

A REVISED CHECKLIST OF THE MOSQUITOES OF GUATEMALA INCLUDING A NEW COUNTRY RECORD, *PSOROPHORA CYANESCENS*

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ABSTRACT. A newly erected genus, *Isostomyia*, a recently described subgenus, *Phenacomyia*, of *Culex*, and 15 species have been added to the mosquito fauna of Guatemala since the last checklist was published by Clark-Gil and Darsie (1983); therefore a revised list is included. One of the additions is *Psorophora cyanescens*, a new country record for Guatemala. Its presence in Mexico and Central America is reviewed.

INTRODUCTION

A monograph on the mosquitoes of Guatemala was published by Clark-Gil and Darsie in 1983, reporting 124 species of mosquitoes and 3 undescribed species in the genus *Shannoniana* Lane and Cerqueira. Since then 15 species have been added for a total of 139, discounting the undescribed taxa. Also a newly erected genus, *Isostomyia* Coquillett (Harbach and Peyton 1993), formerly a subgenus under *Runchomyia*, and a newly described subgenus in *Culex*, *Phenacomyia* Harbach and Peyton (1992), represented by 2 species in Guatemala, have been included in the checklist.

The 15 species that represent the increase in the Guatemala mosquito fauna are as follows, chronologically: *Culex carcinophilus* Dyar and Knab and *Culex inhibitor* Dyar and Knab (Martini 1935); *Culex spissipes* (Theobald) and *Culex theobaldi* (Darsie and Hobbs 1982, as *Cx. chrysonotum* Dyar and Knab); *Psorophora cingulata* (Fabricius) and *Uranotaenia apicalis* Theobald (Darsie 1983); *Psorophora cilipes* (Fabricius) (Darsie 1984); *Culex restuans* Theobald (Strickman and Darsie 1988); *Culex pseudostigmatosoma* Strickman (Strickman 1990); *Culex lactator* Dyar and Knab (Strickman and Pratt 1989); *Anopheles neomaculipalpus* Curry (Dix et al. 1991); *Culex elevator* Dyar and Knab; *Culex flabellifer* Komp; and *Culex serratimarge* Root (Pecor et al. 1992).

The last species is *Psorophora (Janthinosoma) cyanescens* (Coquillett), which is being reported as a new country record for Guatemala. I have 2 females collected in Aldea La Palmilla, Mutatlan, Department of Zacapa, VI-26-88, by Victor Molina. Knight and Stone (1977) presented a disjunct distribution for this species. They recorded it from the United States (Darsie and Ward [1981] listed it in 23 states), 6 South American countries, and Trinidad, but did not mention Mexico and Central America. However, Vargas (1956) reported it from 10 states in Mex-

ico and Heinemann and Belkin (1977) found it in Pantano El Esparta, El Tamarindo, Puerto Somoza (now known as Puerto Sandino), Department of Leon, Nicaragua, VI-18-64. The latter 2 records were apparently omitted from the Knight and Stone catalog.

REVISED CHECKLIST OF THE MOSQUITOES OF GUATEMALA

The above records are incorporated in the following checklist of 139 mosquito taxa now known to occur in Guatemala, revised from that given by Clark-Gil and Darsie (1983).

- AEDEOMYIA* Theobald
 - Subgen. *Aedeomyia* Theobald
 - squamipennis* (Lynch Arribalzaga)
- AEDES* Meigen
 - Subgen. *Aedimorphus* Theobald
 - vexans* Meigen
 - Subgen. *Howardina* Theobald
 - allotecnon* Kumm, Komp and Ruiz
 - guatemala* Berlin
 - guerrero* Berlin
 - quadrivittatus* (Coquillett)
 - Subgen. *Ochlerotatus* Lynch Arribalzaga
 - angustivittatus* Dyar and Knab
 - epactius* Dyar and Knab
 - euplocamus* Dyar and Knab
 - fulvus* (Wiedemann)
 - hastatus* Dyar
 - scapularis* (Rondani)
 - serratus* (Theobald)
 - taeniorhynchus* (Wiedemann)
 - tormentor* Dyar and Knab
 - Subgen. *Protomacleaya* Theobald
 - daryi* Schick
 - homeopus* Dyar
 - impostor* Schick
 - insolitus* (Coquillett)
 - podographicus* Dyar and Knab
 - sandrae* Zavortink

- Subgen. *Stegomyia* Theobald
aegypti (Linnaeus)
- ANOPHELES** Meigen
- Subgen. *Anopheles* Meigen
apicimacula Dyar and Knab
crucians Wiedemann
eiseni Coquillett
gabaldoni Vargas
hectoris Giaquinto-Mira
intermedius Peryassu
neomaculipalpus Curry
parapunctipennis guatemalensis DeLeón
pseudopunctipennis Theobald
punctimacula Dyar and Knab
vestitipennis Dyar and Knab
xelajuensis DeLeón
- Subgen. *Kerteszia* Theobald
neivai Howard, Dyar and Knab
- Subgen. *Nyssorhynchus* Blanchard
albimanus Wiedmann
argyritarsis Robineau-Desvoidy
darlingi Root
marajoara Galvao and Damasceno
strodei Root
- CHAGASIA** Cruz
bathana (Dyar)
- COQUILLETIDIA** Dyar
- Subgen. *Rhynchotaenia* Brethes
nigricans (Coquillett)
venezuelensis (Theobald)
- CULEX** Linnaeus
- Subgen. *Anoediopora* Dyar
conservator Dyar and Knab
restrictor Dyar and Knab
- Subgen. *Carrollia* Lutz
bihaicola Dyar and Nuñez-Tovar
metempsychus Dyar
- Subgen. *Culex* Linnaeus
chidesteri Dyar
coronator Dyar and Knab
declarator Dyar and Knab
inflictus Theobald
interrogator Dyar and Knab
mollis Dyar and Knab
nigripalpus Theobald
ousqua Dyar
pinarocampa Dyar and Knab
quinquefasciatus Say
pseudostigmatosoma Strickman
restuans Theobald
stenolepis Dyar and Knab
stigmatosoma Dyar
thriambus Dyar
usquatus Dyar
- Subgen. *Lutzia* Theobald
bigoti Bellardi
- Subgen. *Melanoconion* Theobald
bastagarius Theobald
carcinophilus Dyar and Knab
- conspirator* Dyar and Knab
eastor Dyar
educator Dyar and Knab
elevator Dyar and Knab
erraticus (Dyar and Knab)
flabellifer Komp
inhibitor Dyar and Knab
iolambda Dyar
panocossa Dyar
paracrybda Komp
pedroi Sirivanakarn and Belkin
pilosus (Dyar and Knab)
sardinerae Fox
serratimarge Root
spissipes (Theobald)
taeniopus Dyar and Knab
theobaldi (Lutz)
trifidus Dyar
- Subgen. *Micraedes* Coquillett
erethyzonfer Galindo and Blanton
- Subgen. *Neoculex* Dyar
derivator Dyar and Knab
- Subgen. *Phenacomyia* Harbach and Peyton
corniger Theobald
lactator Dyar and Knab
- CULISETA** Felt
- Subgen. *Culiseta* Felt
particeps (Adams)
- DEINOCERITES** Theobald
belkini Adames
cancer Theobald
epitedeus (Knab)
pseudes Dyar and Knab
- HAEMAGOGUS** Williston
- Subgen. *Haemagogus* Williston
aeritinctus Galindo and Trapido
anastasionis Dyar
equinus Theobald
mesodentatus Komp and Kumm
regalis Dyar and Knab
- ISOSTOMYIA** Coquillett
espini Martini
- JOHNBELKINIA** Zavortink
ulopus (Dyar and Knab)
- LIMATUS** Theobald
durhamii Theobald
- MANSONIA** Blanchard
- Subgen. *Mansonia* Blanchard
dyari Belkin, Heinemann and Page
titillans (Walker)
- ORTHOPODOMYIA** Theobald
kummi Edwards
- PSOROPHORA** Robineau-Desvoidy
- Subgen. *Grabhamia* Theobald
cingulata (Fabricius)
confinnis (Lynch Arribalzaga)
- Subgen. *Janthinosoma* Lynch Arribalzaga
albipes (Theobald)
champerico (Dyar and Knab)

- cyanescens* (Coquillett)
ferox (Von Humboldt)
lutzii (Theobald)
varipes (Coquillett)
 Subgen. *Psorophora* Robineau-Desvoidy
ciliata (Fabricius)
cilipes (Fabricius)
howardii Coquillett
- RUNCHOMYIA** Theobald
 Subgen. *Ctenogoeldia* Edwards
magna (Theobald)
- SABETHES** Robineau-Desvoidy
 Subgen. *Sabethes* Robineau-Desvoidy
cyaneus (Fabricius)
tarsopus Dyar and Knab
 Subgen. *Sabethoides* Theobald
chloropterus (Von Humboldt)
- SHANNONIANA** Lane and Cerqueira
moralesi (Dyar and Knab)
- TOXORHYNCHITES** Theobald
 Subgen. *Lynchiella* Lahille
grandiosus (Williston)
haemorrhoidalis superbus (Dyar and Knab)
theobaldi (Dyar and Knab)
- TRICHOPROSOPON** Theobald
digitatum (Rondani)
- URANOTAENIA** Lynch Arribalzaga
 Subgen. *Uranotaenia* Lynch Arribalzaga
apicalis Theobald
coatzacoalcos Dyar and Knab
geometrica Theobald
lowii Theobald
orthodoxa Dyar
pulcherrima Lynch Arribalzaga
socialis Theobald
- WYEOMYIA** Theobald
 Subgen. *Dendromyia* Theobald
apronoma Dyar and Knab
chalcocephala Dyar and Knab
pseudopecten Dyar and Knab
 Subgen. *Wyeomyia* Theobald
abebela Dyar and Knab
arthrostigma (Lutz)
celaenocephala Dyar and Knab
guatemala Dyar and Knab
melanopus Dyar

COMMENTS ON SOME SPECIES IN THE CHECKLIST

Culex (*Melanoconion*): The recent catalog of this subgenus (Pecor et al. 1992) greatly expanded our knowledge of the distribution of the group. From their data an additional 5 species have been added to the Guatemala list. Three species, *Cx. elevator*, *Cx. flabellator*, and *Cx. serrati-marge*, were collected by J. P. Duret and were a part of his collection now housed in the U.S.

National Museum of Natural History, Smithsonian Institution. The other 2, *Cx. carcinophilus* and *Cx. inhibitor*, were recorded from Guatemala by Martini (1935) and were inadvertently omitted by Clark-Gil and Darsie (1983).

Culex (*Phenacomyia*): This subgenus was erected for 3 species, *Cx. corniger*, *Cx. lactator*, and *Cx. airozai* Lane, that have the most distinctive larvae of all Neotropical *Culex*. Strickman and Pratt (1989) raised *Cx. lactator* from synonymy with *Cx. corniger*.

Anopheles marajoara: *An. allopha* (Peryassu) was the name previously used for the Guatemala representative of the *An. albitarsis* Lynch Arribalzaga complex. However, Linthicum (1988) changed the name to *An. marajoara*, explaining that no holotype for *allopha* exists, so that name is a *nomen dubium*. Although I am retaining the name, *marajoara*, the whole complex is in transition (Rosa-Freitas et al. 1990) and further study will probably change present concepts.

Culex stigmatosoma and *Culex thriambus*: Strickman (1988) examined the holotype of *Cx. peus* Speiser and found it to be conspecific with *Cx. thriambus*. Therefore *Cx. thriambus* had to be called *Cx. peus* and the former *Cx. peus* required a new name. Consequently *Cx. stigmatosoma* was resurrected from synonymy with the former *Cx. peus* to become that new name. Some workers were displeased with the loss of the name *Cx. thriambus* because the species had been known by that name for 67 years and it was used in many scientific publications. Furthermore, renaming *Cx. thriambus* as *Cx. peus*, a name which had already been known for another species, added to the confusion. Preservation of the name, *Cx. thriambus*, was appealed to the International Commission on Zoological Nomenclature (Eldridge and Harbach 1989), which solicitation was adjudicated in favor of retaining the names *thriambus* and *stigmatosoma* (Eldridge and Harbach 1992).

Culex theobaldi: The species, *Cx. chrysonotum*, was recorded from Guatemala by Darsie and Hobbs (1982). A taxonomic study of the species related to *Cx. theobaldi* by Forattini and Sallum (1989) resulted in the relegation of *chrysonotum* to synonymy with *theobaldi*.

Sabethes tarsopus: Harbach and Petersen (1992) described a new species, *Sa. gymnothorax*, which is related to *Sa. tarsopus*. Because they recorded it from Mexico and Belize, it is quite possible that it occurs in Guatemala. However, it is yet to be confirmed.

ACKNOWLEDGMENT

The author is indebted to D. C. Williams for reviewing the manuscript.

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