Aedes* (*Aedes*) *funereus*, Theo., var. *ornatus*, Theo.**

The larvae and skins preserved are somewhat damaged, and a complete description cannot be given, but they appear rather closely similar to *A. umbrosus*, Brug (described in Bull. Ent. Res., xviii, p. 345, 1928). Points of difference are that clypeal hair *C* is distinctly internal to, instead of directly behind *B*, and is 5-branched (in one specimen at least); also the dorsal (but not the lateral) margin of the anal saddle is fringed with short spicules. As in *A. umbrosus*, the last few pecten-teeth are rather widely detached, a point which was not mentioned in the description.

***Culex* (*Lophoceratomyia*) *fraudatrix* var. *solomonis*, nov.**

Differs from the type form in having the scales on the sixth antennal segment reduced in number to about six; they are also rather shorter, but broad as in the type, not hair-like as in *C. hilli*; side-pieces of male hypopygium without any long or longish hairs ventrally towards base (the type form has always three such hairs).

Larva much as in the type form; siphonal index about 7.5.

EXPLANATION OF PLATE XIII.

- Fig. 1. Fresh-water pool fed by a spring, Banika, Russel Group.
- Fig. 2. Hoofmarks containing *Anopheles* and *Culex annulirostris*, Vik Estate, Kulambangra.



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2

EXPLANATION OF PLATE XIV.

- Fig. 1. Shallow ditch with water in hoofmarks, Lady Lever Estate, Kulbangra.
- Fig. 2. Temporary rain-water pool, Lady Lever Estate, Kulbangra.



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