

## New records of mosquitoes from Myanmar

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### INTRODUCTION

Union of Myanmar has a very rich fauna of mosquitoes as recorded by Apiwathnasorn (1) and Knight & Stone (2). Apiwathnasorn recorded 105 species from 14 genera of mosquitoes from Myanmar. However, no recent studies on mosquito taxonomy have been carried out in the country. Medical Entomology Research Division, Department of Medical Research (DMR) started mosquito taxonomy studies with a view to update the mosquito fauna of the country. In the present study, almost all the species collected and recorded were identified from adult specimens, pupal & larval skin slides and male genitalia slides prepared from iso-female lines raised from wild-caught females.

### MATERIALS AND METHODS

Specimens were collected from different areas of the country as part of routine ecological study on anopheline vectors of malaria. The method of collection for adult mosquitoes was by hand catches with WHO sucking tubes from human and cattle baits and also from human and cattle baited big bed-nets (11' x 11' x 6'). Some specimens were collected during larval surveys from all potential mosquito breeding sources. This paper presents the new records of mosquito species from Myanmar recorded by the survey teams of Department of Medical Research.

### RESULTS & DISCUSSION

(A) Genus: Anopheles Meigen  
Sub-genus: Anopheles Meigen, 1918

(i) Anopheles (Anopheles) nitidus  
Harrison, Scanton and Reid, 1973:

A single male specimen was collected in December 1987 resting on an orchid plant at 0530 hours in the senior author's compound Nga-dat-kyi Pagoda Road, Bahan Township, Yangon. Identification was done on adult male and male terminalia morphologies. Further collections did not yield any more specimens. Male adult specimen and male terminalia slide are preserved in DMR collections.

Sub-genus - Cellia Theobald, 1902

(i) Anopheles (Cellia) dirus Peyton and  
Harrison, 1979

This species was not recorded previously from Myanmar because it was misidentified as An. balabacensis balabacensis Baisas. Since 1983, DMR scientists have recorded An. dirus from forested areas of the country and from Mudon town, Mon State. Adult specimens, pupal & larval skin slides preserved in DMR collections. Identification was according to Peyton & Harrison (3).

(ii) Anopheles (Cellia) nivipes  
(Theobald), 1903

This species was identified from specimens collected during July 1987 as An. philippinensis in Tha-bye-wa village. Isofemale lines were raised from wild caught females and adult specimens, pupal & larval skin slides prepared from the offsprings. Anopheles nivipes was identified according to Reid (4) from the adult male characters, pupal & larval skin morphological characters. This species was collected only during the monsoon season. It is mainly zoophilic and collected only by cattle-baited nets.

Anopheles nivipes was found to be associated with forest and foot-hills. Adult specimens, pupal and larval skin slides are preserved in DMR collections.

(iii) Anopheles (Cellia) sawadwongporni  
Rattanaarithikul and Green 1986

A new species of the Anopheles maculatus group. Adult specimens collected from Kyauk-ta-gar Township, Bago Division, were identified by Tathanarithikul as An. sawadwongporni by adult characters. This species was collected from forested foot-hill of Bago Yoma during December 1985.

(B) Genus: Orthopodomyia Theobald

(i) Orthopodomyia albipes Leicester,  
1904

This species was collected during February 1989 as larvae from a bamboo stump in a teak forest reserve near Tha-bye-wa village, Oktwin Township, Bago Division. It was identified by its characteristic adult morphology and from male terminalia character. Two male specimens, 3 female specimens, pupal & larval skins and 2 male terminalia slides are preserved in DMR collections.

(C) Genus: Aedes Meigen  
Subgenus: Stegomyia Theobald,  
1901

(i) Aedes (Stegomyia) craggi  
(Barraud), 1923

This species was first recorded in July 1987 at a teak forest reserve near Tha-bye-wa, Oktwin Township from day-time humam bait catches. It is a vicious biter of humans and was collected mostly in the early part of the evening about 1500-1600 hours. Wild caught females were given blood meals, isofemale lines raised to obtain pupal & larval skins, male terminalia & adult specimens for DMR collections. Aedes craggi was identified by its male terminalia characters.

(ii) Aedes (Stegomyia) perplexus  
(Leicester), 1908

This species was collected in January

1988 as larvae from bamboo stumps at Daw-taw-myaung, Tha-bye-wa, Oktwin Township. One adult male, 2 adult females, 1 male terminalia slide and 2 sets of pupal & larval skin slides were preserved in DMR collections. Aedes perplexus was identified from adult & male terminalia morphologies and from its characteristic larval chetotaxy.

(iii) Aedes (Stegomyia) gardnerii imitator  
(Leicester), 1908

This species was also collected as larvae from bamboo stumps at Tha-bye-wa, Oktwin Township on 14 August 1987. It was identified from its characteristic male terminalia.

Sub-genus Finlaya Theobald, 1903

(i) Aedes (Finlaya) albolateralis  
(Theobald), 1908

This species was collected from larval surveys at Tha-bye-wa Teak forest area from bamboo stumps in a ravine on 13 February 1989. Two adult males, 4 adult females, 2 male terminalia slides and pupa; & larval skins were preserved. Aedes albolateralis was identified from adult specimen characters and male terminalia characters.

(ii) Aedes (Finlaya) niveoides  
Barraud, 1934

Collected as larvae from bamboo stumps at Daw-Taw-Myaung, Tha-bye-wa, Oktwin Township during January 1988. Identified by its male terminalia characters. Male terminalia, pupal and larval skin slide are preserved in DMR collections.

(iii) Aedes (Finlaya) assamensis  
(Theobald), 1908

Collected as larvae from bamboo stumps at Kwan-ka-thaung Ward, Mudon Town, Mon State during September 1987. Identified by its male terminalia characters. Nine adult males, 7 adult females, 3 male terminalia slides and 2 pupal skin slides are preserved at DMR.

(D) Genus: Heizmannia Ludlow

Subgenus: Heizmannia Ludlow, 1905

- (i) Heizmannia (Heizmannia)  
communis (Leicester), 1908

One adult female of this metallic species was caught from cattle-baited net at Tha-bye-wa village. No offsprings could be obtained as the specimen died during the trip back. The specimen is now preserved in DMR collection.

- (E) Genus: Culex Linnaeus  
Subgenus: Lophoceraomyia  
Theobald, 1905

- (i) Culex (Lophoceraomyia) traubi  
Colless, 1965.

This species was collected as a single larva from a stream in Shwe-du Rubber Estate, Myaik Township, Ta[nin-thar-yi Division during May 1988. A male specimen emerged & male terminalia slide was prepared. Culex (Lophoceraomyia) traubi was identified from the characters of male terminalia and larval skin chetotaxy. The specimen and its related slides are preserved in DMR collections.

- (F) Genus: Armigeres Theobald  
Subgenus: Leicesteria Theobald, 1904

- (i) Armigeres (Leicesteria) omissus  
(Edwards), 1914

This species was collected as a single larva from a bamboo stump in Daw-Taw Myaung, Tha-bye-wa, Oktwin Township during February 1989. One adult male specimen, one male terminalia, one pupal & one larval skin slides were obtained. Armigeres (Leicesteria) omissus was identified according to Delfinado (5).

For identification of species of the subgenus Finlaya in the genus Aedes, Barraud (6) was used. For identification of other species, except where the authors were specifically mentioned, the Contribution of the American Entomological Institute series were used.

As mosquito taxonomy work progresses at DMR, new records of mosquitoes from Myanmar will be updated.

## REFERENCES

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