

Melanic variants of *Anopheles larvæ*

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A melanic race of *Anopheles gambiae*, having dark larvae with a conspicuous black pattern on the fronto-clypeus, was described from Butiaba in Uganda by GIBBINS (1936). He proved that pigmentation depended upon local dietary factors. Recently we have found that larvae of the newly recognised species D of the *A. gambiae* complex occurring at Bwamba in Uganda are dark and have head capsule markings conforming with Gibbins' description. We exhibit a typical dark-headed wild larva of *A. gambiae* species D from brackish swamp at the Burunga Hot Springs, Bwamba, Uganda, and another species D larva possessing a less extensively pigmented head capsule after rearing in the Ross Institute insectary on a diet of Farex.

A quite different melanic form of *A. gambiae* larva (species A or B of the complex) is also exhibited. This specimen is one of three such forms collected with other normal *A. gambiae* larvae from a puddle at Kaduna in Nigeria. This larva has a general peppering of black pigment below the dorsal thoracic and abdominal integument. Basal tubercles of some pairs of lateral setae are also melanized. The ventral surface and entire head capsule are unpigmented. A phenotypically similar black-larva strain of *A. stephensi* isolated by MASON and DAVIDSON (1966) showed inheritance depending on a single, autosomal, partially-dominant gene which is lethal in the homozygous state. Living and preserved examples of this *A. stephensi* mutant strain are shown for comparison with the melanic *A. gambiae* larva from Kaduna. It should be noted that lactophenol destroys the thoracic and abdominal pigmentation of *A. stephensi* leaving only the head dark, whereas the *A. gambiae* specimen has a naturally non-melanic head and lactophenol has not destroyed the blackening of thorax and abdomen.

Several records of dark *A. quadrimaculatus* larvae are given by KITZMILLER and MASON (1967). They quote FRENCH as having a strain in which dark larvae are mostly females and KLASSEN as failing to select a pure dark stock. DAVIDSON and MASON (1963) isolated a dark larva strain of *A. gambiae* but lost it before determining the mode of inheritance. Broods of dark *A. gambiae* larvae sometimes arise in the laboratory apparently due to unrecognised environmental influences (KRAFSUR, personal communication).

In summary it appears that at least two kinds of melanic larvae can occur, one environmentally produced and the other genetically determined. The former condition may be present in many or most of the larvae in a single breeding place. The latter is a comparatively rare lethal or semi-lethal mutant.

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