ABSTRACT. The annotated bibliography of the mosquitoes and the diseases associated with them on the island of Guam published earlier in *Mosquito Systematics* is expanded and concluded.

An initial bibliography of 220 references including articles, papers and reports concerning either mosquitoes or mosquito-borne diseases on Guam was published in this journal (Vol. 8(4) 1976). An additional 81 references have been catalogued and are listed below. Annotations and errata pertaining to the original compilation which is referred to here as Part I of this bibliography are also presented.

A bibliography is, in essence, a history. In this instance it traces discovery and determination of the mosquito fauna and chronicles incidence of the diseases associated with it on Guam. Since both have been documented comprehensively in the literature, it is felt that this bibliography will be of value to future studies of the mosquitoes or diseases on Guam or in the Mariana Islands.

There is no assurance that this bibliography includes all references for Guam. It has not been possible, for example, to research the Japanese literature for that period (1920-1945) when the Mariana Islands, with the exception of Guam, were included in the Japanese Mandate Territory and data for Guam could have been incorporated with studies on the other islands. The bibliography does, however, withstand cross indexing from all known references, so it is concluded with the following entries.

**BIBLIOGRAPHY**

**Beardsley, C. 1964.** *Guam past and present.* C. E. Tuttle Co., Tokyo. 262 p. An abundance of all species of mosquitoes occurs on Guam, but the genus *Anopheles* is not represented on the island, p. 56.


1The views expressed herein are those of the author and do not necessarily reflect the views of the United States Air Force or the Department of Defense.


Curran, C. H. 1945. Insects of the Pacific World. Macmillan, New York. 317 p. Remarks on p. 21 that "Anopheles mosquitoes do not occur on the small, scattered Pacific islands, nor on such large islands as Guam and Saipan; consequently malaria cannot exist, because both man and Anopheles are essential to the existence of malaria."

Davis, P. V. 1963. Japanese encephalitis. Milit. Med. 128(11): 1091-1907. Reviews JE on Okinawa; refers to the ecological factors bearing upon the JE virus and meteorological and topographical factors which should be constantly under surveillance, and suggests that these might have played a role in the explosive outbreaks observed in Guam in 1948, p. 1096.


Guam, Government of. 1975. Environment impact assessment for aerial ULV application of Malathion at three ounces per acre in Guam. 42 p. + Tabs A-E. (mimeographed). Examines the impact, on man and his environment, of the administration of 95% Malathion at the rate of 3 ounces per acre by aerial application to prevent an outbreak of dengue fever among the civilian community following the influx of Vietnamese refugees during "Operation New Life."


Hammon, W. McD., D. M. Rees, J. Casals, and G. Meiklejohn. 1949. Experimental transmission of Japanese B encephalitis virus by Culex tritaeniorhynchus and Culex pipiens var. pallsens, suspected natural vectors. Am. J. Hyg. 49(1): 46-50. Refers to the transmission by laboratory infected mosquitoes on Guam by Hodes in 1946, p. 46. Transmission was affected by Culex jepsoni (=Culex sitiens), Cx. quinquefasciatus and Aedes vexans (=Culex sitiens), Cx. quinquefasciatus and Aedes vexans (=Aedes nocturnus (?)).


Iyengar, M. O. T. 1959b. A resume of filariasis control work carried out in the territories of the South Pacific. South Pacific Commission Study Group on Filariasis, South Pacific Commission, Noumea, New Caledonia. Report of the Study Group. Annex III. 17 p. There is no scheme for filariasis control in the Trust Territories. In Guam, where there is no endemic filariasis, some mosquito control work is being carried out, p. 3.


216


Ludlam, K. W. 1970. A bibliography of the potential vectors of Dirofilaria immitis (Leidy). Dep. Ent., Univ. Maryland, College Park, Maryland. 11 p. (mimeographed). Literature review. Presents a list of mosquito species in which complete larval development of Dirofilaria immitis has been observed. These include Aedes aegypti, Ae. guamensis, Ae. pandani, Culex annulirostris, Cx. pipiens quinquefasciatus, and Cx. sitiens from Guam.


Morrill, A. W., Jr. 1953. Army insect control operations in the Far East. J. Econ. Ent. 46(2): 270-276. Cites *Aedes aegypti* and *Ae. albopictus* on Guam, p. 271, and suggests on p. 272 that the establishment of these two species was thought to be traceable to excessive dependency on fogging by the military population rather than to support of sanitation and basic treatments for mosquito control.


Nowell, W. R. 1977. International quarantine for control of mosquito-borne diseases on Guam. Aviat. Space Environ. Med. 48(1): 53-60. Lists the mosquito species reported from Guam, discusses the mosquito-borne diseases known to have occurred on the island, and attributes the increases and incidences to breakdowns in local international quarantine procedures.


Petrishcheva, P. A., Ye. N. Levkovich, and S. T. Boldyrev. 1963. Japanese encephalitis. State Publishing House for Medical Literature, Moscow. (Translation No. 1115, U.S. Army Biological Laboratories, Fort Detrick, Frederick, Maryland, 9 June 1964. 149 p.) References the very large epidemic of JE which occurred in 1947-1948 on the island of Guam, where previously no cases had been noted. Cites Hammon, et al 1958, and suggests that the arrival of 60,000 Europeans [Americans?] on the island who considerably diluted the immune segment of the permanent local population brought about the epidemic outbreak of the disease, p. 8-9. JE is reported to be widespread on Guam, p. 121.


Sabin, A. B. 1956. Dengue. p. 383-394. In: Diagnostic Procedures for Virus and Rickettsial Diseases. 2nd ed. Am. Public Health Assoc., New York. Positive C-F tests for dengue fever have been obtained with the sera of people who had clinically diagnosed dengue fever in Guam 1 or more years before the bleeding, p. 385.


Swezey, O. H. 1937. Entomological report of Guam. Part II. Guam Recorder 13 (11): 8-9, 22, 26 (Feb 1937). Culex quinquefasciatus was found breeding in many different kinds of containers and an Aedes sp. was found breeding in the axils of Pandanus leaves, p. 9, 22. Comments that no malaria mosquitoes are yet known in Guam, p. 22. (Part I of this report was also published in The Guam Recorder 13(10): 13, 15, 47-48 (Jan 1937), but the data on the mosquitoes were not mentioned prior to Part II).


U.S. Dep. H.E.W. 1977a. Control of dengue. Public Health Service, Center for Disease Control, Bureau of Tropical Diseases (Vector Biology and Control Division), Vector Topics 2: 1-39. References 6 confirmed cases of dengue fever having been imported into Guam from Vietnam during the admission to the United States of refugees from that southeast Asian area in 1975. States that because of early detection and extensive efforts toward mosquito control, no spread to the residents of Guam occurred, p. 3.

U.S. Dep. H.E.W. 1977b. Malaria surveillance: annual summary 1976. Public Health Service, Center for Disease Control, Atlanta, Georgia. 27 p. Reviews a previously unreported case of fatal malaria that occurred in 1975. The victim was a Vietnamese female refugee who had arrived from Vietnam within 19 days prior to hospitalization and was admitted to a Guam hospital during May 1975, p. 13.


U.S. Navy Dep. 1944. Mandated Marianas Islands. Office Chief Naval Operations, Navy Dep., Washington, D.C. Civil Affairs Handbook OPNAV 50E-8 (15 Apr 1944). The genus Anopheles has not been reported, but Aedes aegypti and Culex quinquefasciatus are present, p. 19. Incidence and vector data for malaria, filariasis, and dengue fever on Guam are shown on p. 103.


<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955</td>
<td>3 (imported cases)</td>
</tr>
<tr>
<td>1956</td>
<td>6</td>
</tr>
<tr>
<td>1957</td>
<td>3</td>
</tr>
<tr>
<td>1958</td>
<td>0</td>
</tr>
<tr>
<td>1959</td>
<td>1</td>
</tr>
<tr>
<td>1960</td>
<td>5</td>
</tr>
<tr>
<td>1961</td>
<td>5</td>
</tr>
<tr>
<td>1962</td>
<td>0</td>
</tr>
<tr>
<td>1963</td>
<td>0 (preliminary or estimated)</td>
</tr>
<tr>
<td>1964</td>
<td>+ (data not yet available)</td>
</tr>
</tbody>
</table>


Additional References on Guam Culicidae*


Fullaway, D. T. 1912. Mosquitoes are listed on p. 33.

Hornbostel, H. G. 1925. Discusses the introduction of mosquitoes on Guam via water tanks on whaling ships, and suggests using mosquito fish to control the populations.

Huang, Y. -M. 1972. Add "distribution list, p. 68-69."

Iyengar, M. O. T. 1954. Guam is included in the charts of summary data regarding prevalence of endemic microfilarial infection (p. 8), and periodicity of Wuchereria bancrofti infections, p. 34. Culex fatigans is considered the likely vector of filarial infection in the Marianas (including Saipan) (p. 39), but there are no data available regarding the vector, p. 43.

Iyengar, M. O. T. 1955. Anopheles subpictus has been recorded from Guam, probably as a war-time introduction, p. 5, 22. Notes on Aedes guamensis, p. 9, 29; Ae. oakleyi, p. 10, 30; Ae. albopictus, p. 29; Ae. pandani, p. 29; Culex litoralis and Cu. annulirostris mariannae, p. 11, 33, from Guam. List of mosquitoes of the Mariana Islands, p. 45.

*Editor's Note.

These references were submitted by Dr. Ronald A. Ward following his review of this article but arrived too late to be coordinated with the author. I have taken the liberty of including them here.
Knight, K. L., R. M. Bohart, and G. E. Bohart. 1944. Mosquito distribution for Guam includes *Aedes aegypti*, p. 49; *Ae. oakleyi*, p. 54; *Ae. pandani*, p. 54; *Ae. scutellaris pseudoscutellaris*, p. 55; and *Culex quinquefasciatus*, p. 63.


Mumford, E. P. and J. L. Mohr. 1944. Dengue fever and filariasis are included for Guam in Table 1: Distribution of Communicable Diseases in the Pacific, p. 2. Dengue fever on Guam, p. 5. Exiled Samoans are said to have brought non-periodic filariae to the Marianas, and filariasis is reported from Guam but elephantiasis does not occur there, p. 24.

Oakley, R. G. 1940. Lists *Aedes aegypti*, *Ae. pandanus*, *Ae. oakleyi*, *Ae. scutellaris var. pseudoscutellaris*, *Ae. scutellaris var.*, and *Culex quinquefasciatus* from Guam.

Reinert, J. F. 1973. Read: Reviews the taxonomy and collection records, including those on Guam, for *Aedes vexans vexans* (Meigen), p. 71, 74, and *Aedes vexans nocturnus* (Theobald), p. 74, and states ....

Satterlee, R. C. 1928b. Portions of the 1928a report are extracted for *The Guam Recorder*. The statement pertaining to the presence of *Anopheles* in Micronesia is not included.

Swezey, O. H. 1936. Lists two species of mosquitoes: *Culex quinquefasciata* and an *Aedes* sp., with breeding notes for each. The larvae of the *Aedes* were found in the accumulated water at the axils of *Pandanus* leaves, p. 313.

**ERRATA FOR PART I**

Bryan, E. H., Jr. 1949. Read Committee for Commission

Holway, R. T. 1964d. Read Mosquito survey on Guam - 1964 for Mosquito survey for naval activities on Guam


Iyengar, M. O. T. 1954. Read South Pacific Commission for Command

Iyengar, M. O. T. 1955. Read South Pacific Commission for Command


Mumford, E. P. and J. L. Mohr. 1944. Read ... communicable diseases and their.


Russell, P. F. 1959. Read Insects and the epidemiology of malaria

Satterlee, R. C. 1928b. Read Guam Recorder 5(6):121


Wester, W. H., Jr. 1918. Incorrectly listed. Author is W. H. Weston, Jr. Revise bibliographic data to read: Control of the disease situation in Guam. p. 45-62. In: Guam Agricultural Experiment Station Report for 1917. This entry should be deleted from the bibliography because it pertains to agricultural pests and does not include mosquitoes or address mosquito-borne diseases.