

PICTORIAL KEYS TO THE GENERA OF PANAMA MOSQUITOES

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A number of pictorial keys have recently been published on mosquitoes of medical importance for various strategic areas of the world, (Cook, 1954; Foot, 1953, 1954; Pratt and Goodman, 1948; Sommerman, 1953; Sommerman and Foote, 1953), and it is understood that others are in various stages of preparation. As pointed out by these authors the purpose of these pictorial keys is to assist public health workers in rapidly separating and identifying the mosquito species of primary medical importance.

These papers deal with the species known or thought to be vectors of disease and are specifically written to exclude species other than those known or believed to be vectors of disease.

The present paper is different in that it deals with the separation of genera. It is thought that this will be especially useful in the training of beginners in the identification of Panama mosquito genera. Such keys will not in any way conflict with but will aid pictorial keys to the species of medical importance. The only keys available for the mosquito genera of Panama are Dyar (1925 and 1928) and these are now incomplete and unsatisfactory.

It has been our experience that a key of the type presented here is very valuable for training purposes. In the early part of 1951 the authors began an extensive light trap survey of mosquitoes in the Canal Zone and adjacent areas. Tentative identification was made by the enlisted personnel of the 25th Preventive Medicine Survey Detachment and the technicians of the Malaria Control Force. During the

three years that this survey was being conducted new personnel were under constant training in mosquito taxonomy.

For training technicians the U. S. Genera of Mosquitoes (Female and Larvae) by Pratt and Goodwin (1948) was very useful, but these keys of United States mosquitoes had limitations since Panama has several genera that do not occur in the United States. These limitations often caused confusion for the student.

How to use the key: This key, like many other keys, merely offers short cuts to identification by the process of elimination. One should start at the top of the page and follow the arrows down to the bottom of the page. The beginner is cautioned not to skip steps and take characters for granted, since such careless haste will lead to confusion, and create impressions that will impede progress. The beginner should study the characters stressed in these keys until they are thoroughly familiar. It will be noted that where the prespiracular space is mentioned in the adult key we have referred to figures 1, 2, and 3 at the beginning of the key to avoid duplication. Seventeen different genera are known to occur in Panama. Of these, three are each represented by a single species; *Aedeomyia squamipennis*, *Chagasia bathanus*, and *Culiseta maccrackenae*.

Identification of the adult female is relatively easy; however, in the larval stage difficulties are encountered as pointed out in the key. There are a few species of *Aedes*, particularly in the *leucocelaenus* group and the subgenus *Howardina*, that cannot be separated generically from *Haemogogus*. For the purpose of this key the writers therefore say that the two genera are inseparable, although the majority of species can be separated. Of the tribe *Sabethini* there are four genera represented; *Trichoprosopon*, *Limatus*, *Sabethes* and *Wyeomyia*. These four genera are extremely difficult to separate

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PEYTON, GALINDO
AND
BLANTON

♀ FEMALE

Upper border of hind
coxa below upper margin
of meron.

PREALAR Setae

POSTSPIRACULAR Setae

Upper border of hind
coxa in line with upper
margin of meron.

MERON
HIND COXA

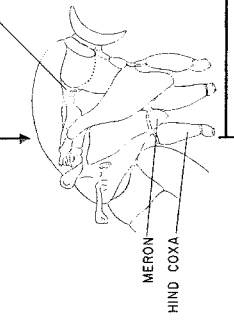
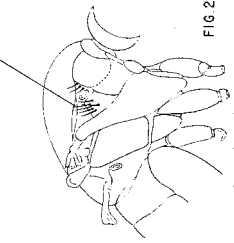
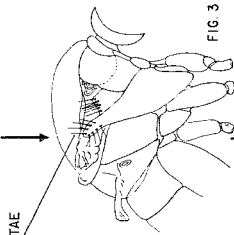


FIG 3

FIG 2

FIG 1

Side view of thorax

Palp as long or longer than proboscis.

Palp shorter than proboscis.

Proboscis stout on basal
half, outer half tapered
and strongly curved
downward

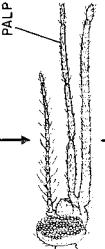
Proboscis slender of about
same diameter throughout,
never strongly curved
downward

Proboscis space
bare, without setae or
scales. (see fig. 1)

Proboscis space
with setae or scales.
(see fig. 2)

Proboscis space
with setae (see fig. 2)

Proboscis space
with scales (see fig. 3)



SCUTELLUM rounded.

SCUTELLUM trilobed.

Wing vein 6 ending well
beyond the level of the
bifurcation of vein 5.

Wing vein 6 ending at
the same level as the
bifurcation of vein 5.

VEIN 5

VEIN 6

BIFURCATION

VEIN 5

VEIN 6

BIFURCATION

VEIN 5

VEIN 6

BIFURCATION

VEIN 5

PROBOSCIS

PROBOSCIS

PROBOSCIS

PROBOSCIS

PROBOSCIS

PROBOSCIS

PROBOSCIS

PROBOSCIS

PROBOSCIS

HAEMAGOGUS

TOXORHYNCHITES

CHAGASIA

URANOTAENIA

LIMATUS

ANOPHELES

HAEMAGOGUS

TOXORHYNCHITES

CHAGASIA

URANOTAENIA

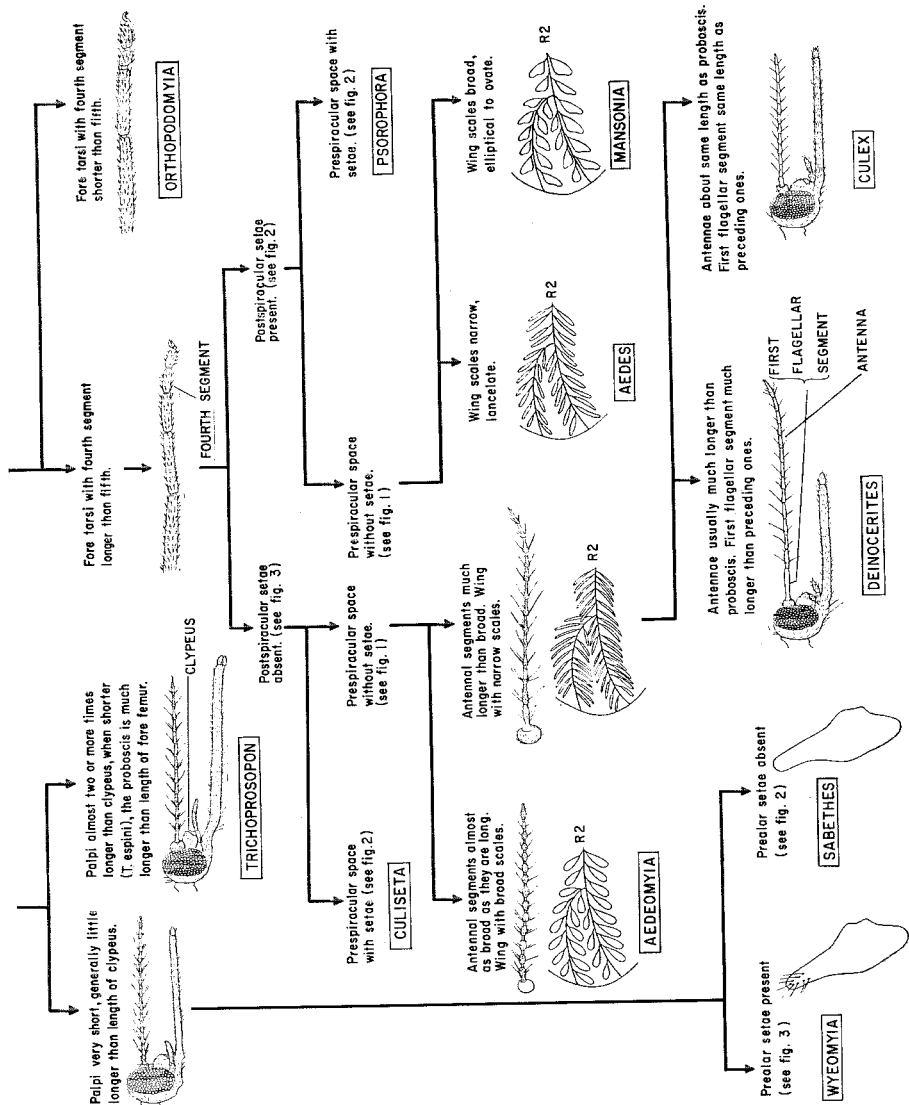
LIMATUS

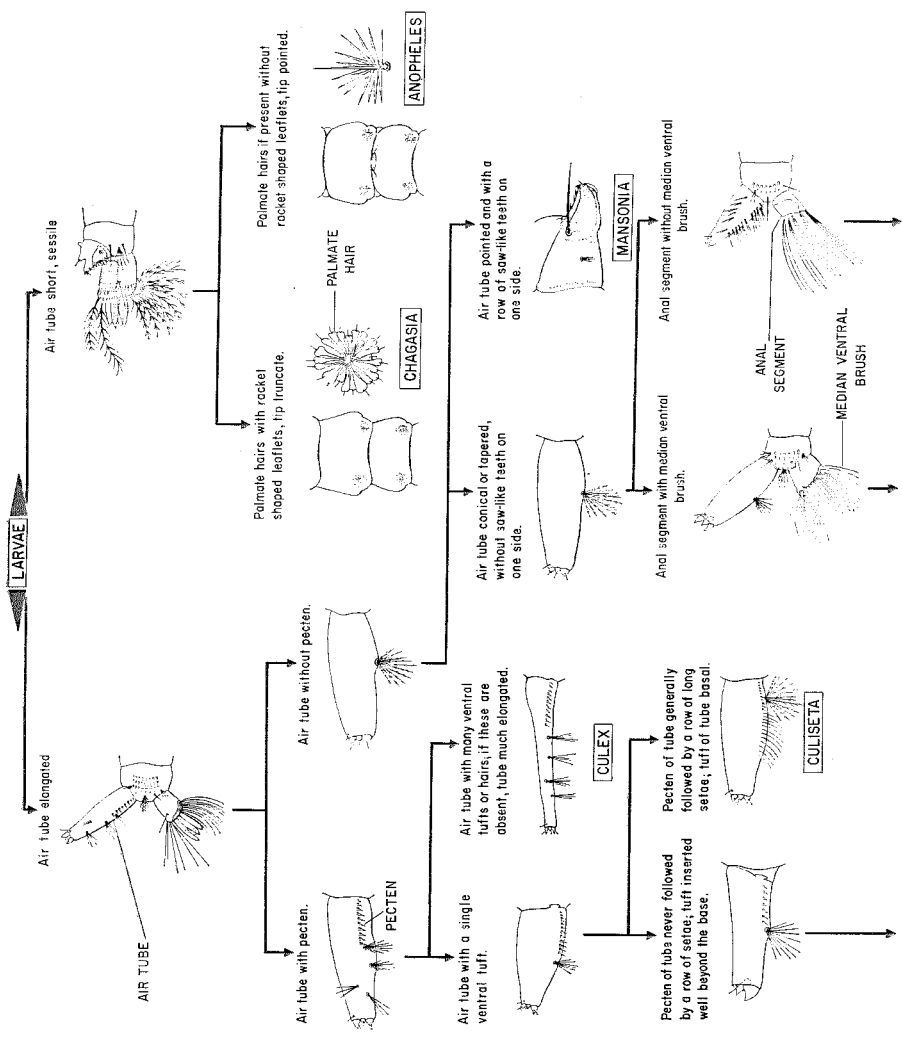
ANOPHELES

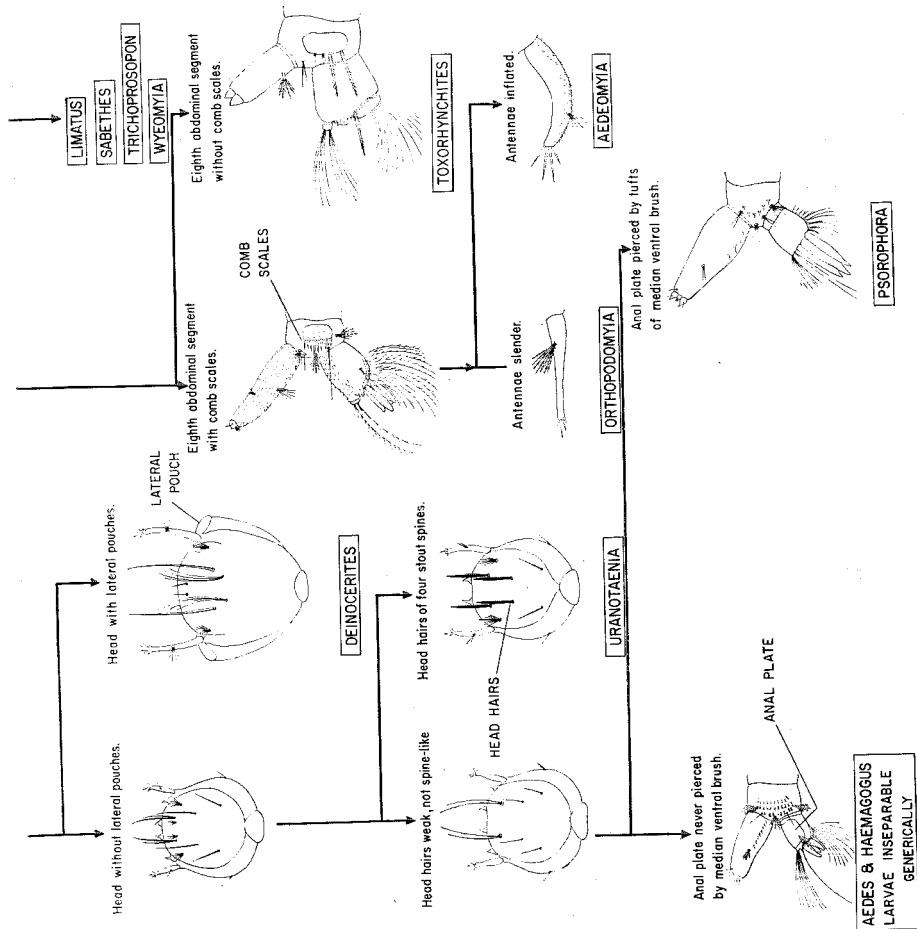
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from each other in the larval stage. We have, therefore, made no attempt to separate them here. According to Lane and Cerqueira (1942) *Sabethes* and *Limatus* can be separated from *Trichoprosopon* and *Wyeomyia* by the mouth parts but this is too difficult for the beginner. The writers feel that the student should be well advanced in the identification of mosquitoes before attempting to separate this difficult group of genera.

There are a number of species of *Aedes* in Panama, the larvae of which have the anal segment completely ringed by the plate; however, the tufts of the median ventral brush are posterior to the plate and never pierce it as in *Psorophora*.

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