

AUSTRALIAN MOSQUITOES DESCRIBED BY MACQUART. II.
SPECIES IN BIGOT'S COLLECTION, AÈDES (OCHLEROTATUS) NIGRITHORAX (MACQUART).

NEW SYNONYMY.

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(One Text-figure.)

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Synopsis.

The holotype male of *Culex nigrithorax* Macquart, 1847, is redescribed, and the terminalia figured. *Aedes (Ochlerotatus) macleayanus* Mackerras, 1927, is shown to be synonymous with it and distinctive characters of the species are given.

AÈDES (OCHLEROTATUS) NIGRITHORAX (MACQUART).

Culex nigrithorax Macquart, 1847, *Dipt. Exot.*, Suppl. 2: 9. *Aedes (Ochlerotatus) nigrithorax*, Edwards, 1924, *Bull. ent. Res.*, 14: 377. *Aedes (Ochlerotatus) macleayanus* Mackerras, 1927, *Proc. Linn. Soc. N.S.W.*, 52: 291.

Original Description:

"10. *Culex nigrithorax*, Nob.

Thorace nigro. Abdomine fusco incisuris albidis. Pedibus rufescentibus.

Long. 3 1/2l. ♂. Trompe noire. Palpes et antennes brunâtres. Thorax et flancs d'un noir assez mat. Abdomen: bord antérieur des segments d'un blanc jaunâtre; dernier segment et armure copulatrice noirs; ventre à poils blanchâtres. Pieds d'un fauve assez clair; extrémité des cuisses brunâtre; tarses postérieurs brunâtres. Ailes un peu jaunâtres, à nervures roussâtres; cellules normales.

De la Tasmanie. Collection de M. Bigot."

Holotype Male in Bigot's Collection, now in the possession of Mr. J. E. Collin, "Raylands", Newmarket, England. The insect is mounted on a small pin through the thorax into a piece of celluloid carried on a large pin which bears the label "*Culex nigrithorax* n. sp. Macq. nom. Van Diemen.". The terminalia are mounted on another piece of celluloid attached to the same large pin.

Nothing recognizable of the head remains except one antenna in a mass of matted mycelium on the anterior portion of the thorax; the femur, tibia and first tarsal segment of the left fore leg are also partly involved in this mass. Very little of the thoracic integument can be seen because of the coating of extraneous material; the scutal integument, however, is shining blackish-brown and the postnotum appears similar. The pleura are dark brown and the following characters can be observed: Some narrow curved white scales on *ppn*. About 9 or 10 golden postspiracular bristles. Rather elongate flat white scales on subspiracular area; anterior border, posterior border and upper part of *stp*; prealar area; upper half of *msp*, extending onto lower half posteriorly; fore and mid coxae. No trace of insertion of lower *msp* bristles on either side.

The wings are matted together above the abdomen; there appear to be a few white scales on C and R, near the base; the scales remaining towards the wing tip are dark and plume scales on the forks are long and narrow; cell R2 1.1 times length of its stem; cell M1 0.56 times length of its stem, broader than and with its base proximal to that of cell R2; r-m its own length distal to base of M₃₊₄.

Legs.—The left fore leg is practically denuded, but bears some dark scales; there may be also some scattered pale scales, but it is impossible to be certain of this owing to extraneous material. No other legs remain on the specimen, but one, probably a hind

leg, is gummed to the celluloid mount; from proportions, all tarsal segments appear to be present, though no claws can be seen; scales on the tarsus appear all dark, with a few pale at the joints of segments I-II and II-III.

Abdomen.—Tergites are obscured by the wings; tergite I has white scales on the lateral margin. Sternites have a brownish-black integument and are mainly white scaled with black lateral apical patches.

Terminalia (Fig. 1, *a*).—Coxite cylindrical, about three times as long as broad at mid length, with fairly well-developed apical and basal lobes. Tergally the coxite bears

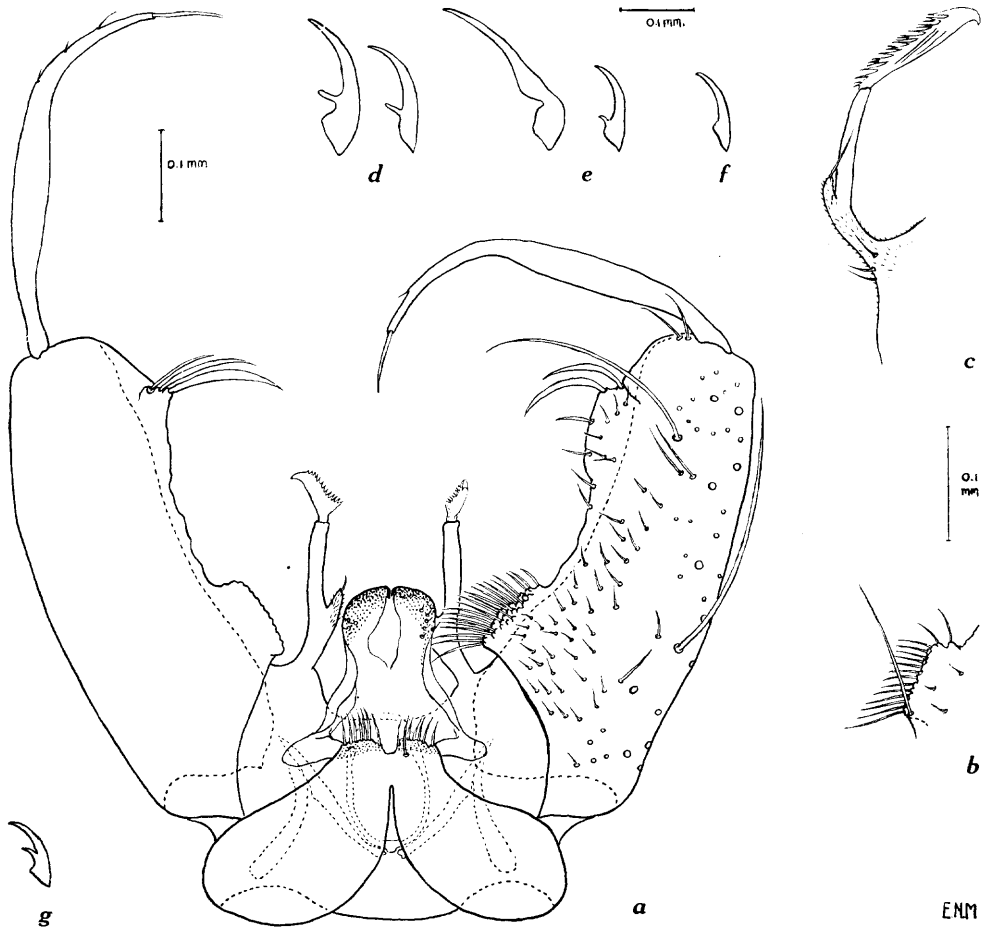


Fig. 1.—*Aedes (Ochlerotatus) nigrithorax* (Macquart). *a*, terminalia of holotype male, tergal view (appendage of left harpago is a reconstruction of how it seemed likely to appear in lateral view); *b-g*, specimens from Epping, near Launceston; *b, c*, male terminalia; *b*, basal lobe of coxite, tergal view; *c*, right harpago, inner lateral view; *d-f*, male tarsal claws; *d*, fore; *e*, mid; *f*, hind; *g*, female hind tarsal claw.

numerous short setae towards the base. On the sternal aspect there are some short fine setae mesially but no rows of long setae. The basal lobe is elongate and bears a large patch of about 30 fairly short, fine, mesially-directed setae. The apical lobe is small but distinct, bearing 2-3 broadened, flattened setae. The style is about four-fifths length of coxite, more slender and curved on the apical third which bears 1-3 short setae. Its terminal appendage is about one-sixth length of style and tapers to a rounded tip. The

harpago is long and fairly stout with a subbasal thumb on the inner side; the thumb is pilose, the rest of the harpago mainly non-pilose; one thumb bears a short terminal seta, the other does not. The appendage is terminal, shorter than the harpago, lightly sclerotized, with a fairly short pointed tip, and with its distal margin bearing short fimbriations. In the mount neither appendage is in lateral view, the left appendage in the figure is a reconstruction of how it seemed likely to appear in lateral view. Paraproct with a single stout tooth. Phallosome simple, oval. Lobes of tergite IX with 7-8 stout setae; sternite IX with 1 long and 2 shorter setae.

Identification.—Edwards (1924) described the terminalia of the above specimen and noted the resemblance to those of *A. vittiger* (Skuse) and *A. burpengaryensis* (Theobald). Though he overlooked in his description the fimbriations on the appendage of the harpago, these are present also in the latter two species. Edwards (1932) queried whether *A. macleayanus* Mackerras might be a synonym of *A. nigrithorax*. Marks (1957), on the basis of male terminalia characters, included *A. burpengaryensis*, *A. vittiger*, *A. nigrithorax*, *A. macleayanus* and *A. sagax* (Skuse) in the Burpengaryensis Section of Australian *Ochlerotatus*.

The principal characters of *A. nigrithorax* may be summarized as follows: (1) Belongs to the Burpengaryensis Section. (2) Occurs in Tasmania. (3) Scutal integument black. It differs from *A. burpengaryensis* and *A. vittiger* on the apical lobe of the coxite and from the male of *A. sagax* described and figured by Mackerras (1927) (now known to represent an undescribed species) on the harpago. It is indistinguishable from *A. sagax*, *sensu stricto*, and from topotypical males of *A. macleayanus*, except that in both these on the basal lobe of the coxite there is one long seta on the lower tergal edge of the setal patch. A similar seta may have been overlooked when the type of *A. nigrithorax* was examined in 1949, or may have been lost at the time the terminalia were mounted, and this difference is not considered significant. The relationships of *A. sagax* and *A. macleayanus* in Victoria are at present being studied by Mr. N. V. Dobrotworsky.

Lee (1948) listed the mosquitoes recorded from Tasmania. Males of all but one of the species of *Ochlerotatus* listed are now known. The exception is *A. tasmaniensis* (Taylor), which has a chestnut-brown scutal integument and cannot be conspecific with *A. nigrithorax*; Edwards (1932) regarded it as a synonym of *A. andersoni* Edwards. Of species in the Burpengaryensis Section, the type male of *A. nigrithorax* and the type female of *A. macleayanus* (from Launceston) are the only specimens of which there are published records from Tasmania. A fair number of collections have been made on the island in recent years and *A. macleayanus* is the only species of this Section represented in them.

On the basis of the foregoing considerations, I have no hesitation in regarding *A. nigrithorax* and *A. macleayanus* as conspecific.

Descriptive Notes.—Five females and nine males from Epping, near Launceston, Tasmania (25.xi.1952, F. N. Ratcliffe) have been examined; these may be regarded as topotypical *A. macleayanus*. The following combination of characters will distinguish *A. nigrithorax* from other Australian species of *Ochlerotatus*: Wings dark scaled (except at base of C and R1), fore and mid femora mottled; hind femur pale almost to apex anteriorly, with apico-dorsal dark scaling; tarsi unbanded; scutum with black integument and with well-defined broad margin of pale scales, broader on the anterior half and covering the fossa, contrasting with darker scales mesially; a small patch of white scales immediately below anterior spiracle.

Females: The holotype of *A. macleayanus* Mackerras in the South Australian Museum was examined in 1958. The following notes supplement the original description. Torus clothed with small oval pale scales. Palps with a few scattered pale scales on lower surface. On the scutum the lateral zone of bronzy-brown scales is behind the scutal angle; similar scales seen from above anterior to this are on the upper part of *ppn*. There are dense white scales on propleuron, subspiracular area, a patch

immediately below the spiracle, postspiracular area (with some narrow curved creamy scales also), paratergite, below prealar knob (also sparse scales on knob), upper half of *stp*, along posterior border of *stp*, upper three-quarters *msp*. There is a slight mottling of pale scales at base of hind tarsal segment II. No note was made of wing scaling. The specimen lacks antennae, right mid and hind legs, left fore leg, mid tarsal segments IV and V, and left wing.

Four topotypical females have wing length 4.5–5.5 mm.; a few bronzy scales among the white on the fossa; lower *msp* bristles present (as they are in the holotype); claws (Fig. 1, *g*) on all legs equal with a strong tooth, or one or both hind claws simple; a few white scales at the base of C and R1; lateral basal patches extending two-thirds or more the length of tergites II–VII. A fifth has the areas of darker scaling on the thorax pale bronze; more numerous scattered pale scales at base of C and R1 (extending to level of humeral cross-vein); tergites II–V with broad basal bands covering about the basal half of the segments, produced on the distal half into a more or less complete mesial broad stripe; tergites VI and VII pale with lateral apical dark patches; sternites entirely pale scaled.

Males: Nine topotypical males have wing length 4.7–5.4 mm. Palps are dark scaled, or with some scattered pale scales on shaft, and exceed the proboscis (excluding labella) by almost the length of the apical segment. Scales on vertex entirely pale. Scutal pattern with same variations as in females; no lower *msp* bristles. Tarsal claws (Fig. 1, *d-f*). Fore claws subequal, the anterior longer, each with a strong blunt tooth at one-third its length. Mid claws markedly unequal, the anterior long with a swelling ventrally before mid length, but no tooth, the posterior short with a slender pointed tooth near base. Hind claws equal, simple, or one or both toothed. Sometimes no white scales at base of C and R1; cell R2 0.9–1.4 times length of its stem; cell M1 0.5–0.8 times length of its stem. Tergite II with median white stripe; basal white bands more or less produced in mid line on III–V; and to apex on VI; VII pale with lateral apical dark patches; or tergites II–VII pale with lateral subapical dark patches.

Terminalia (Fig. 1, *b, c*): At the base of the coxite on its inner sternal margin are 2–3 strong setae; style with 2–5 setae on distal third; thumb of harpago with a single seta; appendage of harpago four-fifths length of harpago; lobes of tergite IX with 4–9 setae; sternite IX with 2 stout and 3–4 finer setae.

Acknowledgements.

Gratitude is expressed to Mr. J. E. Collin who kindly made the holotype of *A. nigrithorax* available for study at the British Museum (Natural History) in 1949; to Mr. F. N. Ratcliffe, C.S.I.R.O. Wildlife Survey Section, whose collection of topotypical *A. macleayanus* enabled this synonymy to be worked out; and to Mr. G. H. Gross, Entomologist, South Australian Museum, for facilitating the examination of the holotype of *A. macleayanus*.

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