

## Collection Records of the Project "Mosquitoes of Middle America"

8. Central America: Belize (BH), Guatemala (GUA), El Salvador (SAL),  
Honduras (HON), Nicaragua (NI, NIC)<sup>1</sup>Sandra J. Heinemann and John N. Belkin<sup>2</sup>

For general information and collections from the Dominican Republic (RDO) the first publication of this series should be consulted (Belkin and Heinemann 1973). Any departure from the method in this publication is indicated below. Publications 2-6 of the series (Belkin and Heinemann 1975a, 1975b, 1976a, 1976b, 1976c) recorded data on collections from the remainder of the West Indies except Jamaica (Belkin, Heinemann and Page 1970: 255-304) and the islands adjacent to Venezuela as well as Trinidad and Tobago (to be covered later).

Publication 7 on collections from Costa Rica (Heinemann and Belkin 1977) began treatment of Central America. In the present publication, the rest of nuclear Central America is covered. The extensive collections in Panama (including Canal Zone) and Mexico will be treated separately in 2 publications.

The majority of the collections from Central America treated in the present publication were made expressly for the project. Several important collections were made available to the project. We are greatly indebted to Prof. D. S. Bertram for making available to us nearly all the collections recorded here from Belize, formerly British Honduras. We thank also the following for collections from the specified areas: Herbert T. Dalmat, Guatemala; Joseph R. Austin and Richard F. Darsie, Jr., El Salvador; Marco E. C. Giglioli, Honduras; Timothy W. Brown, Nicaragua. All the specimens bear the characteristic locality labels of the project indicating the Code and Number. These labels are easily recognized by the last line /Mosq Mid Amer/, with only one exception for code NI where it is /Gorgas Mem Lab/.

As noted in Collection Records 7 (Heinemann and Belkin 1977) various errors in previous publications of the project have been rectified in the present publication; also, most of the identifications are preliminary identifications only and in no way constitute a change in taxonomic status.

## Collectors

AA	Abdiel J. Adames	HD	Herbert T. Dalmat (under supervision of)
WA	Walter Almengor	MG	Marco E. C. Giglioli
JA	Joseph Roy Austin	AH	Aristides Herrera
JB	John N. Belkin	AQ	Audiberto Quinonez
DB	D. S. Bertram	DS	Donald Schroeder
SB	Samuel G. Breeland	KS	Karen Schroeder
TB	Timothy W. Brown	JZ	Joyce Zavortink
VC	Vincent Patrick Cowsill	TZ	Thomas J. Zavortink

## BELIZE

(formerly British Honduras)

Code: BH

The collections from Belize available to the project are identified by one of the following 2 printed labels. Collections made under the supervision of D. S. Bertram during an investigation on the mosquitoes of British Honduras (Bertram 1971) bear the label: //BH [handwritten L1-A500]/Br. Honduras 67-68/Mosq Mid Amer//. Collections made expressly for the project by Donald and Karen Schroeder bear the label: //BH [handwritten 501-508]/Br Honduras 70-71/Mosq Mid Amer//. For the Bertram collec-

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tions the original numbering and lettering has been preserved throughout.

The location of a collection was plotted on map British Honduras 1:800,000, Directorate of Overseas Surveys, ed. 2, 1965 and map Central America 1:250,000, series E552, sheets 1 and 2, ed. 2-GSGS (DOS649). The localities, elevations and grid coordinates were determined on following maps: Central America 1:250,000, series E503, sheet NE16-9, ed. 1-AMS; and World 1:250,000, series 1501, sheets NE 16-9, 16-10, 16-13, ed. 1-GSGS. The U.S. Board on Geographic Names gazetteer for British Honduras, 1956 was used for the location and spelling of some localities.

#### Summary of Collections

BH L1-A500	23 Jan-17 Aug 1967	D. S. Bertram (DB)	Belize, Cayo
BH 501-508	29-30 Jul 1970	D. Schroeder (DS), K. Schroeder (KS)	Belize, Corozal, Orange Walk

#### BH Collection Records

L1. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 23 Jan 67, DB. Artificial container (blocked toilet) in house; water very foul. *Cx. (Cux.) quinquefasciatus*.

SEB2, 3. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 25 Feb 67, DB. Artificial container (enamel bowl) in forest (deciduous broadleaf seasonal); water clear. *Li. asulleptus*, *Li. durhamii*.

4. Not available.

L5. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 30 Jan 67, DB. Artificial container (tin can) in forest (deciduous broadleaf seasonal); water clear. *Li. durhamii*.

L6. Cayo, Georgeville, Chiquibul Road, Mile 4 S of Georgeville (16QBP9196), 150m; 30 Jan 67, DB. Roadside ruts. *Cx. (Cux.) coronator* group.

L7. Cayo, San Antonio, Chiquibul Road, Mile 12 S of Georgeville (16QBP9088), 400m; 30 Jan 67, DB. Animal tracks and stream pool. *Cx. (Cux.) coronator* group.

8-10. Not available.

LEB11. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 11 Mar 67, DB. Artificial container (enamel bowl, 8 X 15cm) in forest (deciduous broadleaf seasonal); water clear; partial shade. *Li. durhamii*.

12-15. Not available.

A16. Belize, Hattieville, Freetown, Sibun River, Agriculture Dept. House (16QCQ5627), 5m; 21-22 Feb 67, DB. Trap on palm in garden surrounded by thick bush at edge of river; 1.2m above ground; baited with mouse; overnight. *Cx. (Mel.) opisthopus*.

A17. Belize, Hattieville, Freetown, Sibun River (16QCQ5627), 5m; 21-22 Feb 67, DB. Trap (CDC miniature light trap) in domestic area; 1.2m above ground; overnight. *Ma. (Man.) titillans*.

L17. Belize, Hattieville, near Freetown, Sibun River (16QCQ5627), 5m; 28 Feb 67, DB. Large ground pool; water semipermanent, clear, fresh; abundant floating vegetation (*Pistia*, *Salvinia*). *Cx. (Mel.) panocossa*, *Cx. (Mel.)* sp 68, *Cx. (Mel.)* sp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.) titillans*, *Ur.* sp undetermined.

18-19. Not available.

L20. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 6 Mar 67, DB. Small ground pool fed by seepage along road in palm grove; water temporary, clear; some herbaceous vegetation; bottom with mud and dead grass. *An. (Nys.) albimanus*.

L21. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 6 Mar 67, DB. Small ground pools along road in palm grove; water temporary, clear; some vegetation. *Ps. (Gra.) ?confinnis* group.

L22. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 6 Mar 67, DB. Small ground pool fed by seepage near palm grove; water temporary, clear; some vegetation; bottom with mud, dead grass. *An. (Nys.) albimanus*.

23. Not available.

## BH Collection Records

- L24. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 7 Mar 67, DB. Small ground pools (wheel ruts) near piggery; bottom with mud. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group.
25. Not available.
- L26. Cayo, Roaring Creek, new capital site in SE angle of Western Hwy. and Hummingbird Hwy. junction (16QCQ1008), 50m; 7 Mar 67, DB. Small ground pools (wheel ruts) in area cleared for construction; water temporary, clear; bottom with mud. *Cx. (Cux.) coronator* group.
- 27-29. Not available.
- A30. Belize, Hattieville, Freetown, Sibun River, Agricultural Dept. House (16QCQ5627), 5m; 28 Feb-1 Mar 67, DB. Trap (CDC miniature light trap) on palm in garden at edge of river; 2m above ground; overnight. *Ad. squamipennis*, *Cx. (Mel.)* sp undetermined.
- 31-32. Not available.
- A33. Cayo, Augustine, Mountain Pine Ridge (16QBP9075?), 300-600m; 2 Mar 67, DB. Adult biting-landing on man on path in forest (deciduous seasonal); 1600hrs. *Wy.* sp undetermined.
34. Not available.
- L35. Cayo, Caves Branch, Hummingbird Hwy., Mile 49 (16QCP1597), 200m; 14 Mar 67, DB. Small ground pool in forest (deciduous seasonal); water semipermanent. *Cx. (Mel.) zeteki* group.
36. Not available.
- L37. Cayo, near Cayo (16QBP8098?), 100m; 22 Mar 67, DB. Large ground pool in grazing area near tree; water semipermanent, clear; some vegetation; bottom with mud, plant matter; partial shade. *An. (Nys.) albimanus*.
- A38. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 7 Mar 67, DB. Adults biting-landing on man on tower in forest (deciduous broadleaf seasonal); 0-12m above ground; 1500-1800hrs. *Ma. (Man.) titillans*, *Wy.* sp undetermined.
39. Not available.
- L40. Cayo, Cayo, Western Branch Belize River, Bullet Tree Falls (16QBP7599), 70m; 22 Mar 67, DB. Small ground pools at edge of river at ford; water semipermanent; algae present. *An. (Ano.) pseudopunctipennis*, *An. (Nys.) argyritarsis*.
41. Not available.
- L42. Cayo, Central Farm, Baking Pot, "Hattie Beach" (16QBQ8503), 50m; 28 Mar 67, DB. Small ground pools at edge of river; water semipermanent, clear; no vegetation; bottom with sand, gravel; full sun. *An. (Ano.) pseudopunctipennis*.
- 43-54. Not available.
- A55. Belize, Hattieville, Freetown, Sibun River, Agricultural Dept. House (16QCQ5627), 5m; 16-17 Mar 67, DB. Trap (CDC miniature light trap) on palm in garden at edge of river; 1.5m above ground; overnight. *Cq. (Rhy.) fasciolata* group.
56. Not available.
- A57. Belize, Hattieville, Freetown, Sibun River, Agricultural Dept. House (16QCQ5627), 5m; 16 Mar 67, DB. Adults biting-landing on man in garden at edge of river; 1700-1830hrs. *Ae. (Och.) scapularis*.
- A58. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 15-16 Mar 67, DB. Trap in forest (broadleaf seasonal); 1.5m above ground; baited with mouse; 1500-1000hrs; deep shade. *Tr. (Cte.) magnum*.
- 59-66. Not available.
- A67. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 28 Mar 67, DB. Adult biting-landing on man on tower in forest (deciduous broadleaf seasonal); 1500-1800hrs. *Wy.* sp undetermined.
- 68-74. Not available.
- A75. Belize, Salt Creek, 0.8km inland from Potts Creek on road to Salt Creek (16QCQ6152), near sea level; 30 Mar 67, DB. Adult biting-landing on man along road in forest (low broadleaf forest-scrub); 1845-1900hrs; partial shade. *Ma. (Man.) titillans*.
- 76-99. Not available.
- A100. Cayo, Cayo, "Esperanza" near Central Farm on road to Cayo (16QBQ8300?), 50m; 11 Apr

## BH Collection Records

67, DB. Adult biting-landing on man in sparse forest near river; 1800-1900hrs. *Ma. (Man.) dyari*.

101-109. Not available.

A110. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 18 Apr 67, DB. Adults biting-landing on man at tower in forest (deciduous broadleaf seasonal); 1500-2300hrs. *Ae. (Adm.) vexans*, *Ma. (Man.) titillans*, *Sa. (Sbo.) chloropterus*.

111-114. Not available.

A115. Belize, Hattieville, Freetown, Sibun River, Agricultural Dept. House (16QCQ5627), 5m; 5-6 May 67, DB. Trap on palm in garden at edge of river; 1.5m above ground; baited with mouse; 1800hrs (5 May)-0700hrs (6 May). *Cx. (Mel.) opisthopus*.

A115-A116. Belize, Hattieville, Freetown, Sibun River, Agricultural Dept. House (16QCQ5627), 5m; 5-6 May 67, DB. Trap on palm in garden at edge of river; 1.5m above ground; baited with mouse; 1800hrs (5 May)-0700hrs (6 May). *Ma. (Man.) titillans*.

117-121. Not available.

A122. Cayo, Central Farm, Garbutt Creek S of Western Hwy. (16QBQ8700), 70m; 5-6 May 67, DB. Trap in riverine fringe forest near grazing area; 1.5m above ground; baited with mouse; overnight. *Cx. (Mel.)* sp undetermined.

123. Not available.

A124/6. Cayo, Central Farm, Garbutt Creek S of Western Hwy. (16QBQ8700), 70m; 6-7 May 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 2m above ground; overnight. *Cx. (Cux.)* sp undetermined, *Cx. (Mel.) educator*, *Cx. (Mel.) erraticus*.

125. Not available.

A127. Cayo, Central Farm, Garbutt Creek S of Western Hwy. (16QBQ8700), 70m; 9-10 May 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 2m above ground; overnight. *Cx. (Cux.)* sp undetermined, *Cx. (Mel.) educator*, *Cx. (Mel.) erraticus*, *Ur. geometrica*, *Ur. socialis*.

A128. Cayo, Central Farm, Garbutt Creek S of Western Hwy. (16QBQ8700), 70m; 9-10 May 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 2m above ground; overnight. *Cx. (Cux.) corniger*, *Cx. (Mel.) erraticus*.

129. Not available.

A130. Belize, Salt Creek, Salt Creek Estate about 3km inland from sea (16QCQ6053), near sea level; 9 May 67, DB. Adults biting-landing on man on wide path through dense scrub; 1315-1415hrs; partial shade. *Ae. (Och.) taeniorhynchus*, *Ma. (Man.) titillans*.

A131/133. Cayo, Central Farm, Garbutt Creek S of Western Hwy. (16QBQ8700), 70m; 10-11 May 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 1m above ground; overnight. *Cx. (Cux.) nigripalpus*, *Cx. (Cux.) quinquefasciatus*, *Cx. (Mel.) educator*.

132. Not available.

A133. Cayo, Central Farm, Garbutt Creek S of Western Hwy. (16QBQ8700), 70m; 10-11 May 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 2m above ground; overnight. *Cx. (Cux.) quinquefasciatus*.

134-136. Not available.

A137. Belize, Crooked Tree, Northern Lagoon (16QCQ3766), 20m; 17-18 May 67, DB. Trap (CDC miniature light trap) on bush at edge of fresh water lagoon; 2m above ground; overnight. *Cx. (Mel.) erraticus*.

A138. Belize, Crooked Tree, Northern Lagoon (16QCQ3766), 20m; 17-18 May 67, DB. Trap (CDC miniature light trap) on bush at edge of fresh water lagoon; 2m above ground; overnight. *An. (Ano.) crucians*.

139-140. Not available.

A141. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 23 May 67, DB. Adults biting-landing on man on tower in forest (deciduous broadleaf seasonal); at 8m and 12m above ground; 1500-1800hrs; partial shade. *Sa. (Sbo.) chloropterus*, *Wy.* spp undetermined.

## BH Collection Records

- A142. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 26-27 May 67, DB. Trap (CDC miniature light trap) under house and adult resting in vehicle under house; 1-2m above ground; trap overnight, adult resting at 0900hrs. *Cx. (Cux.) quinquefasciatus*.
- 143-144. Not available.
- A145. Cayo, Central Farm, Garbutt Creek S of Western Hwy. (16QBQ8700), 70m; 26-27 May 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 1.5m above ground; overnight. *Ur. lowii*, *Ur. socialis*.
- A145-146. Cayo, Central Farm, Garbutt Creek S of Western Hwy. (16QBQ8700), 70m; 26-27 May 67, DB. Traps (CDC miniature light trap, and trap baited with mouse) in riverine fringe forest near grazing area; 1.5m above ground; overnight. *Cx. (Mel.) educator*.
- 147-150. Not available.
- A151. Cayo, Central Farm, Garbutt Creek S of Western Hwy. (16QBQ8700), 70m; 29-30 May 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 1.5m above ground; overnight. *Cx. (Cux.) quinquefasciatus*, *Cx. (Mel.) erraticus*.
152. Not available.
- A153. Cayo, Central Farm, Garbutt Creek N of Western Hwy. near confluence with Belize River (16QBQ8702), 50m; 29-30 May 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 1.5m above ground; overnight. *Cx. (Cux.)* spp undetermined, *Cx. (Mel.) dunni*.
- 154-163. Not available.
- A164. Belize, just S of Belize, across road from Esso plant on Caesar Road (16QCQ7233?), near sea level; 5 Jun 67, DB. Adults biting-landing on man in mangroves; 1830-2000hrs; partial shade. *Ae. (Och.) taeniorhynchus*, *An. (Nys.) albimanus*, *De. cancer*.
- 165-170. Not available.
- A171. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 7 Jun 67, DB. Adult resting in bamboo trap near tower in forest (deciduous broadleaf seasonal); ground level; 1300-1400hrs. *Cx. (Cux.) nigripalpus*.
- 172-177. Not available.
- A178. Belize, just S of Belize, across road from Esso plant on Caesar Road (16QCQ7233?), near sea level; 9 Jun 67, DB. Adults biting-landing on man in mangroves; 1845-1930hrs; partial shade. *Ae. (Och.) taeniorhynchus*, *De. cancer*.
- 179-185. Not available.
- A186. Belize, Hattieville, road to Freetown about 0.2km from Sibun River (16QCQ5527), 5m; 9-10 Jun 67, DB. Trap (CDC miniature light trap) on bush near pond; 1.5m above ground; overnight. *An. (Nys.) albimanus*.
- A187. Cayo, Central Farm, Garbutt Creek (16QBQ8700), 70m; 12-13 Jun 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 1.5m above ground; overnight. *Cx. (Mel.) educator*, *Ur. socialis*.
- 188-190. Not available.
- A191. Cayo, Central Farm, Garbutt Creek (16QBQ8700), 70m; 13-14 Jun 67, DB. Trap (CDC miniature light trap) on small grassy island in stream; 1.5m above ground; overnight. *Ur. pulcherrima*, *Ur. socialis*.
192. Not available.
- A193. Belize, just S of Belize, across road from Esso plant on Caesar Road (16QCQ7233?), near sea level; 15-16 Jun 67, DB. Trap (CDC miniature light trap) in mangroves; 0.5m above ground; overnight. *De. cancer*.
194. Not available.
- A195. Belize, just S of Belize, across road from Esso plant on Caesar Road (16QCQ7233?), near sea level; 15 Jun 67, DB. Adults biting-landing on man in mangroves; 1900-1935hrs; partial shade. *Ae. (Och.) taeniorhynchus*, *Cx. (Cux.) nigripalpus*, *De. cancer*.
- 196-198. Not available.
- A199. Cayo, Central Farm, Garbutt Creek (16QBQ8700), 70m; 19-20 Jun 67, DB. Trap in riverine fringe forest near grazing area; 1.5m above ground; baited with mouse; overnight. *Cx. (Mel.)* sp undetermined.

## BH Collection Records

200. Not available.

A201. Cayo, Central Farm, Garbutt Creek (16QBQ8700), 70m; 20-21 Jun 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 1.5m above ground; overnight. *Cx. (Cux.)* sp undetermined, *Cx. (Mel.) educator*, *Cx. (Mel.) ?pilosus*.

A202. Cayo, Central Farm, Garbutt Creek (16QBQ8700), 70m; 20-21 Jun 67, DB. Trap in riverine fringe forest near grazing area; 1.5m above ground; overnight. *Cx. (Mel.)* sp undetermined.

203-206. Not available.

A207. Cayo, Central Farm, Garbutt Creek (16QBQ8700), 70m; 22-23 Jun 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 1.5m above ground; overnight. *Ur. lowii*.

208-215. Not available.

A216. Cayo, Central Farm, Garbutt Creek (16QBQ8700), 70m; 22-23 Jun 67, DB. Trap (CDC miniature light trap) in riverine fringe forest near grazing area; 1.5m above ground; overnight. *Ur. socialis*.

217-219. Not available.

A220. Belize, Hattievill, Freetown, Sibun River, Agricultural Dept. House (16QCQ5627), 5m; 26-27 Jun 67, DB. Trap (CDC miniature light trap) in garden at edge of river; 2m above ground; overnight. *Cx. (Cux.) nigripalpus*.

221-234. Not available.

A235. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 26 Jun 67, DB. Adult biting-landing on man on tower in forest (deciduous broadleaf seasonal); 8m above ground; 0758hrs. *Hg. (Hag.) equinus*.

236. Not available.

A237. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 30 Jun-1 Jul 67, DB. Trap (CDC miniature light trap) inside house; overnight. *Cx. (Cux.) quinquefasciatus*.

238-247. Not available.

A248, 249, 252. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 3-4 Jul 67, DB. Traps (CDC miniature light traps) inside houses; overnight. *Cx. (Cux.) quinquefasciatus*.

250-251, 253-258. Not available.

A259. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 4 Jul 67, DB. Adult biting-landing on man on tower in forest (deciduous broadleaf seasonal); 8m above ground; 1550hrs. *Sa. (Sab.) tarsopus*.

260-261. Not available.

A262. Belize, Hattievill, "Bettipan Lagoon," about 1km S of Freetown (16QCQ5625), 5m; 10-11 Jul 67, DB. Trap (CDC miniature light trap) at edge of small fresh water lagoon; 1.5m above ground; overnight. *Cx. (Cux.) nigripalpus*.

A263. Belize, Hattievill, about 0.5km S of Freetown on path to "Bettipan Lagoon" (16QCQ5625), 5m; 10-11 Jul 67, DB. Trap (CDC miniature light trap) at edge of path on tree; 2m above ground; overnight. *Cx. (Mel.) opisthopus*.

264-266. Not available.

A267. Belize, Hattievill, Mile 25 on Western Hwy. (16QCQ4224), 10m; 10-11 Jul 67, DB. Trap (CDC miniature light trap) at edge of road on bush; 2m above ground; overnight. *Cx. (Mel.) erraticus*.

268. Not available.

A269. Belize, Hattievill, Mile 25 on Western Hwy. (16QCQ4224), 10m; 10 Jul 67, DB. Adults biting-landing on man along road; 1900-2000hrs; full sun. *Ae. (Och.) scapularis*, *Cx. (Mel.)* sp undetermined.

A270. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 10 Jul 67, DB. Adult biting-landing on man on tower in forest (deciduous broadleaf seasonal); 8m above ground; 1301hrs. *Hg. (Hag.) equinus*.

A271. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 11 Jul 67, DB. Adult biting-landing on man at tower in forest (deciduous broadleaf seasonal); ground level; 1543hrs. *Hg. (Hag.) equinus*.

272-281. Not available.

A282. Cayo, Central Farm, Garbutt Creek N of Western Hwy. (16QBQ8701), 70m; 13-14 Jul 67, DB. Trap (CDC miniature light trap) in garden near creek; 2m above ground; overnight. *Ae. (Pro.) terrens* group.

## BH Collection Records

283-291. Not available.

A292. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 15-16 Jul 67, DB. Trap (CDC miniature light trap) on bush at edge of pasture near dairy; 1.5m above ground; overnight. *Ae. (Adm.) vexans*.

293-295. Not available.

296. Cayo, Cayo, Central Farm (16QBQ8701), 70m; 17 Jul 67, DB. Adults biting-landing on man near dairy; 1830-2000hrs. *Ae. (Adm.) vexans*, *Cx. (Cux.)* sp undetermined.

297-312. Not available.

A313. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 19 Jul 67, DB. Adults biting-landing on man along path in forest (deciduous broadleaf seasonal); 1630-1745hrs. *An. (Ano.) vestitipennis*, *Ps. (Jan.)* sp 3.

314-323. Not available.

324-326. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 24 Jul 67, DB. Adults biting-landing on man along path in forest (deciduous broadleaf seasonal); 1700-1915hrs; partial shade. *Ae. (Och.) angustivittatus*, *Ps. (Gra.) cingulata* group, *Ps. (Jan.) albipes*, *Sa. (Sbo.) chloropterus*.

327-329. Not available.

A330. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 24 Jul 67, DB. Adults biting-landing on man on tower in forest (deciduous broadleaf seasonal); at 0 and 8m above ground; 0700-1500hrs; partial shade. *Li. durhamii*, *Wy.* spp undetermined.

331-333. Not available.

A334. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 26 Jul 67, DB. Adults biting-landing on man in forest (broadleaf seasonal); 1515-1630hrs; deep shade. *Ae. (Och.) serratus* group, *Ps. (Gra.) confinnis* group.

A335. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 25 Jul 67, DB. Adults biting-landing on man at tower in forest (deciduous broadleaf seasonal); at ground level; at 1930 and 2235hrs; partial shade. *Ae. (How.) cozumelensis*, *Cx. (Cux.)* sp undetermined.

336-337. Not available.

A338. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 27 Jul 67, DB. Adult biting-landing on man along path in forest (deciduous broadleaf seasonal); 1900-2000hrs. *Ps. (Pso.) lineata*.

A339-345. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 27 Jul 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1600-1900hrs. *Ae. (How.) cozumelensis*, *Ae. (Och.) serratus* group, *Ps. (Jan.) ferox*.

340. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 27 Jul 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1600-1700hrs. *An. (Ano.) vestitipennis*.

341. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 27 Jul 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1700-1800hrs. *Ae. (Och.) serratus* group, *Ps. (Pso.) ciliata*.

342. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 27 Jul 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1800-1900hrs. *Ae. (Och.) serratus* group, *An. (Ano.) vestitipennis*, *Ps. (Gra.) cingulata* group.

343. Not available.

344. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 27 Jul 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1930-2000hrs. *Ae. (Och.) serratus* group, *An. (Ano.) apicimacula*, *An. (Ano.) vestitipennis*, *Cq. (Rhy.) fasciolata* group, *Cx. (Cux.)* sp undetermined, *Cx. (Mel.) ?erraticus*.

345. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 27 Jul 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 2000-2030hrs. *Ae. (Och.) serratus* group.

346. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 27 Jul 67, DB.

## BH Collection Records

Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1600-1700hrs. *Ps. (Jan.) albipes*.

347. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 27 Jul 67, DB.

Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1700-1800hrs. *Ps. (Gra.) cingulata* group, *Tr. (Cte.) magnum*.

348. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 27 Jul 67, DB.

Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1800-1900hrs. *Cx. (Cux.)* sp undetermined.

349. Not available.

350. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 28 Jul 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 0930-1030hrs. *Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Ae. (Och.) serratus* group, *Ae. (Pro.) terrens* group, *Li. durhamii*, *Ma. (Man.) dyari*, *Ps. (Gra.) confinnis* group, *Ps. (Jan.) albipes*, *Ps. (Jan.) ferox*.

351-359. Not available.

360. Cayo, Central Farm, Belize River near Baking Pot (16QBQ8503), 50m; 30 Jul 67, DB. Adults biting-landing on man in clearing of riverine forest fringe; 1800-1815hrs; partial shade. *Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Ae. (Och.) serratus* group.

361. Belize, Belize International Airport, W of Ladyville (16QCQ6141), near sea level; 31 Jul 67, DB. Adult biting-landing on man in grassy area near swamp; 1820-1900hrs; full sun. *Ae. (Och.) taeniorhynchus*.

362. Belize, Belize International Airport, W of Ladyville (16QCQ6141), near sea level; 31 Jul 67, DB. Adults biting-landing on man in grassy area near swamp; 1900-1915hrs; full sun. *Ae. (Och.) scapularis*, *Ae. (Och.) taeniorhynchus*, *An. (Nys.)* sp undetermined, *Ps. (Gra.) confinnis* group.

363-365. Not available.

366-367. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 31 Jul-1 Aug 67, DB. Trap (CDC miniature light trap) in forest (deciduous broadleaf seasonal); 1.5m above ground; overnight. *An. (Ano.) crucians*, *An. (Ano.) pseudopunctipennis*, *An. (Ano.) punctimacula*, *An. (Ano.) vestitipennis*, *Cx. (Mel.) opisthopus*, *Cx. (Mel.)* sp undetermined.

368. Not available.

A369. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 1 Aug 67, DB. Adults biting-landing on man at tower in forest (deciduous broadleaf seasonal); at ground level and 12m above ground; 1520-2201hrs; partial shade. *Ae. (How.) cozumelensis*, *Ae. (Och.) serratus* group, *Ch. bathana*, *Li. durhamii*, *Sa. (Sbo.) chloropterus*, *Wy.* spp undetermined.

A370. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 31 Jul-1 Aug 67, DB. Trap (CDC miniature light trap) in forest (deciduous broadleaf seasonal); 2m above ground; overnight. *Cx. (Mel.) taeniopus* group.

A371. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 31 Jul-1 Aug 67, DB. Trap (CDC miniature light trap) in forest (deciduous broadleaf seasonal); 2m above ground; overnight. *Ae. (Och.) serratus* group, *An. (Ano.) pseudopunctipennis*, *An. (Ano.) punctimacula*, *An. (Ano.) vestitipennis*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* spp undetermined, *Cx. (Mel.) opisthopus*, *Cx. (Mel.)* sp undetermined, *Ps. (Gra.) cingulata* group.

372-375. Not available.

376. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 3 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1800-1830hrs. *Ae. (How.) cozumelensis*, *Ae. (Och.) serratus* group.

377. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 3 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1830-1900hrs. *Ae. (Och.) serratus* group, *Ae. (Och.) taeniorhynchus*, *Ps. (Gra.) cingulata* group.

378. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird



## BH Collection Records

Hwy. (16QCQ1008), 50m; 3 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1900-1930hrs. *An. (Ano.) vestitipennis*, *Cx. (Mel.)* sp undetermined, *Ps. (Gra.) cingulata* group.

379. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 3 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1930-2000hrs. *An. (Ano.) pseudopunctipennis*, *An. (Ano.) vestitipennis*, *Cx. (Cux.)* sp undetermined, *Cx. (Mel.)* sp undetermined.

380-381. Not available.

382. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 3 Aug 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1600-1630hrs. *Ae. (Och.) serratus* group.

383. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 3 Aug 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1630-1700hrs. *Ae. (Och.) taeniorhynchus*.

384-386. Not available.

387. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 3 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1830-1900hrs. *Ch. bathana*.

388. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 3 Aug 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1930-2000hrs. *Ch. bathana*.

389-394. Not available.

395. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 8 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1800-1830hrs. *Ae. (Och.) taeniorhynchus*, *Ae. (Pro.) bertrami* (holotype).

396. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 8 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1830-1900hrs. *Ae. (Och.) scapularis*, *Ae. (Och.) taeniorhynchus*, *Ae. (Pro.) terreus* group, *Ps. (Gra.) confinnis* group.

397. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 8 Aug 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1900-1930hrs. *Cx. (Cux.)* sp undetermined.

398. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 8 Aug 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1930-2000hrs. *Cx. (Mel.)* sp undetermined.

399. Not available.

400. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 8 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 2030-2100hrs. *An. (Ano.) vestitipennis*.

401-423. Not available.

424. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 9 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1600-1630hrs. *Ae. (Och.) fulvus*, *Ps. (Gra.) cingulata* group.

425. Not available.

426. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 9 Aug 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1700-1730hrs. *Ae. (Och.) scapularis*.

427. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 9 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1730-1800hrs. *Ae. (How.) cozumelensis*, *An. (Ano.) eiseni*.

428. Not available.

429. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 9 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1830-1900hrs. *Ae. (Och.) angustivittatus*, *An. (Ano.) vestitipennis*, *Ch. bathana*, *Cx. (Cux.) nigripalpus*.

## BH Collection Records

430. Cayo, Caves Branch, Mile 49 on Hummingbird Hwy. (16QCP1597), 200m; 9 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1900-1930hrs. *An. (Ano.) punctimacula*, *Ps. (Gra.) cingulata* group.
- 431-432. Not available.
433. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 9 Aug 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1700-1730hrs. *Sa. (Sbo.) chloropterus*.
434. Not available.
435. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 9 Aug 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1800-1830hrs. *Ae. (Och.) scapularis*.
436. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 9 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1830-1900hrs. *Ae. (Och.) scapularis*, *Ae. (Och.) serratus* group, *An. (Ano.) vestitipennis*, *Cx. (Cux.) nigripalpus*, *Cx. (Mel.)* sp undetermined, *Ps. (Gra.) cingulata* group.
437. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 9 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1900-1930hrs. *An. (Ano.) neomaculipalpus*, *Ps. (Jan.) albipes*.
- 437-438. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. and 50m E of Hummingbird Hwy. (16QCQ1008), 50m; 9 Aug 67, DB. Adults biting-landing on man in forest (deciduous broadleaf seasonal); 1900-2000hrs. *Ps. (Pso.) ciliata*.
- 439-440. Not available.
441. Belize, Hattieville, about halfway between Freetown and "Bettipan Lagoon" (16QCQ5626), 5m; 10 Aug 67, DB. Adults biting-landing on man along path; 1900-1930hrs. *Ae. (Och.) serratus* group, *Ae. (Och.) taeniorhynchus*, *Cq. (Rhy.) fasciolata* group, *Ps. (Pso.) cilipes*.
442. Belize, Hattieville, about halfway between Hattieville and Freetown (16QCQ5428), 5m; 10 Aug 67, DB. Adults biting-landing on man in area recently cleared for cultivation; 2020-2105hrs. *Ae. (Och.) taeniorhynchus*.
443. Belize, Belize, Northern Road about 8km from Belize, Haulover Bridge (16QCQ6839), near sea level; 11 Aug 67, DB. Adults biting-landing on man near mangroves; 1110-1225hrs. *Ae. (Och.) scapularis*, *Ae. (Och.) taeniorhynchus*, *Cx. (Mel.)* sp undetermined.
- A444. Belize, Hattieville, about 0.5km S of Freetown on path to "Bettipan Lagoon" (16QCQ5626), 5m; 10-11 Aug 67, DB. Trap (CDC miniature light trap) on bush; 2m above ground; overnight. *Cx. (Mel.) chrysonotum*, *Cx. (Mel.) taeniopus* group, *Cx. (Mel.)* sp undetermined.
- 445-455. Not available.
- A456. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 7 Aug 67, DB. Adult biting-landing on man on tower in forest (deciduous broadleaf seasonal); 8m above ground; 0929-1217hrs. *Hg. (Hag.) equinus*.
457. Not available.
- A458. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m; 14 Aug 67, DB. Adults biting-landing on man at tower in forest (deciduous broadleaf seasonal); at ground level and 8m above ground; at 1058 and 1210hrs. *Ae. (How.) cozumelensis*, *Ae. (Pro.) podographicus*.
- 459-464. Not available.
- A465. Cayo, Roaring Creek, new capital site, 1km S of Western Hwy. (16QCQ1008), 50m; 15 Aug 67, DB. Adult biting-landing on man in forest (deciduous broadleaf seasonal); 1830-1900hrs. *Tr. (Trc.) digitatum*.
- 466-478. Not available.
479. Cayo, Cayo, Central Farm, Resthouse (16QBQ8701), 70m; 17 Aug 67, DB. Adults biting-landing on man; 1030-1130hrs; partial shade. *Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Ae. (Och.) serratus* group, *Hg. (Hag.) equinus*, *Ps. (Jan.) ferox*, *Wy.* spp undetermined.
- 480-489. Not available.

## BH Collection Records

490. Cayo, Augustine, Mountain Pine Ridge, various points along road from Augustine to Sibun Camp, 500-1000m; 10 Aug 67, P. Williams. Adults biting-landing on man; daytime. *Ae. (Och.) angustivittatus*, *Ae. (Och.) fulvus*, *Ae. (Och.) serratus* group, *Cx. (And.) conservator*, *Hg. (Hag.) equinus*, *Ps. (Jan.) albipes*, *Ps. (Jan.) ferox*, *Wy.* sp undetermined.

491-499. Not available.

A500. Cayo, San Antonio, tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8900), 300m; Jul-Aug 67, DB. Adults at tower in forest (deciduous broadleaf seasonal). *Wy.* spp undetermined.

501. Belize, SW outskirts of Belize along road S of main hwy. (16QCQ7333?), near sea level; 29 Jul 70, DS, KS. Adults biting-landing on man in mangrove swamp; 1330hrs; partial shade. *Ae. (Och.) taeniorhynchus*.

502. Belize, Belize, Mile 4 on Western Hwy. (16QCQ6833?), 5m; 29 Jul 70, DS, KS. Large ground pool along road in mangroves; water permanent, clear, colored, stagnant, fresh or brackish; no vegetation; bottom with mud, sand, plant matter; partial shade. *Cx. (Mel.)* sp undetermined.

503. Belize, Hattievile, Mile 9 on Western Hwy. (16QCQ5932?), 5m; 29 Jul 70, DS, KS. Debris sample; sterile.

504. Belize, Belize, Northern Road about 8km from Belize, Haulover Bridge (16QCQ6839), near sea level; 29 Jul 70, DS, KS. Large ground pool along road near mangroves; water temporary, dark tan, stagnant; no vegetation; bottom with mud, sand, dead leaves, branches; partial to full sun. *Ae. (Och.) taeniorhynchus*, *Cx. (Cux.) nigripalpus*.

505. Belize, Belize, International Airport, Mile 9.5 on Northern Road near Ladyville (16QCQ6141?), near sea level; 30 Jul 70, DS, KS. Small ground pools along road in grassy area; water temporary, clear, stagnant, fresh; no vegetation; bottom with mud, a few dead leaves; full sun. *Ps. (Gra.) confinnis* group.

506. Belize, Maskall, Mile 43.7 on Northern Road (16QCQ6176?), 10m; 30 Jul 70, DS, KS. Adults biting-landing on man in secondary growth along road; 1500hrs; deep shade. *Ae. (Och.) scapularis*, *Ps. (Jan.) albipes*.

507. Orange Walk, Rancho, 3.6mi N of district line on Northern Road (16QCQ5287), 10m; 30 Jul 70, DS, KS. Margin of open grassy marsh; water permanent, clear, stagnant, fresh; abundant flotage, grassy vegetation; bottom with mud, dead plant matter; full sun. *An. (Ano.) crucians*, *Cx. (Mel.)* sp undetermined.

508. Corozal, Corozal (16QCR5334), near sea level; 30 Jul 70, DS, KS. Adult biting-landing on man outside house 15m from sea; 1915hrs. *Ps. (Pso.) ciliata*.

## BH Locality Index

## BELIZE DISTRICT

*Belize.* Near Esso plant just S of city (16QCQ7233?), near sea level.—A164, A178, A193, A195. SW outskirts of city along road S of main hwy. (16QCQ7333?), near sea level.—501. Mile 4 on Western Hwy. (16QCQ6833?), 5m.—502.

*Crooked Tree,* Northern Lagoon (16QCQ3766), 20m.—A137, A138.

*Freetown.* At or near "Bettipan Lagoon" just S of Freetown (16QCQ5625, 5626), 5m.—A262, A263, 441, A444. In or near Freetown on Sibun River (16QCQ5627), 5m.—A16, A17, L17, A30, A55, A57, A115, A116, A220. Road from Freetown to Hattievile, about 0.2km from Sibun River (16QCQ5527), 5m.—A186. Road from Freetown to Hattievile, about halfway (16QCQ5428), 5m.—442.

*Hattievile.* Mile 9 on Western Hwy. (16QCQ5932?), 5m.—503. Mile 25 on Western Hwy. (16QCQ4224), 10m.—A267, A269.

*Haulover Bridge,* Northern Road about 8km from Belize (16QCQ6839), near sea level.—443, 504.

*Ladyville.* W of Ladyville (16QCQ6141), near sea level.—361, 362. Mile 9.5 on Northern Road (16QCQ6141?), near sea level.—505.

*Maskall.* Mile 43.7 on Northern Road (16QCQ6176?), 10m.—506.

*Salt Creek.* About 0.8km from Potts Creek on road to Salt Creek (16QCQ6152), near sea level.—A75. Salt Creek Estate about 3km inland from sea (16QCQ6053), near sea level.—A130.

## BH Locality Index

## CAYO DISTRICT

*Bullet Tree Falls*, Western Branch Belize River (16QBP7599), 70m.—L40.

*Caves Branch*. Mile 49 on Hummingbird Hwy. (16QCP1597), 200m.—L35, A313, 324, 325, 326, A338, 346, 347, 348, 382, 383, 387, 388, 424, 426, 427, 429, 430.

*Cayo*. Near Cayo (16QBP8098?), 100m.—L37.

*Central Farm*. At Central Farm (16QBQ8701), 70m.—L1, L20, L21, L22, L24, A142, A237, A248, A249, A252, A292, 296, 479. Near Baking Pot on Belize River (16QBQ8503), 50m.—L42, 360. Garbutt Creek (16QBQ8700, 8701, 8702), 50-70m.—A122, A124, A126, A127, A128, A131, A133, A145, A146, A151, A153, A187, A191, A199, A201, A202, A207, A216, A282.

"*Esperanza*," near Central Farm on road to Cayo (16QBQ8300?), 50m.—A100.

*Georgeville*. Mile 4 on Chiquibul Road (16QBP9196), 150m.—L6.

*Mountain Pine Ridge*. Near Augustine (16QBP9075?), 300-600m.—A33. Various points along road from Augustine to Sibun Camp, 500-1000m.—490.

*Roaring Creek*. New capital site (now Belmopan), about 1km S of Western Hwy. and about 50m E of Hummingbird Hwy. (16QCQ1008), 50m.—L26, A58, A334, A339, 340, 341, 342, 344, 345, 350, 366, 367, A370, A371, 376, 377, 378, 379, 395, 396, 397, 398, 400, 433, 435, 436, 437, 438, A465.

*San Antonio*. Tower at Mile 9 on Chiquibul Road, just NW of junction with road to San Antonio (16QBP8990), 300m.—SEB2, SEB3, L5, LEB11, A38, A67, A110, A141, A171, A235, A259, A270, A271, A330, A335, A369, A456, A458, A500. Mile 12 on Chiquibul Road (16QBP9088), 400m.—L7.

## COROZAL DISTRICT

*Corozal* (16QCR5334), near sea level.—508.

## ORANGE WALK DISTRICT

*Rancho*. 3.6mi N of district line on Northern Road (16QCQ5287), 10m.—507.

## BH Species Index

*Aedeomyia squamipennis* (Lynch Arribalzaga 1878).—A30.

*Aedes (Aedimorphus) vexans* (Meigen 1830).—A110, A292, 296.

*Aedes (Howardina) cozumelensis* Diaz Najera 1966.—A335, A339-345, A369, 376, 427, A458.

*Aedes (Ochlerotatus) angustivittatus* Dyar and Knab 1907.—324-326, 350, 360, 429, 479, 490.

*Aedes (Ochlerotatus) fulvus* (Wiedemann 1828).—424, 490.

*Aedes (Ochlerotatus) scapularis* (Rondani 1848).—A57, A269, 350, 360, 362, 396, 426, 435, 436, 443, 479, 506.

*Aedes (Ochlerotatus) serratus* group: *nubilus*, *serratus* or related sp.—A334, A339-345, 341, 342, 344, 345, 350, 360, A369, A371, 376, 377, 382, 436, 441, 479, 490.

*Aedes (Ochlerotatus) taeniorhynchus* (Wiedemann 1821).—A130, A164, A178, A195, 361, 362, 377, 383, 395, 396, 441, 442, 443, 501, 504.

*Aedes (Protomacleaya) bertrami* Schick 1970.—395 (holotype).

*Aedes (Protomacleaya) podographicus* Dyar and Knab 1906.—A458.

*Aedes (Protomacleaya) terreus* group: any of several spp.—A282, 350, 396.

*Anopheles (Anopheles) apicimacula* Dyar and Knab 1906.—344.

*Anopheles (Anopheles) crucians* Wiedemann 1828.—A138, 366-367, 507.

*Anopheles (Anopheles) eiseni* Coquillett 1902.—427.

*Anopheles (Anopheles) neomaculipalpus* Curry 1931.—437.

*Anopheles (Anopheles) pseudopunctipennis* Theobald 1901.—L40, L42, 366-367, A371, 379.

*Anopheles (Anopheles) punctimacula* Dyar and Knab 1906.—366-367, A371, 430.

*Anopheles (Anopheles) vestitipennis* Dyar and Knab 1906.—A313, 340, 342, 344, 366-367, A371, 378, 379, 400, 429, 436.

*Anopheles (Nyssorhynchus) albimanus* Wiedemann 1820.—L20, L22, L24, L37, A164, A186.

*Anopheles (Nyssorhynchus) argyritarsis* Robineau-Desvoidy 1827.—L40.

*Anopheles (Nyssorhynchus)* sp undetermined.—362.

*Chagasia bathana* (Dyar 1928).—A369, 387, 388, 429.

## BH Species Index

- Coquillettidia (Rhynchotaenia) fasciolata* group: *fasciolata*, *venezuelensis* or related sp.—A55, 344, 441.  
*Culex (Anoedioporpa) conservator* Dyar and Knab 1906.—490.  
*Culex (Culex) corniger* Theobald 1903.—A128.  
*Culex (Culex) coronator* group: *coronator*, *ousqua* and/or related spp.—L6, L7, L24, L26.  
*Culex (Culex) nigripalpus* Theobald 1901.—A131/133, A171, A195, A220, A262, A371, 429, 436, 504.  
*Culex (Culex) quinquefasciatus* Say 1823.—L1, A131/133, A133, A142, A151, A237, A248, A249, A252.  
*Culex (Culex)* sp undetermined.—A124/6, A127, A153, A201, 296, A335, 344, 348, A371, 379, 397.  
*Culex (Melanoconion) chrysonotum* Dyar and Knab 1908.—A444.  
*Culex (Melanoconion) dumni* Dyar 1918.—A153.  
*Culex (Melanoconion) educator* Dyar and Knab 1906.—A124/6, A127, A131/133, A145-146, A187, A201.  
*Culex (Melanoconion) erraticus* (Dyar and Knab 1906).—A124/6, A127, A128, A137, A151, A267, ?344.  
*Culex (Melanoconion) opisthopus* Komp 1926.—A16, A115, A263, 366-367, A371.  
*Culex (Melanoconion) panocossa* Dyar 1923.—L17.  
*Culex (Melanoconion) ?pilosus* (Dyar and Knab 1906).—A201.  
*Culex (Melanoconion) taeniopus* group: any of several spp.—A370, A444.  
*Culex (Melanoconion) zeteki* group: *zeteki* or related sp.—L35.  
*Culex (Melanoconion)* sp 68: near *paracrybda*.—L17.  
*Culex (Melanoconion)* sp undetermined.—L17, A30, A122, A199, A202, A269, 366-367, A371, 378, 379, 398, 436, 443, A444, 502, 507.  
*Deinocerites cancer* Theobald 1901.—A164, A178, A193, A195.  
*Haemagogus (Haemagogus) equinus* Theobald 1903.—A235, A270, A271, A456, 479, 490.  
*Limatus asulleptus* (Theobald 1903).—SEB2-3.  
*Limatus durhamii* Theobald 1901.—SEB2-3, L5, LEB11, A330, 350, A369.  
*Mansonia (Mansonia) dyari* Belkin, Heinemann and Page 1970.—L17, A100, 350.  
*Mansonia (Mansonia) titillans* (Walker 1848).—A17, L17, A38, A75, A110, A115-A116, A130.  
*Psorophora (Grabhamia) cingulata* group: *cingulata* or related sp.—324-326, 342, 347, A371, 377, 378, 424, 430, 436.  
*Psorophora (Grabhamia) confinnis* group: *columbiae*, *toltecum* or related sp.—?L21, A334, 350, 362, 396, 505.  
*Psorophora (Janthinosoma) albipes* (Theobald 1907).—324-326, 346, 350, 437, 490, 506.  
*Psorophora (Janthinosoma) ferox* (Humboldt 1819).—A339-345, 350, 479, 490.  
*Psorophora (Janthinosoma)* sp 3: *pisces*, *totonaci* or related sp.—A313.  
*Psorophora (Psorophora) ciliata* (Fabricius 1794).—341, 437-438, 508.  
*Psorophora (Psorophora) cilipes* (Fabricius 1805).—441.  
*Psorophora (Psorophora) lineata* (Humboldt 1819).—A338.  
*Sabethes (Sabethes) tarsopus* Dyar and Knab 1908.—A259.  
*Sabethes (Sabethoides) chloropterus* (Humboldt 1819).—A110, A141, 324-326, A369, 433.  
*Trichoprosopon (Ctenogoeldia) magnum* (Theobald 1905).—A58, 347.  
*Trichoprosopon (Trichoprosopon) digitatum* (Rondani 1848).—A465.  
*Uranotaenia geometrica* Theobald 1901.—A127.  
*Uranotaenia lowii* Theobald 1901.—A145, A207.  
*Uranotaenia pulcherrima* Lynch Arribalzaga 1891.—A191.  
*Uranotaenia socialis* Theobald 1901.—A127, A145, A187, A191, A216.  
*Uranotaenia* sp undetermined.—L17.  
*Wyeomyia* spp undetermined.—A33, A38, A67, A141, A330, A369, 479, 490, A500.

**GUATEMALA**  
Code: GUA

The collections from Guatemala available to the project are identified by the following printed label: //GUA [handwritten 1-151]/Guatemala 64-65/Mosq Mid Amer//. Collections 1-131 have an unmodified label and were made expressly for the project by the individuals listed below under Summary of Collections. Collections 134-151 have 64-65 deleted and 50 written above; these collections were made under the supervision of Herbert T. Dalmat incidental to the investigations on the black flies of Guatemala (Dalmat 1955); they are accompanied by very doubtful data.

A variety of maps were used in determining the location of collection sites: Mapa Preliminar de la Republica de Guatemala 1:750,000, Direccion General de Cartografia, 1959; Guatemala's General Guide [map of Guatemala City] 1:25,000, Instituto Geografico Nacional, 1965. For localities and their elevations use was made of World (North America) 1:1,000,000, series 1301, sheet ND15, ed. 1-AMS, 1935. For localities, elevations and grid coordinates the following maps were used: Central America 1:250,000, series E503, sheets ND15-4, 15-7, 15-8, 15-12, 16-1, 16-5, ed. 1-AMS, ed. 2-AMS (ND15-7); World 1:250,000, series 1501, sheets ND15-4, 15-7, 15-8, 16-1, 16-2, ed. 1; Guatemala 1:50,000, series E754, several sheets, ed. 1-AMS. The U.S. Board on Geographic Names gazetteer no. 94, Guatemala, 1965 was used for the location and spelling of some localities.

**Summary of Collections**

GUA 1-131	26 Jun-8 Sept 1964	W. Almengor (WA), V. P. Cowsill (VC), J. Zavortink (JZ), T. J. Zavortink (TZ)	Alta Verapaz, Escuintla, Guatemala, Izabal, Retalhuleu, Solola, Suchitepequez, Totonicapan, Zacapa
GUA 132-133	Not used		
GUA 134-151	3 Jun-21 Oct 1950	under supervision of H.T. Dalmat (HD)	Chimaltenango

**GUA Collection Records**

1. Izabal, Morales, Bananera United Fruit Compound, NW portion of, 40m; 26 Jun 64, VC, JZ, TZ. Cut or broken bamboo in domestic area; 0.7m above ground; water light brown; bottom with some decaying vegetation; full-partial sun. *Cx. (Cux.) quinquefasciatus*.
2. Izabal, Morales, Bananera United Fruit Compound, NW portion of, 40m; 26 Jun 64, VC, JZ, TZ. Terrestrial bromeliad (*Ananas*) in second growth; partial shade. *Wy. (Wyo.) celaenocephala*, *Wy. (Wyo.) pertinans* group.
3. Izabal, Morales, Bananera United Fruit Compound, NW portion of, 40m; 26 Jun 64, VC, JZ, TZ. Cut or broken bamboo in domestic area; 0.7-2.5m above ground; water clear; partial shade. *Wy. (Pen.) arthrostigma*.
4. Izabal, Morales, Bananera United Fruit Compound, NW portion of, 40m; 26 Jun 64, VC. Adults biting man in shade of bamboo hedge near lake of golf course; 1600-1730hrs. *Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Ae. (Och.) taeniorhynchus*, *Cq. (Rhy.) nigricans*, *Ps. (Jan.) albipes*, *Ps. (Jan.) ferox*, *Tr. (Trc.) digitatum*.
5. Izabal, Puerto Barrios, Puerto Matias de Galvez, dirt road from turnaround at beach W of port (16PCN2435), near sea level; 27 Jun 64, VC, JZ, TZ. Large crabholes in second growth along road near bay; water clear; partial shade. *De. cancer*, *De. epitedeus*.
- 5A. Izabal, Puerto Barrios, Puerto Matias de Galvez, dirt road from turnaround at beach W of port (16PCN2435), near sea level; 27 Jun 64, VC, JZ, TZ. Adults resting in crabholes in second growth along road near bay; 1200hrs. *Cx. (Cux.) inflictus* group, *De. epitedeus*.
6. Izabal, Puerto Barrios, Puerto Matias de Galvez, dirt road from turnaround at beach W of port (16PCN2435), near sea level; 27 Jun 64, VC, JZ, TZ. Large crabholes in second growth along road near bay; water turbid; partial shade. *De. epitedeus*.

## GUA Collection Records

7. Izabal, Morales, Rt. CA9, km 255.6-.7, E of Quebrada Grande (16PCN1218), 70m; 27 Jun 64, VC, JZ, TZ. *Heliconia* leaf axils (bracts dark red; flowers pink to white with pink ovary, 2-3 per bract) in swampy area of second growth; water clear, gelatinous; partial shade. *Tr. (Cte.) magnum*.
- 7A. Izabal, Morales, Rt. CA9, km 255.6-.7, E of Quebrada Grande (16PCN1218), 70m; 27 Jun 64, VC, JZ, TZ. Adults biting man in swampy area of second growth; 1600-1700hrs. *Ae. (Och.) scapularis*, *Ps. (Jan.) albipes*.
8. Izabal, Morales, Rt. CA9, km 255.6-.7, E of Quebrada Grande (16PCN1218), 70m; 27 Jun 64, VC, JZ, TZ. *Heliconia* flower bracts (bracts and flowers salmon-colored, 2 flowers per bract) in swampy area of second growth; 1-1.3m above ground; water clear, gelatinous; partial shade. *Wy. (Dec.) rorotai* group.
9. Izabal, Morales, Rt. CA9, km 253, Quebrada Grande (16PCN1017), 70m; 28 Jun 64, VC. Adult biting man in jeep; 1000hrs. Specimen lost.
10. Izabal, Morales, Rt. CA9, km 236.3, near Mojaca (16PBN9510), 70m; 28 Jun 64, TZ. *Heliconia* leaf axils (bracts orange; flowers greenish, 10 per bract) in swampy area of second growth; water clear, gelatinous; deep shade. *Cx. (Mcx.)* sp undetermined, *Wy. (Pen.) arthrostigma*.
11. Izabal, Morales, Rt. CA9, km 236.3, near Mojaca (16PBN9510), 70m; 28 Jun 64, TZ. Small treehole (in *Cecropia*) in swampy area of second growth; 1m above ground; water turbid, tan; deep shade. *Wy. (Tri.) aporonoma*.
12. Izabal, Morales, Rt. CA9, km 236.3, near Mojaca (16PBN9510), 70m; 28 Jun 64, VC, JZ. Adults biting man in swampy area of second growth; 1100hrs. *Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Ae. (Och.) serratus* group, *Cq. (Rhy.) nigricans*, *Hg. (Hag.) equinus*, *Ma. (Man.) dyari*, *Ps. (Jan.) albipes*, *Ps. (Jan.) ferox*.
13. Zacapa, Los Amates, Rt. CA9, km 179.3, near Dona Maria (16PBM5882), 100m; 28 Jun 64, TZ. Small treehole with a small opening (in bignoniaceous tree) in domestic area in second growth forest; 2m above ground; water deep tan; partial shade. *Tx. (Lyn.) moctezuma*.
14. Zacapa, Zacapa, Rt. CA9, km 123, near Quebrada de Agua just E of Teculután (16PBM0859), 240m; 28 Jun 64, VC, JZ, TZ. Shallow roadside ditch; water temporary, turbid, stagnant, fresh; grassy vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group, *Ps. (Pso.) howardii*.
- 14A. Zacapa, Zacapa, Rt. CA9, km 123, near Quebrada de Agua just E of Teculután (16PBM0859), 240m; 28 Jun 64, VC, JZ, TZ. Adult resting on surface of water of roadside ditch (same as 14); 1500hrs. *Ps. (Pso.) howardii*.
15. Solola, Solola, Rt. CA1, km 126, 1km from Los Encuentros (15PXG9842), 2600m; 30 Jun 64, TZ. Epiphytic bromeliad in open area of partial forest; 4m above ground; full sun. *Ae. (How.) quadrivittatus*.
16. Totonicapán, Totonicapán, Natl. Rt. 1, km 155.1, 14.8km E of Dept. Rt. 1, about 20km E of Totonicapán (15PXG8648), 3200m; 30 Jun 64, JZ. Seepage in open area; water permanent, clear, with slow current; no vegetation; bottom with mud, sand, dead leaves; partial-full sun. *Meringodixa* sp.
17. Guatemala, Guatemala City, in front of Telephone Bldg. on 7 Avenida across street from Hotel Maya Excelsior (15PYG6616), 1500m; 5 Jul 64, JZ, TZ. Artificial container (hole in cement, 30cm wide) in city; water turbid, green, stagnant; abundant algae; bottom with decaying vegetation; full sun. *Cx. (Cux.) corniger*, *Cx. (Cux.) quinquefasciatus*.
18. Alta Verapaz, Senahu, Trece Aguas (16PBN0204), 800m; 7 Jul 64, JZ. Epiphytic bromeliads (2 on same tree) along path; 0.3-1.3m above ground; partial shade. *Cx. (Mca.) erethydonfer*, *Wy. (Wyo.) abebela*, *Wy. (Wyo.) pertinans* group sp B, *Wy. (Wyo.) ?sp 79*.
19. Alta Verapaz, Senahu, Trece Aguas (16PBN0204), 800m; 7 Jul 64, JZ, TZ. Epiphytic bromeliad on hill above path; 0.3m above ground; partial shade. *Cx. (Mca.) erethydonfer*, *Wy. (Wyo.) abebela*, *Wy. (Wyo.) pertinans* group sp B, *Wy. (Tri.) ?aporonoma*.
20. Totonicapán, Totonicapán, Natl. Rt. 1, km 155.1, 14.8km E of Dept. Rt. 1, about 20km E of Totonicapán (15PXG8648), 3200m; 30 Jun 64, VC. Stream margin in grassy area; water permanent, clear, stagnant; some grassy vegetation; bottom with mud; partial shade. *Cs. (Cus.) dugesi*.
21. Retalhuleu, Champerico, Natl. Rt. 9S, km 222.5, 1km N of Champerico (15PXF1881?), near

## GUA Collection Records

sea level; 2 Jul 64, VC. Large ground pool in domestic-grassy area; water temporary, reddish brown, stagnant, fresh; some flottage, grassy vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) quinquefasciatus*, *Cx. (Mel.)* sp undetermined.

22. Retalhuleu, San Felipe, S boundary of cemetery (15PXG505165), 580m; 2 Jul 64, VC. Cut or broken bamboo in cemetery; 0.3-1m above ground; water brown; deep shade. *Co. appendiculata*, *Cx. (And.) restrictor*, *Hg. (Hag.) mesodentatus*, *Wy. (Pen.) arthrostigma*.

22A. Retalhuleu, San Felipe, S boundary of cemetery (15PXG505165), 580m; 2 Jul 64, VC. Adults biting-landing on man in clump of bamboo; 1500-1600hrs. *Cx. (Cux.) nigripalpus*, *Wy. (Pen.) arthrostigma*.

23. Suchitepequez, Mazatenango, Rt. CA2, km 148.1, S edge of San Antonio Suchitepequez (15PXG7007), 380m; 3 Jul 64, VC. Large artificial container (old truck axle) in domestic area; water temporary, clear; partial shade. *Cx. (Cux.) corniger*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) quinquefasciatus*.

24. Suchitepequez, Rio Bravo, Rt. CA2, km 133.0 (15PXF7894?), 150m; 3 Jul 64, VC. Cut or broken bamboo in bamboo fence row; 0.3-1m above ground; water clear, colored; deep shade. *Hg. (Hag.) mesodentatus*, *Wy. (Pen.) arthrostigma*.

25. Solola, Solola, Rt. CA1, km 126, 1km from Los Encuentros (15PXG9842), 2600m; 30 Jun 64, TZ. Large treehole (in *Quercus*) in open forest; 1.5m above ground; water deep brown; full sun. *Or. kummi*.

26. Retalhuleu, San Felipe, main path of cemetery (15PXG505165), 580m; 2 Jul 64, VC, TZ. 2 fallen banana leaves in cemetery; water clear; some algae; full sun. *Cx. (Cux.) coronator* group, *Cx. (Cux.) mollis*.

27. Retalhuleu, San Felipe, S side of junction of Natl. Rt. 9S and road to Finca La Perla (15PXG509162), 580m; 2 Jul 64, VC, TZ. Cut or broken bamboo along road, 1m above ground; water tan; deep shade. *Hg. (Hag.) mesodentatus*.

28. Retalhuleu, San Felipe, road to Finca La Perla, 0.4km from Natl. Rt. 9S (15PXG512160), 580m; 2 Jul 64, VC, TZ. Cut or broken bamboo at edge of open field; 0.5-1m above ground; water tan; partial shade. *Hg. (Hag.) mesodentatus*.

29. Retalhuleu, San Sebastian, Rt. CA2, km 176.6, just E of bridge over Rio Mulua (15PXG467091), 300m; 2 Jul 64, VC, TZ. Cut or broken bamboo in thicket along river; 0.3-1.3m above ground; water tan. *Ae. (Pro.) podographicus*, *Hg. (Hag.) mesodentatus*, *Wy. (Pen.) arthrostigma*.

30. Suchitepequez, Mazatenango, Rt. CA2, km 148.1, S edge of San Antonio Suchitepequez (15PXG7007), 380m; 3 Jul 64, TZ. Small treehole (in breadfruit, *Artocarpus*) in domestic area along road; 0.7m above ground; water tan; partial shade. *Cx. (Cux.) coronator* group.

31. Escuintla, Santa Lucia Cotzumalguapa, Finca Aguna, Quebrada Platanares about 200m SE of Finca Aguna office (15PYF0683), 200m; 3 Jul 64, VC, TZ. Adults taken sweeping along edge of stream; 1m above ground; 1100-1200hrs; deep shade. *Ae. (Och.) angustivittatus*, *Cx. (Cux.) nigripalpus*, *Hg. (Hag.) mesodentatus*.

32. Escuintla, Santa Lucia Cotzumalguapa, Rt. CA2, km 86.6, 200m N of bridge over Rio Pantaleon (15PYF1685), 420m; 3 Jul 64, VC, TZ. Large ground pools in weedy area along river; water temporary, clear, stagnant, fresh; abundant scum, algae, herbaceous vegetation; bottom with sand; full sun. *An. (Ano.) pseudopunctipennis*.

33. Alta Verapaz, Senahu, Trece Aguas (16PBN0204), 800m; 7 Jul 64, VC, TZ. Cut or broken bamboo along path in domestic area of plantation; 0.5-1.3m above ground; water turbid; partial shade. *Ae. (Pro.) daryi* (holotype), *Ae. (Pro.) impostor* (holotype), *Cx. (Car.) bihaicolus*, *Tr. (Trc.) digitatum*, *Wy. (Tri.) aponoma*.

34. Escuintla, Iztapa, Rt. CA9, km 115.5, NE of bridge over Brazo del Rio Maria Linda, just W of El Carrizo (15PYF4341), near sea level; 10 Jul 64, VC. Adults biting man in mangrove swamp; 1100hrs. *Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Ae. (Och.) taeniorhynchus*, *Ps. (Jan.) albipes*, *Ps. (Jan.) varipes*.

35. Escuintla, Puerto de San Jose, Rt. CA9, km 108.2, just N of Puerto de San Jose (15PYF3540), near sea level; 10 Jul 64, VC, JZ, TZ. Ditch along road; water temporary, clear, stagnant, fresh; abundant algae, grassy vegetation; bottom with mud, decaying vegetation; partial shade. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) nigripalpus*.



## GUA Collection Records

36. Escuintla, Puerto de San Jose, Rt. CA9, km 106.1, about 2km N of San Jose (15PYF3342), 5m; 10 Jul 64, VC, TZ. Ditch along road; water temporary, clear, stagnant, fresh; abundant algae, grassy vegetation; bottom with mud, decaying vegetation; partial shade. *Cx. (Cux.) coronator* group, *Cx. (Cux.) nigripalpus*.
37. Escuintla, Puerto de San Jose, Rt. CA9, km 97.5, just S of Otacingo (15PYF2846), 15m; 10 Jul 64, VC, JZ, TZ. Marsh along road; water permanent, clear, stagnant, fresh; abundant scum, algae, herbaceous and floating (*Eichhornia*, *Pistia*) vegetation; bottom with mud, decaying vegetation; partial shade. *Cx. (Cux.) ?nigripalpus*, *Ma. (Man.) dyari*.
38. Escuintla, Puerto de San Jose, Rt. CA9, km 87.5, about 10km N of Otacingo (15PYF2955), 35 m; 10 Jul 64, JZ, TZ. Small treehole (in "palo blanco," a caesalpiniaceous tree) along road; 2m above ground; water brown; deep shade. *Ae. (Pro.) podographicus*.
39. Escuintla, Escuintla, Rt. CA9, km 63.8, about 7km S of Escuintla (15PYF3574), 160m; 10 Jul 64, JZ, TZ. Large treehole (in "palo blanco," a caesalpiniaceous tree) along road; 3m above ground; water colored; partial shade. *Ae. (Pro.) podographicus*, *Cx. (And.) restrictor*.
40. Escuintla, Escuintla, Rt. CA9, km 62.5, about 6km S of Escuintla (15PYF3575), 180m; 10 Jul 64, JZ, TZ. Large treehole (in "palo blanco," a caesalpiniaceous tree) along road; 2m above ground; water colored; partial shade. *Ae. (Pro.) podographicus*, *Cx. (And.) restrictor*.
41. Escuintla, Escuintla, Rt. CA9, km 62.5, about 6km S of Escuintla (15PYF3575), 180m; 10 Jul 64, VC. Large treehole (in "palo blanco," a caesalpiniaceous tree) in crotch of tree about 10m from GUA40; 2m above ground; water clearer, lighter colored than GUA40; partial shade, more sun than GUA 40. *Ae. (Pro.) podographicus*, *Ae. (Pro.) sandrae*, *Tx. (Lyn.) moctezuma*.
42. Guatemala, Mixco, 13.1km W of Guatemala City on Rt. CA1, 1700m; 14 Jul 64, TZ. Small treehole (in *Ficus*) in domestic area; 0.3m above ground; water mahogany-colored; deep shade. *Ae. (Pro.) ?podographicus*, *Tx. (Lyn.) grandiosus*.
43. Guatemala, Guatemala City, Zona 5, Rio Negro at E end of 32 Calle (15PYG6817), 1500m; 15 Jul 64, VC, TZ. Large ground pool at base of cliff fed by seepage at edge of river in domestic area; water semipermanent, clear, with slow current; some algae, herbaceous vegetation; bottom with mud; partial shade. *An. (Ano.) hectoris*, *Cx. (Mel.) iolambdis*, *Cx. (Ncx.) derivator*, *Cx. (Ncx.)* sp undetermined, *Dx.* sp undetermined, *Ur.* sp 6.
44. Guatemala, Guatemala City, Rio El Naranjo, near Bethania (15PYG6520), 1500m; 15 Jul 64, VC, TZ. Small treehole (in *Quercus*) in oak forest; 1.7m above ground; water temporary, brown; partial shade. *Ae. (Pro.) sandrae*, *Cx. (And.) restrictor*.
45. Escuintla, Amatitlan, Rt. CA9, km 31.3, about 5km S of Amatitlan, "Finca La Trampa" (15PYF5398?), 1200m; 16 Jul 64, VC. Small ground pool in grassy area; water temporary, clear, stagnant; abundant scum, algae, grassy vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*.
46. Escuintla, Amatitlan, Rt. CA9, km 31.3, about 5km S of Amatitlan, "Finca La Trampa" (15PYF5398?), 1200m; 16 Jul 64, VC. Small ground pool in grassy area; water temporary, clear, stagnant; abundant grassy vegetation; bottom with mud; partial shade. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group.
47. Escuintla, Palin, Rt. CA9, km 41.0, Planta Electrica, just S of Palin (15PYF4792), 1000m; 16 Jul 64, VC. Large ground pool in marshy area; water temporary, turbid, stagnant; abundant grassy, herbaceous vegetation; bottom with mud; full sun. *Ae. (Adm.) vexans*, *Cx. (Cux.) ?nigripalpus*, *Cx. (Cux.)* sp 85.
48. Guatemala, Amatitlan, W edge of Amatitlan at margin of Lago de Amatitlan (15PYG5702), 1200m; 16 Jul 64, VC. Small treehole in grove of trees at edge of lake; 1.7m above ground; water reddish brown; partial shade. *Ae. (Pro.) homoeopus*.
49. Escuintla, Amatitlan, Rt. CA9, km 32.2, about 6km S of Amatitlan, about 100m on road to "Hacienda Las Victorias" (15PYF5297?), 1200m; 16 Jul 64, VC. Large ground pool (flooded, grassy field); water temporary, clear, stagnant; abundant grassy vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group, *Cx. (Cux.)* sp 85.
50. Solola, San Andres Semetabaj, Natl. Rt. 1, km 102.3, just S of San Andres Semetabaj (15PYG 0130?), 2000m; 17 Jul 64, VC. Epiphytic bromeliad; 3m above ground. *Ae. (How.) quadrivittatus*.

## GUA Collection Records

51. Solola, San Andres Semetabaj, Natl. Rt. 1, km 102.3, just S of San Andres Semetabaj (15PYG 0130?), 2000m; 17 Jul 64, VC. Small treehole; 1.5m above ground; water reddish brown. *Ae. (Pro.) sandrae*.
52. Solola, Godinez, Natl. Rt. 1, km 91.0 (15PYG0526?), 2100m; 17 Jul 64, VC. Ditch along road; water temporary, clear, stagnant; abundant scum, algae, grassy vegetation; bottom with mud; full sun. *An. (Ano.) hectoris*.
53. Solola, Godinez, Natl. Rt. 1, km 91.4 (15PYG0526?), 2100m; 20 Jul 64, VC. Small ground pool at edge of road in grassy area; water temporary, clear, stagnant; abundant scum, algae, grassy vegetation; bottom with sand; full sun. *An. (Ano.) hectoris*.
54. Solola, Godinez, Natl. Rt. 1, km 92.7 (15PYG0426?), 2200m; 20 Jul 64, VC. Ground pool at edge of road partially under a roadcut; water temporary, turbid, stagnant; no vegetation; bottom with mud; partial shade. *An. (Ano.) hectoris*, *Cx. (Cux.) peus*, *Cx. (Cux.) pinarocampa*, *Cx. (Cux.) thriambus*, *Cx. (Ncx.)* sp 7, *Cx. (Ncx.)* sp undetermined, *Cs. (Cus.) dugesi*.
55. Solola, San Lucas Toliman, Natl. Rt. 11, about 6km S of San Lucas Toliman, near Finca Santo Tomas Perdido (15PYG0112), 1200m; 20 Jul 64, VC. Small ground pool; water temporary, brown, stagnant; no vegetation; bottom with mud; full sun. *Cx. (Cux.) thriambus*, *Cx. (Ncx.) derivator*, *Cx. (Ncx.)* sp 7.
56. Suchitepequez, Patulul, N end of (15PXF9895), 350m; 20 Jul 64, VC. Cut or broken bamboo; 1m above ground; water turbid; partial shade. *Hg. (Hag.) equinus*, *Hg. (Hag.) mesodentatus*.
57. Suchitepequez, Patulul, N end of (15PXF9895), 350m; 20 Jul 64, VC. Fallen coconut shell; water turbid; partial shade. *Hg. (Hag.) anastasionis*, *Li. durhamii*.
58. Guatemala, Villa Canales, Dept. Rt. 1, km 20 (15PYF6798?), 1300m; 22 Jul 64, WA, VC. Small ground pools in cultivated area; water temporary, clear, stagnant; some grassy vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group.
59. Guatemala, Villa Canales, Dept. Rt. 1, km 20 (15PYF6798?), 1300m; 22 Jul 64, WA, VC. Small ground pool in grassy area near coffee plantation; water temporary, yellowish brown, stagnant; abundant flotage, algae, grassy vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group, *Cx. (Cux.) peus*, *Cx. (Cux.) thriambus*.
60. Guatemala, Villa Canales, Dept. Rt. 1, km 20 (15PYF6798?), 1300m; 22 Jul 64, WA, VC. Cut bamboo. *Cx. (And.) restrictor*.
61. Guatemala, Villa Canales, Dept. Rt. 1, km 28, Lago de Amatitlan (15PYF6396?), 1200m; 22 Jul 64, WA, VC. Large artificial container (cement trough, 1 X 1.5m) in domestic area; water semipermanent, clear, stagnant; some algae; partial shade. *Cx. (Cux.) thriambus*, *Cx. (Ncx.) derivator*.
- 62-70. Not used.
71. Izabal, Morales, Bananera United Fruit Compound, NW portion of, 40m; 29 Jul 64, JZ, TZ. Cut or broken bamboo in hedge row along lake of golf course; 0.7-2m above ground; water light brown; partial shade. *Wy. (Pen.) arthro stigma*.
72. Izabal, Morales, Rio San Francisco at confluence with Rio Motagua (16PCN0412), 40m; 30 Jul 64, JZ, TZ. Cut or broken bamboo along river; 0.5-1m above ground; water light brown; partial shade. *Wy. (Pen.) arthro stigma*, *Wy. (Tri.) aporonoma*.
73. Izabal, Morales, N end of railroad bridge over Rio San Francisco (16PCN0412), 40m; 30 Jul 64, JZ, TZ. Small ground pool in banana plantation; water semipermanent, clear, stagnant, fresh; abundant herbaceous vegetation; bottom with mud, decaying vegetation; partial shade. *Ae. (Och.) angustivittatus*, *Cx. (Cux.) declarator* group, *Cx. (Cux.) interrogator*, *Cx. (Cux.) mollis*, *Cx. (Cux.) nigripalpus*.
74. Izabal, Morales, Bananera, Avenida de Rio San Francisco Michal, 40m; 31 Jul 64, JZ, TZ. Small ground pool (tire rut) in domestic area; water temporary, clear, stagnant, fresh; no vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group.
75. Izabal, Morales, Bananera, Avenida de Rio San Francisco Michal, 40m; 31 Jul 64, JZ, TZ. Borrow pit in domestic area; water temporary, turbid, stagnant, fresh; no vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group.

## GUA Collection Records

76. Izabal, Morales, Bananera, Avenida de Rio San Francisco Michal, 40m; 31 Jul 64, JZ, TZ. Small ground pool (tire rut) in domestic area; water temporary, very turbid, stagnant, fresh; no vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group.
77. Izabal, Morales, Bananera, Avenida de Rio San Francisco Michal, 40m; 31 Jul 64, JZ, TZ. Small ground pool (tire rut) in domestic area; water temporary, very turbid; some algae; bottom with mud; deep shade. *Ps. (Gra.) confinnis* group.
78. Izabal, Morales, Bananera, Avenida de Rio San Francisco Michal, 40m; 31 Jul 64, JZ, TZ. Small ground pool in domestic area; water semipermanent, clear, stagnant, fresh; abundant herbaceous vegetation; bottom with mud, decaying vegetation; full sun. *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group.
79. Izabal, Morales, Bananera, Avenida de Rio San Francisco Michal, 40m; 31 Jul 64, JZ, TZ. Ditch in domestic area; water temporary, clear, stagnant, fresh; abundant scum, herbaceous vegetation; bottom with mud, decaying vegetation; partial shade. *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group, *Ps. (Pso.) howardii*.
80. Izabal, Morales, NW of railroad and W of Bananera, 40m; 1 Aug 64, JZ, TZ. Terrestrial bromeliad along path; partial shade. *Wy. (Wyo.) celaenocephala*.
81. Izabal, Morales, NW of railroad and W of Bananera, 40m; 1 Aug 64, JZ, TZ. Terrestrial bromeliad along path; partial shade. *Wy. (Wyo.) celaenocephala*.
82. Izabal, Morales, NW of railroad and W of Bananera, 40m; 1 Aug 64, JZ, TZ. Hole in fence post along path; 2m above ground; water light brown; partial shade. *Wy. (Tri.) aporonoma*.
83. Izabal, Morales, NW of railroad and W of Bananera, 40m; 1 Aug 64, JZ, TZ. Fallen coconut shell along path; water light brown; full sun. *Li. durhamii*.
84. Izabal, Morales, Bananera United Fruit Compound, "Casa de la Playa," 40m; 3 Aug 64, WA, JZ, TZ. Epiphytic bromeliad in domestic area; 0.3m above ground; partial shade. *Wy. (Wyo.) celaenocephala*.
85. Izabal, Morales, Bananera United Fruit Compound, near United Fruit Hospital, 40m; 3 Aug 64, WA, JZ, TZ. Aroid leaf axils (taro) in domestic area; partial shade. *Cx. (Mcx.)* sp undetermined, *Tr. (Iso.) ?espini*, *Wy. (Wyo.) celaenocephala*.
86. Izabal, Morales, Bananera United Fruit Compound, near United Fruit Hospital, 40m; 3 Aug 64, WA, JZ, TZ. Cut or broken bamboo in clump at edge of golf course lake; 0.3-1.5m above ground, water light brown; partial shade. *Wy. (Pen.) arthrostigma*.
87. Izabal, Morales, Bananera United Fruit Compound, near United Fruit Hospital, 40m; 3 Aug 64, WA, JZ, TZ. Small ground pool in domestic area; water temporary, clear, stagnant, fresh; no vegetation; partial shade. *Cx. (Cux.) coronator* group.
88. Izabal, Quirigua, Quirigua Ruins (16PBM8188), 70m; 4 Aug 64, WA, JZ, TZ. Large ground pool in partial forest; water permanent, clear, stagnant, fresh; abundant scum, herbaceous vegetation; bottom with mud, decaying vegetation; deep shade. *An. (Ano.) punctimacula*, *Cx. (Mel.) conspirator*.
89. Izabal, Quirigua, Quirigua Ruins (16PBM8188), 70m; 4 Aug 64, WA, JZ, TZ. Treehole in fallen log in grassy area; 15cm above ground; water temporary, clear; bottom with decaying vegetation; full sun. *Ae. (Pro.) terreus* group.
90. Izabal, Quirigua, Quirigua Ruins (16PBM8188), 70m; 4 Aug 64, WA, JZ, TZ. Small treehole (in a bignoniaceous tree) in second growth; 1.7m above ground; water temporary, turbid, tan; partial shade. *Ae. (Pro.) terreus* group, *Cx. (And.) conservator*.
91. Not used.
92. Izabal, Quirigua, 24km S of Morales on SE branch of railroad to Quirigua, Finca Yuma (16PBM 8892), 60m; 4 Aug 64, WA, JZ, TZ. Small ground pools (tire ruts) in cultivated area; water temporary, turbid; no vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group.
93. Izabal, Quirigua, 21km S of Morales on SE branch of railroad to Quirigua, Finca El Pilar (16PB M9194), 60m; 4 Aug 64, WA, JZ, TZ. Large ground pool in plantation; water temporary, turbid; no vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group.

## GUA Collection Records

94. Izabal, Morales, 16km S of Morales on SE branch of railroad to Quirigua, Chiroqui (16PBM939 9), 50m; 4 Aug 64, WA, JZ, TZ. Pond in cultivated area; water permanent, clear, stagnant, fresh; abundant algae, floating vegetation (*Pistia*); bottom with mud; full sun. *Ad. squamipennis*, *An. (Nys.) albimanus*, *Cx. (Mel.) erraticus*, *Ma. (Man.) dyari*.
95. Izabal, Morales, 13km S of Morales on SE branch of railroad to Quirigua, El Cedro (16PBN950 1), 50m; 4 Aug 64, WA, JZ, TZ. Ditch in cultivated area; water temporary, light brown; abundant grassy, herbaceous vegetation; bottom with mud; full sun. *Ae. (Och.) scapularis*, *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group.
96. Izabal, Morales, 11km S of Morales on SE branch of railroad to Quirigua, La Vigia (16PBN960 2), 50m; 4 Aug 64, WA, JZ, TZ. Terrestrial bromeliad (pineapple, *Ananas*) at edge of railroad; full sun. *Wy. (Wyo.) celaenocephala*.
97. Izabal, Morales, Bananera, junkyard SE of United Fruit railroad shops, 40m; 6 Aug 64, WA, TZ. Small artificial container (tin can) in domestic area; water temporary, tan; no vegetation; full sun. *Cx. (Cux.) coronator* group.
98. Izabal, Morales, 0.8km S of Morales on SW branch of railroad to Quirigua (16PCN0309), 40m; 6 Aug 64, WA, TZ. Terrestrial bromeliad (pineapple, *Ananas*) in cultivated area; full sun. *Wy. (Wyo.) celaenocephala*, *Wy. (Wyo.) melanopus*.
99. Izabal, Morales, 1.6km S of Morales on SW branch of railroad to Quirigua (16PCN0308), 40m; 6 Aug 64, WA, TZ. Ditch in domestic area; water temporary, turbid, stagnant, fresh; abundant algae; bottom with mud; full sun. *Ps. (Gra.) confinnis* group.
100. Izabal, Morales, 2.5km S of Morales on SW branch of railroad to Quirigua (16PCN0308), 40m; 6 Aug 64, WA, TZ. Small ground pool (footprints in ditch) in domestic area; water temporary, turbid, stagnant, fresh; no vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group.
101. Izabal, Morales, 3km S of Morales on SW branch of railroad to Quirigua, Finca Oneida (16PCN0307), 40m; 6 Aug 64, WA. Small ground pool in grassy area along railroad; water temporary, turbid, stagnant, fresh; no vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group.
102. Izabal, Morales, 3km S of Morales on SW branch of railroad to Quirigua, Finca Oneida, near railroad branch that crosses Rio Motagua (16PCN0307), 40m; 6 Aug 64, WA, TZ. Small ground pools (hoof prints) between 2 railroad tracks; water temporary, turbid; no vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group.
103. Izabal, Morales, Train Ave. (16PCN0311?), 40m; 6 Aug 64, WA. Small ground pool in domestic area; water temporary, turbid, colored, fresh; algae present; bottom with mud; full sun. *Cx. (Cux.) coronator* group.
104. Izabal, Puerto Barrios, 0.6km from Entre Rios on road to Entre Rios from Rt. CA9 (16PCN3429), 40m; 7 Aug 64, WA, TZ. Ditch in cultivated area; water temporary, turbid, stagnant, fresh; abundant algae, grassy vegetation; bottom with mud, sand; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group.
105. Izabal, Puerto Barrios, 33km E of Entre Rios on Entre Rios Railroad, Finca El Paraiso, near tractor shed on S side of railroad (16PCN6034), 10m; 7 Aug 64, WA, TZ. Small ground pool in banana plantation; water temporary, turbid, stagnant, fresh; no vegetation; bottom with mud; full sun. *Cx. (Cux.) nigripalpus*, *Ps. (Gra.) confinnis* group.
106. Izabal, Puerto Barrios, 27km E of Entre Rios on Entre Rios Railroad, Finca La Inca, N side of tracks just E of E end of Railroad "Y" (16PCN5535), 10m; 7 Aug 64, WA, TZ. Many cut or broken bamboo internodes in second growth; 0.3-2.2m above ground; water clear, turbid and/or tan; partial shade. *Li. durhamii*, *Wy. (Pen.) arthrostroma*, *Wy. (Tri.) aporonoma*.
107. Izabal, Puerto Barrios, 26km E of Entre Rios on Entre Rios Railroad, Finca La Inca, old United Fruit Compound about 150m W of W end of Railroad "Y" (16PCN5534), 10m; 7 Aug 64, WA, TZ. Fallen coconut shell in second growth; water turbid, tan; bottom with decaying vegetation; partial shade. *Li. durhamii*.
108. Izabal, Puerto Barrios, 4.5km E of Entre Rios on Entre Rios Railroad, Blackfoot (16PCN392 7), 20m; 7 Aug 64, WA, TZ. *Heliconia* flower bracts (41 bracts from 4 inflorescences, bracts orange) in

## GUA Collection Records

second growth; 1.3-2m above ground; partial shade. *Tx. (Lyn.) superbus*, *Wy. (Dec.) pseudopecten* group.

109. Izabal, Puerto Barrios, 2.4km E of Entre Rios on Entre Rios Railroad, SW side of tracks just SE of Finca Santa Clara (16PCN3827), 30m; 7 Aug 64, WA, TZ. *Heliconia* flower bracts (same kind as in previous collection); 1.3-1.7m above ground; partial shade. *Tx. (Lyn.) superbus*.

110. Izabal, Puerto Barrios, 15km E of Entre Rios on Entre Rios Railroad, Finca Kikapoo (16PCN 4729), 10m; 7 Aug 64, WA, TZ. *Heliconia* flower bracts (from 39 bracts in 4 inflorescences) in second growth; 1.3-1.7m above ground; partial shade. *Wy. (Dec.) pseudopecten* group.

111. Izabal, Morales, Bananera, Avenida de Rio San Francisco Michal, about 150m N of railroad, 40m; 10 Aug 64, WA, TZ. Epiphytic bromeliads in domestic area; 3-5m above ground; partial shade. *Cx. (Mex.)* sp undetermined, *Wy. (Wyo.) celaenocephala*.

112. Izabal, Morales, Bananera, Avenida de Rio San Francisco Michal, 40m; 10 Aug 64, WA, TZ. Fallen coconut shell under bridge over small stream in domestic area; water turbid, brown; partial shade. *Cx. (Cux.) coronator* group, *Li. durhamii*.

113. Izabal, Morales, Bananera, Avenida de Rio San Francisco Michal, about 200m N of railroad, 40m; 10 Aug 64, WA. Small ground pool in domestic area; water temporary, turbid, fresh; some grassy vegetation; bottom with mud; partial shade. *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group.

114. Izabal, Morales, Bananera United Fruit Compound, NW portion of, 40m; 11 Aug 64, WA, TZ. Adults biting man in bamboo along marsy edge of golf course lake; 1630-1730hrs. *Ae. (Och.) angustivittatus*, *Ae. (Och.) fulvus*, *Ae. (Och.) scapularis*, *Ae. (Och.) serratus* group, *Cq. (Rhy.) nigricans*, *Ps. (Jan.) albipes*, *Ps. (Jan.) ferox*.

115. Izabal, Morales, 10km NE of Morales on railroad to Finca Los Cerritos, near Finca Los Cerritos (16PCN1210), 40m; 12 Aug 64, WA, TZ. Large artificial container (wooden) in banana plantation; water permanent, clear, fresh; no vegetation; full sun. *Cx. (Cux.) coronator* group.

115A. Guatemala, Guatemala City, Dept. Rt. 5, km 19.8, El Milagro (15PYG6124), 1500m; 1 Sept 64, WA, VC. Stream pool margin in grassy area; water temporary, clear to reddish, stagnant; abundant scum, algae, grassy vegetation; bottom with mud; full sun. *An. (Ano.) hectoris*, *Cx. (Cux.) peus*, *Cx. (Cux.)* sp 85.

115B. Guatemala, Guatemala City, Dept. Rt. 5, km 19.8, El Milagro (15PYG6124), 1500m; 1 Sept 64, WA, VC. Small ground pool (1m wide) in grassy area; water temporary, clear to reddish, stagnant; abundant scum, algae, grassy vegetation; bottom with mud; full sun. *Ae. (Adm.) vexans*, *Ae. (Och.) angustivittatus*, *Ae. (Och.) angustivittatus-trivittatus* hybrid, *An. (Ano.) hectoris*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) peus*, *Cx. (Cux.) thriambus*, *Cx. (Mel.) pilosus*, *Cx. (Mel.)* sp undetermined.

116. Guatemala, Guatemala City, Torres Campo de Marte (15PYG6817), 1500m; 2 Sept 64, WA, VC. Large ground pool in domestic area; water temporary, clear, stagnant; abundant flottage, grassy, herbaceous vegetation; bottom with mud; full sun. *An. (Ano.) hectoris*.

117. Guatemala, Guatemala City, Torres Campo de Marte (15PYG6817), 1500m; 2 Sept 64, WA, VC. Small artificial container (cement trough, 25 X 12 X 10cm deep) in domestic area; 0.5m above ground; water temporary, clear, yellowish brown; some flottage, grassy vegetation; bottom with mud, dead leaves; full sun. *Cx. (Cux.) coronator* group.

118. Guatemala, Guatemala City, Torres Campo de Marte (15PYG6817), 1500m; 2 Sept 64, WA, VC. Small artificial container (gallon can) in domestic area; water temporary, turbid; no vegetation; bottom with mud; full sun. *Cx. (And.) ?restrictor*, *Cx. (Cux.) restuans*, *Cx. (Cux.)* sp 9, *Ur. coatzacoalcos*.

119. Guatemala, Guatemala City, Torres Campo de Marte (15PYG6817), 1500m; 2 Sept 64, WA, VC. Small ground pool in grassy area; water temporary, turbid, stagnant; abundant grassy vegetation; bottom with mud; full sun. *Ae. (Och.) angustivittatus*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) restuans*, *Cx. (Mel.)* sp undetermined.

120. Guatemala, Guatemala City, Torres Campo de Marte (15PYG6817), 1500m; 2 Sept 64, WA, VC. Small ground pool in domestic area; water temporary, clear, stagnant; abundant flottage, grassy vegetation; bottom with mud; full sun. *An. (Ano.) hectoris*, *An. (Ano.) pseudopunctipennis*.

121. Guatemala, Guatemala City, "Cementerio Villa de Guadeloupe" (15PYG6719?), 1500m; 3 Sept 64, WA, VC. Small artificial container (gallon can) in domestic area; water temporary, clear, rusty; no vegetation; full sun. *Cx. (Cux.) pinarocampa*, *Cx. (Cux.) quinquefasciatus*.

## GUA Collection Records

122. Guatemala, Guatemala City, "Cementerio Villa de Guadeloupe" (15PYG6719?), 1500m; 3 Sept 64, WA, VC. Small artificial containers (cement troughs, 10 X 10 X 10cm) in domestic area; water temporary, clear, green; some algae; bottom with mud, cut grass; full sun. *Ae. (Pro.) homoeopus*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) quinquefasciatus*, *Ur. coatzacoalcos*.
123. Guatemala, Guatemala City, "Cementerio Villa de Guadeloupe" (15PYG6719?), 1500m; 3 Sept 64, WA, VC. Small artificial container (2 gallon jug) in domestic area; water temporary, muddy-green; abundant algae; bottom with mud; full sun. *Cx. (Lut.) bigoti*.
124. Guatemala, Guatemala City, "Cementerio Villa de Guadeloupe" (15PYG6719?), 1500m; 3 Sept 64, WA. Small artificial containers (2 one gallon cans) in domestic area; water temporary, clear, brown; no vegetation; full sun. *Cx. (Cux.) coronator* group, *Cx. (Cux.) pinarocampa*, *Cx. (Cux.) quinquefasciatus*.
125. Guatemala, Guatemala City, "Hipodromo del Norte" (15PYG6922?), 1500m; 4 Sept 64, WA, VC. Cut or broken bamboo in park; water clear; partial shade. *Ae. (Pro.) sandrae* (holotype), *Cx. (Cux.) pinarocampa*.
126. Retalhuleu, Champerico, Natl. Rt. 9S, km 223.3, 0.3km from center of Champerico (15PXF1881), near sea level; 7 Sept 64, WA, VC. Large ground pool in domestic area; water temporary, turbid, stagnant, fresh; abundant scum, algae, grassy, herbaceous vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group, *Ur. lowii*.
127. Retalhuleu, Champerico, Natl. Rt. 9S, km 222.6, 1km from center of Champerico (15PXF1881), near sea level; 7 Sept 64, WA, VC. Large ground pool (75m long) used for washing clothes in grassy area; water semipermanent, turbid, reddish, stagnant, fresh; abundant grassy vegetation; detergent foam present; bottom with mud; partial-full sun. Specimens lost or discarded.
128. Retalhuleu, Champerico, Natl. Rt. 9S, km 220.6, 3km from center of Champerico (15PXF1983), 10m; 7 Sept 64, WA, VC. Several small ground pools among tall grasses along road; water temporary, turbid, reddish, stagnant, fresh; abundant algae, grassy vegetation; bottom with mud; full sun. No specimens.
129. Retalhuleu, Champerico, Natl. Rt. 9S, km 219.0, 4.6km from center of Champerico (15PXF2084), 10m; 7 Sept 64, WA, VC. Small ground pools (hoof prints) in grassy area; water temporary, turbid, reddish, stagnant, fresh; abundant grassy vegetation; bottom with mud; full sun. *Ps. (Gra.) confinnis* group.
130. Retalhuleu, San Felipe, Finca Cafetal Hamburgo (15PXG5517), 780m; 8 Sept 64, WA, VC. Cut or broken bamboo in plantation; 0.5-1.5m above ground; water clear; partial shade. *Ae. (Pro.) insolitus*, *Hg. (Hag.) mesodentatus*.
131. Retalhuleu, San Francisco Zapotitlan, Finca San Carlos Buena Vista (15PXG5916), 800m; 8 Sept 64, WA, VC. Fallen coconut shell in plantation; water dark brown; partial shade. *Tr. (Trc.) digitatum*.
- 132-133. Not used.
134. Chimaltenango, Acatenango, "Finca Armenia" (15PYG2109?), 1600m; 3 Jun 50, HD. "Treeholes." *Cx. (Cux.) pinarocampa*.
135. Chimaltenango, Acatenango (15PYG2109), 1600m; 15-20 Jun 50, HD. "Rockhole." *Cx. (Cux.) pinarocampa*, *Ur. coatzacoalcos*.
136. Chimaltenango, Yepocapa (15PYG2004), 1400m; 2 Jul 50, HD. "Treehole." *Ae. (Pro.) homoeopus*, *Cx. (Car.) metempsythus*.
137. Chimaltenango, Yepocapa (15PYG2004), 1400m; 20 Jul 50, HD. "Treehole (in guava)." *Ae. (Pro.) homoeopus*.
138. Chimaltenango, Yepocapa (15PYG2004), 1400m; 20 Jul 50, HD. "Treehole," but probably from bromeliad. *Ae. (How.) guatemala* (holotype), *Cx. (Car.) metempsythus*, *Wy. (Wyo.) pertinans* group ?sp Z.
139. Chimaltenango, Yepocapa (15PYG2004), 1400m; 24 Jul 50, HD. "Treehole (in Jocotillo)," but probably from bromeliad. *Ae. (How.) guatemala*.
140. Chimaltenango, Yepocapa (15PYG2004), 1400m; 27 Jul 50, HD. "Treehole (in avocado, Persea)." *Ae. (Pro.) homoeopus*, *Ae. (Pro.) insolitus*.

## GUA Collection Records

141. Chimaltenango, Yepocapa (15PYG2004), 1400m; 29 Jul 50, HD. "Treehole (in amate, *Ficus*)." *Ae. (Pro.) homoeopus*, *Ae. (Pro.) insolitus*.
142. Chimaltenango, Yepocapa (15PYG2004), 1400m; 3 Aug 50, HD. "Treehole (in guava)." *Ae. (Pro.) homoeopus*.
143. Chimaltenango, Yepocapa, "Finca Santa Isabel" (15PYG2004?), 1400m; 3 Aug 50, HD. "Treehole (in guava)." *Ae. (Pro.) homoeopus*.
144. Chimaltenango, Acatenango, "Finca Naranjo" (15PYG2109?), 1600m; 6 Aug 50, HD. "Rock-hole." *Cx. (Ncx.)* sp undetermined.
145. Chimaltenango, Yepocapa, "Finca Palo Verde" (15PYG2004?), 1400m; 9 Aug 50, HD. "Treehole (in amate, *Ficus*)," but probably from bromeliad. *Wye. (Wyo.) pertinans* group ?sp Z.
146. Chimaltenango, Yepocapa (15PYG2004), 1400m; 9 Aug 50, HD. "Treehole (in amate, *Ficus*)." *Ae. (Pro.) terreus* group.
147. Chimaltenango, Yepocapa, "Rio Queleya" (15PYG2004?), 1400m; 22 Sept 50, HD. *Ae. (Pro.) homoeopus*, *Ur. coatzacoalcos*.
148. Chimaltenango, Yepocapa, "Vuana Vista" (15PYG2004?), 1400m; 23 Sept 50, HD. "Tree-hole (in avocado, *Persea*)." *Cx. (Cux.) pinarocampa*, *Ur. coatzacoalcos*.
149. Chimaltenango, Yepocapa, "Pachup" (15PYG2004?), 1400m; 28 Sept 50, HD. "Treehole (in avocado, *Persea*)." *Ae. (Pro.) homoeopus*.
150. Chimaltenango, Acatenango, "Finca La Esperanza Perez" (15PYG2109?), 1600m; 21 Oct 50, HD. Ground water, "poso de arena." *An. (Ano.) hectoris*, *Cx. (Ncx.)* sp undetermined.
151. Chimaltenango; Jun-Oct 50, HD. Dalmat specimens without data. *Ae. (Pro.) insolitus*, *Cx. (And.) restrictor*.

## GUA Locality Index

## ALTA VERAPAZ

*Trece Aguas* (16PBN0204), 800m.—18, 19, 33.

## CHIMALTENANGO

*Acatenango* (15PYG2109), 1600m. "Finca Armenia."—134. "Finca La Esperanza Perez."—150. "Finca Naranjo."—144. Not specified.—135.

*Yepocapa* (15PYG2004), 1400m. "Finca Santa Isabel."—143. "Finca Palo Verde."—145. "Pachup."—149. "Rio Queleya."—147. "Vuana Vista."—148. Not specified.—136, 137, 138, 139, 140, 141, 142, 146.

Locality not specified.—151.

## ESCUINTLA

*Amatitlan*. Rt. CA9, km 31.3, about 5km S of Amatitlan, "Finca La Trampa" (15PYF5398?), 1200m.—45, 46. Rt. CA9, km 32.2, about 6km S of Amatitlan, "Hacienda Las Victorias" (15PYF5297?), 1200m.—49.

*El Carrizo*. Rt. CA9, km 115.5, NE of bridge over Brazo del Rio Maria Linda, just W of El Carrizo (15PYF4341), near sea level.—34.

*Escuintla*. Rt. CA9, km 63.8, about 7km S of Escuintla (15PYF3574), 160m.—39. Rt. CA9, km 62.5, about 6km S of Escuintla (15PYF3575), 180m.—40, 41.

*Otacingo*. Rt. CA9, km 97.5, just S of Otacingo (15PYF2846), 15m.—37. Rt. CA9, km 87.5, about 10km N of Otacingo (15PYF2955), 35m.—38.

*Palin*. Rt. CA9, km 41.0, Planta Electrica, just S of Palin (15PYF4792), 1000m.—47.

*Puerto de San Jose*. Rt. CA9, km 108.2, just N of Puerto de San Jose (15PYF3540), near sea level.—35. Rt. CA9, km 106.1, about 2km N of Puerto de San Jose (15PYF3342), 5m.—36.

*Santa Lucia Cotzumalguapa*. Rt. CA2, km 86.6, Rio Pantaleon (15PYF1685), 420m.—32. Finca Aguna, Quebrada Platanares (15PYF0683), 200m.—31.

## GUA Locality Index

## GUATEMALA

*Bethania*, Rio El Naranjo (15PYG6520), 1500m.—44.

*Guatemala City*. “Cementerio Villa de Guadeloupe” (15PYG6719?), 1500m.—121, 122, 123, 124. “Hipodromo del Norte” (15PYG6922?), 1500m.—125. Hotel Maya Excelsior, 7 Avenida (15PYG6616), 1500m.—17. Rio Negro, at end of 32 Calle, Zona 5 (15PYG6817), 1500m.—43. Torres Campo de Marte (15PYG6817), 1500m.—116, 117, 118, 119, 120.

*Lago de Amatitlan*. Wedge of Amatitlan at margin of lake (15PYG5702), 1200m.—48. Dept. Rt. 1, km 28 (15PYF6396?), 1200m.—61.

*El Milagro*, Dept. Rt. 5, km 19.8 (15PYG6124), 1500m.—115A, 115B.

*Mixco* (15PYG5818), 1700m, near. 13.1km W of Guatemala City on Rt. CA1.—42.

*Villa Canales*. Dept. Rt. 1, km 20 (15PYF6798?), 1300m.—58, 59, 60.

## IZABAL

*Blackfoot*. 4.5km E of Entre Rios on Entre Rios Railroad (16PCN3927), 20m.—108.

*Chiroqui*. 16km S of Morales on SE branch of railroad to Quirigua (16PBM9399), 50m.—94.

*El Cedro*. 13km S of Morales on SE branch of railroad to Quirigua (16PBN9501), 50m.—95.

*Entre Rios*. 0.6km from Entre Rios on road to Entre Rios from Rt. CA9 (16PCN3429), 40m.—104.

*Finca El Paraiso*. 33km E of Entre Rios on Entre Rios Railroad (16PCN6034), 10m.—105.

*Finca El Pilar*. 21km S of Morales on SE branch of railroad to Quirigua (16PBM9194), 60m.—93.

*Finca Kikapoo*. 15km E of Entre Rios on Entre Rios Railroad (16PCN4729), 10m.—110.

*Finca La Inca*. 26-27km E of Entre Rios on Entre Rios Railroad (16PCN5534, 5535), 10m.—106, 107.

*Finca Los Cerritos*. 10km NE of Morales on railroad to Finca Los Cerritos (16PCN1210), 40m.—115.

*Finca Oneida*. 3km S of Morales on SW branch of railroad to Quirigua (16PCN0307), 40m.—101, 102.

*Finca Santa Clara*. 2.4km E of Entre Rios on Entre Rios Railroad, just SE of Finca Santa Clara (16PCN3827), 30m.—109.

*Finca Yuma*. 24km S of Morales on SE branch of railroad to Quirigua (16PBM8892), 60m.—92.

*La Vigia*. 11km S of Morales on SE branch of railroad to Quirigua (16PBN9602), 50m.—96.

*Mojaca*. Rt. CA9, km 236.3 (16PBN9510), 70m.—10, 11, 12.

*Morales* (16PCN0311), 40m, and vicinity. “Train Avenue.”—103. Rio San Francisco near railroad and Rio Motagua (16PCN0412), 40m.—72, 73. Bananera, 40m.—74, 75, 76, 77, 78, 79, 97, 111, 112, 113. Bananera, W of, and NW of railroad, 40m.—80, 81, 82, 83. Bananera United Fruit Compound, 40 m.—1, 2, 3, 4, 71, 84, 85, 86, 87, 114. 0.8-2.5km S of Morales on SW branch of railroad to Quirigua (16PCN0308, 0309), 40m.—98, 99, 100.

*Puerto Matias de Galvez*. Dirt road from turnaround at beach W of port (16PCN2435), near sea level.—5, 5A, 6.

*Quebrada Grande*. Rt. CA9, km 253 (16PCN1017), 70m.—9. Rt. CA9, km 255.6-7 (16PCN1218), 70m.—7, 7A, 8.

*Quirigua Ruins* (16PBM8188), 70m.—88, 89, 90.

## RETALHULEU

*Champerico*. Natl. Rt. 9S, km 223.3, 0.3km from center of Champerico (15PXF1881), near sea level.—126. Natl. Rt. 9S, km 222.5-6, 1km from center of Champerico (15PXF1881), near sea level.—21, 127. Natl. Rt. 9S, km 220.6, 3km from center of Champerico (15PXF1983), 10m.—128. Natl. Rt. 9S, km 219.0, 4.6km from center of Champerico (15PXF2084), 10m.—129.

*Finca Cafetal Hamburgo* (15PXG5517), 780m.—130.

*Finca La Perla*. Junction of Natl. Rt. 9S and road to Finca La Perla (15PXG509162), 580m.—27. Road to Finca La Perla, 0.4km from Natl. Rt. 9S (15PXG512160), 580m.—28.

*Finca San Carlos Buena Vista* (15PXG5916), 800m.—131.

*Rio Mulua*. Rt. CA2, km 176.6, just E of bridge over Rio Mulua (15PXG467091), 300m.—29.

*San Felipe Cemetery* (15PXG505165), 580m.—22, 22A, 26.



## GUA Locality Index

## SOLOLA

*Godinez*. Natl. Rt. 1, km 91.0-92.7 (15PYG0426, 0526), 2100-2200m.—52, 53, 54.

*Finca Santo Tomas Perdido*. Natl. Rt. 11, about 6km S of San Lucas Toliman (15PYG0112), 1200 m.—55.

*Los Encuentros*. Rt. CA1, km 126, 1km from Los Encuentros (15PXG9842), 2600m.—15, 25.

*San Andres Semetabaj*. Natl. Rt. 1, km 102.3, just S of San Andres (15PYG0130?), 2000m.—50, 51.

## SUCHITEPEQUEZ

*Patulul* (15PXF9895), 350m.—56, 57.

*Rio Bravo*. Rt. CA2, km 133.0 (15PXF7894?), 150m.—24.

*San Antonio Suchitepequez*. Rt. CA2, km 148.1, S edge of San Antonio (15PXG7007), 380m.—23, 30.

## TOTONICAPAN

*Totonicapan*. Natl. Rt. 1, km 155.1, 14.8km E of Dept. Rt. 1, about 20km E of Totonicapan (15PXG8648), 3200m.—16, 20.

## ZACAPA

*Dona Maria*. Rt. CA9, km 179.3 (16PBM5882), 100m.—13.

*Teculután*. Rt. CA9, km 123, Quebrada de Agua (16PBM0859), 240m.—14, 14A.

## GUA Species Index

*Aedeomyia squamipennis* (Lynch Arribalzaga 1878).—94.

*Aedes (Aedimorphus) vexans* (Meigen 1830).—47, 115B.

*Aedes (Howardina) guatemala* Berlin 1969.—138 (holotype), 139.

*Aedes (Howardina) quadrivittatus* (Coquillett 1902).—15, 50.

*Aedes (Ochlerotatus) angustivittatus* Dyar and Knab 1907.—4, 12, 31, 34, 73, 114, 115B, 119.

*Aedes (Ochlerotatus) angustivittatus-trivittatus* hybrid.—115B.

*Aedes (Ochlerotatus) fulvus* (Wiedemann 1828).—114.

*Aedes (Ochlerotatus) scapularis* (Rondani 1848).—4, 7A, 12, 34, 95, 114.

*Aedes (Ochlerotatus) serratus* group: *nubilus*, *serratus* and/or related sp.—12, 114.

*Aedes (Ochlerotatus) taeniorhynchus* (Wiedemann 1821).—4, 34.

*Aedes (Protomacleaya) daryi* Schick 1970.—33 (holotype).

*Aedes (Protomacleaya) homoeopus* Dyar 1922.—48, 122, 136, 137, 140, 141, 142, 143, 147, 149.

*Aedes (Protomacleaya) impostor* Schick 1970.—33 (holotype).

*Aedes (Protomacleaya) insolitus* (Coquillett 1906).—130, 140, 141, 151.

*Aedes (Protomacleaya) podographicus* Dyar and Knab 1906.—29, 38, 39, 40, 41, ?42.

*Aedes (Protomacleaya) sandrae* Zavortink 1972.—41, 44, 51, 125 (holotype).

*Aedes (Protomacleaya) terreus* group: any of several spp.—89, 90, 146.

*Anopheles (Anopheles) hectoris* Giaquinto-Mira 1931.—43, 52, 53, 54, 115A, 115B, 116, 120, 150.

*Anopheles (Anopheles) pseudopunctipennis* Theobald 1901.—32, 120.

*Anopheles (Anopheles) punctimacula* Dyar and Knab 1906.—88.

*Anopheles (Nyssorhynchus) albimanus* Wiedemann 1820.—14, 21, 35, 45, 46, 49, 75, 92, 94, 95, 104, 126.

*Coquillettidia (Rhynchotaenia) nigricans* (Coquillett 1904).—4, 12, 114.

*Corethrella appendiculata* Grabham 1906.—22.

*Culex (Anoediopora) conservator* Dyar and Knab 1906.—90.

*Culex (Anoediopora) restrictor* Dyar and Knab 1906.—22, 39, 40, 44, 60, ?118, 151.

*Culex (Carrollia) bihaicolus* Dyar and Nunez Tovar 1927.—33.

*Culex (Carrollia) metempsychus* Dyar 1921.—136, 138.

*Culex (Culex) corniger* Theobald 1903.—17, 23.

## GUA Species Index

- Culex (Culex) coronator* group: *coronator*, *ousqua* and/or related spp.—14, 21, 23, 26, 30, 35, 36, 46, 49, 58, 59, 74, 75, 76, 78, 79, 87, 92, 93, 95, 97, 100, 101, 102, 103, 104, 112, 113, 115, 115B, 117, 119, 122, 124, 126.
- Culex (Culex) declarator* group: *declarator*, *proclamator* or related sp.—73.
- Culex (Culex) inflictus* group: *inflictus* or related sp.—5A.
- Culex (Culex) interrogator* Dyar and Knab 1906.—73.
- Culex (Culex) mollis* Dyar and Knab 1906.—26, 73.
- Culex (Culex) nigripalpus* Theobald 1901.—22A, 31, 35, 36, ?37, ?47, 73, 105.
- Culex (Culex) peus* Speiser 1904.—54, 59, 115A, 115B.
- Culex (Culex) pinarocampa* Dyar and Knab 1908.—54, 121, 124, 125, 134, 135, 148.
- Culex (Culex) quinquefasciatus* Say 1823.—1, 17, 21, 23, 121, 122, 124.
- Culex (Culex) restuans* Theobald 1901.—118, 119.
- Culex (Culex) thriambus* Dyar 1921.—54, 55, 59, 61, 115B.
- Culex (Culex)* sp 9: sp of unknown affinities.—118.
- Culex (Culex)* sp 85: sp presently confused with *chidesteri*.—47, 49, 115A.
- Culex (Lutzia) bigoti* Bellardi 1862.—123.
- Culex (Melanoconion) conspirator* Dyar and Knab 1906.—88.
- Culex (Melanoconion) erraticus* (Dyar and Knab 1906).—94.
- Culex (Melanoconion) iolambdis* Dyar 1918.—43.
- Culex (Melanoconion) pilosus* (Dyar and Knab 1906).—115B.
- Culex (Melanoconion)* sp undetermined.—21, 115B, 119.
- Culex (Micraedes) erethyzonfer* Galindo and Blanton 1954.—18, 19.
- Culex (Microculex)* sp undetermined.—10, 85, 111.
- Culex (Neoculex) derivator* Dyar and Knab 1906.—43, 55, 61.
- Culex (Neoculex)* sp 7: near *arizonensis*.—54, 55.
- Culex (Neoculex)* sp undetermined.—43, 54, 144, 150.
- Culiseta (Culiseta) dugesi* Dyar and Knab 1906.—20, 54.
- Deinocerites cancer* Theobald 1901.—5.
- Deinocerites epitedeus* (Knab 1907).—5, 5A, 6.
- Dixella* sp undetermined.—43.
- Haemagogus (Haemagogus) anastasionis* Dyar 1921.—57.
- Haemagogus (Haemagogus) equinus* Theobald 1903.—12, 56.
- Haemagogus (Haemagogus) mesodentatus* Komp and Kumm 1938.—22, 24, 27, 28, 29, 31, 56, 130.
- Limatus durhamii* Theobald 1901.—57, 83, 106, 107, 112.
- Mansonia (Mansonia) dyari* Belkin, Heinemann and Page 1970.—12, 37, 94.
- Meringodixa* sp undetermined.—16.
- Orthopodomyia kummi* Edwards 1939.—25.
- Psorophora (Grabhamia) confinnis* group: *columbiae*, *toltecum* or related sp.—14, 74, 76, 77, 78, 79, 92, 95, 99, 100, 102, 105, 113, 129.
- Psorophora (Janthinosoma) albipes* (Theobald 1907).—4, 7A, 12, 34, 114.
- Psorophora (Janthinosoma) ferox* (Humboldt 1819).—4, 12, 114.
- Psorophora (Janthinosoma) varipes* (Coquillett 1904).—34.
- Psorophora (Psorophora) howardii* Coquillett 1901.—14, 14A, 79.
- Toxorhynchites (Lynchiella) grandiosus* (Williston 1900).—42.
- Toxorhynchites (Lynchiella) moctezuma* (Dyar and Knab 1906).—13, 41.
- Toxorhynchites (Lynchiella) superbus* (Dyar and Knab 1906).—108, 109.
- Trichoprosopon (Ctenogoeldia) magnum* (Theobald 1905).—7.
- Trichoprosopon (Isostomyia) ?espini* (Martini 1914).—85.
- Trichoprosopon (Trichoprosopon) digitatum* (Rondani 1848).—4, 33, 131.
- Uranotaenia coatzacoalcos* Dyar and Knab 1906.—118, 122, 135, 147, 148.
- Uranotaenia lowii* Theobald 1901.—126.
- Uranotaenia* sp 6: near *paludosa*.—43.

## GUA Species Index

- Wyeomyia (Decamyia) pseudopecten* group: sp near *pseudopecten*.—108, 110.  
*Wyeomyia (Decamyia) rorotai* group: sp near *rorotai*.—8.  
*Wyeomyia (Pentemyia) arthrostigma* (Lutz 1905).—3, 10, 22, ?22A, 24, 29, 71, 72, 86, 106.  
*Wyeomyia (Triamyia) aporonoma* Dyar and Knab 1906.—11, ?19, 33, 72, 82, 106.  
*Wyeomyia (Wyeomyia) abebela* Dyar and Knab 1908.—18, 19.  
*Wyeomyia (Wyeomyia) celaenocephala* Dyar and Knab 1906.—2, 80, 81, 84, 85, 96, 98, 111.  
*Wyeomyia (Wyeomyia) melanopus* Dyar 1919.—98.  
*Wyeomyia (Wyeomyia) pertinans* group sp B: possibly *ablabes* or *guatemala*, near sp S, T and Y.—18, 19.  
*Wyeomyia (Wyeomyia) pertinans* group ?sp Z: possibly *guatemala*, near sp X.—138, 145.  
*Wyeomyia (Wyeomyia) pertinans* group sp undetermined.—2.  
*Wyeomyia (Wyeomyia) ?sp 79*: near *melanopus*.—18.

## EL SALVADOR

Code: SAL

The collections from El Salvador available to the project are identified by one of 3 printed labels: //SAL [handwritten 1-19]/El Salvador 64-65/Mosq Mid Amer// for collections 1-10 made expressly for the project by A. Quinonez and collections 11-19 made by cooperator J. Austin; //SAL [handwritten 20-47]/El Salvador 66-67/Mosq Mid Amer// for collections made by cooperator J. Austin; and //SAL [handwritten 48-56]/El Salvador 7/Mosq Mid Amer// for collections made expressly for the project by J. N. Belkin and cooperator S. G. Breeland and for material received from cooperator R. F. Darsie. See Summary of Collections below for the dates and general areas where these collections were made.

The localities, elevations and grid coordinates were determined from the following maps: World 1:250,000, series 1501, sheets ND16-9, 16-10, ed. 1; El Salvador 1:50,000, series E753, several sheets, ed. 1-AMS. The U.S. Board on Geographic Names gazetteer for El Salvador, 1956 was used for the location and spelling of some localities.

## Summary of Collections

SAL 1-10	1-4 Aug 1964	A. Quinonez (AQ)	Sonsonate
SAL 11-47	21 Sept 1965-1 Jul 1966	J. R. Austin (JA)	La Union, San Miguel
SAL 48-53	25 Jul, 5-6 Nov 1971	J. N. Belkin (JB), S. G. Breeland (SB)	La Libertad, San Salvador, Sonsonate
SAL 54-56	CDC colonies sent by R. F. Darsie, Nov 1974		La Libertad, San Vincente

## SAL Collection Records

1. Sonsonate, Sonsonate, Canton El Castano (16PBL1514), 300m; 1 Aug 64, AQ. Treehole in second growth; 3.5m above ground; water dark; partial shade. *Ae. (Pro.) podographicus*, *Cx. (And.) restrictor*, *Tx. (Lyn.) ?moctezuma*.
2. Sonsonate, Sonsonate, Canton El Castano (16PBL1514), 300m; 1 Aug 64, AQ. Treehole in second growth; 2m above ground; water dark. *Ae. (Pro.) podographicus*, *Hg. (Hag.) regalis*, *Or. kummi*, *Tx. (Lyn.) moctezuma*.
3. Sonsonate, Sonsonate, Canton El Castano (16PBL1514), 300m; 1 Aug 64, AQ. Treehole in second growth; 3m above ground; water dark; deep shade. *Cx. (And.) restrictor*, *Cx. (Cux.) declarator* group, *Cx. (Cux.) ?mollis*, *Tx. (Lyn.) ?moctezuma*.
4. Sonsonate, Sonsonate, road to Acajutla; 2 Aug 64, AQ. Cut or broken bamboo in second growth; water clear; partial shade. *Hg. (Hag.) equinus*, *Hg. (Hag.) regalis*, *Wy. (Pen.) arthrostigma*.
5. Sonsonate, Sonsonate, Colonia Acajutla (16PAL9304), 20m; 3 Aug 64, AQ. Epiphytic bromeliads in clearing; 5.5m above ground; full sun. *Wy. (Wyo.) sp 78*.
6. Sonsonate, Sonsonate, km 5 on road to Acajutla (16PBL0213?), ?150m; 3 Aug 64, AQ. Cut or broken bamboo in second growth; water clear; partial shade. *Hg. (Hag.) equinus*.

## SAL Collection Records

7. Sonsonate, Sonsonate, km 5 on road to Acajutla (16PBL0213?), ?150m; 3 Aug 64, AQ. Fallen coconut shell near house; water clear; partial shade. *Hg. (Hag.) equinus*.
8. Sonsonate, Sonsonate, "Finca San Dionisio"; 4 Aug 64, AQ. Treehole in second growth; 2m above ground; partial shade. *Ae. (Pro.) podographicus*, *Cx. (And.) restrictor*, *Hg. (Hag.) equinus*.
9. Sonsonate, Sonsonate, "Finca San Dionisio"; 4 Aug 64, AQ. Epiphytic bromeliads in forest; 10 m above ground. *Tx. (Lyn.)* sp undetermined, *Wy. (Wyo.)* sp 78.
10. Sonsonate, Sonsonate, "Finca San Dionisio"; 4 Aug 64, AQ. Cut or broken bamboo in second growth; water clear; partial shade. *Ae. (Pro.) podographicus*, *Hg. (Hag.) equinus*, *Hg. (Hag.) regalis*, *Or. kummi*, *Tx. (Lyn.) ?moctezuma*.
11. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 21 Sept 65, JA. Adults. *Ae. (Och.) scapularis*, *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Mel.)* sp undetermined.
12. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 22 Sept 65, JA. Adults. *An. (Nys.)* sp undetermined, *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Ma. (Man.) dyari*, *Ur. socialis*.
13. San Miguel, about 25km S of San Miguel and 3km W of Laguna de Olomega, Playa Grande (16PCK7872), 60m; 23 Sept 65, JA. Adults. No specimens.
14. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 23 Sept 65, JA. Adults. *Cq. (Rhy.) nigricans*, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
15. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 27 Sept 65, JA. Adults. *Cq. (Rhy.) nigricans*, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
16. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 5 Oct 65, JA. Adults. *Cq. (Rhy.) nigricans*.
17. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 13 Oct 65, JA. Adults. *Cq. (Rhy.) nigricans*.
18. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 15 Oct 65, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
19. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 22 Oct 65, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Mel.)* sp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
20. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 11 Jan 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Mel.) erraticus*, *Ma. (Man.)* sp undetermined.
21. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 14 Jan 66, JA. Adults. *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
22. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 15 Feb 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.)* sp undetermined.
23. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 23 Feb 66, JA. Adults. *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.)* sp undetermined.
24. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 24 Feb 66, JA. Adults. *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
25. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 2 Mar 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.)* sp undetermined.
26. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 3 Mar 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* spp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
27. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 8 Mar 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
28. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 9 Mar 66, JA. Adults. *An. (Ano.) pseudopunctipennis*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* spp undetermined, *Ma. (Man.)* sp undetermined.

## SAL Collection Records

29. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 10 Mar 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* spp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
30. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 16 Mar 66, JA. Adults. *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.)* sp undetermined.
31. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 17 Mar 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* spp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
32. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 18 Mar 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
33. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 23 Mar 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* spp undetermined, *Ma. (Man.)* sp undetermined.
34. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 24 Mar 66, JA. Adults. *An. (Ano.) pseudopunctipennis*, *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.) quinquefasciatus*, *Cx. (Cux.)* spp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
35. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 30 Mar 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Mel.) erraticus*, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
36. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 31 Mar 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
37. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; Apr 66, JA. Adults. *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.)* sp undetermined.
38. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 13 Apr 66, JA. Adults. *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
39. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 14 Apr 66, JA. Adults. *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined.
40. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 4 May 66, JA. Adults. *An. (Ano.) pseudopunctipennis*, *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* spp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
41. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 5 May 66, JA. Adults. *Ae. (Och.) scapularis*, *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Cx. (Mel.) erraticus*, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
42. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 11 May 66, JA. Adults. *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Cx. (Mel.) erraticus*, *Cx. (Mel.)* sp undetermined, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
43. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 24 May 66, JA. Adults. *Ae. (Och.) scapularis*, *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Cx. (Mel.) erraticus*, *Ma. (Man.) dyari*.
44. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 26 May 66, JA. Adults. *Ae. (Och.) taeniorhynchus*, *Cq. (Rhy.) nigricans*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Cx. (Mel.) erraticus*, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.
45. La Unión, Loma Larga, Canton El Ciprés, about 14km S of Rt. CA1 on Rt. CA2 (16PDK0263), 120m; 24 Jun 66, JA. Adults. *Ae. (Och.) scapularis*, *Ae. (Och.) taeniorhynchus*, *Cx. (Cux.) nigripalpus*, *Ma. (Man.)* sp undetermined, *Ps. (Gra.) confinnis* group.
46. La Unión, about 4km E of Intipuca and 1.5km S of Rt. CA2, El Marañón (16PCK8957), 20m; 1 Jul 66, JA. Adults. *Cq. (Rhy.) fasciolata* group.
47. San Miguel, about 20km E of Usulután, Laguna El Jocotal (16PCK6573), 20m; 1 Jul 66, JA. Adults. *Cx. (Cux.) nigripalpus*.

## SAL Collection Records

48. La Libertad, about 5km W of Nueva San Salvador on Rt. CA1, Balneario Los Chorros (16PBL4815), 700m; 25 Jul 71, JB, SB. Leaf axils of terrestrial plant (native aroid, 2 axils in 1 plant) at edge of clearing; partial shade. *Wy. (Wyo.) ?mitchellii*.

49. San Salvador, about 9km S of San Salvador on Rt. 3A, Parque Balboa (16PBL6308), 980m; 5 Nov 71, JB, SB. Cut bamboo in clearing; partial shade. *Ae. (Pro.) homoeopus*, *Ae. (Stg.) aegypti*, *Hg. (Hag.) equinus*.

50. San Salvador, about 9km S of San Salvador on Rt. 3A, Parque Balboa (16PBL6308), 980m; 5 Nov 71, JB, SB. Treeholes (2 small) at edge of road and interior of park; partial shade. *Tx. (Lyn.) moctezuma*.

51. La Libertad, about 5km W of Nueva San Salvador on Rt. CA1, Balneario Los Chorros (16PBL4815), 700m; 6 Nov 71, JB, SB. Leaf axils of terrestrial plants (native aroid, 2 axils in 2 plants) at edge of clearing; partial shade. *Wy. (Wyo.) pertinans* group.

52. Sonsonate, just N of Volcan de Izalco, Parque Cerro Verde (16PBL1629), 1700m; 6 Nov 71, JB, SB. Leaf axils of epiphytic bromeliads (2 spp) at edge of clearing; 4-6m above ground; partial-full sun. *Ae. (How.) allotecnon*.

53. Sonsonate, Izalco, Parque Atecozotl (16PBL118211), 430m; 6 Nov 71, JB, SB. Treeholes (several small depressions in fallen tree, probably a *Ficus*) at edge of clearing; 0.3-1.5m above ground; full sun. *Cx. (And.) restrictor*, *Cx. (Cux.) corniger*, *Cx. (Cux.) declarator* group, *Hg. (Hag.) equinus*.

54. San Vicente, Apastepeque, Laguna de Apastepeque (16PCL1114), 510m. Colony "APA" maintained by CDC, Atlanta, Georgia. *An. (Nys.) albimanus*.

55. La Libertad, about 10km E of Libertad on Rt. CA2, Hacienda Melara (16PBK6091?), 25m. Colony "XMS" maintained by CDC, Atlanta, Georgia. *An. (Nys.) albimanus*.

56. La Libertad, about 14km E of La Libertad on Rt. CA2, Congrejera (16PBK6489), 15m. Colony "CA109a" maintained by CDC, Atlanta, Georgia. *An. (Nys.) albimanus*.

## SAL Locality Index

## LA LIBERTAD

*Balneario Los Chorros*, about 5km W of Nueva San Salvador on Rt. CA1 (16PBL4815), 700m.—48, 51.

*Congrejera*, about 14km E of La Libertad on Rt. CA2 (16PBK6489), 15m.—56.

*Hacienda Melara*, about 10km E of La Libertad on Rt. CA2 (16PBK6091?), 25m.—55.

## LA UNION

*Canton El Cipres*, about 14km S of Rt. CA1 on Rt. CA2 (16PDK0263), 120m.—45.

*El Maranon*, about 4km E of Intipuca and 1.5km S of Rt. CA2 (16PCK8957), 20m.—46.

## SAN MIGUEL

*Laguna El Jocotal*, about 20km E of Usulután and 3km S of Rt. CA2 (16PCK6573), 20m.—11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 47.

*Playa Grande*, about 25km S of San Miguel and 3km W of Laguna de Olomega (16PCK7872), 60m.—13.

## SAN SALVADOR

*Parque Balboa*, about 9km S of San Salvador on Rt. 3A (16PBL6308), 980m.—49, 50.

## SAN VICENTE

*Laguna de Apastepeque* (16PCL1114), 510m.—54.

## SONSONATE

*Canton El Castano* (16PBL1514), 300m.—1, 2, 3.

*Colonia Acajutla* (16PAL9304), 20m.—5.

"*Finca San Dionisio*."—8, 9, 10.

## SAL Locality Index

- Parque Atecozol* (16PBL118211), 430m.—53.  
*Parque Cerro Verde* (16PBL1629), 1700m.—52.  
*Sonsonate*, near. Road to Acajutla.—4, 6, 7.

## SAL Species Index

- Aedes (Howardina) allotecnon* Kumm, Komp and Ruiz 1940.—52.  
*Aedes (Ochlerotatus) scapularis* (Rondani 1848).—11, 41, 43, 45.  
*Aedes (Ochlerotatus) taeniorhynchus* (Wiedemann 1821).—44, 45.  
*Aedes (Protomacleaya) homoeopus* Dyar 1922.—49.  
*Aedes (Protomacleaya) podographicus* Dyar and Knab 1906.—1, 2, 8, 10.  
*Aedes (Stegomyia) aegypti* (Linnaeus 1762).—49.  
*Anopheles (Anopheles) pseudopunctipennis* Theobald 1901.—28, 34, 40.  
*Anopheles (Nyssorhynchus) albimanus* Wiedemann 1820.—54, 55, 56.  
*Anopheles (Nyssorhynchus)* sp undetermined.—12.  
*Coquillettidia (Rhynchoetaenia) fasciolata* group: *fasciolata*, *venezuelensis* or related sp.—46.  
*Coquillettidia (Rhynchoetaenia) nigricans* (Coquillett 1904).—11, 12, 14, 15, 16, 17, 18, 19, 20, 22, 25, 26, 27, 29, 31, 32, 33, 34, 35, 36, 39, 40, 41, 43, 44.  
*Culex (Anoedioporpa) restrictor* Dyar and Knab 1906.—1, 3, 8, 53.  
*Culex (Culex) corniger* Theobald 1903.—53.  
*Culex (Culex) declarator* group: *declarator*, *proclamator* or related sp.—3, 53.  
*Culex (Culex) ?mollis* Dyar and Knab 1906.—3.  
*Culex (Culex) nigripalpus* Theobald 1901.—11, 12, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 47.  
*Culex (Culex) quinquefasciatus* Say 1823.—34.  
*Culex (Culex)* sp undetermined.—21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44.  
*Culex (Melanoconion) erraticus* (Dyar and Knab 1906).—20, 35, 41, 42, 43, 44.  
*Culex (Melanoconion)* sp undetermined.—11, 19, 42.  
*Haemagogus (Haemagogus) equinus* Theobald 1903.—4, 6, 7, 8, 10, 49, 53.  
*Haemagogus (Haemagogus) regalis* Dyar and Knab 1906.—2, 4, 10.  
*Mansonia (Mansonia) dyari* Belkin, Heinemann and Page 1970.—12, 14, 15, 18, 19, 21, 24, 26, 27, 29, 31, 32, 34, 35, 36, 38, 40, 41, 42, 43, 44.  
*Mansonia (Mansonia)* sp undetermined.—14, 15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40, 41, 42, 44, 45.  
*Orthopodomyia kummi* Edwards 1939.—2, 10.  
*Psorophora (Grabhamia) confinnis* group: *columbiae*, *toltecum* or related sp.—45.  
*Toxorhynchites (Lynchiella) moctezuma* (Dyar and Knab 1906).—?1, 2, ?3, ?10, 50.  
*Toxorhynchites (Lynchiella)* sp undetermined.—9.  
*Uranotaenia socialis* Theobald 1901.—12.  
*Wyeomyia (Pentemyia) arthrostigma* (Lutz 1905).—4.  
*Wyeomyia (Wyeomyia) ?mitchelli* (Theobald 1905).—48.  
*Wyeomyia (Wyeomyia) pertinans* group: any of several closely related spp such as *ablaves* or *mitchelli*.—51.  
*Wyeomyia (Wyeomyia)* sp 78: possibly *megalodora*.—5, 9.

## HONDURAS

Code: HON

The collections from Honduras available to the project are identified by one of 3 printed labels: //HON [handwritten 1-61]/Honduras 64-65/Mosq Mid Amer// for collections made expressly for the project by V. P. Cowsill and A. Quinonez; //HON [handwritten 62-93]/Honduras 67-68/Mosq Mid Amer// for collections made expressly for the project by A. J. Adames; and //HON [handwritten 95-146]/Honduras 7/Mosq Mid Amer// for collections 95-124 made expressly for the project by D. and K. Schroeder and for collections 130-146 provided by cooperater M. E. C. Giglioli. See Summary of Collections below for the dates and general areas where these collections were made.

The location of a collection was determined in some instances on map Central America 1:250,000, series E501, sheets ND16N-2, -3, ed. 1-AMS, 1934. In other instances the location, as well as the elevation and grid coordinates were determined on World 1:250,000, series 1501, sheets ND16-2, 16-6, NE16-15, ed. 1 and Honduras 1:50,000, series E752, sheet 2662-3, ed. 1-AMS, 1963. The U.S. Board on Geographic Names gazetteer for Honduras, 1956 was used for the location and spelling of some localities.

### Summary of Collections

HON 1-61	5-21 Aug 1964	V. P. Cowsill (VC), A. Quinonez (AQ)	Atlantida, Colon, Cortes
HON 62-93	10-15 Aug 1967	A. J. Adames (AA)	Cortes
HON 94	Not used		
HON 95-124	4-9 Feb 1972	D. Schroeder (DS), K. Schroeder (KS)	Atlantida, Colon
HON 125-129	Not used		
HON 130-146	11-13 Jun 77	M. E. C. Giglioli (MG)	Atlantida, Islas de la Bahia

### HON Collection Records

1. Cortes, La Lima, Tela Railroad Co. grounds (16PDN0106?), 30m; 5 Aug 64, VC. Adults resting on screens of guest house and biting man nearby; 1-3m above ground; 1130-1200hrs. *Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Cx. (Cux.) nigripalpus*, *Ps. (Jan.) albipes*.

2. Cortes, La Lima, Rio Chamelecon in La Lima (16PDN0006), 30m; 6 Aug 64, VC. Adults biting man in bamboo along river in domestic area; 0830-0900hrs. *Ae. (Och.) taeniorhynchus*, *Ma. (Man.) dyari*, *Ps. (Jan.) albipes*.

3. Cortes, La Lima, Finca Cazenave (16PCN0404), 30m; 6 Aug 64, AQ. Large ground pool in marshy area; water temporary, clear, brown; abundant scum, herbaceous vegetation; bottom with mud; full sun. *Cx. (Mel.) erraticus*.

4. Cortes, La Lima, Secondary Rt. 14, E of and near La Lima (16PDN0305?), 30m; 6 Aug 64, VC, AQ. Large ground pool in marshy area; water temporary, brownish; abundant flotage, grassy, herbaceous vegetation; bottom with mud; full sun. *Cx. (Mel.) erraticus*, *Ur. lowii*.

5. Cortes, La Lima, Secondary Rt. 14, E of and near La Lima (16PDN0305?), 30m; 6 Aug 64, VC. Small ground pools (hoofprints); water temporary, muddy; no vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group, *Cx. (Cux.) ?mollis*.

6. Cortes, La Lima, Secondary Rt. 14, 5km E of La Lima, Finca Chasnigua (16PDN0603), 25m; 6 Aug 64, AQ. Large ground pool; water temporary, muddy, stagnant, fresh; some grassy vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group.

7. Cortes, La Lima, Tela Railroad Co. grounds (16PDN0106?), 30m; 6-7 Aug 64, VC, AQ. Large artificial container (cement pond) in domestic area; water temporary, brown, stagnant; abundant dead leaves on surface and bottom; full sun. *Cx. (Cux.) coronator* group, *Cx. (Cux.) quinquefasciatus*.

8. Colon, Puerto Castilla, near E side of bridge over channel from sea just at entrance to Puerto Castilla, near sea level; 8 Aug 64, VC, AQ. Large crabhole; water clear, fresh; bottom with mud; partial shade. *De. cancer*.

9. Colon, Puerto Castilla, near E side of bridge over channel from sea just at entrance to Puerto Castilla, near sea level; 8 Aug 64, VC. Adults flying and biting man near crabholes; 1600-1630hrs. *Ae.*



## HON Collection Records

(*Och.*) *taeniorhynchus*, *De. cancer*.

10. Colon, Puerto Castilla, near sea level; 8 Aug 64, AQ. Adults resting and biting man in room of house; 1800hrs. *Cx. (Cux.) quinquefasciatus*.
11. Colon, Puerto Castilla, "Finca La Puntilla," near sea level; 9 Aug 64, AQ. Fallen coconut shell in plantation; water brown, foul; deep shade. *Tr. (Trc.) digitatum*.
12. Colon, Puerto Castilla, "Finca La Puntilla," near sea level; 9 Aug 64, AQ. Fallen coconut shell in plantation; water brown, foul; deep shade. *Tr. (Trc.) digitatum*.
13. Colon, Puerto Castilla, "La Zona area," near sea level; 9 Aug 64, AQ. Small ground pool; water temporary, light brown, stagnant, fresh; no vegetation; bottom with mud; deep shade. *Ae. (Och.) taeniorhynchus*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Cx. (Mel.)* sp undetermined.
14. Colon, Puerto Castilla, "La Zona area," near sea level; 9 Aug 64, AQ. Small treehole in domestic area; 1.7m above ground; water light brown. *Hg. (Hag.) aeritinctus* or *iridicolor*, *Tr. (Trc.) ?digitatum*.
15. Colon, Puerto Castilla, "La Zona area," near sea level; 9 Aug 64, AQ. Small treehole (in almond, *Terminalia catappa*) in domestic area; 0.3m above ground; water light brown. *Hg. (Hag.) aeritinctus* or *iridicolor*.
16. Colon, Puerto Castilla, "La Zona area," near sea level; 9 Aug 64, AQ. Small treehole (in mango, *Mangifera indica*) in domestic area; 1m above ground; water light reddish brown. *Tx. (Lyn.) hypoptes* or *moctezuma*.
17. Colon, Puerto Castilla, "Finca La Puntilla," near sea level; 9 Aug 64, AQ. Adults biting man in coconut plantation; 0900-1000hrs. *Ae. (Och.) taeniorhynchus*, *Cx. (Cux.) quinquefasciatus*.
18. Colon, Puerto Castilla, "La Zona area," near sea level; 10 Aug 64, VC. Adults resting in, flying near and biting man near crabholes in mangrove area; 0930-1000hrs. *Ae. (Och.) taeniorhynchus*, *De. cancer*.
19. Colon, Puerto Castilla, near road just across bridge on Trujillo side, near sea level; 10 Aug 64, AQ. Large ground pool in domestic area; water temporary, clear, yellowish brown, stagnant, fresh; abundant grassy vegetation; bottom with mud; full sun. *Cx. (Cux.) nigripalpus*.
20. Colon, Puerto Castilla, in town, near sea level; 10 Aug 64, AQ. Treehole (in crotch of nance, *Byrsonima crassifolia*) in domestic area; 0.7m above ground; water dark brown. *Cx. (Cux.) quinquefasciatus*.
21. Colon, Puerto Castilla, outside town, near sea level; 10 Aug 64, AQ. Ditch in domestic area; water temporary, clear, stagnant, fresh; no vegetation; bottom with sand; full sun. *Cx. (Cux.) corniger*, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.) quinquefasciatus*.
22. Colon, Puerto Castilla, near Trujillo side of bridge into town, near sea level; 10 Aug 64, AQ. Mangrove swamp interior; water temporary, clear, light brown, stagnant, fresh; abundant flottage; bottom with mud; partial shade. *Ae. (Och.) taeniorhynchus*.
23. Colon, Puerto Castilla, near Trujillo side of bridge into town, near sea level; 10 Aug 64, AQ. Mangrove swamp interior; water temporary, dark brown, stagnant, fresh; abundant flottage; bottom with mud; full sun. *Ae. (Och.) taeniorhynchus*.
24. Colon, Puerto Castilla, near Trujillo side of bridge into town, near sea level; 10 Aug 64, AQ. Adults biting in mangrove area; 0900-1000hrs. *Ae. (Och.) taeniorhynchus*.
25. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 13 Aug 64, VC. Flower bracts of *Heliconia* in plantation; 1.5-3m above ground; full sun. *Cx. (Cux.) ?stenolepis*.
26. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 13 Aug 64, AQ. Leaf axils of terrestrial plant ("alispata," probably an aroid) in plantation; 0-1m above ground; full sun. *Cx. (Cux.)* sp undetermined, *Li. durhamii*, *Tr. (subg. A) ulopus*, *Wy. (Wyo.) celaenocephala*, *Wy. (Wyo.) pertinans* group, *Wy. (subg. D) chalcocephala*.
27. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 13 Aug 64, VC. Adults biting and landing on man near lily pond in plantation; 0730-0800hrs. *Ae. (Och.) angustivittatus*, *Ae. (Och.) serratus* group, *Ps. (Jan.) albipes*, *Wy. (Pen.) ?arthrostigma*.
28. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 13 Aug 64, VC, AQ. Pond in plantation; water semipermanent, clear, stagnant, fresh; abundant flottage, herbaceous, floating (water lilies) vegetation; bottom with mud, decaying vegetation; full sun. *Cx. (Cux.)* sp undetermined, *Cx. (Mel.)* sp undetermined.

## HON Collection Records

29. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 13 Aug 64, VC, AQ. Stream pool margin in plantation; water semipermanent, clear, fresh, with slow current; abundant scum, algae, grassy, herbaceous, floating (water lilies) vegetation; bottom with mud; full sun. *An. (Ano.) pseudopunctipennis*, *An. (Nys.) albimanus*.
30. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 13 Aug 64, AQ. Epiphytic bromeliad; 2m above ground; partial shade. *Cx. (Mcx.)* sp undetermined, *Tx. (Lyn.) superbus*, *Wy. (Wyo.) celaenocephala*, *Wy. (Wyo.) pertinans* group.
31. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 13 Aug 64, VC, AQ. Leaf axils of banana, *Musa balbisiana*, in plantation; partial shade. *Wy. (Wyo.) celaenocephala*, *Wy. (subg. D) challocephala*.
32. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 14 Aug 64, VC, AQ. Small ground pools in lawn; water temporary, clear, stagnant, fresh; abundant grassy vegetation; bottom with mud; full sun. *Cx. (Cux.) coronator* group, *Cx. (Cux.) declarator* group.
33. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 14 Aug 64, VC, AQ. Fallen leaf (from palm, *Borassus aethiopicum*) in plantation; water clear. *Cx. (Cux.) mollis*, *Li. asulleptus*, *Li. durhamii*, *Tr. (Trc.) digitatum*.
34. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 14 Aug 64, VC, AQ. Margin of drying stream in plantation; water temporary, clear, stagnant, fresh; abundant flottage; bottom with mud, dead leaves; partial shade. *Cx. (Cux.) coronator* group, *Cx. (Mel.)* sp undetermined.
35. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 14 Aug 64, VC, AQ. Cut bamboo in domestic area; 1.7m above ground; water clear; algae in some internodes; full sun. *Wy. (Pen.) arthrostigma*.
36. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 14 Aug 64, AQ. Stream margin in plantation; water semipermanent, clear, fresh, with slow current; abundant grassy vegetation; bottom with mud; full sun. *An. (Ano.) ?apicimacula*, *An. (Nys.) albimanus*, *Cx. (Mel.)* sp undetermined.
37. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 14 Aug 64, AQ. Terrestrial bromeliad (pineapple) in domestic area; full sun. *Wy. (Wyo.) pertinans* group.
38. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 14 Aug 64, VC, AQ. Adults biting-landing near stream; 1000hrs. *Ps. (Jan.) albipes*, *Wy. (Pen.) ?arthrostigma*.
39. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 14 Aug 64, VC, AQ. Cut or broken bamboo in plantation; water clear, orange-brown; partial shade. *Sa. (Sbn.) undosus*.
40. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 14 Aug 64, VC, AQ. Fallen palm leaf in plantation; water brown; partial shade. *Tr. (Trc.) digitatum*.
41. Atlantida, Tela, near Tela Airport and beach (16PDN5044), near sea level; 16 Aug 64, AQ. Small ground pool in grassy area; water temporary, greenish brown, stagnant, fresh; abundant flottage, algae, grassy vegetation; bottom with sand; full sun. *Ae. (Och.) taeniorhynchus*, *Ps. (Gra.) confinnis* group.
42. Atlantida, Tela, near Tela Airport and beach (16PDN5044), near sea level; 16 Aug 64, AQ. Large ground pool in grassy area; water temporary, brownish, stagnant, fresh; abundant flottage, grassy vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*, *Cx. (Mel.) erraticus*.
43. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 17 Aug 64, VC, AQ. Flower bracts of *Heliconia* in plantation; water clear; full sun. *Cx. (Cux.) ?stenolepis*, *Tx. (Lyn.) superbus*, *Wy. (Dec.) pseudopecten* group.
44. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 17 Aug 64, VC, AQ. Leaf axils of *Heliconia* in plantation; water clear; full sun. *Tr. (subg. A) ulopus*.
45. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 17 Aug 64, VC, AQ. Epiphytic bromeliad (small, spineless) in plantation; full sun. *Wy. (Wyo.) celaenocephala*.
46. Atlantida, Tela, Lancetilla, Tela Railroad Co. plantation (16PDN5140), 50m; 18 Aug 64, AQ. Fallen coconut shell (in stream) in plantation; water clear, brown; full sun. *An. (Ano.) eiseni*, *Ps. (Gra.) ?confinnis* group, *Tr. (Trc.) digitatum*.
47. Atlantida, Tela, Lancetilla, Tela Railroad Co. plantation (16PDN5140), 50m; 18 Aug 64, AQ. Small pool in drying stream in plantation; water temporary, clear, stagnant, fresh; flottage; bottom with mud; full sun. *An. (Ano.) eiseni*, *Cx. (Mel.)* spp undetermined.

## HON Collection Records

48. Atlantida, Tela, Lancetilla, Tela Railroad Co. plantation (16PDN5140), 50m; 18 Aug 64, AQ. Small pool in drying stream in plantation; water temporary, clear, stagnant, fresh; flottage; bottom with mud; full sun. *An. (Ano.) eiseni*, *Cx. (Mel.)* sp undetermined.
49. Atlantida, Tela, Lancetilla, Tela Railroad Co. plantation, railroad just N of Lancetilla (16PDN5140), 50m; 18 Aug 64, AQ. Cut or broken bamboo in plantation; water dark brown, foul. *Hg. (Hag.) equinus*, *Sa. (Sbn.) undosus*, *Tx. (Lyn.) hypoptes*, *Tr. (Trc.) digitatum*, *Wy. (Pen.) arthrostigma*, *Wy. (Tri.) aporonoma*.
50. Atlantida, Tela, Lancetilla, Tela Railroad Co. grounds (16PDN5140), 50m; 18 Aug 64, AQ. Epiphytic bromeliad in plantation; 3m above ground; full sun. *Cx. (Cux.)* sp undetermined, *Cx. (Mcx.)* sp undetermined, *Wy. (Hys.)* sp undetermined, *Wy. (Wyo.) celaenocephala*, *Wy. (Wyo.) melanopus*.
51. Atlantida, Tela, Lancetilla, Tela Railroad Co. plantation (16PDN5140), 50m; 19 Aug 64, AQ. Stream margin in plantation; water semipermanent, clear, with slow current, fresh; abundant grassy vegetation; bottom with mud; full sun. *An. (Ano.) ?apicimacula*, *An. (Ano.) eiseni*, *Cx. (Cux.) coronator* group.
52. Atlantida, Tela, Lancetilla, Tela Railroad Co. plantation (16PDN5140), 50m; 19 Aug 64, AQ. Small treehole (in "grama tree") in plantation; 1.3m above ground; water dark brown. *Hg. (Hag.) equinus*.
53. Atlantida, Tela, Lancetilla, Tela Railroad Co. plantation (16PDN5140), 50m; 19 Aug 64, AQ. Terrestrial bromeliad in plantation; full sun. *Wy. (Wyo.) celaenocephala*, *Wy. (Wyo.) pertinans* group.
54. Atlantida, Tela, Lancetilla, Tela Railroad Co. plantation (16PDN5140), 50m; 19 Aug 64, AQ. Treehole (in mango stump) in plantation; 0.2m above ground; water clear, reddish brown; full sun. *Cx. (And.) conservator*, *Ha. (Hag.) equinus*.
55. Atlantida, Tela, Lancetilla, Tela Railroad Co. plantation (16PDN5140), 50m; 19 Aug 64, AQ. Small treehole (in "plum tree") in plantation; 1m above ground; water brown. *Cx. (And.) conservator*, *Cx. (Cux.) mollis*, *Hg. (Hag.) equinus*.
56. Atlantida, Tela, Humazones (16PDN3423), 200m; 21 Aug 64, AQ. Cut or broken bamboo in second growth; 1.3m above ground. *Li. durhamii*, *Wy. (Pen.) arthrostigma*, *Wy. (Tri.) aporonoma*.
57. Atlantida, Tela, Humazones (16PDN3423), 200m; 21 Aug 64, AQ. Artificial container (wooden trough for chickens) in domestic area. *Cx. (Cux.) corniger*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) declarator* group, *Cx. (Cux.) ?mollis*, *Cx. (Cux.) nigripalpus*, *Hg. (Hag.) equinus*.
58. Atlantida, Tela, Humazones (16PDN3423), 200m; 21 Aug 64, AQ. Terrestrial bromeliad in domestic area. *Wy. (Wyo.) celaenocephala*.
59. Atlantida, Tela, Humazones (16PDN3423), 200m; 21 Aug 64, AQ. Large ground pool in second growth; water temporary, clear, stagnant, fresh; some algal scum; bottom with mud; full sun. *An. (Ano.) pseudopunctipennis*, *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) ?nigripalpus*, *Ur. ?geometrica*.
60. Atlantida, Tela, Las Brisas, just W of Tela (16PDN4843), 10m; 21 Aug 64, AQ. Swamp margin; water temporary, clear, stagnant, fresh; abundant grassy vegetation; bottom with mud; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group.
61. Atlantida, Tela, La Tarralosa (16PDN4640), 30m; 21 Aug 64, AQ. Marshy depression; water temporary, clear, light greenish brown, stagnant, fresh; abundant algae, grassy vegetation; bottom with sand; full sun. *Cx. (Cux.) declarator* group, *Cx. (Cux.) nigripalpus*.
62. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 10 Aug 67, AA. Large crab-hole near sea; full sun. *Cx. (Cux.) inflictus* group, *De. cancer*.
63. Cortes, Puerto Cortes, 600m from clinic behind "logia" (16PDN0053?), near sea level; 10 Aug 67, AA. Small ground pool in domestic area; water semipermanent, colored, fresh; no vegetation; partial shade. *Cx. (Cux.) corniger*, *Cx. (Cux.) nigripalpus*.
64. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 10 Aug 67, AA. Artificial containers (tires) near sea; full sun. *Cx. (Cux.) coronator* group, *Cx. (Cux.) nigripalpus*, *Hg. (Hag.) aeritinctus* or *iridicolor*.
65. Cortes, San Pedro Sula, Natl. Rt. 1, 21km N of San Pedro Sula, about 3km N of Choloma (16PDN9828), 50m; 11 Aug 67, AA. Adults biting-landing on man in clearing; 0850-1400hrs; partial shade.

## HON Collection Records

*Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Ma. (Man.)* sp undetermined, *Ps. (Jan.) albipes*, *Wy. (Wyo.) ?celaenocephala*, *Wy.* sp undetermined.

66. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 12 Aug 67, AA. Large crab-hole near sea; water brackish; bottom with mud, sand; full sun. *De. cancer*.

67. Cortes, Puerto Cortes, "Barrio Suyapa" (16PDN0053?), near sea level; 12 Aug 67, AA. Adults biting-landing on man outside house near swamp; 1830-1930hrs. *Ae. (Och.) angustivittatus*, *Ae. (Och.) taeniorhynchus*, *An. (Nys.) albimanus*, *Cq. (Rhy.) nigricans*, *Ma. (Man.)* sp undetermined.

68. Cortes, Puerto Cortes, 600m from clinic behind "logia" (16PDN0053?), near sea level; 13 Aug 67, AA. Marshy depression in domestic area; water semipermanent; abundant herbaceous vegetation; partial shade. *Cx. (Cux.) nigripalpus*.

69. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 13 Aug 67, AA. Adults from large crabhole near sea; full sun. *De. cancer*.

70. Cortes, Puerto Cortes, "Barrio Suyapa" (16PDN0053?), near sea level; 13 Aug 67, AA. Adults biting-landing on man outside house near swamp. No specimens.

71. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 14 Aug 67, AA. Large crab-hole near sea; water brackish, clear; bottom with mud, sand; full sun. *Cx. (Cux.) inflictus* group, *De. cancer*.

72. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 14 Aug 67, AA. Adults in large crabhole (same as 71) near sea. *De. cancer*.

73. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 14 Aug 67, AA. Large crab-hole near sea; water clear, brackish; bottom with mud, sand. *Cx. (Cux.) inflictus* group, *De. cancer*.

74. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 14 Aug 67, AA. Adults in large crabhole (same as 73) near sea; full sun. *De. cancer*.

75. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 14 Aug 67, AA. Large crab-hole near sea; water clear, brackish; bottom with mud, sand; full sun. *De. cancer*.

76. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 14 Aug 67, AA. Large crab-hole near sea; water clear, brackish; bottom with mud, sand; full sun. No specimens.

77. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 14 Aug 67, AA. Adults in large crabhole (same as 76) near sea; full sun. *De. cancer*.

78. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 14 Aug 67, AA. Large crab-hole near sea; water clear, brackish; bottom with mud, sand; full sun. No specimens.

79. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 14 Aug 67, AA. Adults from large crabhole (same as 78) near sea; full sun. *De. cancer*.

80. Cortes, Puerto Cortes, "Barrio Suyapa" (16PDN0053?), near sea level; 14 Aug 67, AA. Adults biting-landing on man outside house near swamp; 1800-2000hrs. *Ae. (Och.) taeniorhynchus*, *Cq. (Rhy.) nigricans*, *Cx. (Mel.)* sp undetermined, *Ma. (Man.)* sp undetermined.

81. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 15 Aug 67, AA. Large crab-hole near sea; water brackish; bottom with mud, sand; full sun. *De. cancer*.

82. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 15 Aug 67, AA. Large crab-hole near sea; water clear, brackish; bottom with mud, sand; full sun. *De. cancer*.

83. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 15 Aug 67, AA. Adults resting in large crabhole (same as 82) near sea; 1230-1600hrs; full sun. *De. cancer*.

84. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 15 Aug 67, AA. Large crab-hole near sea; water clear, brackish; bottom with mud, sand; full sun. *Cx. (Tin.) latisquama*, *De. cancer*.

85. Cortes, Puerto Cortes, "Rio Mar" (16PDN0053?), near sea level; 15 Aug 67, AA. Adults resting in large crabhole (same as 84) near sea; 1300-1700hrs; full sun. *De. cancer*.

86. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 15 Aug 67, AA. Large crab-hole near sea; water clear, brackish; bottom with sand; full sun. *De. cancer*.

87. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 15 Aug 67, AA. Adults resting in large crabhole (same as 86) near sea; 1600-1715hrs; full sun. *De. cancer*.

88. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 15 Aug 67, AA. Large crab-hole near sea; water clear, brackish; bottom with sand; full sun. No specimens.

## HON Collection Records

89. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 15 Aug 67, AA. Adults resting in large crabhole (same as 88) near sea; 1600-1715hrs; full sun. *De. cancer*.
90. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 15 Aug 67, AA. Large crabhole near sea; water clear, brackish; bottom with sand; full sun. No specimens.
91. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 15 Aug 67, AA. Adults resting in large crabhole (same as 90) near sea; 1600-1715hrs; full sun. *De. cancer*.
92. Cortes, Puerto Cortes, "Las Cuevas" (16PDN0053?), near sea level; 15 Aug 67, AA. Large crabhole near sea; water clear, brackish; bottom with sand; full sun. *Cx. (Cux.) nigripalpus*.
93. Cortes, Puerto Cortes, "Barrio Suyapa" (16PDN0053?), near sea level; 15 Aug 67, AA. Adults biting-landing outside house near swamp and sea; full sun. *Cq. (Rhy.) nigricans*.
94. Not used.
95. Colon, Puerto Castilla, meat plant, near sea level; 4 Feb 72, DS, KS. Adults biting-landing on man in shade of building on sunny day; 1100-1115hrs. *Ae. (Och.) taeniorhynchus*.
96. Colon, Puerto Castilla, along beach W of abandoned hospital building, near sea level; 4 Feb 72, DS. Adults biting-landing on man near tall vegetation on beach; 1400-1600hrs; partial shade. *Ae. (Och.) taeniorhynchus*.
97. Colon, Puerto Castilla, meat plant, near sea level; 4 Feb 72, DS. Adults near lights inside and outside buildings near sea; 1.5-4m above ground; 2100-2230hrs; rain earlier in evening. *Ae. (Och.) taeniorhynchus*, *An. (Ano.) vestitipennis*, *An. (Nys.) albimanus*, *Cq. (Rhy.) fasciolata* group, *Cx. (Cux.)* sp undetermined, *Ma. (Man.) titillans*.
98. Colon, Puerto Castilla, meat plant, near sea level; 4 Feb 72, DS. Adults biting near building and lights near sea; 2230hrs. *An. (Ano.) vestitipennis*.
99. Colon, Puerto Castilla, meat plant, near sea level; 4 Feb 72, DS. Adults on outside walls of building near light; 2300hrs. *Ae. (Och.) taeniorhynchus*, *An. (Ano.) crucians*, *An. (Ano.) vestitipennis*, *An. (Nys.) albimanus*.
100. Colon, Puerto Castilla, near abandoned hospital, near sea level; 5-6 Feb 72, DS, KS. Large ground pool in road rut near sea; water semipermanent, turbid, light tan, fresh; some grassy, herbaceous vegetation; bottom with mud, plant matter; partial-full sun. *An. (Nys.) albimanus*.
101. Colon, Puerto Castilla, NW edge of town near canal, near sea level; 5 Feb 72, DS. 2 small crabholes 2m from edge of salt water canal; water amber, fresh to taste, level 3cm below ground; bottom with mud; partial-full sun. *De. cancer*.
102. Colon, Puerto Castilla, NW edge of town between town and canal, near sea level; 5 Feb 72, DS. Marshy depression in domestic area; water clear, stagnant, fresh; moderate amount of grassy vegetation; bottom with mud, debris; deep-partial shade. *Ps. (Pso.)* sp undetermined.
103. Colon, Puerto Castilla, NW of town near canal, near sea level; 5 Feb 72, DS. Adult biting in shade of mangroves near salt water canal. *Cx. (Mel.)* sp undetermined.
104. Colon, Puerto Castilla, meat plant, near sea level; 5 Feb 72, DS. Adults at light on outside walls of building near sea; 2-4m above ground; 2245hrs. *Ae. (Och.) taeniorhynchus*, *An. (Ano.) vestitipennis*, *Cx. (Cux.) declarator* group.
105. Colon, Puerto Castilla, W edge of town, near sea level; 6 Feb 72, DS. Large ground pool in grazing-domestic area; water probably temporary, clear, stagnant, fresh; some grassy vegetation; bottom with mud, plant debris; full sun. *Ae. (Och.) taeniorhynchus*.
106. Colon, Puerto Castilla, in town, near sea level; 6 Feb 72, DS. Large ground pool in domestic area near sea; water probably semipermanent, slightly turbid, stagnant, fresh; some grassy vegetation; bottom with mud, plant debris; deep shade-full sun. No specimens.
107. Colon, Puerto Castilla, in front of town, near sea level; 6 Feb 72, DS, KS. Large ground pool in domestic area near sea; water semipermanent, light amber, stagnant, fresh; some grassy, herbaceous vegetation; bottom with mud, plant debris; full sun. *Ps. (Gra.) ?confinnis* group, *Ps. (Pso.) ciliata*.
108. Colon, Puerto Castilla, 1km SE of town, near sea level; 6 Feb 72, DS. Margin of mangrove swamp near sea; water probably permanent, clear, light amber, stagnant, brackish; some grassy vegetation; bottom with mud, plant debris; deep-partial shade. No specimens.
109. Colon, Puerto Castilla, 1km SE of town, near sea level; 6 Feb 72, DS. Interior of mangrove

## HON Collection Records

swamp near sea; water probably permanent, turbid, slightly grayish, stagnant, fresh; no vegetation; bottom with mud; deep-partial shade. *De. cancer*.

110. Colon, Puerto Castilla, 1.5km SE of town, near sea level; 6 Feb 72, DS, KS. Large ground pool in marshy depression near sea; water permanent, clear, stagnant, fresh; some grassy vegetation; bottom with mud, plant debris; partial-full sun. No specimens.

111. Colon, Puerto Castilla, near meat plant, near sea level; 6 Feb 72, DS. Large ground pool in domestic area near sea; water permanent, stagnant, fresh, foul; abundant flotsam, scum, grassy vegetation; bottom with mud, plant matter; partial-full sun. *Cx. (Cux.) interrogator*, *Cx. (Cux.) nigripalpus*.

112. Colon, Puerto Castilla, meat plant, near sea level; 6 Feb 72, DS. Adults at light on outside wall of building; 3m above ground; 2200hrs. *Ae. (Och.) taeniorhynchus*, *An. (Ano.) vestitipennis*.

113. Atlantida, La Ceiba, Nueva Armenia, near sea level; 3 Feb 72, DS. Large ground pool at marshy edge of freshwater lagoon near sea; water permanent, clear, stagnant, fresh; abundant grass, cat-tails; bottom with mud, sand, plant debris; partial-full sun. *An. (Nys.) albimanus*.

114. Atlantida, La Ceiba, near sea level; 7 Feb 72, DS. Adult resting under house; 1730hrs. *Ae. (Och.) angustivittatus*.

115. Atlantida, Esparta, 0.8km E of Rio Nutria on Secondary Rt. 50 (16PDN8234?), ?50m; 8 Feb 72, DS. Blocked stream in forest; water permanent, clear, with very slow current, fresh; some grassy vegetation; bottom with mud, plant debris; deep-partial shade. *An. (Ano.) apicimacula*, *An. (Nys.) darlingi*, *Cx. (Mel.) educator*, *Cx. (Mel.) vexillifer*, *Dx.* sp undetermined, *Lz.* ?sp 1.

116. Atlantida, Esparta, 0.8km E of Rio Nutria on Secondary Rt. 50 (16PDN8234?), ?50m; 8 Feb 72, DS. Adults biting man near stream in forest. *Ae. (Och.) angustivittatus*, *Ma. (Man.) dyari*, *Ma. (Man.)* sp undetermined.

117. Atlantida, Esparta, 0.8km E of Rio Nutria on Secondary Rt. 50 (16PDN8234?), ?50m; 8 Feb 72, DS. Adult resting on vegetation near stream in forest. *Cx. (Mel.)* sp undetermined.

118. Atlantida, Tela, about 2.5km NW of Tela near Paraiso (16PDN4744), near sea level; 9 Feb 72, DS. Large ground pool in grazing area along road about 700m from sea; water temporary, clear, stagnant, fresh; abundant grassy vegetation; bottom with mud, sand, plant debris; full sun. *Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Ae. (Och.) taeniorhynchus*, *Cx. (Cux.) corniger*.

119. Atlantida, Tela, Lancetilla (16PDN5140), 50m; 9 Feb 72, DS, KS. Fallen banana flower bracts containing overflow water from adjacent large ground pool in plantation; water temporary, clear, amber, stagnant, fresh; no vegetation; bottom with plant debris; deep shade. *Ps. (Jan.) ferox*, *Sy.* sp undetermined.

120. Atlantida, Tela, Lancetilla (16PDN5140), 50m; 9 Feb 72, DS, KS. Ground pool (2 X 4m) in plantation; water probably temporary, clear, stagnant, fresh; some herbaceous vegetation; bottom with mud, much plant debris; deep shade. *Ae. (Och.) serratus* group, *An. (Ano.) ?punctimacula*, *Cx. (Cux.) declarator* group, *Cx. (Mel.) elevator*, *Ps. (Jan.) ferox*.

121. Atlantida, Tela, Lancetilla (16PDN5140), 50m; 9 Feb 72, DS, KS. Adults biting man in plantation (same site as 119, 120); 1030-1200hrs; deep shade. *Ae. (Och.) angustivittatus*, *Ae. (Och.) scapularis*, *Ps. (Jan.) ferox*.

122. Atlantida, Tela, Lancetilla (16PDN5140), 50m; 9 Feb 72, DS, KS. Small ground pool in plantation; water probably temporary, slightly muddy, stagnant, fresh; no vegetation; bottom with mud, plant debris; partial shade. *Ae. (Och.) angustivittatus*, *An. (Ano.) ?punctimacula*, *Cx. (Cux.) coronator* group, *Cx. (Mel.) conspirator*, *Cx. (Mel.) elevator*, *Cx. (Mel.) pilosus*, *Ps. (Jan.) ferox*.

123. Atlantida, Tela, Lancetilla (16PDN5140), 50m; 9 Feb 72, DS, KS. Small ground pool in grassy area of *Eucalyptus* grove in plantation; water temporary, grayish, turbid, stagnant, fresh; some grassy vegetation; partial-full sun. *Ae. (Och.) angustivittatus*, *Cx. (Cux.) coronator* group, *Cx. (Mel.) conspirator*, *Cx. (Mel.) pilosus*.

124. Atlantida, Tela, Lancetilla (16PDN5140), 50m; 9 Feb 72, DS, KS. Ditch in clearing in plantation; water probably permanent, clear, with very slow current, fresh; abundant grassy vegetation; bottom with mud, plant debris; full sun. *Co.* sp undetermined, *Cx. (Mel.)* sp undetermined, *Lz.* ?sp 1.

125-129. Not used.

130. Atlantida, about 12km NW of Tela, Tornasal Peninsula (16PDN3949), near sea level; 12 Jun 77, MG. Light trap at night. *De. cancer*.

## HON Collection Records

131. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 11 Jun 77, MG. Adults taken while feeding. *Ps. (Jan.) albipes*.
132. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 11 Jun 77, MG. Adults taken while feeding. *Ae. (Och.) taeniorhynchus*.
133. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 11 Jun 77, MG. Adults taken while feeding. *Ma. (Man.) dyari*.
134. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 11 Jun 77, MG. Adults taken while feeding. No specimens.
135. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 11 Jun 77, MG. Adults taken while feeding. *Ae. (Och.) scapularis*.
136. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 12 Jun 77, MG. Adults taken while feeding. *Ma. (Man.) dyari*, *Ma. (Man.) titillans*.
137. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 12 Jun 77, MG. Adults taken while feeding. *Cq. (Rhy.) nigricans*.
138. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 12 Jun 77, MG. Adults taken while feeding. *Ma. (Man.) dyari*.
139. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 12 Jun 77, MG. Adults taken while feeding. See HON 146.
140. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 12 Jun 77, MG. Adults taken while feeding. *Ps. (Jan.)* sp undetermined.
141. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 12 Jun 77, MG. Adults taken while feeding. *Cx. (Tin.) latisquama*.
142. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 12 Jun 77, MG. Adults taken while feeding. *Ae. (Och.) scapularis*.
143. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 12 Jun 77, MG. Adults taken while feeding. *Ma. (Man.) dyari*.
144. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 12 Jun 77, MG. Adults taken while feeding. *Ae. (Och.) scapularis*.
145. Islas de la Bahia, about 70km NW of Puerto Castilla, Isla de Roatan; 13 Jun 77, MG. Adults. *Ae. (Och.) taeniorhynchus*.
146. Atlantida, about 10km W of Tela, Tornasal Peninsula (16PDN4147), near sea level; 11-12 Jun 77, MG. Adults taken while feeding; mixture from collections 133, 136, 138, 139. *Ma. (Man.) dyari*, *Ps. (Jan.)* sp undetermined.

## HON Locality Index

## ATLANTIDA

- Esparta*. About 0.8km E of Rio Nutria on Secondary Rt. 50, S of Esparta (16PDN8234?), ?50m.—115, 116, 117.
- Humazones* (=Las Metalias) (16PDN3423), 200m.—56, 57, 58, 59.
- La Ceiba*, near sea level.—114.
- Lancetilla* (16PDN5140), 50m.—25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 119, 120, 121, 122, 123, 124.
- Las Brisas* (16PDN4843), 10m.—60.
- La Tarralosa* (16PDN4640), 30m.—61.
- Nueva Armenia*, near sea level.—113.
- Paraiso*. About 2.5km NW of Tela near Paraiso (16PDN4744), near sea level.—118.
- Tela Airport*. Near airport and beach (16PDN5044), near sea level.—41, 42.
- Tornasal Peninsula*, 10-12km NW of Tela (16PDN3949, 4147), near sea level.—130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 146.

## HON Locality Index

## COLON

*Puerto Castilla*. In and near town, near sea level.—8, 9, 10, 19, 20, 21, 22, 23, 24, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 111, 112. About 1-1.5km SE of town, near sea level.—108, 109, 110. “Finca La Puntilla,” near sea level.—11, 12, 14. “La Zona area,” near sea level.—13, 14, 15, 16, 18.

## CORTES

*Choloma*. Natl. Rt. 1, 21km N of San Pedro Sula, about 3km N of Choloma (16PCN9828), 50m.—65.

*Finca Cazenave* (16PDN0404), 30m.—3.

*Finca Chasnigua*, 5km E of La Lima on Secondary Rt. 14 (16PDN0603), 25m.—6.

*La Lima*. Near Rio Chamelecon in La Lima (16PDN0006), 30m.—2. Tela Railroad Co. (16PDN0106?), 30m.—1, 7. E of La Lima on Secondary Rt. 14 (16PDN0305?), 30m.—4, 5.

*Puerto Cortes* (16PDN0053), near sea level. About 600m from clinic behind “logia.”—63, 68. “Barrio Suyapa.”—67, 70, 80, 93. “Las Cuevas.”—69, 78, 79, 86, 87, 88, 89, 90, 91, 92. “Rio Mar.”—62, 64, 66, 71, 72, 73, 74, 75, 76, 77, 81, 82, 83, 84, 85.

## ISLAS DE LA BAHIA

*Isla de Roatan* (about 70km NW of Puerto Castilla).—145.

## HON Species Index

*Aedes (Ochlerotatus) angustivittatus* Dyar and Knab 1907.—1, 27, 65, 67, 114, 116, 118, 121, 122, 123.

*Aedes (Ochlerotatus) scapularis* (Rondani 1848).—1, 65, 118, 121, 135, 142, 144.

*Aedes (Ochlerotatus) serratus* group: *nubilus*, *serratus* or related sp.—27, 120.

*Aedes (Ochlerotatus) taeniorhynchus* (Wiedemann 1821).—2, 9, 13, 17, 18, 22, 23, 24, 41, 67, 80, 95, 96, 97, 99, 104, 105, 112, 118, 132, 145.

*Anopheles (Anopheles) apicimacula* Dyar and Knab 1906.—?36, ?51, 115.

*Anopheles (Anopheles) crucians* Wiedemann 1828.—99.

*Anopheles (Anopheles) eiseni* Coquillett 1902.—46, 47, 48, 51.

*Anopheles (Anopheles) pseudopunctipennis* Theobald 1901.—29, 59.

*Anopheles (Anopheles) ?punctimacula* Dyar and Knab 1906.—120, 122.

*Anopheles (Anopheles) vestitipennis* Dyar and Knab 1906.—97, 98, 99, 104, 112.

*Anopheles (Nyssorhynchus) albimanus* Wiedemann 1820.—6, 29, 36, 42, 59, 60, 67, 97, 99, 100, 113.

*Anopheles (Nyssorhynchus) darlingi* Root 1926.—115.

*Coquillettidia (Rhynchotaenia) fasciolata* group: *fasciolata*, *venezuelensis* or related sp.—97.

*Coquillettidia (Rhynchotaenia) nigricans* (Coquillett 1904).—67, 80, 93, 137.

*Corethrella* sp undetermined.—124.

*Culex (Anoediopora) conservator* Dyar and Knab 1906.—54, 55.

*Culex (Culex) corniger* Theobald 1903.—21, 57, 63, 118.

*Culex (Culex) coronator* group: *coronator*, *ousqua*, *usquatissimus* and/or related spp.—5, 6, 7, 32, 34, 51, 57, 59, 60, 64, 122, 123.

*Culex (Culex) declarator* group: *declarator*, *proclamator* and/or related sp.—32, 57, 61, 104, 120.

*Culex (Culex) inflictus* group: *inflictus* or related sp.—62, 71, 73.

*Culex (Culex) interrogator* Dyar and Knab 1906.—111.

*Culex (Culex) mollis* Dyar and Knab 1906.—?5, 33, 55, ?57.

*Culex (Culex) nigripalpus* Theobald 1901.—1, 13, 19, 21, 57, ?59, 61, 63, 64, 68, 92, 111.

*Culex (Culex) quinquefasciatus* Say 1823.—7, 10, 17, 20, 21.

*Culex (Culex) ?stenolepis* Dyar and Knab 1908.—25, 43.

*Culex (Culex)* sp undetermined.—13, 26, 28, 50, 97.

*Culex (Melanoconion) conspirator* Dyar and Knab 1906.—122, 123.

*Culex (Melanoconion) educator* Dyar and Knab 1906.—115.

*Culex (Melanoconion) elevator* Dyar and Knab 1906.—120, 122.



## HON Species Index

- Culex (Melanoconion) erraticus* (Dyar and Knab 1906).—3, 4, 42.  
*Culex (Melanoconion) pilosus* (Dyar and Knab 1906).—122, 123.  
*Culex (Melanoconion) vexillifer* Komp 1936.—115.  
*Culex (Melanoconion)* sp undetermined.—13, 28, 34, 36, 47, 48, 80, 103, 117, 124.  
*Culex (Microculex)* sp undetermined.—30, 50.  
*Culex (Tinolestes) latisquama* (Coquillett 1906).—84, 141.  
*Deinocerites cancer* Theobald 1901.—8, 9, 18, 62, 66, 69, 71, 72, 73, 74, 75, 77, 79, 81, 82, 83, 84, 85, 86, 87, 89, 91, 101, 109, 130.  
*Dixella* sp undetermined.—115.  
*Haemagogus (Haemagogus) aeritinctus* Galindo and Trapido 1967 or *iridicolor* Dyar 1921.—14, 15, 64.  
*Haemagogus (Haemagogus) equinus* Theobald 1903.—49, 52, 54, 55, 57.  
*Limatus asulleptus* (Theobald 1903).—33.  
*Limatus durhamii* Theobald 1901.—26, 33, 56.  
*Lutzomiops* ?sp 1.—115, 124.  
*Mansonia (Mansonia) dyari* Belkin, Heinemann and Page 1970.—2, 116, 133, 136, 138, 143, 146.  
*Mansonia (Mansonia) titillans* (Walker 1848).—97, 136.  
*Mansonia (Mansonia)* sp undetermined.—65, 67, 80, 116.  
*Psorophora (Grabhamia) confinnis* group: *columbiae*, *toltecum* or related sp.—41, ?46, ?107.  
*Psorophora (Janthinosoma) albipes* (Theobald 1907).—1, 2, 27, 38, 65, 131.  
*Psorophora (Janthinosoma) ferox* (Humboldt 1819).—119, 120, 121, 122.  
*Psorophora (Janthinosoma)* sp undetermined.—140, 146.  
*Psorophora (Psorophora) ciliata* (Fabricius 1794).—107.  
*Psorophora (Psorophora)* sp undetermined.—102.  
*Sabethes (Sabethinus) undosus* (Coquillett 1906).—39, 49.  
*Sayomyia* sp undetermined.—119.  
*Toxorhynchites (Lynchiella) hypoptes* (Knab 1907).—49.  
*Toxorhynchites (Lynchiella) hypoptes* or *moctezuma* (Dyar and Knab 1906).—16.  
*Toxorhynchites (Lynchiella) superbis* (Dyar and Knab 1906).—30, 43.  
*Trichoprosopon (Trichoprosopon) digitatum* (Rondani 1848).—11, 12, ?14, 33, 40, 46, 49.  
*Trichoprosopon* (subg. A) *ulopus* (Dyar and Knab 1906).—26, 44.  
*Uranotaenia ?geometrica* Theobald 1901.—59.  
*Uranotaenia lowii* Theobald 1901.—4.  
*Wyeomyia (Decamyia) pseudopecten* group: sp near *pseudopecten*.—43.  
*Wyeomyia (Hystatomyia)* sp undetermined.—50.  
*Wyeomyia (Pentemyia) arthrostigma* (Lutz 1905).—?27, 35, ?38, 49, 56.  
*Wyeomyia (Triamyia) aporonoma* Dyar and Knab 1906.—49, 56.  
*Wyeomyia (Wyeomyia) celaenocephala* Dyar and Knab 1906.—26, 30, 31, 45, 50, 53, 58, ?65.  
*Wyeomyia (Wyeomyia) melanopus* Dyar 1919.—50.  
*Wyeomyia (Wyeomyia) pertinans* group: any of several closely related spp such as *ablables* or *scotinomus*.—26, 30, 37, 53.  
*Wyeomyia* (subgenus D) *chalcocephala* Dyar and Knab 1906.—26, 31.  
*Wyeomyia* sp undetermined.—65.

## NICARAGUA

Codes: NI, NIC

The collections from Nicaragua available to the project are identified by one of 3 printed labels: //NI [handwritten 1-60]/Nicaragua 1964/ Gorgas Mem Lab// for collections made expressly for the project by A. Quinonez and J. N. Belkin; //NIC [handwritten 62-77]/Nicaragua 67-68/Mosq Mid Amer// for collections 62-66 by cooperator T. Brown and collections 67-77 made expressly for the project by A. J. Adames and A. Herrera; and //NIC [handwritten 80-135]/Nicaragua 7/Mosq Mid Amer// for collections made expressly for the project by D. and K. Schroeder. See Summary of Collections below for the dates and general areas where the collections were made.

The location of a collection was determined in some instances on Republica de Nicaragua 1:2,000,000, Esso road map, 1963 or on Central America 1:250,000, series E501, sheets NC16N-2, 16N-3, 17N-1, 17N-4; ND16N-6, 16S-2, 16S-5, 17N-4, 17S-1, 17S-4; ed. 1-AMS, ed. 2-AMS. In other instances the location, as well as the elevation and grid coordinates of collections were determined on World 1:250,000, series 1501, sheets ND16-15, ND17-13, ed. 1; Nicaragua 1:50,000, series E751, sheets 2655-2, 2852-1, 2953-1, -2, 3050-3, -4, 3051-4, 3055-3, ed. 1-AMS; Central America 1:250,000, series E503, sheets ND16-3, -14, -15, ed. 1-AMS.

#### Summary of Collections

NI 1-60	12 Jun-24 Jul 1964	J. N. Belkin (JB), A. Quinonez (AQ)	Jinotega, Leon, Managua, Matagalpa, Zelaya
NIC 61	Not used		
NIC 62-66	28 Apr 1967	T. W. Brown (TB)	Comarca de el Cabo
NIC 67-77	12-14 Sept 1967	A. J. Adames (AA), A. Herrera (AH)	Zelaya
NIC 78-79	Not used		
NIC 80-135	20-28 Nov 1971	D. Schroeder (DS), K. Schroeder (KS)	Managua, Zelaya

#### NI, NIC Collection Records

1. Leon, Puerto Somoza, abandoned salina (16PEJ2648?), near sea level; 12 Jun 64, AQ. Crabholes at base of tree on salina; water muddy; full sun. *De. pseudes*.
2. Leon, Puerto Somoza, abandoned salina (16PEJ2648?), near sea level; 12 Jun 64, AQ. Treehole at edge of salina; 1-2m above ground; water muddy; deep shade. *Hg. (Hag.) anastasionis*.
3. Leon, Puerto Somoza, abandoned salina (16PEJ2648?), near sea level; 13 Jun 64, AQ. Adults in crabholes at edge of salina; 0700-1000hrs. *Ae. (Och.) taeniorhynchus*, *De. howardi*, *De. pseudes*.
4. Leon, Puerto Somoza, abandoned salina (16PEJ2648?), near sea level; 13 Jun 64, AQ. Treehole in second growth; 1-2.5m above ground; water dark; deep shade. *Ae. (Pro.) podographicus*, *Hg. (Hag.) anastasionis*.
5. Leon, Puerto Somoza, abandoned salina (16PEJ2648?), near sea level; 13 Jun 64, AQ. Crabholes in second growth at edge of salina; water muddy; partial shade. *De. howardi*, *De. pseudes*.
6. Leon, Puerto Somoza, (16PEJ2648?), near sea level; 14 Jun 64, AQ. Salt water well (6m deep); water muddy; partial shade. *Cx. (Cux.) coronator* group, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.) quinquefasciatus*.
7. Leon, Puerto Somoza, near cardboard factory (16PEJ2648?), near sea level; 14 Jun 64, AQ. Small ground pool; water brackish; full sun. *Ae. (Och.) taeniorhynchus*, *Cx. (Cux.) quinquefasciatus*.
8. Leon, Puerto Somoza, "Simonillo"; 14 Jun 64, AQ. Adults resting in second growth; 0700-1100 hrs. *Hg. (Hag.) anastasionis*, *Hg. (Hag.) equinus*.
9. Leon, Puerto Somoza, "Simonillo"; 15 Jun 64, AQ. Rockholes along river; water clear; full sun. *Cx. (Cux.) coronator* group, *Cx. (Cux.) declarator* group, *Ps. (Gra.) confinnis* group.
10. Leon, Puerto Somoza, "Simonillo"; 15 Jun 64, AQ. Treehole in second growth; 1.2m above ground; water dark; partial shade. *Ae. (Pro.) podographicus*, *Hg. (Hag.) anastasionis*, *Tx. (Lyn.)* sp undetermined.
11. Leon, Puerto Somoza, "Simonillo"; 15 Jun 64, AQ. Treehole in second growth; 1.5m above ground; water dark; partial shade. *Ae. (Pro.) podographicus*.
12. Leon, Puerto Somoza, "Simonillo"; 16 Jun 64, AQ. Treehole in second growth; 1.2m above ground; water dark; partial shade. *Ae. (Pro.) podographicus*, *Hg. (Hag.) anastasionis*, *Hg. (Hag.) equinus*, *Tx. (Lyn.) moctezuma*.
13. Leon, Puerto Somoza, "Isla Penas Blancas," near sea level; 16 Jun 64, AQ. Adults taken with aspirator in second growth; 0700-1100hrs. *Ae. (Och.) angustivittatus*, *Ae. (Och.) taeniorhynchus*, *Ps. (Jan.) varipes*.
14. Leon, Puerto Somoza, "Isla Penas Blancas," near sea level; 17 Jun 64, AQ. Adults aspirated from crabholes; 0700-1100hrs. *De. howardi*, *De. pseudes*.
15. Leon, Puerto Somoza, "Isla Penas Blancas," near sea level; 17 Jun 64, AQ. Crabholes along river; water muddy; partial shade. *Ae. (Och.) taeniorhynchus*, *De. howardi*, *De. pseudes*.

## NI, NIC Collection Records

16. Leon, Puerto Somoza (16PEJ2648?), near sea level; 17 Jun 64, AQ. Shannon trap; 2m above ground; 1830-2000hrs. *Ae. (Och.) taeniorhynchus*, *An. (Nys.) albimanus*, *Ps. (Gra.) confinnis* group, *Sy.* sp undetermined.
17. Leon, Puerto Somoza, "Pantano El Esparto" near El Tamarindo (16PEJ3052?), near sea level; 18 Jun 64, AQ. Adults at horse in second growth; 0700-1100hrs. *Hg. (Hag.) ?anastasionis*, *Ma. (Man.)* sp undetermined, *Ps. (Jan.) cyanescens*, *Ps. (Jan.) ?mexicana*, *Ps. (Jan.)* sp 2.
18. Leon, Puerto Somoza, El Cobano (16PEJ2848?), 20m; 18 Jun 64, AQ. Small ground pools in second growth; water muddy; partial shade. *Cx. (Cux.) declarator* group, *Cx. (Mel.)* sp undetermined.
19. Leon, Puerto Somoza, "Pantano El Esparto" near El Tamarindo (16PEJ3052?), near sea level; 18 Jun 64, AQ. Large ground pools in swamp; water clear; abundant grassy vegetation; full sun. *An. (Nys.) albimanus*, *Cx. (Mel.) erraticus*.
20. Leon, Puerto Somoza, salina (16PEJ2648?), near sea level; 18 Jun 64, AQ. Shannon trap at edge of salina; 2.5m above ground; 1800-2000hrs. *Ae. (Och.) taeniorhynchus*, *Ae. (Och.) angustivittatus*, *An. (Nys.) albimanus*, *De. nicoyae*, *De. pseudes*, *Hg. (Hag.) anastasionis*.
21. Leon, Puerto Somoza, "Las Penconas"; 19 Jun 64, AQ. Artificial container (car tire) in domestic area; water muddy; deep shade. *Cx. (Cux.) interrogator*, *Cx. (Cux.) quinquefasciatus*, *Cx. (Cux.)* sp undetermined.
22. Leon, Puerto Somoza, "Las Penconas"; 19 Jun 64, AQ. "Cattle drinking place" in second growth; water clear; deep shade. *An. (Ano.) pseudopunctipennis*, *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group, *Ps. (Gra.) confinnis* group.
23. Leon, Puerto Somoza, "Rio Las Tinajas near El Empalme"; 20 Jun 64, AQ. Rockholes along river; water clear; full sun. *An. (Ano.) pseudopunctipennis*, *An. (Nys.) albimanus*, *Cx. (Cux.) ?coronator* group.
24. Leon, Puerto Somoza, "Rio Las Tinajas near El Empalme"; 20 Jun 64, AQ. Small ground pools along river; water muddy; full sun. *Cx. (Cux.) coronator* group.
25. Leon, Puerto Somoza (16PEJ2548?), near sea level; 20 Jun 64, AQ. Shannon trap in domestic area; 2m above ground; 1820-2000hrs. *Ae. (Och.) taeniorhynchus*, *An. (Nys.) albimanus*, *Cx. (Cux.)* sp undetermined.
26. Leon, Puerto Somoza, abandoned salina (16PEJ2648?), near sea level; 21 Jun 64, AQ. Adults resting in crabholes; 0700-1100hrs. *De. howardi*, *De. pseudes*.
27. Leon, Puerto Somoza, abandoned salina (16PEJ2648?), near sea level; 21 Jun 64, AQ. Crabholes in salina; water muddy; partial shade. *De. howardi*, *De. pseudes*.
28. Leon, Puerto Somoza (16PEJ2648?), near sea level; 21 Jun 64, AQ. Shannon trap; 1830-2100 hrs. *Ae. (Och.) taeniorhynchus*, *An. (Nys.) albimanus*.
29. Leon, Puerto Somoza, "Pantano El Esparto" near El Tamarindo (16PEJ3052?), near sea level; 22 Jun 64, AQ. Swamp; water clear; abundant grassy vegetation; full sun. *An. (Ano.) pseudopunctipennis*, *An. (Nys.) albimanus*, *Cx. (Mel.) erraticus*, *Ur.* sp undetermined.
30. Leon, Puerto Somoza, "Simonillo"; 22 Jun 64, AQ. Rockholes along river; water clear; full sun. *An. (Ano.) pseudopunctipennis*, *An. (Nys.) albimanus*, *Cx. (Cux.) quinquefasciatus*, *Cx. (Mel.) conspirator*.
31. Leon, Puerto Somoza, Las Enramadas, "Cuartel de la garita" (16PEJ3232), near sea level; 23 Jun 64, AQ. Large artificial containers (barrels) in domestic area; water clear; partial shade. *Cx. (Cux.) coronator* group, *Cx. (Cux.) quinquefasciatus*.
32. Leon, Puerto Somoza, "Simonillo"; 23 Jun 64, AQ. Rockholes along river; water dark; full sun. *An. (Ano.) pseudopunctipennis*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) declarator* group, *Cx. (Mel.) conspirator*, *Cx. (Mel.) educator*, *Cx. (Mel.)* sp undetermined.
33. Leon, Puerto Somoza, Las Enramadas (16PEJ3232), near sea level; 25 Jun 64, AQ. "Cattle drinking place" in domestic area; water clear; deep shade. *An. (Ano.) pseudopunctipennis*, *Cx. (Cux.) coronator* group.
- 33A. Managua, San Jacinto, Natl. Rt. 1 just N of road to San Jacinto, 6km N of San Benito (16PFJ 034656), 75m; 3 Jul 64, JB, AQ. Small ground pool along road; water muddy; some grassy and herbaceous vegetation; bottom with mud; partial shade. *Cx. (Cux.)* sp undetermined, *Ps. (Pso.) howardii*.

## NI, NIC Collection Records

- 33B. Matagalpa, Dario, Natl. Rt. 1, km 73, about 15km S of Dario, Laguna Tecomapa (16PFJ039 5), 450m; 3 Jul 64, JB, AQ. Small ground pool along road; water clear; some algae, grassy vegetation; bottom with mud; full sun. *An. (Ano.) pseudopunctipennis*, *Cx. (Cux.)* sp undetermined, *Ps. (Gra.) confinnis* group, *Ps. (Pso.) howardii*.
- 33C. Jinotega, Jinotega, Natl. Rt. 3, Santa Ana del Paraiso (16PFK1242), 1550m; 3 Jul 64, JB, AQ. Epiphytic bromeliads (several small to medium sized); 2.5m-above ground; partial shade. *Ae. (How.) allotecon*.
34. Zelaya, Bluefields, "Punta Fria," near sea level; 11 Jul 64, AQ. Crabholes in second growth; water clear; partial shade. *Cx. (Cux.) inflictus* group, *De. cancer*, *De. epitedeus*.
35. Zelaya, Bluefields, "Punta Fria," near sea level; 11 Jul 64, AQ. Ground pool in second growth; water clear; partial shade. *Cx. (Cux.) corniger*, *Cx. (Cux.) declarator* group, *Cx. (Cux.) interrogator*, *Cx. (Cux.) quinquefasciatus*.
36. Zelaya, Bluefields, "Punta Fria," near sea level; 11 Jul 64, AQ. Adults biting-landing on man; 1300-1600hrs. *Hg. (Hag.) iridicolor*, *Wy.* sp undetermined.
37. Zelaya, Bluefields, "Punta Fria," near sea level; 11 Jul 64, AQ. Adults biting-landing on man in house; 1830-1930hrs. *Cx. (Cux.) quinquefasciatus*.
38. Zelaya, Bluefields, "Punta Fria," near sea level; 12 Jul 64, AQ. Treehole; 1m above ground. *Cx. (Cux.)* sp undetermined, *Hg. (Hag.) iridicolor*.
39. Zelaya, Bluefields, "Punta Fria," near sea level; 12 Jul 64, AQ. Swamp margin; water clear; full sun. *An. (Nys.) albimanus*, *Cx. (Mel.) chrysonotum*, *Cx. (Mel.) pilosus*.
40. Zelaya, Bluefields, "Punta Fria," near sea level; 12 Jul 64, AQ. Ground pool in domestic area; water clear; partial shade. *Cx. (Cux.) corniger*, *Cx. (Cux.) quinquefasciatus*.
41. Zelaya, Bluefields, "Old Bank," near sea level; 13 Jul 64, AQ. Swamp margin; water clear; full sun. *Ur. geometrica*.
42. Zelaya, Bluefields, "Old Bank," near sea level; 13 Jul 64, AQ. Treehole in second growth; 1.5m above ground; water dark; partial shade. *Hg. (Hag.) iridicolor*.
43. Zelaya, Bluefields, "Old Bank," near sea level; 13 Jul 64, AQ. Treehole in second growth; 1m above ground; water dark; partial shade. *Hg. (Hag.) iridicolor*.
44. Zelaya, Bluefields, "Old Bank," near sea level; 13 Jul 64, AQ. Epiphytic bromeliads in second growth; 6m above ground; partial shade. *Cx. (Mcx.) jenningsi* group, *Tx. (Lyn.) superbus*, *Wy. (Wyo.) caelaenoccephala*.
45. Zelaya, Bluefields, "Old Bank," near sea level; 13 Jul 64, AQ. Ground pool in roots of mango tree in domestic area; water dark; partial shade. *Cx. (Cux.) corniger*, *Cx. (Cux.) coronator* group, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.) quinquefasciatus*.
46. Zelaya, Bluefields (17PJD9829), near sea level; 14 Jul 64, AQ. Bamboo in domestic area; water muddy; partial shade. *Cx. (Cux.) quinquefasciatus*.
47. Zelaya, Bluefields, "El Aserrio," near sea level; 14 Jul 64, AQ. Treehole in forest; 1m above ground; water muddy; partial shade. *Hg. (Hag.) equinus*, *Hg. (Hag.) iridicolor*.
48. Zelaya, Bluefields, "El Aserrio," near sea level; 14 Jul 64, AQ. Treehole in forest; 1.5m above ground; water muddy; partial shade. *Cx. (And.) corrigani*.
49. Zelaya, Bluefields, Bluefields Airport (17PJD9828), near sea level; 15 Jul 64, AQ. Leaf axils of *Heliconia* in second growth; water clear; partial shade. *Tr. (subg. A) ulopus*, *Wy. (Prs.) complosa*.
50. Zelaya, Bluefields, Bluefields Airport (17PJD9828), near sea level; 15 Jul 64, AQ. Adults trying to bite man; 0700-1200hrs. *Ae. (Och.) serratus* group, *Ps. (Gra.) cingulata* group, *Ps. (Jan.) ferox*.
51. Zelaya, Bluefields, "Punta Fria," near sea level; 15 Jul 64, AQ. Crabholes in second growth; water muddy; partial shade. *Cx. (Cux.) inflictus* group, *De. cancer*, *De. epitedeus*.
52. Zelaya, Bluefields, Rio Escondido, near sea level; 17 Jul 64, AQ. Leaf axils of terrestrial plant (Marantaceae) in second growth; 0.3m above ground; water clear; partial shade. *Tr. (Cte.) magnum*, *Tr. (subg. A) ulopus*, *Wy. (Prs.) ?complosa*.
53. Zelaya, Bluefields, Rio Escondido, near sea level; 17 Jul 64, AQ. Cut or broken bamboo along river; 2m above ground; water muddy. *Tr. (Shn.) ?schedocyclium*, *Tr. (Trc.) pallidiventer* group, *Wy. (Pen.) arthrostigma*.

## NI, NIC Collection Records

54. Zelaya, Bluefields, Rio Escondido, near sea level; 17 Jul 64, AQ. Leaf axils of terrestrial aroid (*Dieffenbachia*) in second growth; water clear; partial shade. *Tr.* (subg. A) *ulopus*, *Wy.* (*Prs.*) *complosa*, *Wy.* (subg. D) *chalcocephala*.
55. Zelaya, Bluefields, Rio Escondido, near sea level; 18 Jul 64, AQ. Cut or broken bamboo in second growth; 1.2m above ground; water muddy; partial shade. *Wy.* (*Pen.*) *arthrostigma*, *Wy.* (*Tri.*) *?aparonoma*.
56. Zelaya, Bluefields, Rio Escondido, near sea level; 18 Jul 64, AQ. Leaf axils of terrestrial aroid (*Dieffenbachia*) in second growth; 0.3m above ground; water clear; partial shade. *Tr.* (*Trc.*) *pallidiventer* group, *Tr.* (subg. A) *ulopus*, *Wy.* (*Hys.*) sp undetermined, *Wy.* (*Prs.*) *complosa*, *Wy.* (subg. D) *chalcocephala*.
57. Zelaya, Bluefields, Rio Escondido, "Cricket," near sea level; 20 Jul 64, AQ. Cut or broken bamboo along river; 0.5-2.5m above ground; water muddy; partial shade. *Cx.* (*Car.*) *babahoyensis*, *Hg.* (*Hag.*) *iridicolor*, *Tx.* (*Lyn.*) sp F, *Tr.* (*Trc.*) *pallidiventer* group, *Wy.* (*Pen.*) *arthrostigma*, *Wy.* (*Tri.*) *?aparonoma*.
58. Zelaya, Bluefields, "Old Bank," near sea level; 21 Jul 64, AQ. Epiphytic bromeliads in second growth; 9m above ground. *Cx.* (*Mcx.*) *jenningsi* group, *Tx.* (*Lyn.*) *superbus*, *Wy.* (*Wyo.*) *celaenocephala*, *Wy.* (*Wyo.*) *pertinans* group.
59. Zelaya, Bluefields (17PJD9829), near sea level; 22 Jul 64, AQ. Treehole (in mango) in second growth; water muddy. *Cx.* (*Cux.*) *corniger*, *Cx.* (*Cux.*) *declarator* group, *Cx.* (*Cux.*) *interrogator*, *Cx.* (*Cux.*) *nigripalpus*.
60. Zelaya, Bluefields (17PJD9829), near sea level; 24 Jul 64, AQ. Adults resting inside house; 1400-1500hrs. *Cx.* (*Cux.*) *quinquefasciatus*.
61. Not used.
62. Comarca de el Cabo, about 90km NW of Puerto Cabezas, "NIPCO Lumber Plant about 30m from Lecus Creek"; 28 Apr 67, TB. Epiphytic bromeliad (medium *Aechmea*) in pine savanna; 2.5m above ground. *Wy.* (*Wyo.*) *celaenocephala*.
63. Comarca de el Cabo, about 90km NW of Puerto Cabezas, "NIPCO Lumber Plant near Lecus Creek"; 28 Apr 67, TB. Epiphytic bromeliad (large *Aechmea* on fallen pine) in pine savanna. *Wy.* (*Wyo.*) *celaenocephala*.
64. Comarca de el Cabo, about 90km NW of Puerto Cabezas, "NIPCO Lumber Plant near Lecus Creek"; 28 Apr 67, TB. Epiphytic bromeliad (large *Aechmea* on fallen pine) in pine savanna. *Wy.* (*Wyo.*) *celaenocephala*.
65. Comarca de el Cabo, about 90km NW of Puerto Cabezas, "NIPCO Lumber Plant near Lecus Creek"; 28 Apr 67, TB. Epiphytic bromeliad (large *Aechmea* on fallen pine) in pine savanna. *Wy.* (*Wyo.*) *celaenocephala*.
66. Comarca de el Cabo, about 90km NW of Puerto Cabezas, "NIPCO Lumber Plant near Lecus Creek"; 28 Apr 67, TB. Epiphytic bromeliad (large *Aechmea* on fallen pine) in pine savanna; 1.2m above ground. *Cx.* (*Mcx.*) *rejector*, *Wy.* (*Wyo.*) *celaenocephala*.
67. Zelaya, Bluefields, "El Puente del Crique el Muerto," near sea level; 12 Sept 67, AA, AH. Large crabhole in grazing area near stream; water clear, brackish; full sun. *De. epitedeus*.
68. Zelaya, Bluefields, "El Puente del Crique el Muerto," near sea level; 12 Sept 67, AA, AH. Adult resting in large crabhole (same as 67) in grazing area near stream; 1500-1730hrs. *De. epitedeus*.
69. Zelaya, Bluefields, "El Puente del Crique el Muerto," near sea level; 12 Sept 67, AA, AH. Large crabhole in grazing area near stream; water colored, brackish; bottom with mud; full sun. *Cx.* (*Tin.*) *latisquama*, *De. epitedeus*.
70. Zelaya, Bluefields, "El Puente del Crique el Muerto," near sea level; 12 Sept 67, AA, AH. Adults resting in large crabhole (same as 69) in grazing area near stream; 1500-1730hrs. *Cx.* (*Cux.*) *inflictus* group, *Cx.* (*Tin.*) *latisquama*, *De. epitedeus*.
71. Zelaya, Bluefields, "El Puente del Crique el Muerto," near sea level; 12 Sept 67, AA, AH. Large crabhole in grazing area near stream; water colored; bottom with mud; full sun. *Cx.* (*Cux.*) *inflictus* group, *Cx.* (*Tin.*) *latisquama*.
72. Zelaya, Bluefields, "El Puente del Crique el Muerto," near sea level; 12 Sept 67, AA, AH. Adult resting in large crabhole (same as 71) in grazing area near stream; 1500-1730hrs. *De. epitedeus*.

## NI, NIC Collection Records

73. Zelaya, Bluefields, "El Puente del Crique el Muerto," near sea level; 12 Sept 67, AA, AH. Adult resting in large crabhole in clearing near stream; 1500-1730hrs. *De. epitedeus*.
74. Zelaya, Bluefields, "El Puente del Crique el Muerto," near sea level; 12 Sept 67, AA, AH. Large crabhole in grazing area near stream; bottom with mud; full sun. *Cx. (Cux.) inflictus* group.
75. Zelaya, Bluefields, "El Puente del Crique el Muerto," near sea level; 12 Sept 67, AA, AH. Small treehole in grazing area near stream; water clear; partial shade. *Hg. (Hag.) iridicolor*.
76. Zelaya, about 100km N of Bluefields, "Rio Kurinwas camp," near sea level; 13 Sept 67, AA, AH. Small ground pool in clearing near stream; water semipermanent, clear, stagnant, fresh; some algae; full sun. *Cx. (Mel.) chrysonotum*, *Cx. (Mel.)* sp undetermined.
77. Zelaya, about 100km N of Bluefields, "Rio Kurinwas camp," near sea level; 13-14 Sept 67, AA, AH. Trap (New Jersey light trap) 10m from river bank; 2m above ground; 1800hrs (13 Sept)-0600hrs (14 Sept). *An. (Ano.) punctimacula*, *An. (Ano.) vestitipennis*, *An. (Nys.)* sp undetermined.
- 78-79. Not used.
80. Managua, Managua, 100m; 20 Nov 71, DS. Adults resting in hotel room; 5m above ground; 1900hrs. *Cx. (Cux.) nigripalpus*.
81. Zelaya, Bluefields, about 0.8km W of cemetery (17PJD9729), 50m; 23 Nov 71, DS, KS. Stream margin near second growth; water permanent or semipermanent, fresh, clear, with slow current; some grassy vegetation; bottom with mud, plant debris; partial shade. *Ur.* sp undetermined.
82. Zelaya, Bluefields, about 1.5km W of cemetery (17PJD9729), 50m; 23 Nov 71, DS, KS. Adults biting-landing on man along trail in dense second growth forest; 0800hrs. *An. (Ker.) neivai*, *Hg. (Hag.) iridicolor*, *Ps. (Jan.) ferox*, *Tr. (subg. A) ulopus*, *Wy. (Tri.) ?apronoma*, *Wy.* sp undetermined.
83. Zelaya, Bluefields, about 1.5 and 3km W of cemetery (17PJD9729, 9529), 50m; 23 Nov 71, DS, KS. Large terrestrial bromeliads in second growth; partial-full sun. *An. (Ker.) neivai*, *Co.* sp 29, *Cx. (Mcx.) jenningsi* group, *Or. phyllozoa*, *Wy. (Hys.)* sp C, *Wy. (Wyo.) melanopus*, *Wy. (Wyo.) pertinans* group sp B.
84. Zelaya, Bluefields, about 2.5-3km W of cemetery (17PJD9529), 50m; 23 Nov 71, DS, KS. Adults biting man along trail in dense second growth forest; 1200hrs. *Ae. (Och.) angustivittatus*, *Wy.* sp undetermined.
85. Zelaya, Bluefields, about 2.5km W of cemetery (17PJD9629), 50m; 23-24 Nov 71, DS. Trap (CDC light trap) in dense second growth forest; 2m above ground; 1800hrs (23 Nov)-0600hrs (24 Nov). *An. (Ano.) apicimacula*, *Ch. bathana*, *Cq. (Rhy.) fasciolata* group, *Cx. (Cux.) nigripalpus*, *Cx. (Cux.)* sp undetermined, *Cx. (Mel.) chrysonotum*, *Ps. (Gra.) cingulata* group.
86. Zelaya, Bluefields, about 1.5km W of cemetery (17PJD9729), 50m; 23-24 Nov 71, DS. Trap (CDC light trap) in second growth forest; 2m above ground; 1815hrs (23 Nov)-0600hrs (24 Nov). *Cx. (Cux.) nigripalpus*, *Cx. (Mel.)* sp undetermined.
87. Zelaya, Bluefields (17PJD9929), 5m; 24 Nov 71, DS, KS. Adults flying and resting in hotel room; 0500-0600hrs. *Cx. (Cux.) ?quinquefasciatus*.
88. Zelaya, Bluefields, about 1.5km NW of Bluefields (17PJD9731), 5m; 24 Nov 71, DS. Small treehole in dense second growth; 0.5m above ground; water turbid, slightly brownish, volume about 50 ml; bottom with plant debris; deep-partial shade. *Tx. (Lyn.) hypoptes*.
89. Zelaya, Bluefields, about 1.5km NW of Bluefields (17PJD9731), 5m; 24 Nov 71, DS. Adults biting-landing on man under dense vegetation; 1000-1400hrs; deep-partial shade. *Ae. (Och.) angustivittatus*, *Cq. (Rhy.) fasciolata* group.
90. Zelaya, Bluefields, about 1.5km NW of Bluefields (17PJD9731), 5m; 24 Nov 71, DS. Large treehole in second growth; 2m above ground; water clear, yellowish; opening clogged with dead leaves; bottom with plant debris; deep-partial shade. *Tx. (Lyn.) hypoptes*.
91. Zelaya, Bluefields, about 0.8km NW of Bluefields, sawmill pumping station (17PJD9831), 5m; 24 Nov 71, DS. Pond in clearing; water permanent, clear, stagnant, fresh; some grassy vegetation; bottom with mud, plant debris; full sun. *Cx. (Mel.) ?educator*.
92. Zelaya, Bluefields, about 1.5km NW of Bluefields (17PJD9731), 5m; 24 Nov 71, DS. Small treehole in second growth; 2m above ground; water clear, slightly yellowish; bottom with plant debris; partial shade. *Tx. (Lyn.) hypoptes*.

## NI, NIC Collection Records

93. Zelaya, Bluefields, about 2.5km W of cemetery (17PJD9629), 50m; 25 Nov 71, DS. Adults biting-landing on man along trail in second growth; 1100-1200hrs. *Cq. (Rhy.) ?fasciolata* group, *Ps. (Gra.) cingulata* group, *Ps. (Jan.) ?ferox*.
94. Zelaya, Bluefields, about 2.5km W of cemetery (17PJD9629), 50m; 25 Nov 71, DS. Streamside rockhole in thick second growth; no vegetation; bottom with a few dead leaves; partial shade. *Cx. (Mel.) elevator*.
95. Zelaya, Bluefields, about 2.5km W of cemetery (17PJD9629), 50m; 25 Nov 71, DS. Adult resting near streamside rockhole (same as 94) in second growth; 0900hrs; partial shade. *Cx. (Mel.) ?elevator*.
96. Zelaya, Bluefields, about 2.5km W of cemetery (17PJD9629), 50m; 25 Nov 71, DS. Streamside rockholes (2 small) in second growth; water clear; no vegetation; bottom with dead leaves; partial shade. *Cx. (Mel.) elevator*.
97. Zelaya, Bluefields, about 2.5km W of cemetery (17PJD9629), 50m; 25 Nov 71, DS. Stream margin in second growth; water permanent, clear, fresh, with slow current; some vegetation; bottom with mud, rock, plant debris. *Dx.* sp undetermined.
98. Zelaya, Bluefields, about 1.5km W of cemetery (17PJD9729), 50m; 24 Nov 71, DS. Adult biting-landing on man along trail in second growth; 0600hrs; partial shade. *Cx. (Cux.)* sp undetermined.
99. Zelaya, Bluefields, about 1.5km W of cemetery (17PJD9729), 50m; 24 Nov 71, DS. Bromeliad (originally epiphytic but fallen and growing on ground; about 0.75m wide; leaves light green, 4cm wide, margins entire) in second growth; deep-partial shade. *An. (Ker.) neivai*, *Cx. (Mcx.) jenningsi* group, *Wy. (Hys.)* sp H, *Wy. (Wyo.) simmsi*, *Wy. (Wyo.) pertinans* group sp B.
100. Zelaya, Bluefields, about 1.5km W of cemetery (17PJD9729), 50m; 24 Nov 71, DS, KS. Bromeliads (originally epiphytic but fallen and growing on ground; clump of 3 small rosettes; leaves light green, margins entire) in second growth; partial shade. *Wy. (Wyo.) pertinans* group sp B.
101. Zelaya, Bluefields, about 0.8km NW of Bluefields, sawmill pumping station (17PJD9831), 5m; 25-26 Nov 71, DS. Trap (CDC light trap) in dense second growth near pond; 2m above ground; 1730hrs (25 Nov)-0630hrs (26 Nov). *Ad. squamipennis*, *An. (Ano.) apicimacula*, *Cq. (Rhy.) fasciolata* group, *Cq. (Rhy.) nigricans*, *Cx. (Cux.) corniger*, *Cx. (Cux.) nigripalpus*, *Cx. (Mel.) epanastasis*, *Cx. (Mel.)* sp undetermined, *Cx. (Tin.) latisquama*, *Ps. (Gra.) cingulata* group.
102. Zelaya, Bluefields, about 0.8km NW of Bluefields, sawmill pumping station (17PJD9831), 5m; 25-26 Nov 71, DS. Trap (CDC light trap) in dense second growth; 2m above ground; 1730hrs (25 Nov)-0630hrs (26 Nov). *Cq. (Rhy.) fasciolata* group, *Cx. (Mel.)* spp undetermined.
103. Zelaya, Bluefields, about 0.8km NW of Bluefields, sawmill pumping station (17PJD9831), 5m; 26 Nov 71, DS. Adults biting-landing on man in second growth; 0630hrs; deep shade. *Cq. (Rhy.) fasciolata* group.
104. Zelaya, Bluefields, about 2.5km W of cemetery (17PJD9629), 50m; 23 Nov 71, DS, KS. Flower bracts of *Heliconia* (10 bracts) in second growth; almost no water present, only moist debris; partial shade. *Wy. (Dec.)* sp undetermined.
105. Zelaya, Bluefields, about 1.5km S of Bluefields, near Bluefields Airport (17PJD9827), 10m; 26 Nov 71, DS, KS. Large terrestrial bromeliad (pineapple-like) in young second growth near sea; very little water in axils; partial shade. *Wy. (Wyo.) melanopus*, *Wy. (Wyo.) pertinans* group sp B.
106. Zelaya, Bluefields, about 1.5km S of Bluefields, near Bluefields Airport (17PJD9827), near sea level; 26 Nov 71, DS, KS. Large artificial container (swimming pool) in domestic area near sea; some algae; full sun. *Cx. (Cux.) coronator* group.
107. Zelaya, Bluefields, about 1.5km S of Bluefields, near Bluefields Airport (17PJD9827), near sea level; 26 Nov 71, DS, KS. Large artificial container (5m long boat) in domestic area near sea; water clear, fresh; some algae; bottom with mud, plant debris; full sun. *An. (Nys.) albimanus*, *Cx. (Cux.) coronator* group.
108. Zelaya, Bluefields, about 2.5km S of Bluefields (17PJD9926), near sea level; 26 Nov 71, DS, KS. Fallen coconut shell near sea; water clear, fresh; bottom with fine plant debris; partial shade. *Hg. (Hag.) iridicolor*, *Li. durhamii*, *Wy. (Tri.) aporonoma*.
109. Zelaya, Bluefields, Punta Masaya, about 3km S of Bluefields (17PJD9925), near sea level; 26 Nov 71, DS, KS. Crabholes (3 small, 1 large) in marshy area about 5m from seashore; water 15-20cm

## NI, NIC Collection Records

below ground level, clear, fresh to taste; no vegetation; bottom with mud; partial-full sun. *Cx. (Cux.) inflictus* group, *Cx. (Tin.) latisquama*, *De. epitedeus*.

110. Zelaya, Bluefields, Punta Masaya, about 3km S of Bluefields (17PJD9925), near sea level; 26 Nov 71, DS. Adult biting-landing on man in open marshy area near sea (same site as 109); 1700hrs; progeny rearings made: eggs laid individually on moist surface of vial, eggs first seen 3 Dec, then laid over period of 4 days. *Tr. (Iso.) ?espini*.

111. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 27 Nov 71, DS, KS. Crabholes (about 15, large and small) in grassy area 2-6m from seashore; water level 15-40cm below ground level, turbid, slightly milky, fresh to taste; no vegetation; bottom with mud; partial shade. *Cx. (Cux.) inflictus* group, *Cx. (Mel.) iolambdis*, *Cx. (Tin.) latisquama*, *De. epitedeus*.

112. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 27 Nov 71, DS, KS. Adults biting-landing on man in open 2-6m from seashore (same site as 111); 1000-1400hrs; full sun. *Hg. (Hag.) iridicolor*, *Ps. (Gra.) cingulata* group.

113. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 27 Nov 71, DS, KS. Adults biting man along trail in partially cleared second growth; deep-partial shade; progeny rearings attempted: P-1 eggs laid singly 30 Nov randomly throughout vial, P-2 eggs laid 12 Dec on moist cotton singly but in straight line. *Ae. (Och.) angustivittatus*, *Cq. (Rhy.) fasciolata* group (oviposited), *Tr. (subg. A) ?ulopus*, *Wy. sp* undetermined.

114. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 27 Nov 71, KS. Small artificial container (tin can) in open domestic area near sea; water turbid, dark brown, fresh, foul; no vegetation; partial shade. *Tr. (Trc.) digitatum*.

115. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 27 Nov 71, DS, KS. Large treehole in clearing near sea; 2.5m above ground; water clear; bottom with plant debris; partial shade. *Hg. (Hag.) iridicolor*.

116. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), 5m; 27 Nov 71, DS, KS. Leaf axils of terrestrial aroid (taro) in plantation; water clear. *Tx. (Lyn.) superbus*, *Tr. (subg. A) ulopus*, *Wy. (Prs.) complosa*, *Wy. (Wyo.) melanopus*, *Wy. (subg. D) chalconecephala*.

117. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), 5m; 27 Nov 71, DS. Large treehole in partially cleared area; 1.5m above ground; water clear, amber; bottom with plant debris; partial shade. *Cx. (Cux.) mollis*, *Hg. (Hag.) iridicolor*.

118. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), 5m; 27 Nov 71, DS. Large treehole in partially cleared area; water clear, tan; bottom with plant debris; partial shade. *Hg. (Hag.) iridicolor*, *Wy. (Tri.) aporonomia*.

119. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 27 Nov 71, KS. Fallen coconut shell in open domestic area near sea; water turbid, muddy gray, foul; bottom with mud; partial shade. *Tr. (Trc.) digitatum*.

120. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 27 Nov 71, DS, KS. Large artificial container (gal. cooking pot) in open domestic area near sea; water clear, fresh; no vegetation; bottom with plant debris; partial shade. *Cx. (Cux.) mollis*.

121. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 27 Nov 71, DS. Epiphytic bromeliad (1.5m wide; holding about 100ml of water in lower axils; leaves pliable, light green, margins entire) in partially cleared area near sea; 4m above ground; partial shade. *An. (Ker.) neivai*, *Cx. (Mcx.) jenningsi* group, *Tx. (Lyn.) superbus*, *Wy. (Hys.) sp* undetermined, *Wy. (Wyo.) celaeocephala*.

122. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 27 Nov 71, DS. Eggraft from crabhole (same as 111) in grassy area 2-6m from seashore; water level 15-40cm below ground level, turbid, slightly milky, fresh to taste; no vegetation; bottom with mud; partial shade. *Cx. (Cux.) inflictus* group.

123. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), 5m; 27-28 Nov 71, DS. Trap (CDC light trap) in dense vegetation near edge of palm swamp; 2m above ground; 1630hrs (27 Nov)-0600hrs (28 Nov); deep-partial shade. *Cq. (Rhy.) fasciolata* group, *Cx. (Cux.) inflictus* group, *Cx. (Cux.) nigripalpus*, *Cx. (Mel.) elevator*, *Cx. (Mel.) epanastasis*, *Cx. (Mel.) opisthopus*, *Cx. (Mel.) sp* undetermined, *Cx. (Tin.) latisquama*, *De. epitedeus*, *Ur. nataliae*.



## NI, NIC Collection Records

124. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), 5m; 28 Nov 71, DS, KS. Crabholes (5 small, 2 large) near margin of palm swamp about 0.5km from sea; water level 10-40cm below ground level, turbid, milky tan, fresh; no vegetation; bottom with mud; deep-partial shade. *Cx. (Tin.) latisquama*, *De. epitedeus*, *Lz. ?sp 5*.

125. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), 5m; 28 Nov 71, DS. Adults biting-landing on man in dense vegetation; 1000hrs. *Cq. (Rhy.) arribalzagai*, *Wy. sp* undetermined.

126. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), near sea level; 28 Nov 71, DS. Small treehole (opening a small vertical slit) in open domestic area near sea; 4m above ground; water clear, tan; bottom with plant debris; partial shade. *Hg. (Hag.) iridicolor*.

127. Zelaya, Bluefields, S side of Punta Masaya, about 4km S of Bluefields (17PJD9925), 5m; 28 Nov 71, DS, KS. Fallen leaf in pineapple field; water clear; bottom with very small amount of plant debris; full sun. *Li. durhamii*.

128. Zelaya, Bluefields, N side of Punta Masaya, about 3km S of Bluefields (17PJD9925), near sea level; 28 Nov 71, DS. Small treehole (with lateral opening) at edge of mangrove area about 5m from sea-shore; 1.7m above ground; water clear, amber; bottom with plant debris; partial shade. *Hg. (Hag.) iridicolor*.

129. Zelaya, Bluefields, N side of Punta Masaya, about 3km S of Bluefields (17PJD9925), near sea level; 28 Nov 71, DS. Hole in piece of "tree-like bamboo" in driftwood pile between sea and mangroves; water clear, fresh; bottom with plant debris. *Hg. (Hag.) iridicolor*.

130. Zelaya, Bluefields, N side of Punta Masaya, about 3km S of Bluefields (17PJD9925), near sea level; 28 Nov 71, DS. Hole in piece of "tree-like bamboo" in driftwood pile between sea and mangroves; water clear, fresh; bottom with plant debris. *Cx. (Cux.) mollis*.

131. Zelaya, Bluefields, S edge of Bluefields (17PJD9928), 5m; 28 Nov 71, DS. Small treehole in open domestic area near sea; water clear, tan; bottom with plant debris; partial shade. *Hg. (Hag.) iridicolor*.

132. Zelaya, Bluefields, S edge of Bluefields (17PJD9928), 5m; 28 Nov 71, DS. Epiphytic bromeliad (1m wide; about 80-100ml of water per axil; leaves pliable, light green, margins entire) in domestic area near sea; 2m above ground; partial shade. *Cx. (Mex.) jenningsi* group, *Wy. (Wyo.) celaenocephala*.

133. Zelaya, Bluefields, about 1.5km NW of Bluefields (17PJD9731), 5m; 24 Nov 71, DS. Debris sample from large treehole in crotch of tree; first flooding yielded 1 larva, second flooding after drying was sterile. *Co. appendiculata*.

134. Zelaya, Bluefields, about 0.8km NW of Bluefields (17PJD9831), 5m; 24 Nov 71, DS. Debris sample from treehole; first flooding yielded several larvae, second flooding was sterile. *Hg. (Hag.) iridicolor*.

135. Zelaya, Bluefields, about 1.5km NW of Bluefields (17PJD9731), 5m; 24 Nov 71, DS. Debris sample from treehole; first flooding yielded a few larvae, second flooding sterile. *Hg. (Hag.) iridicolor*.

## NI, NIC Locality Index

## COMARCA DE EL CABO

*Lecus Creek*. "NIPCO Lumber Plant near Lecus Creek, about 90km NW of Puerto Cabezas."—62, 63, 64, 65, 66.

## JINOTEGA

*Santa Ana del Paraiso*, Natl. Rt. 3 S of Jinotega (16PFK1242), 1550m.—33C.

## LEON

*El Cobano* (16PEJ2848?), 20m.—18.

"*Isla Penas Blancas*," near sea level.—13, 14, 15.

*Las Enramadas* (16PEJ3232), near sea level.—31, 33.

"*Las Penconas*."—21, 22.

"*Pantano El Esparto*," near El Tamarindo (16PEJ3052?), near sea level.—17, 19, 29.

### NI, NIC Locality Index

*Puerto Somoza* (16PEJ2548, 2648), near sea level.—1, 2, 3, 4, 5, 6, 7, 16, 20, 25, 26, 27, 28.  
 “*Rio Las Tinajas*, near El Empalme.”—23, 24.  
 “*Simonillo*.”—8, 9, 10, 11, 12, 30, 32.

#### MANAGUA

*Managua*, 100m.—80.

*San Jacinto*. Natl. Rt. 1, just N of road to San Jacinto, 6km N of San Benito (16PFJ034656), 75m.—33A.

#### MATAGALPA

*Laguna Tecomapa*. Natl. Rt. 1, km 73, about 15km S of Dario (16PFJ0395), 450m.—33B.

#### ZELAYA

*Bluefields*. Many localities in or within a few km of Bluefields, near sea level-50m.—34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 58, 59, 60, 67, 68, 69, 70, 71, 72, 73, 74, 75, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 131, 132, 133, 134, 135.

*Punta Masaya*, 3-4km S of Bluefields (17PJD9925), near sea level-5m.—109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130.

“*Rio Kurinwas camp*,” about 100km N of Bluefields, near sea level.—76, 77.

*Rio Escondido*, near sea level.—52, 53, 54, 55, 56, 57.

### NI, NIC Species Index

*Aedeomyia squamipennis* (Lynch Arribalzaga 1878).—101.

*Aedes* (*Howardina*) *allotecnon* Kumm, Komp and Ruiz 1940.—33C.

*Aedes* (*Ochlerotatus*) *angustivittatus* Dyar and Knab 1907.—13, 20, 84, 89, 113.

*Aedes* (*Ochlerotatus*) *serratus* group: *nubilus*, *serratus* or related sp.—50.

*Aedes* (*Ochlerotatus*) *taeniorhynchus* (Wiedemann 1821).—3, 7, 13, 15, 16, 20, 25, 28.

*Aedes* (*Protomacleaya*) *podographicus* Dyar and Knab 1906.—4, 10, 11, 12.

*Anopheles* (*Anopheles*) *apicimacula* Dyar and Knab 1906.—85, 101.

*Anopheles* (*Anopheles*) *pseudopunctipennis* Theobald 1901.—22, 23, 29, 30, 32, 33, 33B.

*Anopheles* (*Anopheles*) *punctimacula* Dyar and Knab 1906.—77.

*Anopheles* (*Anopheles*) *vestitipennis* Dyar and Knab 1906.—77.

*Anopheles* (*Kerteszia*) *neivai* Howard, Dyar and Knab 1913.—82, 83, 99, 121.

*Anopheles* (*Nyssorhynchus*) *albimanus* Wiedemann 1820.—16, 19, 20, 22, 23, 25, 28, 29, 30, 39, 107.

*Anopheles* (*Nyssorhynchus*) sp undetermined.—77.

*Chagasia bathana* (Dyar 1928).—85.

*Coquillettidia* (*Rhynchoaenia*) *arribalzagai* (Theobald 1903).—125.

*Coquillettidia* (*Rhynchoaenia*) *fasciolata* group: *fasciolata*, *venezuelensis* or related sp.—85, 89, ?93, 101, 102, 103, 113, 123.

*Coquillettidia* (*Rhynchoaenia*) *nigricans* (Coquillett 1904).—101.

*Corethrella appendiculata* Grabham 1906.—133.

*Corethrella* sp 29: possibly sp 10.—83.

*Culex* (*Anoedioporpa*) *corriganii* Dyar and Knab 1907.—48.

*Culex* (*Carrollia*) *babahoyensis* Levi-Castillo 1953.—57.

*Culex* (*Culex*) *corniger* Theobald 1903.—35, 40, 45, 59, 101.

*Culex* (*Culex*) *coronator* group: *coronator*, *ousqua* and/or related sp.—6, 9, 22, ?23, 24, 31, 32, 33, 45, 106, 107.

*Culex* (*Culex*) *declarator* group: *declarator*, *proclamator* and/or related sp.—9, 18, 32, 35, 59.

*Culex* (*Culex*) *inflictus* group: *inflictus* or related sp.—34, 51, 70, 71, 74, 109, 111, 122, 123.

*Culex* (*Culex*) *interrogator* Dyar and Knab 1906.—21, 35, 59.

*Culex* (*Culex*) *mollis* Dyar and Knab 1906.—117, 120, 130.

## NI, NIC Species Index

- Culex (Culex) nigripalpus* Theobald 1901.—6, 45, 59, 80, 85, 86, 101, 123.  
*Culex (Culex) quinquefasciatus* Say 1823.—6, 7, 21, 30, 31, 35, 37, 40, 45, 46, 60, ?87.  
*Culex (Culex)* sp undetermined.—21, 25, 33A, 33B, 38, 85, 98.  
*Culex (Melanoconion) chrysonotum* Dyar and Knab 1908.—39, 76, 85.  
*Culex (Melanoconion) conspirator* Dyar and Knab 1906.—30, 32.  
*Culex (Melanoconion) educator* Dyar and Knab 1906.—32, ?91.  
*Culex (Melanoconion) elevator* Dyar and Knab 1906.—94, ?95, 96, 123.  
*Culex (Melanoconion) epanastasis* Dyar 1922.—101, 123.  
*Culex (Melanoconion) erraticus* (Dyar and Knab 1906).—19, 29.  
*Culex (Melanoconion) iolambdis* Dyar 1918.—111.  
*Culex (Melanoconion) opisthopus* Komp 1926.—123.  
*Culex (Melanoconion) pilosus* (Dyar and Knab 1906).—39.  
*Culex (Melanoconion)* sp undetermined.—18, 32, 76, 86, 101, 102, 123.  
*Culex (Microculex) jenningsi* group: sp closely related to *jenningsi*.—44, 58, 83, 99, 121, 132.  
*Culex (Microculex) rejector* Dyar and Knab 1906.—66.  
*Culex (Tinolestes) latisquama* (Coquillett 1906).—69, 70, 71, 101, 109, 111, 123, 124.  
*Deinocerites cancer* Theobald 1901.—34, 51.  
*Deinocerites epitedeus* (Knab 1907).—34, 51, 67, 68, 69, 70, 72, 73, 109, 111, 123, 124.  
*Deinocerites howardi* Belkin and Hogue 1959.—3, 5, 14, 15, 26, 27.  
*Deinocerites nicoyae* Adames and Hogue 1969.—20.  
*Deinocerites pseudus* Dyar and Knab 1909.—1, 3, 5, 14, 15, 20, 26, 27.  
*Dixella* sp undetermined.—97.  
*Haemagogus (Haemagogus) anastasionis* Dyar 1921.—2, 4, 8, 10, 12, ?17, 20.  
*Haemagogus (Haemagogus) equinus* Theobald 1903.—8, 12, 47.  
*Haemagogus (Haemagogus) iridicolor* Dyar 1921.—36, 38, 42, 43, 47, 57, 75, 82, 108, 112, 115, 117, 118, 126, 128, 129, 131, 134, 135.  
*Limatus durhamii* Theobald 1901.—108, 127.  
*Lutzomiops* ?sp 5: possibly related to *amazonica*.—124.  
*Mansonia (Mansonia)* sp undetermined.—17.  
*Orthopodomyia phyllozoa* (Dyar and Knab 1907).—83.  
*Psorophora (Grabhamia) cingulata* group: *cingulata* or related sp.—50, 85, 93, 101, 112.  
*Psorophora (Grabhamia) confinnis* group: *columbiae*, *toltecum* or related sp.—9, 16, 22, 33B.  
*Psorophora (Janthinosoma) cyanescens* (Coquillett 1902).—17.  
*Psorophora (Janthinosoma) ferox* (Humboldt 1819).—50, 82, ?93.  
*Psorophora (Janthinosoma) ?mexicana* (Bellardi 1859).—17.  
*Psorophora (Janthinosoma) varipes* (Coquillett 1904).—13.  
*Psorophora (Janthinosoma)* sp 2: *pisces*, *totonaci* or related sp.—17.  
*Psorophora (Psorophora) howardii* Coquillett 1901.—33A, 33B.  
*Sayomyia* sp undetermined.—16.  
*Toxorhynchites (Lynchiella) hypoptes* (Knab 1907).—88, 90, 92.  
*Toxorhynchites (Lynchiella) moctezuma* (Dyar and Knab 1906).—12.  
*Toxorhynchites (Lynchiella) superbus* (Dyar and Knab 1906).—44, 58, 116, 121.  
*Toxorhynchites (Lynchiella)* sp F: near *haemorrhoidalis*.—57.  
*Toxorhynchites (Lynchiella)* sp undetermined.—10.  
*Trichoprosopon (Ctenogoeldia) magnum* (Theobald 1905).—52.  
*Trichoprosopon (Isostomyia) ?espini* (Martini 1914).—110.  
*Trichoprosopon (Shannoniana) ?schedocyclium* (Dyar and Knab 1908).—53.  
*Trichoprosopon (Trichoprosopon) digitatum* (Rondani 1848).—114, 119.  
*Trichoprosopon (Trichoprosopon) pallidiventer* group.—53, 56, 57.  
*Trichoprosopon* (subg. A) *ulopus* (Dyar and Knab 1906).—49, 52, 54, 56, 82, ?113, 116.  
*Uranotaenia geometrica* Theobald 1901.—41.  
*Uranotaenia nataliae* Lynch Arribalzaga 1891.—123.  
*Uranotaenia* sp undetermined.—29, 81.

## NI, NIC Species Index

- Wyeomyia (Decamyia)* sp undetermined.—104.  
*Wyeomyia (Hystatomyia)* sp C: near *circumcincta*.—83.  
*Wyeomyia (Hystatomyia)* sp H: possibly *intonca*.—99.  
*Wyeomyia (Hystatomyia)* sp undetermined.—56, 121.  
*Wyeomyia (Pentemyia) arthrostroma* (Lutz 1905).—53, 55, 57.  
*Wyeomyia (Prosopolepis) complosa* (Dyar 1928).—49, ?52, 54, 56, 116.  
*Wyeomyia (Triamyia) aporonoma* Dyar and Knab 1906.—?55, ?57, ?82, 108, 118.  
*Wyeomyia (Wyeomyia) celaenocephala* Dyar and Knab 1906.—44, 58, 62, 63, 64, 65, 66, 121, 132.  
*Wyeomyia (Wyeomyia) melanopus* Dyar 1919.—83, 105, 116.  
*Wyeomyia (Wyeomyia) pertinans* group sp B: possibly *ablades*, near sp S, T and V.—83, 99, 100, 105.  
*Wyeomyia (Wyeomyia) pertinans* group sp undetermined.—58.  
*Wyeomyia (Wyeomyia) simmsi* (Dyar and Knab 1908).—99.  
*Wyeomyia* (subgenus D) *chalcocephala* (Dyar and Knab 1906).—54, 56, 116.  
*Wyeomyia* sp undetermined.—36, 82, 84, 113, 125.

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