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DESCRIPTIONS OF A NEW GENUS AND THREE NEW SPECIES OF ANOPHELINE MOSQUITOS

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DACTYLOMYIA, nov. gen. (Newstead and Carter)

(Figures 1-3)

Head.—Clothed with upright forked scales; palpi rather densely scaled.

Thorax (fig. 2).—With a *distinct and very pronounced cylindrical-shaped tubercle* or finger-like process projecting obliquely from the prothoracic region, mid-way between the dorsum and venter, and arising from the anterior margin. Thorax and abdomen clothed with hairs.

Wings.—With dense lanceolate scales. Judging by the character and distribution of the scales this genus comes near *Anopheles*; but owing to the remarkable structures mentioned above it is easily distinguishable from any other known genus of the *Anophelinae*.

Dactylomyia ceylonica, nov. sp. (Newstead and Carter)

Under pocket lens × 16.

Head.—Black in the centre, white in front; palpi brown, with three white bands and a few spots at the base, the apical band being the narrowest; proboscis with the apical half yellow, except for a minute black band near the apex.

Thorax and abdomen dark, covered with golden hairs.

Legs.—Brown, with the femora, tibiae and metatarsi spotted, the apex of the tibiae with a white spot; tarsi narrowly banded.

Wings.—With two small basal and four large costal spots, and many spots on the wing field; fringe with a large pale spot extending from the middle of the first fork cell to a short distance below the apex of the third long vein; there are other pale areas at the apices of the veins.

Microscopical characters.

Head.—Black, with a tuft of long white scales and several pale bristles projecting between the eyes; the rest clothed apparently with white, upright forked, scales in front and dark ones behind, but owing to its rather denuded condition we cannot be certain as to the exact nature and distribution of the head scales.

Palpi (fig. 1).—With the basal half clothed with brown scales, with the exception of three small spots formed by white ones; the apical portion with two broad bands of pure white scales, a narrow band of yellowish scales and short golden hairs at the apex.

Proboscis (fig. 1).—Distinctly curved at the base and clothed with deep brown scales on the posterior half, dull yellow ones anteriorly, and immediately before the labella are a few blackish scales, hardly sufficient in number to form a band.

Antennae.—Pale brown, the basal segment bare (? denuded), the first segment with many white scales.

Thorax.—Very dark brown, almost black, with a greyish tinge at the sides; hairs pale ochreous; thoracic tubercle (fig. 2) distinctly cylindrical in shape and gradually rounded in front; it is sufficiently prominent to be seen distinctly with a pocket lens; dark brown, shining on the denuded portion, sparsely clothed at the apex with fine pubescent hairs; sides apparently with minute greyish scales; scutellum dark brown with many long dark border bristles and also several shorter golden ones; halteres pale, the knobs clothed with small white scales.

Abdomen.—Dark brown covered with golden hairs.

Legs.—Deep brown; the femora, tibiae and metatarsi with white spots; tarsi of the first pair with narrow yellowish bands involving both sides of the articulations, last tarsus with dull ochreous scales; hind legs with apical yellow bands, the last tarsal segment, and metatarsus with a distinct apical band; mid legs wanting.

Wings (fig. 3).—Clothed with yellow and black lanceolate scales; costa with two small basal and four large spots, the two median ones being the largest; the first large spot extends evenly on the sub-costa and first longitudinal vein, the second extends evenly on to the sub-costa, but it is represented by two smaller spots on the first longitudinal; the third and fourth spots extend evenly on to the first longitudinal vein, the fourth also being continued to the upper branch of the first posterior cell. The second long vein has a spot just before the cross vein and a rather longer one immediately after; the branches of the cell, besides the spot on the upper branch mentioned above, have several scattered black scales. Third vein with six small sub-equal patches. Stem of fourth long vein completely dark scaled, base of the fork yellowish, upper branch with a black patch immediately after the fork and a few slightly darker scales towards the apex, lower branch with several dark scales, those nearest the base forming a small patch. Fifth vein with a patch near the base and six small, almost equidistant, spots on the remaining portion of the stem and lower branch of the fork, upper branch with four spots, the first one being just after the posterior vein. Sixth vein also with six small equidistant spots. Fringe with pale areas at the apices of the veins, that at the apex of the wing being the largest.

Length.—3.5 mm.

HABITAT.—Trincomalee, Ceylon (E. E. Green).

• We are greatly indebted to our colleague Mr. E. E. Green, the Government Entomologist of Ceylon, for this extremely interesting and unique mosquito, and congratulate him on the discovery of such an interesting form. This specimen was presented to the Liverpool School of Tropical Medicine, November, 1907, together with a number of other Anophelines, and until quite recently its true generic position had been overlooked.

Pyretophorus cardamatisi, nov. sp. (Newstead and Carter)

(Figures 4 and 5)

Under pocket lens $\times 16$.

Head.—Black behind, white in front with a projecting tuft of long white scales; palpi long and thin, black, with three white

bands, the apical one being the broadest; proboscis *very long and straight*, black with a pale apex.

Thorax.—Grey-brown clothed with whitish scales, with a dark median line and dark lateral ridges.

Abdomen.—Brown, with pale hairs.

Legs.—Brown, with pale articulations.

Wings.—Rather thinly scaled, with two small basal and four large costal spots; fringe with five pale areas.

Microscopical characters.

FEMALE.—*Head* black, with numerous white upright forked scales forming a more or less triangular group in front, the remaining portion covered with black forked scales, with the exception of a few on the posterior lateral margin, which are of a golden yellow colour; projecting between the eyes is a tuft of elongated white scales and several greyish bristles.

Palpi (fig. 4) and *proboscis* very long and thin, the former clothed with dark brown scales, with white bands at the articulations, and with a distinctly broader band at the apex, the latter covered with dark scales, except those on the labella, which are of a dull yellow colour.

Thorax.—Integument of the median dorsal area grey-brown, the sides dark brown, forming two more or less distinct stripes, scales on the pale area greyish white; pleurae paler than the lateral margins of the thorax, almost bare, but with a few scattered grey scales present.

Abdomen.—Pale grey-brown, with dark brown apical margins to the segments, and clothed with greyish hairs.

Legs.—Brown, all the articulations pale.

Wings (fig. 5).—With lanceolate scales on the veins. Costa with two small basal and four large spots, the latter approximately equidistant and sub-equal in length, all extending on to the first longitudinal vein, spaces between the spots clothed with yellowish scales. The scales on the first two-thirds of the stem of the second longitudinal vein chiefly black, the rest of the stem and base of the fork white; tip of upper branch yellow the rest black, lower branch black with the exception of a small area below the costal spot. Third vein almost entirely clothed with yellowish white

scales, except at the base and apex, which are covered with black scales. Basal two-thirds of the fourth vein yellowish, a black spot reaching nearly to the cross veins, then another black patch commencing just after the cross veins and terminating at the fork; base of the fork yellowish, upper branch with two nearly equal black patches and a median pale area; lower branch similar. Fifth long vein with a small black spot at the base, rest of the stem light, base of fork pale, upper branch with a few black scales before the cross vein, space near the latter with pale scales, followed by a patch of black scales then white ones, and distally with a few black ones; basal one-third of the lower branch pale, the rest black. Scales on the sixth vein all black with the exception of two small sub-median patches of white ones.

Length.—4 mm.

MALE.—*Palpi* of the typical Anopheline form with three pale bands; the first at the apex of the narrow portion; the second, which is much deeper ventrally, at the apex of the basal segment of the club; and the third at the extreme tip. The remaining characters as in the female.

Length.—3.5-4 mm.

HABITAT.—Athens (Dr. J. P. Cardamatis).

The specimens of this species were presented to this School by Dr. J. P. Cardamatis, November 18th, 1907, and we believe that they were captured by him in the summer of that year.

The distinctive characters of this Anopheline are the markedly long, thin, and straight proboscis, the banding of the palpi and the wing markings.

Cellia cincta, nov. sp. (Newstead and Carter).

(Figures 6 and 7)

Under pocket lens × 16.

Head.—White, dark posteriorly; proboscis black, apex yellow; basal portion of palpi dark with dense outstanding scales.

Thorax.—Greyish, with lateral ridges.

Abdomen.—Blackish grey, covered with golden hairs and with outstanding tufts of scales; apical segment with yellowish scales.

Legs.—Femora and tibiae with numerous yellow spots; metatarsi and tarsi with small alternating black and yellow rings; last tarsal joint in all the legs yellow.

Wings.—With five costal spots, the two median ones being much the longest; fringe with six pale areas.

Microscopical characters.

Head.—With a large and more or less triangular area clothed with white forked scales, these scales extend from the vertex to the extreme front, sides clothed with large dense black upright forked scales. Two or more long white bristles project over the clypeus. *Antennae*, basal segment greyish brown; a few of the succeeding segments dark brown, the rest greyish; short hairs silvery grey. *Palpi* (fig. 6*b*) clothed with rough outstanding dusky black scales; articulation of the first and second segments white scaled, in more perfect examples these will in all probability form a distinct ring; the basal portion of the second segment is also clothed with dusky black scales; the remaining portions of the palpi are unfortunately wanting.

Proboscis dusky black, with the labella yellowish white.

Thorax.—Prothoracic lobes clothed with long outstanding blackish scales, these are distinctly spathuliform in shape, with suddenly truncated apices. Thorax greyish brown, with white scales; on the front of the mesothorax these are very narrowly spindle-shaped, and when viewed obliquely appear as narrow curved ones, those on the lower portion of the thorax behind the wings are distinctly spindle-shaped and more dusky-white than those in front; sides of thorax in front greyish. Posteriorly the pleurae are brownish, and with a few scattered white scales. Halteres with a greyish stem, apex darker with a few brown scales.

Abdomen.—Distinctly dark slaty grey; hairs pale; apical margins with dense dark brown outstanding scales, intermixed with these, dorsally, are a few greyish white ones; apical segment clothed chiefly with yellowish white scales; venter blackish, with pale hairs.

Legs (fig. 6*a*).—Middle and hind femora and tibiae very conspicuously spotted with yellowish white scales, so distinctly so, as to appear almost ringed; knees yellowish white; metatarsi and

tarsi with distinct and equidistant pale yellowish rings; terminal segment uniformly yellow.

Wings (fig. 7).—Clothed with black and yellow lanceolate scales; costa with five spots, all extending on to the first long vein, the third spreading evenly on to sub-costa, but interrupted on the first long vein by a group of yellowish scales near the proximal portion. Second vein with black patches of scales immediately before and after the cross vein, upper branch of the fork except at the base and extreme apex black scaled, lower branch with a pale spot at the base, then a short black patch, and the remaining portion clothed with pale scales, some of which are tinged with black. Third vein entirely yellow scaled, with the exception of a few black scales at the extreme base and apex. Stem of the fourth longitudinal vein with a large spot just before the fork, a few black scales behind the posterior cross vein and at the base; upper branch with two spots, lower branch with one median dark patch. Fifth long vein with a few black scales at the base of the wing, the rest being yellow; upper branch with a small black patch at the base, a larger one at the apex and another in the middle; lower branch completely yellow scaled, except for a small black spot at the apex. Sixth vein with a yellow patch towards the base, the remaining portion black scaled. Fringe with pale areas at the apices of the veins.

Length.—3 mm.

HABITAT.—This interesting Anopheline was captured by Dr. A. S. Donaldson at Broomassie, W. Africa.

It is markedly distinct from any other hitherto described species of *Cellia*, and may be readily distinguished by the very conspicuous and regularly disposed rings on the mid and hind legs. It may be further distinguished also by the rough outstanding scales on the palpi. The only specimen which we possess is in a splendid state of preservation so far as it goes, but, unfortunately, both the anterior legs and the apical segments of the palpi are wanting.

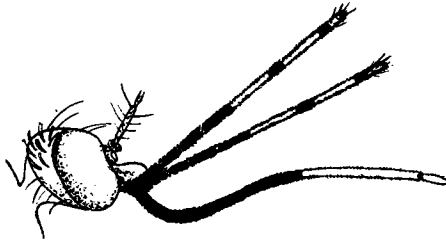


FIG. 1. Head of *Dactylomyia ceylonica*.
(Newstead and Carter.)

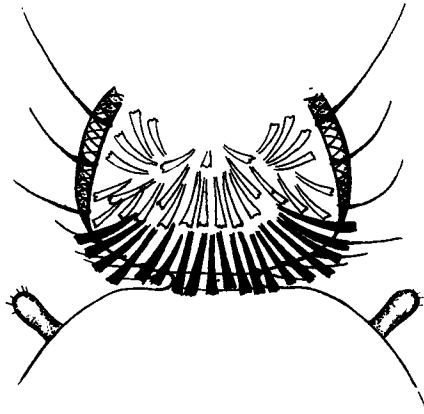


FIG. 2. Portion of thorax, showing tubercles, of
Dactylomyia. (Newstead and Carter.)

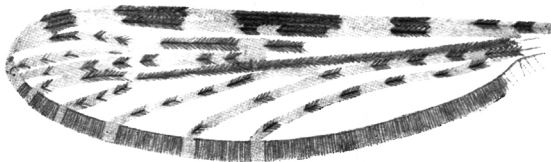


FIG. 3. Wing of *Dactylomyia ceylonica*.
(Newstead and Carter.)

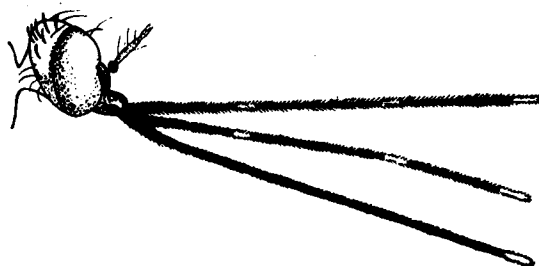


FIG. 4. Head of *Pyretophorus cardamatisi* ♀
(Newstead and Carter.)

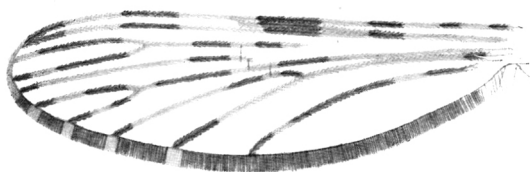


FIG. 5. Wing of *Pyretophorus cardamatisi*.
(Newstead and Carter.)

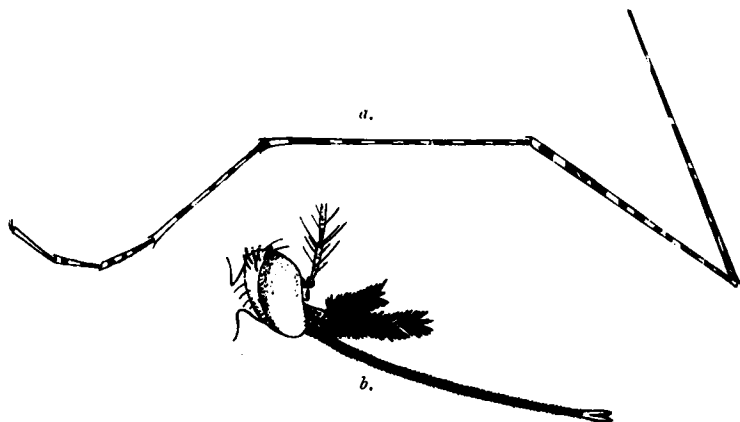


FIG. 6. a. Hind leg of *Cellia annulipes*. (Newstead and Carter.)
b. Head of *Cellia annulipes*; anterior portion of palpi wanting.



FIG. 7. Wing of *Cellia annulipes* ♀ (Newstead and Carter.)