

Commercial Opportunities in Military Medical Entomology



**Sonya Schleich, Major, Medical
Service Corps, US Army
Product Manager, Dengue Vector
Control System**

**Richard Wilkerson, Ph.D., GS-15
Manager, Walter Reed Biosystematics
Unit**

**Walter Reed Army Institute of
Research, Silver Spring, Maryland**

Official Objectives FY04



Conduct research for the development of integrated disease management strategies for use by the military against arthropod-borne pathogens.

Conduct research to improve military units' ability to perform risk assessment, surveillance, control, and monitoring in order to prevent transmission of arthropod-borne diseases.

By FY04, assess vector-borne disease threats to operational forces and provide guidance for far-forward vector suppression.

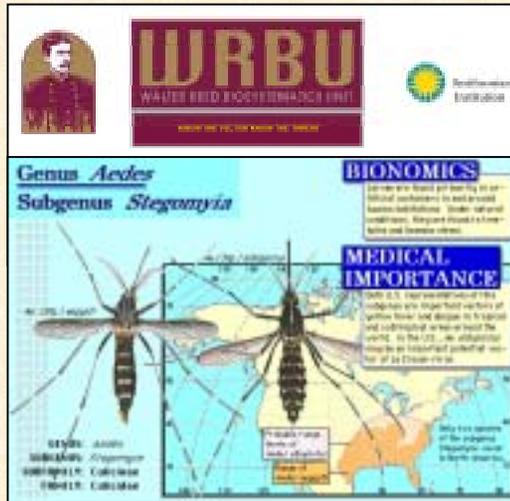
Resources

Funded at \$3.1M in FY04; Approximately 200 personnel



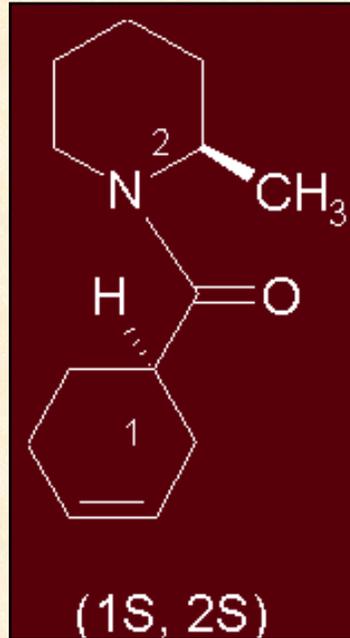
- Walter Reed Army Institute of Research
- US Army Medical Research Institute for Infectious Diseases
- Army labs in Thailand and Kenya
- Navy labs in Egypt and Peru

Examples of Completed Products



- VecTest: Lab in a box detection of malaria, West Nile virus, and St. Louis enceph virus
- Camouflage Face Paint Repellent
- Mosquito Identification web page

Products in Progress



- Dengue Vector Control System
- New standard military insect repellent
- Guide to the Mosquitoes of Southwest Asia
- New mosquito surveillance techniques



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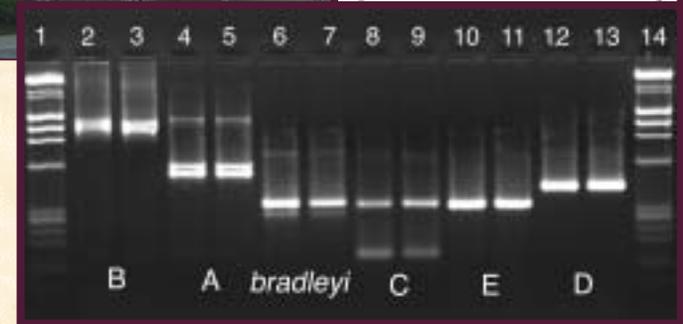
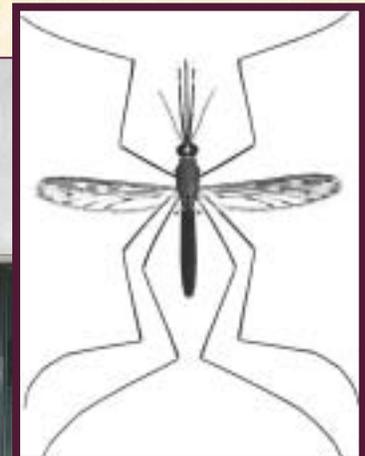


Basic and applied systematics research on mosquitoes of medical importance.

Morphological identification of vector species.

DNA diagnostics of malaria vectors.

Mosquito identification database.



<http://www.mosquitocatalog.org>



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2001 Systematic Catalog of Culicidae



Smithsonian
Institution



Walter Reed Biosystematics Unit
Smithsonian Institution
PO Box 37012
Museum Support Center, Room C-1125, MRC534
Washington DC 20013-7012



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HOW TO USE THIS CATALOG

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REFERENCE DATABASE

FOSSIL SPECIES

GENUS & SUBGENUS ABBREVIATIONS

INDEX OF SCIENTIFIC NAMES

Compiled and maintained by the [Walter Reed Biosystematics Unit \(WRBU\)](#), Department of Entomology, Division of Communicable Diseases and Immunology, Walter Reed Army Institute of Research (WRAIR), Silver Spring Maryland. This work was performed under a Memorandum of Understanding between WRAIR and the Smithsonian Institution, with institutional support provided by both.

You can begin using this catalog by choosing "all mosquitoes" or one or more genera, and then by choosing either "world wide", a region, or one or more countries in a region.

To select more than one: PC: Hold [Control] & Click Mac: Hold [Command] & Click

Genera and Subgenera
(choose one or more)

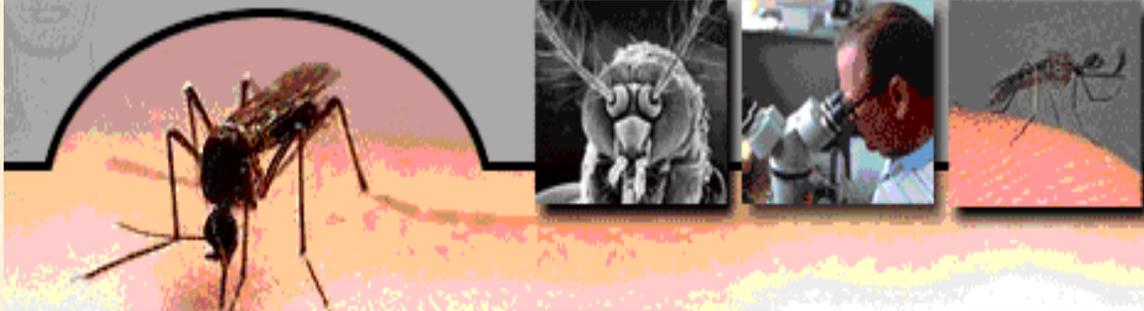
All Mosquitoes
AEDEOMYIA

Geographical Location
(choose one or more)

Worldwide
Africa

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To select more than one: PC: Hold [Control] & Click Mac: Hold [Command] & Click

Genera and Subgenera
(choose one or more)

- All Mosquitoes
- AEDEOMYIA
 - Aedeomyia
 - Lepiothauma
- AEDES

Geographical Location
(choose one or more)

- China (Hainan Island)
- Georgia
- India
- India (Andaman Islands)
- Iran

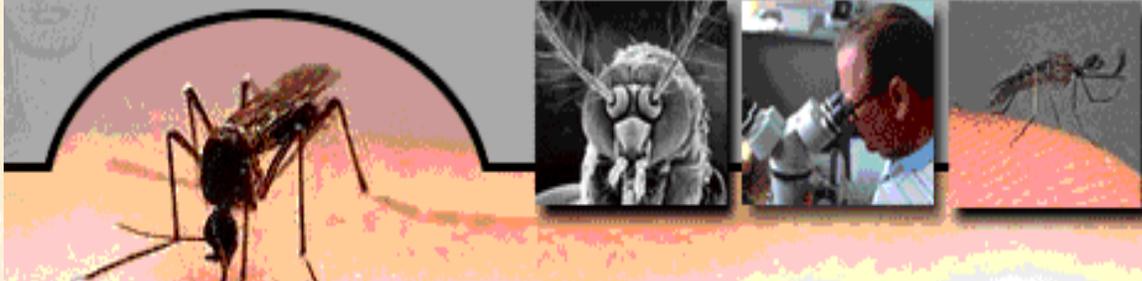
submit

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Query Result

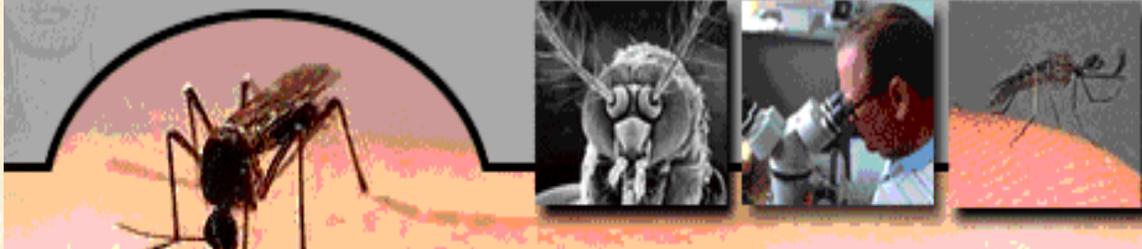
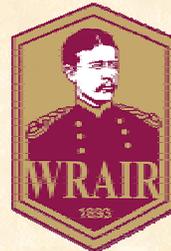
Z ↓ Species Name	Sort Genus	Sort Subgenus
abdita (Barraud).	VERRALLINA	Harbachius
aconitus Doenitz	ANOPHELES	Cellia
affinis (Edwards).	TRIPTEROIDES	Rachionotomyia
agastyai Tewari and Hiriyan.	AEDES	Diceromyia
agrestis (Barraud).	VERRALLINA	Neomaclaya
ahomi Chowdhury	ANOPHELES	Anopheles
aitkenii James	ANOPHELES	Anopheles
albipes (Edwards).	TOXORHYNCHITES	Toxorhynchites
alboannulata (Theobald).	URANOTAENIA	Uranotaenia
albocinctus (Barraud).	OCHLEROTATUS	Finlaya



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Search By Species Data:

Species Name:

Country:

Type-loc:

Human Disease

Yes No

Vector:

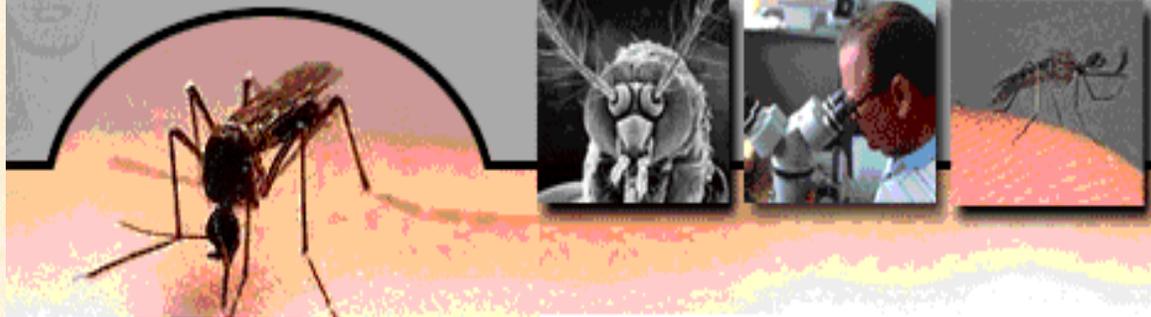
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Query Result

A Z ↓ Species Name	Sort Genus	Sort Subgenus
albimanus Wiedemann	ANOPHELES	Nyssorhynchus



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[Species List](#)

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Name: albimanus **Author:** Wiedemann

Countries: Antigua and Barbuda, Bahamas, Barbados, Belize, Brazil, Cayman Islands, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Puerto Rico, Suriname, Uruguay, USA, Venezuela, Virgin Islands

Type-loc: Ins. St. Domingo [Dominican Republic] (NMW).

Synonyms:

[cubensis](#)
[albipes](#)
[tarsimaculata](#)
[gorgasi](#)
[bisignatus](#)
[trisignatus](#)

Publications:

1820:10 (F).

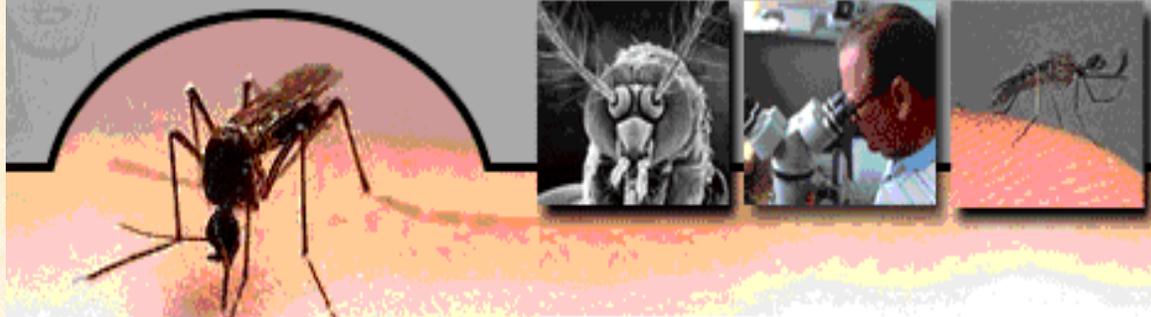
[Rozeboom 1938:99 \(E*\)](#), (file size = 861 Kb)

[Rozeboom and Gabaldon 1941:95 \(tax.\)](#), (file size = 1477 Kb)

[Ross and Roberts 1943a:35 \(M*, F*, L*\)](#), (file size = 3951 Kb)

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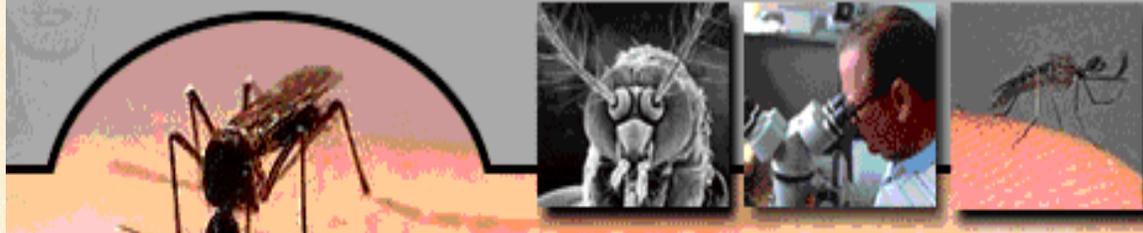
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Species of Brazil

Species Name

[abnormalis Lane.](#)

[accelerans Root.](#)

[acharistus Root.](#)

[adamesi Sirivanakarn and Galindo.](#)

[aenigmaticus \(Cerqueira and Costa\).](#)

[airosai Lane and Cerqueira.](#)

[airozai Lane.](#)

[alani Lane and Cerqueira.](#)

[albicosta \(Lutz\).](#)

[albicosta \(Peryassu\).](#)

Sort Genus

[CULEX](#)

[CULEX](#)

[CULEX](#)

[CULEX](#)

[OCHLEROTATUS](#)

[WYEOMYIA](#)

[CULEX](#)

[WYEOMYIA](#)

[ORTHOPODOMYIA](#)

[COQUILLETIDIA](#)

Sort Subgenus

[Culex](#)

[Aedinus](#)

[Culex](#)

[Melanoconion](#)

[Ochlerotatus](#)

[Subgenus Uncertain](#)

[Culex](#)

[Antunesmyia](#)

[Rhynchoaenia](#)



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Publications

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[Next>](#) [Last>](#)

Author	Year	Title
Peyton, E L	1972	A subgeneric classification of the genus <i>Uranotaenia</i> Lynch Arribalzaga, with a historical review and notes on other categories. <i>Mosq. Syst.</i> 4:16-40.
Peyton, E L	1974	<i>Uranotaenia srilankensis</i> a new species of the subgenus <i>Pseudoficalbia</i> from Sri Lanka (Diptera: Culicidae). <i>Mosq. Syst.</i> 6(3): 222-227, illus.
Peyton, E L	1977	Medical entomology studies - X. A revision of the subgenus <i>Pseudoficalbia</i> of the genus <i>Uranotaenia</i> in Southeast Asia (Diptera: Culicidae). <i>Contr. Am. ent. Inst.</i> 14(3):1-273, illus.
Peyton, E L	1990	A new classification for the <i>Leucosphyrus</i> Group of <i>Anopheles</i> (<i>Cellia</i>). <i>Mosq. Syst.</i> (1989) 21: 197-205. 1993. <i>Anopheles</i> (<i>Nyssorhynchus</i>) <i>dunhami</i> , resurrected from synonymy with <i>Anopheles nuneztovari</i> and validated as a senior synonym of <i>Anopheles trinkae</i> (Diptera: Culicidae). <i>Mosq. Syst.</i> 25: 151-156.
Peyton, E L and B.A. Harrison.	1979	<i>Anopheles</i> (<i>Cellia</i>) <i>dlirus</i> , a new species of the <i>Leucosphyrus</i> Group from Thailand (Diptera: Culicidae). <i>Mosq. Syst.</i> 11:40-52.
Peyton, E L and B.A. Harrison.	1980	<i>Anopheles</i> (<i>Cellia</i>) <i>takasagoensis</i> Morishita 1946, an additional species in the <i>Balahacensis</i> Complex of Southeast Asia (Diptera: Culicidae)

Author:

Potential for Partnership



- Mechanisms
 - SBIR
 - CRDA
 - Contract
- Resources at WRAIR
 - State of the art insectary
 - Human malaria challenge model
 - Complete life cycle model of *Leishmania*
 - Mosquito infection with dengue virus
 - BL-3 insect infection capability
 - Full range of diagnostics development

