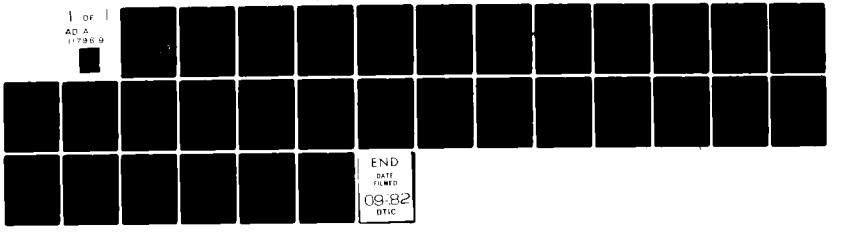
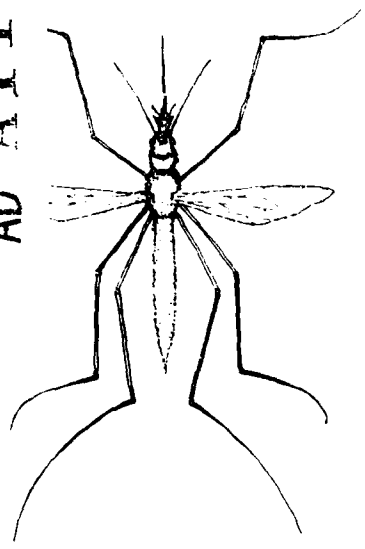
AD-A117 969 NAVAL MEDICAL RESEARCH UNIT NO 2 MANILA (PHILIPPINES) F/G 6/3
A CHECKLIST OF THE MOSQUITOES OF INDONESIA.(U)
1981 C T O'CONNOR, T SOPA
UNCLASSIFIED NAMRU-2-SP-45 NL





A CHECKLIST OF THE MOSQUITOES OF INDONESIA

EDITED BY

C. T. O'CONNOR and TINE SOPA

A SPECIAL PUBLICATION

OF THE

U. S. NAVAL MEDICAL RESEARCH UNIT NO. 2

JAKARTA, INDONESIA

NAMRU-SP-45

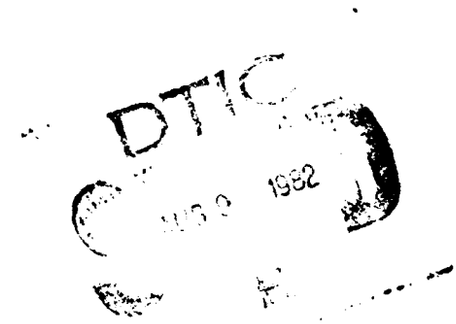
1981

A CHECKLIST OF THE MOSQUITOES OF INDONESIA

by

C. T. O'CONNOR
World Health Organization

TINE SOPA
Bandung Institute of Technology



NAMRU-2-SP-45

1981

A Special Publication of the U.S. Naval Medical Research Unit No. 2,

Jakarta Detachment, BPPK, Jl. Percetakan Negara I,

Jakarta, Indonesia

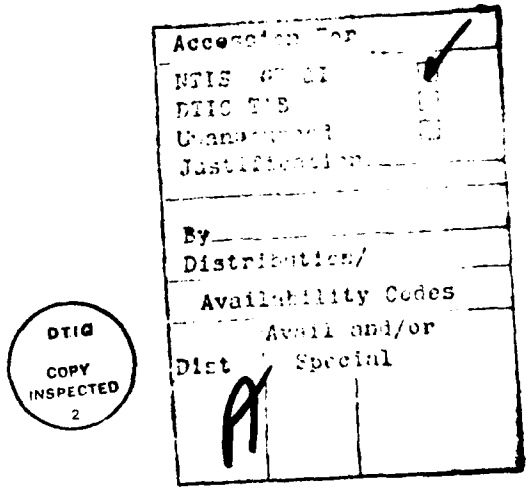
U.S. Mailing Address: U.S. NAMRU-2-DET,

APO San Francisco 96356

NAMRU-2-SP-45

This work was compiled in part from the collection data and specimens at NAMRU-2 Jakarta Detachment, Entomology Department and was supported by Work Unit No. MR04109.001.0166. The junior author participated in this project while studying at NAMRU-2 Entomology Department, under the supervision of Mr. Soeroto Atmosoedjono, in partial fulfillment of the requirements of the MSc at Bandung Institute of Technology.

_____ 1981



A CHECKLIST OF THE MOSQUITOES OF INDONESIA

C. T. O'Connor[1] and Tine Sopa[2]

[1] WHO Entomologist, Jakarta, Indonesia.
Present address: c/o WHO, Devavesm Palace, Bangkok, Thailand.

[2] Department of Biology, Institute of Technology, Bandung, Indonesia.

Indonesia is represented by a varied mosquito fauna, embracing some 450 known species of 2960 listed worldwide in Knight and Stone (1977). This is primarily a result of the widespread distribution of the country's many islands, which range from the southeastern Oriental Region across the Wallace and Weber lines to the northwestern Australian Region. This fauna has been, both during the colonial and post-colonial periods, the subject of many investigations in the fields of taxonomy, distribution, bionomics and disease relationships. While a few earlier checklists exist, none have been prepared specifically for Indonesia which take into account the extensive studies of the last 30 years. This paper is intended to fill that gap.

The primary literature sources for these data were the Knight and Stone (1977) worldwide catalog and the supplement of Knight (1978). The arrangement of the various taxa follows their format. In those cases where the abovementioned authors have cited distributional records of a general nature, for example, "Oriental Region" or "Indonesia", and specimens were not available in local collections, more precise locations were sought from other sources, but no attempt was made to review the literature comprehensively. Several species have been listed here merely as "Indonesia" because of a lack of specific information. The other sources include: Belkin (1962), Bonne-Wepster and Swellengrebel (1953), Bram (1967), Brug and Bonne-Wepster (1947), Delfinado (1966, 1967, 1968), Harrison and Scanlon (1975), Huang (1968, 1972), Knight (1968), Lien et al. (1975, 1977), Peyton (1977), Ramalingam (1974), Reid (1968), Reinert (1970, 1973, 1975, 1976), Rozeboom and Knight (1946), Sirivanakarn (1968, 1973, 1976, 1977), Steffan (1968) and Tyson (1970 a, b).

Data are presented with regard to the distribution of the 456 listed species on the major islands and their satellites throughout Indonesia employing provincial boundaries delineated by the Indonesian government. The number of taxa in each of the 18 genera is shown in Annex 1. Distributional citations encountered in the literature are identified by the symbol "L". Additional records derived from specimens actually present in collections maintained by units in the compounds of the CDC/P3M, Jakarta are marked with the symbol "C" Literature citations questioned by the authors themselves and specimens in the CDC/P3M collections which are of uncertain identity are preceded by an interrogation mark. The taxa originally described from Indonesia, comprising 148 species, 2 subspecies and 8 varieties, and their generalized type localities are identified by the letter "T".

Indonesia shares 2 of the larger islands within its boundaries, Borneo and New Guinea with the countries of Malaysia and Papua-New

Guinea, respectively. In some cases, species reported from other areas in Indonesia are also listed in the available literature merely as "Borneo" or "New Guinea". Since these citations do not differentiate the Indonesian from the foreign portions of these islands, we have denoted such situations in the list by "L*". In other cases, species have been found on these 2 islands but not in any other part of Indonesia. A separate list (Annex 2) has been prepared of the species which have either been reported from the foreign portions of these islands or the available literature sources merely stipulate "Borneo" or "New Guinea" and the precise locations have not been ascertained. Since mosquito collecting has been relatively limited in Kalimantan (Indonesia Borneo) and Irian Jaya (Indonesian New Guinea) it would seem a distinct possibility that further work will add a sizeable proportion of these mosquitoes to the fauna of Indonesia. The abbreviations employed in the list are those proposed by Reinert (1975). Annex 3 lists the genera and subgenera in Indonesia as well as the proposed abbreviations used in Annex 2.

Although our knowledge of the distribution of anopheline mosquitoes has been greatly augmented during the course of intensive anti-malaria activities, considerably more work is needed, especially with those species groups in which the females are indistinguishable. For example, the precise ranges of barbumbrosus and vanus of the barbirostris group, separatus and hunteri of the umbrosus group, aitkenii, fragilis and bengalensis of the aitkenii group and pilinotum and insulaeflorum, also of the aitkenii group, await confirmation through the study of the immature stages.

Whether or not campestris exists in Indonesia has yet to be definitely established. Harrison and Scanlon (1975) and Reid (1968) point out that variation in adult morphology necessitates the study of the associated immature stages in order to delineate the respective ranges of this species and barbirostris. These authors feel that campestris may be limited to Thailand and Malaysia. Ramalingam (1974) observed a combination of barbirostris abdominal scaling and campestris wing scaling on the same individuals in Java, but all of the associated skins indicated that they were barbirostris. Adult specimens of this type have been collected from a number of other areas in Indonesia, however, the species determination has yet to be confirmed through the immature stages. With these reservations, campestris has been included in the list with an interrogation mark because of its importance as a vector of malaria and filariasis in Malaysia (Reid, 1968).

An. dirus, recently described in Thailand (Peyton and Harrison, 1979) from what had heretofore been called An. balabacensis, has not been treated here because of the paucity of immature forms available.

Only a small proportion of the identifications of the culicine mosquitoes in the collections at the CDC/P3M, Jakarta have been confirmed by specialists. In fact, a considerable number have yet to be even provisionally identified. Four species, Ae. (Adm.) taeniorhynchoides, Cx. (Lop.) aculeatus, Ur. (Ura.) heiseri and Ur. (Ura.) pygmaea, have been provisionally identified locally, but are not indigenous to Indonesia according to the literature sources cited.

Cx. (Cux.) quinquefasciatus is the name employed here in deference to its priority under the rules of the International Code of Zoological Nomenclature (Knight and Stone, 1977 and Sirivanakarn, 1976), although fatigans is the term most commonly utilized by workers in Indonesia.

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
Subfamily ANOPHELINAE								
Genus ANOPHELES Meigen								
Subgenus ANOPHELES Meigen								
1. aitkenii James, 1903	L	L	L	L	L	?L	L	
2. albotaeniatus (Theobald), 1903	L	L	L		LC	L		
3. annandalei Prashad, 1918			L					
4. argyropus (Swellengrebel), 1914	LCT		LC					
5. baezai Gater, 1933	L	L	L	L	LC			
6. bancroftii Giles, 1902					C	L	L	
7. bancroftii var. barbiventris Brug, 1938					LT			
8. barbirostris Van der Wulp, 1884	LC	LC	LCT	LC	LC	L		
9. barbumbrosus Strickland and Chowdhury, 1927	LT	?L	LT	?L	?L	?L		
10. bengalensis Puri, 1930		L	L		?L			
11. brevipalpis Roper, 1914	L	LC						
12. campestris Reid, 1962								?
13. crawfordi Reid, 1953	LC		C		C			
14. donaldi Reid, 1962	?L	L*	?L					
15. ejercitoi Mendoza, 1947					C			
16. fragilis (Theobald), 1903		L*			L			
17. gigas Giles, 1901					L			
18. gigas var. sumatrana Swellengrebel and Rodenwaldt, 1932	LT							
19. gigas var. danaubento Mochtar and Walandouw, 1934	LT							
20. gigas var. oedjalikalah Nainggolan, 1939	LT							
21. gigas var. pantjarbatu Koesoemawinangoen, 1954	LT							
22. hunteri (Strickland), 1916	L							
23. insulaeflorum (Swellengrebel and Swellengrebel de Graaf), 1919	L		LT	L	L	?L	?L	
24. lesteri ssp. paraliae Sandosham, 1959	C	L*C						
25. letifer Sandosham, 1944	LC	LC						
26. montanus Stanton and Hacker, 1917	LC	L						
27. nigerrimus Giles, 1900	LC	LC	LC		LC	L		
28. nitidus Harrison, Scanlon and Reid, 1973	LC	C						

[1] Smt = Sumatera; Kln = Kalimantan; Jw = Java; LSI = Lesser Sunda Islands; Slw = Sulawesi; Mlk = Maluku; IJ = Irian Jaya; Ind = Indonesia

Taxonomic listing	DISTRIBUTION[1] Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
29. palmatus (Rodenwaldt), 1926	L	L	LT			L	L	
30. peditaeniatus (Leicester), 1908	LC	LC	LC	C	LC			
31. pilinotum Harrison and Scanlon, 1974						L	?L	
32. pseudobarbirostris Ludlow, 1902					L	L	L	
33. roperi Reid, 1950	L	L*						
34. separatus (Leicester), 1908	LC	L				L		
35. similissimus Strickland and Chowdhury, 1927	?L							
36. sinensis Wiedemann, 1828	LC	C						
37. stigmaticus Skuse, 1889							L	
38. umbrosus (Theobald), 1903	LC	LC	L		L	L		
39. vanus Walker, 1859		L*			LT	L	L	
40. whartoni Reid, 1963		C						
Subgenus: CELLIA Theobald								
41. aconitus Doenitz, 1902	LCT	LC	LCT	LC	LC			
42. annularis Van der Wulp, 1884	LC	LC	LCT	LC				
43. annulatus De Rook, 1929							LT	
44. annulipes Walker, 1856							L	
45. balabacensis Baisas, 1936	C	LC	LC					
46. clowi Rozeboom and Knight, 1946							LT	
47. cristatus King and Baisas, 1936							?L	
48. farauti Laveran, 1902						L	LC	
49. flavirostris (Ludlow), 1914	LC	LC	L	LC	L			
50. hackeri Edwards, 1921	LC	L			L			
51. hilli Woodhill and Lee, 1944							L	
52. incognitus Brug, 1931							LT	
53. indefinitus (Ludlow), 1904	L	C	LC	C	C			
54. karwari (James), 1902	LC	L	LC		L		L	
55. kochi Doenitz, 1901	LCT	LC	LC	LC	L	L		
56. koliensis Owen, 1945							LC	
57. leucosphyrus Doenitz, 1901	LT	L	L		L			
58. longirostris Brug, 1928						LC	LCT	
59. ludlowae (Theobald), 1903		L*			L	L		
60. ludlowae var. torakala Stoker and and Koesoemawinangoen, 1949					LT			
61. lungae Belkin and Schlosser, 1944							L	
62. maculatus Theobald, 1901	LC	LC	LC	LC	L			
63. meraukensis Venhuis, 1932							LT	
64. minimus Theobald, 1901	LC	LC	L	LC	LC			
65. nivipes (Theobald), 1903	LC							
66. novaguinensis Venhuis, 1933							LT	
67. pallidus Theobald, 1901	L							
68. parangensis (Ludlow), 1914	C	L*			LC	?L		
69. philippinensis Ludlow, 1902	LC	LC	LC					

Taxonomic listing	DISTRIBUTION[1] Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
70. pujutensis Colless, 1948	L	LC						
71. punctulatus Doenitz, 1901						L	LC	
72. ramsayi Covell, 1927	L		L					
73. schueffneri Stanton, 1915	LT		LC					
74. subpictus Grassi, 1899	LC	LC	LC	LC	LC	L	L	
75. sulawesi Koesoemawinangoen, 1954					LCT			
76. sundaicus (Rodenwaldt), 1925	LC	LC	LC	LC	LC	LC		T
77. tessellatus Theobald, 1901	LC	LC	LC	LC	LC	L	LC	
78. tessellatus var. orientalis (Swellengrebel and Swellengrebel de Graaf), 1919					LT	L		
79. tessellatus var. kalawara Stoker and Koesoemawinangoen, 1949					LT			
80. vagus Doenitz, 1902	LCT	LC	LCT	LC	LC	L		
Genus BIRONELLA Theobald								
Subgenus BIRONELLA Theobald								
1. gracilis Theobald, 1905						L	L	
Subgenus BRUGELLA Edwards								
2. hollandi Taylor, 1934							L	
3. travestita (Brug), 1928							LT	
Subgenus NEOBIRONELLA Tenorio								
4. confusa Bonne-Wepster, 1951							LT	
5. papuae (Swellengrebel and Swellengrebel de Graaf), 1919							LT	
6. soesiloi (Strickland and Chowdhury), 1931							LT	
Subfamily CULICINAE								
Tribe AEDEOMYIINI								
Genus AEDEOMYIA Theobald								
Subgenus AEDEOMYIA Theobald								
1. catasticta Knab, 1909	L	L	L	L	L	L	L	
Tribe AEDINI								
Genus AEDES Meigen								
Subgenus AEDIMORPHUS Theobald								
1. alboscutellatus (Theobald), 1905	L	L*	L		L	L	LC	
2. caecus (Theobald), 1901	L		L			L	LC	
3. lowisii (Theobald), 1910	L	L*			L	L		
4. mediolineatus (Theobald), 1901	L		L					
5. pampangensis (Ludlow), 1905	L	C	L					
6. taeniorhynchoides (Christophers), 1911	?C							

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
7. vexans (Meigen), 1830	LC	LC	L	L	LC	L	LC	
Subgenus ALANSTONEA Mattingly								
8. brevitibia (Edwards), 1914		L						
9. treubi (De Meijere), 1910			LT					
Subgenus CANCRAEDES Edwards								
10. indonesiae Mattingly, 1958	L		LT					
11. mamoedjoensis Mattingly, 1958					LT			
12. simplex (Theobald), 1903	?L		?L					
13. thurmanae Mattingly, 1958					LT			
Subgenus DICEROMYIA Theobald								
14. iyengari Edwards, 1923			L	L				
Subgenus EDWARDSAEDES Belkin								
15. imprimens (Walker), 1860	L	LC	L			LT	L	
Subgenus FINLAYA Theobald								
16. albolateralis (Theobald), 1908	L							
17. alboniveus Barraud, 1934			L					
18. albotaeniatus (Leicester), 1904	L							
19. alticola Bonne-Wepster, 1948							LT	
20. anggiensis Bonne-Wepster, 1937							LT	
21. argenteitarsis Brug, 1932							LT	
22. assamensis (Theobald), 1908			LC					
23. aureostriatus (Doleschall), 1857	L		L	L	L	LT	L*	
24. aureostriatus var. greenii (Theobald), 1903	L		L					
25. avistylus Brug, 1939					LT	L		
26. chrysolineatus (Theobald), 1907	L		L					
27. derooki Brug, 1932						LT		
28. flavipennis (Giles), 1904			L					
29. formosensis Yamada, 1921	L		LC	L				
30. gani Bonne-Wepster, 1940							LT	
31. gracilelineatus Bonne-Wepster, 1937							LT	
32. harveyi (Barraud), 1923	L		?L	?L				
33. hollandius King and Hoogstraal, 1946							LT	
34. idjenensis Brug, 1934			LT					
35. jugraensis (Leicester), 1908			L					
36. kochi (Doenitz), 1901						L	L*	
37. macdougalli Edwards, 1922	L		L					
38. macfarlanei (Edwards), 1914	L							
39. nigrorhynchus Brug, 1931			LT					

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
40. niveoides Barraud, 1934	L		L					
41. niveus (Ludlow), 1903	L		?LC		?L			
42. notoscriptus (Skuse), 1889						L	L	
43. notoscriptus ssp. montanus Brug, 1939	LT							
44. novalbitarsis King and Hoogstraal, 1946							L	
45. novoniveus Barraud, 1934	L		L	C				
46. papuensis (Taylor), 1914							L	
47. plumiferus King and Hoogstraal, 1946							LT	
48. poicilius (Theobald), 1903	L	L	LC	L	L		LC	
49. prominens (Barraud), 1923					L			
50. pseudoniveus (Theobald), 1905	L	L						
51. quasirubithorax (Theobald), 1910							L	
52. saxicola Edwards, 1922	L	L*	L					
53. shortti (Barraud), 1923	L							
54. stevensoni (Barraud), 1923					?L			
55. subalbitarsis King and Hoogstraal, 1946							LT	
56. toxopeusi Bonne-Wepster, 1948							LT	
57. wallacei Edwards, 1926							L	
Subgenus GEOSKUSEA Edwards								
58. kabaenensis Brug, 1939					LT			
59. tonsus Edwards, 1924						LT		
Subgenus HUAEDES Huang								
60. medialis Brug, 1932							LT	
61. variepictus King and Hoogstraal, 1946							LT	
Subgenus LORRAINEA Belkin								
62. amesii (Ludlow), 1903	L			C	LC			
63. celebicus Mattingly, 1959					LT			
64. dasyorrhus King and Hoogstraal, 1946							LT	
65. fumidus Edwards, 1928	L	?C			L			
Subgenus MACLEAYA Theobald								
66. tremulus (Theobald), 1903							L	
Subgenus MUCIDUS Theobald								
67. alternans (Westwood), 1835				L			L	
68. aurantius (Theobald), 1907	L	L*			L		L	
69. laniger (Wiedemann), 1820	L	C	LT		L			

Taxonomic listing	DISTRIBUTION1							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
70. painei Knight, 1948							?L*C	
71. quasiferinus Mattingly, 1961	L							
Subgenus NEOMELANICONION Newstead								
72. lineatopennis (Ludlow), 1905	LC	LC	LC	L	LC	L		
Subgenus OCHLEROTATUS Lynch Arribalzaga								
73. inexpectatus Bonne-Wepster, 1948							LT	
74. purpuraceus Brug, 1932							LT	
75. vigilax (Skuse), 1889				C				L
Subgenus PARAEDES Edwards								
76. ostentatio (Leicester), 1908	L?C	L*	L		C	L		
Subgenus PSEUDOSKUSEA Theobald								
77. culiciformis (Theobald), 1905							L	
78. lunulatus King and Hoogstraal, 1946								
Subgenus RHINOSKUSEA Edwards								
79. longirostris (Leicester), 1908	L		L		L			
80. wardi Reinert, 1976		L			L			
Subgenus STEGOMYIA Theobald								
81. aegypti (Linnaeus), 1762	LC	LC	LC	LC	LC	L	L	
82. albolineatus (Theobald), 1904	L	L	L	L	L	L	C	
83. albopictus (Skuse), 1894	L	LC	LC	LC	L	L	LC	
84. alorensis Bonne-Wepster and Brug, 1932				LT				
85. annandalei (Theobald), 1910	L		LC	L	L	L	L	
86. desmotes (Giles), 1904		LC	L	L	L			
87. gardnerii (Ludlow), 1905		L*		L	L			
88. hebrideus Edwards, 1926						L	L	
89. impatibilis (Walker),,1859					LT			
90. paullusi Stone and Farner, 1945	L				LC	L		
91. pseudalbolineatus Brug, 1939					LT			
92. pseudalbopictus (Borel), 1928	L		L					
93. scutellaris (Walker), 1858	L		L	LC	L	L	LCT	
94. w-albus (Theobald), 1905	L							
Subgenus VERRALLINA Theobald								
95. andamanensis Edwards, 1922	L	L*	L					
96. azureosquamatus Bonne-Wepster, 1948							LT	

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
97. bifoliatus King and Hoogstraal, 1947							LT	
98. butleri Theobald, 1901	L	L?C	L		L	L		
99. campylostylus Laffoon, 1946							L	
100. carmenti Edwards, 1924						L	L	
101. dux Dyar and Shannon, 1925			L		L			
102. foliformis King and Hoogstraal, 1947							L	
103. funereus (Theobald), 1903						L	L	
104. gibbosus Delfinado, 1967			L					
105. harrisonicus Reinert, 1974			L					
106. incertus Edwards, 1922	L		L				L*	
107. johorensis Reinert, 1974	L							
108. leilae King and Hoogstraal, 1947							LT	
109. lineatus (Taylor), 1914				L		L	L	
110. multifolium King and Hoogstraal, 1947							LT	
111. neomacrodixoa King and Hoogstraal, 1947					L	L	LT	
112. panayensis Ludlow, 1914		L*		L	L	L	L	
113. parasimilis King and Hoogstraal, 1947	C					LC	LT	
114. prioekanensis Brug, 1931	LT							
115. quadrifolium Brug, 1934							LT	
116. quadrispinatus King and Hoogstraal, 1947							LT	
117. rarus Delfinado, 1968	L							
118. reesi King and Hoogstraal, 1947							L	
119. sentanius King and Hoogstraal, 1947							L	
120. similis (Theobald), 1910						L	L	
121. simplus King and Hoogstraal, 1947							LT	
122. trispinatus King and Hoogstraal, 1947							L	
123. uncus (Theobald), 1901	L	L*	L					
124. varietas (Leicester), 1908	L	C						
125. virilis (Leicester), 1908	L	L*						
Genus ARMIGERES Theobald								
Subgenus ARMIGERES Theobald								
1. breinli (Taylor), 1914							L	
2. candelabrifer Brug, 1939					LT			
3. confusus Edwards, 1915	L	L			?C			
4. denbesteni Brug, 1925			C			LCT	L	

Taxonomic listing	DISTRIBUTION							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
5. durhami Edwards, 1917	L		LC	?L				
6. foliatus Brug, 1931	LT		L					
7. jugraensis (Leicester), 1908	L	L	L					
8. kuchingensis Edwards, 1915		L*	LC					
9. kuchingensis var. javanensis Brug, 1939			LT					
10. lacuum Edwards, 1922							L	
11. malayi (Theobald), 1901	L	LC	LC	LC	L	L	L	
12. maximus Edwards, 1922	L		L					
13. milnensis Lee, 1944							LC	
14. moultoni Edwards, 1914	L	LC	LC	C	L		C	
15. papuensis Peters, 1963							L	
16. subalbatus (Coquillett), 1889	L	L	LC	L	L	L	L	
Subgenus LEICESTERIA Theobald								
17. annulipalpis (Theobald), 1910	L	C	L	L	L	L		
18. annulitarsis (Leicester), 1908	L		L					
19. balteatus Macdonald, 1960	L	L*						
20. digitatus (Edwards), 1914	L		L					
21. dolichocephalus (Leicester), 1908	LC		L					
22. flavus (Leicester), 1908	L	L*	LC					
23. longipalpis (Leicester), 1904	L	L*			L			
24. magnus (Theobald), 1908	L	L*	L					
25. omissus (Edwards), 1914			L					
26. pectinatus (Edwards), 1914		L*	L					
Genus HEIZMANNIA Ludlow								
Subgenus HEIZMANNIA Ludlow								
1. aurea Brug, 1932						LT		
2. communis (Leicester), 1908	L							
3. indica (Theobald), 1905								?C
4. scintillans Ludlow, 1905	L	L*						
Subgenus MATTINGLYIA Lien								
5. achaetae (Leicester),.1908					L			
Tribe CULICINI								
Genus CULEX Linnaeus								
Subgenus ACALLEOMYIA Leicester								
1. obscurus (Leicester), 1908	L							
Subgenus ACALLYNTRUM Stone and Penn								
2. bicki Stone and Penn, 1947							LT	
3. binigrolineatus Knight and Rozeboom, 1945							LT	
4. pallidiceps (Theobald), 1905							L	

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
Subgenus CULEX Linnaeus								
5. alienus Colless, 1957		L						
6. alis Theobald, 1903		L*				L	L	
7. annulirostris Skuse, 1889				L	L	L	LC	
8. bihamatus Edwards, 1926				LT				
9. bitaeniorhynchus Giles, 1901	LC	LC	LC	L	L	L	LC	
10. diengensis Brug, 1931			LT					
11. fuscocephala Theobald, 1907	LC	LC	LC	LC	L			
12. gelidus Theobald, 1901	LC	LC	LC	LC	L	L	L	
13. incognitus Baisas, 1938					L	L		
14. infula Theobald, 1901	L	L	L					
15. mimeticus Noe, 1899								L
16. mimulus Edwards, 1915	L	LC	L		L		L	
17. miraculosus Bonne-Wepster, 1937							LT	
18. perplexus Leicester, 1908		L						
19. pseudovishnui Colless, 1957	LC	LC	LC	C	LC	L	L	
20. quinquefasciatus Say, 1823	LC	LC	LC	LC	LC	L	LC	
21. sinensis Theobald, 1903	LC	LC	LC	L	L	L		
22. sitiens Wiedemann, 1828	T	C		C			C	L
23. solitarius Bonne-Wepster, 1938							LT	
24. squamosus (Taylor), 1914						L	L	
25. starckae Stone and Knight, 1958				L				
26. tritaeniorhynchus Giles, 1901	LC	LC	LC	LC	LC	L		
27. vishnui Theobald, 1901	LC	LC	LC	LC	LC	L	L	
28. whitei Barraud, 1923	L			L		L		
29. whitmorei (Giles), 1904	LC	C	LC	C	LC		L	
Subgenus CULICIOMYIA Theobald								
30. bahri (Edwards), 1914			?L					
31. ceramensis Sirivanakarn and Kurihara, 1973						LT		
32. fragilis Ludlow, 1903	L	LC	L		L		L*	
33. fusciciactus King and Hoogstraal, 1946							LT	
34. javanensis Bonne-Wepster, 1934		L	LT					
35. nailoni King and Hoogstraal, 1946							LT	
36. nigropunctatus Edwards, 1926	L	L	L		L		C	
37. pallidothorax Theobald, 1905	L	L	L	L		L	L	
38. papuensis (Taylor), 1914							L	
39. pullus Theobald, 1905				L		L	L	
40. spathifurca (Edwards), 1915	L	L	LC	L	L	L	L*	
41. tricuspis Edwards, 1930				LT				
Subgenus EUMELANOMYIA Theobald								
42. brevipalpis (Giles), 1902	L	L	LC		L	L	L*	
43. cataractarum Edwards, 1923							L	

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
44. foliatus Brug, 1932		L*	LT	LC				
45. malayi (Leicester), 1908	L	LC	L	L	L	L	L	
46. tenuipalpis Barraud, 1924			?L					
Subgenus LOPHOCERAOMYIA Theobald								
47. aculeatus Colless, 1965		L*?C						
48. alorensis Sirivanakarn, 1977				LT				
49. bandoengensis Brug, 1939			LT			L		
50. bengalensis Barraud, 1934		L						
51. buxtoni Edwards, 1926						L		
52. cinctellus Edwards, 1922	LC	L*C	L					
53. cubitatus Colless, 1965						L	L*	
54. curtipalpis (Edwards), 1914	L	L						
55. digoelensis Brug, 1932							LT	
56. fraudatrix (Theobald), 1905	L	L	L			L	L	
57. hewitti (Edwards), 1914	L	L*						
58. inculus Colless, 1965	L							
59. infantulus Edwards, 1922	C		L					
60. jenseni (De Meijere), 1910	L	L*	LT					
61. kuhnsi King and Hoogstraal, 1955		L*				L	LT	
62. leei King and Hoogstraal, 1955							LT	
63. macdonaldi Colless, 1965	L	L*						
64. mammilifer (Leicester), 1908	L	L*	L					
65. marksae King and Hoogstraal, 1955							LT	
66. minor (Leicester), 1908		L	L				L	
67. navalis Edwards, 1926		L						
68. ornatus (Theobald), 1905							L	
69. peytoni Bram and Rattanarithikul, 1967	L		L					
70. quadripalpis (Edwards), 1914		L*			L			
71. reidi Colless, 1965	L	L*						
72. rubithoracis (Leicester), 1908	L	LC	L		C			
73. shanahani Sirivanakarn, 1968							L	
74. solomonis Edwards, 1929						L	L	
75. sumatranus Brug, 1931	LT							
76. traubi Colless, 1965	L	L*						
77. variatus (Leicester), 1908	L	L*	L					
78. whartoni Colless, 1965	L	L*						
Subgenus LUTZIA Theobald								
79. fuscanus Wiedemann, 1820	L	LC	LC	L	L			
80. halifaxii Theobald, 1903	L	L	LC		L	L	LC	
Subgenus NEOCULEX Dyar								
81. crassistylus Brug, 1934							LT	
82. pedicellus King and Hoogstraal, 1947							LT	

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
Tribe FICALBIINI								
Genus FICALBIA Theobald								
1. ludlowae Brunetti, 1920			?L					
2. minima (Theobald), 1901		L	L		L		L*	
Genus MIMOMYIA Theobald								
Subgenus ETORLEPTIOMYIA Theobald								
1. elegans (Taylor), 1914			L				L*	
2. luzonensis (Ludlow), 1905	L	L*	L					
Subgenus INGRAMIA Edwards								
3. fusca (Leicester), 1908		L*	L					
Subgenus MIMOMYIA Theobald								
4. chamberlaini Ludlow, 1904	L		L		L			
5. chamberlaini issp. metallica (Leicester), 1908	L		L				L*	
6. flavens (King and Hoogstraal), 1946							LT	
7. hybrida (Leicester), 1908	L	L*	L		L		L	L
8. modesta (King and Hoogstraal), 1946							LT	
Tribe HODGESIINI								
Genus HODGESIA Theobald								
1. malayi Leicester, 1908	L					L		
2. quasisanguinae Leicester, 1908		C			L	L	L	
3. spoliata Edwards, 1923					L	L	L*	
Tribe MANSONIINI								
Genus COQUILLETTIDIA Dyar								
Subgenus COQUILLETTIDIA Dyar								
1. aureosquammata (Ludlow), 1909	L	C	L					
2. crassipes (Van der Wulp), 1881	LCT	LC	L		L	L	LC	
3. giblini (Taylor), 1914	L	L*				L	L	
4. hodgkini (Wharton), 1962		C	C					
5. memorans (Bonne-Wepster), 1930					L		LT	
6. nigrochracea (Bonne-Wepster), 1930	LT						LT	
7. nigrosignata (Edwards), 1917	LC	C						L
8. ochracea (Theobald), 1903	LC	LC	L				L	
Genus MANSONIA Blanchard								
Subgenus MANSONIOIDES Blanchard								
1. annulata Leicester, 1908	L	LC			L			
2. annulifera (Theobald), 1901	LC	LC	LC		L		L	

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
3. bonneae Edwards, 1930	L	L*C						
4. bonnewepsterae Van den Assem, 1958							LT	
5. dives (Schiner), 1868	LC	LC	L		LC	L	LC	
6. indiana Edwards, 1930	LC	LC	LT		L		L*	
7. papuensis (Taylor), 1914						L	LC	
8. uniformis (Theobald), 1901	LC	LC	LC		L	L	L	
Tribe ORTHOPODOMYIINI								
Genus ORTHOPODOMYIA Theobald								
1. andamanensis Barraud, 1934			L		L	L		
2. anopheloides (Giles), 1903	L	L	L					
3. papuensis Zavortink, 1968							L*	L
Tribe SABETHINI								
Genus MALAYA Leicester								
1. genurostris Leicester, 1908	L		LC	C	L			
2. jacobsoni (Edwards), 1930	LT							
3. splendens (De Meijere), 1909		L*	LT					
Genus TOPOMYIA Leicester								
Subgenus SUAYMYIA Thurman								
1. argenteoventralis Leicester, 1908	L	L						
2. auriceps Brug, 1939					LT			
Subgenus TOPOMYIA Leicester								
3. argyropalpis Leicester, 1908			L					
4. dubitans Leicester, 1908		?L*			L			
5. gracilis Leicester, 1908	L		LC	L				
6. nigra Leicester, 1908			L	L				
7. pilosa Brug, 1931	LT							
8. rubithoracis Leicester, 1908	L							
9. spathulirostris Edwards, 1923			L					
10. tipuliformis Leicester, 1908	L		L					
Genus TRIPTEROIDES Giles								
Subgenus RACHIONOTOMYIA Theobald								
1. altivallis Bonne-Wepster, 1948							LT	
2. aranoides (Theobald), 1901	L	L	LC	L				
3. argenteiventris (Theobald), 1905							L	
4. digoelensis Brug, 1934							LT	
5. microlepis (Edwards), 1927							LT	
6. obscurus Brug, 1934							LT	
7. punctolateralis (Theobald), 1903				L			L*	

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
3. bonneae Edwards, 1930	L	L*C						
4. bonnewepsterae Van den Assem, 1958							LT	
5. dives (Schiner), 1868	LC	LC	L		LC	L	LC	
6. indiana Edwards, 1930	LC	LC	LT		L		L*	
7. papuensis (Taylor), 1914						L	LC	
8. uniformis (Theobald), 1901	LC	LC	LC		L	L	L	
Tribe ORTHOPODOMYIINI								
Genus ORTHOPODOMYIA Theobald								
1. andamanensis Barraud, 1934			L		L	L		
2. anopheloides (Giles), 1903	L	L	L					
3. papuensis Zavortink, 1968							L*	L
Tribe SABETHINI								
Genus MALAYA Leicester								
1. genurostris Leicester, 1908	L		LC	C	L			
2. *jacobsoni (Edwards)*, 1930	LT							
3. splendens (De Meijere), 1909		L*	LT					
Genus TOPOMYIA Leicester								
Subgenus SUAYMYIA Thurman								
1. argenteoventralis Leicester, 1908	L	L						
2. auriceps Brug, 1939					LT			
Subgenus TOPOMYIA Leicester								
3. argyropalpis Leicester, 1908			L					
4. dubitans Leicester, 1908		?L*			L			
5. gracilis Leicester, 1908	L		LC	L				
6. nigra Leicester, 1908			L	L				
7. pilosa Brug, 1931	LT							
8. rubithoracis Leicester, 1908	L							
9. spathulirostris Edwards, 1923			L					
10. tipuliformis Leicester, 1908	L		L					
Genus TRIPTEROIDES Giles								
Subgenus RACHIONOTOMYIA Theobald								
1. altivallis Bonne-Wepster, 1948							LT	
2. aranoides (Theobald), 1901	L	L	LC	L				
3. argenteiventris (Theobald), 1905							L	
4. digoelensis Brug, 1934							LT	
5. microlepis (Edwards), 1927							LT	
6. obscurus Brug, 1934							LT	
7. punctolateralis (Theobald), 1903				L			L*	

Taxonomic listing	DISTRIBUTION						
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
1. ascidiicola De Meijere, 1910	L		LCT					
2. bicolor Leicester, 1908		L*	L	L				
3. confusa Peyton, 1977			C		L			
4. diagonalis Brug, 1934							LT	
5. gigantea Brug, 1931	LT							
6. hirsutifemora Peters, 1964	L	L*					L*	
7. maxima Leicester, 1908			L					
8. moultoni Edwards, 1914	L	L						
9. nivipleura Leicester, 1908		L*	L					
10. obscura Edwards, 1915	L	L				L	L	
11. quinquemaculata Bonne-Wepster, 1934		L*	LT					
Subgenus URANOTAENIA Lynch Arribalzaga								
12. albescens Taylor, 1914							L	
13. antennalis Taylor, 1919							L	
14. argyrotarsis Leicester, 1908						L	L*	
15. bimaculiala Leicester, 1908		L	L					
16. campestris Leicester, 1908	LC	L*	L		L			
17. fimbriata King and Hoogstraal, 1946							LT	
18. gerdae Sloof, 1963							LT	
19. heiseri Baisas, 1935							?C	
20. lateralis Ludlow, 1905	L	?C	?C				L	
21. longirostris Leicester, 1908			L					
22. macfarlanei Edwards, 1914	L		L					
23. metatarsata Edwards, 1914		L	L					
24. micans Leicester, 1908		L	L					
25. neotibialis King and Hoogstraal, 1946							LT	
26. pygmaea Theobald, 1901		?C						
27. setosa King and Hoogstraal, 1946							LT	
28. subnormalis Martini, 1920		L	L					
29. subtibioclada King and Hoogstraal, 1946							LT	
30. tibialis Taylor, 1919						L		
Subfamily TOXORHYNCHITINAE Genus TOXORHYNCHITES Theobald Subgenus TOXORHYNCHITES Theobald								
1. amboinensis (Doleschall), 1857		L*	L		L	LT	L	
2. aurifluus (Edwards), 1921	L		L		?L			
3. coeruleus (Brug), 1934	LT							
4. gravelyi (Edwards), 1921	L							
5. inornatus (Walker), 1865						L	L	
6. inornatus ssp. albitarsis (Brug), 1939					LT			

Taxonomic listing	DISTRIBUTION[1]							
	Smt	Kln	Jw	LSI	Slw	Mlk	IJ	Ind.
7. kempi (Edwards), 1921			LC		L			
8. metallicus Leicester, 1904	L		LC					
9. minimus (Theobald), 1905	L							
10. quasiferox (Leicester), 1908	L	L*	L					
11. speciosus (Skuse), 1889							L	
12. splendens (Wiedemann), 1819	L		LCT	L		L	L	
13. sumatranus (Brug), 1939	LT							

ACKNOWLEDGEMENT

We wish to express our gratitude for the opportunity to examine the mosquito collections maintained by the Insect Vector Sub-Directorate (CDC, Indonesian Ministry of Health), by NAMRU-2 Detachment, and by WHO/VBCRU, all of Jakarta, Indonesia. Special thanks are due to Dr. Vernon H. Lee and Mr. Soeroto Atmosoedjono, NAMRU-2 Detachmant, Jakarta, and Dr. Glenn Fleming, WHO/VBCRU, Jakarta for their technical assistance and editorial commentary. Grateful acknowledgement is also accorded the efforts of CDR W. P. Carney, Officer in Charge, NAMRU-2 Detachment, Jakarta in making possible the publication of this manuscript.

REFERENCES CITED

Belkin, J. N. 1962. The mosquitoes of the South Pacific (Diptera: Culicidae). Vol. I, Univ. Calif. Press, 608 pp.

Bonne-Wepster, J. and N. H. Swellengrebel. 1953. The anopheline mosquitoes of the Indo-Australian region. Amsterdam, de Bussy, 506 pp.

Bram, R. A. 1967. Contributions to the mosquito fauna of Southeast Asia. -II. The genus Culex in Thailand (Diptera: Culicidae). Contr. Amer. Ent. Inst. 2(1): 1-296.

Brug, S. L. and J. Bonne-Wepster. 1947. The geographical distribution of the mosquitoes of the Malay Archipelago. Chron. Nat. 103: 179-197.

Delfinado, M. D. 1966. The culicine mosquitoes of the Philippines, Tribe Culicini (Diptera: Culicidae). Mem. Amer. Ent. Inst. 7: 1-252.

Delfinado, M. D. 1967. Contributions to the mosquito fauna of Southeast Asia. -I. The genus Aedes, subgenus Neomacleaya Theobald in Thailand. Contr. Amer. Ent. Inst. 1(8): 1-56.

Delfinado, M. D. 1968. Contributions to the mosquito fauna of Southeast Asia. -III. The genus Aedes, subgenus Neomacleaya Theobald in Southeast Asia. Contr. Amer. Ent. Inst. 2(4): 1-74.

Harrison, B. A. and J. E. Scanlon. 1975. Medical Entomology Studies. -II. The genus Anopheles in Thailand (Diptera: Culicidae). Contr. Amer. Ent. Inst. 12(1): 1-307.

Huang, Y.-M. 1968. Aedes (Verrallina) of the Papuan subregion (Diptera: Culicidae). Pac. Inst. Mon. 17: 1-75.

Huang, Y.-M. 1972. Contributions to the mosquito fauna of Southeast Asia. -XIV. The subgenus Stegomyia of Aedes in Southeast Asia. I. The scutellaris group of species. Contr. Amer. Ent. Inst. 9(1): 1-109.

Knight, K. L. 1968. Contributions to the mosquito fauna of Southeast Asia. -IV. Species of the subgenus chrysolineatus of group D, genus Aedes, subgenus Finlaya Theobald. Contr. Amer. Ent. Inst. 2(5): 1-45.

Knight, K. L. 1978. Supplement to a catalog of the mosquitoes of the world (Diptera: Culicidae). Thomas Say Found., Ent. Soc. Amer. Wash., D.C., 107 pp.

Knight, K. L. and A. Stone. 1977. A catalog of the mosquitoes of the world (Diptera: Culicidae). Thomas Say Found. Vol. VI. Ent. Soc. Amer. Wash., D.C., 611 pp.

Lien, J. C., L. Kosman, F. Partono, A. Joesoef, E. Kosin, and J. H. Cross. 1975. A brief survey of mosquitoes in North Sumatera, Indonesia. J. Med. Entomol. 12(2): 223-239.

Lien, J. C., B. A. Kawengian, F. Partono, B. Lami, and J. H. Cross. 1977. A brief survey of the mosquitoes of South Sulawesi,Indonesia with special reference to the identity of Anopheles barbirostris (Diptera: Culicidae) from the Margolembo area. J. Med. Entomol. 13(6): 719-727.

Peyton, E. L. 1977. Medical Entomology Studies. -X. A revision of the subgenus Pseudoficalbia of the genus Uranotaenia in Southeast Asia (Diptera: Culicidae). Contr. Ent. Inst. Amer. 14(3): 1-273.

Peyton, E.L. and B.A. Harrison. 1979. Anopheles (Cellia) dirus, a new species of the leucosphyrus group from Thailand (Diptera: Culicidae). Mosq. Syst. 11(1): 40-52.

Ramalingam, S. 1974. A brief mosquito survey of Java. WHO/VBC/74.504, 66 pp.

Reid, J.A. 1968. Anopheline mosquitoes of Malaya and Borneo. Stud. Inst., Med. Res. Malaya 31: 1-520.

Reinert, J.F. 1970. Contributions to the mosquito fauna of Southeast Asia. -V. Genus Aedes, subgenus Diceromyia Theobald in Southeast Asia. Contr. Amer. Ent. Inst. 5(4): 1-43.

Reinert. J. F. 1973. Contributions to the mosquito fauna of Southeast Asia. -XVI. Genus Aedes, subgenus Aedimorphus Theobald in Southeast Asia. Contr. Amer. Ent. Inst. 9(5): 1-218.

Reinert, J.F. 1975. Mosquito generic and subgeneric abbreviations (Diptera: Culicidae). Mosq. Syst. 7(2): 105-110.

Reinert, J.F. 1977. Medical Entomology Studies. -V. The subgenus Rhinoskusea of the genus Aedes (Diptera: Culicidae). Contr. Amer. Ent. Inst. 13(2): 1-60.

Rozeboom, L.E. and K. L. Knight. 1946. The punctulatus complex of Anopheles (Diptera: Culicidae). J. Parasitol. 32(2): 95-131.

Sirivanakarn, S. 1968. The Culex subgenus Lophoceraomyia in New Guinea and Bismarck Archipelago (Diptera: Culicidae). Pac. Inst. Mon. 17: 75-186.

Sirivanakarn, S. 1973. Descriptions of two new species of Culex (Lophoceraomyia) with notes on three other species from the Papuan subregion (Diptera: Culicidae). J. Med. Entomol. 10(2): 212-216.

Sirivanakarn, S. 1976. Medical Entomology Studies. -III. A revision of the subgenus Culex in the Oriental region (Diptera: Culicidae). Contr. Amer. Ent. Inst. 12(2): 1-272.

Sirivanakarn, S. 1977. Medical Entomology Studies. -VI. A revision of the subgenus Lophoceraomyia of the genus Culex in the Oriental region (Diptera: Culicidae). Contr. Amer. Ent. Inst. 13(4): 1-245.

Steffan, W.A. 1968. Armigeres of the Papuan subregion (Diptera: Culicidae). J. Med. Entomol. 5(2): 135-159.

Tenorio, J.A. 1977. Revision of the genus Bironella (Diptera: Culicidae). J. Med. Entomol. 14(3): 317-361.

Tyson, W.H. 1970a. Contributions to the mosquito fauna of Southeast Asia. -VII. Genus Aedeomyia Theobald in Southeast Asia. Contr. Amer. Ent. Inst. 6(2): 1-27.

Tyson, W.H. 1970b. Contributions to the mosquito fauna of Southeast Asia. -VIII. Genus Aedes, subgenus Mucidus Theobald in Southeast Asia. Contr. Amer. Ent. Inst. 6(2): 28-80.

ANNEX 1

Total number of taxa reported from Indonesia by genus.

Genus	Total taxa
Anopheles	80
Bironella	6
Aedeomyia	1
Aedes	125
Armigeres	26
Heizmannia	5
Culex	82
Ficalbia	2
Mimomyia	8
Hodgesia	3
Coquillettidia	8
Mansonia	8
Orthopodomyia	3
Malaya	3
Topomyia	10
Tripteroides	44
Uranotaenia	30
Toxorhynchites	13
Total (18 genera)	457

ANNEX 2

Further possible species records in Indonesia:

Kalimantan (Indonesian Borneo)

An	(Ano.)	acaci Baisas, 1946
		borneensis McArthur, 1949
		collessi Reid, 1963
		gigas ssp. crockeri Colless, 1955
		hodgkini Reid, 1962
An.	(Cel.)	limosus King, 1932
		riparis ssp. macarthuri Colless, 1956
		saungi Colless, 1955
		stookesi Colless, 1955
		watsonii (Leicester), 1908
Ae.	(Can.)	curtipes Edwards, 1915
Ae.	(Fin.)	mjoebergi (Edwards), 1926
		pexus Colless, 1958
		subniveus Edwards, 1922
Ae.	(Stg.)	alcasidi Huang, 1972
Ae.	(Ver.)	cautus Barraud, 1928
		comosus Reinert, 1974
		hamistylus Laffoon, 1946
		indecorabilis (Leicester), 1908
		leicesteri Edwards, 1917
		pseudovarietas Reinert, 1974
		ramalingami Reinert, 1974
		sabahensis Reinert, 1974
		singularis (Leicester), 1908
		sohni Reinert, 1974
Ar.	(Arm.)	aureolineatus (Leicester), 1908
		conjungens Edwards, 1914
		fimbriatus Edwards, 1930
		hybridus Edwards, 1914
Hz.	(Hez.)	funerea (Leicester), 1908
Ze.		gracilis Leicester, 1908
Cx.	(Cux.)	kinabaluensis Sirivanakarn, 1976
Cx.	(Cul.)	scanloni Bram, 1967
		shebbearei Barraud, 1924
Cx.	(Eum.)	malayensis Sirivanakarn, 1972
		selai Klein and Sirivanakarn, 1969
		simplicicornis Edwards, 1930
Cx.	(Lop.)	aestivus Sirivanakarn, 1977
		alphus Colless, 1965
		barkerii (Theobald), 1907
		brevipalpis (Theobald), 1905
		coerulescens Edwards, 1928
		crassicomus Colless, 1965
		eminentia (Leicester), 1908
		ganapathi Colless, 1965
		imposter Sirivanakarn, 1977

lavatae Stone and Bohart, 1944
paraculeatus Sirivanakarn, 1977
Mi. (Mim.) aurea (Leicester), 1908
Or. albipes Leicester, 1904
To. (Sua.) decorabilis Leicester, 1908
To. (Top.) trifida Edwards, 1922
Tp. (Trp.) nepenthis (Edwards), 1915
Ur. (Pfc.) demeilloni Peyton and Rattanarithikul, 1970
harrisoni Peyton, 1977
lutescens Leicester, 1908
modesta Leicester, 1908
moufiedi Peyton, 1977
propinqua Peyton, 1977
pseudomaculipleura Peyton and Rattanarithikul, 1970
quasimodesta Peyton, 1977
reinerti Peyton, 1977
rossi Delfinado, 1966
xanthomelaena Edwards, 1925
Tx. (Tox.) acaudatus (Leicester), 1908
auripes (Edwards), 1935
magnificus (Leicester), 1908
nigripes (Edwards), 1935
pendleburyi (Edwards), 1930

Irian Jaya (Indonesian New Guinea)

An. (Ano.) papuensis Dobrotworsky, 1957.
Bi. (Bru.) obscura Tenorio, 1975
Ae. (Fin.) candidoscutellum Marks, 1947
clintoni Taylor, 1946
dobodurus King and Hoogstraal, 1946
keefei King and Hoogstraal, 1946
shehzadae Qutubuddin, 1972
stanleyi Peters, 1963
tsiliensis King and Hoogstraal, 1946
Ae. (Geo.) fimbripes Edwards, 1924
Ae. (Hua.) wauensis Huang, 1968
Ae. (Lep.) aurimargo Edwards, 1922
Ae. (Mac.) littlechildi Taylor, 1933
Ae. (Muc.) aurantius ssp. chrysogaster (Taylor), 1927
Ae. (Psk.) multiplex (Theobald), 1903
Ae. (Ver.) cuccioi Belkin, 1962
embiensis Huang, 1968
killertonis Huang, 1968
milnensis King and Hoogstraal, 1947
obsoletus Huang, 1968
vanapus Huang, 1968
variabilis Huang, 1968
Cx. (Cux.) barraudi Edwards, 1922
edwardsi Barraud, 1923
litoralis Bohart, 1946

		vicinus (Taylor), 1916
Cx.	(Cui.)	bailyi Barraud, 1934
		ruthae Peters, 1958
Cx.	(Lop.)	bolii Sirivanakarn, 1968
		castaneus Sirivanakarn, 1973
		christiani Colless, 1960
		collessi Sirivanakarn, 1968
		crowei Sirivanakarn, 1968
		durhami Sirivanakarn, 1968
		gressitti Sirivanakarn, 1968
		kowiroensis Sirivanakarn, 1968
		lakei Sirivanakarn, 1968
		minjensis Sirivanakarn, 1968
		muruae Sirivanakarn, 1968
		petersi Colless, 1960
		pseudornatus Colless, 1960
		pseudorubithoracis Sirivanakarn, 1968
		schilfgaardei Sirivanakarn, 1968
		sedlacekae Sirivanakarn, 1968
		singuawaensis Sirivanakarn, 1969
		steffani Sirivanakarn, 1968
		submarginalis Sirivanakarn, 1973
		versabilis Sirivanakarn, 1968
		wamanguae Sirivanakarn, 1968
Ho.		cairnsensis Taylor, 1919
Cq.	(Coq.)	xanthogaster (Edwards), 1924
Ma.	(Man.)	septempunctata Theobald, 1905
Ml.		leei (Wharton), 1947
To.	(Sua.)	papuensis Marks, 1960
Tp.	(Rah.)	perplexus Peters, 1963
		standfasti Peters, 1959
Tp.	(Trp.)	littlechildi (Edwards), 1930
		lorengaui Peters, 1963
		novohanoverae Peters, 1963
		quasiornatus (Taylor), 1915
		splendens Lee, 1946
Ur.	(Pfc.)	atra Theobald, 1905
Ur.	(Ura.)	albosternopleura Peters, 1963
		amiensis Peters, 1963
		moresbyensis Peters, 1963
		novaguinensis Peters, 1963
		novaguinensis ssp. alticola Peters, 1963
		paranovaguinensis Peters, 1963
		tibioclada King and Hoogstraal, 1946

ANNEX 3

List of generic and sub-generic abbreviations for Indonesian mosquitoes (See Reinert, 1975).

Genus	Subgenus
Anopheles = An.	Anopheles = Ano.
	Cellia = Cel.
Bironella = Bi.	Bironella = Bir.
	Brugella = Bru.
Aedeomyia = Ad.	Aedeomyia = Ady.
Aedes = Ae.	Aedimorphus = Adm.
	Alanstonea = Ala.
	Cancraedes = Can.
	Diceromyia = Dic.
	Edwardsaedes = Edw.
	Finlaya = Fin.
	Geoskusea = Geo.
	Lorrainea = Lor.
	Macleaya = Mac.
	Mucidus = Muc.
	Neomelaniconion = Neo.
	Ochlerotatus = Och.
	Paraedes = Par.
	Pseudoskusea = Psk.
	Rhinoskusea = Rhi.
	Stegomyia = Stg.
	Verrallina = Ver.
Armigeres = Ar.	Armigeres = Arm.
	Leicesteria = Lei.
Heizmannia = Hz.	Heizmannia = Hez.
	Mattinglyia = Mat.
Culex = Cx.	Acalleomyia = Aca.
	Acallyntrum = Acl.
	Culex = Cux.
	Culiciomyia = Cui.
	Eumelanomyia = Eum.
	Lophoceraomyia = Lop.
	Lutzia = Lut.
Ficalbia = Fi.	
Mimomyia = Mi.	Etorleptiomyia = Eto.
	Mimomyia = Mim.
	Ingramia = Ing.
Hodgesia = Ho.	
Coquillettidia = Cq.	Coquillettidia = Coq.
Mansonia = Ma.	Mansonioides = Mnd.
Orthopodomyia = Or.	
Malaya = Ml.	
Topomyia = To.	Suaymyia = Sua.
	Topomyia = Top.
Tripteroides = Tp.	Rachionotomyia = Rah.
	Rachisoura = Rac.

Uranotaenia = Ur.

Toxorhynchites = Tx.
Zeugnomyia = Ze.

Tripteroides = Trp.
Pseudoficalbia = Pfc.
Uranotaenia = Ura.
Toxorhynchites = Tox.

ADMINISTRATIVE INFORMATION

This study was supported by funds provided by the Naval Medical Research and Development Command, Navy Department for Work Unit No. MR041.09.001.0166.

Distribution of this document is unlimited.

W. H. SCHROEDER
CAPT MSC USN

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered):

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER: NAMRU-2-SP-45 — 2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): A checklist of the mosquitoes of Indonesia	5. TYPE OF REPORT & PERIOD COVERED: Special Publication
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): C.T. O'Connor and Tine Sopa	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: U.S. Naval Medical Research Unit No. 2 APO San Francisco, Ca. 96528	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: MR041.09.001.0166
11. CONTROLLING OFFICE NAME AND ADDRESS: Naval Medical Research and Development Command National Naval Medical Center Bethesda, Md. 20014	12. REPORT DATE: 1981 13. NUMBER OF PAGES: 26
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office): --	15. SECURITY CLASS. (of this report): Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Distribution of this document is unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

--

18. SUPPLEMENTARY NOTES

--

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

mosquitoes
Indonesia

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Data are presented on the distribution of 456 listed species of mosquitoes on the major islands and their satellites throughout Indonesia employing provincial boundaries delienated by the Indonesian government. The widespread distribution of the many islands range from the southeastern Oriental Regions across the Wallace and Weber lines to the northeastern Australian Region. The mosquito fauna has been the subject of many investigations in the fields of taxonomy, distribution, biono-

DD FORM 1 JAN 73 1473

UNCLASSIFIED ...over...

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

mics and disease relationships. A few earlier checklists exist, none has been prepared for Indonesia taking into account extensive studies of the last 30 years


FILMED
9-8