

**AEDES (MACLEAYA) STONEORUM, A NEW SPECIES FROM
QUEENSLAND (DIPTERA: CULICIDAE)**

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ABSTRACT—*Aedes stoneorum*, from Moa Island, Torres Strait, is described and compared with other species of the subgenus *Macleaya*.

Two species are currently recognised in the subgenus *Macleaya* Theobald. I have pleasure in naming a third species, described here, in honour of Alan Stone and his wife, Louise, in appreciation of their many kindnesses to myself and other dipterists visiting Washington, and in acknowledgement of Alan's great personal contribution to culicid taxonomy and his generous help to others working in this field.

Aedes (Macleaya) stoneorum Marks, new species
fig. 1-7

Holotype female: Length (in mm): wing 2.4; labium 1.65; maxillary palpus 0.5; antenna 1.8; abdomen 2.0; foreleg—femur 1.3, tibia 1.45, tarsomeres 0.9, 0.4, 0.3, 0.2, 0.2; midleg—femur 1.4, tibia 1.7, tarsomeres 1.25, 0.6 (3-5 missing); hindleg—femur 1.4, tibia 1.7, tarsomeres 1.5, 0.95, 0.7, 0.5, 0.3.

Head. Integument dark brown. Decumbent scales of vertex mainly broad, black, with white scaling as follows: Median stripe of narrow scales (includes 2 broad anteriorly) not reaching ocular margin, widening at occiput to link with dorsolateral stripes of broad scales which meet ocular line of small broad scales; patch of broad scales laterally and small patch ventrolaterally, both on ocular margin. Erect scales short, black, on occiput (possibly denuded from vertex). Ocular setae strong, black. Labium black scaled, labella dark. Maxillary palpus black scaled with dorsal patch of white scales on apical 0.2, overhanging tip; setae black. Eyes contiguous, large, dark. Clypeus shining dark brown. Antenna—pedicel shining dark brown, mesal patch of small broad white scales, dark setae dorsally; flagellomeres subequal, dark brown (first paler at base, without scales), verticillate setae black.

Thorax. Integument very dark brown. Scutum moderately densely clothed with narrow, bronzy-black scales, with white scale pattern as follows: narrow scales in midline anteriorly and forming almost continuous line round margin to scutal angle, continuing sublaterally above supraalar setae but ending before wing root; mesal to anterior dorsocentral setae, a few narrow scales in discontinuous line not reaching anterior margin (middle $\frac{1}{3}$ of scutum denuded dorsally); patch of narrow scales among supraalar setae and some lateral to posterior dorsocentral setae; line of scales surrounding prescutellar bare space, mainly narrow but posteriorly some moderately broad. Scutellar scales all white, on mid lobe broad, on lateral lobes moderately broad. Most dorsal scutal setae lost; alveoli of strong acrostichal, anterior and posterior dorsocentral; scutal fossal strong, black; numerous long, strong, black supraalar, with group of shorter, black, blunt-tipped dorsal to preala. Scutellar setae lost, alveoli of 5 strong median and 7 lateral.

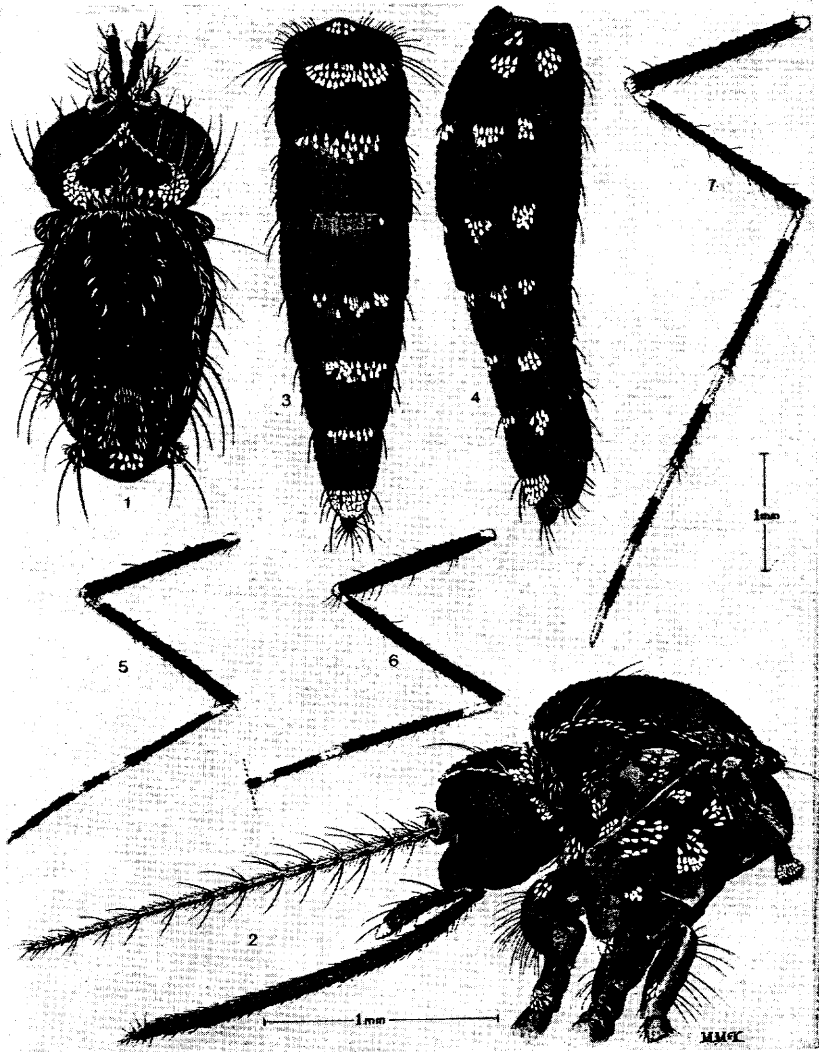


Fig. 1-7, *Aedes (Macleaya) stoneorum*, holotype female. 1, head, thorax, dorsal aspect. 2, head, thorax, lateral aspect. 3, abdomen, dorsal aspect. 4, abdomen, lateral aspect. 5, foreleg, 6, midleg, 7, hindleg, anterior aspect.

Mesopostnotum dark brown. Anteprenotal scales narrow, white; setae black. Postpronotal scales narrow, bronzy black, with patch of white below 2-3 strong black setae. Pleuron with patches of broad white scales as follows: On propleuron (some rather elongate); upper posterior angle of postspiracular area; subspiracular

area (an elongate patch of posterodorsally directed scales along mesepisternal margin, almost contiguous with small anterior patch of narrower, dorsally directed scales); mesepisternum (large upper patch, lower posterior patch); preala below setae; lower $\frac{1}{2}$ of paratergite (small broad scales); mesepimeron (large anterior patch extending from 0.25 above lower margin and almost continuous with patch at base of upper mesepimeral setae). Pleural setae: 9–13 brown propleural; 3 postspiracular; about 10 dark and lighter brown prealar; mesepisternal—3 upper, row of about 5 strong brown posterior, short light and dark brown posterior and ventral to lower scale patch; 8 light brown upper, no lower mesepimeral.

Legs. Coxae black scaled with white patch; setae long, strong, very numerous on forecoxa. Trochanters with black and white scaling. Femora, tibiae and tarsi mainly black scaled, with white scaling as follows. Foreleg: Femur with narrow basal band incomplete ventrally, incomplete posterior streak on basal 0.6, and apicodorsal patch; tibia with very narrow basal band; tarsomeres 1–3 with basal bands, ratio of dorsal length of band to length of tarsomere respectively 0.2, 0.4, 0.3–0.4, bands ventrally narrower on 1 and 2, interrupted on 3. Midleg similar to fore, femur without posterior streak, bands on basal 0.17 tibia, 0.15 tarsomere 1, 0.3 tarsomere 2 (3–5 lost). Hindleg: Femur with basal and apical bands and, on basal 0.5, sparse anteroventral mottling and posterior streak; band on basal 0.17 tibia; tarsomeres 1–4 with basal bands, ratio of dorsal length of band to length of tarsomere respectively 0.2–0.25, 0.4, 0.4, 0.3, 1 and 2 with small anterodorsal apical patch, 5 all white. Numerous very short, stout setae on tibiae and first tarsomeres, tibiae also with longer strong setae about twice diameter of tibiae in length. Fore and hindposttarsus with ungues equal, simple (mid lost).

Wings. Black scaled with 2 small white patches, 1 at base of C and 1 on posterior margin of C proximal to humeral crossvein; no hairs on remigium; plume scales very elongate and dense; scales of alula and tertiary fringe scales dark, blunt-tipped. R_3 1.9 length of R_{2+3} ; M_2 0.7–0.8 length of M_{1+2} ; r-m twice its length distal to base of M_{3+4} ; base of Cell R_2 proximal to base of Cell M_1 . Halter pale, capitellum white scaled.

Abdomen. Terga black scaled with median basal white patches, small on I, broad and about 0.3 length of tergum on II–VI (IV denuded), 0.2 on VII; laterotergite with white scales; basal rounded white patches, sublateral on II–V, lateral on VI and VII; VIII white scaled. Sterna black scaled with lateral basal white patches, large and reaching apical margin on II, about 0.3 length of sternum on III–V, VII (not visible on VI); a few median basal white scales on III, IV, VI; sternum VIII large, bare of scales, posterior margin straight. Cerci short, broad, bare of scales.

Holotype, ♀, Moa (Banks) Island, north Queensland, biting in bush, 1930–2100 hrs, 7.v.1953, E. N. Marks et al., in University of Queensland Insect Collection. The holotype is slightly denuded, as indicated above, and lacks left midtarsomeres 3 (part), 4, 5, right midtarsomeres 2 (part), 3–5, left hindtarsomeres 1 (part), 2–5, right hindtarsomere 5 (lost after it had been described and measured).

The subgenus *Macleaya*, with two species currently recognised from Australia and New Guinea, was last reviewed by Edwards (1932); its affinities with subgenus *Chaetocruiomia* Theobald were discussed by

Marks (1963, 1964). The type-species, *Aedes tremulus* Theobald, which has a wide distribution, was described from South Queensland (Theobald, 1903); Bancroft (1908) made it clear that the type-locality is Deception Bay. *Aedes littlechildi* (placed in subgenus *Macleaya* by Knight and Marks (1952) was described by Taylor (1933) from the Kokoda-Buna district of Papua; it also occurs in Queensland. Besides *Ae. stoneorum*, five additional species can be recognised in material gathered for a revision of the subgenus. The general habitus of all species is similar—small thick-set mosquitoes with many strong setae on thorax and legs; all have similar pleural scaling and setation, and hindtarsomere 5 and female tergum VIII entirely white scaled. Distinctive differences are found in the extent of pale scaling on head, scutum, legs and abdomen, and in the male genitalia. Larvae (where known) resemble the larva of *Ae. tremulus* (cf. Dobrotworsky, 1965). *Aedes tremulus* and *Ae. littlechildi* have a scutal pattern of linear pale scaling basically similar to that of *Ae. stoneorum*, but so variable in extent that it is doubtful whether apparent differences in detail between the three species will prove reliable. Both *Ae. tremulus* and *Ae. littlechildi* have dark scales laterally on mid lobe of scutellum, wings entirely dark scaled, and only small white patches at apex of hindfemur and base of hindtibia. *Aedes littlechildi* females have complete white bands on at least terga and sterna III–V; *Ae. tremulus* females have tergal pale scaling more variable, sterna II–V largely pale with black apicolateral patches. *Aedes stoneorum* is distinguished from all other known species of *Macleaya* by having a white patch on C adjacent to humeral cross-vein and a white basal band on hindtarsomere 4, which is entirely dark in other species. In his subgeneric diagnosis, Edwards (1932) described the female abdomen as having segment VIII small and almost hidden, but in blood-fed or gravid specimens the sternum is visible, usually also part of the tergum.

Moa (Banks) Island is one of the granitic western islands of Torres Strait. The collecting site was north of St. Paul's village (10°10'S, 142°20'E) near Bubu Creek, a permanent fresh stream, not far from its mangrove-fringed mouth. One female of *Ae. littlechildi* was taken in the same collection.

Larvae of all species of *Macleaya* for which breeding places are known have been found in water-holding cavities in trees or tree-stumps, usually in deep, narrow holes; *Ae. tremulus* also colonises artificial containers, including tires and rainwater tanks. Specimens of this subgenus have not been collected in tropical or subtropical rainforest.

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