

CONTRIBUTIONS TO A KNOWLEDGE OF AUSTRALIAN CULICIDAE. No. VI.*

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(Six Text-figures.)

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This paper contains the descriptions of three species and one variety of the genus *Anopheles* from Northern Australia, one of which ranges over a wide area in Queensland and the Northern Territory.

The types of the new species are deposited in the Collection of this School.

I wish to express my thanks to Miss N. B. Adams and Mr. E. H. Zeck for their excellent drawings.

ANOPHELES (MYZOMYIA) PERPLEXUS, n. sp. Figs. 1, 2.

♀. Head covered with white upright-forked scales on the vertex, black ones on the occiput, vertical tuft long, extending to middle of clypeus, white; antennae dusky-brown, tori reddish-brown, first and second flagellar segments clothed with white flat scales; palpi as illustrated; proboscis black, apical half yellow.

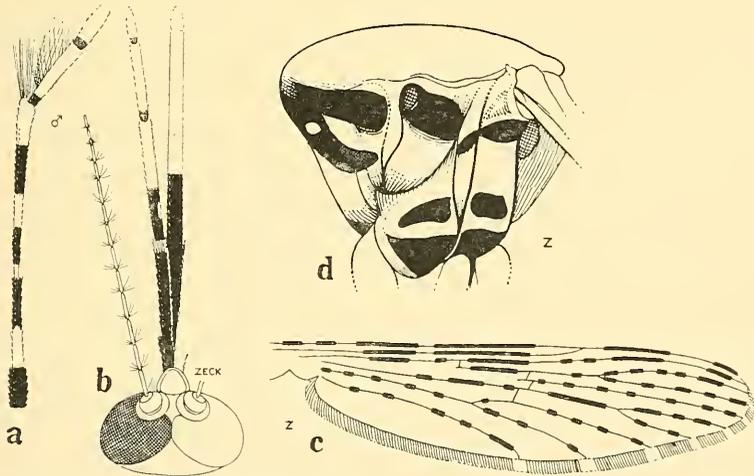


Fig. 1.—*Anopheles (Myzomyia) perplexus*. a. ♂ palp, apex in side view; b. ♀ head; c, wing; d, pleuron.

Thorax pale anteriorly, brown from the level of the eye spots, latter chocolate-brown, entire thorax grey powdered and more or less covered with white scattered scales; hairs pale, scutellum similar to thorax, border bristles brownish; pleurae with grey and chocolate-brown markings as illustrated, a small patch of white flat scales about the middle of the sternopleura, mesepimeron and metathorax.

Wings as illustrated. Length 3.5 mm. Posterior forked cell somewhat shorter than the anterior forked cell, as 3:4.

Legs with anterior half of fore coxae dark brown, the margin with rather dense dark hairs, posterior portion pale; apical half of fore trochanters pale, rest black;

* Continued from these PROCEEDINGS, lxvii, 1942, 277.

coxae and trochanters of mid and hind legs pale; all femora pale at base with alternate blackish-brown and white rings, apices blackish-brown; tibiae similar to femora but the alternate spacing somewhat irregular, bases and apices all dark, with an indication of pale knee spots; tarsi I-II of fore legs with basal and apical banding, III-IV with narrow basal banding, V unbanded, I with a small white fleck and two white spots, evenly spaced, sub-basally; laterally there is a moderately long sub-basal white patch, then a small dark one, then another white one about twice the length of the first, next a small dark one and finally three small evenly spaced, white ones; tarsus I of mid leg with three small lateral sub-basal, evenly spaced white spots, a small white lateral fleck about the base of the apical third; tarsus I of hind leg broadly dark at base followed by nine evenly spaced white spots, then a dark area slightly longer than that at base, then a moderately long white band involving the base of the second tarsus, laterally a moderately long dark area at base, then a small white patch, next another dark area equal to basal one, then a longer white area, next a short dark one and two narrow white ones with a dark one between; a dark area follows about equal in length to the previous three spots, then two white spots with an intervening dark one together about the length of the previous dark area, next two longer dark ones with a white spot dividing them evenly, tarsus II of mid legs with basal and apical banding and a lateral sub-basal white

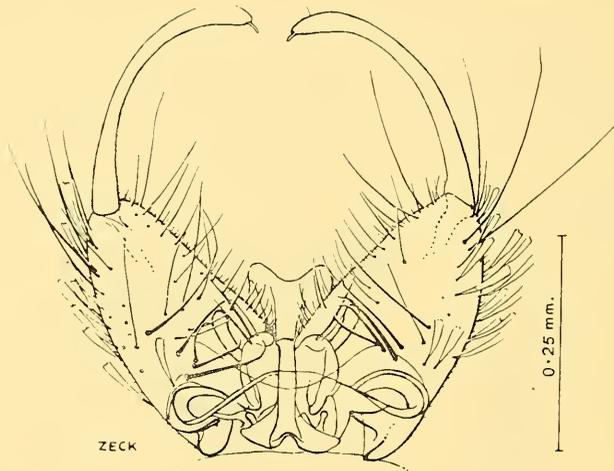


Fig. 2.—*Anopheles (Myzomyia) perplexus*. ♂ terminalia; the leaves of the phallosome are not shown in detail.

spot, III with indistinct apical banding, IV-V without ornamentation, tarsus III of fore legs with narrow pale basal banding, IV-V without ornamentation, tarsus II of hind legs with basal and apical banding and a white spot at the base of the apical third, III-IV with basal and apical banding only, V without ornamentation.

Abdomen brown, tergite I covered with pale hairs, remaining tergites brown, clothed with semi-erect pale scales, brownish in some lights; venter brown, hairs brownish, with pale scales at least on sternites V-VIII.

♂. Palpi and terminalia as illustrated.

Habitat.—Northern Territory: Adelaide River (F. H. Taylor); Queensland: Berner Creek (E. G. Fahey, F. H. Taylor), Watten (Mrs. F. H. Taylor), Cairns (F. H. Taylor, 1927).

This species may be confused with *Anopheles amictus* Edwards and *A. meraukensis* Venhuis, but an examination of the proboscis will immediately distinguish it. It enters houses freely for feeding and remains there until late forenoon.

Relation to Disease.—Unknown.

ANOPHELES (MYZOMYIA) PERPLEXUS var. PERSIMILIS, n. var. Fig. 3.

♀. Similar to the typical form, but the palpi do not show the three small white patches of scales on the basal half; the wing markings are somewhat different to those of the typical form as will be seen from the illustration; posterior forked cell shorter

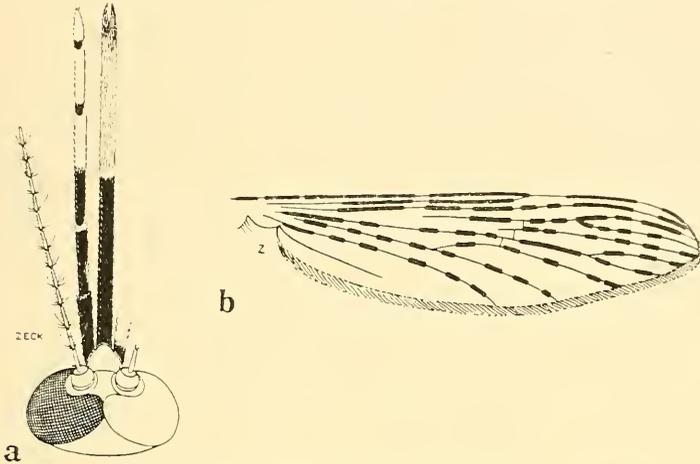


Fig. 3.—*Anopheles (Myzomyia) perplexus* var. *persimilis*. a, ♀ head; b, wing.

than the anterior forked cell, as 5:8; the anterior margin (costal markings) also show differences; fringe spots apparently absent. Length of wing 3.5 mm. (approx.).

Habitat.—Queensland: Irvinebank (E. H. Derrick).

It is probable that with a series of both sexes differences would be found for making this a distinct species.

The drawing of the wing is not to scale, hence the lengths of the forked cells are not shown correctly.

Relation to Disease.—Unknown.

ANOPHELES (MYZOMYIA) DERRICKI, n. sp. Figs. 4, 5.

♀. Head with vertex covered with white upright-forked scales, occiput with black upright-forked ones; vertical tuft white, long; palpi as illustrated; proboscis dark brown, labella paler; antennae dark brown, tori paler.

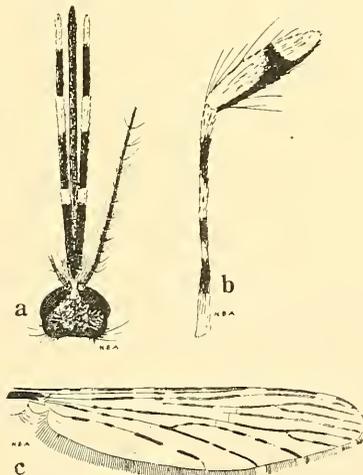


Fig. 4.—*Anopheles (Myzomyia) derricki*. a, ♀ head; b, ♂ palp; c, wing. Note the fork-cells have not been drawn to scale.

Thorax, anteriorly to the level of the eye spots yellowish-brown, eye spots blackish-brown, rest of thorax brown sparsely covered with semi-erect white, narrow scales and pale hairs, lateral border and scutellar hairs dark brown; pleurae dark brown.

Wings with veins covered with dusky-brown and white scales as illustrated. Length about 3.5 mm.

Legs, dusky-brown, coxae and trochanters pale, basal half of fore femora distinctly swollen, femora with evenly spaced white lateral spots; some on the mid and hind femora are alternate; they are also wider apart; knee spots white, tibiae with white, evenly spaced, lateral spots, apices narrowly white, tarsus I of fore legs with dusky-brown base followed by three evenly spaced white spots, apex white, tarsus II apically white and a sub-basal pale lateral spot, III-V without ornamentation, tarsus I of mid legs with a distinct sub-basal white spot, apically white, III-V unornamented, tarsus I of hind legs with evenly spaced white lateral spots, apex white, II with two small sub-medial white spots, apex white, III-IV apically white, V unadorned.

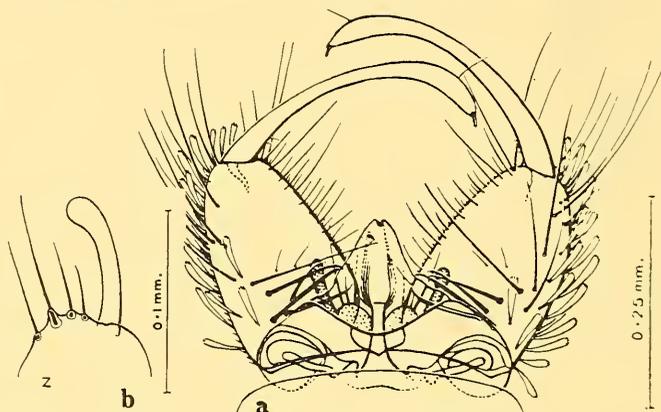


Fig. 5.—*Anopheles (Myzomyia) derricki*. a, ♂ terminalia: the leaves of the phallosome are not shown in detail; b, harpago.

Abdomen dark brown densely clothed with pale hairs, no scales present, sternites dark brown densely clothed with pale brown hairs, apical sternite with a U-shaped patch of narrow white scales, its base resting on the base of the segment.

♂. Antennal plumes pale brown. Palpi and terminalia as illustrated.

Habitat.—Queensland: Irvinebank (E. H. Derrick).

Easily recognized among Australian species. The markings of the legs and palpi of both sexes and the wing pattern render it a very distinct species.

I have much pleasure in dedicating this species to its discoverer, Dr. E. H. Derrick, who gave me the specimens, along with *A. breinli* and the variety *persimilis*, some fifteen years ago.

Relation to Disease.—Unknown.

ANOPIELES (MYZOMYIA) BREINLI, n. sp. Fig. 6.

♀. Head with vertex clothed with white upright forked scales, black upright forked ones on occiput, vertical chaetae black, vertical tuft white with some fairly broad, long, white, lanceolate scales at the base; antennae brown, tori paler, first flagellar segment with small white scales; palpi black scaled, white markings prominent, as illustrated; proboscis brown, labella yellowish-brown.

Thorax brown, about anterior third pale, covered with grey dust, scales scanty, white, hairs pale, border bristles brown; pleurae brown, apparently devoid of scales.

Wings with the appearance of being dark scaled except for the costal margin, which has distinct white areas and the pale fringe spots; no fringe spot at 6; vein spots are quite pale, wing pattern as shown in illustration; posterior forked cell shorter than the anterior forked cell, approximately as 2:3.

Legs brown, femora and tibiae with more or less evenly spaced white markings, knees pale, tibiae narrowly pale at apex, tarsus I of fore and hind legs with a small median white spot, that on fore leg very small, hind ones also with two well-marked sub-median ones in addition, remaining tarsi entirely brown.

Abdomen with tergites and sternites dark brown, densely clothed with dark hairs, apparently devoid of scales.

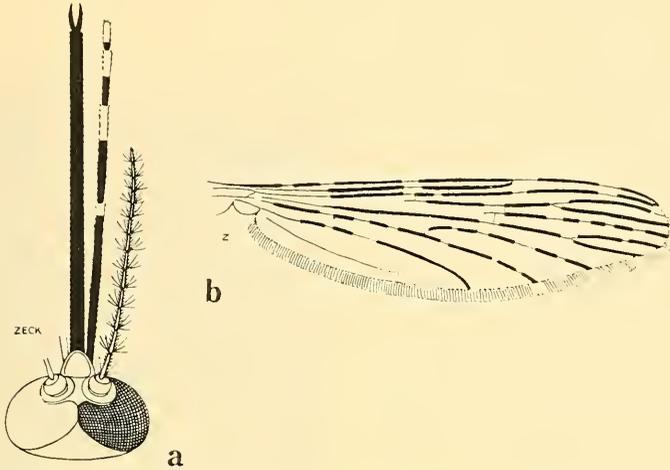


Fig. 6.—*Anopheles (Myzomyia) breinli*. *a*, ♀ head; *b*, wing. Note the fork-cells have not been drawn to scale.

Habitat.—Queensland: Irvinebank (E. H. Derrick).

This is a very distinct species somewhat similar to *A. meraukensis* Venhuis in the markings of the palpi, but the wing pattern, *inter alia*, is abundantly distinct. It can not be confused with any known Australian species.

It affords me pleasure to dedicate this species to Dr. A. Breinl, first Director of the Australian Institute of Tropical Medicine, Townsville, Queensland.

Relation to Disease.—Unknown.