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TECHNICAL REPORT

68-30-ES

ARTHROPODS OF MEDICAL IMPORTANCE
IN LATIN AMERICA PART II

by

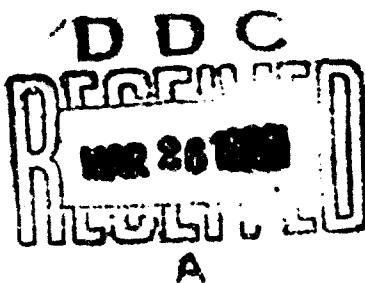
B. V. Travis

R. M. Labadan

Cornell University

Ithaca, New York

December 1967



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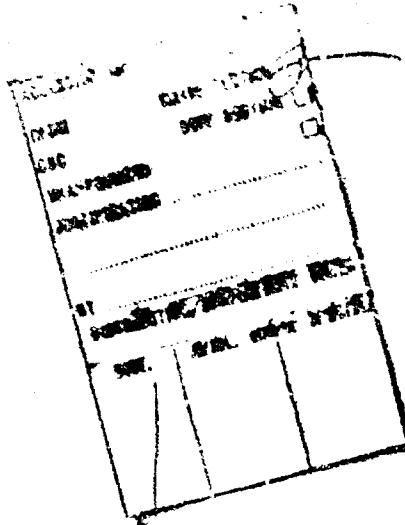
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TECHNICAL REPORT
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ARTHROPODS OF MEDICAL IMPORTANCE
IN LATIN AMERICA

Part II, Arthropods other than Mosquitoes

by

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and

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December 1967

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ARTHROPODS OF MEDICAL IMPORTANCE

IN LATIN AMERICA

PART II

Data on Arthropods other than Mosquitoes

[Part I, published separately, contains:
Introductory and Explanatory Material
and Data on Mosquitoes]

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INDEX OF COUNTRIES

In 1962 a world-wide Geographic Index was published* listing countries, islands, and major regions in alphabetical order, and assigning a number to each. The following list consolidates the countries of Latin America and other territories included in this report. The countries and island groups, as named at the time of publication of the present report, are shown on the adjacent map.

All the numbers of Latin American countries are listed in order. For example, 27 stands for Argentina and 328 for Venezuela. To accommodate citations that are not by specific countries, inclusive titles are used, e.g., 69 stands for Central America. This is the principal purpose of the Index: to identify the countries or other locations represented by numbers under DISTRIBUTION (Table 1 or Table 2).

The Index also includes at least the major synonyms. The synonymy is preceded by a dash, while the numbers appear before the main entries. For example, near the end of this Index we have (in both alphabetical and numerical order): "297 Surinam or Netherlands Guiana," the main listing. Earlier we also have, in alphabetical order: " - Netherlands Guiana or Surinam 297."

*B. V. Travis, Herbert H. Casewell, Jr., William B. Rowan, Helle Starcke, and Carl W. Ross: Classification and coding system for compilations from the world literature on insects and other arthropods that affect the health and comfort of man, Technical Report ES-4, Quartermaster Research & Engineering Center, Natick, Massachusetts, 1962

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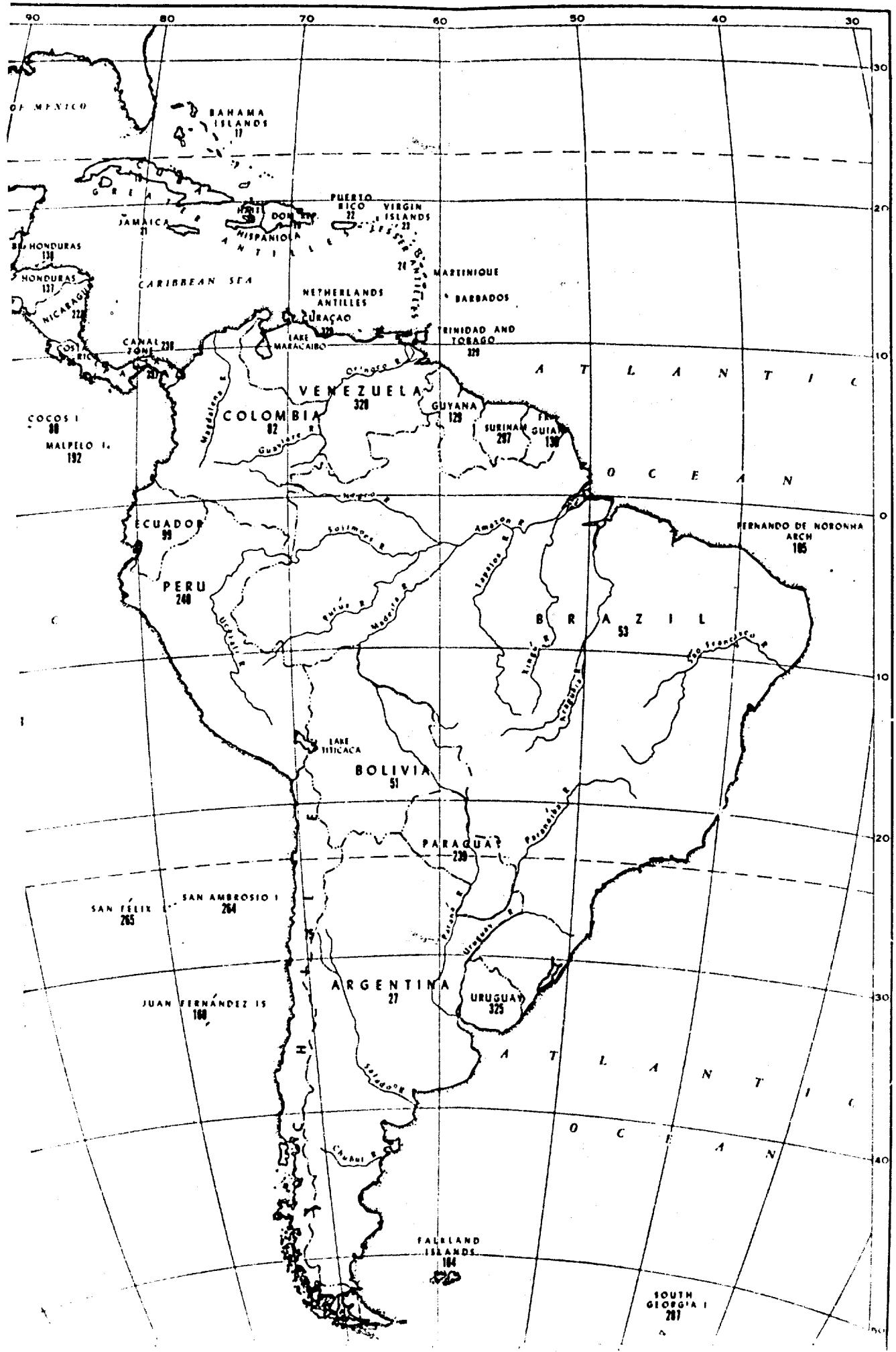
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- 352. South America (Inclusive title)





B. BLACK FLIES

The black fly entries include little on biology and disease. Most of the recorded information is on distribution.

In the tables are listed 275 species or subspecies.

TABLE 1 - BLACK FLIES

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|------------------------------------|----------------------|
| <i>CNEPHIA aguirrei</i> (Dalmat) | ---; ---; 128 Permanent stream; at an altitude of 880 meters; 204 | Dalmat Vargas & Diaz Najera | 1955 1952 |
| <i>atcompensis</i> Diaz Najera | Cold, partially shaded water with emergent vegetation; ---; 53 | Diaz Najera | 1962 |
| <i>grenieri</i> Vargas & Diaz Najera | Limpid water with vegetation, well shaded; ---; 204 | Vargas & Diaz Najera | 1948 |
| <i>mixensis</i> Diaz Najera | ---; ---; 204 | Diaz Najera | 1962 |
| <i>ockracea</i> (Walker) | ---; March; 204 | Vargas et al. | 1946 |
| <i>pachecu-lunai</i> (De Leon) | Streams; ---; 128° ---; ---; 128 ---; ---; 204 | Dalmat Dalmat Diaz Najera | 1955 1951 1962 |
| <i>roblesi</i> (De Leon) | Stream; ---; 128 | Dalmat | 1955 |
| <i>EUSIMULIUM alticolum</i> Dyar & Shannon | ---; ---; 204 | Dyar & Shannon | 1927 |
| <i>bicoloratum</i> Mall. | ---; ---; 328 | Iriarte | 1943 |
| <i>callidum</i> Dyar & Shannon | ---; ---; 204 | Dyar & Shannon | 1927 |
| <i>dinelli</i> (Joan) | Water with rapid current; March-May; 27 | Paterson & Shannon | 1927 |
| <i>inaequalis</i> Paterson & Shannon | ---; ---; 27° | Paterson & Shannon | 1927 |
| <i>lahillei</i> Paterson & Shannon | ---; May, Aug.; 27 | Paterson & Shannon | 1927 |
| <i>lutzianus</i> Pinto | ---; ---; 328 | Iriarte | 1943 |
| <i>lugubre</i> Lutz & Nuñez Tovar | ---; ---; 328 | Iriarte | 1943 |
| <i>mexicanum</i> Bellardi | ---; ---; 204 | Dyar & Shannon | 1927 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-----------------------------|--------|
| <i>EUSIMULIUM</i> <i>mooseri</i> Dampf | ---; ---; 204° | Hoffmann | 1930 |
| | ---; infected with <i>Onchocerca volvulus</i> ; 204 | Vargas & Ruiz Reyes | 1949 |
| <i>ochraceum</i> Walker | ---; ---; 53° | Hoffmann | 1930 |
| | ---; ---; 128 | Orciz | 1944a |
| | ---; ---; 204 | Dyar & Shannon | 1927 |
| <i>Fraguayense</i> Schrottky | ---; ---; 27°, 53°, 239°, 328° | Iriarte | 1946 |
| | ---; ---; 328 | Ortiz | 1944 a |
| <i>pertinax</i> Paterson & Shannon | ---; ---; 27 | Paterson & Shannon | 1927 |
| <i>turgidum</i> Hoffmann | ---; ---; 204 | Hoffmann | 1930 |
| <i>FRIESIA</i> <i>quadrivittata</i> (Loew) | ---; ---; 18 | Enderlein | 1934 |
| <i>GIGANTODAX</i> <i>aquamarensis</i> (De Leon) | Streams; at 1800 meters altitude; 128 | Dalmat | 1955 |
| <i>boliviensis</i> Enderlein | ---; at 3500 meters elevation; 51 | Enderlein | 1925 |
| <i>wrighti</i> Vargas, Martinez, Diaz | ---; ---; 128 | Dalmat | 1951 |
| | ---; at 3200 meters altitude, March; 204 | Dalmat | 1955 |
| | ---; Nov.; 204 | Vargas et al. | 1946 |
| <i>HEMICNETHA</i> <i>mexicana</i> Enderlein | ---; ---; 204 | Enderlein | 1934 |
| <i>LUTZSIMULIUM</i> <i>crusi</i> Andretta & Andretta | ---; ---; 53 | d'Andretta & d' Andretta | 1947 |
| <i>MELUSINA</i> <i>dinellii</i> Joan | On plants in fast currents of water; abundant and annoying March-May; 27° | Paterson & Shannon | 1927 |
| <i>ODAGMIA</i> <i>arctica</i> (Malloch) | ---; ---; 82 | Enderlein | 1925 |
| <i>aureopunctata</i> (Malloch) | ---; ---; 128 | Enderlein | 1925 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--------------------------------------|--|-----------|------|
| <i>ODAGNIA</i> | | | |
| <i>bicolorata</i> (Malloch) | ---; ---; 240 | Enderlein | 1925 |
| <i>bipunctata</i> (Malloch) | ---; ---; 240 | Enderlein | 1925 |
| <i>metallica</i> (Bellardi) | ---; ---; 128 | Enderlein | 1925 |
| <i>mexicana</i> (Bellardi) | ---; ---; 204 | Enderlein | 1925 |
| <i>nitida</i> (Malloch) | ---; ---; 240 | Enderlein | 1925 |
| <i>ochracea</i> (Walker) | ---; ---; 204 | Enderlein | 1925 |
| <i>townsendi</i> (Malloch) | ---; ---; 240 | Enderlein | 1925 |
| <i>virgata</i> (Coquilletti) | ---; ---; 204 | Enderlein | 1925 |
| <i>PSORONIOCOMPSA</i> | | | |
| <i>opalinifrons</i> Enderlein | ---; ---; 239* | Enderlein | 1934 |
| <i>SIMULIUM</i> | | | |
| <i>acatenangoense</i> Delmat | Shaded streams with muddy or sandy beds, stones and emergent vegetation; all year; 128 | Delmat | 1951 |
| <i>assequoriense</i> Enderlein | ---; ---; 99 | Vargas | 1945 |
| <i>asquifuroatum</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>aguirrei</i> Delmat | In streams of volcano slopes with sand and mud bottoms and abundant emergent vegetation; July, Oct.; 128 | Delmat | 1949 |
| <i>albitinctum</i> Enderlein | ---; ---; 240 | Vargas | 1945 |
| <i>albilineatum</i> Enderlein | ---; ---; 240 | Vargas | 1945 |
| <i>albopictum</i> Lanz & Porto | ---; ---; 53 | Vargas | 1945 |
| <i>altisolum</i> D. C. & Shannon | ---; ---; 204 | Vargas | 1945 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|--|--|
| <i>SIMULIUM</i> <i>amazonicum</i> Goeldi | ----; ---; 22, 129, 239, 240. ---; April; 328° Fast streams with waterfalls; bites man avidly along rivers; 53° Swift flowing water with algae; ---; 53 ---; infected with <i>Mansonella ozzardi</i> ; 53 | Briceno- Iragorry et al. Lutz Strong et al. Nelson & Pester Smart | 1953 1917 1926 1962 1940 |
| <i>anduzei</i> Vargas | ---; at 1980 meters altitude; 204 | Vargas & Diaz Najera | 1948 |
| <i>angrense</i> Pinto | ----; ---; 53 | Vargas | 1945 |
| <i>angustifrons</i> Enderlein | ----; ---; 51 | Vargas | 1945 |
| <i>annulatum</i> Philippi | ----; ---; 75 | Vargas | 1945 |
| <i>antarcticum</i> Bigot | ----; ---; 27 ----; ---; 75 | Orfila Vargas | 1939 1945 |
| <i>anthracinum</i> Bigot | ----; ---; 27, 75 ----; ---; 75° | Orfila Edwards | 1939 1931 |
| <i>artillarum</i> Jennings | ----; woodlands; 21, 22, 24 (Blood sucker) ----; ---; 23 | Smart Vargas | 1940 1945 |
| <i>antunesi</i> Lane & Porto | ----; vicious biter in open country, especially in morning; 24° | Floch & Abonnenc | 1946 + |
| <i>araucanum</i> Edwards | ----; ---; 53 | Vargas | 1945 |
| <i>ardeni</i> Dalmat | Streams; Nov.; 128 | Dalmat | 1955 |
| <i>argentatum</i> Enderlein | ----; ---; 240 | Vargas | 1945 |
| <i>atroparvum</i> Edwards | ----; ---; 27 | Vargas | 1945 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---------------|------|
| <i>SIMULIUM</i> <i>curvatum</i> (Fries) | Wide streams with sand and mud bottoms with stones and emergent plants, exposed to sun; Nov., Dec., and March; 128 | Dalmat | 1949 |
| | ---; March, April; 204 | Vargas et al. | 1946 |
| <i>auripellitum</i> Enderlein | ---; ---; 236 | Vargas | 1945 |
| <i>auristriatum</i> (Lutz) | ---; ---; 53 | Strong et al. | 1926 |
| <i>avidum</i> Hoffmann | ---; ---; 53° | Hoffmann | 1930 |
| | Swiftly flowing mountain brooks and streams, attached to plants; experimentally infected with and suspected transmitter of Onchocerciasis; 128 | Stroug et al. | 1934 |
| <i>zyrosai</i> Vargas | ---; Feb.; 204 | Vargas et al. | 1946 |
| <i>bairnei</i> Pinto | ---; ---; 53 | Vargas | 1945 |
| <i>barbatipes</i> Enderlein | ---; ---; 51, 240 | Vargas | 1945 |
| <i>benjamini</i> Dalmat | Stream; at an altitude of 1500-5000 feet; 128 | Dalmat | 1955 |
| <i>bicoloratum</i> Malloch | ---; ---; 240, 328 | Vargas | 1945 |
| <i>boliviense</i> Enderlein | ---; ---; 51 | Vargas | 1945 |
| <i>botulibranchium</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>brachyolatum</i> Lutz & Pinto | ---; ---; 53 | Vargas | 1945 |
| <i>brasiliense</i> Enderlein | ---; ---; 53 | Vargas | 1945 |
| <i>brevibranchium</i> Lutz & Machado | ---; ---; 53 | Vargas | 1945 |
| <i>brevifurcatum</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>brisenci</i> Vargas, Martinez, & Diaz | ---, Feb.-March; 204 | Vargas et al. | 1946 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-----------------|---------|
| <i>SIMULIUM</i> <i>brophyi</i> Edwards | ---; ---; 27 | Vargas | 1945 |
| <i>burchi</i> Dalmat | On stones and vegetation in shallow, swift streams, sunny or shaded; ---; 128 | Dalmat | 1951 |
| | ---; Nov.; 128 | Dalmat | 1955 |
| <i>bustoci</i> Vargas, Martinez & Diaz | ---; March; 204 | Vargas et al. | 1946 |
| <i>callidum</i> (Dyar & Shannon) | Wide streams with sand and mud bottoms with stones and emergent plants, exposed to sun; ---; 128 | Dalmat | 1949 |
| | ---; bite by day, naturally infected with <i>Onchocerca cæcutiens</i> , all year, abundant Sept.-June; 128* | Strong et al. | 1934 |
| | ---; naturally infected with and suspected vector of <i>Onchocerca volvulus</i> ; 128 | Dalmat | 1955 |
| | ---; experimentally infected with <i>O. volvulus</i> ; 128 | Gibson & Dalmat | 1952 |
| | ---; bites man indoors and outdoors, shaded places; 128* | Dalmat | 1950 |
| | ---; ---; 128*, 130*, 297*, 328* | Geigy & Herbig | 1955 |
| | ---; ---; 128*, 204* | Dampf | 1936 |
| | Rapid torrents of large volume; most abundant in 3-4 months following rainy season; 204 | Mazzotti | 1948 + |
| | Irrigation ditches; infected with <i>O. volvulus</i> ; 204 | Hoffmann | 1930a + |
| | Streams with leaves and sand; ---; 204 | Vargas | 1945 c |
| | ---; Jan.; 204* | Vargas | 1945 a |
| <i>canadense</i> Hearle | ---; March; 204 | Vargas et al. | 1946 |
| <i>capricornis</i> De Leon | Wide streams with sand and mud bottoms with stones and emergent plants, exposed to sun; Nov., Dec. and March; 128 | Dalmat | 1949 |
| | Shaded streams with muddy beds with stones and vegetation; ---; 128 | Dalmat | 1951 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-------------------------|--------|
| <i>SIMULIUM carolinense</i> De Leon | Waterfall; at an altitude of 1900 meters; 128 ---; March, May; 204 | Dalmat | 1955 |
| <i>ocatarinense</i> Pinto | ---; ---; 53 | Vargas | 1945 |
| <i>cauchense</i> Floch & Abonnenc | Small, slow streams; Feb.; 130 | Floch & Abonnenc | 1946 + |
| <i>chalcoocomense</i> Knob | ---; ---; 240 | Vargas | 1945 |
| <i>chilense</i> Philippi | ---; ---; 27, 75 | Orfila | 1939 |
| <i>chilicolum</i> Rondoni | ---; ---; 75 | Vargas | 1945 |
| <i>clarki</i> Fairchild | Running water, attached to rocks and vegetation; ---; 237" | Fairchild | 1943 |
| | Grass blades and water weeds in a small stream; ---; 237, 238 | Fairchild | 1940 |
| | ---; ---; 328 | Vargas | 1945 |
| <i>clavibrenchium</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>cuffea</i> Vargas | ---; ---; 204 | Vargas | 1945 |
| <i>colvini</i> Dalmat | Stream; July; 128 | Dalmat | 1955 |
| <i>costa-limci</i> Vargas, Martinez & Diaz | ---; Feb.; 204 | Vargas et al. | 1946 |
| <i>costaricensis</i> Va. * | ---; ---; 85 | Vargas | 1945 |
| <i>ocellatum</i> Friedericks | ---; ---; 27 | Vargas | 1945 |
| <i>cuneatum</i> Enderlein | ---; ---; 239 | Vargas | 1945 |
| <i>dalmaticum</i> Vargas | ---; ---; 204 | Vargas & Diaz Majera | 1948 |

TABLE I - BLACK FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-------------------------|------|
| <i>SIMULIUM</i> <i>d'andrettae</i> Vargas, Martinez & Diaz | ---; at 3005 meters elevation; 204 | Vargas & Diaz Majera | 1948 |
| | ---; March, Oct., Dec.; 204 | Vargas et al. | 1946 |
| <i>delatorrei</i> Dalmat | ---; Feb.; 128 | Dalmat | 1933 |
| <i>deleoni</i> Vargas | ---; Dec.; 204 | Vargas et al. | 1946 |
| <i>delportsei</i> Paterson & Shannon | ---; Mar., May; 27° | Paterson & Shannon | 1927 |
| | ---; ---; 27, 51 | Vargas | 1945 |
| <i>dias-najerai</i> Vargas | ---; ---; 204 | Vargas | 1945 |
| <i>dinelli</i> (Joan) | ---; ---; 27, 51, 240 | Vargas | 1945 |
| | ---; ---; 128* | Robles | 1919 |
| <i>dissimile</i> Edwards | Small streams; ---; 27, 75 | Edwards | 1931 |
| <i>distinctum</i> Lutz | ---; ---; 27, 53 | Orfila | 1939 |
| <i>diversibranchium</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>diversifuroatum</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>donovani</i> Vargas | ---; ---; 204 | Vargas | 1943 |
| <i>dowarsi</i> Vargas, Martinez & Diaz | Wide streams with sand and mud bottoms with stones and emergent plants exposed to sun; Nov., Dec. and March; 128 | Dalmat | 1949 |
| | Shaded streams with muddy or sandy beds with stones and vegetation; ---; 128 | Dalmat | 1951 |
| | ---; ---; 128° | Dalmat | 1955 |
| | ---; Jan.-May, Aug.-Oct., Dec.; 204 | Vargas et al. | 1946 |
| <i>dugesii</i> Vargas, Martinez & Diaz | Sunny stream; at an altitude of 1,050 feet; 128 | Dalmat | 1955 |
| | ---; March; 204 | Vargas et al. | 1946 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-------------------------|--------|
| <i>SIMULIUM carlot</i> Vargas, Martinez Diaz | ---; July; 128 | Dalmat | 1955 |
| <i>schmidti</i> Endelein | ---; ---; 27, 75 | Vargas | 1945 |
| <i>eccomeli</i> Roubaud | ---; ---; 75, 240 | Vargas | 1945 |
| <i>estevensi</i> Vargas | ---; at 1600 meters elevation; 204 | Vargas & Diaz Majera | 1948 |
| <i>ethelae</i> Dalmat | ---; Nov.; 128 | Dalmat | 1955 |
| <i>exiguum</i> Roubaud | ---; ---; 62, 128, 237, 240, 323 Streams; experimentally and naturally infected with and suspected transmitter of <i>Onchocerca</i> <i>volvulus</i> ; 128° | Vargas | 1945 |
| | ---; March, Dec.; 204 | Vargas et al. | 1946 |
| <i>falcifolium</i> Vargas | ---; ---; 204 | Vargas et al. | 1946 |
| <i>fairchildi</i> Vargas | ---; ---; 237 | Vargas | 1942 |
| <i>farinaceum</i> Edwards | Stones in small streams; ---; 27 | Edwards | 1931 |
| <i>flavipictum</i> Knab | ---; ---; 240 | Vargas | 1945 |
| <i>flavopubescentes</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>fulvescens</i> Blanchard | ---; ---; 27, 75 | Vargas | 1945 |
| <i>gaujoniense</i> Vargas, Martinez & Diaz | ---; April; 204° | Vargas et al. | 1946 |
| <i>gaudetum</i> Knab | ---; ---; 240 | Vargas | 1945 |
| <i>glaucophthalmicum</i> Knab | ---; ---; 240 | Vargas | 1945 |
| <i>guianense</i> Wise | Aquatic plants in swiftly flowing streams, only submerged during wet season; near rivers; 129 Fast current; bite man on cloudy days; 130° | Smart | 1940 |
| | | Floch & Aboimenc | 1946 + |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-------------------|--------------|
| <i>SIMULIUM</i> <i>guttatum</i> Enderlein | ---; ---; 239 | Vargas | 1945 |
| <i>gynandrom</i> Edwards | ---; ---; 27 | Vargas | 1945 |
| <i>haemagogium</i> Enderlein | ---; ---; 27 | Vargas | 1945 |
| <i>haematoptimum</i> Malloch | ---; ---; 18, 22, 137, 204°. Streams; ---; 238 ---; experimentally and naturally infected with and suspected vector of <i>Onchocercus volvulus</i> ; 128 ---; ---; 128*, 130*, 297*, 328* | Iriarte Dalmat | 1946 1955 |
| | Forest creek; ---; 129° | Gaigy & Herbig | 1955 |
| | ---; ---; 129 | Smart | 1940 |
| | ---; April; 204 | Vargas et al. | 1946 |
| | ---; ---; 237. Grass and dead leaves in small stream; readily bite man at lower elevations; 238° | Fairchild | 1940 |
| <i>hechti</i> Vargas, Martinez & Diaz | ---; March-April; 204 | Vargas et al. | 1946 |
| <i>heringi</i> Enderlein | Streams; ---; 119 | Enderlein | 1925 |
| <i>himmoni</i> Vargas, Martinez & Diaz | ---; April, Oct.; 204 | Vargas et al. | 1946 |
| <i>hirticosta</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>hirtipupa</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>hoffmanni</i> Vargas | ---; ---; 51, 340 | Vargas | 1945 |
| <i>ignacioense</i> Roubeaud | ---; ---; 99 | Vargas | 1945 |
| <i>insequale</i> Paterson & Shannon | ---; March; 27 | Vargas | 1945 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-------------------------|--------|
| <i>SINULIUM incisum</i> Vargas | ---; at 3000-4000 meters altitude, June, Aug.; 240 | Vargas | 1945 |
| <i>incertum</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>incurvatum</i> Lutz | ---; ---; 53, 328 | Vargas | 1945 |
| | ---; ---; 328° | Martorell | 1939 |
| <i>inassorbens</i> (Schrottky) | ---; ---; 53 | Strong et al. | 1926 |
| <i>infuscatum</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>iranoboenense</i> Floch & Abonnenc | Rivers with very fast current; ---; 130 | Floch & Abonnenc | 1946 + |
| <i>iriartei</i> Vargas, Martinez & Diaz | ---; Feb., April, Aug.; 204 | Vargas et al. | 1946 |
| <i>jacobsei</i> Dalmat | Streams; June; 128 | Dalmat | 1955 |
| <i>jacombae</i> Dyar & Shannon | Streams; ---; 128 | Dalmat | 1955 |
| | ---; ---; 204 | Vargas & Diaz Majera | 1948 |
| <i>jobbinsi</i> Vargas, Martinez & Diaz | Wide streams with sand and mud bottoms with stones and emergent plants exposed to sun; Nov., Dec. and March; 128 | Dalmat | 1949 |
| | ---; at an altitude of 1000 meters, Dec.; 204 | Dalmat | 1955 |
| <i>jujuyense</i> Paterson & Shannon | ---; March-April; 27° | Paterson & Shannon | 1927 |
| | ---; ---; 27, 51 | Orfila | 1939 |
| <i>kawlooperi</i> Bearle | ---; May, Nov.; 204 | Vargas et al. | 1946 |
| <i>kompi</i> Dalmat | On stones and very little vegetation in shaded spots along shallow stream; ---; 128 | Dalmat | 1951 |
| | ---; June; 128 | Dalmat | 1955 |
| <i>lathillei</i> Paterson & Shannon | ---; ---; 27 | Orfila | 1939 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|----------------------|--------|
| <i>Simulium</i> | | | |
| <i>Lanei-portoi</i> Vargas | ---; ---; 53 | Vargas | 1945 |
| <i>Larvispinorum</i> De Leon | Small waterfall; ---; 128 | Dalmat | 1955 |
| <i>laeomanni</i> Vargas, Martinez & Diaz | ---; March-May, Aug., Oct.; 204 | Vargas et al. | 1946 |
| <i>lativalve</i> Enderlein | ---; ---; 240 | Vargas | 1945 |
| <i>latidigitum</i> Enderlein | ---; ---; 82 | Vargas | 1945 |
| <i>latitarsus</i> Enderlein | ---; ---; 51, 240 | Vargas | 1945 |
| <i>limbatum</i> Knab | ---; ---; 129 | Smart | 1940 |
| | ---; ---; 328 | Vargas | 1945 |
| <i>lugubre</i> Lutz & Munoz Tover | ---; ---; 128, 204, 237 | Iriarte | 1946 |
| | ---; ---; 328 | Vargas | 1945 |
| <i>lutsicum</i> Pinto | ---; ---; 82 | Briceno- Iragorry | 1947 |
| | Small stream in low bush, attached to aquatic plants; ---; 129 | Smart | 1940 |
| | ---; ---; 328* | Iriarte | 1946 |
| | ---; ---; 328 | Vargas | 1945 |
| <i>maccioni</i> Enderlein | ---; ---; 240, 328 | Vargas | 1945 |
| <i>major</i> Lane & Porter | ---; ---; 53 | Vargas | 1945 |
| <i>mongabeirai</i> Vargas | ---; experimentally infected with <i>Oncocerca</i> <i>vulgaris</i> ; 204 | Dalmat | 1955 |
| | ---; Jan.; 204* | Vargas | 1945 b |
| <i>monilatum</i> Enderlein | ---; ---; 239, 240 | Vargas | 1945 |
| <i>parathrombi</i> Fairchild | ---; ---; 204 | Nettel | 1945 * |
| | ---; ---; 237* | Fairchild | 1945 |
| | ---; ---; 137 | Vargas | 1945 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|----------------------------|----------|
| | | | |
| <i>SIMULIUM marginale</i> Edwards | ---; ---; 27, 75 | Vargas | 1945 |
| <i>maroniense</i> Floch & Abonnenc | ---; ---; 130 | Floch & Abonnenc | 1946 + |
| <i>martinesi</i> Vargas | ---; ---; 51, 82, 99, 240 | Vargas | 1945 |
| <i>mathesonii</i> Vargas | ---; ---; 128. ---; at 1400-1500 meters altitude, Nov.; 204 | Dalmat | 1955 |
| | ---; April; 204 | Vargas et al. | 1946 |
| | ---; ---; 328 | Luis Gonzalez et al. | 1950 |
| <i>mendozense</i> Enderlein | ---; ---; 27 | Vargas | 1945 |
| <i>metallicum</i> Ballardi | In streams of volcano slopes with sand and mud bottoms and abundant emergent vegetation; July, October; 128 | Dalmat | 1949 |
| | Attached to blades of grass in rapid flowing water of a ditch; at altitudes of 1000 meters to 1400 meters; 128 | Strong et al. | 1934 |
| | Streams, canals; naturally infected with and experimental vector of <i>Onchocerca volvulus</i> ; 128* | Dalmat | 1955 |
| | Shaded streams with muddy, sandy or stony beds with vegetation; ---; 128 | Dalmat | 1951 |
| | ---; bites man outdoors and indoors, shaded places, Feb.; 128* | Dalmat | 1950 |
| | ---; possible vector of <i>Onchocerca oaxacensis</i> ; 128 | Ortiz | 1944a |
| | ---; ---; 128*, 130*, 204, 297*, 328* | Gaigy & Herbig | 1955 |
| | ---; anthropophilic; 138* | Hocking & Hocking | 1962 |
| | Rapid torrents with large volume; most abundant 3-4 months following rainy season; 204 | Mazzotti | 1948 + |
| | streams with leaves and sand; ---; 204 | Vargas | 1945 c |
| | Irrigation ditches; ---; 204 | Hoffmann | 1930 a + |
| | ---, attracted to light, Jan.; 204* | Vargas | 1945 a |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-------------------------------|----------------------|
| <i>SIMULIUM</i> <i>metallicum</i> Bellardi (cont.) | Water weeds in mountain stream; ---; 237 ---; ---; 328° ---; ---; 328, 329 | Fairchild Ballou Vargas | 1940 1945 1945 |
| <i>mexicanum</i> Bellardi | ---; ---; 82 | Briceño- Irizarry | 1947 |
| | Large and fast flowing streams with sandy, rocky bottom, on rocks and stones, exposed to sun; April, July, Aug., Oct.; 128 | Dalmat | 1949 |
| | Shaded streams with muddy beds with stones and vegetation; ---; 128 | Dalmat | 1951 |
| | ---; Sept.; 204 | Vargas et al. | 1946 |
| | Running water with rocks and vegetation; ---; 237° | Fairchild | 1943 |
| | Roots and dead leaves in a mountain stream; ---; 237 | Fairchild | 1940 |
| | ---; ---; 328 | Luis Gonzalez et al. | 1950 |
| <i>microbranchium</i> Dalmat | Wide streams with sand and mud bottoms with stones and emergent plants, exposed to sun; Nov., Dec., and March; 128 | Dalmat | 1949 |
| | Shallow, fairly swift, shaded streams with hard clay bed, many stones and vegetation; ---; 128 | Dalmat | 1951 |
| <i>minutum</i> Enderlein | ---; ---; 51, 240 | Vargas | 1945 |
| <i>minusculeum</i> Lutz | Springs; ---; 22 ---; ---; 53, 85, 239 | Wolcott Vargas | 1936 1945 |
| <i>nelli</i> Vargas | ---; ---; 82, 240 | Vargas | 1945 |
| <i>montanum</i> Philippi | ---; ---; 27, 75 | Edwards | 1931 |
| <i>moorei</i> Silva Figueroa | ---; ---; 75° | Figueroa | 1917 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-------------------|--------|
| <i>SIMULIUM</i> <i>mooseri</i> Dampf | Swiftly flowing mountain brooks and streams, attached to plants; ---; 128 | Strong et al. | 1934 |
| <i>nigreti</i> Roubaud | ---; ---; 53 | Vargas | 1945 |
| <i>nemorale</i> Edwards | ---; ---; 27° | Edwards | 1931 |
| | ---; ---; 27 | Orfila | 1939 |
| <i>nigrescens</i> Edwards | ---; ---; 27 | Vargas | 1945 |
| <i>nigricornis</i> Delmat | Shallow, shaded stream with stony bed with very little emergent vegetation; ---; 128 | Delmat | 1951 |
| <i>nigrifemur</i> Enderlein | ---; ---; 75 | Vargas | 1945 |
| <i>nigrinum</i> Macquart | ---; ---; 53 | Vargas | 1945 |
| <i>nigristrigatum</i> Enderlein | ---; ---; 27°, 75° | Edwards | 1931 |
| | ---; ---; 27, 75 | Orfila | 1939 |
| <i>occidentale</i> Townsend | ---; ---; 204 | Vargas et al. | 1946 |
| <i>ochoai</i> Vargas, Martinez & Diaz | ---; April; 204 | Vargas et al. | 1946 |
| <i>ohraeum</i> Walker | ---; ---; 21, 204, 328 | Smart | 1940 |
| | Wide streams with sand and mud bottoms with stones and emergent plants, exposed to sun; Nov., Dec. and March; 128 | Delmat | 1949 |
| | Shallow, fairly swift shaded streams with hard clay bed, many stones and vegetation; ---; 128 | Delmat | 1951 |
| | ---; all year, peaks in Jan. and Aug., experi- mental vector and naturally infected with <i>Onchocerca volvulus</i> ; 128 | Delmat | 1955 |
| | ---; bites man indoors and outdoors, shaded places, Feb.; 128° | Delmat | 1950 |
| | ---; ---; 128°, 130°, 297°, 328° | Geigy & Herbig | 1955 |
| | Small streams of moderate velocity; most abundant in 3-6 months following rainy season; 204° | Marzotti | 1948 + |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITAT; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---------------------|---------|
| <i>SIMULIUM ochraceum</i> Walker (cont.) | Irrigation ditches; attacks man, infected with <i>Onchocerca volvulus</i> ; 204° ---; Jan.; 204° | Hoffmann | 1930a + |
| | Running water with rocks and vegetation; ---; 237° | Vargas | 1945 a |
| | Dead leaves in small streams; ---; 237, 238 | Fairchild | 1940 |
| <i>opalinifrons</i> Enderlein | ---; ---; 239 | Vargas | 1945 |
| <i>orbitale</i> Lutz | Attached to plants growing in large falls; ---; 53. ---; ---; 239 | Lutz et al. | 1918 |
| <i>oyapockense</i> Floch & Abonnenc | Rivers with very fast current; ---; 130 | Floch & Abonnenc | 1946 + |
| <i>pantaneense</i> Fairchild | Running water with rocks and vegetation; ---; 237° | Fairchild | 1943 |
| | ---; ---; 237 | Vargas | 1945 |
| <i>paraguayense</i> Schrottky | ---; ---; 27, 239, 328 ---; ---; 53° ---; ---; 53 ---; ---; 204 | Vargas | 1945 |
| | | Lutz et al. | 1918 |
| | | Smart | 1940 |
| | | Vargas et al. | 1946 |
| <i>parvum</i> Schrottky | ---; ---; 239 | Vargas | 1945 |
| <i>parrai</i> Vargas, Martinez & Diaz | In streams of volcano slopes with sand and mud bottoms and abundant emergent vegetation; July, Oct.; 128 ---; May; 204 | Dalmat | 1949 |
| | | Vargas et al. | 1946 |
| <i>paynei</i> Vargas | ---; ---, 204 | Vargas | 1945 |
| <i>pennipunctum</i> Enderlein | ---; ---; 240 | Vargas | 1945 |
| <i>perficuum</i> Loubaud | ---; ---; 53 | Vargas | 1945 |
| <i>permigrans</i> Lutz | ---; ---; 53 | Vargas | 1945 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--|--|
| <i>SIMULIUM pertinax</i> Kollar | ---; ---; 27, 239 On rocks of torrential streams; ---; 53° ---; common along mountainous coast; 53 ---; ---; 328 | Vargas Lutz et al. Briceno- Iragorry | 1945 1922 + 1918 1946 |
| <i>philippianum</i> Pinto | ---; ---; 75 | Vargas | 1945 |
| <i>pilosum</i> Lane & Porto | ---; ---; 53° | Lane & Porto | 1940 |
| <i>pintoi</i> d'Andretta | ---; ---; 53 | d'Andretta & d'Andretta | 1945 |
| <i>placidum</i> Knab | ---; ---; 329 | Smart | 1940 |
| <i>prodor-argentatum</i> Enderlein | ---; ---; 240 | Vargas | 1945 |
| <i>proximum</i> Lutz | Waterfalls; enter houses; 53° ---; ---; 53 | Lutz Vargas | 1922 + 1945 |
| <i>pseudohammatoponum</i> Hoffmann | ---; ---; 204 | Hoffmann | 1930 |
| <i>puigi</i> Vargas, Martinez & Diaz | ---; Feb., Nov.; 204 | Vargas et al. | 1946 |
| <i>puichrum</i> Philippi | ---; ---; 75 | Vargas | 1945 |
| <i>puiverulentum</i> Knab | Large, fast-flowing streams with sandy, rocky bottom, on rocks and stones, exposed to sun; April, July-Aug., Oct.; 128 ---; ---; 128° ---; ---; 138, 328 ---; Dec.; 204 Wooden floor of water chute; ---; 223 On leaves of <i>Morathaea schiediana</i> ; ---; 237 ---; ---; 237° ---; ---; 262 | Dalmat Dalmat Vargas Vargas et al. Woke Fairchild Fairchild Dalmat | 1949 1955 1945 1946 1947 1940 1943 1951 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|----------------------|--------------|
| <i>SIMULIUM</i> | | | |
| <i>pionotativentris</i> Enderlein | ---; ---; 75 | Vargas | 1945 |
| <i>quadrifidum</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>quadristrigatum</i> Enderlein | ---; ---; 53, 239 | Vargas | 1945 |
| <i>quadrivittatum</i> Loew | ---; ---; 18, 21, 22, 85, 237, 238 ---; Jul.-Sept., bites man, even in hot sun; 22° ---; anthropophilic; 138 | Smart Root | 1940 1922 |
| | ---; ---; 204, 328 | Hocking & Hocking | 1962 |
| | ---; bites man in jungle; 223° | Vargas | 1945 |
| | Grass and dead leaves in small streams; ---; 237° | Woke | 1947 |
| | ---; ---; 328° | Fairchild | 1943 |
| | ---; ---; 99 | Ortiz | 1944 a |
| <i>riveti</i> Roubaud | ---; ---; 99 | Vargas | 1945 |
| <i>roblesi</i> De Leon | ---; at 3000 meters altitude; 128 | Vargas | 1945 |
| <i>rorotense</i> Floch & Abonnenc | In current of small streams; June; 130° | Floch & Abonnenc | 1946 |
| <i>rubicundulum</i> Knab | Wide streams with sand and mud bottoms with stones and emergent plants, exposed to sun; Dec. and March; 128 | Dalmat | 1949 |
| | Shaded stream with muddy or sandy bed with stones and vegetation; ---; 128 | Dalmat | 1951 |
| | ---; June, Nov.; 204 | Vargas et al. | 1946 |
| <i>magnum</i> Enderlein | ---; ---; 51 | Vargas | 1945 |
| <i>multisporos</i> Lutz | ---; ---; 27, 328 | Orfila | 1939 |
| | Sand stone bed of swiftly flowing stream; attracted to light; 53, 129, 329 | Smart | 1940 |
| | ---; ---; 328° | Iriarte | 1946 |
| <i>mujicae</i> Edwards | ---; ---; 27, 73 | Vargas | 1945 |

TABLE I - BLACK FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTOR | DATE |
|---------------------------------------|---|-------------------------|--------|
| <i>SIMULIUM</i> | | | |
| <i>rufidcreum</i> Enderlein | ---; ---; 240 | Vargas | 1943 |
| <i>rufinatum</i> Edwards | ---; ---; 27, 75 | Vargas | 1945 |
| <i>ruizi</i> Vargas | ---; ---; 204 | Vargas & Diaz Majera | 1948 |
| <i>samboni</i> Jennings | ---; ---; 128* | Robles | 1919 |
| | ---; ---; 204 | Vargas | 1945 |
| | Burning water with rocks, weeds and vegetation; ---; 237* | Fairchild | 1943 |
| | Dead leaves and twigs in small streams; ---; 237, 238 | Fairchild | 1940 |
| <i>sanguineum</i> Knab | ---; river banks, bites cause considerable irritation; 82°, 338° | Dunn | 1929 |
| | ---; ---; 82, 129, 328 | Vargas | 1945 |
| | ---; ---; 129°, 237 | Smart | 1940 |
| | ---; ---; 238 | Fairchild | 1943 |
| <i>sayi</i> Dyar & Shannon | ---; ---; 204 | Vargas | 1945 |
| <i>schosnemannii</i> Enderlein | ---; ---; 75 | Vargas | 1945 |
| <i>scutellatum</i> Lane & Porto | ---; ---; 53° | Lane & Porto | 1940 |
| | ---; ---; 82 | Vargas | 1945 |
| <i>scutistriatum</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>sericatum</i> Knab | ---; ---; 240 | Vargas | 1945 |
| <i>shannoni</i> Edwards | ---; ---; 27 | Vargas | 1945 |
| <i>simile</i> Silva Figueroa | ---; ---; 27, 75 | Vargas | 1945 |
| <i>simplicicolor</i> Lutz | Waterfalls; ---; 53 | Lutz | 1922 + |
| <i>smartii</i> Vargas | Large, fast-flowing streams with sandy and rock bottoms with sparse emergent vegetation, exposed to sun; April, July, Aug., Oct.; 128 | Dalmat | 1949 |
| | Streams; at 1,000 meters altitude, Jan.; 204 | Dalmat | 1955 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-----------------------------------|---|---------------------|--------|
| | | | |
| <i>SINULIUM</i> | | | |
| <i>spadicidoreum</i> Enderlein | ---; ---; 53 | Vargas | 1945 |
| <i>spinibrachium</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>spinifer</i> Knab | ---; ---; 240 | Vargas | 1945 |
| <i>strigatum</i> Enderlein | ---; ---; 240 | Vargas | 1945 |
| <i>strigidoreum</i> Enderlein | ---; ---; 240 | Vargas | 1945 |
| <i>striginotum</i> Enderlein | ---; ---; 51 | Vargas | 1945 |
| <i>subolavibranchium</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>submigrans</i> Lutz | ---; ---; 53, 82, 328, 329 | Vargas | 1945 |
| | ---; ---; 311 | Smart | 1940 |
| <i>subpallidum</i> Lutz | ---; ---; 53, 239 | Vargas | 1945 |
| <i>subviride</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>tarsale</i> Williston | ---; Nov.-Dec.; 24° | Zloch & Abonnenc | 1946 + |
| | ---; ---; 24 | Smart | 1940 |
| <i>tarsatum</i> MacQuar. | ---; ---; 82 | Vargas | 1945 |
| <i>temnipes</i> Knab | ---; ---; 75 | Vargas | 1945 |
| <i>townsendi</i> Malloch | ---; ---; 240 | Vargas | 1945 |
| <i>tricornis</i> De Leon | Wide streams with sand and mud bottoms with stones and emergent plants, exposed to sun; Nov., Dec. and March; 128 | Dalmat | 1949 |
| | ---; April; 204 | Vargas | 1946 |
| <i>trivittatum</i> Malloch | Stream; ---; 128 | Dalmat | 1955 |
| | ---; Jan.; 204° | Vargas | 1945 b |
| | ---; ---; 204 | Vargas et al. | 1946 |

TABLE 1 - BLACK FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|------------------|-------|
| <i>SIMULIUM</i> <i>urubambanum</i> Enderlein | ---; ---; 240 | Vargas | 1945 |
| <i>vordalicum</i> Dyar & Shannon | ---; Feb.; 204 | Vargas et al. | 1946 |
| <i>varians</i> Lutz | ---; ---; 53 | Vargas | 1945 |
| <i>varipes</i> Philippi | ---; ---; 75 | Vargas | 1945 |
| <i>veracruzense</i> Vargas, Martinez & Diaz | Wide streams with sand and mud bottoms with stones and emergent plants, exposed to sun; Nov., Dec. and March; 128 | Dalmat | 1949 |
| | Fairly rapid, shaded streams with hard clay bed with many stones and some emergent vegetation; ---; 128 | Dalmat | 1951 |
| | ---; experimental vector and suspected trans- mitter of <i>Onchocerca volvulus</i> ; 128° | Dalmat | 1955 |
| | ---; Feb., April, Aug.-Sept., Nov.; 204 | Vargas et al. | 1946 |
| <i>versicolor</i> Lutz & Nunez Tovar | ---; ---; 328 | Smart | 1940 |
| <i>violaceosum</i> Enderlein | ---; ---; 82, 204, 328 | Vargas | 1945 |
| <i>virgatum</i> Coquillett | Swiftly flowing mountain brooks and streams with vegetation; ---; 128 | Strong et al. | 1934 |
| | Small streams, with vegetation; June; 204 | Vargas | 1945c |
| | ---; ---; 237 | Vargas | 1945 |
| <i>virgatum</i> <i>chiapense</i> Coquillett | ---; ---; 53 | Hoffmann | 1930 |
| <i>virgatum</i> <i>rubi-nodulum</i> Knab | Floating grass stalks in streams; ---; 128 | Strong et al. | 1934 |
| <i>vittatum</i> Zetterstedt | ---; Jan.; 204° | Vargas | 1945b |
| <i>wolffhigeli</i> Enderlein | ---; ---; 27 | Vargas | 1945 |

TABLE 1 - BLACK FLIES (conclusion)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|------|
| <i>SIMULIUM</i> <i>wrighti</i> Vargas, Martínez & Diaz | Wide streams with sand and mud bottoms with stones and emergent plants, exposed to sun; Nov., Dec. and March; 128 | Dalmet | 1949 |
| | ---; at 3,005 meters altitude; 204 | Vargas | 1945 |
| <i>yepoocapense</i> Dalmet | Large, fast-flowing streams with sandy, rocky bottom on rocks and stones, exposed to sun; April, July-August, Oct.; 128 | Dalmet | 1949 |
| <i>semipoaleense</i> Vargas | Small creek; March; 204 | Vargas et al. | 1946 |
| <i>THYRSOPELMA</i> <i>brasiliensis</i> Enderlein | ---; ---; 53 | Enderlein | 1934 |
| <i>TRICHODACNIA</i> <i>ecuadoriensis</i> Enderlein | ---; ---; 99 | Enderlein | 1934 |
| <i>lutziana</i> Enderlein | ---; ---; 53, 239 | Enderlein | 1934 |
| <i>miniata</i> Enderlein | ---; ---; 51, 82, 99, 240 | Enderlein | 1934 |
| <i>spadicidorsum</i> Enderlein | ---; ---; 53 | Enderlein | 1934 |
| <i>WILHELMIA</i> <i>mallochi</i> Enderlein | ---; ---; 18, 85 | Enderlein | 1925 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
BLACKFLIES

| SPECIES | DISEASE ORGANISM | | | | | DISTRIBUTION |
|---|------------------|---|------------|------------------------|-----------|-----------------------|
| | : VIRUS & | : | : PROTOZOA | : HELMINTHS | : OTHER : | |
| | : | : | : | : | : | |
| <i>SIMULIUM callidum</i> Dyar & Shannon | | | | Onchocerciasis | | 128, 204 (Dempf 1936) |
| | | | | Onchocerca volvulus | | 128, 130, 297, 328 |
| <i>dineilli</i> (Loan) | | | | "Coast erysipelas" | 128 | |
| <i>haematoptum</i> Malloch | | | | Onchocerca volvulus | | 128, 130, 297, 328 |
| <i>metallicum</i> Bellardi | | | | Onchocerca volvulus | | 128, 130, 297, 328 |
| <i>cochraeum</i> Walker | | | | Onchocerca volvulus | | 128, 130, 297, 328 |
| <i>samboni</i> Jennings | | | | "Coast erysipelas" | 128 | |

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C. SAND FLIES

The sand fly entries include a few species of Psychodinae which do not bite but may be pests of man, often causing allergic reactions. Little is to be found in the literature on the biologies and disease transmissions of these species. Most of the data are distributional records.

The tables include 204 species or subspecies most of which are in the large genus *Phlebotomus*.

TABLE 1 - SAND FLIES

| SPECIES | BRIDGING HABITATE; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------------|--------|
| <i>HARTIGIA</i> | | | |
| <i>hortigia</i> Fairchild | —; —; 85, 237 | Fairchild & Hertig | 1959 |
| <i>PHLEBOTOMUS</i> | | | |
| <i>abonnemani</i> Flock & Chassaignac | —; —; 130, 237 | Fairchild & Hertig | 1950 |
| <i>acolydiformis</i> Fairchild & Hertig | —; —; 85, 137, 204, 223, 237 | Fairchild & Hertig | 1959 |
| <i>affinis</i> Mangabeira | —; November; 53 | Mangabeira | 1942 |
| <i>alimanci</i> Galliard | —; —; 204, 328 | Barreto | 1947 |
| <i>alphabeticus</i> da Fonseca | —; May; 53 | da Fonseca | 1936 |
| <i>amarali</i> Barreto & Coutinho | —; —; 53 | Barreto | 1947 |
| <i>amazonensis</i> Root | —; —; 53, 240 | Barreto | 1947 |
| <i>antioquiensis</i> Roseboom | —; —; 85, 130, 328 | Fairchild & Hertig | 1959 |
| | —, Jan.-July, Sept.-Dec., in evening and at dusk, rest at foot of large trees in forest; 130° | Flock & Abonnem. | 1946 + |
| <i>anthophorus</i> Addie | —; —; 204 | Fairchild & Hertig | 1959 |
| <i>antoniensis</i> Coutinho | —; —; 53, 130 | Barreto | 1947 |
| <i>epicalis</i> Flock & Abonnem. | —; Jan., Apr., Dec.; 130° | Flock & Abonnem. | 1946 + |
| | —; —; 130, 137, 204, 237 | Fairchild & Hertig | 1959 |
| <i>areoporti</i> Costa Lima | —; —; 53 | Barreto | 1947 |
| | —, Jan.-July and Dec., barrows; 130° | Flock & Abonnem. | 1946 + |
| <i>aracoi</i> Paterson & Shannon | —; —; 27 | Shannon & Del Pezzo | 1927 |
| <i>arborealis</i> Flock & Abonnem. | —; April-June and Dec., on trees; 130° | Flock & Abonnem. | 1946 + |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-----------------------|--------|
| <i>PHLEBOTOMUS</i> <i>arboralis</i> Floch & Abonnenc (cont.) | ----; ---; 137, 237 | Fairchild & Hertig | 1959 |
| <i>arthuri</i> da Fonseca | ---; bite man outdoors, attracted to artificial light, April; 53° | da Fonseca | 1936 |
| | ---; experimentally infected with <i>Leishmania</i> <i>braziliensis</i> ; 53 | Bustamente | 1948 + |
| | ---; enters houses; 53 | da Fonseca | 1939 |
| <i>atroclavatus</i> Knab | ----; ---; 237 | Fairchild & Hertig | 1949 |
| | ---; ---; 328, 329 | Barretto | 1947 |
| <i>auraensis</i> Mangabeira | ---; August, November; 53 | Mangabeira | 1942 |
| <i>avellari</i> Costa Lima | ---; ---; 53 | Barretto | 1947 |
| | ---; rare; 237 | Fairchild & Hertig | 1947 |
| <i>ayrozai</i> Barretto & Coutinho | ---; ---; 53 | Barretto | 1947 |
| | ---; Oct., Dec.; 130 | Abonnenc | 1948 + |
| <i>baduelensis</i> Floch & Abonnenc | ---; ---; 53 | Barretto | 1947 |
| | ---; Dec., coastal forests; 130 | Floch & Abonnenc | 1950 + |
| | ---; ---; 328 | Floch & Abonnenc | 1948 + |
| <i>baityi</i> Damasceno, Causey, & Arouck | ---; ---; 53 | Barretto | 1947 |
| <i>barrettoi</i> Mangabeira | ---; August, Sept.; 53 | Mangabeira | 1942 |
| | ---; June, July; 130 | Floch & Abonnenc | 1946 + |
| | ---; ---; 223, 237 | Fairchild & Hertig | 1959 |
| <i>basispinosus</i> Barretto & Coutinho | ---; ---; 53 | Barretto | 1947 |
| <i>battistinii</i> Hertig | ---; in houses; 240 | Pesce & Pardo | 1943 |

TABLE 1 - SAND FLIES (continued)

| SPECIES | LIVING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--------------------|--------|
| <i>PHLEBOTOMUS</i> | | | |
| <i>baltrani</i> V. & D. M. | ---; ---; 137, 204 | Fairchild & Hertig | 1959 |
| <i>bigeniculatus</i> Floch & Abonnenc | ---; Jan.-July, Sept.-Dec.; 130 | Floch & Abonnenc | 1946 + |
| <i>bispinosus</i> Fairchild & Hertig | ---; ---; 137, 223, 237 | Fairchild & Hertig | 1959 |
| <i>bourrouli</i> Barretto & Coutinho | ---; ---, 53 | Barretto | 1947 |
| <i>brachipygus</i> Mangabeira | ---; Aug., houses; 53 | Mangabeira | 1942 |
| <i>brachyphallus</i> Mangabeira | ---; October; 53 | Mangabeira | 1941 a |
| | ---; Mar., Apr., June, July; 130 | Floch & Abonnenc | 1946 + |
| | ---; ---; 204 | Dengf | 1944 |
| <i>brasiliensis</i> Costa Liva | ---; ---; 53 130 | Barretto | 1947 |
| <i>brumpti</i> Larrousse | ---; Sept. rare, attracted to human bait; 53 | Galveo & Coutinho | 1940 |
| <i>bureiformis</i> Floch & Abonnenc | ---; Apr., June, on trees; 130 | Floch & Abonnenc | 1946 + |
| <i>campbelli</i> Demasceno, Caussey & Arouck | ---; ---; 53 | Barretto | 1947 |
| <i>composi</i> Rodr. | ---; ---; 85, 99, 237 | Fairchild & Hertig | 1959 |
| <i>cardosoi</i> Barretto & Coutinho | ---; ---; 53 | Barretto | 1947 |
| <i>carpenteri</i> Fairchild & Hertig | ---; ---; 85, 237 | Fairchild & Hertig | 1959 |
| <i>carrerai</i> Barretto | ---; ---; 82 | Barretto | 1946 |
| <i>ocarvalhoi</i> Demasceno, Caussey, & Arouck | ---; ---; 53 | Barretto | 1947 |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-----------------------|--------|
| <i>PELEBOTONUS</i> | | | |
| <i>oceanheinrichi</i> Damasceno, Causey, & Arnuck | ---; ---; 53 | Barretto | 1947 |
| <i>castroi</i> Barretto & Coutinho | ---; ---; 53 | Barretto | 1947 |
| <i>cauchensis</i> Floch & Abonnenc | ---; Jan.-Apr., June, on trees; 130 | Floch & Abonnenc | 1946 + |
| <i>caverniculus</i> Costa Lima | ---; ---; 53 | Barretto | 1947 |
| <i>cayennensis</i> Floch & Abonnenc | ---; ---; 85, 204, 237, 262 | Fairchild & Hertig | 1959 |
| | ---; Aug., Sept., cracks in brush covered rocks; 130 | Floch & Abonnenc | 1946 + |
| | ---; ---; 328 | Floch & Abonnenc | 1948 + |
| <i>cayennensis</i> <i>maciasei</i> Fairchild & Hertig | ---; ---; 128, 204 | Fairchild & Hertig | 1959 |
| <i>cav. weirai</i> Causey & Damasceno | ---; ---; 53 | Barretto | 1947 |
| <i>chassigneti</i> Floch & Abonnenc | ---; Feb., Aug. and Dec.; 130 | Floch & Abonnenc | 1946 + |
| <i>chiapanensis</i> Dampf | ---; ---; 85, 204, 237, 262 | Fairchild & Hertig | 1959 |
| | ---; ---; 204* | Dampf | 1947, |
| <i>choti</i> Floch & Abonnenc | ---; ---; 53 | Barretto | 1947 |
| | ---; Jan.-June and Sept.-Dec., burrows; 130 | Floch & Abonnenc | 1946 + |
| <i>christophersoni</i> Damasceno & Causey | ---; ---; 53 | Barretto | 1947 |
| <i>columbianus</i> Ristorcelli & Dao van Ty | ---; ---; 82 | Barretto | 1947 |
| <i>complexus</i> Mangabeira | ---; Oct.; 53 | Mangabeira | 1941 b |

TABLE I - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--|------------------------|
| <i>PHLEBOTOMUS</i> <i>cortelessii</i> Brethes | ---; ---; 27, 325 | Barreto | 1947 |
| <i>costalimai</i> Mangabeira | ---; Jan., burrows; 53 | Mangabeira | 1942 |
| <i>coutinhoi</i> Mangabeira | ---; Aug., Oct.; 53 | Mangabeira | 1942 |
| <i>oruotatus</i> Coquillett | ---; in houses; 53 ---; ---; 85, 123, 137, 204, 223, 237 ---; rests on outside walls of houses, tree holes; 127°, 128°, 204°, 237° ---; ---; 238° ---; ---; 238, 328, 329 | Chagas et al. Fairchild & Hertig | 1937 + 1959 1948 |
| <i>oruai</i> Mangabeira | ---; ---; 53 | Fairchild Barreto | 1943 1947 |
| <i>osteniphorus</i> Fairchild | ---; ---; 204 | Fairchild & Hertig | 1959 |
| <i>ovatai</i> Mangabeira | ---; Aug.; 53 ---; ---; 137 | Mangabeira Fairchild & Hertig | 1942 1959 |
| <i>damascenoai</i> Mangabeira | ---; Aug., Sept., tree holes; 53 | Mangabeira | 1941 d |
| <i>dasiopodageton</i> Castro | ---; ---; 53 | Barreto | 1947 |
| <i>davisi</i> Root | ---; ---; 53 ---; July, 130 ---; in houses, possible vector of and experimen-tally infected with <i>Leishmania tropica</i> var. <i>brasiliensis</i> ; 328° | Barreto Floch & Abonnenc Pifano | 1947 1946 + 1943 |
| <i>deanei</i> Damasceno, C. Ray, & Arouck | ---; ---; 53 | Barreto | 1947 |
| <i>deletoni</i> Fairchild & Hertig | ---; ---; 128, 137, 204 ---; ---; 237 | Fairchild & Hertig | 1959 1947 |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-----------------------------|--------|
| <i>PHLEBOTOMUS</i> <i>del posoi</i> Vargas & Díaz Najera | ---; ---; 204 | Fairchild & Hertig | 1959 |
| <i>dendrophilus</i> Mangabeira | ---; July, Aug.; 53 | Mangabeira | 1942 |
| <i>diabolicus</i> Hall | ---; ---; 138, 204 | Fairchild & Hertig | 1959 |
| <i>dodgei</i> Vargas & Díaz Najera | ---; ---; 204 | Fairchild & Hertig | 1959 |
| <i>treisbachi</i> Causey & Damasceno | ---; ---; 53, 130 | Barretto | 1947 |
| <i>dunhami</i> Causey & Damasceno | ---; ---; 53 | Barretto | 1947 |
| <i>durani</i> Vargas & Díaz Najera | ---; ---; 204 | Fairchild & Hertig | 1959 |
| <i>dysponctus</i> Fairchild & Hertig | ---; ---; 85, 99, 237 | Fairchild & Hertig | 1959 |
| <i>edwardsi</i> Mangabeira | ---; Nov., in burrows; 53 | Mangabeira | 1941 |
| <i>elongatus</i> Floch & Abonnenc | ---; ---; 130 | Barretto | 1947 |
| <i>equatorialis</i> Mangabeira | ---; Aug.; 53 | Mangabeira | 1942 |
| <i>evandroi</i> Costa Lima & Altunes | ---; in houses; 53 | Chagas et al. | 1937 + |
| <i>evansi</i> Nuñez Tovar | ---; ---; 82 | Ristorcelli & Dao vay Ty | 1941 |
| | ---; ---; 85, 223, 262, 328 | Fairchild & Hertig | 1959 |
| | ---; ---; 328° | Ortiz | 1950 |
| <i>falciformis</i> Floch & Abonnenc | ---; Mar.-July; 130 | Floch & Abonnenc | 1946 + |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|------------------------|--------|
| <i>PHLEBOTOMUS</i> | | | |
| <i>fariasi</i> Damasceno, Causey, & Arouck | ---; ---; 53 | Barretto | 1947 |
| <i>ferreirai</i> Causey & Damasceno | ---; ---; 53 | Barretto | 1947 |
| <i>fischeri</i> Pinto | ---; common, most active after sunset, in dark, damp places by day, in house and woods; 53° | Coutinho & Barretto | 1941 |
| | ---; bites man outdoors, attracted by light; 53° | da Fonseca | 1936 |
| | ---; naturally infected with <i>Leishmania</i> , Oct.; 53 | Pessoa | 1941 + |
| | ---; enters houses; 53 | da Fonseca | 1939 |
| <i>flaviscutellatus</i> Mangabeira | ---; Aug., Nov.; 53 | Mangabeira | 1942 |
| | ---; ---; 130 | Barretto | 1947 |
| <i>flaviatilis</i> Floch & Abonnenc | ---; Feb.-July, tree holes; 130 | Floch & Abonnenc | 1946 + |
| <i>fonsecai</i> Costa Lima | ---; ---; 51 | Barretto | 1947 |
| <i>furoatus</i> Mangateira | ---; Aug., Sept., tree holes; 53 | Mangabeira | 1941 c |
| | ---; ---; 130, 237 | Barretto | 1947 |
| <i>galindoi</i> Fairchild & Hertig | ---; ---; 85, 99, 137, 204 | Fairchild & Hertig | 1959 |
| | ---; 4000 feet elevation; 237 | Fairchild & Hertig | 1947 |
| <i>gaminariai</i> Cordero, Vogelsang, & Cossio | ---; ---; 325 | Barretto | 1947 |
| <i>geniculatus</i> Mangabeira | ---; June; 53 | Mangabeira | 1941 b |
| | ---; ---; 237 | Barretto | 1947 |
| <i>gomesi</i> Nitsulescu | ---; ---; 53, 85, 223, 237 | Fairchild & Hertig | 1959 |
| | ---; enters houses; 130°, 237°, 328° | Fairchild & Hertig | 1948 |
| | ---; ---; 328 | Barretto | 1947 |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITAT; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------|--------|
| <i>PALBOTOMUS guadaloupensis</i> Floch & Abonnenc | ---; tree holes; 24 | Floch & Abonnenc | 1945 + |
| <i>guimaraesi</i> Coutinho & Barreto | ---; ---; 53 | Barreto | 1947 |
| | ---; rare; 237 | Fairchild & Hertig | 1947 |
| <i>gigasensis</i> Floch & Abonnenc | ---; Apr., June; 130° | Floch & Abonnenc | 1946 + |
| <i>hamatus</i> Fairchild & Hertig | ---; crevice in limestone rock near entrance to caves, buttressed roots of large hollow tree containing bats, animal burrows; 237 | Fairchild & Hertig | 1947 |
| <i>hardaeoni</i> Vargas & Diaz Majera | ---; ---; 204 | Fairchild & Hertig | 1959 |
| <i>heckenrothi</i> Floch & Abonnenc | ---; Jan., Mar.-July, Dec., burrows; 130 | Floch & Abonnenc | 1946 + |
| <i>hirsutus</i> Mangabeira | ---; Sept.; 53 | Mangabeira | 1942 |
| <i>inflatus</i> Floch & Abonnenc | ---; Feb.-June; 130 | Floch & Abonnenc | 1946 + |
| <i>infraspinosus</i> Mangabeira | ---; Aug.-Nov., burrows; 53 | Mangabeira | 1941 a |
| | ---; Jan.-June, Aug.-Sept., Dec., entrance of burrows; 130 | Floch & Abonnenc | 1946 + |
| <i>inimi</i> Floch & Abonnenc | ---; Feb.-March; 130 | Floch & Abonnenc | 1946 + |
| <i>intermedius</i> Lutz & Neiva | ---; naturally infected with and experimental transmission of <i>Leishmania brasiliensis</i> , <i>L. donovani</i> ; 27, 239, 240 | Bustamante | 1948 + |
| | ---; ---; 27, 130, 239, 240, 328. ---; experimental transmission of and naturally infected with <i>Leishmania brasiliensis</i> , experimentally infected with and transmission of <i>L. donovani</i> ; 53 | Barreto | 1947 |
| | ---; abundant Oct.-Dec.; 53 | Pessoa | 1941 + |
| | ---; May; 53° | Galvao & Coutinho | 1940 |
| | ---; ---; 204 | Fairchild & Hertig | 1959 |
| | ---; in houses, feeding on man infected with <i>Leishmania</i> , possible vector of and experimentally infected with <i>L. tropica</i> var. <i>brasiliensis</i> ; 328° | Pifano | 1943 |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|------------------------------|--------|
| <i>PHLEBOTOMUS</i> | | | |
| <i>japigyi</i> Floch & Abonnenc | ---; Mar.-June; 130 | Floch & Abonnenc | 1946 + |
| <i>lancei</i> Barretto & Coutinho | ---; ---; 53 | Barretto | 1947 |
| <i>lenti</i> Mangabeira | ---; ---; 53 | Barretto | 1947 |
| <i>liotyi</i> Floch & Abonnenc | ---; ---; 328 | Floch & Abonnenc | 1950 + |
| <i>limai</i> da Fonseca | ---; attracted to human bait, Sep., Oct.; 53 | Galvao & Continho | 1940 |
| <i>lloydii</i> Antunes | ---; ---; 53 | Barretto | 1947 |
| <i>lopessi</i> Damasco, Causey, & Arouck | ---; ---; 53 | Barretto | 1947 |
| <i>longipalpis</i> Lutz & Neiva | Rotten wood and dirt with decaying organic matter near houses; ---; 53 | Castro Ferreira et al. | 1938 + |
| | ---; experimentally infected with <i>Leishmania</i> <i>donovani</i> ; 53 | Barretto | 1947 |
| | ---; March-June, in houses; 53 | Mangabeira | 1942 a |
| | ---; experimentally infected with <i>L. donovani</i> ; 82, 239 | Bustamente | 1948 + |
| | ---; ---; 85, 128, 204, 237, 262 | Fairchild & Hertig | 1959 |
| | ---; in houses, feeding on man infected with <i>Leishmania</i> , possible vector of and experimentally infected with <i>L. tropica</i> var. <i>brasiliensis</i> ; 328* | Pifano | 1943 |
| <i>longispinus</i> Mangabeira | ---; July, Aug.; 53 | Mangabeira | 1942 |
| <i>lutsicoma</i> Costa Lima | ---; ---; 53 | Barretto | 1947 |
| | ---; Jan.-Mar., May-July and Dec., burrows; 130 | Floch & Abonnenc | 1946 + |
| <i>macchiowensis</i> Floch & Abonnenc | ---; Apr.; 130 | Floch & Abonnenc | 1946 + |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|------------------------|--------|
| <i>PHLEBOTOMUS</i> | | | |
| <i>mangabeirai</i> Barretto & Coutinho | ---; ---; 53 | Barretto | 1947 |
| <i>maracayensis</i> Muñoz | ---; ---; 328 | Barretto | 1947 |
| <i>marajoensis</i> Damasceno & Causey | ---; ---; 53 | Barretto | 1947 |
| <i>maripaensis</i> Floch & Abonnenc | ---; June; 130 | Floch & Abonnenc | 1946 + |
| <i>massai</i> Paterson | ---; ---; 27 | Shannon & Del Ponte | 1927 |
| <i>msirai</i> Causey & Damasceno | ---; ---; 53 | Barretto | 1947 |
| <i>melloi</i> Causey & Damasceno | ---; ---; 53 | Barretto | 1947 |
| <i>micros</i> Mangabeira | ---; Apr.; 53 | Mangabeira | 1942 |
| <i>micropygus</i> Mangabeira | ---; July-Sept.; 53 | Mangabeira | 1942 |
| <i>migonei</i> Franga | ---; naturally infected with <i>Leishmania</i> <i>brasiliensis</i> ; 27, 238 | Bustamente | 1948 + |
| | ---; June, Oct., common in Sept., few attack humans; 53° | Galvao & Coutinho | 1940 |
| | ---; Jan., Feb., Oct., Nov., naturally infected with <i>L. brasiliensis</i> ; 53 | Pessoa | 1941 + |
| | ---; ---; 53°, 239, 328 | Barretto | 1947 |
| | ---; in houses, feeding on man infected with <i>Leishmania</i> , possible vector of and experimentally infected with <i>L. tropica</i> var. <i>brasiliensis</i> ; 328° | Pifano | 1943 |
| <i>winasensis</i> Mangabeira | ---; Jan.; 53 | Mangabeira | 1942 |
| | ---; ---; 237 | Fairchild & Hertig | 1950 |
| <i>monstruosus</i> Floch & Abonnenc | ---; ---; 53 | Damasceno & Arouck | 1949 + |
| | ---; Mar.-July, burrows; 130 | Floch & Abonnenc | 1946 + |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|------------------------------|--------|
| <i>PHLEBOTOMUS</i> | | | |
| <i>monticulus</i> Costa Lima | ---; in house, attracted by light; 53 | da Fonseca | 1936 |
| <i>monticulus</i> <i>inacarum</i> Ristorcelli & Daal van Ty | ---; at 5,200 feet elevation; 82 | Ristorcelli & Daal van Ty | 1941 |
| <i>nitsulscui</i> Costa Lima | ---; ---; 53 | Barretto | 1947 |
| <i>noguchii</i> Shannon | ---; all year, abundant July-Aug., at elevations above 4,500 feet, in excavations, caves, rarely enters houses; 240 | Hertig | 1942 |
| | ---; naturally and experimentally infected with <i>Bartonella bacilliformis</i> ; 240 | Barretto | 1947 |
| | ---; ---; 240* | Mera | 1943 |
| <i>nordoeatus</i> Mangabeira | ---; Oct.; 53 | Mangabeira | 1942 b |
| | ---; ---; 130 | Barretto | 1947 |
| <i>oliverioi</i> Barretto & Coutinho | ---; ---; 53 | Barretto | 1947 |
| <i>oppidanus</i> Dempf | ---; ---; 204 | Fairchild & Hertig | 1959 |
| <i>osornoi</i> Ristorcelli & Daal van Ty | ---; ---; 82 | Barretto | 1947 |
| <i>osvaldoi</i> Mangabeira | ---; June, Aug.-Nov., tree trunks, in houses; 53 | Mangabeira | 1942 |
| | ---; ---; 130 | Barretto | 1947 |
| <i>ovallesi</i> Ortiz | ---; ---; 137, 204, 223, 237, 328 | Fairchild & Hertig | 1959 |
| <i>pacos</i> Floch & Abonnenc | ---; Jan.-Sept., Nov., Dec., burrows; 130 | Floch & Abonnenc | 1946 + |
| <i>panamensis</i> Shannon | ---; ---; 82, 238, 240 | Barretto | 1947 |
| | ---; ---; 85, 138, 204, 223, 237, 328 | Fairchild & Hertig | 1959 |
| | ---; ---; 237* | Fairchild & Hertig | 1948 |
| | ---; ---; 328* | Pifano | 1949 + |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|--------------------|--------|
| <i>PHLEBOTOMUS papatasii</i> Scop. | ---; occasionally enter houses; 53 ---; in houses, bites by day, possible vector of 3-day fever; 128 | Lutz | 1922 |
| <i>paramensis</i> Costa Lima | ---; ---; 53, 137, 237 | Fairchild & Hertig | 1959 |
| <i>pascalei</i> Coutinho & Barretto | ---; ---; 53 | Barretto | 1947 |
| <i>perssei</i> Mangabeira | ---; July and Jan.; 53 ---; Mar.; 130 | Mangabeira | 1942 |
| <i>peruvirus</i> Fairchild & Hertig | ---; ---; 204 | Fairchild & Hertig | 1959 |
| <i>peruanensis</i> Shannon | ---; common Jan., Feb., June, rare at altitudes less than 5,700 feet, in caves, roadside cavities, enter houses; 240 | Hertig | 1942 |
| | ---; naturally and experimentally infected with and transmission of <i>Bartonella bacilliformis</i> ; 240 | Barretto | 1947 |
| <i>pessoai</i> Hertig | ---; in house; 240° | Hertig | 1943 |
| <i>pessoai</i> Coutinho & Barretto | ---; naturally infected with <i>Leishmania brasiliensis</i> ; 53 | Barretto | 1947 |
| <i>pestanai</i> Barretto & Coutinho | ---; ---; 53 | Barretto | 1947 |
| <i>pilosus</i> Damasceno & Caussy | ---; ---; 53, 85, 237 | Fairchild & Hertig | 1959 |
| <i>pinealis</i> Floch & Abonnenc | ---; July; 130 | Floch & Abonnenc | 1946 + |
| <i>pintoi</i> Costa Lima | ---; ---; 53 ---; Feb.-July, Dec., burrows; 130 | Barretto | 1947 |
| | | Floch & Abonnenc | 1946 + |
| <i>punctigeniculatus</i> Floch & Abonnenc | ---; ---; 53 ---; ---; 130 ---; tree hollow with bats, March-May, July, Oct., Dec.; 237, 238 | Damasceno & Arouck | 1949 + |
| | | Barretto | 1947 |
| | | Fairchild & Hertig | 1950 |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-----------------------|--------|
| <i>PHLEBOTOMUS</i> <i>quinquefer</i> Dyar | ---; ---; 27 | Barreto | 1947 |
| <i>nickardi</i> da Costa Lima | ---; ---; 53 | Barreto | 1947 |
| <i>rooti</i> Mangabeira | ---; Aug., Oct.; 53 | Mangabeira | 1942 |
| <i>rorotaeensis</i> Floch & Abonnenc | ---; common Sept.-Dec.; 130 | Floch & Abonnenc | 1950 + |
| <i>rosabaldi</i> Fairchild & Hertig | ---; ---; 85, 237 | Fairchild & Hertig | 1959 |
| <i>rostratus</i> Summers | ---; ---; 53, 99 | Barreto | 1947 |
| <i>runcoides</i> Fairchild & Hertig | ---; ---; 85, 237 | Fairchild & Hertig | 1959 |
| <i>sallei</i> Galvao & Coutinho | ---; ---; 53 | Barreto | 1947 |
| <i>sanguinarius</i> Fairchild & Hertig | ---; ---; 85, 137, 237 | Fairchild & Hertig | 1959 |
| <i>saulensis</i> Floch & Abonnenc | ---; ---; 53 | Damasceno & Arouck | 1949 + |
| | ---; ---; 85, 130, 237 | Fairchild & Hertig | 1959 |
| <i>seriocerus</i> Floch & Abonnenc | ---; ---; 130 | Barreto | 1947 |
| <i>serrotinus</i> Damasceno & Arouck | ---; ---; 53 | Damasceno & Arouck | 1949 + |
| <i>servulolimai</i> Damasceno & Causey | ---; ---; 53 | Barreto | 1947 |
| <i>shawaei</i> Dyar | ---; ---; 27, 53, 82, 85, 130, 237, 239 (Tree holes with or without bats, tree buttresses, rock crevices, light traps, all year, peak January) ---; Sept., Oct., rare; 53* | Fairchild & Hertig | 1950 |
| | ---; Sept., Oct., rare; 53* | Galvao & Coutinho | 1940 + |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|--------------------|--------|
| | | | |
| <i>Pelebotomus shannoni</i> Dyar (cont.) | ---; ---; 85, 137, 204, 223, 239 ---; --; 238° | Fairchild & Bertig | 1959 |
| <i>singularis</i> Costa Lima | ---; ---; 53 | Barretto | 1947 |
| <i>sordellii</i> Shannon & Del Ponte | ---; ---; 27, 328 | Barretto | 1947 |
| <i>sousacastroi</i> Demasceno & Causev | ---; ---; 53 | Barretto | 1947 |
| <i>spinipes</i> Floch & Abonnenc | ---; Apr.-July, Dec., burrows; 130 | Floch & Abonnenc | 1946 + |
| <i>spinosus</i> Floch & Abonnenc | ---; Jan.-Apr., June-July, Nov., on trees; 130 ---; ---; 237 | Floch & Abonnenc | 1946 + |
| <i>equiniventris</i> Lutz & Maliva | ---; ---; 53, 82, 230, 328 ---; Mar.-June; 130 | Euzenatho | 1947 |
| | ---; inland; 237 | Bonme | 1924 |
| <i>steatopygus</i> Fairchild & Bertig | ---; ---; 204 | Fairchild & Bertig | 1959 |
| <i>suia</i> Gordogo | ---; ---; 237, 328 | Iriarte | 1944 |
| <i>sylvaticus</i> Floch & Abonnenc | ---; ---; 130 | Barretto | 1947 |
| <i>tumidus</i> Dampf | ---; ---; 204 ---; ---; 237 | Fairchild & Bertig | 1959 |
| <i>tropidonotus</i> Fairchild & Bertig | ---; ---; 85, 99, 137, 237 | Fairchild & Bertig | 1959 |
| <i>trivittatus</i> Mangabeira | ---; Aug.; 53 ---; Jan.-June, Aug., Oct., Dec., burrows; 130 ---; rare, 2400 feet elevation, animal burrows; 237 | Mangabeira | 1942 |
| | | Floch & Abonnenc | 1946 + |
| | | Fairchild & Bertig | 1947 |

TABLE 1 - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---|------------------------|
| <i>PHLEBOTOMUS triacanthus</i> Mangabeira | ---; Aug., Sept.; 53 ---; ---; 237 | Mangabeira Barretto | 1942 1947 |
| <i>Orichopygus Floch & Abonnenc</i> | ---; ---; 130 | Barretto | 1947 |
| <i>trinidadensis</i> Newstead | ---; common, tree buttresses; 53°, 82°, 130°, 204°, 237°, 328°, 329° ---; ---; 53, 85, 137, 204, 223, 237 ---; rare; 311 | Fairchild & Hertig Fairchild & Hertig Newstead | 1948 1959 1922 |
| <i>trispinosus</i> Mangabeira | ---; Aug., Sept.; 53 | Mangabeira | 1942 |
| <i>troglodytes</i> Lutz | ---; ---; 53 | Galvao & Coutinho | 1940 |
| <i>tuberculatus</i> Mangabeira | ---; July-Oct., tree holes, in houses; 53 | Mangabeira | 1941 c |
| <i>tupynambai</i> Mangabeira | ---; June; 53 | Mangabeira | 1942 |
| <i>ubiquitalis</i> Mangabeira | ---; Aug.-Oct.; 53 | Mangabeira | 1942 |
| <i>undulatus</i> Fairchild & Hertig | ---; ---; 128, 137, 204, 237 | Fairchild & Hertig | 1959 |
| <i>unisetosus</i> Mangabeira | ---; Oct.; 53 | Mangabeira | 1941 b |
| <i>venezuelensis</i> Floch & Abonnenc | ---; July-Sept.; 328 | Floch & Abonnenc | 1948 + |
| <i>jerrucarum</i> Townsend | ---; all year, enter houses freely, bite man in and outdoors; 240° ---; experimentally and naturally infected with and vector of <i>Bartonella bacilliformis</i> ; 240° | Hertig Barretto | 1942 1947 |
| <i>vesiciferus</i> Fairchild & Hertig | ---; ---; 328 ---; ---; 85, 223 ---; large hollow tree containing bats, animal burrows, rock crevices, tree buttresses; 237 | Floch & Abonnenc Fairchild & Hertig Fairchild & Hertig | 1950 + 1959 1947 |

TABLE - SAND FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--------------------|--------|
| <i>PHLEBOTOMUS vespertilionis</i> Fairchild & Hertig | ---; ---; 85 | Fairchild & Hertig | 1959 |
| | ---; bat cave, hollow tree with bats, tree buttresses, all year, common, June-Dec.; 237 | Fairchild & Hertig | 1947 |
| <i>vexator</i> (Coquillett) | ---; ---; 204 | Dampf | 1944 |
| <i>villalai</i> Mangabeira | ---; June, Aug.-Nov., in tree trunk, houses; 53 | Mangabeira | 1942 |
| | ---; ---; 204 | Dampf | 1947 |
| <i>vindicator</i> Dampf | ---; ---; 204 | Dampf | 1944 |
| <i>viriosus</i> Fairchild & Hertig | ---; ---; 85, 237 | Fairchild & Hertig | 1959 |
| <i>vulcanensis</i> Fairchild & Hertig | ---; ---; 237 | Fairchild & Hertig | 1950 |
| <i>zugayi</i> Causey & Damasceno | ---; ---; 53 | Barretto | 1947 |
| <i>walkeri</i> Newsteed | ---; ---; 51, 53 | Barretto | 1947 |
| <i>whitmoni</i> Antunes & | ---; naturally and experimentally infected with <i>Leishmania brasiliensis</i> ; 53 | Barretto | 1947 |
| | ---; May-Oct., common Sept. and Oct.; 53 ^c | Galvao & Coutinho | 1940 |
| | ---; Apr.; 130 | Floch & Abonnenc | 1946 + |
| <i>williamsi</i> Damasceno, Causey, & Arouach | ---; ---; 53 | Barretto | 1947 |
| <i>wilsoni</i> Damasceno & Causey | ---; ---; 53 | Barretto | 1947 |
| <i>wirthi</i> Vargas & Diaz Majera | ---; ---; 204 | Fairchild & Hertig | 1959 |
| <i>yalephiletor</i> Fairchild & Hertig | ---; ---; 85, 137, 223 | Fairchild & Hertig | 1959 |
| <i>yuatanensis</i> Gilliard | ---; ---; 204 | Bequaert | 1938 + |

TABLE I - SAND FLIES (conclusion)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-----------------------|--------|
| | | | |
| <i>PHLEBOTOMUS</i> <i>sulaiensis</i> Floch & Abonnenc | ---; July-Sept.; 328 | Floch & Abonnenc | 1948 + |
| <i>WALLEYA</i> <i>rotundipennis</i> Fairchild & Hertig | ---; ---; 85, 237 | Fairchild & Hertig | 1959 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
BAND FLIES

| SPECIES | DISEASE ORGANISM | | | | | DISTRIBUTION |
|--|------------------|------------|--|-----------|---|--------------|
| | VIRUS & | RICKETTSIA | PROTOZOA | HELMINTHS | OTHER | |
| <i>PHLEBOTOMUS</i> <i>migonei</i> Franca | | | <i>Leishmania</i> <i>brasiliensis</i> | | | 53 |
| <i>noguchi</i> Shannon | | | | | Bartonellosis | 240 |
| <i>paromensis</i> Shannon | | | <i>Leishmania</i> <i>brasiliensis</i> | | | 328 + |
| <i>verrucarium</i> Townsend | | | | | <i>Bartonella</i> <i>bacilliformis</i> | 240 |

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D. MIDGES

The midges include representatives from the family Ceratopogonidae. In some areas the biting species, especially *Aedes*, are called "sand flies". Little is known of the biology of individual species; however, the larvae are known to occur either in water or in moist terrestrial environments. In addition to their importance as pests, these biting midges are vectors of several disease organisms in some areas. In this report, however, only *Aedes vexans* (Poey) was recorded to transmit *Mansonia ozzarii* in the West Indies.

The tables include 178 species or subspecies, most of which are in the large genus *Aedes*.

TABLE 1 - MIDGE

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------|--------|
| <i>CENTRORHYNCHUS</i> <i>pueillae</i> Lutz | ---; ---; 53° | Lutz | 1913 |
| <i>stylifer</i> Lutz | ---; edge of ravines; 53° | Lutz | 1913 |
| <i>CULICOIDES</i> <i>isotylus</i> Lutz | ---; ---; 53, 204, 237, 328 | Wirth & Blanton | 1939 |
| <i>anthionotus</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1955 a |
| <i>albitalinus</i> Simoes Barbosa | ---; ---; 99, 237 | Wirth & Blanton | 1959 |
| <i>alimbiculorum</i> Macfie | ---; at light near house; 204 | Macfie | 1948 |
| <i>alluaudi</i> Root & Hoffman | ---; May-Oct.; 204 | Vargas | 1945 |
| <i>almirantei</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>ammonius</i> Macfie | ---; April-May; 53° | Macfie | 1955 |
| | ---; ---; 53 | da Costa Lima | 1937 |
| | ---; on beaches; 130° | Floch & Abonnenc | 1942 + |
| | ---; ---; 329° | Adamson | 1939 |
| <i>interfuratus</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>andreae</i> Fox & Hoffman | ---; ---; 237, 328, 329 | Wirth & Blanton | 1959 |
| | ---; ---; 238 | Simoes Barbosa | 1947 + |
| <i>aureus</i> Ortiz | ---; ---; 237, 328 | Wirth & Blanton | 1959 |
| <i>azureus</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>bathiensis</i> Simoes Barbosa | ---; ---; 53 | Vargas | 1949 |
| <i>balsapambensis</i> Ortiz & Leon | ---; ---; 99, 237 | Wirth & Blanton | 1959 |

TABLE 1 - MIDGEES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---------------------|--------|
| <i>CULICOIDES</i> | | | |
| <i>bambusicola</i> Lutz | Bamboo holes; ---; 53 | Lutz | 1913 |
| <i>barbosai</i> Wirth & Blanton | ---; ---; 17, 237 | Wirth & Blanton | 1959 |
| <i>baueri</i> Hoffman | ---; Jan.-July, Nov.; 204 | Vargas | 1945 |
| <i>bermudensis</i> Williams | ---; ---; 48 | Wirth & Williams | 1957 |
| <i>bimaculatus</i> Floch & Abonnenc | ---; ---; 130 | Vargas | 1949 |
| <i>boringueni</i> Fox & Hoffman | Tree holes; ---; 4. | Fox | 1946 |
| <i>cacozelus</i> Macfie | ---; attracted to ligh.; 204 | Macfie | 1948 |
| <i>camposi</i> Ortiz & Leon | ---; ---; 99, 237 | Wirth & Blanton | 1959 |
| <i>caprilesi</i> Fox | ---; ---; 53, 128, 237 | Wirth & Blanton | 1959 |
| | ---; ---; 328 | Wirth | 1955 |
| <i>caridei</i> (Brêthes) | ---; ---; 27°, 53°, 240°, 325° | Simoes Barbosa | 1947 + |
| | ---; ---; 27, 325 | Wirth | 1960 |
| | ---; ---; 53 | Vargas | 1949 |
| <i>carpenteri</i> Wirth & Blanton | ---; light trap; 237, 238 | Wirth & Blanton | 1953 b |
| <i>carsiomelas</i> Wirth & Blanton | ---; at light trap; 237, 238 | Wirth & Blanton | 1955 |
| <i>castillae</i> Fox | ---; ---; 99, 128, 137, 237, 328 | Wirth & Blanton | 1959 |
| <i>chrysonotus</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1956 |

TABLE 1 - KLOCES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------|--------|
| <i>CULICOIDES</i> | | | |
| <i>cockerelli</i> | | | |
| var. <i>tristriatulus</i> Hoffman | ---; Sept.; 204 | Vargas | 1945 |
| <i>columbianus</i> Kieffer | ---; ---; 82 | Kieffer | 1917 |
| <i>commatis</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>conjunctions</i> Kieffer | ---; ---; 130 | Vargas | 1949 |
| <i>copiosus</i> Root & Hoffman | ---; June, Sept.; 204 | Vargas | 1945 |
| <i>coutinhoi</i> Barnetto | ---; ---; 53 | Vargas | 1949 |
| | ---; ---; 130 | Wirth & Blanton | 1956 a |
| <i>cova-garciai</i> Ortiz | ---; at light; 128 | Wirth | 1955 |
| | ---; ---; 237, 328 | Wirth & Blanton | 1959 |
| <i>crepuscularis</i> Malloch | ---; ---; 48 | Wirth & Williams | 1957 |
| | ---; ---; 204 | Vargas | 1945 |
| <i>crescentis</i> Wirth & Blanton | ---; ---; 204, 223, 237 | Wirth & Blanton | 1959 |
| <i>daedalooides</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>daedalus</i> Macfie | ---; ---; 137, 237, 328 | Wirth & Blanton | 1959 |
| | ---; attracted to light; 204 | Macfie | 1948 |
| <i>dampfi</i> Root & Hoffmann | ---; trap lamp, April; 204 | Root & Hoffmann | 1937 |
| | ---; ---; 204 | Vargas | 1945 |
| <i>dasyophorus</i> Macfie | ---; ---; 129, 237 | Vargas | 1949 |
| | ---; ---; 238 | Simoes Barbosa | 1947 + |

TABLE 1 - MIDGES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------|---|--------------------|--------|
| <i>CULICOIDES</i> | | | |
| <i>deadalus</i> | ---; at light; 128 | Wirth | 1955 |
| Macfie | ---; attracted to light; 204 | Macfie | 1948 |
| <i>debilipalpis</i> | | | |
| Lutz | ---; ---; 18, 99, 128, 129, 130, 137, 223, 237, 328, 329 | Wirth & Blanton | 1959 |
| | ---; ---; 23, 24 | Simoes Barbosa | 1947 + |
| | ---; ---; 27° | Simoes Barbosa | 1953 + |
| | ---; at dusk; 53 | Lutz | 1913 |
| | ---; ---; 128° | Wirth | 1955 |
| | ---; ---; 204 | Macfie | 1948 |
| | ---; ---; 239 | Lutz et al. | 1918 |
| | Rotting pods of cocoa, bamboo stumps; ---; 329 | Williams | 196.. |
| | ---; ---; 329° | Adamson | 1939 |
| <i>debilipalpis</i> | | | |
| <i>equatoriensis</i> | ---; ---; 99 | Simoes Barbosa | 1953 + |
| Simoes Barbosa | | | |
| <i>debilipalpis</i> | | | |
| <i>glabrior</i> | ---; ---; 53, 129, 237 | Vargas | 1949 |
| Macfie | | | |
| <i>decor</i> | | | |
| Williston | ---; ---; 24 | Vargas | 1949 |
| | ---; ---; 237 | Wirth & Blanton | 1956 |
| | Bracts of <i>Guamania</i> ; ---; 329 | Williams | 1964 |
| <i>diabolicus</i> | | | |
| Hoffman | ---; ---; 53, 82, 85, 99, 128, 130, 137, 204, 223, 237, 297, 328, 329 | Wirth & Blanton | 1959 |
| | ---; ---; 82 | da Costa Lima | 1937 |
| | ---; bites man during or immediately after light rain; 128° | Wirth | 1955 |
| | ---; naturally infected with microfilaria; 204 | Vargas | 1945 |
| | Rotting cocoa pods, rotting stump of "fig", <i>Musa</i> , edge of fish ponds, open to sky, with short grass, water level fluctuates; ---; 329 | Williams | 1964 |
| | ---; ---; 329° | Adamson | 1939 |

TABLE 1 - MIDGEES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---------------------|--------|
| <i>CULICOIDES</i> | | | |
| <i>dicrourus</i> Wirth & Blanton | ---; ---; 137, 204, 223, 237 | Wirth & Blanton | 1959 |
| <i>diminutus</i> Barbosa | ---; at light; 223. ---; emergence traps at high tide; 238 | Woke | 1954 |
| <i>domi</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>efferus</i> Fox | ---; ---; 137, 223, 237, 240 | Wirth & Blanton | 1959 |
| <i>elutus</i> Macfie | ---; ---; 204, 237 | Wirth & Blanton | 1959 |
| <i>sublepharus</i> Macfie | ---; ---; 129 | Macfie | 1948 |
| | ---; ---; 204 | Vargas | 1949 |
| <i>euansi</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>fairchildi</i> Wirth & Blanton | ---; at light trap; 237, 238 | Wirth & Blanton | 1955 |
| <i>fieldi</i> Wirth & Blanton | ---; ---; 137, 237 | Wirth & Blanton | 1959 |
| <i>flavivenula</i> Lutz | ---; ---; 53 | da Costa Lima | 1937 |
| | ---; small woods; 130 | Floch & Abonnenc | 1942 + |
| <i>floridensis</i> Beck | ---; ---; 48 | Wirth & Williams | 1957 |
| <i>fluvialis</i> Macfie | ---; ---; 129, 137, 328 | Wirth & Blanton | 1959 |
| | Rotting cocoa pods; ---; 329 | Williams | 1964 |
| <i>fluviatilis</i> Lutz | ---; persistent, vicious biters in shade during late afternoon and early evening; 237° | Dunn | 1934 |
| <i>foxi</i> Ortiz | ---; ---; 22, 53, 137, 223, 237, 328 | Wirth & Blanton | 1956 a |
| | Edge of grassy, shaded drainage stream in cocoa plantation, rain-soaked horse and cow manure, rotting cocoa pods, edge of tide-influenced drainage ditch, short grass, exposed to sun; ---; 329 | Williams | 1964 |

TABLE 1 - MIDGEs (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|------------------------------------|---|------------------|--------|
| <i>CULICOIDES furens</i> (Poey) | Waterlogged sand with humus in mangrove swamps; bites evening and early morning within one-half mile of breeding places; 17° | Myers | 1933 + |
| | ---; ---; 17, 18, 21, 24, 53, 137, 237, 346 | da Costa Lima | 1937 |
| | ---; bites man at daybreak and sunset; 18° | Stephens | 1923 |
| | ---; ---; 19°. ---; ---; 23. ---; active at night, July; 329 | Fox | 1946 |
| | ---; common at seashore; 22 | Van Volkenberg | 1935 |
| | Pools above tidewater; ---; 22 | Wolcott | 1936 |
| | ---; bite man in evening and during day in shade; 22° | Root | 1922 |
| | ---; light traps, May; 22 | Kohler & Fox | 1951 |
| | ---; ---; 128 | Simoes Barbosa | 1947 + |
| | ---; in evening around lamps; 130 | Floch & Abonnenc | 1942 + |
| | Wat sand near lagoons and canals; enters houses; 137° | Painter | 1927 |
| | ---; along coast; 204 | Vargas | 1945 |
| | ---; common and attracted to light; 223° | Woke | 1947 |
| | Tidal mangrove swamp at 175-180 feet altitude; naturally infected with <i>Mansonella ozzardi</i> ; 237° | Trapido | 1947 |
| | Mangrove swamps, salt and brackish coastal swamps; intermediate host of <i>Mansonella ozzardi</i> , a non-pathogenic filarial blood parasite of man; 238° | Fairchild | 1943 |
| | ---; taken at light, enters houses; 238° | Woke | 1954 |
| | Tidal mangrove swamp, sunny edge of river mouth, salt-marsh grass, edge of forest stream which rises and falls rapidly with heavy rain, having decaying vegetation and sandy soil; ---; 311 | Williams | 1964 |
| | ---; ---; 328° | Briceno-Iragorry | 1949 |
| | ---; ---; 329° | Adamson | 1939 |
| | ---; infected with <i>Mansonella ozzardi</i> ; 346 | Nelson & Paster | 1962 |
| | ---; ---; 346* | Dampf | 1936 |

TABLE 1 - MIDGES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------|--------|
| <i>CULICOIDES</i> | | | |
| <i>furens</i> | | | |
| var. <i>maculithorax</i> Will | ---; ---; 69, 138 | Kieffer | 1925 |
| <i>gabaldoni</i> Ortiz | ---; ---; 128, 137, 237 | Wirth & Blanton | 1959 |
| | Decaying cocoa pods; ---; 329 | Williams | 1964 |
| <i>galindoi</i> Wirth & Blanton | ---; light trap; 237, 238 | Wirth & Blanton | 1953 a |
| <i>germanus</i> Macfie | ---; prefers low altitudes, taken at light; 128 | Wirth | 1955 |
| | ---; ---; 129 | Vargas | 1949 |
| <i>gibsoni</i> Wirth | ---; rare; 128* | Wirth | 1955 |
| <i>gigas</i> Root & Hoffman | ---; ---; 237 | Vargas | 1949 |
| <i>ginesi</i> Ortiz | ---; ---; 237, 328 | Wirth & Blanton | 1953 a |
| <i>glabellus</i> Fox & Hoffman | ---; ---; 137, 223, 237, 329 | Wirth & Blanton | 1959 |
| | Rotting cocoa pods, rotting banana stumps; ---; 329 | Williams | 1964 |
| <i>glabrior</i> Macfie | ---; ---; 129, 237 | Vargas | 1949 |
| <i>gorgasi</i> Wirth & Blanton | ---; at light trap; 237, 239 | Wirth & Blanton | 1953 a |
| <i>guadeloupensis</i> Floch & Abonnenc | ---; ---; 24 | Floch & Abonnenc | 1950 + |
| <i>guttatus</i> (Coquillett) | ---; at light traps; 22 | Fox & Kohler | 1950 + |
| | ---; bites man in full sun, especially in morning; 53* | Neiva & Penna | 1916 |
| | ---; enters houses, attracted to light; 53 | Lutz | 1913 |
| | ---; ---; 82, 128, 223, 237, 329 | Vargas | 1949 |
| | ---; ---; 85, 129, 130, 238 | Simoes Barbosa | 1947 + |
| | ---; ---; 99 | Simoes Barbosa | 1953 + |

TABLE 1 - MIDGEES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|---|--|
| <i>CULICOIDES</i> <i>guttatus</i> (Coquillett) (cont.) | ---; in forest, in houses at light, naturally infected with filaria; 204 ---; taken at light; 237°, 238° ---; ---; 329° | Mactie Woke Adamson | 1948 1954 1939 |
| <i>guttatus</i> <i>filariferus</i> Hoffman | ---; ---; 204 | Vargas | 1949 |
| <i>guyanensis</i> Floch & Abonnenc | ---; ---; 21, 22, 23, 128, 137, 204, 223, 237, 328, 329 ---; ---; 53, 130, 238 ---; at coast; 130° ---; taken at light; 238° Tidal mangrove swamp; ---; 329 | Wirth & Blanton Vargas Floch & Abonnenc Woke Williams | 1959 1949 1942 + 1954 1964 |
| <i>guyanensis</i> <i>stibaleensis</i> Fox | ---; ---; 329 | Vargas | 1949 |
| <i>haematopotus</i> Malloch | ---; Jan.-July; 204 | Vargas | 1945 |
| <i>heliconiae</i> Fox & Hoffman | ---; ---; 137, 237, 240, 328, 329 Decaying flowers of <i>Heliconia elongata</i> and <i>Cachibou</i> , <i>Calathea lutea</i> , rotting banana stump; ---; 329 | Wirth & Blanton Williams | 1959 1964 |
| <i>hertigi</i> Wirth & Blanton | ---; light trap; 237, 238 | Wirth & Blanton | 1953 a |
| <i>hirtipes</i> Kieffer | ---; ---; 240 | da Costa Lima | 1937 |
| <i>hoffmanni</i> Fox | Tree holes; light traps, rare; 22 ---; ---; 328, 329 ---; ---; 329° | Fox & Kohler Vargas Fox | 1950 + 1949 1946 |
| <i>horticula</i> Lutz | ---; ---; 53 ---; on beaches, bites at dusk; 130° ---; ---; 239 | Lutz Floch & Abonnenc Lutz et al. | 1913 1942 + 1918 |

TABLE 1 - MIDGEES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---|--|
| <i>CULICOIDES</i> | | | |
| <i>hydas</i> Macfie | ---; ---; 129, 137, 223, 237, 240 | Wirth & Blanton | 1959 |
| <i>imitator</i> Ortiz | ---; ---; 237, 328 | Wirth & Blanton | 1959 |
| <i>inamo'lae</i> Fox & Hoffman | ---; light traps, common, May; 22 | Kohler & Fox | 1951 |
| <i>indianus</i> Macfie | ---; ---; 129 | Vargas | 1949 |
| <i>insignis</i> Lutz | ---; ---; 21, 22, 53, 82, 130, 137, 204, 223, 237, 297, 328, 329 ---; at daylight, in dry ocean floors; 53° | Wirth & Blanton Lutz | 1956 a 1913 |
| | Edge of tidal drainage ditch, short grass, open to sky, edge of <i>Tilapia</i> fish ponds, short grass, open to sky, water level fluctuates, coconut swamp, brackish water, shaded water level fluctuates, spring outcrop in pasture, open to sky, rain run-off from cow manure pile, edge of shaded stream, sandy soil with decomposing leaves, no growing vegetation, edge of partially shaded stream, tall grass, river edge, tidal, salt-marsh grass, open to sky; ---; 329 | Williams | 1964 |
| <i>insignis</i> <i>trinidadensis</i> Hoffman | ---; ---; 329 | Vargas | 1949 |
| <i>iriartei</i> Fox | ---; ---; 137, 237, 328 | Wirth & Blanton | 1959 |
| <i>jumaiensis</i> Edwards | ---; light traps, May; 22 ---; ---; 23 ---; taken at light; 128 Rotting calabash; ---; 329 | Kohler & Fox Simoes Barbosa Wirth Williams | 1951 1947 + 1955 1964 |
| <i>kintsi</i> Wirth & Blanton | ---; light trap; 237, 238 | Wirth & Blanton | 1953 b |
| <i>lani</i> Ortiz | ---; ---; 137, 237, 329 | Wirth & Blanton | 1959 |
| <i>Leoni</i> Simoes Barbosa | ---; ---; 99 | Simoes Barbosa | 1953 + |

TABLE 1 - MIDGEES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---------------------|--------|
| <i>CULICOIDES</i> <i>leopoldi</i> Ortiz | ---; ---; 137, 204, 237, 328, 329 | Wirth & Blanton | 1959 |
| | Edge of tidal ditch, short vegetation, open to sky, tidal ditch mud, no vegetation, growing, shaded, edge of tide-influenced river, vegetation one foot high, open to sky, edge of rainfall-influenced stream, vegetation one foot high, open to sky; ---; 329 | Williams | 1964 |
| <i>llohyi</i> Floch & Abonnenc | ---; ---; 328 | Floch & Abonnenc | 1949 + |
| <i>lumai</i> Barretto | ---; ---; 53, 99, 137, 237, 328 | Wirth & Blanton | 1959 |
| | Edge of tidal drainage ditch, short grass, open to sky, edge of forest streams which rises and falls rapidly with heavy rains, having decaying vegetation and sandy soil; ---; 329 | Williams | 1964 |
| <i>lopesi</i> Barretto | ---; ---; 53 | Vargas | 1949 |
| <i>loughmani</i> Edwards | ---; ---; 21 | da Costa Lima | 1937 |
| <i>loughmani</i> var. <i>jamaicensis</i> Edwards | ---; ---; 21, 237 | da Costa Lima | 1937 |
| | ---; at light in houses; 204 | Macfie | 1948 |
| | ---; ---; 238 | Fairchild | 1943 |
| <i>lutealaris</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1956 |
| <i>luteovenus</i> Root & Hoffman | ---; prefers high altitudes; 128 | Wirth | 1955 |
| | ---; ---; 204, 238 | Vargas | 1949 |
| | ---; ---; 237 | Wirth & Blanton | 1956 |
| <i>lutai</i> Costa Lima | ---; ---; 53, 129 | Wirth & Blanton | 1956 + |
| | ---; on beaches; 130 | Floch & Abonnenc | 1942 + |
| <i>lymnetatus</i> Wirth & Blanton | ---; ---; 223, 237 | Wirth & Blanton | 1959 |
| <i>macrostigma</i> Wirth & Blanton | ---; light trap; 237, 238 | Wirth & Blanton | 1953 a |

TABLE 1 - MIDGEES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|--------------------|--------|
| <i>CULICOIDES</i> <i>mouliniorum</i> Williston | ---; ---; 24. ---; dry bottom of ocean; 53° | Lutz | 1913 |
| <i>magnipalpis</i> Wirth & Blanton | ---; light trap; 237, 238 | Wirth & Blanton | 1953 b |
| <i>marshi</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1956 |
| <i>marmax</i> Lutz | In scars, wet sand, hidden in mud; in mangroves; 53° | Lutz | 1913 |
| | ---; ---; 53 | Wirth & Blanton | 1956 |
| | ---; ---; 328 | Vargas | 1949 |
| | Coconut swamp, brackish water, shaded, water level fluctuates, edge of partially shaded, grassy drainage ditch; ---; 329 | Williams | 1964 |
| <i>metagonatus</i> Wirth & Blanton | ---; ---; 223, 237 | Wirth & Blanton | 1959 |
| <i>miresae</i> Ortiz | ---; ---; 237, 328, 329 | Wirth & Blanton | 1959 |
| <i>miyamotoi</i> Wirth & Blanton | ---; light trap; 237, 238 | Wirth & Blanton | 1953 a |
| <i>mojingaense</i> Wirth & Blanton | ---; light trap; 237, 238 | Wirth & Blanton | 1953 a |
| <i>nigrigenus</i> Wirth & Blanton | ---; ---; 137, 223, 237 | Wirth & Blanton | 1959 |
| <i>oliveri</i> Fox & Hoffman | ---; ---; 20 | Vargas | 1949 |
| <i>paohymenus</i> Lutz | ---; bites in the afternoon; 53° | Strong et al. | 1926 |
| | ---; prefers low altitudes; 128° | Wirth | 1955 |
| <i>painteri</i> Fox | ---; ---; 137 | Vargas | 1949 |
| <i>palpalis</i> Macfie | ---; attracted to light; 204 | Macfie | 1948 |
| <i>pampokilimae</i> Macfie | ---; attracted to light; 204 | Macfie | 1948 |
| | ---; ---; 237, 328 | Wirth & Blanton | 1959 |

TABLE I - MIDGES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|--------------------|--------|
| <i>CULICOIDES</i> <i>panamensis</i> (Coeldi) | ---; ---; 128, 204, 237 | Wirth & Blanton | 1959 |
| | ---; taken at light on flowers of <i>Heliconia</i> <i>manae</i> ; 238 | Wirth | 1955 |
| <i>panamericanus</i> Fox | ---; ---; 204 | Vargas | 1949 |
| <i>paraensis</i> (Coeldi) | ---; ---; 24, 130 | Simoes Barbosa | 1947 + |
| | ---; ---; 27, 51 | Simoes Barbosa | 1953 + |
| | ---; appears when it rains, all year, low tide; 53° | Lutz | 1913 |
| | ---; common, bites man at all hours under any weather conditions, prefers low altitude; 128° | Wirth | 1955 |
| | ---; bites in the open; 237° | Dunn | 1934 |
| | ---; taken at light; 238° | Woke | 1954 |
| | ---; ---; 240 | Vargas | 1949 |
| | ---; bite man at dusk, especially abundant in rainy season; 328° | Martorell | 1939 |
| | Rotting cocoa pods; ---; 329 | Williams | 1964 |
| <i>patulipalpis</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>paucienfuscatus</i> Simoes Barbosa | ---; ---; 53, 237 | Wirth & Blanton | 1959 |
| | Edge of tidal ditch, short grass, open to sky, rain-soaked cow manure, edge of stream, grassy and shaded; ---; 329 | Williams | 1964 |
| <i>pharonotus</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>phlebotomus</i> (Williston) | ---; abundant on beaches in houses, rarely bite man; 22° | Wolcott | 1936 |
| | ---; light trap; 22, 237. ---; ---; 53, 137, 204, 223°, 328° | Wirth & Blanton | 1953 |
| | ---; ---; 99, 130, 223, 328, 329 | Wirth & Blanton | 1959 |

TABLE 1 - MIDGEES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|---|------------------------------|
| <i>CULICOIDES phlebotomus</i> (Williston) (cont.) | Wet depressions of sandy beach; enters houses; 137° ---; taken at light; 238° | Painter Woke | 1927 1954 |
| | Near mouths of fresh-water rivers and streams which flood over sandy areas with each high- tide, no vegetation, open to sun, sandy banks of tide-influenced drainage ditches, open to sun, in sandy bottoms of streams near mouths, open to sun, at edges of sandy depression of water affected by tides behind sandy beach, open to sun, edge of partially shaded, grassy stream whose water level fluctuates with rainfall; ---; 329 ---; ---; 346 | Williams | 1964 1946 |
| <i>pictipennis</i> (Philippi) | ---; ---; 75 | Macfie | 1948 |
| <i>pifanoi</i> Ortiz | ---; ---; 137, 223, 237, 328 | Wirth & Blanton | 1959 |
| | Vegetated and shaded banks of fresh-water streams which rise and fall with heavy rains, vegetated shady areas where overflow waters from ground pools flow into streams; ---; 329 | Williams | 1964 |
| <i>piliferus</i> Root & Hoffman | ---; Aug.; 204 | Vargas | 1945 |
| <i>pilosus</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>poikilonotus</i> Macfie | ---; prefers low altitudes, taken at light; 128 ---; ---; 137, 223, 237 ---; at lamp at night; 204 | Wirth Wirth & Blanton Macfie | 1955 1959 1948 |
| | Rotting cocoa pods, decaying banana stumps, stalks, and bracts, rotting stump of Sucre fig, bamboo stumps; ---; 329 | Williams | 1964 |
| <i>polysticus</i> Kieffer | ---; ---; 239 | Kieffer | 1917 |
| <i>propinquus</i> Macfie | ---; at lamp at night on a veranda; 204 | Macfie | 1948 |

TABLE 1 - MIDGEES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---|--|
| <i>CULICOIDES propriipennis</i> Macfie | ---; prefers low altitudes, taken at light; 128 ---; attracted to light; 204 ---; ---; 223, 328 | Wirth Macfie Wirth & Blanton | 1955 1948 1959 |
| <i>pseudodiabolicus</i> Fox | ---; enters houses, July; 329 | Fox | 19 |
| <i>pulchripennis</i> Macfie | ---; ---; 53 | Vargas | 1949 |
| <i>pulicaris</i> (Linnaeus) | ---; ---; 18 | Stephens | 1923 |
| <i>pusilloides</i> Wirth & Blanton | ---; ---; 128, 137, 223 ---; light traps; 237, 238 | Wirth & Blanton Wirth & Blanton | 1959 1955 |
| <i>pusillus</i> Lutz | ---; ---; 21 ---; light traps; 22 ---; in mud of mangroves; 53° ---; ---; 53, 99, 130, 237, 328, 329, 346 ---; ---; 68, 69, 352 ---; taken at light; 128 ---; at light near houses; 204 Rotting cocoa pods, decaying banana stumps, stalks and bracts, rotting plantain stalk, rotting Sucre fig stump, discarded horse bedding of macerated coconut fibers wet with rain, rain-soaked horse manure, rain-soaked cow manure, grassy spring outcrop on hill- side, open to sky, rotting calabash, shaded, grassy edge of drainage stream in cocoa plantation, decaying flowers of <i>Heliconia</i> <i>elongata</i> , bamboo stumps, decaying whole coconut from which the milk had been strained; ---; 329 | Simoes Barbosa Fox & Kohler Lutz Wirth & Blanton Vargas Wirth Macfie Williams | 1947 + 1950 + 1913 1959 1949 1955 1948 1964 |
| <i>rangeli</i> Ortiz & Mirsa | ---; ---; 237, 328 | Wirth & Blanton | 1959 |
| <i>recifei</i> Simoes Barbosa | ---; ---; 53° ---; ---; 53 | Simoes Barbosa Vargas | 1943 1949 |

TABLE 1 - MIDGES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|-------------------------------------|------------------------|
| <i>CULICOIDES reticulatus</i> Lutz | Crab holes on edge of mangrove swamp of more or less fresh water; ---; 53° ---; ---; 237 | Lutz Wirth & Blanton | 1913 1959 |
| <i>riethi</i> Kieffer | ---; ---; 29 | Gutsevich | 1960 |
| <i>rostratus</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1956 |
| <i>roseboomi</i> Simoes Barbosa | ---; ---; 237, 240, 329 ---; taken at light; 238 | Vargas Woke | 1949 1954 |
| <i>ruisi</i> Forattini | ---; ---; 53 | Wirth & Blanton | 1956 a |
| <i>sanctae-martae</i> Kieffer | ---; ---; 82 | Kieffer | 1917 |
| <i>scopus</i> Root & Hoffman | ---; Aug.-Sept., March; 204 ---; ---; 237 | Vargas Wirth & Blanton | 1945 1959 |
| <i>stellifer</i> Coquillett | ---; ---; 204 ---; ---; 328, 329 ---; ---; 329° | Simoes Barbosa Vargas Adamson | 1947 + 1949 1939 |
| <i>stigmalis</i> Wirth | ---; bites man 4:30-6:00 p.m., under partly overcast skies during warmer weather, prefers low altitudes; 128° ---; attracted by light, Sept.; 128. ---; attracted by light, Aug.; 204. ---; Aug.-Sept.; 238 | Wirth Vargas | 1955 1953 |
| <i>stibalensis</i> Fox | ---; active at night, July; 329 | Tox | 1946 |
| <i>tenuilobus</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>tetrathyris</i> Wirth & Blanton | ---; ---; 137, 237 Rotting cocoa pods; ---; 329 | Wirth & Blanton Williams | 1959 1964 |
| <i>transferrans</i> Ortiz | ---; ---; 99, 237, 328 | Wirth & Blanton | 1959 |
| <i>tricoloratus</i> Wirth & Blanton | ---; light trap; 237, 238 | Wirth & Blanton | 1953 a |

TABLE 1 - MIDGEs (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---|--------------------------------|
| <i>CULICOIDES</i> <i>trilineatus</i> Fox | ---; tree holes; 22 ---; Sept.; 23° | Fox & Kohler | 1950 + |
| <i>trinidadensis</i> Hoffmann | ---; ---; 17, 20, 223, 237 ---; light trap; 329 ---; ---; 329° | Wirth & Blanton | 1956 a |
| <i>tristriatulus</i> Hoffman | ---; ---; 204 | Fox | 1946 |
| <i>undecimpunctatus</i> Kieffer | ---; ---; 27 | Myers | 1934 |
| <i>unradialis</i> Wirth & Blanton | ---; light trap; 237, 238 | Vargas | 1949 |
| <i>vargasi</i> Wirth & Blanton | ---; light trap; 237, 238 | Kieffer | 1917 |
| <i>variipennis</i> Coquillett | ---; Jan.-July, Oct.; 204 ---; ---; 328 | Wirth & Blanton | 1953 b |
| <i>venezuelensis</i> Ortiz & Mirra | ---; ---; 75, 237, 328, 329 | Wirth & Blanton | 1959 |
| <i>verecundus</i> Macfie | ---; ---; 99, 137, 204, 223, 237 | Wirth & Blanton | 1959 |
| <i>villosipes</i> Kieffer | ---; ---; 239 | da Costa Lima | 1937 |
| <i>volcanensis</i> Wirth & Blanton | ---; ---; 237 | Wirth & Blanton | 1959 |
| <i>willistoni</i> Wirth & Blanton | ---; light trap; 237 | Wirth & Blanton | 1953 |
| <i>wirthomyia</i> Vargas | ---; attracted by light, March; 204 | Vargas | 1953 |
| <i>ookei</i> Simeões Barbosa | ---; ---; 22 ---; ---; 128, 204, 223 ---; ---; 237 ---; caught at lights; 238 | Vargas Simeões Barbosa Wirth & Blanton Fox | 1949 1957 + 1959 1947 |

TABLE 1 - MIDGES (conclusion)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-------------------|--------|
| <i>CULICOIDES</i> <i>xanthogaster</i> Kieffer | ---; ---; 130 | Vargas | 1949 |
| <i>yukonensis</i> Hoffmann | ---; June-July, March; 204 | Vargas | 1945 |
| <i>yarens</i> (Poey) | ---; ---; 99 | Simoes Barbosa | 1953 + |
| <i>HOLOCONOPS</i> <i>moniliferensis</i> Hoffman | ---; ---; 329° | Adamson | 1939 |
| <i>JOHANNSENIELLA</i> <i>fluviaialis</i> Lutz | ---; ---; 53° | Lutz | 1914 |
| <i>LEPTOCONOPS</i> <i>bequaerti</i> (Kieffer) | ---; ---; 223° | Woke | 1954 |
| <i>braziliensis</i> Lutz | ---; ---; 53° | Carter | 1921 |
| <i>TERGESTHES</i> <i>braziliensis</i> Lutz | ---; ---; 53° | Lutz | 1913 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
MIDGES

| SPECIES | DISEASE ORGANISM | | | | | DISTRIBUTION |
|--|------------------|------------|----------|-------------------------------------|-------|--------------|
| | VIRUS & | RICKETTSIA | PROTOZOA | HELMINTHS | OTHER | |
| <i>CULICOIDES</i> <i>furens</i> (Poey) | | | | <i>Mansonella</i> <i>ossardi</i> | | 346 |

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E. HORSE FLIES

The entries for horse flies (*Tabanidae*) include very little biology. Most of the literature on this large and important group is concerned with taxonomy, a lesser amount on distribution and none on disease transmission to man.

The synonymy, both at the genus and species level, is very complex. Several specialists are currently striving to straighten out some of these problems.

In the tables are listed 1115 species or subspecies, but it is certain that many of these are not valid names.

TABLE 1 - HORSE FLIES

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENE "L. STATEMENTS) | AUTHOR | DATE |
|--|--|----------|------|
| <i>ACANTHOCEKA</i> <i>anisantha</i> Lutz & Neiva | ---; banks of river, active at dusk; 53° | Lutz | 1915 |
| <i>coarctata</i> (Wiedemann) | ---; at an altitude up to 1,200 meters; 53 | Lutz | 1915 |
| <i>eristalis</i> Lutz | ---; ---; 53 | Lutz | 1915 |
| <i>cincta</i> (Wiedemann) | ---; ---; 53, 325 | Kröber | 1934 |
| <i>formosa</i> Kröber | ---; --, 53 | Kröber | 1934 |
| <i>intermedia</i> Lutz | ---; ---; 53 | Lutz | 1915 |
| <i>longicornis</i> Fabricius | ---; ---; 53 | Kröber | 1934 |
| <i>marginalis</i> Walker | ---; ---; 53, 130 | Kröber | 1934 |
| | ---; ---; 329, 352 | Bequaert | 1940 |
| <i>nigricorpus</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>quinquecincta</i> Lutz | ---; ---; 53 | Lutz | 1915 |
| <i>renunicornis</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>trigonifera</i> Schiner | ---; ---; 328 | Kröber | 1934 |
| <i>ACANTHOCERELLA</i> <i>holivensis</i> Brethes | ---; ---; 51 | Kröber | 1934 |
| <i>gurnu</i> Kröber | ---; ---; 239 | Kröber | 193 |
| <i>scutellata</i> Williston | ---; ---; 53 | Kröber | 1934 |
| <i>AEGLALONIA</i> <i>atlantica</i> (Johnson) | ---; ---; 48 | Philip | 1947 |
| <i>AGELANIUS</i> <i>sensilis</i> Phillipi | ---; ---; 75 | Gigoux | 1935 |
| <i>ALLICOMMA</i> <i>brevithorax</i> Enderlein | ---; ---; 82 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | SPREADING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-----------------------------------|--|----------|--------|
| <i>ALLIOMMA</i> | | | |
| <i>interrupta</i> Enderlein | ---; ---; 82 | Kröber | 1934 |
| <i>thiemeana</i> Enderlein | ---; ---; 82 | Kröber | 1934 |
| <i>AMPHICHLOROPS</i> | | | |
| <i>angustifrons</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>flava</i> Wiedemann | ---; ---; 54, 239, 325 | Kröber | 1934 |
| <i>planiventris</i> Wiedemann | ---; ---; 27, 53, 130 | Kröber | 1934 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>quadrimaculata</i> Macquart | ---; ---; 53, 82, 328 | Kröber | 1932 |
| <i>unicolor</i> Wiedemann | ---; ---; 53, 82, 240 | Kröber | 1932 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>venenata</i> Osten Sacken | ---; ---; 51, 85, 128, 237 | Kröber | 1932 |
| | ---; ---; 53, 69, 99, 328 | Kröber | 1934 |
| <i>siridiventris</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>ASSIPALA</i> | | | |
| <i>melanoptera</i> (Hine) | ---; ---; 137 | James | 1950 |
| <i>ASTIGMADOPHTHALMUS</i> | | | |
| <i>satanas</i> Kröber | ---; ---; 85, 237 | Kröber | 1931 c |
| <i>BELLARDIA</i> | | | |
| <i>oculuc</i> Walker | ---; ---; 128, 204, 223 | Kröber | 1932 a |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>rubrofemorata</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>subruba</i> Bellardi | ---; ---; 99, 128, 204 | Kröber | 1934 |
| <i>BOLBODIMYIA</i> | | | |
| <i>bicolor</i> Bigot | ---; ---; 129° | Cleare | 1919 |
| | ---; ---; 130 | Kröber | 1934 |
| | ---; Sept.; 328 | Stone | 1944 |
| <i>desecta</i> Enderlein | ---; ---; 51, 130 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-----------------|------|
| <i>BOLBODIMYIA erythrocephala</i> Bigot | ---; ---; 237 | Kröber | 1934 |
| <i>lateralis</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>nigra</i> Stone | ---; ---; 99 | Kröber | 1934 |
| <i>BOMBYLOMYIA erythronotata</i> Bigot | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>leonina</i> Lutz | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>nitens</i> Bigot | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>CAENOPANGONIA hirtipalpis</i> Bigot | ---; ---; 75 | Kröber | 1934 |
| <i>CALLIOSCA varia</i> Walker | ---; ---; 75 | Kröber | 1934 |
| <i>CATACHLOROPS capreoleus</i> Wiedemann | ---; ---; 53, 328 | Kröber | 1934 |
| <i>circumfusa</i> Wiedemann | ---; ---; 204 | Kröber | 1934 |
| <i>ecuadorienseis</i> Enderlein | ---; ---; 99 | Kröber | 1934 |
| <i>fervens</i> Linnaeus | ---; ---; 53 | Kröber | 1934 |
| <i>fumipennis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>fuscipennis</i> Macquart | ---; ---; 27, 53 | Kröber | 1934 |
| <i>halterata</i> Kröber | ---; ---; 129 | Kröber | 1934 |
| <i>immaculata</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>intereweins</i> Walker | ---; ---; 53 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITAT; ADULT ACTIVITY; DISTINCTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-------------------------------------|---|---------------------|--------------|
| CATACHLOROPS | | | |
| <i>luotiosa</i> Macquart | ---; ---; 129 | Kröber | 1934 |
| <i>maculipennis</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>melanosoma</i> Mine | ---; ---; 85 | Kröber | 1934 |
| <i>nebulosa</i> Kröber | ---; ---; 352 | Kröber | 1934 |
| <i>nigripalpis</i> Macquart | ---; ---; 82, 99 | Kröber | 1934 |
| <i>nigripennis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>pictipennis</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>potator</i> Wiedemann | ---; ---; 53, 328 | Kröber | 1934 |
| <i>praetermissus</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>peoloptera</i> Wiedemann | ---; ---; 53, 325 | Kröber | 1934 |
| <i>rufescens</i> Fabricius | ---; ---; 53 | Kröber | 1934 |
| <i>rufithorax</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>scutellata</i> Kröber | ---; ---; 129 | Kröber | 1934 |
| <i>therioplectiformis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>transposita</i> Walker | ---; ---; 82 ---; ---; 237 | Kröber Fairchild | 1934 1943 |
| CHAETOPALPUS | | | |
| <i>cavillicornis</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>bisulcatus</i> Enderlein | ---; ---; 75 | Kröber | 1934 |

TABLE 1 -- HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-----------------|--------|
| <i>CHAETOPALPUS</i> | | | |
| <i>coracinus</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>mendosanus</i> Enderlein | ---; ---; 27 | Kröber | 1934 |
| <i>CHELOMIA</i> | | | |
| <i>bigoti</i> <i>Bellardi</i> | ---; ---; 82, 204, 223, 328 | Kröber | 1934 |
| <i>bigoti</i> var. <i>fukuhirina</i> Kröber | ---; ---; 128 | Kröber | 1934 |
| <i>cineraria</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>cinnamomea</i> Schiner | ---; ---; 82, 240, 352 | Kröber | 1934 |
| <i>discifera</i> Walker | ---; ---; 53, 297, 329 | Kröber | 1934 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>peruviana</i> Macquart | ---; ---; 53, 82, 240, 328 | Kröber | 1934 |
| <i>satanica</i> Bigot | ---; ---; 53 | Kröber | 1934 |
| <i>CHELOTABANUS</i> | | | |
| <i>albibarbis</i> Wiedemann | ---; ---; 129, 297 | Kröber | 1934 |
| <i>aurora</i> Macquart | ---; ---; 53 | Lutz & Reiva | 1914 |
| <i>cinerarius</i> Wiedemann | ---; ---; 53 | Lutz & Reiva | 1914 |
| <i>discus</i> Wiedemann | ---; ---; 53, 297 | Kröber | 1932 a |
| <i>fallax</i> Macquart | ---; ---; 130 | Kröber | 1934 |
| <i>ferreus</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>fusca</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>impressus</i> Wiedemann | ---; ---; 53, 204, 147 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | INCIDING HABITS; ADULT ACTIVITY, DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|----------------------|--------|
| <i>CHLOROTABANUS</i> <i>inornis</i> (Fabricius) | ---; ---; 53, 204, 239 | Kröber | 1929 b |
| | ---; ---; 82 | Patino-Camargo | 1940 |
| | ---; nocturnal; 129 | Hedgpeth & Corbet | 1960 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>mexicanus</i> (Linnaeus) | ---; ---; 53 | Lutz et al. | 1918 |
| | ---; ---; 204 | Kröber | 1931 |
| | ---; ---; 237 | Fairchild | 1943 |
| | ---; ---; 328 | Stone | 1944 |
| <i>CHRYSOPS</i> <i>affinis</i> <i>Bellardi</i> | ---; ---; 204 | Kröber | 1934 |
| <i>alleni</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>altivaga</i> Osten Sacken | ---; ---; 204 | Kröber | 1934 |
| <i>apicalis</i> <i>Bellardi</i> | ---; ---; 204 | Kröber | 1934 |
| <i>aurofasciata</i> (Kröber) | ---; ---; 53, 129 | Strong et al. | 1926 |
| <i>auroguttata</i> Kröber | ---; ---; 82, 329 | Kröber | 1934 |
| | ---; ---; 352 | Bequaert | 1940 |
| <i>auroguttata</i> var. <i>pallidofemorata</i> Kröber | ---; ---; 329 | Kröber | 1934 |
| <i>berta</i> Pechuman | ---; ---; 53 | Pechuman | 1940 |
| <i>bivittata</i> Lutz | ---; ---; 325 | Kröber | 1934 |
| <i>boliviensis</i> Kröber | ---; ---; 51 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--------------------|--------|
| <i>CHrysops</i> | | | |
| <i>brasiliensis</i> Ricardo | ---; ---; 53 | Kröber | 1934 |
| <i>brevifascia</i> Lutz | ---; ---; 27, 51 | Kröber | 1934 |
| <i>brevifasciatus</i> Lutz | ---; ---; 27, 51 | Kröber | 1929 * |
| <i>bulbiornis</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 240 | Pechuman | 1937 |
| | ---; ---; 349, 352 | Bequaert | 1940 |
| <i>calogaster</i> Schiner | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 237 | Dunn | 1934 |
| | ---; ---; 328 | Stone | 1944 |
| <i>calogaster</i> var. <i>mexicana</i> Kröber | ---; ---; 204 | Kröber | 1934 |
| <i>caloptera</i> Mine | ---; ---; 128 | Kröber | 1934 |
| <i>chiriquensis</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>costata</i> Fabricius | ---; bites man on head at all times of the day, November-March; 18° | Hoffmann | 1921 |
| | ---; in and around edges of mangrove swamps, bites man readily by day; 22° | Root | 1922 |
| | ---; ---; 53 | Lutz & Neiva | 1914 |
| | ---; ---; 82 | Patino- Camargo | 1940 |
| | ---; ---; 128, 137 (Rarely bites man) | Bequaert | 1925 |
| | ---; rare; 129° | Claere | 1919 |
| | ---; ---; 328° | Martorell | 1939 |
| <i>cruciatus</i> Windermann | ---; ---; 18, 53, 99, 239 | Kröber | 1934 |
| | ---; ---; 240 | Pechuman | 1937 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|----------|------|
| <i>CHrysops</i> | | | |
| <i>cruorius</i> | ---; ---; 99, 347 | Kröber | 1934 |
| var. <i>ecuadorensis</i> Lutz | ---; ---; 240 | Pechuman | 1937 |
| <i>cruorius</i> var. <i>fusciipes</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>cruorius</i> var. <i>luteus</i> Kröber | ---; ---; 53, 240 | Kröber | 1934 |
| <i>cruorius</i> var. <i>peruviana</i> Kröber | ---; ---; 51, 53, 240 | Kröber | 1934 |
| <i>currens</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>decipiens</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>ecuadorensis</i> Wiedemann | ---; ---; 240 | Pechuman | 1937 |
| <i>engeli</i> Kröber | ---; ---; 204 | Kröber | 1934 |
| <i>facialis</i> Townsend | ---; ---; 204 | Kröber | 1934 |
| <i>flavida</i> Wiedemann | ---; ---; 17, 69, 352 | Kröber | 1934 |
| | ---; ---; 18, 346* | Bequaert | 1940 |
| | ---; ---; 204 | Philip | 1947 |
| <i>flavoscutellata</i> Kröber | ---; ---; 51, 239 | Kröber | 1934 |
| <i>formosa</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| | ---; Dec.; 328 | Stone | 1944 |
| <i>fraseri</i> Willistson | ---; ---; 91 | Kröber | 1934 |
| <i>frontalis</i> Macquart | ---; ---; 19, 20 | Bequaert | 1940 |
| | ---; ---; 53, 51 | Kröber | 1934 |
| <i>fulvipes</i> Walker | ---; ---; 51, 53 | Kröber | 1934 |
| | ---; in forest areas; 129 | Cleare | 1919 |
| | ---; ---; 240 | Pechuman | 1937 |
| | ---; ---; 329, 352 | Bequaert | 1940 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|---------------------------------------|------------------------------|
| <i>HYDOPHILUS</i> | | | |
| <i>fueciper</i> Lutz | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>gigantea</i> Kröber | ---; ---; 204 | Kröber | 1934 |
| <i>gracilis</i> Kröber | ---; ---; 239 | Kröber | 1934 |
| <i>guiterasi</i> Brunetti | ---; ---; 18 | Kröber | 1934 |
| <i>guttipennis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>guttula</i> (Wiedemann) | ---; ---; 53 | Strong et al. | 1926 |
| <i>helleri</i> Kröber | ---; ---; 53, 239, 325 | Kröber | 1934 |
| <i>incisa</i> Macquart | ---; ---; 51, 53, 85, 204 ---; in forest; 223 ---; ---; 237 ---; Sept.; 238 | Kröber Wocke Fairchild Stone | 1934 1947 1943 1944 |
| <i>intrudens</i> Williston | ---; ---; 53 | Kröber | 1934 |
| <i>laeta</i> Fabricius | ---; ---; 51, 53, 82, 85, 99, 130, 239, 240, 325, 328 ---; ---; 75 | Kröber | 1929 b 1934 |
| <i>laeta</i> <i>laeta</i> Fabricius | ---; Sept. and Dec.; 328 | Stone | 1944 |
| <i>laeta</i> var. <i>nigroviolacea</i> Kröber | ---; ---; 53 | Pechuman | 1937 |
| <i>laeta</i> var. <i>composita</i> Kröber | ---; ---; 328 | Stone | 1944 |
| <i>laeta</i> var. <i>varians</i> Wiedemann | ---; ---; 53, 130, 325 | Kröber | 1934 |
| <i>latifasciatus</i> Bellardi | ---; ---; 137 | Bequaert | 1940 |

TABLE I - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|----------------|------|
| <i>CHrysops</i> | | | |
| <i>latitibialis</i> Kröber | ---; ---; 129 | Kröber | 1934 |
| <i>leucospilus</i> Wiedemann | ---; ---; 53, 85, 239 | Kröber | 1934 |
| | ---; ---; 82 | Patino-Camargo | 1940 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>lynchii</i> Brüchner | ---; ---; 27, 53, 239 | Kröber | 1934 |
| <i>malaena</i> Hine | ---; in swampy jungle; 223 | Woke | 1947 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>megacephala</i> Bellardi | ---; ---; 204 | Kröber | 1934 |
| <i>melanoptera</i> Hine | ---; ---; 128 | Kröber | 1934 |
| <i>mexicana</i> Kröber | ---; in forest; 223 | Woke | 1947 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>molestia</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>molestia</i> var. <i>flavipennis</i> Kröber | ---; ---; 99 | Kröber | 1934 |
| <i>neobrasiliensis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>nigricorpus</i> Lutz | ---; ---; 27, 53 | Kröber | 1934 |
| | ---; ---; 239 | Lutz et al. | 1918 |
| <i>nigroviolacea</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>olivacea</i> Kröber | ---; ---; 53, 297 | Kröber | 1934 |
| <i>omissa</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>pachycera</i> Williston | ---; ---; 204 | Brennan | 1935 |
| <i>pachyonemis</i> Hine | ---; ---; 128 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|---|------------------------------|
| <i>CHrysops paraguayensis</i> Kröber | ---; ---; 51 ---; ---; 239 | Kröber | 1929 a 1934 |
| <i>parvifascia</i> Lutz | ---; in dry regions; 53° ---; ---; 53 ---; ---; 239 | Neiva & Penna Krober Lutz et al. | 1916 1934 1918 |
| <i>scalarata</i> Bellardi | ---; ---; 69, 204 ---; ---; 137 | Krober Bequaert | 1934 1940 |
| <i>soror</i> Kröber | ---; ---; 237 ---; ---; 328 | Fairchild Krober | 1943 1934 |
| <i>striata</i> Osten Sacken | ---; ---; 69, 352 ---; ---; 204 | Kröber Philip | 1934 1947 |
| <i>subcascatiense</i> Bellardi | ---; ---; 204 | Kröber | 1934 |
| <i>tanyceras</i> Osten Sacken | ---; ---; 85 | Kröber | 1934 |
| <i>tenuifasciata</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>trifaria</i> Macquart | ---; ---; 75, 239 | Kröber | 1934 |
| <i>trisignata</i> Kröber | ---; ---; 325 | Kröber | 1934 |
| <i>tristis</i> Fabricius | ---; ---; 51, 53, 297, 347 ---; common on coast lands, occasionally in forest; 129° ---; ---; 328 ---; ---; 329, 352 | Kröber Cleare Pechuman Bequaert | 1934 1919 1942 1940 |
| <i>trivittata</i> Lutz | ---; ---; 325 | Kröber | 1934 |
| <i>variegata</i> (De Geer) | ---; July; 20, 27, 53, 297 ---; coconut grove by ocean, citrus grove, 22 ---; ---; 82 | Strong et al. Holcott Patino- Camargo | 1925 1961 1940 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-----------|------|
| <i>CHrysops</i> | | | |
| <i>variegata</i> (De Geer) | ---; Feb.; 204 | Bequaert | 1931 |
| (cont.) | ---; in swampy jungle; 223 | Hoke | 1947 |
| | ---; ---; 237 | Fairchild | 1943 |
| | ---; ---; 439 | Kröber | 1934 |
| | ---; Sept.-October, Dec.; 328 | Stone | 1944 |
| | ---; ---; 329, 346°, 352 | Bequaert | 1940 |
| <i>variegata</i> | | | |
| <i>var. peruviana</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>variegata</i> | | | |
| <i>var. subfuscipennis</i> Macquart | ---; ---; 22, 75, 82, 85, 128 | Kröber | 1934 |
| <i>variegata</i> | | | |
| <i>var. venezuelensis</i> Kröber | ---; ---; 297, 328 | Kröber | 1934 |
| <i>virgulata</i> Bellardi | ---; ---; 204 | Kröber | 1934 |
| <i>willistoni</i> Mine | ---; ---; 128 | Kröber | 1934 |
| | On damp but not flooded ground; ---; 328° | Gasson | 1943 |
| <i>COENURA</i> | | | |
| <i>albapicata</i> Schiner | ---; ---; 75 | Kröber | 1934 |
| <i>sigillata</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>elegans</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>kröberi</i> Lindner | ---; ---; 75 | Kröber | 1934 |
| <i>longicornis</i> Bigot | ---; ---; 75 | Kröber | 1934 |
| <i>vulpes</i> Macquart | ---; ---; 75 | Kröber | 1934 |
| <i>anthopleura</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>CRIPTOPHYLLUS</i> | | | |
| <i>comus</i> Stone | ---; ---; 328 | Stone | 1944 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|---|-------------------|--------|
| <i>CRYPTOTYLUS</i> | | | |
| <i>limorus</i> Townsend | ---; May-Nov.; 237 | Fairchild | 1942 |
| <i>luteoflavus</i> Bellardi | ---; all year; 237 | Fairchild | 1942 |
| <i>pallidipalpis</i> Stone | ---; ---; 328 | Stone | 1944 |
| <i>unicolor</i> Wiedemann | ---; ---; 53 | Lutz & Machado | 1915 |
| | ---; all year; 237 | Fairchild | 1942 |
| <i>DASYBASIS</i> | | | |
| <i>columbiana</i> (Enderlein) | ---; Sept.; 328. ---; ---; 352 | Stone | 1944 |
| <i>DASYOMIA</i> | | | |
| <i>bogotana</i> Enderlein | ---; ---; 82 | Kröber | 1934 |
| <i>cincta</i> Fabricius | ---; ---; 69 | Kröber | 1934 |
| | ---; ---; 204 | Kröber | 1929 c |
| <i>gagatina</i> Philippi | ---; ---; 75 | Kröber | 1934 |
| <i>DASYPHYRTA</i> | | | |
| <i>maculipennis</i> Macquart | ---; ---; 53, 82 | Kröber | 1932 a |
| <i>DIACHLORUS</i> | | | |
| <i>afflictus</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>altivagus</i> Lutz | ---; at 1270 meters elevation; 53 | Lutz | 1913 |
| <i>andusei</i> Stone | ---; Jan., October, Dec.; 328 | Stone | 1944 |
| <i>angustifrons</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>bicinctus</i> Fabricius | ---; Aug.; 53, 297 | Strong et al. | 1926 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>bimaculatus</i> Wiedemann | ---; ---; 51 | Kröber | 1934 |
| | ---; May; 53 | Lutz | 1913 |
| <i>dipunctatus</i> | ---; ---; 239 | Lutz et al. | 1918 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------|------|
| <i>DIACHLORUS</i> | | | |
| <i>bivittatus</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>conspicuus</i> Lutz | ---; ---; 27 | Lutz et al. | 1918 |
| | ---; ---; 53 | Kröber | 1934 |
| <i>curvipes</i> Fabricius | ---; Oct.-Feb.; 53 | Lutz | 1913 |
| | ---; July; 53 | Strong et al. | 1926 |
| | ---; ---; 129° | Cleare | 1919 |
| | ---; ---; 130, 237, 325 | Kröber | 1934 |
| <i>curvipes</i> var. <i>trivittatus</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>distinctus</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>distinctus</i> var. <i>catharinensis</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>fascipennis</i> Lutz | ---; July; 53 | Lutz | 1913 |
| <i>ferrugatus</i> Fabricius | ---; ---; 53, 69, 204 | Kröber | 1934 |
| | ---; ---; 128, 137, 138 | Bequaert | 1931 |
| | ---; mangrove swamps, at coast resting on leaves; 137° | Bequaert | 1925 |
| | ---; ---; 346 | Philip | 1947 |
| <i>flavitaenia</i> Lutz | ---; ---; 27, 239 | Kröber | 1934 |
| | Rivers; summer and most of winter; 53° | Lutz | 1913 |
| <i>fuscipennis</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>fuscostigma</i> Lutz | ---; ---; 53, 297 | Kröber | 1934 |
| <i>glaber</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>immaculatus</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---------------------|---|------------------|------|
| | | | |
| <i>DIACHLORUS</i> | --- | Woke | 1947 |
| <i>jobbinsi</i> | --- | Fairchild | 1943 |
| (Fairchild) | --- | | |
| <i>neivai</i> | --- | Kröber | 1934 |
| Lutz | --- | | |
| <i>nigristigma</i> | --- | Lutz | 1913 |
| Neiva & | | | |
| Penna | --- | Neiva & Penna | 1916 |
| <i>nigrithorax</i> | --- | Kröber | 1934 |
| Kröber | | | |
| <i>ochraceus</i> | --- | Lutz | 1913 |
| Macquart | --- | | |
| <i>pandorus</i> | --- | Kröber | 1934 |
| Lutz | Aug.; 53 | | |
| <i>podagricus</i> | --- | Strong et al. | 1926 |
| Fabricius | --- | | |
| <i>scutellatus</i> | --- | Kröber | 1934 |
| Macquart | --- | | |
| <i>terminalis</i> | July; 53, 129, 130 | Strong et al. | 1926 |
| (Macquart) | | | |
| <i>vitripennis</i> | --- | Lutz | 1913 |
| Lutz | --- | | |
| <i>DIATOMINEURA</i> | | | |
| <i>excavata</i> | --- | Lutz & Neiva | 1914 |
| Walker | | | |
| <i>fenestrata</i> | --- | Lutz & Neiva | 1914 |
| (Macquart) | | | |
| <i>tabanipennis</i> | --- | Lutz & Neiva | 1914 |
| (Macquart) | | | |
| <i>DICHELACERA</i> | at windows, all summer; 53° | Lutz | 1915 |
| <i>alcicornis</i> | | | |
| Wiedemann | --- | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---------------------------------|--|--------------------------------------|------------------------------|
| <i>DICHELACERA</i> | | | |
| <i>alcis</i> (Williston) | ---; ---; 24 | Bequaert | 1940 |
| <i>analis</i> Hine | ---; ---; 85, 237 ---; jungle and woods, bites man, horses, mules; 223° | Kröber Woke | 1934 1947 |
| | ---; bites throughout day into late evening, vicious, persistent biters, attracted by motion; 237° | Dunn | 1934 |
| | ---; May-Nov.; 237 | Fairchild | 1942 |
| | ---; ---; 238 | Hine | 1920 a |
| <i>bifacies</i> Walker | ---; Feb.; 53 | Lutz | 1915 |
| <i>callosa</i> Lutz | ---; July-Aug.; 53 | Lutz | 1915 |
| | ---; ---; 53 | Kröber | 1934 |
| <i>caloptera</i> Hine | ---; ---; 204 | Kröber | 1934 |
| <i>capricornis</i> Kröber | ---; ---; 69, 130, 297 | Kröber | 1931 d |
| <i>cervicornis</i> Fabricius | ---; ---; 51, 53, 204, 237, 297 | Kröber | 1934 |
| | ---; ---; 240 | Lutz | 1915 |
| <i>costaricensis</i> Kröber | ---; ---; 82, 85 | Kröber | 1931 d |
| <i>domicornis</i> Fabricius | ---; ---; 53 ---; bites man readily in forest area; 129° ---; ---; 297 ---; ---; 328 | Kröber Cleare Lutz Pechuman | 1934 1919 1915 1942 |
| <i>decipiens</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>difficilis</i> Kröber | ---; ---; 53, 129 ---; ---; 297 | Kröber | 1931 1934 |

TABLE 1 - NORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|--------|
| DICHLACERA | | | |
| <i>fraterna</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>fulminea</i> (Hine) | ---; ---; 137 | Jones | 1950 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>fuscipes</i> Lutz & Neiva | ---; ---; 27, 53 | Kröber | 1929 a |
| <i>grandis</i> Ricardo | ---; ---; 137 | Kröber | 1934 |
| <i>intermedia</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>januarii</i> Wiedemann | ---; Oct.; 53, 239 | Lutz | 1915 |
| <i>januarii</i> var. <i>pseudajanuarii</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>januarii</i> var. <i>rubriocosa</i> van der Wulp | ---; ---; 27, 53 | Kröber | 1934 |
| <i>laevifascia</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>leucomelas</i> Neiva & Penna | ---; ---; 53 | Neiva & Penna | 1916 |
| <i>limbatinervis</i> Kröber | ---; ---; 239 | Kröber | 1934 |
| <i>marginata</i> Macquart | ---; ---; 53, 99, 129, 130, 204, 237, 328 | Strong et al. | 1926 |
| | ---; ---; 82 | Kröber | 1929 b |
| | ---; jungle; 223° | Wocke | 1947 |
| | ---; ---; 239 | Lutz et al. | 1918 |
| <i>melanoptera</i> Hine | ---; July-Aug.; 129 | Hine | 1920 a |
| <i>melanosoma</i> Hine | ---; ---; 85 | Hine | 1920 a |
| <i>microanthia</i> Lutz | ---; ---; 27, 53 | Kröber | 1934 |
| <i>modesta</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 239 | Lutz et al. | 1918 |

TABLE 1 - MORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|---|--------------------|--------|
| <i>DICHLACERA</i> | | | |
| <i>multiguttata</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>ochracea</i> Mine | ---; ---; 53, 329, 347 | Kröber | 1934 |
| | ---; ---; 129 | Mine | 1920 a |
| | ---; ---; 352 | Bequaert | 1940 |
| <i>parvidens</i> Enderlein | ---; ---; 239 | Kröber | 1934 |
| <i>plagiata</i> Brèthes | ---; ---; 53 | Kröber | 1934 |
| <i>pseudajanuarii</i> Kröber | ---; ---; 53 | Kröber | 1931 d |
| <i>pulchra</i> Williston | ---; ---; 137 | James | 1950 |
| | ---; ---; 204 | Kröber | 1934 |
| <i>regina</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>rubiginosa</i> Summer | ---; ---; 129 | Kröber | 1934 |
| <i>rubricosa</i> van der Wulp | ---; ---; 27 | Lutz | 1915 |
| <i>salvadorensis</i> Lutz | ---; ---; 128, 204, 262 | Kröber | 1934 |
| <i>scapularis</i> Macquart | ---; ---; 82 | Patino- Camargo | 1940 |
| | ---; ---; 137 | Bequaert | 1940 |
| | ---; ---; 204 | Kröber | 1934 |
| <i>scutellata</i> Williston | ---; ---; 53° | Lutz | 1915 |
| <i>soror</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>submarginata</i> Lutz | ---; ---; 51, 53, 99, 240, 297 | Kröber | 1934 |
| | ---; ---; 237° | Dunn | 1934 |
| | ---; ---; 328 | Stone | 1944 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-----------|------|
| <i>DICHELACERA testacea</i> Macquart | ---; ---; 82, 328 | Krüber | 1934 |
| | ---; readily bites man in forest area; 129° (Bite produces local irritation and swelling) | Cleare | 1919 |
| <i>t-nigrum</i> Fabricius | ---; ---; 53 | Krüber | 1934 |
| | ---; ---; 138 | Lutz | 1915 |
| <i>transposita</i> (Walker) | ---; ---; 237 | Fairchild | 1943 |
| <i>tricallosa</i> Krüber | ---; ---; 240 | Krüber | 1934 |
| <i>trigonotaenia</i> Lutz | ---; ---; 53, 239 | Krüber | 1934 |
| | ---; ---; 325 | Lutz | 1915 |
| <i>unifasciata</i> Macquart | ---; ---; 27, 53 | Krüber | 1934 |
| <i>varia</i> Wiedemann | ---; ---; 53 | Krüber | 1934 |
| <i>DICLADOCERA acheronitens</i> Krüber | ---; ---; 53, 82, 99, 240 | Krüber | 1934 |
| | ---; Nov.; 328 | Stone | 1944 |
| <i>altivaga</i> Lutz | ---; ---; 53 | Krüber | 1934 |
| <i>badia</i> Krüber | ---; ---; 237 | Krüber | 1934 |
| <i>barbiellinii</i> Borgmeier | ---; ---; 53 | Krüber | 1934 |
| <i>basirufa</i> Walker | ---; ---; 82, 99 | Krüber | 1934 |
| <i>bicolor</i> Krüber | ---; ---; 53 | Krüber | 1934 |
| <i>caloptera</i> Schiner | ---; ---; 53, 82 | Krüber | 1934 |
| | ---; May, Aug.-Sept.; 328 | Stone | 1944 |
| <i>conspicua</i> Lutz & Neiva | ---; ---; 53 | Krüber | 1934 |
| <i>curta</i> Krüber | ---; ---; 53 | Krüber | 1934 |
| | ---; Nov.; 328 | Stone | 1944 |

TABLE 1 - MORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|---|-----------------|-------|
| <i>DICLADOCERA</i> | | | |
| <i>fulvicornis</i> Kröber | ---; ---; 99, 240 | Kröber | 1931d |
| <i>furcata</i> Wiedemann | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>griseipennis</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>guttipennis</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>hamata</i> van der Wulp | ---; ---; 27 | Kröber | 1934 |
| <i>hoppi</i> Enderlein | ---; ---; 240 | Kröber | 1934 |
| <i>lirbativena</i> Enderlein | ---; ---; 82, 99 | Kröber | 1934 |
| <i>macrospila</i> | ---; ---; 27, 53 | Lutz et al. | 1918 |
| <i>macula</i> Macquart | ---; ---; 51, 53, 99, 240, 328 | Kröber | 1934 |
| <i>maculata</i> Macquart | ---; ---; 328 | Pechuman | 1942 |
| <i>maculistigma</i> Enderlein | ---; ---; 240 | Kröber | 1934 |
| <i>minos</i> Schiner | ---; ---; 51, 82, 240, 328 | Kröber | 1934 |
| <i>neo-submacula</i> Kröber | ---; ---; 51, 99 | Kröber | 1934 |
| <i>nova</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>ocheronites</i> Kröber | ---; ---; 328 | Pechuman | 1942 |
| <i>perplexa</i> Walker | ---; ---; 82 | Kröber | 1934 |
| <i>potator</i> (Wiedemann) | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>praterensis</i> (Walker) | ---; ---; 53 | Lutz & Neiva | 1914 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-------------------------------------|---|-------------------|------|
| <i>DICLADOCERA</i> | | | |
| <i>reliata</i> Meiva & Penna | ---; ---; 53 | Meiva & Penna | 1916 |
| <i>riveti</i> Surcouf | ---; ---; 99 | Kröber | 1934 |
| <i>rubiginipennis</i> Macquart | ---; ---; 51, 82, 99 | Kröber | 1934 |
| <i>simulans</i> Meiva & Penna | ---; ---; 53 | Meiva & Penna | 1916 |
| <i>steinheili</i> Enderlein | ---; ---; 82 | Kröber | 1934 |
| <i>sulphurea</i> Kröber | ---; ---; 328 | Kröber | 1934 |
| <i>uncinata</i> van der Wulp | ---; ---; 27 | Kröber | 1934 |
| <i>unicolor</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>DUDAEILLA</i> | | | |
| <i>penotulipennis</i> Enderlein | ---; ---; 53 | Kröber | 1934 |
| <i>soythropus</i> Schiner | ---; ---; 53 | Kröber | 1934 |
| <i>ELAPHSELLA</i> | | | |
| <i>cervus</i> Wiedemann | ---; ---; 53, 240, 297 | Kröber | 1934 |
| <i>EREPHOPSIS</i> | | | |
| <i>albipustulus</i> (Bigot) | ---; ---; 53 | Lutz & Meiva | 1914 |
| <i>baskii</i> (Wiedemann) | ---; ---; 53 | Lutz & Meiva | 1914 |
| <i>leucopogon</i> (Wiedemann) | ---; ---; 53 | Lutz & Meiva | 1914 |
| <i>lingens</i> (Wiedemann) | ---; ---; 53 | Lutz & Meiva | 1914 |
| <i>nigripennis</i> (Wiedemann) | ---; ---; 53 | Lutz & Meiva | 1914 |
| <i>pubescens</i> Lutz | ---; ---; 53 | Lutz & Machado | 1913 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---------------------------------|---|----------------|--------|
| <i>EREOPHOPSIS</i> | | | |
| <i>Pygmaea</i> | ---; ---; 53 | Lutz & Machado | 1915 |
| Lutz & Machado | | | |
| <i>scironoides</i> | ---; ---; 53 | Lutz & Machado | 1915 |
| Lutz & Machado | | | |
| <i>sorbens</i> | ---; ---; 51, 53 | Kröber | 1929 a |
| Wiedemann | | | |
| <i>wirthemii</i> (Wiedemann) | ---; ---; 53 | Lutz & Neiva | 1914 |
| | | | |
| <i>xanthopogon</i> | ---; ---; 53 | Lutz & Machado | 1915 |
| Macquart | | | |
| <i>ERISTALOTABAGUS</i> | ---; ---; 53 | Kröber | 1934 |
| <i>violaceus</i> | | | |
| Kröber | ---; ---; 99 | Kröber | 1931 c |
| <i>ESENBECKIA</i> | ---; ---; 53, 99, 240 | Kröber | 1934 |
| <i>arouata</i> | | | |
| Williston | ---; ---; 82 | Kröber | 1932 |
| <i>arouata</i> | | | |
| var. <i>ricardoae</i> | ---; Nov.; 53 | Lutz & Castro | 1935 |
| Lutz & Castro | | | |
| <i>argentina</i> | ---; ---; 27 | Kröber | 1934 |
| Kröber | | | |
| <i>balsapambana</i> | ---; ---; 99 | Kröber | 1934 |
| Enderlein | | | |
| <i>bitriangulata</i> | ---; Apr.; 240 | Lutz & Castro | 1935 |
| Lutz & Castro | | | |
| <i>chrysensis</i> | ---; ---; 237 | Fairchild | 1943 |
| Fairchild | | | |
| <i>clari</i> | ---; ---; 53 | Kröber | 1934 |
| Lutz | | | |
| <i>clari</i> | | | |
| var. <i>infuscata</i> | ---; ---; 53 | Kröber | 1934 |
| Lutz | | | |
| <i>clari</i> | | | |
| var. <i>nigricornis</i> | ---; ---; 53 | Lutz et al. | 1918 |
| | | | |
| <i>diaphana</i> | ---; ---; 82 | Kröber | 1934 |
| Schiner | | | |
| | ---; ---; 328 | Kröber | 1932 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|------|
| <i>ESENBECKIA</i> | | | |
| <i>distinguenda</i> Lutz & Castro | ---; ---; 99 | Lutz & Castro | 1935 |
| <i>dubia</i> Lutz | ---; ---; 27, 53, 239 | Kröber | 1932 |
| <i>ecuadorensis</i> Lutz & Castro | ---; ---; 99 | Lutz & Castro | 1935 |
| <i>enderleinii</i> Kröber | ---; ---; 27, 53 | Kröber | 1934 |
| <i>erossa</i> Enderlein | ---; ---; 27 | Kröber | 1932 |
| | ---; ---; 51, 53 | Kröber | 1934 |
| <i>essenbeckii</i> Wiedemann | ---; ---; 27, 53, 239 | Kröber | 1934 |
| <i>fascipennis</i> Macquart | ---; ---; 75 | Kröber | 1934 |
| <i>ferruginea</i> (Macquart) | ---; ---; 51, 53, 328 | Kröber | 1934 |
| | ---; forest trails; 137° | Bequaert | 1925 |
| <i>ferruginea</i> var. <i>nigrovillosa</i> Kröber | ---; ---; 239 | Kröber | 1934 |
| <i>filipalpis</i> Williston | ---; ---; 85, 239 | Kröber | 1934 |
| <i>fuscipennis</i> Wiedemann | ---; ---; 53, 328 | Kröber | 1934 |
| <i>fuscipennis</i> var. <i>fennestrata</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>fuscipennis</i> var. <i>lutea</i> Enderlein | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>fuscipennis</i> var. <i>minor</i> Kröber | ---; ---; 85 | Kröber | 1934 |
| <i>illota</i> Williston | ---; ---; 137, 204 | Kröber | 1934 |
| | ---; ---; 138 | Bequaert | 1931 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---------------------------------------|---|------------------|------|
| <i>ESENBECKIA</i> | | | |
| <i>infrataeniata</i> Lutz & Castro | ---; ---; 239 | Lutz & Castro | 1935 |
| <i>insignis</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>lemniscata</i> Endelein | ---; ---; 53, 239 | Kröber | 1932 |
| <i>lugubris</i> Macquart | ---; ---; 53, 239 | Kröber | 1934 |
| <i>maoquarti</i> Guerin | ---; ---; 75 | Kröber | 1934 |
| <i>matogrossensis</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>mejiae</i> Fairchild | ---; ---; 137 | James | 1950 |
| <i>melanogaster</i> Lutz & Castro | ---; Apr.; 260 | Lutz & Castro | 1935 |
| <i>neglecta</i> Lutz & Neiva | ---; ---; 53 | Kröber | 1934 |
| <i>nigricorpus</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>nigriventris</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>notabilis</i> Walker | ---; ---; 53, 352 | Kröber | 1934 |
| <i>obscurithorax</i> Lutz & Castro | ---; Dec.; 53. ---; Nov.; 239 | Lutz & Castro | 1935 |
| <i>prasiniventris</i> Macquart | ---; ---; 53, 69, 82, 129 | Kröber | 1934 |
| | ---; ---; 85 | Kröber | 1932 |
| | ---; forest trails; 137* | Bequaert | 1925 |
| | ---; ---; 137, 352 | Bequaert | 1940 |
| | ---; Dec.-Feb.; 237 | Fairchild | 1942 |
| | ---; June, Nov.; 328 | Stone | 1954 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|------------------|-------------------------------|
| <i>ESENBECKIA</i> | | | |
| <i>reinburgi</i> Surcouf | ---; ---; 99 | Kröber | 1934 |
| <i>semiviridis</i> Ricardo | ---; ---; 328 | Kröber | 1934 |
| <i>subvaria</i> Walker | ---; ---; 82, 328 | Kröber | 1934 |
| <i>suturalis</i> Rondani | ---; ---; 53 | Kröber | 1934 |
| <i>testaceiventris</i> Macquart | ---; ---; 75, 99, 240, 328 | Kröber | 1934 |
| <i>tetragoniphora</i> Lutz & Castro | ---; ---; 51 | Lutz & Castro | 1935 |
| <i>tinctipennis</i> Kröber | ---; ---; d2 | Kröber | 1934 |
| <i>translucens</i> Macquart | ---; ---; 53, 69, 99, 240 ---; ---; 237 ---; ---; 328 | Kröber | 1934 Fairchild Pechuman |
| <i>tristis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>tucumana</i> Brethes | ---; ---; ?? | Kröber | 1934 |
| <i>vulpes</i> Wiedemann | ---; ---; 53, 240 | Kröber | 1934 |
| <i>vulpes</i> var. <i>affinis</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>EUTABANUS</i> | | | |
| <i>pictus</i> Kröber | ---; ---; 240, 297 | Kröber | 1934 |
| <i>PIDENA</i> | | | |
| <i>alvitreniata</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>atra</i> Phillipi | ---; ---; 75 | Giry | 1935 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------|------|
| <i>FIDENA</i> | | | |
| <i>atripes</i> von Röder | ---; ---; 51, 75, 99 | Kröber | 1934 |
| <i>cureopygia</i> Kröber | ---; ---; 82 | Kröber | 1934 |
| <i>aureosericia</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>auribarba</i> Enderlein | ---; ---; 82 | Kröber | 1934 |
| <i>auribarba</i> var. <i>albibarba</i> Enderlein | ---; ---; 82 | Kröber | 1934 |
| <i>auricauda</i> Enderlein | ---; ---; 27, 82, 99, 328 | Kröber | 1934 |
| <i>auricincta</i> Lutz & Neiva | ---; ---; 53 | Kröber | 1934 |
| <i>aurifasciata</i> Enderlein | ---; ---; 53, 239 | Kröber | 1934 |
| <i>aurimaculata</i> Macfie | ---; ---; 53 | Kröber | 1934 |
| <i>auripes</i> Ricardo | ---; ---; 53 | Kröber | 1934 |
| <i>basilaris</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>basilaris</i> var. <i>acutipalpis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>besckii</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>bicolor</i> Kröber | ---; ---; 85 | Kröber | 1934 |
| <i>brachycephala</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>brasiliensis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>rustanea</i> Perty | ---; ---; 53 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|---|----------------|------|
| <i>FIDENA</i> | | | |
| <i>castaneiventris</i> Kröber | ---; ---; 99 | Kröber | 1934 |
| <i>columbiensis</i> Kröber | ---; ---; 82 | Kröber | 1934 |
| <i>convergens</i> Enderlein | ---; ---; 27 | Kröber | 1934 |
| <i>decipiens</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>eriomera</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>eriomeroides</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 239 | Lutz et al. | 1918 |
| <i>flavicornis</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>flavipennis</i> Kröber | ---; ---; 328 | Kröber | 1934 |
| <i>florisuga</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>foetterlei</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>fulvitibialis</i> Ricardo | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 82 | Patino-Camargo | 1940 |
| <i>fulvoericea</i> Kröber | ---; ---; 82 | Kröber | 1934 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>fumifera</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>gracilis</i> Kröber | ---; ---; 53, 82 | Kröber | 1934 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>howardi</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>incisivolis</i> Macquart | ---; ---; 53 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-------------|------|
| <i>FIDENA</i> <i>latimac</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>lateralis</i> Rondani | ---; ---; 69 | Kröber | 1934 |
| <i>latifrons</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>leucopogon</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>lingens</i> Wiedemann | ---; ---; 53, 75 | Kröber | 1934 |
| <i>longipalpis</i> Enderlein | ---; ---; 53 | Kröber | 1934 |
| <i>loricornis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>maculipennis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>marginalis</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>mattogrossensis</i> Lutz | ---; ---; 53; 99 | Kröber | 1934 |
| <i>morio</i> van der Wulp | ---; ---; 27 | Kröber | 1934 |
| <i>neglecta</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>neo-winthemi</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>nigra</i> Ricardo | ---; ---; 297 | Kröber | 1934 |
| <i>nigricans</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>nigricorpus</i> Kröber | ---; ---; 53 | Lutz et al. | 1918 |
| <i>nigripes</i> von Röder | ---; ---; 53 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-------------------------------------|---|--------|--------|
| <i>PIDENA</i> | | | |
| <i>nitens</i> Bigot | ---; -- ; 53 | Kröber | 1934 |
| <i>niveibarba</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>nubiapex</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>obscuripes</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>obtusipalpis</i> Enderlein | ---; ---; 53 | Kröber | 1934 |
| <i>ochracea</i> Kröber | ---; May, Aug., Sept.; 328 | Stone | 1944 |
| <i>opaca</i> Bräthes | ---; ---; 27 | Kröber | 1934 |
| <i>ornata</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>pallida</i> Kröber | ---; ---; 27 | Kröber | 1931 e |
| | ---; ---; 75 | Kröber | 1934 |
| <i>pallidula</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>penicillata</i> Bigot | ---; ---; 53 | Kröber | 1934 |
| <i>pseudoaurimaculata</i> Lutz | ---; ---; 53, 297 | Kröber | 1934 |
| <i>pseudo-fulvithorax</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>pubescens</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>pusilla</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>pyrausta</i> (Osten-Sacken) | ---; ---; 82, 99, 237, 240 | Kröber | 1934 |
| | ---; March, Aug.; 328 | Stone | 1944 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--------------------------------|---|-------------|--------|
| <i>FIDENA</i> | | | |
| <i>rhinophora</i> Bellardi | ---; ---; 204 | Kröber | 1934 |
| <i>rubrithorax</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>rufibasis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>ruficornis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>schildi</i> Hine | ---; ---; 85 | Kröber | 1934 |
| <i>soledadei</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>sorbene</i> Wiedemann | ---; ---; 27, 51, 53, 239, 325 | Kröber | 1934 |
| <i>winthemi</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>zonalis</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>GYMNOCHELA</i> | | | |
| <i>discifer</i> Walker | ---; ---; 53, 297 | Kröber | 1929 b |
| <i>HEMICHRYSOPS</i> | | | |
| <i>fascipennis</i> Kröber | ---; ---; 82 | Kröber | 1934 |
| <i>HETEROCHRYSSOPS</i> | | | |
| <i>variegatus</i> De Geer | ---; ---; 18, 21, 27, 53, 82, 130, 138, 204, 240, 328 | Kröber | 1929 b |
| <i>HETEROSTOMUS</i> | | | |
| <i>curvirülpis</i> Bigot | ---; ---; 75 | Kröber | 1934 |
| <i>HIMANTOSTYLUS</i> | | | |
| <i>intermedius</i> Lutz | ---; ---; 239 | Lutz et al. | 1918 |
| <i>---</i> | ---; ---; 240 | Kröber | 1934 |
| <i>HISTRICOSILVIUS</i> | | | |
| <i>longipalpis</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>HYBONITRA</i> | | | |
| <i>cinota</i> (Fabricius) | ---; ---; 204 | Philip | 1947 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|----------------------------------|------------------------------|
| <i>HYBOMITRA</i> <i>quadripunctatus</i> var. <i>amabilis</i> (Walker) | ---; ---; 137 | James | 1950 |
| <i>IONOPIS</i> <i>foetterlei</i> Lutz | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>LAPHRIONYIA</i> <i>bicolor</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>miniatistola</i> Enderlein | ---; ---; 51 | Kröber | 1934 |
| <i>miniatistola</i> var. <i>flavithorax</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>mirabilis</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>palliditarsis</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>LEPIDOSELAGA</i> <i>aberrans</i> Lutz | ---; in July; 53° | Lutz | 1913 |
| <i>albitarsis</i> Macquart | ---; ---; 27 | Kröber | 1929 a |
| <i>crassipes</i> Fabricius | ---; ---; 18, 27, 53, 82, 204, 239, 297, 328, 347 ---; ---; 53°, 68, 352 ---; low-lying river regions; 82° ---; coastlands; 129° | Kröber Lutz Dunn Cleare | 1929 1913 1929 1919 |
| <i>lepidota</i> Wiedemann | ---; ---; 53 Leaf bases of <i>Pistia stratiotes</i> in rivers, streams and pools; ---; 237 | Lutz et al. Dunn | 1918 1934 |
| <i>major</i> Szilady | ---; ---; 18 | Szilady | 1926 |
| <i>paradoxa</i> Lutz | ---; ---; 53 | Neiva & Penna | 1916 |
| <i>LEPISELAGA</i> <i>aberrans</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>albitarsis</i> Macquart | ---; ---; 27, 53, 239, 325 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|----------------|------|
| <i>LEPISELAGA</i> <i>crusipes</i> Fabricius | ---; ---; 18, 22, 27, 91, 127, 352. ---; bites man; 346° | Bequaert | 1940 |
| | ---; ---; 27, 53°, 99, 204 | Strong et al. | 1926 |
| | ---; ---; 69 | Kröber | 1934 |
| | ---; ---; 82 | Patino-Camargo | 1940 |
| | ---; along banks of streams; 137° | Bequaert | 1925 |
| | ---; ---; 137 | James | 1950 |
| | ---; ---; 237 | Fairchild | 1943 |
| | ---; May; 328 | Stone | 1944 |
| <i>lepidota</i> Wiedemann | ---; ---; 53, 347 | Lutz | 1913 |
| | ---; Nov.-Feb.; 53 | Smillie | 1923 |
| <i>LEPTAPHA</i> <i>fumata</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>LEPTOFIDENA</i> <i>beelzebul</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>LEPTOTABANUS</i> <i>nigrovenosus</i> Lutz | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>LEUCOTABANUS</i> <i>albicans</i> Macquart | ---; ---; 53, 82, 128, 204, 239, 328 | Kröber | 1934 |
| <i>albidocinctus</i> Bigot | ---; ---; 53 | Kröber | 1934 |
| <i>albovarius</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>ambiguus</i> Stone | ---; ---; 128 | Philip | 1947 |
| <i>arvensis</i> Bräthes | ---; ---; 27 | Kröber | 1934 |
| <i>canithorax</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|----------------|--------|
| <i>LEUCOTABANUS</i> <i>flavinotum</i> (Kröber) | ---; ---; 237 | Fairchild | 1943 |
| | ---; Sept.; 328 | Stone | 1944 |
| <i>Leucaspis</i> Wiedemann | ---; ---; 27, 51, 53, 129, 137, 204, 239 | Kröber | 1929 a |
| | ---; ---; 82 | Patino-Camargo | 1940 |
| | ---; ---; 128, 240 | Kröber | 1929 c |
| | ---; ---; 223 | Woke | 1947 |
| | ---; Mar.-Jan.; 237 | Fairchild | 1942 |
| | ---; Sept., Dec.; 328 | Stone | 1944 |
| <i>nigristigma</i> | ---; ---; 53 | Lutz et al. | 1918 |
| <i>nigritiventris</i> Kröber | ---; ---; 204 | Kröber | 1934 |
| <i>pallidus</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>sarcophagooides</i> Lutz | ---; ---; 328 | Kröber | 1934 |
| <i>unicinctus</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>LILAEINA</i> <i>acutipalpis</i> Enderlein | ---; ---; 75 | Kröber | 1934 |
| <i>albifrons</i> Macquart | ---; ---; 75 | Kröber | 1934 |
| <i>subulipalpis</i> Enderlein | ---; ---; 75 | Kröber | 1934 |
| <i>LINAPHA</i> <i>modesta</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>scripta</i> Enderlein | ---; ---; 53 | Kröber | 1934 |
| <i>LISTRAPHA</i> <i>acutipalpis</i> Enderlein | ---; ---; 75 | Enderlein | 1929 |
| <i>dorsoguttata</i> Macquart | ---; ---; 75 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-----------------------------------|---|-----------|------|
| <i>LISTRAPHA</i> | | | |
| <i>fenestrata</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>ferruginea</i> Enderlein | ---; ---; 53 | Kröber | 1934 |
| <i>grisea</i> Jaennicke | ---; ---; 75 | Kröber | 1934 |
| <i>latipalpis</i> Macquart | ---; ---; 75, 240 | Kröber | 1934 |
| <i>leucothorax</i> Picardo | ---; ---; 75 | Kröber | 1934 |
| <i>molesta</i> (Wiedemann) | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 328 | Stone | 1944 |
| <i>olivaceiventris</i> Kröber | ---; ---; 53, 75 | Kröber | 1934 |
| <i>sibulipalpis</i> Enderlein | ---; ---; 75 | Enderlein | 1929 |
| <i>tabanipennis</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>viridiventris</i> Macquart | ---; ---; 75, 328 | Kröber | 1934 |
| <i>vittata</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>LISTRAPHELLA</i> | | | |
| <i>imitans</i> Enderlein | ---; ---; 75 | Kröber | 1934 |
| <i>schmiedemanni</i> Enderlein | ---; ---; 75 | Kröber | 1934 |
| <i>LISRIOSCA</i> | | | |
| <i>angustifrons</i> Enderlein | ---; ---; 75 | Kröber | 1934 |
| <i>australis</i> Philippi | ---; ---; 27, 75 | Kröber | 1934 |
| <i>firmissa</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>flavipes</i> Enderlein | ---; ---; 75 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|------------------|------|
| <i>LISTRIOSCA</i> <i>longipennis</i> Ricardo | ---; ---; 27 | Lutz et al. | 1918 |
| | ---; --; 53 | Kröber | 1934 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>LUTZIELLA</i> <i>cristalis</i> Lutz | ---; ---; 53, 239 | Kröber | 1934 |
| <i>intermedia</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>quinquespinota</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>MELANOTABANUS</i> <i>fuliginosus</i> Lutz & Neiva | ---; ---; 53 | Kröber | 1934 |
| <i>MELPIA</i> <i>analis</i> Fabricius | ---; ---; 53, 82 | Kröber | 1934 |
| <i>auripes</i> (Ricardo) | ---; ---; 53 | Strong et al. | 1926 |
| <i>brevistria</i> (Lutz) | ---; ---; 53 | Strong et al. | 1926 |
| <i>erythronotata</i> Bigot | ---; ---; 53 | Kröber | 1934 |
| <i>fulvithorax</i> Wiedemann | ---; ---; 18, 53 | Kröber | 1934 |
| <i>fumiferia</i> (Walker) | ---; ---; 53 | Strong et al. | 1926 |
| <i>leontina</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>ornata</i> Krober | ---; ---; 53 | Kröber | 1934 |
| <i>pseudo-</i> <i>carinaculata</i> (Lutz) | ---; ---; 53 | Strong et al. | 1926 |
| <i>splendens</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>semivittata</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>vemosae</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|---|--------------------|--------|
| <i>NYCTEROMYIA</i> | | | |
| <i>brevirostris</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>cinerascens</i> Bigot | ---; ---; 75 | Kröber | 1934 |
| <i>conica</i> Bigot | ---; ---; 75 | Kröber | 1934 |
| <i>edwardsi</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>fusca</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>matogrossensis</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>marina</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>NEOPANONIA</i> | | | |
| <i>pusilla</i> Lutz | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>NEOTABANUS</i> | | | |
| <i>comitosis</i> Wiedemann | ---; ---; 53 | Lutz & Macinado | 1915 |
| <i>dorsiger</i> Wiedemann | ---; ---; 53 | Neiva & Penna | 1916 |
| <i>modestus</i> Wiedemann | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>obsoletus</i> Wiedemann | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>ochrophilus</i> Lutz | ---; ---; 53 | Lutz & Machado | 1915 |
| <i>triangulum</i> Wiedemann | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>trilineatus</i> Lettreille | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>trinotatus</i> Wiedemann | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>trivittatus</i> Feltius | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>trivittatus</i> Enderlein | ---; ---; 62 | Kröber | 1931 c |
| <i>internigra</i> Enderlein | ---; ---; 62 | Kröber | 1931 c |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|--------|
| <i>OMALIA</i> <i>thiemeana</i> Endelein | ---; ---; 99 | Kröber | 1931 c |
| <i>OPELMA</i> <i>globicornis</i> Viedemann | ---; ---; 53 | Kröber | 1934 |
| <i>ORTHOSTYLOCERAS</i> <i>ambiguus</i> Lutz & Neiva | ---; ---; 53 | Kröber | 1934 |
| <i>ORTHOSTYLUS</i> <i>ambiguus</i> Lutz & Neiva | ---; ---; 53 | Kröber | 1931 c |
| <i>OSCA</i> <i>albithorax</i> Macquart | ---; ---; 75 | Kröber | 1934 |
| <i>aureonigra</i> Krober | ---; ---; 240 | Kröber | 1934 |
| <i>collaris</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>faceta</i> Endelein | ---; ---; 75 | Kröber | 1934 |
| <i>lata</i> Guérin | ---; ---; 75 | Kröber | 1934 |
| <i>rubriventris</i> Kröber | ---; ---; 51, 240 | Kröber | 1934 |
| <i>rufa</i> Macquart | ---; ---; 75, 240 | Kröber | 1934 |
| <i>PANGONIA</i> <i>basalis</i> (Walker) | ---; ---; 53 | Strong et al. | 1926 |
| <i>inconspicua</i> (Walker) | ---; ---; 53 | Strong et al. | 1926 |
| <i>melanopus</i> Hine | ---; ---; 204 | Hine | 1920 a |
| <i>parishi</i> Hine | ---; ---; 99 | Hine | 1920 a |
| <i>prosiniventris</i> Macquart | ---; common; 237 | Dunn | 1934 |
| <i>translucens</i> Macquart | ---; ---; 99, 120, 237, 238 | Hine | 1920 a |

TABLE I - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------|------|
| <i>PELECORHYNCHUS</i> <i>biguttatus</i> (Phillipi) | ---; ---; 75 | Mackerras & Fuller | 1942 |
| <i>elegans</i> (Phillipi) | ---; ---; 75 | Mackerras & Fuller | 1942 |
| <i>kröberi</i> (Lindner) | ---; ---; 75 | Mackerras & Fuller | 1942 |
| <i>longicaudus</i> (Bigot) | ---; ---; 75 | Mackerras & Fuller | 1942 |
| <i>vulpes</i> (Macquart) | ---; ---; 75 | Mackerras & Fuller | 1942 |
| <i>xanthopleurus</i> (Phillipi) | ---; ---; 75 | Mackerras & Fuller | 1942 |
| <i>PHAEOTABANUS</i> <i>aphanipterus</i> Wiedemann | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>litigiosus</i> Walker | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>PHYRTA</i> <i>speciosa</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>PITYOCERA</i> <i>festae</i> Giglio-Tos | ---; July-October; 237 | Fairchild | 1942 |
| <i>POECILOSOAMA</i> <i>punctipenne</i> Macquart | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>POECILOSOAMA</i> <i>quadripunctatum</i> Fabricius | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>PROTODASYAPHA</i> <i>hirticeps</i> Phillipi | ---; ---; 75 | Kröber | 1934 |
| <i>lugens</i> Philippi | ---; ---; 75 | Kröber | 1934 |
| <i>tristis</i> Bigot | ---; ---; 75 | Kröber | 1934 |
| <i>PROTOSILVIUS</i> <i>termitiformis</i> Enderlein | ---; ---; 53 | Kröber | 1934 |

TABLE I - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-----------------|--------|
| <i>PSALIDIA</i> <i>fulminea</i> Hine | ---; ---; 237 | Fairchild | 1942 |
| | ---; ---; 238 | Kröber | 1932 a |
| <i>furcata</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>ocellata</i> Enderlein | ---; ---; 69, 82, 204, 328 | Kröber | 1934 |
| | ---; ---; 137, 138, 238 | Kröber | 1932 a |
| | ---; in forest and jungle; 223* | Wocke | 1947 |
| <i>PSEUDELAPHELLA</i> <i>nana</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>patellicornis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>PSEUDOCANTHOCERA</i> <i>brevicornis</i> Enderlein | ---; ---; 51, 82, 239 | Kröber | 1934 |
| <i>marginata</i> Macquart | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>opaca</i> Brèthes | ---; ---; 27 | Kröber | 1934 |
| <i>parallelifrons</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>sylveirii</i> Macquart | ---; Feb.-April; 53 | Lutz & Neiva | 1914 |
| <i>PSEUDOMELPIA</i> <i>horrens</i> Enderlein | ---; ---; 75 | Kröber | 1934 |
| <i>RHABDOTYLUS</i> <i>planiventris</i> Wiedemann | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>RHABDOTYLUS</i> <i>venenatus</i> Osten Sacken | ---; Aug.; 328 | Stone | 1944 |
| <i>viridiventris</i> Macquart | ---; ---; 53 | Lutz & Neiva | 1914 |
| <i>RHAMPHIDOMMIA</i> <i>elongata</i> Macquart | ---; ---; 51, 240 | Kröber | 1934 |

TABLE I - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---------------------------------|---|-----------|------|
| <i>RHAMPHIDONNIA</i> | | | |
| <i>muscosa</i> Enderlein | ---; ---; 53 | Kröber | 1934 |
| <i>nigra</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>RICARDOA</i> | | | |
| <i>flavohirta</i> Bellardi | ---; ---; 204 | Kröber | 1934 |
| <i>incerta</i> Bellardi | ---; ---; 204 | Kröber | 1934 |
| <i>nigrorotata</i> Macquart | ---; ---; 204 | Kröber | 1934 |
| <i>saussurei</i> Bellardi | ---; ---; 204 | Kröber | 1934 |
| <i>semiflava</i> Wiedemann | ---; ---; 204 | Kröber | 1934 |
| <i>seminuda</i> Coquillett | ---; ---; 204 | Kröber | 1934 |
| <i>wiedemanni</i> Bellardi | ---; ---; 204 | Kröber | 1934 |
| <i>SCAPACIS</i> | | | |
| <i>fidenodes</i> Enderlein | ---; ---; 204 | Kröber | 1934 |
| <i>SCAPTIODES</i> | | | |
| <i>nigerrima</i> Enderlein | ---; ---; 75 | Kröber | 1934 |
| <i>SCEPCIS</i> | | | |
| <i>nivalis</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>SCIONE</i> | | | |
| <i>albofasciata</i> Macquart | ---; ---; 82 | Kröber | 1934 |
| <i>albohirta</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>aurea</i> Szilady | ---; ---; 85 | Szilady | 1926 |
| <i>aureopygia</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|----------|------|
| <i>SCIONE aurulana</i> Wiedemann | ---; ---; 69, 328 | Kröber | 1934 |
| | ---; ---; 82, 128, 137, 138, 204 (Bites man through trousers, stays close to ground) | Bequaert | 1931 |
| <i>brevistriga</i> Enderlein | ---; ---; 99, 240 | Kröber | 1934 |
| <i>cingulata</i> Enderlein | ---; ---; 240 | Kröber | 1934 |
| <i>cingulata</i> var. <i>scionina</i> Enderlein | ---; ---; 240 | Kröber | 1934 |
| <i>claripennis</i> Ricardo | ---; ---; 51, 99, 237, 240 | Kröber | 1934 |
| <i>costaricana</i> Szilady | ---; ---; 51, 85, 99 | Kröber | 1934 |
| <i>crassa</i> Szilady | ---; ---; 240 | Kröber | 1934 |
| <i>distincta</i> (Schiner) | ---; ---; 82 | Kröber | 1930 |
| | ---; ---; 99 | Kröber | 1934 |
| | ---; Aug.-Sept.; 328 | Stone | 1944 |
| <i>equatorialis</i> Surcouf | ---; ---; 99 | Kröber | 1934 |
| <i>flavescens</i> Enderlein | ---; ---; 82, 99 | Kröber | 1934 |
| <i>flavohirta</i> Ricardo | ---; ---; 51 | Kröber | 1934 |
| <i>fulva</i> Ricardo | ---; ---; 27, 51 | Kröber | 1934 |
| | ---; ---; 240 | Kröber | 1930 |
| <i>fumipennis</i> Kröber | ---; ---; 51, 240 | Kröber | 1934 |
| <i>fusca</i> Ricardo | ---; ---; 51, 240 | Kröber | 1934 |
| <i>huancabambae</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>immaculata</i> Kröber | ---; ---; 328 | Kröber | 1934 |

TABLE I - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|---|-----------|------|
| <i>SCIONE</i> | | | |
| <i>incompleta</i> Macquart | ---; ---; 82, 240 | Kröber | 1934 |
| <i>limbativena</i> Enderlein | ---; ---; 51, 53 | Kröber | 1934 |
| <i>maculipennis</i> Schiner | ---; ---; 82, 99, 204, 240, 328 ---; ---; 237 | Kröber | 1930 |
| <i>minor</i> Macquart | ---; ---; 328 | Fairchild | 1943 |
| <i>minuta</i> Szilady | ---; ---; 82 | Kröber | 1934 |
| <i>misera</i> Osten Sacken | ---; ---; 128, 204, 240 | Kröber | 1934 |
| <i>nigripes</i> Kröber | ---; ---; 82 | Kröber | 1934 |
| <i>obscurefemorata</i> Kröber | ---; ---; 82, 99, 240 | Kröber | 1934 |
| <i>picta</i> Szilady | ---; ---; 51 | Kröber | 1934 |
| <i>punctata</i> Szilady | ---; ---; 82 | Kröber | 1934 |
| <i>rufescens</i> Ricardo | ---; ---; 51, 53, 82, 240 | Kröber | 1934 |
| <i>rufipes</i> Kröber | ---; ---; 328 | Kröber | 1934 |
| <i>strigata</i> Enderlein | ---; ---; 99 | Kröber | 1934 |
| <i>SELASOMA</i> | | | |
| <i>giganteum</i> Lutz | ---; Dec.; 53, 240 | Lutz | 1913 |
| <i>nigrocaeruleum</i> Rondani | ---; ---; 328 | Kröber | 1934 |
| <i>tibiale</i> Fabricius | ---; ---; 27 ---; May; 53. ---; ---; 328 | Kröber | 1934 |
| | ---; attracted to artificial light, rare; 129 | Lutz | 1913 |
| | ---; ---; 237 | Cleare | 1919 |
| | ---; ---; 329, 352 | Fairchild | 1943 |
| | | Bequaert | 1940 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-----------------------------------|---|-----------|------|
| <i>SPHECIOGASTER</i> | | | |
| <i>albomarginatus</i> Kröber | ---; ---; 82 | Kröber | 1934 |
| <i>anacanthus</i> Lutz & Melva | ---; ---; 53 | Kröber | 1934 |
| <i>coarctatus</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>STENOTABANUS</i> | | | |
| <i>brunnipennis</i> Kröber | ---; ---; 325 | Kröber | 1934 |
| <i>brunnipes</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>cajennensis</i> (Fabricius) | ---; Dec.; 328 | Stone | 1944 |
| <i>calvitius</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>changuinolae</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>comitans</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>constabulorum</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>flavidus</i> (Mine) | ---; ---; 204 | Philip | 1947 |
| <i>fulvistriatus</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>fumipennis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>incipiens</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>ixystactes</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>jaculator</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>lerida</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>littoreus</i> (Mine) | ---; Jan.; 328 | Stone | 1944 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------|---|-----------|------|
| <i>STENOTABANUS</i> | | | |
| <i>longipennis</i> | ---; ---; 137 | James | 1950 |
| Kröber | ---; ---; 234 | Fairchild | 1943 |
| | ---; ---; 328 | Kröber | 1934 |
| <i>maculifrons</i> | ---; ---; 237 | Fairchild | 1943 |
| Hine | | | |
| <i>minusculus</i> | ---; ---; 237 | Fairchild | 1943 |
| (Kröber) | | | |
| <i>neivai</i> | ---; ---; 53 | Kröber | 1934 |
| Borgmeier | | | |
| <i>obscuremarginatus</i> | ---; ---; 53 | Kröber | 1934 |
| Kröber | | | |
| <i>obscurus</i> | ---; ---; 328 | Kröber | 1934 |
| Kröber | | | |
| <i>obscurus</i> | ---; ---; 240 | Kröber | 1934 |
| var. <i>flavofemoratus</i> | | | |
| Kröber | | | |
| <i>paitillensis</i> | ---; ---; 237 | Fairchild | 1943 |
| Fairchild | | | |
| <i>pallidicornis</i> | ---; ---; 51 | Kröber | 1934 |
| Kröber | | | |
| <i>pallipes</i> | ---; ---; 53 | Kröber | 1934 |
| Kröber | | | |
| <i>pequeniensis</i> | ---; ---; 237 | Fairchild | 1943 |
| Fairchild | | | |
| <i>peruviensis</i> | ---; ---; 240 | Kröber | 1934 |
| Kröber | | | |
| <i>plenus</i> | ---; ---; 237 | Fairchild | 1943 |
| Hine | | | |
| <i>pseudotaeniotes</i> | ---; ---; 53 | Kröber | 1934 |
| Kröber | | | |
| <i>pseudotaeniotes</i> | ---; ---; 53 | Kröber | 1934 |
| var. <i>brevitylatus</i> | | | |
| Kröber | | | |
| <i>punctipennis</i> | ---; ---; 18 | Kröber | 1934 |
| Brunetti | | | |
| | ---; ---; 22 | Wolcott | 1936 |
| <i>quinquestriatus</i> | ---; ---; 53 | Kröber | 1934 |
| Kröber | | | |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-------------|------|
| <i>STENOTABANUS</i> | | | |
| <i>casuarinatus</i> Enderlein | ---; ---; 51, 53, 240 | Kröber | 1934 |
| <i>stigma</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>tenuirostris</i> Wiedemann | ---; ---; 53, 204 | Kröber | 1934 |
| <i>STIBASOMA</i> | | | |
| <i>aploimaoulata</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>aureoguttatum</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>bicolor</i> Bigot | ---; ---; 53 | Kaab | 1913 |
| <i>chionostigma</i> (Osten Sacken) | ---; ---; 237 | Fairchild | 1943 |
| <i>dives</i> Walker | ---; ---; 53 | Kaab | 1913 |
| <i>gyridophorum</i> Kaab | ---; ---; 329 | Kröber | 1934 |
| <i>fasciatum</i> Macquart | ---; ---; 27 | Lutz et al. | 1918 |
| | ---; ---; 53 | Kröber | 1934 |
| <i>festivum</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>flavistigma</i> Hine | ---; ---; 85, 204, 237 | Kröber | 1934 |
| <i>flaviventre</i> Macquart | ---; Feb.; 53 | Lutz | 1915 |
| <i>fulviventris</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 328 | Pechumon | 1912 |
| <i>fulvohirtum</i> (Wiedemann) | ---; Dec.; 53 | Lutz | 1915 |
| | ---; ---; 82, 237, 328, 329 | Kröber | 1934 |
| | ---; ---; 352 | Bequaert | 1940 |
| <i>fulvohirtum</i> var. <i>dives</i> Walker | ---; ---; 53, 327 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------|--------------|
| <i>STIBASOMA</i> <i>mallophoroides</i> Walker | ---; ---; 53 ---; ---; 329, 352 | Kröber Bequaert | 1934 1940 |
| <i>ornatipenne</i> Kröber | ---; ---; 99 | Kröber | 1934 |
| <i>pachycephalum</i> Bigot | ---; ---; 128, 204 ---; ---; 237 | Kröber Knab | 1934 1913 |
| <i>semiflavum</i> Lutz | ---; ---; 53 | Kröber | 1934 |
| <i>sulfurotaeniatum</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>theotasma</i> Wiedemann | ---; ---; 27, 325, 328 ---; Dec.; 53 | Kröber Lutz | 1934 1915 |
| <i>theotasma</i> <i>panamensis</i> Curran | ---; ---; 237 | Fairchild | 1943 |
| <i>tristicus</i> Wiedemann | ---; ---; 53 ---; ---; 328 | Kröber Pechuman | 1934 1942 |
| <i>venenata</i> Osten Sacken | ---; ---; 237 | Fairchild | 1943 |
| <i>willistoni</i> Lutz | ---; ---; 51, 53 | Kröber | 1934 |
| <i>STICTOTABANUS</i> <i>anonymus</i> Lutz & Melville | ---; ---; 53 | Lutz & Melville | 1914 |
| <i>maculipennis</i> (Macquart) | ---; ---; 53 | Lutz & Melville | 1914 |
| <i>STIGMATOPHTHALMUS</i> <i>altivagus</i> Lutz | ---; at 300-2150 meters elevation, Dec. and April; 53 | Lutz | 1913 |
| <i>lutei</i> Surcouf | ---; ---; b4 | Surcouf | 1923 |
| <i>TYFOCHNEA</i> <i>bogotana</i> Enderlein | ---; ---; 82 | Kröber | 1934 |
| <i>STYPONEIA</i> <i>anachoreta</i> Philippi | --; ---; 75 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---------|--------|
| <i>STYPOMMIA</i> | | | |
| <i>boliviensis</i> Krüber | ---; ---; 51, 239 | Kröber | 1934 |
| <i>carbo</i> Macquart | ---; ---; 75 | Kröber | 1934 |
| <i>flavescens</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>hypographa</i> Kröber | ---; ---, 240, 328 | Kröber | 1934 |
| <i>hypographa</i> var. <i>ruficornis</i> Kröber | ---; ---; 352 | Kröber | 1934 |
| <i>maculipennis</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>melanostoma</i> Philippi | ---; ---; 75 | Kröber | 1934 |
| <i>paraguayensis</i> Kröber | ---; ---; 239 | Kröber | 1934 |
| <i>patagonica</i> Enderlein | ---; ---; 27 | Kröber | 1929 c |
| <i>trita</i> Walker | ---; ---; 27 | Krüber | 1934 |
| <i>venosa</i> Bigot | ---; ---; 51, 53, 240 | Kröber | 1934 |
| <i>STYPOMMISA</i> | | | |
| <i>affinis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>fulviventris</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>maculinervia</i> Macquart | ---; ---; 352 | Kröber | 1934 |
| <i>maculipennis</i> Kröber | ---; ---; 51 | Kröber | 1929 c |
| <i>punctipennis</i> Enderlein | ---; ---; 53 | Kröber | 1934 |
| <i>STYPOSELACA</i> | | | |
| <i>punctipennis</i> Brunetti | ---; ---; 18 | Szilady | 1926 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-----------------|--------|
| <i>SYLVIUS</i> <i>punctipennis</i> Brunetti | ---; ---; 18 | Brunetti | 1923 |
| <i>SZILADYA</i> <i>punctulipennis</i> Enderlein | ---; ---; 53 | Kröber | 1929 c |
| <i>SZILADYNUS</i> <i>acutidens</i> Philippi | ---; ---; 75 | Kröber | 1934 |
| <i>albovittatus</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>inornatus</i> Philippi | ---; ---; 75 | Kröber | 1934 |
| <i>lasiophthalmus</i> Macquart | ---; ---; 69 | Kröber | 1934 |
| <i>scutulatus</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>shanonni</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>TABANUS</i> <i>acer</i> Brèthes | ---; ---; 27, 53, 239 | Kröber | 1934 |
| <i>adjunctus</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>adornatus</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>albescens</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>albipalpis</i> Rondani | ---; ---; 27 | Kröber | 1934 |
| <i>albo-ater</i> Walker | ---; ---; 53 | Kumm & Novis | 1938 |
| <i>albocirculus</i> Hine | ---; ---; 85 | Kröber | 1934 |
| | ---; ---; 223 | Woke | 1947 |
| | ---; ---; 237 | Fairchild | 1943 |
| | ---; ---; 328 | Stone | 1944 |
| <i>albohirtus</i> Walker | ---; ---; 27 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|------|
| <i>TABANUS</i> | | | |
| <i>albonaculatus</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| <i>albonotatus</i> Bellardi | ---; ---; 138 | Bequaert | 1925 |
| <i>albopruinosus</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>albosignatus</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>albotibialis</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>albovarius</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| <i>albovillosus</i> Kröber | ---; ---; 85 | Kröber | 1934 |
| <i>alene</i> Townsend | ---; ---; 21 | Gowdey | 1926 |
| <i>alteripennis</i> Walker | ---; ---; 85, 204 | Kröber | 1934 |
| <i>alticola</i> Enderlein | ---; ---; 27 | Kröber | 1934 |
| <i>americanus</i> Forster | ---; ---; 17 | Stone | 1938 |
| <i>amplifrons</i> Kröber | ---; ---; 237 | Fairchild | 1943 |
| | ---; Apr.; 328 | Stone | 1944 |
| <i>angustifrons</i> Macquart | ---; ---; 130 | Kröber | 1934 |
| <i>angustivitta</i> Kröber | ---; ---; 237 | Fairchild | 1943 |
| <i>angustus</i> Macquart | ---; ---; 27, 53 | Lutz et al. | 1918 |
| | ---; ---; 325 | Kröber | 1934 |
| <i>aphanopterus</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>aphanopterus</i> var. <i>obscuripilis</i> Kröber | ---; ---; 129 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---------------------------------|---|------------------|--------|
| <i>TABANUS</i> | | | |
| <i>apicalis</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>apocilus</i> Schiner | ---; ---; 75 | Kröber | 1934 |
| <i>appendiculatus</i> Mine | ---; ---; 51 | Kröber | 1929 a |
| | ---; ---; 53, 128, 129, 137, 138 | Strong et al. | 1925 |
| <i>appretiatus</i> Kröber | ---; ---; 85, 204 | Kröber | 1934 |
| <i>argentinus</i> Brèthes | ---; ---; 27, 53 | Kröber | 1934 |
| <i>atlanticus</i> (Johnson) | ---; ---; 48 | Bequaert | 1940 |
| <i>atratus</i> Fabricius | ---; ---; 204 | Philip | 1947 |
| | ---; ---; 352 | Kröber | 1934 |
| <i>attenuatus</i> Walker | ---; ---; 352 | Kröber | 1934 |
| <i>augustifrons</i> Townsend | ---; ---; 21 | Gowdey | 1926 |
| <i>aurora</i> Macquart | ---; attracted by light; 27, 53 | Strong et al. | 1926 |
| <i>austeni</i> Kröber | ---; ---; 53, 240 | Kröber | 1934 |
| <i>bicolor</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>basilaris</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>basivitta</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>batesi</i> Bequaert | ---; ---; 20 | Bequaert | 1940 |
| <i>bellardi</i> Szilady | ---; ---; 18 | Kröber | 1934 |
| <i>bellicosus</i> Brèthes | ---; ---; 27 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--------------------------------------|---|------------------|--------|
| <i>TABANUS</i> | | | |
| <i>bellus</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>biflocus</i> Hine | ---; ---; 18, 19 | Kröber | 1934 |
| <i>bigoti</i> Bellardi | ---; ---; 137 | James | 1950 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>bitinctus</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>bivittatus</i> Macquart | ---; ---; 53 | Lutz | 1913 |
| <i>bonariensis</i> Macquart | ---; ---; 53, 325 | Lutz et al. | 1918 |
| | ---; ---; 75 | Kröber | 1934 |
| <i>brevifrons</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>brevitrianguliferus</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 328 | Kröber | 1931 a |
| <i>bruesi</i> Hine | ---; ---; 240 | Kröber | 1934 |
| | ---; July; 240 | Hine | 1920 |
| <i>brunettii</i> Bequaert | ---; common; 18°. ---; ---; 19, 20, 22, 346° | Bequaert | 1940 |
| <i>cassicaulatus</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>cajennensis</i> Fabricius | ---; Sept.; 53, 347 | Strong et al. | 1926 |
| | ---; coastlands; 129° | Cleare | 1919 |
| | ---; ---; 297 | Kröber | 1929 b |
| | ---; ---; 328 | Pechuman | 1942 |
| | ---; ---; 352 | Kröber | 1934 |
| <i>caliginosus</i> Bellardi | ---; ---; 237 | Dunn | 1934 |
| <i>callioera</i> Bigot | ---; ---; 53 | Kröber | 1934 |
| <i>callopus</i> Macquart | ---; ---; 53, 297 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|--------|
| <i>TABANUS</i> | | | |
| <i>callosus</i> | | | |
| var. <i>brunniventris</i> Kröber | ---; ---; 53, 347 | Kröber | 1934 |
| <i>campechianus</i> Townsend | ---; ---; 204 | Bequaert | 1931 |
| <i>campestris</i> Brèthes | ---; ---; 325 | Kröber | 1934 |
| <i>canicolor</i> Kröber | ---; ---; 27, 75 | Kröber | 1934 |
| <i>canipilis</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>captiropterus</i> Kröber | ---; ---; 328 | Kröber | 1934 |
| <i>caribaeorum</i> Bequaert | ---; ---; 17, 21, 22 | Bequaert | 1940 |
| <i>carmicus</i> Bellardi | ---; ---; 53, 204 | Kröber | 1934 |
| | ---; ---; 137 | Bequaert | 1925 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>carmicus</i> var. <i>appendiculatus</i> Hine | ---; ---; 53, 204 | Kröber | 1934 |
| <i>castaneus</i> Macquart | ---; ---; 130 | Kröber | 1931 c |
| <i>cayennensis</i> Wiedemann | ---; ---; 53 | Neiva & Penna | 1916 |
| <i>cervinus</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>chilensis</i> Macquart | ---; ---; 75 | Kröber | 1934 |
| <i>chrysotilema</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| <i>chrysothrix</i> Fairchild | ---; ---; 237 | Fairchild | 1941 |
| <i>cinerinus</i> Wiedemann | ---; ---; 51, 352 | Kröber | 1934 |
| | ---; ---; 53 | Neiva & Penna | 1916 |
| <i>cingulifer</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| <i>circumscriptus</i> Kröber | ---; ---; 75 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATUS) | AUTHOR | DATE |
|----------------------------------|---|------------------|------|
| <i>TABANUS</i> | | | |
| <i>clarus</i> Schiner | ---; ---; 352 | Kröber | 1934 |
| <i>clairensis</i> Nine | ---; ---; 137 | Kröber | 1934 |
| <i>clenchi</i> Bequaert | ---; ---; 19, 20 | Bequaert | 1940 |
| <i>cubanaensis</i> Kröber | ---; ---; 204 | Kröber | 1934 |
| <i>columbianus</i> Enderlein | ---; ---; 82, 99, 204, 240, 328 | Kröber | 1934 |
| <i>communis</i> Kröber | ---; ---; 297 | Kröber | 1934 |
| <i>comosus</i> Stone | ---; March; 328 | Stone | 1944 |
| <i>convinis</i> Walker | ---; ---; 352 | Kröber | 1934 |
| <i>confirmatus</i> Bräthes | ---; ---; 27, 53 | Kröber | 1934 |
| <i>configens</i> Walker | ---; ---; 52 | Strong et al. | 1926 |
| <i>consequa</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>corone</i> Osten Sacken | ---; ---; 128 | Kröber | 1934 |
| <i>costaricensis</i> Kröber | ---; ---; 85 | Kröber | 1934 |
| <i>cribellum</i> Osten Sacken | ---; ---; 204 | Kröber | 1934 |
| <i>crithon</i> Kröber | ---; ---; 82 | Kröber | 1934 |
| <i>cubanus</i> Sklesdy | ---; ---; 18 | Kröber | 1934 |
| <i>curticornis</i> Kröber | ---; ---; 325 | Kröber | 1934 |
| <i>curvus</i> Nine | ---; Jan.-Feb.; 328 | Stone | 1944 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-----------|------|
| <i>TABANUS</i> | | | |
| <i>darlingtoni</i> Bequaert | ---; ---; 19, 20, 346* | Bequaert | 1940 |
| <i>decoloratus</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>defilippi</i> Bellardi | ---; ---; 85, 204 | Kröber | 1934 |
| | ---; forest; 137 | Bequaert | 1923 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>desertus</i> Walker | ---; occasionally attracted to artificial light, coastlands; 129 | Cleare | 1919 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>despectus</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>deterus</i> Walker | ---; ---; 82 | Kröber | 1934 |
| <i>discifer</i> Bigot | ---; ---; 53 | Kröber | 1934 |
| <i>discus</i> Wiedemann | ---; Dec.; 328 | Stone | 1944 |
| <i>distinctus</i> Brüthes | ---; ---; 27 | Kröber | 1934 |
| <i>divaricatus</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>dominicanus</i> Kröber | ---; ---; 24 | Bequaert | 1940 |
| | ---; ---; 91 | Kröber | 1934 |
| <i>dorsifer</i> Walker | ---; ---; 204 | Philip | 1947 |
| <i>dorsiflavus</i> Szilady | ---; ---; 18 | Bequaert | 1940 |
| <i>dorsiger</i> Wiedemann | ---; ---; 53, 297, 325 | Kröber | 1934 |
| <i>dorsiger</i> var. <i>angustivitta</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 328 | Ballou | 1945 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-------------------------------------|---|-----------|-------|
| <i>TABANUS</i> | | | |
| <i>doreiger</i> | | | |
| var. <i>longipilosus</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>doreiger</i> | | | |
| var. <i>pallidefemoratus</i> Kröber | ---; ---; 53, 137, 240 | Kröber | 1934 |
| <i>drayvestejni</i> Szilady | ---; ---; 27, 51, 237, 239, 297, 328, 329 | Kröber | 1934 |
| <i>dunni</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>ebrius</i> Osten Sacken | ---; ---; 85, 237 | Kröber | 1934 |
| <i>ecuadoriensis</i> Kröber | ---; ---; 99 | Kröber | 1934 |
| <i>elviae</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>enamus</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>erebus</i> Osten Sacken | ---; ---; 223, 237 | Kröber | 1931c |
| <i>erythroneurus</i> (Bigot) | ---; ---; 204 | Philip | 1947 |
| <i>erythrocerus</i> Kröber | ---; ---; 27, 53, 325 | Kröber | 1931a |
| <i>eutaeniatus</i> Bigot | ---; ---; 53 | Kröber | 1934 |
| <i>fasciopennis</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| | ---; May, Aug.; 328 | Stone | 1944 |
| <i>fumoralis</i> Kröber | ---; ---; 128 | Kröber | 1934 |
| <i>fumosa</i> Williston | ---; ---; 19 | Bequaert | 1940 |
| | ---; ---; 85, 91 | Kröber | 1934 |
| <i>ferrifer</i> Walker | ---; ---; 24, 237 | Kröber | 1934 |
| | ---; in houses, on scrub, in evening, Dec.; 82 | Dunn | 1929 |
| | ---; Dec., Jan.; 328 | Stone | 1944 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--------------------------------|---|------------------|------|
| <i>TABANUS</i> | | | |
| <i>ferruginosus</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>festivus</i> Hine | ---; ---; 85, 238 | Hine | 1920 |
| | ---; ---; 237 | Dunn | 1934 |
| <i>flavibarbis</i> Macquart | ---; Sept.; 53 | Strong et al. | 1926 |
| | ---; ---; 130, 240 | Kröber | 1934 |
| <i>flavifrons</i> Szilady | ---; ---; 18 | Kröber | 1934 |
| <i>flavinotum</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>flavostratus</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>flocculus</i> Bequaert | ---; ---; 19, 20 | Bequaert | 1940 |
| <i>frater</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>frequens</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>frontosus</i> Kröber | ---; ---; 325 | Kröber | 1934 |
| <i>fulmineus</i> Hine | ---; July; 238 | Hine | 1920 |
| <i>fulvipes</i> Philippi | ---; ---; 240 | Eacomel | 1924 |
| <i>fulvistriatus</i> Hine | ---; ---; 204 | Kröber | 1934 |
| <i>fumiferinus</i> Kröber | ---; ---; 53, 240 | Kröber | 1934 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>fumomarginatus</i> Hine | ---; ---; 51, 85, 237 | Kröber | 1934 |
| <i>fur</i> Villistren | ---; ---; 137 | Root | 1924 |
| <i>furcatus</i> Hine | ---; ---; 51 | Hine | 1920 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---------------------------------|--------------|
| <i>TABANUS</i> | | | |
| <i>fuscipennis</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>fuscofasciatus</i> Macquart | ---; ---; 27, 239, 325 ---; ---; 53 | Lutz et al. Neiva & Penns | 1918 1916 |
| <i>fuscus</i> Thunberg | ---; ---; 239 | Lutz et al. | 1918 |
| <i>gilanus</i> Townsend | ---; ---; 204 | Kröber | 1934 |
| <i>globulicallidus</i> Kröber | ---; ---; 237 | Kröber | 1934 |
| <i>gracilicornis</i> Mine | ---; ---; 17, 18, 91 | Bequaert | 1940 |
| <i>gracilicornis</i> <i>insulicola</i> Bequaert | ---; ---; 17°, 18° | Bequaert | 1940 |
| <i>granulatus</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>griseopleuris</i> Kröber | ---; ---; 85 | Kröber | 1934 |
| <i>guatemalensis</i> Mine | ---; ---; 128, 237 | Kröber | 1934 |
| <i>guttigaster</i> Kröber | ---; ---; 53 ---; ---; 329, 352 | Kröber Bequaert | 1934 1940 |
| <i>guttiventris</i> Kröber | ---; ---; 352 | Kröber | 1929 |
| <i>habilis</i> Bräthes | ---; ---; 27 | Kröber | 1934 |
| <i>haemagogus</i> Williston | ---; June-July, resting at edges of woods; 204° ---; ---; 204 | Bequaert Kröber | 1931 1934 |
| <i>haitianus</i> Kröber | ---; ---; 20 ---; ---; 91 | Kröber Bequaert | 1934 1940 |
| <i>hilaris</i> Macquart | ---; ---; 27 | Lutz et al. | 1918 |
| <i>mirtitibia</i> Walker | ---; ---; 82 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------|------|
| <i>TABANUS hispaniolae</i> Bequaert | ---; ---; 19 | Bequaert | 1940 |
| <i>histrio</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>hookeri</i> Knab | ---; ---; 18, 20, 21, 23, 24, 27, 53, 82, 129, 239, 329, 346°, 352 | Bequaert | 1940 |
| | ---; on beach; 22 | Wolcott | 1941 |
| | ---; July; 328 | Stone | 1944 |
| <i>hyalinus</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>imponans</i> Walker | ---; ---; 53, 82, 297, 328 | Kröber | 1934 |
| | ---; coastlands, rare; 129 | Cleare | 1919 |
| <i>importunus</i> Wiedemann | ---; July and Sept., active all day, occasionally bites man; 53° | Strong et al. | 1926 |
| | ---; ---; 53, 130, 240 | Kröber | 1934 |
| | ---; ---; 82 | Patino- Camargo | 1940 |
| | ---; ---; 237 | Fairchild | 1943 |
| | ---; ---; 239, 297 | Fischer | 1933 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>impresus</i> Wiedemann | ---; rare; 129° | Cleare | 1919 |
| <i>inornis</i> Fabricius | ---; ---; 53, 129, 130, 239 | Strong et al. | 1926 |
| | ---; ---; 204 | Kröber | 1934 |
| | ---; ---; 237 | Dunn | 1934 |
| <i>incipiens</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| <i>indecisa</i> Bigot | ---; ---; 53 | Kröber | 1934 |
| <i>infuscipennis</i> | ---; ---; 82 | Patino- Camargo | 1940 |
| <i>innocuus</i> Walker | ---; ---; 53 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|---|--------------------|--------|
| <i>TABANUS</i> | | | |
| <i>interpositus</i> Rondani | ---; ---; 27 | Kröber | 1934 |
| <i>interpunctus</i> Lutz | ---; ---; 239 | Lutz et al. | 1918 |
| <i>itsarum</i> Bequaert | ---; June and July, in bush; 204 | Bequaert | 1931 |
| <i>jamaicensis</i> (Newstead) | ---; ---; 21, 346° | Bequaert | 1940 |
| <i>jilamensis</i> Hine | ---; ---; 137 | Kröber | 1934 |
| <i>Lacajaensis</i> Kröber | ---; ---; 85 | Kröber | 1934 |
| <i>laevicallus</i> Skilady | ---; on leaf of low bush, near sea shore, April; 18 | Bequaert | 1940 |
| <i>lautus</i> Hine | ---; at an altitude of 7,300 feet; 240 | Hine | 1920 |
| <i>leucaspis</i> Wiedemann | ---; ---; 27, 53, 129, 137, 237, 239 | Strong et al. | 1926 |
| | ---; ---; 82 | Patino- Camargo | 1940 |
| | ---; rare in forest; 129° | Cleare | 1919 |
| | ---; ---; 138, 240. ---; June, in bush, on tree trunks; 204 | Bequaert | 1931 |
| | ---; ---; 328 | Martorell | 1939 |
| | ---; ---; 329, 352 | Bequaert | 1940 |
| <i>limbativena</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>limpidapex</i> Wiedemann | ---; ---; 53, 240 | Kröber | 1934 |
| <i>lineolari</i> Kröber | ---; ---; 27 | Kröber | 1929 a |
| | ---; ---; 51, 325 | Kröber | 1931 f |
| <i>lineola</i> Fabricius | ---; ---; 17, 18, 21, 69, 137, 329, 352 | Bequaert | 1940 |
| | ---; ---; 27, 51, 53, 240 | Kröber | 1934 |
| | ---; ---; 116 | Johnson | 1924 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------|---|-----------|------|
| <i>TABANUS</i> | | | |
| <i>lineola</i> | ---; ---; 138 | Bequaert | 1925 |
| <i>Fabricius</i> | ---; ---; 237 | Fairchild | 1943 |
| (cont.) | ---; ---; 328 | Martorell | 1939 |
| <i>lineola</i> | ---; ---; 137 | James | 1950 |
| var. <i>carneus</i> | --- | Woke | 1947 |
| <i>Bellardi</i> | ---; in houses; 223 | Fairchild | 1942 |
| | ---; ---; 237 | | |
| | ---; Feb., June-Aug., Dec.; 328 | Stone | 1944 |
| <i>lineola</i> | | | |
| <i>lineola</i> | ---; ---; 328 | Stone | 1944 |
| <i>Fabricius</i> | | | |
| <i>lineola</i> | | | |
| <i>plangens</i> | ---; Sept., Dec.; 328 | Stone | 1944 |
| Walker | | | |
| <i>lineola</i> | | | |
| var. <i>stenocephalus</i> | ---; in forest; 223 | Woke | 1947 |
| (Hine) | ---; ---; 237 | Fairchild | 1942 |
| <i>litigiosus</i> | ---; ---; 53 | Kröber | 1934 |
| Walker | | | |
| <i>littoreus</i> | ---; May, near lights in the evening; 128. ---; | Bequaert | 1931 |
| Hine | May; 204 | | |
| | ---; vicinity of electric lights on board steamer | Bequaert | 1925 |
| | in harbor; 137 | | |
| <i>lividus</i> | ---; ---; 53, 240, 347 | Kröber | 1934 |
| Walker | | | |
| | ---; Jan., May; 328 | Stone | 1944 |
| <i>longiappendiculatus</i> | ---; ---; 137 | Kröber | 1934 |
| Macquart | | | |
| <i>longifrons</i> | ---; ---; 75 | Kröber | 1934 |
| Kröber | | | |
| <i>lucidulus</i> | ---; ---; 21° | Bequaert | 1940 |
| Walker | | | |
| <i>lucipennis</i> | ---; ---; 51 | Kröber | 1934 |
| Kröber | | | |
| <i>luteoflavus</i> | ---; ---; 204 | Kröber | 1934 |
| Bellardi | | | |
| | ---; ---; 329, 352 | Bequaert | 1940 |
| <i>lutai</i> | ---; Sept.; 328 | Stone | 1944 |
| Kröber | | | |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|---|-----------|------|
| <i>TABANUS</i> | | | |
| <i>maculiceps</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>maculiventris</i> Macquart | ---; ---; 75 | Kröber | 1934 |
| <i>magnificus</i> Kröber | ---; ---; 82, 85, 99 | Kröber | 1934 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>malefictus</i> Bigot | ---; ---; 53 | Kröber | 1934 |
| <i>manifestus</i> Walker | ---; ---; 352 | Kröber | 1934 |
| <i>marginatus</i> Macquart | ---; ---; 53 | Kröber | 1934 |
| <i>maya</i> Bequaert | ---; ---; 137 | Bequaert | 1940 |
| | ---; June; 204 | Bequaert | 1931 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>medius</i> Kröber | ---; ---; 85 | Kröber | 1934 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>mellifluus</i> Bequaert | ---; ---; 18 | Bequaert | 1940 |
| <i>mendozanus</i> Enderlein | ---; ---; 27 | Kröber | 1934 |
| <i>meridianus</i> Rondani | ---; ---; 27, 75 | Kröber | 1934 |
| <i>mexicanus</i> Linnaeus | ---; common along river bank, attracted to light; 82 | Dunn | 1929 |
| | ---; ---; 137, 329, 352 | Bequaert | 1940 |
| | ---; crepuscular; 138 | Bequaert | 1925 |
| | ---; ---; 204, 223, 347 | Kröber | 1934 |
| | ---; ---; 328 | Pechuman | 1942 |
| <i>miles</i> Wiedemann | ---; ---; 53, 240 | Kröber | 1934 |
| <i>minor</i> Macquart | ---; ---; 75 | Kröber | 1934 |
| <i>minoratus</i> Kröber | ---; ---; 53 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|------------------------------------|---|---------------|--------|
| <i>TABANUS</i> | | | |
| <i>missionum</i> Macquart | ---; ---; 27, 325 | Lutz et al. | 1918 |
| <i>modestus</i> Wiedemann | ---; Aug.-Sept.; 53, 85 | Strong et al. | 1926 |
| <i>modestinus</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>modicus</i> Hine | ---; ---; 129 | Hine | 1920 |
| <i>monoachroma</i> Wiedemann | ---; ---; 53 | Lutz & Neiva | 1914 |
| | ---; ---; 325 | Kröber | 1934 |
| <i>monogramma</i> Wiedemann | ---; ---; 239 | Lutz et al. | 1918 |
| <i>mordax</i> Hine | ---; ---; 239 | Hine | 1920 |
| <i>monops</i> Bequaert | ---; ---; 19 | Bequaert | 1940 |
| <i>muromaculus</i> Lutz & Neiva | ---; ---; 53° | Neiva & Penna | 1916 |
| <i>multiguttatus</i> Kröber | ---; ---; 82 | Kröber | 1934 |
| <i>narrans</i> Hine | ---; ---; 129 | Kröber | 1934 |
| <i>maccoideus</i> Hine | ---; ---; 51, 128, 239 | Kröber | 1934 |
| <i>neglectus</i> Kröber | ---; ---; 53, 297 | Kröber | 1931 b |
| | ---; ---; 240 | Kröber | 1934 |
| <i>neogriseosoma</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>neo-innotescens</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>neo-vestitus</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>narcissus</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|--|------------------|--------|
| <i>TABANUS</i> | | | |
| <i>nervosus</i> Curran | ---; on beaches resting on drift or moist sand; 22 | Bequaert | 1940 |
| <i>niger</i> Enderlein | ---; ---; 27, 75 | Kröber | 1934 |
| <i>migrifemor</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>nigriflavus</i> Kröber | ---; ---; 53 | Kröber | 1931 b |
| | ---; ---; 130 | Kröber | 1934 |
| <i>nigripennis</i> Philippi | ---; ---; 75 | Kröber | 1931 c |
| <i>nigrofemoratus</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>nigropalpis</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>nigrovittatus</i> Macquart | ---; ---; 48, 346 | Philip | 1947 |
| <i>rubeculipennis</i> Kröber | ---; ---; 328 | Kröber | 1934 |
| <i>montana</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| <i>obliquus</i> Walker | ---; ---; 21 | Gowdey | 1926 |
| <i>obscurigaster</i> Kröber | ---; ---; 62 | Kröber | 1934 |
| <i>obscuriventris</i> Kröber | ---; ---; 27 | Kröber | 1929 a |
| | ---; ---; 31, 239 | Kröber | 1934 |
| <i>obsolete</i> Viennemann | ---; ---; 53 | Kröber | 1929 b |
| <i>obsoletus</i> Bequaert | ---; ---; 21 | Bequaert | 1940 |
| <i>occidentalis</i> Limaonae | ---; ---; 53, 75, 27 | Kröber | 1929 b |
| | ---; in house screens, common along the river, active during midday; 62 | Dunn | 1929 |
| | ---; ---; 204, 239 | Kröber | 1934 |
| | ---; ---; 237 | Dunn | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---------------------|--------|
| <i>TABANUS</i> <i>ocellatus</i> (Bigot) | ---; common in forest; 82° | Dunn | 1929 |
| | ---; ---; 82 | Patino - Camargo | 1940 |
| <i>ocellatus</i> Enderlein | ---; ---; 27 | Lutz et al. | 1918 |
| | ---; ---; 137 | Bequaert | 1940 |
| <i>ocelligerus</i> Krüger | ---; ---; 85 | Krüger | 1934 |
| <i>oehrophilus</i> Lutz | ---; ---; 329, 352 | Bequaert | 1940 |
| <i>oculus</i> Walker | ---; ---; 126, 138. ---; May-June; 204 ---; forest; 129° | Bequaert | 1931 |
| | ---; ---; 137 | Cleare | 1919 |
| | ---; ---; 223 | Bequaert | 1940 |
| | ---; ---; 237 | Wocke | 1947 |
| | | Fairchild | 1943 |
| <i>olivaceiventris</i> Macquart | ---; July; 53 | Strong et al. | 1926 |
| | ---; July; 328 | Stone | 1944 |
| <i>ornatifrons</i> Krüger | ---; ---; 75 | Krüger | 1934 |
| <i>ornatipennis</i> Krüger | ---; ---; 240 | Krüger | 1934 |
| <i>ornatissimum</i> Bröthes | ---; ---; 27 | Krüger | 1934 |
| | ---; ---; 325 | Lutz et al. | 1918 |
| <i>ornatus</i> Krüger | ---; ---; 27, 51, 53 | Krüger | 1929 a |
| <i>ovalipalpus</i> Enderlein | ---; ---; 239 | Krüger | 1934 |
| <i>pachyodes</i> Schiner | ---; ---; 75 | Krüger | 1934 |
| <i>pallidetinotus</i> Krüger | ---; ---; 237 | Fairchild | 1943 |
| <i>pallidulus</i> Krüger | ---; ---; 128 | Krüger | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-------------------|--------|
| <i>TABANUS</i> <i>pallipes</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>parallelus</i> Walker | ---; ---; 21 | Bequaert | 1940 |
| <i>parsonsi</i> Bequaert | ---; July, at 2,000 feet elevation; 18 | Bequaert | 1940 |
| <i>parviceps</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>parvulus</i> Williston | ---; ---; 20, 22 | Bequaert | 1940 |
| <i>patellicornis</i> Kröber | ---; ---; 51 | Kröber | 1934 |
| <i>pelidnopterus</i> Kröber | ---; ---; 27, 325 | Kröber | 1934 |
| <i>pellucida</i> Fabricius | ---; ---; 352 | Kröber | 1934 |
| <i>peregrinus</i> Kröber | ---; ---; 27, 51 | Kröber | 1934 |
| <i>peruvianus</i> Macquart | ---; Sept.; 328 | Stone | 1944 |
| <i>philippii</i> Boudani | ---; ---; 75 | Kröber | 1934 |
| <i>pioticornis</i> (Bigot) | ---; ---; 20 | Bequaert | 1940 |
| <i>piotipennis</i> Macquart | ---; ---; 53 | Kröber | 1931 c |
| <i>pioturatus</i> Kröber | ---; ---; 204, 328 | Kröber | 1934 |
| <i>pilifer</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>pintionicus</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>plangens</i> Walker | ---; July-Sept.; 53 | Strong et al. | 1926 |
| | ---; ---; 69, 239 | Kröber | 1934 |
| | ---; ---; 82 | Patino- Camaro | 1940 |
| | ---; ---; 328 | Pechuman | 1942 |

TABLE 1 - NORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|------|
| <i>TABANUS</i> | | | |
| <i>platensis</i> Bröthes | ---; ---; 27 | Kröber | 1934 |
| <i>platyventris</i> Kröber | ---; ---; 85 | Kröber | 1934 |
| <i>praepilatus</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>prasiniventris</i> Kröber | ---; ---; 53 | Kröber | 1934 |
| <i>primitivus</i> Walker | ---; ---; 352 | Kröber | 1934 |
| <i>pruincorpus</i> Kröber | ---; ---; 51, 82 | Kröber | 1934 |
| <i>pruinititta</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>pruinosus</i> Bigot | ---; ---; 204 | Philip | 1947 |
| <i>pseudocinerinus</i> Neiva & Penna | ---; ---; 53 | Neiva & Penna | 1916 |
| <i>pseudoculus</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| | ---; ---; 328 | Stone | 1944 |
| <i>pseudosorbiliens</i> | ---; ---; 239 | Lutz et al. | 1918 |
| <i>pterographicus</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>pubescens</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| <i>pudens</i> Walker | ---; ---; 53 | Kröber | 1934 |
| <i>pulcher</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>pusotifer</i> Osten Sacken | ---; ---; 204 | Philip | 1947 |
| <i>pusotipleura</i> Mine | ---; ---; 85 | Kröber | 1934 |
| <i>pusannae</i> Mine | ---; Nov.; 240 | Mine | 1920 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|------------------|--------|
| <i>TABANUS</i> | | | |
| <i>pungens</i> Wiedemann | ---; ---; 325 | Kröber | 1934 |
| <i>purus</i> Walker | ---; ---; 204 | Kröber | 1934 |
| <i>pusio</i> Kröber | ---; ---; 27 | Kröber | 1934 |
| <i>quadripunctatus</i> Fabricius | ---; ---; 27, 53, 83, 128, 129, 204 ---; occasionally in forest areas; 129* | Kröber | 1929 a |
| | ---; ---; 237 | Cleare | 1919 |
| | ---; ---; 239 | Fairchild | 1943 |
| | ---; ---; 325 | Lutz et al. | 1918 |
| | ---; May, Dec.; 328 | Stone | 1944 |
| <i>quadripunctatus</i> var. <i>amabilis</i> Walker | ---; ---; 27, 51, 53, 83, 99, 204, 240, 325, 328 ---; ---; 82 | Kröber | 1931 f |
| <i>ratus</i> Kröber | ---; ---; 85 | Patino-Camargo | 1940 |
| <i>reticulatus</i> Kröber | ---; ---; 240 | Kröber | 1934 |
| <i>rhisophorus</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>rimator</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |
| <i>robustus</i> Kröber | ---; ---; 53, 297 | Kröber | 1934 |
| <i>rubrioculus</i> Kröber | ---; ---; 130 | Kröber | 1934 |
| <i>rubrifrons</i> Blanchard | ---; ---; 75 | Kröber | 1934 |
| <i>rubripes</i> Macquart | ---; ---; 130 | Kröber | 1934 |
| <i>ruful thorax</i> Macquart | ---; ---; 53 | Meiva & Penna | 1916 |
| <i>submarginalis</i> Kröber | ---; ---; 75 | Kröber | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---------------------------------|---|------------------------|------|
| <i>TABANUS</i> | | | |
| <i>ruficaudis</i> Kröber | ---; ---; 325 | Kröber | 1934 |
| <i>ruficolor</i> Kröber | ---; ---; 99, 328 | Kröber | 1934 |
| <i>rufipes</i> Macquart | ---; ---; 53 | Travassos & Freitas | 1942 |
| <i>rufiventris</i> Macquart | ---; ---; 21 | Gowdey | 1926 |
| <i>schnineri</i> Kröber | ---; ---; 53, 240, 328 | Kröber | 1934 |
| <i>schmidtii</i> Kröber | ---; ---; 85 | Kröber | 1934 |
| <i>sohnusei</i> Kröber | ---; ---; 27, 240 | Kröber | 1934 |
| <i>semiflavus</i> Kröber | ---; ---; 53 | Kumm & Novis | 1938 |
| | ---; ---; 328 | Kröber | 1934 |
| <i>semisordidus</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| | ---; coastland; 129 | Cleare | 1919 |
| <i>senior</i> Walker | ---; ---; 129 | Cleare | 1919 |
| <i>serenus</i> Kröber | ---; ---; 328 | Kröber | 1934 |
| <i>signaticornis</i> Brèthes | ---; ---; 27, 53 | Kröber | 1934 |
| <i>simplex</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| | ---; ---; 82 | Bequaert | 1940 |
| <i>scorbilluna</i> Wiedemann | ---; ---; 53, 239, 329 | Kröber | 1934 |
| | ---; June-July, Sept.; 328 | Stone | 1944 |
| | ---; ---; 352 | Bequaert | 1940 |
| <i>stenocephalus</i> Mine | ---; ---; 128 | Kröber | 1934 |
| | ---; ---; 237 | Gunn | 1934 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-----------------------------|---|-----------------|------|
| <i>TABANUS</i> | --- | Wolcott | 1941 |
| <i>stigma</i> | on beach; 22 | | |
| <i>Fabricius</i> | ---; ---; 23, 24 | Bequaert | 1940 |
| | ---; ---; 352 | Kröber | 1934 |
| <i>stigmaticalis</i> | ---; ---; 53 | Kröber | 1934 |
| <i>Kröber</i> | | | |
| <i>subrubet</i> | ---; forest trails; 137° | Bequaert | 1925 |
| <i>Bellardi</i> | | | |
| <i>subsoenex</i> | ---; ---; 53 | Kröber | 1934 |
| <i>Walker</i> | | | |
| <i>tacitus</i> | ---; ---; 325 | Hine | 1920 |
| <i>Mine</i> | | | |
| <i>taeniola</i> | ---; ---; 352° | Bequaert | 1940 |
| <i>de Beauvois</i> | | | |
| <i>tantulus</i> | ---; April; 109 | Hine | 1920 |
| <i>Hine</i> | | | |
| <i>tardinotus</i> | ---; ---; 21 | Bequaert | 1940 |
| <i>Bequaert</i> | | | |
| <i>temerifasciatus</i> | ---; ---; 240 | Kröber | 1934 |
| <i>Kröber</i> | | | |
| <i>tenaxistria</i> | ---; ---; 53 | Kröber | 1934 |
| <i>Kröber</i> | | | |
| <i>taphrodes</i> | ---; ---; 27, 75 | Kröber | 1934 |
| <i>Philippi</i> | | | |
| <i>terminus</i> | ---; ---; 53 | Kröber | 1934 |
| <i>Walker</i> | | | |
| <i>testaceoscutellatus</i> | ---; ---; 75 | Kröber | 1934 |
| <i>Macquart</i> | | | |
| <i>testaceus</i> | ---; ---; 53 | Kröber | 1934 |
| <i>Macquart</i> | ---; ---; 328 | Martorell | 1939 |
| <i>tinctor</i> | ---; ---; 23 | Kröber | 1934 |
| <i>Walker</i> | | | |
| <i>tiro</i> | ---; ---; 53 | Lutz & Meiva | 1914 |
| <i>Lutz & Meiva</i> | | | |
| <i>touzeti</i> | ---; ---; 18, 21 | Kröber | 1934 |
| <i>Johnson</i> | | | |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|--------|
| <i>TABANUS</i> | | | |
| <i>trianguliferus</i> Enderlein | ---; ---; 75 | Kröber | 1934 |
| <i>trianguliferus</i> var. <i>ochraceus</i> Enderlein | ---; ---; 75 | Kröber | 1934 |
| <i>triangulum</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| | ---; ---; 239, 325 | Lutz et al. | 1918 |
| <i>trioeps</i> Thunberg | ---; ---; 53 | Kröber | 1934 |
| <i>trifarius</i> Macquart | ---; ---; 75 | Kröber | 1934 |
| <i>trigonophorus</i> Macquart | ---; ---; 27, 325 | Lutz et al. | 1918 |
| <i>trigonocephalus</i> Lutz | ---; ---; 53 | Malva & Penna | 1916 |
| <i>trijunctus</i> Walker | ---; ---; 17 | Philip | 1947 |
| <i>trilineatus</i> Latreille | ---; ---; 21 | Cowdery | 1926 |
| | ---; ---; 53, 69, 297 | Strong et al. | 1926 |
| | ---; common along river banks; 82 | Dunn | 1929 |
| | ---; common, coastal and forest area, occasionally attracted to light; 129 | Clears | 1919 |
| | ---; ---; 328 | Ortiz | 1944 |
| | ---; ---; 529, 352 | Bequaert | 1940 |
| <i>trivittatus</i> Fabricius | ---; ---; 53, 83, 325 | Strong et al. | 1926 |
| | ---; ---; 129 | Hine | 1923 |
| <i>trivittatus</i> Billett | ---; ---; 239 | Lutz et al. | 1918 |
| <i>trivittatus</i> Billett | ---; ---; 21, 22, 83, 116, 128, 137, 237, 329, 346* | Bequaert | 1940 |
| | ---; ---; 138, 204 | Kröber | 1929 b |
| <i>umbrecticulus</i> Fairchild | ---; ---; 237 | Fairchild | 1943 |

TABLE 1 - HORSE FLIES (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|--------|
| <i>TABANUS</i> <i>umbratus</i> Hine | ---; ---; 85 | Kröber | 1931 c |
| <i>unicinctus</i> Walker | ---; ---; 53 | Strong et al. | 1926 |
| <i>unicolor</i> Wiedemann | ---; ---; 53 | Strong et al. | 1926 |
| | ---; ---; 329 | Bequaert | 1940 |
| <i>unimacula</i> Kröber | ---; ---; 297 | Kröber | 1934 |
| <i>unipunctatus</i> Bigot | ---; ---; 130, 297 | Kröber | 1934 |
| <i>unistriatus</i> Hine | ---; ---; 85 | Kröber | 1934 |
| | ---; ---; 137 | Bequaert | 1940 |
| | ---; ---; 223 | Woke | 1947 |
| | ---; ---; 237* | Dunn | 1934 |
| | ---; ---; 237 | Fairchild | 1943 |
| <i>uvivittatus</i> Macquart | ---; ---; 53 | Strong et al. | 1926 |
| <i>uruguayanus</i> Kröber | ---; ---; 53, 325 | Kröber | 1934 |
| <i>vulidus</i> Hine | ---; ---; 85 | Kröber | 1931 c |
| <i>valterii</i> Macquart | ---; ---; 53 | Neiva & Penna | 1916 |
| <i>venezuelensis</i> Kröber | ---; ---; 328 | Kröber | 1934 |
| <i>venosus</i> Bigot | ---; ---; 53 | Strong et al. | 1926 |
| <i>venustulus</i> Kröber | ---; ---; 75 | Kröber | 1934 |
| <i>vestitus</i> Wiedemann | ---; ---; 53 | Kröber | 1934 |
| <i>viduus</i> Walker | ---; ---; 53 | Strong et al. | 1926 |

TABLE 1 - HORSE FLIES (conclusion)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-----------|------|
| <i>TABANUS</i> | | | |
| <i>viridescens</i> Kröber | ---; ---; 297 | Kröber | 1934 |
| <i>vittiger</i> Thomson | ---; ---; 116 | Kröber | 1934 |
| <i>vittiger</i> var. <i>guatemalanus</i> Mine | ---; ---; 237 | Fairchild | 1943 |
| <i>wirthami</i> Kröber | ---; ---; 352 | Kröber | 1934 |
| <i>xipe</i> Kröber | ---; ---; 82, 328, 347 | Kröber | 1934 |
| | ---; ---; 329, 352 | Bequaert | 1940 |
| <i>yucatanus</i> Townsend | ---; ---; 137 | Szilady | 1926 |
| | ---; June-July; 204° | Bequaert | 1931 |
| | ---; ---; 204 | Kröber | 1934 |
| <i>zonalis</i> Kirby | ---; ---; 69 | Kröber | 1934 |
| <i>TRICERATONYIA</i> | | | |
| <i>macintyreai</i> Bequaert | ---; March; 99 | Bequaert | 1937 |
| <i>VEPRIUS</i> | | | |
| <i>p. esbiter</i> Rondani | ---; ---; 75 | Kröber | 1934 |
| <i>rubricornis</i> Kröber | ---; ---; 75 | Kröber | 1934 |

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P. BITING FLIES

Biting flies belong to several families. The table includes only 3 species.

TABLE 1 - BITING FLIES

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---------------------|------|
| <i>OLPHERIA</i> <i>corticina</i> van der Wulp | ---; occasionally bites man; 128°. ---; ---; 204° (Suspected vector of "bay-sore" or human leishmaniasis) | Bequaert | 1931 |
| <i>SIPHONA</i> <i>irritans</i> (L.) | ---; ---; 223° | Woke | 1947 |
| <i>ATROMYZES</i> <i>muleitans</i> Linnaeus | ---; common in houses; 22 --; ---; 27° | van Volkenberg | 1932 |
| | ---; experimentally infected with yellow fever; 53 | Shannon & Del Ponte | 1926 |
| | ---; ---; 53° | Hoskins | 1934 |
| | ---; ---; 129° | Strong et al. | 1926 |
| | ---; ---; 223° | Cleare | 1919 |
| | ---; ---; 237° | Woke | 1947 |
| | | Fairchild | 1943 |

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G. NON-BITING FLIES

The entries for non-biting flies include representatives of several groups. Of course, the most important species in this category are those that feed as larvae on the tissue of living animals.

The tables include 24 species or subspecies.

TABLE 1 - NON-BITING FLIES

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------|--------|
| <i>CALLIPHORA</i> <i>cavifrons</i> | ---; ---; 328* | Anduze | 1945 |
| <i>erythrocephala</i> (Meigen) | ---; ---; 129* | Cleare | 1919 |
| <i>ALLITROGA</i> <i>americana</i> Cushin & Patton | ---; ---; 18*, 20*, 22* | Seigy & Herbig | 1955 |
| <i>CHRYSONYIA</i> <i>macellaria</i> (Fabricius) | ---; ---; 53* | Neiva & de Faria | 1913 |
| | ---; ---; 99* | Valenzuela | 1927 |
| | ---; ---; 129* | Cleare | 1919 |
| | ---; ---; 237* | Dunn | 1918 |
| | ---; ---; 238* | Calero | 1948 |
| <i>viridula</i> | ---; ---; 129* | Cleare | 1919 |
| <i>DOCHLIONYIA</i> <i>omnivora</i> (Coquillett) | ---; ---; 27* | Del Ponte | 1938 |
| | ---; ---; 130* | Floch & Abonnenc | 1942 + |
| | ---; common; 237* | Fairchild | 1943 |
| | ---; ---; 238* | Calero | 1948 |
| <i>macellaria</i> Fabricius | ---; common; 22° | Wolcott | 1941 |
| | ---; ---; 27* | Codazzi Aguirre | 1932 |
| | ---; ---; 53* | Strong et al. | 1926 |
| | ---; ---; 75* | Reed | 1932 |
| | ---; common; 82° | Dunn | 1929 |
| | ---; ---; 325* | Gaminara | 1928 |
| <i>viridula</i> R. D. | ---; ---; 129*, 329* | Patton | 1921 |
| <i>DERMATOSIA</i> <i>epaniventeris</i> (Macquart) | ---; ---; 27* | Pennington | 1919 |
| | Under the skin of arm; Feb.; 128* | Cockerell | 1914 |
| | ---; ---; 204* | Bequaert | 1933 + |

TABLE 1 - NON-BITING FLIES (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-------------------------------|--------|
| <i>DERMATOBIA hominis</i> (Linnaeus, Jr.) | Farmlands; meadows and woods; 27°, 53°, 22°* | Mazza & De Los Rios | 1932 |
| | Under skin of man; ---; 27° | Parmo, Romana & Codazzi | 1932 |
| | ---; ---; 53°* | Delmento | 1945 |
| | ---; ---; 53° | Neiva & De Faria | 1913 |
| | ---; ---; 82°* | Dunn | 1929 |
| | ---; ---; 99° | Valenzuela | 1927 |
| | ---; ---; 128° | Dalmat | 1955 |
| | ---; ---; 129° | Clebre | 1919 |
| | ---; ---; 130°* | Floch & Abonnenc | 1944 + |
| | ---; ---; 137° | Low | 1919 |
| | ---; ---; 138° | Loughnan | 1922 |
| | ---; ---; 223° | Woke | 1947 |
| | ---; ---; 237° | Dunn | 1934 |
| | ---; common in jungle; 237° | Fairchild | 1943 |
| | ---; ---; 238° | Calero | 1948 |
| | ---; ---; 326° | Anduze | 1945 |
| <i>FANNIA fusconotata</i> Rondani | ---; ---; 27° | Mazza & Reyes Oribi | 1939 |
| <i>HIPPELATES flaviceps</i> (Loew) | ---; possible vector of yaws; 21 | Kumm & Turner | 1938 |
| <i>flavipes</i> Loew | ---; feed on ulcers on man during day, seldom enter houses; 21° | Kumm | 1935 + |
| | ---; feed on yaws ulcers; 24° | Nicholls | 1936 |
| <i>pallipes</i> Loew | ---; naturally infected with yaws; 21 | Kumm | 1935 |
| | ---; experimental transmission of yaws; 21 | Kumm & Turner | 1936 |

TABLE 1 - NON-BITING FLIES (conclusion)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------|--------|
| | | | |
| <i>HIPPOSETES</i> <i>puseio</i> Loew | ---; ---; 116° | Johnson | 1924 |
| | ---; suspected to spread conjunctivitis; 223 | Moke | 1947 |
| <i>HYPODERMA</i> <i>bovis</i> De Geer | ---; ---; 53° | Dos Santos | 1932 |
| <i>LUCILIA</i> <i>cæsar</i> Linn. | ---; ---; 73° | Bonoso Barros | 1949 + |
| <i>OESTRUS</i> <i>ovis</i> Linn. | ---; ---; 32° | Isola & Osimani | 1944 |
| <i>SARCOPHAGA</i> <i>barbata</i> Thomson | ---; ---; 27° | Nazza & Cernejo | 1939 |
| <i>carmaria</i> (Linn.) | ---; ---; 129° | Cleare | 1919 |
| <i>chrysostoma</i> Wied. | ---; ---; 129° | Patton | 1921 |
| <i>haemorrhoidalis</i> (Fall) | ---; ---; 238° | Calero | 1948 |
| <i>lambert</i> Wiedemann | ---; ---; 53° | Neiva & De Faria | 1913 |
| | ---; ---; 69, 352 (Causes myiasis) | Patton | 1921 |
| <i>pyophila</i> Neiva & De Faria | ---; ---; 53° | Neiva & De Faria | 1913 |
| | ---; ---; 69, 352 (Causes myiasis) | Patton | 1921 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
NON-BITING FLIES

| SPECIES | DISEASE ORGANISM | | | | DISTRIBUTION |
|---|------------------|------------|----------|-----------|---|
| | VIRUS & | RICKETTSIA | PROTOZOA | HELMINTHS | |
| <i>CALLIPHORA</i> <i>savittaria</i> | | | | | Nasal myasis 320 |
| <i>erythrocephala</i> Meigen | | | | | Nasal myasis 129 |
| <i>CALLITROGA</i> <i>americana</i> Cushin & Patton | | | | | Myasis 18, 20, 22 |
| <i>CHRYSONYIA</i> <i>macellaria</i> (Fabricius) | | | | | Myasis 53, 99, 129, 237, 238 |
| <i>violacea</i> | | | | | Myasis 129 |
| <i>COCHLIONYIA</i> <i>hominivora</i> (Coquillett) | | | | | Myasis 27 |
| | | | | | Nasal & cutaneous myasis 130 + |
| | | | | | Myasis 237 |
| | | | | | Myasis 238 |
| <i>macellaria</i> Fabricius | | | | | Myasis 27 |
| | | | | | Cutaneous myasis 53, 325 |
| | | | | | Nasal myasis 75 |
| <i>viridula</i> R. D. | | | | | Myasis 129, 329 |
| <i>DERMATOBIA</i> <i>cyaniventris</i> (Macquart) | | | | | Myasis 27, 138, 204 + |
| <i>hominis</i> (Linnaeus) | | | | | Myasis 27, 53, 82, 99, 127, 137, 138, 223, 237, 238 |
| | | | | | Cutaneous myasis 27, 53, 128, 130 + 239, 328 |
| | | | | | Ophthalmic myasis 53 |
| <i>PANNIA</i> <i>fuscoconotata</i> Boudani | | | | | Urinary myasis 27 |

TABLE 2 - NON-BITING FLIES (conclusion)

| SPECIES | DISEASE ORGANISM | | | | DISTRIBUTION |
|--|------------------|------------|----------|-----------|-------------------------|
| | VIRUS & | RICKETTSIA | PROTOZOA | HELMINTHS | |
| <i>HYPODERMA</i> <i>bovis</i> De Geer | | | | | Myasis 53 |
| <i>LUCILIA</i> <i>caesar</i> Line. | | | | | Intestinal myiasis 75 + |
| <i>OESTRUS</i> <i>ovis</i> Linn. | | | | | Myasis 325 |
| <i>SARCOPHAGA</i> <i>barbata</i> Thomson | | | | | Anal myiasis 27 |
| <i>carnaria</i> (Linn.) | | | | | Myasis 129 |
| <i>chrysostoma</i> Wied. | | | | | Myasis 129 |
| <i>haemorrhoidalis</i> (Fall) | | | | | Myasis 238 |
| <i>Lamprogaster</i> Gleason | | | | | Myasis 53 |
| <i>pyrophila</i> Helva & De Pari | | | | | Myasis 53 |

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H. FLEAS

The entries for fleas include almost no biology. Very few authors deal with flea biology. A few authors comment on fleas as vectors, but most of the literature deals with taxonomy and hosts.

The tables include 396 species or subspecies.

TABLE I - FLEAS

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------------------|------|
| <i>ACTENOPSYLLA</i> <i>suavis</i> Jordan & Rothschild | ---; ---; 204 | da Costa Lima & Mattheway | 1946 |
| <i>ADOMATOPSYLLA</i> <i>antiquorum</i> <i>antiquorum</i> (Rothschild) | ---; ---; 53 | Johnson | 1957 |
| <i>antiquorum</i> <i>cunhai</i> (Pinto) | ---; ---; 53 | da Costa Lima | 1943 |
| <i>antiquorum</i> <i>discreta</i> (Jordan) | ---; ---; 82 | Johnson | 1957 |
| <i>antiquorum</i> <i>romaei</i> Guimardes | ---; Nov.; 53 | Johnson | 1957 |
| <i>bisetosa</i> Brieg | ---; Sept.; 53 | Johnson | 1957 |
| <i>dilecta</i> Jordan | ---; ---; 328 | Johnson | 1957 |
| <i>intermedia</i> <i>copha</i> (Jordan) | ---; ---; 82, 99, 237 | Johnson | 1957 |
| <i>intermedia</i> <i>intermedia</i> (Wagner) | ---; ---; 53, 99, 239 | Johnson | 1957 |
| <i>intermedia</i> <i>oxyuris</i> (Jordan) | ---; ---; 328 | Johnson | 1957 |
| <i>sibonata</i> Guimardes | ---; ---; 53 | Johnson | 1957 |
| <i>AGASTOPSYLLA</i> <i>barti</i> Jordan & Rothschild | ---; ---; 27 | Johnson | 1957 |
| <i>kirnaueri</i> Tremb | ---; at 16,000 feet elevation, Oct.; 240 | Johnson | 1957 |
| <i>myloeta</i> Tremb | ---; at 14,500 feet elevation, Feb.; 240 | Johnson | 1957 |
| <i>pearsoni</i> Tremb | ---; Sept.; 240 | Johnson | 1957 |

TABLE I - PLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--------------------------------|----------------|
| <i>HARRENOPSYLLA</i> | | | |
| <i>sp.</i> Lea Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>CEDIOPSYLLA</i> | | | |
| <i>sp.</i> Lummis Jordan | ---; ---; 99 | Johnson | 1957 |
| <i>CERATOPHYLLUS</i> | | | |
| <i>apollinaris</i> Jordan & Rothschild | ---; ---; 82 | Jordan & Rothschild | 1921 a |
| <i>arcuatus</i> Jordan & Rothschild | ---; ---; 75 | Jordan & Rothschild | 1920 |
| <i>campaniger</i> Jordan | ---; ---; 99 | Jordan | 1931 a |
| <i>celsus</i> <i>apricus</i> Jordan | ---; ---; 18 | da Costa Lima & Hathaway | 1946 |
| <i>cteniopus</i> Jordan & Rothschild | ---; ---; 75 | Jordan & Rothschild | 1920 |
| <i>dolens</i> Jordan & Rothschild | ---; ---; 85 | Jordan | 1931 a |
| <i>dolens</i> <i>quintanae</i> Jordan | ---; ---; 99 | Jordan | 1921 a |
| <i>endymonia</i> Rothschild | ---; ---; 27, 75 | Jordan & Rothschild | 1921 b |
| <i>equatorius</i> Jordan | ---; ---; 99 | Jordan | 1933 |
| <i>fasciatum</i> (Bosc d'Antic) | ---; in houses, Dec., Jan., 27° ---; ---; 53 ---; experimentally infected with <i>Rickettsia</i> <i>prowazekii</i> ; 204 | Sevano Pinto et al. | 1934 1928 + |
| <i>gallinae</i> <i>gallinae</i> (Schrank) | ---; ---; 204 | Hooser & Castaneda | 1932 |
| <i>gallinae</i> Jordan & Rothschild | ---; ---; 204 | da Costa Lima & Hathaway | 1946 |
| | | Jordan & Rothschild | 1922 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-------------------------------|--------|
| <i>CERATOPHYLLUS</i> | | | |
| <i>casius</i> Rothschild | ---; ---; 27 | Jordan & Rothschild | 1920 |
| <i>londiniensis</i> Rothschild | ---; --; 27, 239 | Jordan & Rothschild | 1921b |
| | ---; all year; 99 | Eakey | 1930 |
| <i>mundus</i> Jordan & Rothschild | ---; ---; 204 | Jordan & Rothschild | 1922 |
| <i>CHITIOPSyllA</i> | | | |
| <i>allophyla</i> (Rothschild) | ---; ---; 27, 75 | Johnson | 1957 |
| <i>CLEOPSYLLA</i> | | | |
| <i>monticola</i> Smit | ---; July; 82. ---; Apr., Oct.; 99 | Johnson | 1957 |
| <i>townsendi</i> Rothschild | ---; ---; 99 | Jordan | 1931 a |
| | ---; at 12,000 and 16,000 feet elevation, March; 240 | Johnson | 1957 |
| <i>CRANEOPSYLLA</i> | | | |
| <i>achilles</i> Rothschild | ---; ---; 99 | Uriarte et al. | 1934 |
| <i>area</i> Rothschild | ---; ---; 75 | Uriarte et al. | 1934 |
| <i>chivis</i> Jordan | ---; at 1000 meter elevation, April; 27 | Jordan | 1931 b |
| <i>inca</i> Rothschild | ---; ---; 240 | Uriarte et al. | 1934 |
| <i>mare</i> Rothschild | ---; ---; 27 | Uriarte | 1934 |
| <i>minerva</i> (Rothschild) | ---; ---; 27 | Savino & R'nsel | 1942 |
| | ---; ---; 53, 239 | a costa Lima & Mathaway | 1946 |
| | ---; ---; 240 | Jordan | 1950 |
| <i>minervae</i> <i>minervae</i> (Rothschild) | ---; ---; 27, 53, 240 | Johnson | 1957 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITAT; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-------------------------------------|---|--------------------------------|--------|
| <i>CRANEOPSYLLA</i> | | | |
| <i>minerua</i> | | | |
| <i>wolffhuegeli</i> (Rothschild) | ---; ---; 27, 53 | Johnson | 1957 |
| <i>pallas</i> Rothschild | ---; ---; 240 | Uriarte et al. | 1934 |
| <i>tolmera</i> Jordan | ---; Dec.; 99 | Jordan | 1931 |
| <i>wolffhuegeli</i> (Rothschild) | ---; Feb.-Aug., Nov.-Dec.; 27 ---; ---; 75, 99, 240 ---; ---; 239 | de la Barrera | 1940 |
| | | Macchiavello | 1948 |
| | | Jordan | 1942 |
| <i>CTENIDIOSOMUS</i> | | | |
| <i>rex</i> Johnson | ---; ---; 82 | Johnson | 1957 |
| <i>spillmanni</i> Jordan | ---; Dec.; 99. ---; in houses; 240 | Johnson | 1957 |
| <i>traubii</i> Johnson | ---; ---; 82 | Johnson | 1957 |
| <i>CTEN. CEPHALIDES</i> | | | |
| <i>canis</i> (Curtis) | ---; ---; 24 ---; ---; 27, 328. ---; ---; 75, 99, 240 (On man) ---; experimentally infected with yellow fever; 53 | Hutson | 1943 + |
| | | Johnson | 1957 |
| | | Hoskins | 1934 |
| | | Macchiavello | 1948 |
| | | Suarez | 1942 |
| | | da Costa Lima & Hathaway | 1946 |
| | | Hoffmann | 1948 |
| | | Fairchild | 1943 |
| | | Macchiavello et al. | 1946 |
| <i>felis</i> (Bouché) | ---; ---; 24 ---; ---; 27 ---; in houses; 53 ^a | Saunders | 1914 |
| | | Uriarte et al. | 1934 |
| | | da Costa Lima | 1943 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------------------|--------|
| <i>CTENOCEPHALIDES</i> | | | |
| <i>felis</i> (Bouché) | ---; ---; 82 | Patino-Camargo | 1940 + |
| | ---; ---; 137 | Root | 1924 |
| | ---; June; 204 | Hoffmann | 1948 |
| | ---; ---; 204* | Roberts | 1934 |
| | ---; ---; 223* | Woke | 1947 |
| | ---; ---; 237 | Dunn | 1934 |
| | ---; ---; 238 | Fairchild | 1943 |
| <i>felis</i> <i>felis</i> (Bouché) | ---; ---; 27, 51, 128, 130, 204 | da Costa Lima & Hathaway | 1946 |
| | ---; ---; 53, 75, 82, 99, 239, 240, 297, 323, 328 | Johnson | 1957 |
| | ---; ---; 75* | Macchisvello | 1948 |
| <i>CTENOCEPHALUS</i> | | | |
| <i>canis</i> (Curtis) | ---; ---; 21 | Gouday | 1926 |
| | ---; ---; 22 | Wolcott | 1936 |
| | ---; ---; 23 | Carnes | 1931 |
| | ---; ---; 27 | Bacigalupo | 1932 |
| | ---; intermediate host of <i>Dipylidium caninum</i> , occasionally infecting man, especially children; 53 | Strong et al. | 1926 |
| | ---; ---; 75 | Macchisvello | 1942 |
| | ---; ---; 99 | Eskay | 1930 |
| | ---; ---; 137, 237, 240 | Hacht | 1942 |
| | ---; experimentally infected with <i>Rickettsia prowazekii</i> ; 204 | Noosier & Castaneda | 1932 |
| | ---; intermediate host of <i>Dipylidium caninum</i> , a tape worm that occasionally is found in man, especially children; 223 | Woke | 1947 |
| <i>felis</i> (Bouché) | ---; ---; 21 | Gouday | 1926 |
| | ---; ---; 22 | Wolcott | 1936 |
| | ---; ---; 23 | Carnes | 1931 |
| | ---; ---; 27 | de la Barrera & Arzoco | 1934 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------------|------|
| <i>CTENOCEPHALUS felis</i> (Bouché) | ---; intermediate host of <i>Dipylidium caninum</i> , occasionally infecting man, especially children; 53 | Strong et al. | 1926 |
| | ---; ---; 99 | Eskay | 1930 |
| | ---; common; 129° | Cleare | 1919 |
| | ---; experimentally infected with <i>Rickettsia prowazekii</i> ; 204 | Mooser & Castaneda | 1932 |
| | ---; ---; 204, 237, 240. ---; ---; 328° | Hecht | 1942 |
| <i>serraticeps</i> (Gervais) | ---; ---; 99 | Espinosa-Tamayo | 1917 |
| <i>CTENOPARIA inopinata</i> Rothschild | ---; ---; 75 | Jordan | 1957 |
| <i>jordani</i> Smit | ---; ---; 27 | Johnson | 1957 |
| <i>CTENOPSYLLUS segnis</i> (Schönherr) | ---; suspected vector of plague; 53° | da Costa Lima | 1943 |
| <i>DACTYLOPSYLLA mexicana</i> (Fox) | ---; ---; 204 | da Costa Lima & Hathaway | 1946 |
| <i>DASYPSYLLUS aenulus</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>araucanus</i> (Jordan & Rothschild) | ---; Aug.; 75 | Johnson | 1957 |
| <i>comatus</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>oteniopus</i> (Jordan & Rothschild) | ---; Aug.; 75 | Johnson | 1957 |
| <i>gallinulae</i> (Dale) | ---; ---; 237 | Traub | 1951 |
| <i>lasius</i> (Rothschild) | ---; -- 27 | da Costa Lima & Hathaway | 1946 |
| <i>lasius</i> <i>lasius</i> (Rothschild) | ---; July; 27 | Johnson | 1957 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------------------|-------|
| <i>DASYPSYLLUS</i> | | | |
| <i>laevis</i> | | | |
| <i>venezuelensis</i> (Fox & Anduze) | ---; ---; 328 | Johnson | 1957 |
| <i>DELOSTICHUS</i> | | | |
| <i>cocalis</i> (Rothschild) | ---; ---; 75 | Johnson | 1957 |
| <i>octomyos</i> Jordan | ---; ---; 240 | Jordan | 1942 |
| <i>phyllotis</i> Johnson | ---; ---; 27, 75 | Johnson | 1957 |
| <i>talis</i> Jordan | ---; at 8,200 feet elevation, Aug.; 240 | Johnson | 1957 |
| <i>xerurus</i> (Rothschild) | ---; vector capacity for plague; 27 | Macchiavello | 1954 |
| <i>DERMATOPHILUS</i> | | | |
| <i>caecata</i> (Enderlein) | ---; ---; 53 | Strong et al. | 1926 |
| <i>penetrans</i> (Linnaeus) | ---; ---; 21 | Cowday | 1926 |
| | ---; ---; 27, 53°, 204, 325 (Most man) | Strong et al. | 1926 |
| | ---; common inside huts; 82° | Dunn | 1929 |
| | ---; ---; 129 | Cleare | 1919 |
| | ---; earth floors of native houses; 237° | Dunn | 1923 |
| <i>DORATOPSYLLA</i> | | | |
| <i>crust</i> (Cusha) | ---; ---; 53 | Strong et al. | 1926 |
| <i>intermedia</i> Wagner | ---, ---; 297 | Reyne | 1923 |
| | ---; ---; 328 | Isaac Riess | 1948+ |
| <i>DYSMICUS</i> | | | |
| <i>acheronis</i> Johnson | ---; at 3200 feet elevation, Aug.; 240 | Johnson | 1957 |
| <i>barrerai</i> (Jordan) | ---; ---; 27 | Johnson | 1957 |
| <i>burdini</i> (Jordan & Rothschild) | ---; ---; 27 | de Coates Lima & Matheway | 1946 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--------------------------------|--------|
| <i>DYSMICUS</i> <i>claviger</i> (Rothschild) | ---; ---; 240 | Johnson | 1957 |
| <i>hapalus</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>hertigi</i> Johnson | ---; at 12,600 feet and 13,200 feet elevation, Feb., April; 240 | Johnson | 1957 |
| <i>iscaurus</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>pearsoni</i> Johnson | ---; at 12,500 feet elevation, Jan.; 240 | Johnson | 1957 |
| <i>sentus</i> (Rothschild) | ---; above 12,000 feet, June; 240 | Johnson | 1957 |
| <i>simonsi</i> (Rothschild) | ---; Oct.; 51 | Johnson | 1957 |
| <i>viscachae</i> (Wagner) | ---; at 4,000 meters elevation, April; 240 | Johnson | 1957 |
| <i>ECHIDNOPHAGA</i> <i>gallinacea</i> (Westwood) | ---; ---; 21 | Cowdery | 1926 |
| | ---; ---; 22, 237 | Sharif | 1930 |
| | ---; ---; 51 | da Costa Lima | 1943 |
| | ---; ---; 75, 99, 240 | Johnson | 1957 |
| | ---; ---; 137 | Root | 1924 |
| | ---; June; 204 | Hoffman | 1948 |
| | ---; ---; 204° | Dampf | 1925 + |
| | ---; ---; 237° | Fairchild | 1943 |
| <i>ECHIDNOPHAGA</i> <i>gallinacea</i> <i>gallinacea</i> (Westwood) | ---; ---; 75°, 99°, 240° | Macchiavello | 1948 |
| | ---; ---; 204 | da Costa Lima & Bethaway | 1946 |
| <i>ECTINORUS</i> <i>ocysti</i> (Rothschild) | ---; ---; 75 | Johnson | 1957 |
| <i>diejungie</i> Jordan | ---; Aug.; 27 | Johnson | 1957 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------------------|------|
| <i>ECTINORUS</i> <i>hecate</i> Johnson | ---; at 15,500 feet elevation, March; 240 | Johnson | 1957 |
| <i>ineptus</i> Johnson | ---; Sept.; 240 | Johnson | 1957 |
| <i>levipes</i> (Jordan & Rothschild) | ---; ---; 27 | da Costa Lima & Nathaway | 1946 |
| <i>onychius</i> <i>fueginus</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>onychius</i> <i>onychius</i> (Jordan & Rothschild) | ---; ---; 27 | Johnson | 1957 |
| <i>palmerus</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>setosicornis</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>trionyx</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>ERITRANIS</i> <i>andricus</i> (Jordan) | ---; ---; 27 | Johnson | 1957 |
| <i>HECTOPSYLLA</i> <i>brosous</i> Jordan & Rothschild | ---; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |
| <i>coniger</i> Jordan & Rothschild | ---; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |
| | ---; at 3000 meter altitude; 31 | Johnson | 1957 |
| <i>cypha</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>eskeyi</i> Jordan | ---; experimental transmission of typhus; 51 | Weinstock | 1936 |
| | ---; ---; 99 | Johnson | 1957 |
| | ---; vector capacity for plague; 240 | Macchiarollo | 1954 |
| <i>gavina</i> Jordan | ---; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------------------|------|
| <i>HECTOPSYLLA</i> <i>peittae</i> Frauenfeld | ----; ---; 27, 53, 75, 240 | Johnson | 1957 |
| <i>stomis</i> Jordan | ----; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |
| <i>suarezi</i> Fox | ----; ---; 75°, 240° ----; vector capacity for plague; 99 | Macchiavello | 1946 |
| | ----; ---; 240 | Macchiavello | 1954 |
| | ----; ---; 240 | Johnson | 1957 |
| <i>HOPLOPSYLLUS</i> <i>andensis</i> Jordan | ----; ---; 99, 240 | Macchiavello | 1946 |
| <i>exoticus</i> Jordan & Rothschild | ----; ---; 237 | da Costa Lima & Matheway | 1946 |
| <i>manoonis</i> Jordan | ----; at 2000 meters elevation, wheat field, Nov.; | Johnson | 1957 |
| <i>HORNOPSYLLA</i> <i>egena</i> Jordan | ----; ---; 240 | Johnson | 1957 |
| <i>fosteri</i> (Rothschild) | ----; ---; 53 ----; Aug.; 239 | da Costa Lima & Matheway | 1946 |
| | ----; Aug.; 239 | Johnson | 1957 |
| <i>noctilionis</i> (Lima) | ----; ---; 53 | da Costa Lima & Matheway | 1946 |
| <i>truc</i> Jordan | ----; Aug.; 240 | Johnson | 1957 |
| <i>ISCHNOPSYLLUS</i> <i>isidori</i> (Weyenbergh) | ----; ---; 27 | da Costa Lima & Matheway | 1946 |
| <i>reductus</i> (Lima.) | ----; ---; 75 | Macchiavello | 1946 |
| <i>KOMSIA</i> <i>compositiper</i> (Jordan) | ----; ---; 99 | Johnson | 1957 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------------|--------|
| | | | |
| <i>LEPTOPSYLLA</i> <i>segnis</i> (Schiffherr) | ---; ---; 22 | Wolcott | 1936 |
| | ---; in houses, Dec., Jan.; 27° | Savino | 1934 |
| | ---; ---; 27, 75, 99, 240 | Johnson | 1957 |
| | ---; naturally infected with <i>Hymenolepis diminuta</i> ; 53 | Pessoa | 1935 |
| | ---; in houses; 75°, 240° | Macchiavello | 1948 |
| | ---; experimentally infected with <i>Rickettsia prowaseki</i> ; 204 | Mooser & Castaneda | 1932 |
| | ---; June; 204 | Hoffmann | 1948 |
| | ---; ---; 328 | Isaac Riaz | 1948 + |
| <i>LISTRONIUS</i> <i>fortis</i> (Jordan & Rothschild) | ---; Jan.; 27 | Johnson | 1957 |
| <i>robertsianus</i> Jordan | ---; ---; 104 | Johnson | 1957 |
| <i>ulus</i> (Jordan & Rothschild) | ---; Dec.; 27 | Johnson | 1957 |
| <i>LOEMOPSYLLA</i> <i>cheopis</i> Fox | ---; ---; 18 | Guiteira | 1912 |
| <i>MALACOPSYLLA</i> <i>grossiventris</i> (Weyenbergh) | ---; ---; 27, 53 | da Costa Lima | 1943 |
| <i>grossiventris</i> <i>goniata</i> Wagner | ---; ---; 27 | da Costa Lima & Matheway | 1946 |
| <i>grossiventris</i> <i>grossiventris</i> (Weyenbergh) | ---; ---; 27, 53, 239 | da Costa Lima & Matheway | 1946 |
| <i>MESOPSYLLA</i> <i>echidnophagoides</i> Wagner | ---; ---; 85 | da Costa Lima & Matheway | 1946 |
| <i>HYPODOPSYLLA</i> <i>collinisi</i> Kohls | ---; ---; 204 | da Costa Lima & Matheway | 1946 |
| <i>leidolfi</i> (Weyenbergh) | ---; ---; 27 | Johnson | 1957 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------------------|------|
| <i>NYODOPSYLLA</i> | | | |
| <i>notialis</i> Jordan | ---; ---; 53 | da Costa Lima | 1943 |
| <i>setosa</i> Johnson | ---; Dec.; 240 | Johnson | 1957 |
| <i>wolffsohni</i> (Rothschild) | ---; ---; 27, 75, 239 | da Costa Lima & Matheway | 1946 |
| <i>wolffsohni</i> <i>salsasicus</i> Jordan | ---; June; 328 | Johnson | 1957 |
| <i>wolffsohni</i> <i>wolffsohni</i> (Rothschild) | ---; ---; 27, 58, 75, 239 | Johnson | 1957 |
| <i>NEOTYPHOLOCERAS</i> | | | |
| <i>crassispina</i> Rothschild | ---; ---; 352 | Jordan | 1936 |
| <i>crassispina</i> <i>chilensis</i> Jordan | ---; ---; 75 | Johnson | 1957 |
| <i>crassispina</i> <i>crassispina</i> Rothschild | ---; ---; 27. ---; at 12,000 feet elevation, March; 240 | Johnson | 1957 |
| | ---; ---; 51, 75 | da Costa Lima & Matheway | 1946 |
| <i>crassispina</i> <i>harrisi</i> Jordan | ---; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |
| | ---; ---; 51 | Johnson | 1957 |
| <i>rosenbergi</i> (Rothschild) | ---; ---; 82, 240. ---; May-June; 99 | Johnson | 1957 |
| <i>NOXAPSYLLA</i> | | | |
| <i>rothschildi</i> Wagner | ---; ---; 51 | da Costa Lima & Matheway | 1946 |
| <i>rothschildi</i> <i>rothschildi</i> Wagner | ---; ---; 51 | Johnson | 1957 |
| <i>rothschildi</i> <i>wagneri</i> Jordan | ---; 12,000 feet, Jan., August; 240 | Johnson | 1957 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--------------------------------|------|
| <i>NOSOPSYLLUS</i> <i>endymonis</i> (Rothschild) | ---; ---; 27, 75 | da Costa Lima & Matheway | 1946 |
| <i>fasciatus</i> (Bosc & Antic) | ---; ---; 27, 53, 75 ---; ---; 75° | Johnson | 1957 |
| <i>londiniensis</i> (Rothschild) | ---; ---; 27 | Macchiarollo | 1946 |
| | ---; vector capacity for plague; 99 | Macchiarollo | 1954 |
| | ---; ---; 99° | Macchiarollo | 1948 |
| | ---; ---; 240 | Johnson | 1957 |
| <i>OPISODASIS</i> <i>perotensis</i> Dempf | ---; ---; 204 | da Costa Lima & Matheway | 1946 |
| <i>robustus</i> <i>mexicanus</i> Dempf | ---; ---; 204 | da Costa Lima & Matheway | 1946 |
| <i>robustus</i> <i>robustus</i> (Jordan) | ---; ---; 204 | da Costa Lima & Matheway | 1946 |
| <i>ORNITHOPSYLLA</i> <i>scavis</i> Jordan & Rothschild | ---; ---; 204 | da Costa Lima & Matheway | 1946 |
| <i>CHOPSYLLA</i> <i>montana</i> (Baker) | ---; ---; 204 | da Costa Lima & Matheway | 1946 |
| <i>PANALLITUS</i> <i>galeatus</i> (Jordan) | ---; May; 27 | Johnson | 1957 |
| <i>PARAPSYLLUS</i> <i>replus</i> Jordan & Rothschild | ---; ---; 27, 75 | Jordan & Rothschild | 1923 |
| <i>curvirostris</i> Jordan | ---; Feb.-Aug., Nov.-Dec.; 27 | de la Barreta | 1940 |
| <i>barretti</i> Jordan | ---; Feb.-Aug., Nov.-Aug.; 27 | de la Barreta | 1940 |
| <i>dileptus</i> Jordan & Rothschild | ---; ---; 27 | Jordan & Rothschild | 1923 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------------------|------|
| PARAPSYLLUS | | | |
| <i>budini</i> Jordan & Rothschild | ---; ---; 27 | Jordan & Rothschild | 1923 |
| <i>claviger</i> Rothschild | ---; ---; 240 | Wagner | 1937 |
| <i>coccyti</i> Rothschild | ---; ---; 75 | Jordan & Rothschild | 1923 |
| <i>coecidii</i> Rothschild | ---; ---; 75 | Jordan & Rothschild | 1923 |
| <i>comalis</i> Rothschild | ---; ---; 75 | Jordan & Rothschild | 1923 |
| <i>farctis</i> Jordan & Rothschild | ---; ---; 27 | Jordan & Rothschild | 1923 |
| <i>galvanius</i> Jordan | ---; Feb.-Aug., Nov.-Dec.; 27 | de Costa Barreto | 1940 |
| <i>harrisi</i> Del Ponte & Kiesel | ---; ---; 27* | da Costa Lima & Batchaway | 1946 |
| <i>levipes</i> Jordan & Rothschild | ---; ---; 27 | Jordan & Rothschild | 1923 |
| <i>longicornis</i> Enderlein | ---; ---; 75 | Macchiavello | 1948 |
| | ---; ---; 130 | Jordan & Rothschild | 1923 |
| <i>longicornis</i> <i>algicus</i> Jordan | ---; ---; 104 | Johnson | 1957 |
| <i>longicornis</i> <i>australicus</i> Rothschild | ---; ---; 75 | da Costa Lima & Batchaway | 1946 |
| <i>longicornis</i> <i>humboldti</i> Jordan | ---; ---; 75 | Johnson | 1957 |
| <i>magellanicus</i> Jordan | ---; ---; 104 | da Costa Lima & Batchaway | 1946 |
| <i>magellanicus</i> <i>magellanicus</i> Jordan | ---; Nov.; 104 | Johnson | 1957 |

TABLE I - FLEAS (continued)

| SPECIES | BREEDING HABITAT; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|------------------------|------|
| <i>PARAPSYLLUS</i> | | | |
| <i>onychius</i> Jordan & Rothschild | ---; ---; 27 | Jordan & Rothschild | 1923 |
| <i>sentus</i> Rothschild | ---; ---; 240 | Jordan & Rothschild | 1923 |
| <i>simonei</i> Rothschild | ---; ---; 51 | Jordan & Rothschild | 1923 |
| <i>talis</i> Jordan | ---; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |
| <i>tantillus</i> Jordan & Rothschild | ---; ---; 27 | Jordan & Rothschild | 1923 |
| <i>ulus</i> Jordan & Rothschild | ---; ---; 27 | Jordan & Rothschild | 1923 |
| <i>viscachae</i> Wagner | ---; ---; 240 | Wagner | 1937 |
| <i>xenurus</i> Rothschild | ---; ---; 240 | Jordan & Rothschild | 1923 |
| <i>PHTHIROPSYLLA</i> <i>agenoris</i> (Rothschild) | ---; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |
| | ---; ---; 53 | da Costa Lima | 1943 |
| <i>PLEOCHAETIS</i> | | | |
| <i>apollinaris</i> (Jordan & Rothschild) | ---; ---; 82 | Johnson | 1957 |
| <i>dolens</i> <i>quitanus</i> (Jordan) | ---; vector capacity for plague; 240 ---; in human bed; 240 | Macchiavello | 1954 |
| <i>equatoris</i> <i>equatoris</i> Jordan | ---; ---; 82 ---; vector capacity for plague; 240 | Johnson | 1957 |
| <i>sibynus</i> Jordan | ---; at 12,500 feet elevation, July; 204 | Hubbard | 1947 |
| <i>smiti</i> Johnson | ---; ---; 82, 99 | Johnson | 1957 |
| <i>PLOCOPSYLLA</i> <i>achilles</i> (Rothschild) | ---; ---; 99, 240 | Johnson | 1957 |

TABLE 1 - FLEAS (continued)

| SPECIES | ABRIDGED HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------------------|------|
| <i>PLOCUSYLLA</i> | | | |
| <i>chiris</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>enderleinii</i> Wagner | ---; ---; 51 | Johnson | 1957 |
| <i>hector</i> Jordan | ---; ---; 99 | Johnson | 1957 |
| <i>heros</i> Jordan | ---; at 2,950 meters elevation, April, Nov.; 99 | Johnson | 1957 |
| <i>inti</i> Johnson | ---; at 11,500 feet elevation, Jan.; 240 | Johnson | 1957 |
| <i>pallas</i> (Rothschild) | ---; at 1200 feet elevation, March; 240 | Johnson | 1957 |
| <i>phobos</i> Jordan | ---; ---; 99 | Johnson | 1957 |
| <i>phyllisae</i> Sait | ---; July; 99 | Johnson | 1957 |
| <i>thor</i> Johnson | ---; at 2,200 meters elevation, Aug.; 82 | Johnson | 1957 |
| <i>wolffsohni</i> (Rothschild) | ---; ---; 27, 75 | Johnson | 1957 |
| <i>ulysses</i> McKlins | ---; April; 99 | Johnson | 1957 |
| <i>POLYGENIS</i> | | | |
| <i>acodontis</i> (Jordan & Rothschild) | ---; Oct.; 27 | Johnson | 1957 |
| <i>adelus</i> (Jordan & Rothschild) | ---; ---; 53 | Johnson | 1957 |
| <i>agilis</i> (Prado) | ---; ---; 53 | Johnson | 1957 |
| <i>atopus</i> (Jordan & Rothschild) | ---; ---; 27, 53 | Johnson | 1957 |
| <i>axius</i> (Jordan & Rothschild) | ---; ---; 27 | da Costa Lima & Hathaway | 1946 |

TABLE 1 - PLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--|----------------|
| <i>POLYGENIS</i> | | | |
| <i>arius</i> | | | |
| <i>arius</i> (Jordan & Rothschild) | ---; ---; 27, 53 | Johnson | 1957 |
| <i>arius</i> <i>proxima</i> Guimaraes | ---; ---; 53 | Johnson | 1957 |
| <i>bohlei</i> <i>bohlei</i> (Wagner) | ---; ---; 27, 53, 99, 239 ---; ---; 82 | Johnson da Costa Lima & Hathaway | 1957 1946 |
| | ---; ---; 328 | Isaac Riaz | 1948 + |
| <i>bohlei</i> <i>jordani</i> (Costa Lima) | ---; ---; 53 ---; ---; 328 | Johnson Isaac Riaz | 1957 1948 + |
| <i>brachinus</i> Jordan | ---; at 2,000 meters elevation, Nov., in houses; 240 | Johnson | 1957 |
| <i>byturnus</i> (Jordan & Rothschild) | ---; Aug., Oct.; 27 | Johnson | 1957 |
| <i>dendrobius</i> (Wagner) | ---; ---; 51 | Johnson | 1957 |
| <i>dumini</i> (Jordan & Rothschild) | ---; ---; 237 ---; ---; 238, 328, 329 | da Costa Lima & Hathaway Johnson | 1946 1957 |
| <i>frustratus</i> Johnson | ---; July, Sept.; 53 | Johnson | 1957 |
| <i>impavidus</i> Johnson | ---; at 2,400 meters elevation, July, Nov.; 240 | Johnson | 1957 |
| <i>klagesi</i> <i>klagesi</i> (Rothschild) | ---; ---; 53, 82, 237, 328 | da Costa Lima & Hathaway | 1946 |
| <i>klagesi</i> <i>samuelis</i> (Jordan & Rothschild) | ---; ---; 237, 328 ---; ---; 328 | da Costa Lima & Hathaway Isaac Riaz | 1946 1948 + |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITAT; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|--------------------------------|--------|
| <i>POLYGENIS</i> | | | |
| <i>lakoi</i> Guimaraes | ---; ---; 53 | Johnson | 1957 |
| <i>litargus</i> (Jordan & Rothschild) | ---; at 1,750 feet elevation; 99. ---; ---; 240 | Johnson | 1957 |
| <i>litargus</i> <i>litargus</i> Jordan & Rothschild | ---; vector of capacity for plague; 240 | Macchiavello | 1954 |
| <i>litargus</i> <i>puelche</i> (Del Ponte & Riesel) | ---; ---; 27 | da Costa Lima & Hathaway | 1946 |
| <i>litus</i> (Jordan & Rothschild) | ---; ---; 99, 240 | Macchiavello | 1948 |
| <i>nitidus</i> Johnson | ---; ---; 53 | Johnson | 1957 |
| <i>occidentalis</i> (Cunha) | ---; ---; 53 | da Costa Lima | 1943 |
| | ---; ---; 328 | Isaac Riaz | 1948 + |
| <i>occidentalis</i> <i>occidentalis</i> (Cunha) | ---; ---; 53 | Johnson | 1957 |
| <i>occidentalis</i> <i>steganus</i> (Jordan & Rothschild) | ---; ---; 328, 329 | Johnson | 1957 |
| <i>peronis</i> (Jordan & Rothschild) | ---; ---; 328 | Johnson | 1957 |
| <i>platensis</i> <i>cisandinus</i> (Jordan) | Pine sawdust; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |
| <i>platensis</i> <i>platensis</i> (Jordan & Rothschild) | ---; ---; 27, 75, 325 | da Costa Lima & Hathaway | 1946 |

TABLE I - FLEAS (continued)

| SPECIES | RECORDED HABITAT; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|--------------------------------|------|
| <i>POLIGENIS</i> <i>platensis</i> <i>verreauxi</i> Guimarães | ---; ---; 53 | Johnson | 1957 |
| <i>plautoni</i> (Wagner) | ---; ---; 53 | da Costa Lima & Matheway | 1946 |
| <i>pradoi</i> (Wagner) | ---; ---; 53 | Johnson | 1957 |
| <i>pygmaeus</i> (Wagner) | ---; ---; 53 | da Costa Lima & Matheway | 1946 |
| <i>pygmaeus</i> <i>dentei</i> Guimarães | ---; ---; 53 | Johnson | 1957 |
| <i>pygmaeus</i> <i>pygmaeus</i> (Wagner) | ---; ---; 53 | Johnson | 1957 |
| <i>rimatus</i> (Jordan) | ---; ---; 53, 239 | da Costa Lima & Matheway | 1946 |
| <i>rimatus</i> <i>atra</i> Guimarães | ---; ---; 53 | Johnson | 1957 |
| <i>rimatus</i> <i>rimatus</i> (Jordan) | ---; ---; 27, 53, 239 | Johnson | 1957 |
| <i>roberti</i> (Rothschild) | ---; ---; 53, 82, 99, 240, 328 | da Costa Lima & Matheway | 1946 |
| <i>roberti</i> <i>bebbii</i> (Fox) | ---; ---; 240. ---; at 3,600 feet elevation, Aug.; 328 | Johnson | 1957 |
| <i>roberti</i> <i>roberti</i> (Rothschild) | ---; ---; 53 | Johnson | 1957 |
| <i>roberti</i> <i>tripotis</i> Guimarães | ---; ---; 53, 329 | Johnson | 1957 |
| <i>steganeus</i> (Jordan & Rothschild) | ---; ---; 328 | da Costa Lima & Matheway | 1946 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------------------|------|
| <i>POLYGENIS</i> <i>thurmani</i> Johnson | ---; Feb., Sept.; 240 | Johnson | 1957 |
| <i>tripus</i> (Jordan) | ---; ---; 27, 53 | Johnson | 1957 |
| <i>truncatus</i> (Guimardes) | ---; ---; 53 | da Costa Lima & Hathaway | 1946 |
| <i>versuta</i> Guimardes | ---; ---; 53 | da Costa Lima & Hathaway | 1946 |
| <i>PTILOPSYLLA</i> <i>dunni</i> Kohls | ---; ---; 237 | da Costa Lima & Hathaway | 1946 |
| | ---; ---; 238 | Fairchild | 1943 |
| <i>leptina</i> Jordan & Rothschild | ---; ---; 53, 239 | Johnson | 1957 |
| | ---; ---; 329 | Jordan & Rothschild | 1921 |
| <i>PULEX</i> <i>conepatti</i> Cunha | ---; ---; 53 | da Costa Lima & Hathaway | 1946 |
| <i>dugesii</i> (Baker) | ---; ---; 99 | Espinosa- Tamayo | 1917 |
| <i>irritans</i> Linnaeus | ---; ---; 19 | Russo | 1927 |
| | ---; ---; 21° | Gowdey | 1926 |
| | ---; ---; 22° | Wolcott | 1936 |
| | ---; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |
| | ---; in houses; 27° | de la Barrera & Arzene | 1934 |
| | ---; ---; 27, 51, 53, 75, 82, 99, 129, 239, 240, 328 (On man) | Johnson | 1957 |
| | ---; ---; 51°, 75°, 240° | Macchiavello | 1948 |
| | ---; common in regions of higher altitudes; 82° | Dunn | 1929 |
| | ---; mountainous regions to 3500 meters; 99° | Leon | 1949 |
| | ---; suspected vector of plague; 99 | Eskey | 1930 |
| | ---; Dec.-July; 99 | Suarez | 1942 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|--------------------------|------|
| <i>PULEX irritans</i> Linnaeus (cont.) | ---; ---; 128° | Bequaert | 1938 |
| | ---; ---; 204° | Roberts | 1934 |
| | ---; ---; 204 | Hecht | 1942 |
| | ---; ---; 223 | Woke | 1947 |
| | ---; in human dwellings; 237° | Dunn | 1923 |
| | ---; experimentally infected with and experimental transmission of plague; 240 | Long | 1935 |
| | ---; floors of houses, patients' clothes; 240 | Macchiavello | 1946 |
| | ---; in human beds; 240 | Jordan | 1950 |
| | ---; in sleeping bag; 240 | Wagner | 1937 |
| <i>irritans bahiensis</i> Cunha | ---; ---; 53° | de Almeida Cunha | 1915 |
| | ---; ---; 53 | da Costa Lima & Hathaway | 1946 |
| <i>irritans dygesii</i> Baker | ---; ---; 204 | da Costa Lima & Hathaway | 1946 |
| <i>irritans irritans</i> Linnaeus | ---; ---; 51°, 75°, 99°, 240° | Macchiavello | 1948 |
| <i>vespertilionis</i> Duges | ---; ---; 53 | Ronca | 1924 |
| <i>RHOPALOPSYLLUS zoodontis</i> Jordan & Rothschild | ---; ---; 27° | Jordan & Rothschild | 1923 |
| <i>adetus</i> Jordan & Roths. | ---; ---; 53 | da Costa Lima | 1943 |
| <i>agilis</i> Prado | ---; ---; 53 | da Costa Lima | 1943 |
| <i>atopus</i> Jordan & Rothschild | ---; ---; 2°, 53 | Jordan & Rothschild | 1923 |
| <i>australis</i> Rothschild | ---; ---; 53 | Strong et al. | 1926 |
| | ---; ---; 69, 352 | Jordan & Rothschild | 1923 |
| | ---; ---; 129 | Cleare | 1919 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|----------------------------------|---|--------------------------------|------|
| <i>RHOPALOPSYLLUS</i> | | | |
| <i>australis</i> | ---; ---; 82, 329 | da Costa Lima & Matheway | 1946 |
| <i>australis</i> (Rothschild) | ---; May; 204. ---; ---; 237, 328 | Johnson | 1957 |
| | ---; ---; 238 | Jordan & Rothschild | 1923 |
| <i>australis</i> | ---; ---; 53, 82, 237, 239 | da Costa Lima & Matheway | 1946 |
| <i>tamoyus</i> | ---; caves; 238 | Fairchild | 1943 |
| Jordan & Rothschild | | | |
| <i>australis</i> | ---; Dec.; 53 | Johnson | 1957 |
| <i>tupiniquinus</i> | | | |
| Guimaraes | | | |
| <i>australis</i> | ---; ---; 51, 53, 240 | Johnson | 1957 |
| <i>tupimus</i> | ---; ---; 53, 237 | da Costa Lima & Matheway | 1946 |
| Jordan & Rothschild | | | |
| <i>arius</i> | ---; ---; 27 | Jordan & Rothschild | 1923 |
| Jordan & Rothschild | | | |
| <i>bernhardi</i> | ---; ---; 82, 239 | Jordan & Rothschild | 1923 |
| Jordan & Rothschild | | | |
| <i>bohlei</i> | ---; ---; 27, 239 | Jordan & Rothschild | 1923 |
| Wagner | | | |
| <i>bohlei</i> | ---; ---; 53 | Hecht | 1942 |
| var. <i>jordani</i> | | | |
| Costa Lima | | | |
| <i>byturne</i> | ---; ---; 27 | Hecht | 1942 |
| Jordan & Rothschild | | | |
| <i>cavicus</i> | ---; ---; 237, 240, 329 | Jordan & Rothschild | 1923 |
| Jordan & Rothschild | | | |
| <i>cavicus</i> | ---; ---; 240 | Johnson | 1957 |
| <i>cavicus</i> | ---; ---; 82, 128, 237, 328, 329 | Johnson | 1957 |
| Jordan & Rothschild | | | |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------------|------|
| | | | |
| <i>RHOPALOPSYLLUS</i> | | | |
| <i>callens</i> (Jordan & Rothschild) | ---; ---; 27 | Jordan & Rothschild | 1920 |
| <i>cavioola</i> (Heyseberg) | ---; ---; 27, 352. ---; Dec.-Feb.; 99 ---; ---; 51 | Eskay | 1930 |
| | ---; experimentally infected with plague, in clothing and bedding; 240 | Long | 1935 |
| <i>oleophontis</i> (Rothschild) | ---; ---; 53 | Strong et al. | 1926 |
| <i>cryptocentrus</i> (Enderlein) | ---; ---; 237 | Fairchild | 1943 |
| <i>crypturi</i> (Wagner) | ---; March, Oct.; 53 | Johnson | 1957 |
| <i>dumonti</i> (Jordan & Rothschild) | ---; ---; 237, 238 | Jordan & Rothschild | 1922 |
| <i>garbei</i> (Guimaraes) | ---; ---; 53 | Johnson | 1957 |
| <i>klagesi</i> (Rothschild) | ---; ---; 53, 237, 328 | Jordan & Rothschild | 1923 |
| <i>klagesi</i> <i>samuelis</i> (Jordan & Rothschild) | ---; ---; 237 | Fairchild | 1943 |
| | ---; ---; 238, 328 | Jordan & Rothschild | 1923 |
| <i>litargus</i> (Jordan & Rothschild) | ---; ---; 99, 240 | Jordan & Rothschild | 1923 |
| <i>lugubris</i> (Jordan & Rothschild) | ---; ---; 51, 53, 82, 129°, 239, 240 ---; caves; 238 | Jordan & Rothschild | 1923 |
| | ---; ---; 328 | Fairchild | 1943 |
| <i>lugubris</i> <i>cryptocentrus</i> (Enderlein) | ---; ---; 82, 237 | Johnson | 1957 |
| | | | |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|----------------------------------|--------------|
| RHOPALOPSYLLUS | | | |
| <i>lugubris</i> | | | |
| <i>lugubris</i> Jorden & Rothschild | ---; ---; 51, 53, 240, 328 | Johnson | 1957 |
| <i>lutzi</i> Baker | ---; ---; 27, 239 | Jordan & Rothschild | 1923 |
| <i>lutzi</i> <i>cleopontis</i> (Rothschild) | ---; ---; 27, 53, 239 | da Costa Lima & Matheway | 1946 |
| <i>lutzi</i> <i>lutzi</i> (Baker) | ---; ---; 27, 53, 239 | da Costa Lima & Matheway | 1946 |
| <i>meius</i> Wagner | ---; ---; 85 | da Costa Lima & Matheway | 1946 |
| <i>occidentalis</i> (Cusha) | ---; ---; 27 | Hecht | 1942 |
| <i>palpalis</i> Rothschild | ---; ---; 27 | Jordan & Rothschild | 1923 |
| <i>platensis</i> Jorden & Rothschild | ---; ---; 27, 325 | Jordan & Rothschild | 1923 |
| <i>platensis</i> <i>cisandinus</i> Jordan | ---; Jan.-April; 27 | Jordan | 1939 |
| <i>plumbeoni</i> Wagner | ---; ---; 53 | Wagner | 1936 |
| <i>roberti</i> Rothschild | ---; ---; 53, 82, 99, 328 ---; near house; 240 | Jordan & Rothschild Wagner | 1923 1937 |
| <i>steppae</i> Jordan & Rothschild | ---; ---; 328 | Jordan & Rothschild | 1923 |
| <i>subtilis</i> Jordan & Rothschild | ---; ---; 27 | Jordan & Rothschild | 1923 |
| <i>truncatus</i> (Gaimard) | ---; ---; 82 | Guineraes | 1936 |
| RETACHOPSYLLUS | | | |
| <i>reticulatus</i> Ballot | ---; ---; 27, 51, 53, 75, 82, 99, 240, 328 | Levinsen | 1957 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--|--------------|
| <i>ROTHSCHILDIELLA</i> <i>occidentalis</i> Cunha | ---; ---; 53 | Jordan & Rothschild | 1923 |
| <i>ROTHSCHILDOPSYLLA</i> <i>noctilionis</i> (Costa Lima) | ---; ---; 53 | Johnson | 1957 |
| <i>SPHINCTOPSYLLA</i> <i>ares</i> (Rothschild) | ---; ---; 27. ---; Feb.; 75 | Johnson | 1957 |
| <i>diomedes</i> Johnson | ---; bank of river; 82 | Johnson | 1957 |
| <i>ineo</i> (Rothschild) | ---; ---; 99. ---; at 12,500 feet elevation; 240 | Johnson | 1957 |
| <i>mars</i> (Rothschild) | ---; ---; 27 | Johnson | 1957 |
| <i>spillmanni</i> Jordan | ---; Sept.; 99 | Johnson | 1957 |
| <i>tolmera</i> (Jordan) | ---; ---; 82, 99 | Johnson | 1957 |
| <i>STENOPSYLLA</i> <i>cruzi</i> Cunha | ---; ---; 53 | de Almeida Cunha | 1915 |
| <i>STEPHANOCIRCUS</i> <i>wolffhuegeli</i> Rothschild | ---; April; 27 | Uriarte et al. | 1934 |
| <i>STERNOPSYLLA</i> <i>cunhai</i> Pinto | ---; ---; 53 | Pinto | 1926 |
| <i>distincta</i> (Rothschild) | ---; ---; 53, 75, 239 | da Costa Lima & Hathaway | 1946 |
| <i>distincta</i> <i>distincta</i> (Rothschild) | ---; ---; 53, 239 | Johnson | 1957 |
| <i>distincta</i> <i>speciosa</i> Johnson | ---; at 1,350 meters elevation, Nov.; 82. ---; ---; 240 | Johnson | 1957 |
| <i>distincta</i> <i>tezana</i> (Fox) | ---; ---; 204 | Johnson | 1957 |
| <i>tezana</i> (Fox) | ---; ---; 204 ---; ---; 240 | da Costa Lima & Hathaway Macchiavello | 1946 1948 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--------------------------------|--------|
| <i>SYNOSTERNUS</i> | | | |
| <i>pallidus</i> (Taschenberg) | ---; ---; 53 | da Costa Lima | 1943 |
| <i>pallidus</i> <i>pallidus</i> (Taschenberg) | ---; ---; 53 | da Costa Lima & Hathaway | 1946 |
| <i>TETRAPSYLLUS</i> | | | |
| <i>amplus</i> (Jordan & Rothschild) | ---; ---; 27, 75 | da Costa Lima & Hathaway | 1946 |
| <i>bleptus</i> (Jordan & Rothschild) | ---; ---; 27 | da Costa Lima & Hathaway | 1946 |
| | ---; at 16,000 feet elevation, Oct.; 240 | Traub | 1952 |
| <i>comis</i> Jordan | ---; ---; 99 | Jordan | 1931 a |
| <i>corfidii</i> (Rothschild) | ---; ---; 75 | Johnson | 1957 |
| <i>elutus</i> Johnson | ---; at 14,300 feet elevation, Feb.; 240 | Johnson | 1957 |
| <i>litis</i> Jordan | ---; ---; 75 | Jordan | 1936 |
| <i>rhombus</i> Smit | ---; July; 27. ---; ---; 75 | Johnson | 1957 |
| <i>tantillus</i> (Jordan & Rothschild) | ---; Jan.; 27 | Johnson | 1957 |
| <i>tristis</i> Johnson | ---; at 13,700 feet elevation, Feb.; 240 | Johnson | 1957 |
| <i>TIAMASTUS</i> | | | |
| <i>callens</i> (Jordan & Rothschild) | ---; Feb.-Aug., Nov.-Dec.; 27 | de la Barrera | 1940 |
| | ---; at 1,000 meters elevation; 27 | Johnson | 1957 |
| <i>cavicola</i> (Weyenbergh) | ---; ---; 27, 51, 75°, 99, 240° | Johnson | 1957 |
| | ---; ---; 53, 75 | da Costa Lima & Hathaway | 1946 |
| | ---; vector capacity for plague; 99 | Macchiavello | 1954 |
| | ---; ---; 99° | Macchiavello | 1948 |
| | ---; in human beds; 240 | Jordan | 1950 |

TABLE 1 - PLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--------------------------------|------|
| <i>TIANASTUS</i> | | | |
| <i>longinasus</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>palpalis</i> (Rothschild) | ---; Aug.; 27 | Johnson | 1957 |
| <i>plesius</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>subtilis</i> (Jordan & Rothschild) | ---; at 900 meters elevation, Jan.; 27 | Johnson | 1957 |
| <i>TIARAPSYLLA</i> | | | |
| <i>argentina</i> Jordan | ---; ---; 27 | Johnson | 1957 |
| <i>bella</i> Johnson | ---; Sept.; 240 | Johnson | 1957 |
| <i>titechacki</i> Wagner | ---; at 4,000 feet elevation, April; 240 | Johnson | 1957 |
| <i>TRICHOPOSYLLA</i> | | | |
| <i>apolinari</i> (Jordan & Rothschild) | ---; ---; 82 | da Costa Lima & Hathaway | 1946 |
| <i>campaniger</i> (Jordan) | ---; ---; 99 | da Costa Lima & Hathaway | 1946 |
| <i>dolens</i> <i>dolens</i> (Jordan & Rothschild) | ---; ---; 85 | da Costa Lima & Hathaway | 1946 |
| <i>dolens</i> <i>quitamus</i> (Jordan) | ---; ---; 99 | da Costa Lima & Hathaway | 1946 |
| <i>equatoris</i> (Jordan) | ---; ---; 99 | da Costa Lima & Hathaway | 1946 |
| | ---; ---; 240* | Macchiavello | 1948 |
| <i>graphis</i> (Rothschild) | ---; ---; 223 | da Costa Lima & Hathaway | 1946 |
| <i>intermedia</i> <i>intermedia</i> Wagner | ---; ---; 53 | da Costa Lima | 1943 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---|--|
| <i>TRICHOZYLLA</i> <i>jordani</i> (Fox) | ---; ---; 204 | da Costa Lima & Hathaway | 1946 |
| <i>munda</i> (Jordan & Rothschild) | ---; ---; 204 | da Costa Lima & Hathaway | 1946 |
| <i>wagneri</i> <i>wagneri</i> (Baker) | ---; ---; 204 | da Costa Lima & Hathaway | 1946 |
| <i>TRITOPSYLLA</i> <i>intermedia</i> <i>cophni</i> (Jordan) | ---; ---; 53, 82, 99, 237 | da Costa Lima & Hathaway | 1946 |
| | ---; ---; 85 | Jordan | 1950 |
| <i>intermedia</i> <i>intermedia</i> (Wagner) | ---; ---; 53, 82, 85, 99, 239 | da Costa Lima & Hathaway | 1946 |
| <i>intermedia</i> <i>oxyura</i> (Jordan) | ---; ---; 328 | da Costa Lima & Hathaway | 1946 |
| <i>intermedia</i> <i>vidua</i> (Jordan) | ---; ---; 204 | da Costa Lima & Hathaway | 1946 |
| <i>TUNGA</i> <i>bondari</i> Wagner | ---; ---; 53 | Johnson | 1957 |
| <i>caecata</i> (Enderlein) | ---; ---; 53 | Johnson | 1957 |
| <i>penetrans</i> (Linnaeus) | ---; clay soil under houses; 22° ---; ---; 27, 53, 75, 82, 99, 129, 239, 297 ---; ---; 53° ---; ---; 75°, 99°, 240° ---; ---; 128° ---; ---; 137 ---; ---; 204° ---; ---; 204 ---; ---; 237° ---; floors of houses; 240 | Wolcott Johnson Costa Macchiavello Bequaert Root Acosta Bayardo Sharif Fairchild Macchiavello et al. | 1936 1957 1945 1948 1938 1924 1948 1930 1943 1946 |

TABLE 1 - FLEAS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|--------------------------------|------|
| <i>Tunga penetrans</i> (Linnaeus) (cont.) | ---; ---; 297° | Stage | 1947 |
| | ---; ---; 328° | Fiasson | 1943 |
| | ---; ---; 347 | da Costa Lima & Hathaway | 1946 |
| <i>terasma</i> Jordan | ---; ---; 53 | Johnson | 1957 |
| <i>travassosi</i> Pinto & Dreyfus | ---; ---; 53 | Johnson | 1957 |
| <i>XENOPSYLLA</i> <i>astia</i> Rothschild | ---; ---; 75° | Macchiavello | 1948 |
| | ---; ---; 75 | Johnson | 1957 |
| <i>brasiliensis</i> (Baker) | ---; ---; 53*, 328* | Hecht | 1942 |
| | ---; at 1600 meters elevation; 328 | Anduze | 1942 |
| | ---; Feb.-March, May-Sept., Nov.; 328 | Hecht | 1943 |
| <i>cheopis</i> (Rothschild) | ---; ---; 18 | Guitériz | 1912 |
| | ---; ---; 21 | Gowley | 1926 |
| | ---; ---; 22 | Wolcott | 1936 |
| | ---; all year, abundant in March-Sept.; 23 | Carnes | 1931 |
| | ---; ---; 24 | King | 1913 |
| | ---; important vector of plague, all year; 27* | Uriarte et al. | 1934 |
| | ---; in houses; 27° | Savino | 1934 |
| | ---; ---; 27, 51, 53, 82, 99, 129, 239, 297 | Johnson | 1957 |
| | ---; ---; 53* | da Costa Lima | 1943 |
| | ---; experimental transmission of typhus; 75 | Macchiavello | 1942 |
| | ---; ---; 75° | Macchiavello | 1948 |
| | ---; wooden buildings, Jan.-Dec.; 99° | Eckey | 1930 |
| | ---; below 1200 meters altitude; 99° | Leon | 1949 |
| | ---; ---; 137 | Root | 1924 |

TABLE 1 - FLEAS (conclusion)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------|------|
| <i>XENOPSYLLA cheopis</i> (Rothschild) (cont.) | ---; common, experimentally infected with <i>Rickettsia prowaseki</i> ; 204 | Mooser & Castaneda | 1932 |
| | ---; in markets, June; 204 | Hoffmann | 1948 |
| | ---; ---; 237, 238 | Dunn | 1923 |
| | ---; in clothing and bedding; 240 | Long | 1935 |
| | ---; ---; 240* | Macchiavelli et al. | 1946 |
| | ---; April-Sept.; 328 | Hecht | 1943 |
| | ---; ---; 328* | Hecht | 1942 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
FLEAS

| SPECIES | DISEASE ORGANISM | | | | DISTRIBUTION |
|---|------------------|------------|----------|-----------|------------------------|
| | VIRUS & | RICKETTSIA | PROTOZOA | HELMINTHS | OTHER |
| <i>PULEX</i> <i>irritans</i> Linnaeus | | | | | Plague 99 |
| <i>TRICHOPOSYLLA</i> <i>squatoris</i> Jordan | | | | | Bubonic plague 240 |
| <i>TUNGA</i> <i>penetrans</i> Linnaeus | | | | | Dermatitis 204 |
| <i>XENOPSYLLA</i> <i>brasiliensis</i> (Baker) | | | | | Plague 53, 328 |
| <i>cheopis</i> (Rothschild) | | | | | Plague 27, 53, 99, 328 |
| | | | | | Bubonic plague 240 |

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I. BUGS

Bugs or Homoptera are common pests of man in Latin America. Most of the species recorded belong to the family Reduviidae which includes the important vectors of Chagres disease. The tables include 70 species or subspecies.

TABLE I - BUGS

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---------------------|--------|
| <i>APHEIONCTUS</i> <i>simplus</i> Uhler | ---; attracted to light; 53° | Strong et al. | 1926 |
| <i>CAVERNICOLA</i> <i>pilosa</i> Barber | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 53 | Usinger | 1944 |
| <i>CIMEX</i> <i>foedus</i> (Stål) | ---; ---; 53, 82 (Bite man) | Da Costa Lima | 1940 |
| <i>hemipterus</i> (F.) | ---; in houses; 53 | Strong et al. | 1926 |
| | ---; ---; 53° | Da Costa Lima | 1940 |
| | ---; in houses; 82 | Patino et al. | 1937 |
| | ---; in houses; 223 | Woke | 1947 |
| | ---; common in houses; 237 | Fairchild | 1943 |
| <i>lectularius</i> Linnaeus | ---; naturally infected with Rickettsia; 53 | Magalhaes | 1944 + |
| | ---; in houses; 328° | Martorell | 1939 |
| <i>rotundatus</i> Signoret | ---; in houses; 82 | Dunn | 1929 |
| | ---; experimentally infected with relapsing fever; 237 | Dunn | 1923 |
| <i>DIPETALOGASTER</i> <i>maximus</i> (Uhler) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Neiva & Lent | 1941 |
| <i>ERATYRUS</i> <i>cuspidatus</i> Stål | ---; ---; 53*, 82*, 328* | Chagas | 1935 |
| | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 237, 329 | Neiva & Lent | 1941 |
| | ---; ---; 325° | Vellard | 1937 |
| <i>EUTRIATOMA</i> <i>flavida</i> (Neiva) | ---; experimentally infected with <i>Trypanosoma cruzi</i> ; 18 | Neiva & Lent | 1941 |
| <i>maculata</i> (Erichson) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 53, 328 | Neiva & Lent | 1941 |
| <i>nigromaculata</i> (Stål) | ---; naturally and experimentally infected with <i>Trypanosoma cruzi</i> ; 328 | Neiva & Lent | 1941 |
| <i>oswaldi</i> Neiva & Pinto | ---; in houses, naturally infected with <i>Trypanosoma cruzi</i> ; 27° | Mazza & Paterson | 1938 |

TABLE 1 - BUGS (continued)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|----------------|--------|
| <i>EUTRIATOMA patagonica</i> Del Ponte | ---; experimentally infected with <i>Trypanosoma cruzi</i> ; 27 | Neiva & Lent | 1941 |
| | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 27 | Mazza et al. | 1941 |
| <i>rubrovaria</i> (Blanchard) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 325 | Neiva & Lent | 1941 |
| <i>sordida</i> (Stål) | ---; in houses; 27* | Mazza et al. | 1940 |
| | ---; in houses; 53 | Lent & Martins | 1940 |
| | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 53 | Neiva & Lent | 1941 |
| <i>HAEMATOSIPHON inornata</i> Duges | ---; in houses; 204* | Nunez Andrade | 1946 |
| <i>LETHOCERUS annulipes</i> (H & S) | ---; ---; 223* | Woke | 1947 |
| <i>NESTOR rufotuberculatus</i> (Champ.) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 328 | Usinger | 1944 |
| <i>NEOTRIATOMA circummaculata</i> (Stål) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 325 | Mazza et al. | 1942 |
| | ---; naturally infected with <i>T. cruzi</i> ; 328 | Neiva & Lent | 1941 |
| <i>NESOTRIATOMA flavigera</i> (Neiva) | ---; occasionally enter houses at night; 18 | Hoffmann | 1939 |
| | ---; experimentally infected with <i>Trypanosoma cruzi</i> ; 18 | Neiva & Lent | 1941 |
| <i>PANSTRONGYLUS diazi</i> Pinto & Lent | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 53 | Pellegrina | 1948 + |
| <i>geniculatus</i> (Latreille) | ---; in houses, naturally infected with <i>Trypanosoma cruzi</i> ; 51 | Mazza & Chacon | 1943 |
| | ---; in houses; 53* | Chagas | 1935 |
| | ---; naturally infected with <i>T. cruzi</i> ; 53, 237, 328 | Neiva & Lent | 1941 |
| | ---; caves, in houses, naturally infected with <i>T. cruzi</i> ; 237 | Fairchild | 1943 |
| | ---; ---; 328* | Ballou | 1945 |

TABLE 1 - BUGS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-------------------------------------|---|-------------------------------|--------|
| <i>PANSTRONGYLUS</i> | | | |
| <i>lignarius</i> (Walker) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; | Deane & Demasceno | 1949 |
| <i>magistus</i> (Burmeister) | ---; in houses; 53° | Lent & Martins | 1940 |
| | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 53, 239 | Neiva & Lent | 1941 |
| | ---; ---; 53° | Romana | 1947 |
| | ---; ---; 240° | Yorke | 1920 |
| <i>rufotuberculatus</i> Champion | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 328 | Neiva & Lent | 1941 |
| <i>PARABELMINUS</i> | | | |
| <i>cariooa</i> Lent | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 53 | Mery Guimaraes & Jansen | 1943 |
| <i>PSANMOLESTES</i> | | | |
| <i>arthuri</i> (Pinto) | ---; naturally and experimentally infected with <i>Trypanosoma cruzi</i> ; 328 | Neiva & Lent | 1941 |
| <i>coreodes</i> Bergroth | ---; experimentally infected with <i>Trypanosoma cruzi</i> ; 27, 53 | Neiva & Lent | 1941 |
| | ---; naturally infected with <i>T. cruzi</i> ; 53 | Pellegrino | 1948 + |
| <i>RASAHIUS</i> | | | |
| <i>biguttatus</i> (Say) | ---; ---; 18° | Hoffmann | 1922 |
| <i>RHODNIUS</i> | | | |
| <i>brethesia</i> da Matta | ---; occasionally bites man; 53° | Strong et al. | 1926 |
| <i>brumpti</i> Pinto | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 53 | Neiva & Lent | 1941 |
| <i>palleosoma</i> Barber | ---; common, in houses, naturally infected with <i>Trypanosoma cruzi</i> ; 237, 238 | Fairchild | 1943 |
| <i>pictipes</i> (Stål) | ---; ---; 130° | Flech & De Lajudie | 1945 |
| <i>prolixus</i> Stål | ---; ---; 18°, 328° | Hoffmann | 1922 |
| | ---; in houses; 53° | Chagas | 1935 |
| | ---; ---; 53° | da Matta | 1919 |
| | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 82, 204, 328 | Neiva & Lent | 1941 |

TABLE 1 - BUGS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--|--|
| <i>RHODNIUS prolixus</i> Stål (cont.) | ---; ---; 130* ---; enters houses, intermediate host of <i>Trypanosoma cruzi</i> ; 328 ---; naturally infected with <i>T. cruzi</i> ; 328 ---; naturally infected with <i>T. rangeli</i> ; 328 ---; ---; 328* | Floch & deL'ajudie Brumpt & Gómez-Lugo Ortiz Pifano Pifano | 1945 1913 1944 1949 + 1941 |
| <i>TRIATOMA arthurneivai</i> Lent & Martins | ---; experimentally infected with <i>Trypanosoma cruzi</i> ; 53 | Neiva & Lent | 1941 |
| <i>barberi</i> Usinger | ---; naturally infected with <i>T. cruzi</i> ; 204 | Neiva & Lent | 1941 |
| <i>brasiliensis</i> Neiva | ---; in houses; 53* ---; naturally and experimentally infected with <i>Trypanosoma cruzi</i> ; 53 | Chagas Neiva & Lent | 1935 1941 |
| <i>brasiliensis</i> <i>melanica</i> (Neiva & Lent) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 53 | Neiva & Lent | 1941 |
| <i>capitata</i> Usinger | ---; experimentally infected with <i>Trypanosoma cruzi</i> ; 82 | Iriarte | 1943 |
| <i>carrioni</i> Larrousse | ---; in houses by night, experimentally infected with <i>Trypanosoma cruzi</i> ; 99 | Mazzotti & Leon | 1942 |
| <i>magasi</i> Brumpt & Gómez | ---; naturally and experimentally infected with <i>Trypanosoma cruzi</i> ; 53 | Neiva & Lent | 1941 |
| <i>dimidiata</i> (Latreille) | ---; ---; 69, 332 (In houses, bites man) ---; naturally infected with <i>Trypanosoma cruzi</i> ; 128, 204, 237 ---; in houses; 204 ---; in houses; 237 ---; naturally infected with <i>T. cruzi</i> ; 328 | Strong et al. Neiva & Lent Mazzotti Fairchild Risquez | 1926 1941 1940 + 1943 1934 |
| <i>dimidiata</i> <i>maculipennis</i> (Stål) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 204, 262 | Neiva & Lent | 1941 |

TABLE 1 - BUGS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|--------|
| <i>TRIATOMA geniculata</i> (Latreille) | ---; ---; 53°. ---; forest near shore; 82°, 237° | Dunn | 1929 |
| | ---; ---; 352° | Strong et al. | 1926 |
| <i>germiaeckeri</i> (Stål) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Meiva & Lent | 1941 |
| <i>infestans</i> (Klug) | ---; enters houses; 27°, 51°, 53°, 75°, 239°, 240°, 262°, 325° | Meiva | 1913 |
| | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 27° | Mazza et al. | 1940 |
| | ---; naturally infected with <i>T. rangeli</i> ; 27 | Borsig | 1949 |
| | ---; Nov.-Dec.; 27 | Mazza & Paterson | 1938 |
| | ---; ---; 27°, 53°, 75°, 239°, 325° | Romaria | 1947 |
| | ---; naturally infected with <i>T. cruzi</i> ; 51 | Mazza & Chacon | 1943 a |
| | ---; naturally infected with <i>T. cruzi</i> ; 53, 75, 325 | Meiva & Lent | 1941 |
| | ---; ---; 53° | Chagas | 1935 |
| | ---; experimentally infected with <i>T. rangeli</i> ; 85° | Zeledón | 1954 |
| | ---; infected with <i>T. cruzi</i> ; 325° | Talice | 1949 |
| | ---; naturally infected with <i>T. cruzi</i> ; 328 | Riosquez | 1934 |
| <i>Longipennis</i> Ueinger | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Meiva & Lent | 1941 |
| <i>maculata</i> (Erichson) | ---; in houses; 53° | Chagas | 1935 |
| | ---; naturally and experimentally infected with <i>Trypanosoma cruzi</i> ; 53, 129, 328 | Meiva & Lent | 1941 |
| | ---; in houses, naturally and experimentally infected with <i>T. cruzi</i> ; 328° | Díaz & Torrealba | 1938 |
| | ---; ---; 328° | Ballou | 1945 |
| | ---; in houses; 129 | van der Kuyp | 1949 |
| <i>magister</i> de Goor | ---; ---; 53°. ---; carrier of Chagas disease; 332° | Strong et al. | 1926 |

TABLE 1 - BUGS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|-------------------|--------|
| <i>TRIATOMA</i> <i>nigromaculata</i> (Stål) | ---; naturally and experimentally infected with <i>Trypanosoma cruzi</i> ; 328 | Meiva & Lent | 1941 |
| <i>osvaldoi</i> Meiva & Pinto | ---; in houses; 27 | Massa & Jörg | 1944 |
| | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 27 | Massa | 1936 |
| | ---; naturally infected with <i>T. cruzi</i> ; 51 | Massa & Chacon | 1943 |
| <i>pallidipennis</i> (Stål) | ---; naturally infected with <i>Trypanosoma cruzi</i> , experimental transmission of Chagas' disease; 204 | Herr & Brumpt | 1939 |
| <i>phylloscma</i> (Burmeister) | ---; in houses, naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Mazzotti | 1940 |
| <i>phylloscma</i> <i>longipennis</i> Usinger | ---; in houses, naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Mazzotti | 1940 |
| <i>phylloscma</i> <i>pallidipennis</i> (Stål) | ---; in houses, naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Mazzotti | 1940 + |
| <i>phylloscma</i> <i>picturata</i> Usinger | ---; in houses, naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Mazzotti | 1940 + |
| <i>picturata</i> Usinger | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Meiva & Lent | 1941 |
| <i>platensis</i> Meiva | ---; in houses; 27 | Massa et al. | 1941 |
| | ---; experimentally and naturally infected with <i>Trypanosoma cruzi</i> ; 27 | Meiva & Lent | 1941 |
| <i>protracta</i> (Uhler) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 328 | Risquez | 1934 |
| <i>protracta</i> <i>woodi</i> Usinger | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Mazzotti | 1947 |
| <i>rosenbuschi</i> Massa | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 27 | Massa | 1936 |
| <i>rubida</i> (Uhler) | ---; in houses, naturally infected with <i>Trypanosoma cruzi</i> ; 204 | Mazzotti | 1940 + |

TABLE 1 - BUGS (conclusion)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|----------------------------|--------|
| <i>TRIATOMA</i> <i>rubrofasciata</i> (De Geer) | ---; naturally infected with <i>Trypanosoma</i> <i>cruzi</i> ; 24 | Floch | 1967 |
| | ---; in houses; 53° | Chagas | 1935 |
| | ---; naturally infected with <i>T. cruzi</i> ; 53 | Ueinger | 1944 |
| | ---; naturally and experimentally infected with <i>T. cruzi</i> ; 130 | Floch & De Lajudie | 1945 |
| <i>rubrovaria</i> (Blanchard) | ---; experimentally infected with <i>Trypanosoma</i> <i>cruzi</i> ; 27, 53, 73, 325 | Neiva & Lent | 1941 |
| | ---; in houses; 53° | Chagas | 1935 |
| <i>sanguisuga</i> (Leconte) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 328 | Risques | 1934 |
| <i>cordida</i> (Stål) | ---; in houses, naturally infected with <i>Trypanosoma cruzi</i> ; 27°. ---; in houses; 75 | Neiva & Lent | 1943 + |
| | ---; experimentally infected with <i>T. cruzi</i> ; 27, 51, 75, 325. ---; naturally and experimentally with <i>Trypanosoma cruzi</i> ; 53 | Neiva & Lent | 1941 |
| | ---; in houses; 53° | Chagas | 1935 |
| | ---; ---; 53° | Pellegrino & Borrotchin | 1948 + |
| | ---; naturally infected with <i>T. cruzi</i> ; 328 | Risques | 1939 |
| | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 75 | Neiva & Lent | 1941 |
| | ---; in houses; 53° | Chagas | 1935 |
| <i>vitticeps</i> (Stål) | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 53 | Neiva & Lent | 1941 |
| --- | ---; naturally infected with <i>T. cruzi</i> ; 328 | Risques | 1934 |
| <i>TRIATOMPTERUM</i> <i>porteri</i> Neiva & Lent | ---; naturally infected with <i>Trypanosoma cruzi</i> ; 75 | Neiva & Lent | 1941 |
| <i>VESICIA</i> <i>minima</i> Pracher & Brunner | ---; attracted by light; 53° | Strong et al. | 1926 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY BUGS

| SPECIES | DISEASE ORGANISM | | | | | DISTRIBUTION |
|---|------------------|------------|------------------------------------|------------|-------|--|
| | VIRUS & | RICKETTSIA | PROTOZOA | HELMINTHS | OTHER | |
| <i>ERATYRUS</i> <i>cuspisatus</i> Stål | | | Trypanosomiasis | | | 53, 82, 328 |
| <i>EUTRIATOMA</i> <i>sordida</i> (Stål) | | | <i>Trypanosoma</i> <i>cruci</i> | | | 27 |
| <i>HAEMATOSIPHON</i> <i>inordata</i> Duges | | | | Dermatitis | | 204 |
| <i>PANSTRONGYLUS</i> <i>geniculatus</i> (Latreille) | | | Trypanosomiasis | | | 53 |
| <i>mayistus</i> (Burmeister) | | | Chagas disease | | | 328 |
| | | | Trypanosomiasis | | | 53 |
| <i>RHODNIUS</i> <i>pictipes</i> Stål | | | <i>Trypanosoma</i> <i>cruci</i> | | | 240 |
| <i>prolatus</i> Stål | | | Chagas disease | | | 130 |
| | | | Trypanosomiasis | | | 53, 328 |
| | | | <i>Trypanosoma</i> <i>cruci</i> | | | 53 (Chagas 1935) 328 (Hoffman 1922) |
| <i>TRIATOMA</i> <i>brasiliensis</i> Meiva | | | Trypanosomiasis | | | 130 |
| <i>geniculata</i> (Latreille) | | | <i>Trypanosoma</i> <i>cruci</i> | | | 53 |
| <i>infestans</i> (Klug) | | | Chagas disease | | | 27, 53, 75, 239, 325 |
| | | | <i>Trypanosoma</i> <i>cruci</i> | | | 27 |
| | | | Trypanosomiasis | | | 325 (Talice 1949) |
| | | | | | | 53 |
| <i>maculata</i> (Brichon) | | | Trypanosomiasis | | | 53 |
| | | | Chagas disease fever | | | 328 |

TABLE 2 - BUGS (conclusion)

| SPECIES | DISEASE ORGANISM | | | | | DISTRIBUTION |
|---|------------------|------------|------------------------------------|-----------|-------|--------------|
| | VIRUS & | RICKETTSIA | PROTOZOA | HELMINTHS | OTHER | |
| <i>TRIATOMA</i> <i>megistia</i> (De Geer) | | | Chagas fever | | | 53 |
| <i>rubrofasciata</i> (De Geer) | | | Trypanosomiasis | | | 52 |
| <i>rubrovittata</i> (Blanchard) | | | Trypanosomiasis | | | 53 |
| <i>sordida</i> (Stål) | | | <i>Trypanosoma</i> <i>cruzi</i> | | | 53 + |
| | | | Trypanosomiasis | | | 53 |
| <i>vitticeps</i> (Stål) | | | Trypanosomiasis | | | 53 |

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~~J. VERNAMEN AND VERNAL ADAPTATION~~

The entries for vernalizing and vernalizing arthropods are few. Only 25 species or subspecies are listed, the majority of which occur elsewhere.

TABLE I - URTICATING AND VESICATING ARTHROPODS

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|----------|------|
| <i>AUTOMERIS</i> <i>cereus</i> Boisduval | ---; ---; 27* | Jörg | 1939 |
| <i>graminivora</i> Jones | ---; ---; 27* | Jörg | 1939 |
| <i>viridescens</i> Walker | ---; ---; 27* | Jörg | 1939 |
| <i>EACLES</i> <i>imperialis</i> Cramer | ---; ---; 27* | Jörg | 1939 |
| <i>EPICAUTA</i> <i>adspersa</i> Klug | ---; ---; 53* | Machado | 1943 |
| <i>HYLESIA</i> <i>fulviventris</i> Berg | ---; ---; 27* | Jörg | 1939 |
| <i>nigricans</i> Berg | ---; ---; 27* | Jörg | 1939 |
| <i>MEGALOPYGE</i> <i>albicollis</i> Walker | ---; causes neuralgia; 27 | Jörg | 1939 |
| <i>aricia</i> Schaus | ---; ---; 239* | Jörg | 1939 |
| <i>braulio</i> Schaus | ---; ---; 239* | Jörg | 1939 |
| <i>guaya</i> Schaus | ---; ---; 239* | Jörg | 1939 |
| <i>lanata</i> (Stall-Cram.) | ---; ---; 53* | Machado | 1943 |
| <i>nuda</i> Stoll | ---; ---; 239* | Jörg | 1939 |
| <i>urens</i> Berg | ---; causes neuralgia when in contact with skin; 27, 239* | Jörg | 1939 |
| | Urticating hairs cause pain, causes fever in children; common from Jan.-March; 325 | Bourquin | 1937 |
| <i>PAEDERUS</i> <i>amazonicus</i> Sharp | ---; ---; 53* | Pickel | 1940 |
| <i>braziliensis</i> Erichson | ---; ---; 27*, 53* | Pickel | 1940 |

TABLE 1 - URTICATING AND VESICATING ARTHROPODS (conclusion)

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|----------|------|
| <i>PAEDERUS columbinus</i> Laporte | ---; ---; 53*, 82* | Pickel | 1940 |
| <i>serus</i> Erichson | ---; ---; 27* | Dallas | 1936 |
| | ---; ---; 53* | Pickel | 1940 |
| <i>fusipes</i> Curtiss | ---; ---; 53* | Pickel | 1940 |
| <i>goeldii</i> Wasm. | ---; ---; 53* | Pickel | 1940 |
| <i>irritans</i> Chapin | ---; ---; 99* | Pickel | 1940 |
| <i>laetus</i> Erichson | ---; ---; 128* | Bequaert | 1938 |
| <i>ornaticornis</i> Sharp | ---; ---; 99* | Dallas | 1936 |
| <i>signaticornis</i> Sharp | ---; ---; 128* | Pickel | 1940 |
| <i>PODALIA chrysocoma</i> (Herr-Schiff) | ---; ---; 53** | Machado | 1943 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
URTICATING AND VESICATING ARTHROPODS

| SPECIES | DISEASE ORGANISM | | | | DISTRIBUTION |
|--|-----------------------|----------|-----------|----------------------|--------------|
| | VIRUS & RICKETTSIA | PROTOZOA | HELMINTES | OTHER | |
| <i>AUTOMERIS</i> <i>cocoseus</i> Boisduval | | | | Dermatitis | 27 |
| <i>granivora</i> Jones | | | | Dermatitis | 27 |
| <i>viridescens</i> Walker | | | | Dermatitis | 27 |
| <i>EACLES</i> <i>imperialis</i> Cramer | | | | Dermatitis | 27 |
| <i>EPICAUTA</i> <i>adspersa</i> Klug | | | | Urticating liquid | 53 |
| <i>HYLESIA</i> <i>fulviventris</i> Berg | | | | Dermatitis | 27 |
| <i>nigricans</i> Berg | | | | Dermatitis | 27 |
| <i>MEGALOPHYGE</i> <i>aricia</i> Schaus | | | | Dermatitis | 239 |
| <i>bromilio</i> Schaus | | | | Dermatitis | 239 |
| <i>guaya</i> Schaus | | | | Dermatitis | 239 |
| <i>lunata</i> (Stall-Cram.) | | | | Dermatitis | 53 |
| <i>mada</i> Stoll | | | | Dermatitis | 239 |
| <i>urana</i> Berg | | | | Dermatitis | 239 |
| <i>PASDERUS</i> <i>amazonicus</i> Sharp | | | | Dermatitis | 53 |
| <i>brasiliensis</i> Ericson | | | | Dermatitis | 27, 53 |
| <i>columbinus</i> Laporte | | | | Dermatitis | 53, 82 |

TABLE 2 - URTICATING AND VESICATING ARTHROPODS (conclusion)

| SPECIES | DISEASE ORGANISM | | | | | DISTRIBUTION |
|--|------------------|------------|----------|------------|------------------|--------------|
| | VIRUS & | RICKETTSIA | PROTOZOA | HELLENITES | OTHER | |
| <i>PAEDERUS</i> | | | | | | |
| <i>ferrugineus</i> Erichson | | | | | Dermatitis | 27, 53 |
| <i>fuscipes</i> Curtiss | | | | | Dermatitis | 53 |
| <i>goeldii</i> Vazan. | | | | | Dermatitis | 53 |
| <i>irritans</i> Chapin | | | | | Skin vesicant | 99 |
| <i>laetus</i> Erichson | | | | | Dermatitis | 128 |
| <i>ornaticornis</i> Sharp | | | | | Dermatitis | 99 |
| <i>signaticornis</i> Sharp | | | | | Dermatitis | 128 |
| <i>PODALIA</i> | | | | | | |
| <i>chrysocoma</i> (Herr- Schiff) | | | | | Dermatitis | 53 |

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K. TICKS

The tick entries seldom include information on the immature forms separately from the adults. In fact, most of the entries contain only distributional data.

Ticks are important livestock pests in Latin America; also, some serious disease organisms are transmitted by ticks.

The tables include 182 species or subspecies.

TABLE 1 - TICKS

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-----------------------------|--------|
| <i>AMBLYOMMA</i> | | | |
| <i>agatum</i> de Beaurepaire Aragão | ---; 53 | Strong et al. | 1926 |
| <i>albopictum</i> Neumann | ---; 18, 53 | Robinson | 1926 |
| <i>americanum</i> (Linne) | ---; 27, 53, 128, 347 | Robinson | 1926 |
| | ---; 116 | Bishopp & Trembley | 1945 |
| | ---; 129* | Cleare | 1919 |
| | ---; 237 | Dunn | 1923 |
| <i>auriculare</i> Conil | ---; 27 | de Beaurepaire Aragao | 1938 |
| | ---; 53 | Robinson | 1926 |
| | ---; 82 | Osorno- Mesa | 1940 + |
| | ---; 130 | Floch & Abonnenc | 1940 + |
| | ---; 237 | Fairchild | 1943 |
| | ---; 328 | Aragão | 1936 |
| <i>beccanii</i> Tonelli Rondelli | October; 129 | Tonelli Rondelli | 1939 |
| <i>bispinosum</i> Neumann | ---; 328 | Robinson | 1926 |
| <i>boulengeri</i> Hirst & Hirst | ---; 116 | Robinson | 1926 |
| <i>bouthieri</i> Senevet | ---; 130 | Senevet | 1940 |
| <i>brasiliense</i> Aragão | ---; 27 | Aragão | 1935 |
| | Bites man in the forest; 53* | Aragão | 1936 |
| | ---; 53* | Magalhaes | 1944 |
| | ---; 53* | Travassos | 1938 a |
| <i>brasiliense</i> <i>guyanense</i> Floch & Abonnenc | ---; 130 | Floch & Abonnenc | 1941 + |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|------------------------|--------|
| <i>AMBLYOMMA brumentum</i> Neumann | ---; 130 | Neumann | 1913 |
| <i>cajennense</i> (Fabricius) | ---; 18, 21°, 27, 128° | Robinson | 1926 |
| | ---; 27° | Aragão | 1939 |
| | Active and common all year; 48°, 204, 329° | Bishopp & Trembley | 1945 |
| | ---; 48, 85, 128, 137, 204°, 223°, 237, 329, 346, 352 | Cooley & Kohls | 1944 a |
| | Clay soil in pasture; 53. Sheltered spot on the ground among vegetation, domestic; 69°, 346°. Possible carrier of cutaneous leishmaniasis, domestic; 352° | Strong et al. | 1926 |
| | ---; 53°, 82°. Naturally infected with Rocky Mountain spotted fever virus; 204 | Bustamante & Varela | 1946 |
| | Experimental transmission of yellow fever; 53°, 239 | Aragão | 1936 |
| | Experimentally infected with typhus, abundant; 53 | De Fonseca | 1935 |
| | Common in open savanna; 82° | Dunn | 1929 |
| | ---; 99 | Kapinoas- Tamayo | 1917 |
| | Sept.-Dec.; 129° | Tomelli Ronadelli | 1939 |
| | All year, common Jan.-Mar., experi- mental transmission of Rocky Mountain Spotted Fever and yellow fever; 130° | Floch & Abommenc | 1940 + |
| | ---; 223° | Woke | 1947 |
| | ---; common; 237° | Fairchild | 1943 |
| | ---; 238° | Fisher | 1922 |
| | Suspected vector of leishmaniasis; 239 | Brumpt & Pedroso | 1913 |
| | ---; 297° | Reyne | 1923 |
| | Possible vector of typhus; 328 | Anduze | 1943 |
| | ---; 328° | Flaasson | 1943 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|------------------------|--------|
| <i>AMBLYOMMA</i> <i>calcaratum</i> Neumann | ---; 53, 239 | Robinson | 1926 |
| | ---; 130 | Floch & Abonnenc | 1942 + |
| | ---; 297 | Reyne | 1923 |
| <i>coelebs</i> Neumann | ---; 51, 53, 204 | Robinson | 1926 |
| | Nov.; 129 | Tonelli Rondelli | 1939 |
| | ---; 130 | Floch & Abonnenc | 1941 + |
| | Rare; 237 | Fairchild | 1943 |
| | ---; 239 | Aragao | 1936 |
| | ---; 297 | Reyne | 1923 |
| <i>concolor</i> Neumann | ---; 27, 53 | Robinson | 1926 |
| | ---; 129 | Bodkin | 1920 |
| <i>cooperi</i> Muttall & Warburton | ---; 27 | Aragao | 1935 |
| | ---; 53, 239 | Robinson | 1926 |
| | ---; 328 | Vogelsang & Cordero | 1940 |
| <i>crassum</i> Robinson | ---; 82, 237 | Osorno- Mesa | 1940 |
| <i>cruciferum</i> Neumann | ---; 20 | Robinson | 1926 |
| | ---; 22 | Tate | 1941 |
| <i>curreda</i> Schulze | ---; 328 | Schulze | 1936 |
| <i>darlingi</i> Muttall | ---; 237 | Dunn | 1923 |
| | ---; 238 | Fisher | 1922 |
| <i>darwini</i> Hirst & Hirst | Mar., Apr.; 116 | Banks | 1924 |
| <i>darwini</i> <i>darwini</i> Hirst & Hirst | ---; 259 | Schulze | 1937 |

TABLE I - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---------------------|--------|
| <i>AMBLYOMMA</i> | | | |
| <i>darwini</i> Vollebacki Schulze | ---; 116 | Schulze | 1937 |
| <i>demutatum</i> Neumann | ---; 82 | Robinson | 1926 |
| <i>dissimile</i> Koch | ---; 21 | Strong et al. | 1926 |
| | ---; 22 | Tate | 1941 |
| | ---; 24, 53, 82, 85, 128, 137, 138, 204, 223, 237, 240, 328, 329 | Cooley & Kohls | 1944 a |
| | ---; 27, 238, 239, 346 | Robinson | 1926 |
| | ---; 53 | Aragão | 1936 |
| | On cold-blooded animals only; 12° | Bodkin | 1918 |
| | Jan., May; 129 | Cleare | 1919 |
| | Sept.; 130 | Senevet | 1940 |
| <i>fasquei</i> Floch & Abonnenc | ---; 130 | Floch & Abonnenc | 1940 + |
| <i>finitimum</i> Tonelli Rondelli | Nov.; 129 | Tonelli Rondelli | 1939 |
| <i>fossum</i> Neumann | ---; 27 | Aragão | 1935 |
| | Suspected vector of leishmaniasis; 53, 239 | Brumpt & Pedroso | 1913 |
| | ---; 53° | Aragão | 1936 |
| | Bites man in forest regions; 129° | Cleare | 1919 |
| | ---; 130°, 239° | Floch & Abonnenc | 1940 + |
| <i>furcula</i> Dünitz | ---; 27 | Robinson | 1926 |
| <i>fuscum</i> Neumann | ---; 53 | Aragão | 1936 |
| <i>geayi</i> Neumann | ---; 53, 82, 129 | Robinson | 1926 |
| | ---; 130 | Neumann | 1913 |
| | ---; 237, 238 | Fairchild | 1943 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|--|--|
| <i>AMBLYOMMA</i> <i>gertschi</i> Cooley | ---; 237, 238 | Fairchild | 1943 |
| <i>goeldii</i> Neumann | ---; 53, 82, 129 ---; 130 ---; 297 | Robinson Neumann Reyne | 1926 1913 1923 |
| <i>guianense</i> Neumann | ---; 297 | Robinson | 1926 |
| <i>hirtum</i> Neumann | ---; 24 ---; 116, 130 ---; 259 | Anonymous Robinson Schulze | 1914 1926 1937 |
| <i>humerale</i> Koch | ---; 53, 325 Oct.; 129 ---; 130 ---; 237, 238 ---; 297 | Robinson Tonelli Rondelli Floch & Abonnenc Fairchild Reyne | 1926 1939 1940 + 1943 1923 |
| <i>incisum</i> Neumann | ---; 51, 53, 99 ---; 130° ---; 239 | Robinson Floch & Abonnenc Aragao | 1926 1941 + 1936 |
| <i>inornatum</i> (Banks) | ---; 204 | Eads | 1951 |
| <i>latepunctatum</i> Tonelli Rondellii | Nov.; 129 | Tonelli Rondelli | 1939 |
| <i>Leucosomum</i> Schulze | ---; 53 ---; 82 | Schulze Osorno- Mesa | 1936 1940 + |
| <i>longirostre</i> Koch | ---; 51, 53, 329 ---; 82 ---; 130 | Robinson Osorno- Mesa Floch & Abonnenc | 1926 1940 + 1940 + |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|-----------------------|--|---------------------|--------|
| <i>AMBYLOCHMA</i> | | | |
| <i>Longirostre</i> | ---; 237 | Dunn | 1923 |
| Koch | ---; 238 | Fairchild | 1943 |
| (cont.) | ---; 239 | Aragao | 1936 |
| | Naturally infected with <i>Trypanosoma cruzi</i> ; 328 | Pifano | 1941 |
| <i>maculatum</i> | ---; 21, 53, 75, 82, 99, 239, 240, 325 | Coolley & Kohls | 1944 a |
| Koch | ---; 274* | Dios & Knopoff | 1934 |
| | ---; 129 | Bodkin | 1920 |
| | ---; 130 | Floch & Abonnenc | 1940 + |
| | Along the coast; 204 | Bishop & Trembley | 1945 |
| | ---; 328 | Bailou | 1945 |
| | ---; 346 | Roy & Brown | 1954 |
| <i>montiquirense</i> | ---; 53, 129 | Robinson | 1926 |
| Aragao | ---; 130 | Floch & Abonnenc | 1942 + |
| | ---; 237 | Dunn | 1934 |
| | ---; 297 | Reyne | 1923 |
| <i>mictum</i> | ---; 329 | Tonelli Rondelli | 1939 |
| Koch | | | |
| <i>multipunctatum</i> | ---; 328 | Robinson | 1926 |
| Neumann | | | |
| <i>naponense</i> | ---; 129 | Cleare | 1919 |
| Packard | ---; 237 | Osorno- Mesa | 1940 + |
| | | | |
| <i>neumannii</i> | ---; 27 | Aragao | 1935 |
| Ribaga | | | |
| <i>nigrum</i> | Oct; 129 | Tonelli Rondelli | 1939 |
| Tonelli | | | |
| Rondelli | | | |

TABLE I - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-----------------------------|--------|
| <i>AMBLYOMMA</i> <i>nodosum</i> Neumann | ---; 53, 85, 128, 238 | Robinson | 1926 |
| | ---; 82 | Osorno- Mesa | 1940 + |
| | ---; 237 | Fairchild | 1943 |
| <i>oblongoguttatum</i> Koch | ---; 51, 53, 129, 238 | Robinson | 1926 |
| | Bites man in forest; 53° | Aragao | 1936 |
| | ---; 130° | Flech & Abonnenc | 1940 + |
| | ---; 237° | Fairchild | 1943 |
| | ---; 237 | Dunn | 1934 |
| | ---; 297 | Reyne | 1923 |
| <i>ooale</i> Koch | ---; 27°, 51, 53, 85°, 129, 204, 239, 325° | Robinson | 1926 |
| | ---; 82 | Patino- Camargo | 1940 |
| | Aug.; 130 | Senevet | 1940 |
| | ---; 237° | Fairchild | 1943 |
| | ---; 328 | Vogelsang & Cordero | 1940 |
| <i>paoae</i> Aragao | ---; 53, 239 | Robinson | 1926 |
| | ---; 82 | Osorno- Mesa | 1940 + |
| | ---; 129 | Bodkin | 1920 |
| | ---; 237 | Fairchild | 1943 |
| | ---; 297 | Reyne | 1923 |
| <i>parvitarsum</i> Neumann | ---; 27, 51, 75 | Robinson | 1926 |
| <i>parvum</i> Aragao | ---; 27 | de Beaurepaire Aragao | 1936 |
| | ---; 53 | Robinson | 1926 |
| | ---; 237, 238 | Fairchild | 1943 |

TABLE I - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|------------------------|--|-----------------------------|--------|
| <i>AMBLYOMMA</i> | | | |
| <i>peccarium</i> | ---; 237 | Dunn | 1933 |
| Dunn | ---; 238 | Fairchild | 1943 |
| <i>pictum</i> | ---; 27 | Aragão | 1935 |
| Neumann | ---; 53 | Robinson | 1926 |
| | ---; 130 | Floch & Abonnenc | 1942 + |
| <i>pilosum</i> | ---; 116 | Robinson | 1926 |
| Neumann | | | |
| <i>reudococoncolor</i> | ---; 27 | de Beaurepaire Aragão | 1938 |
| Aragão | ---; 53, 239 | Robinson | 1926 |
| <i>quosicy; rium</i> | ---; 204 | Robinson | 1926 |
| Robinson | | | |
| <i>romitii</i> | Oct., Dec.; 129 | Tonelli Rondelli | 1939 |
| Tonelli | | | |
| <i>Rondelli</i> | | | |
| <i>rotundatum</i> | ---; 27 | Aragão | 1935 |
| Koch | ---; 53 | Robinson | 1926 |
| | ---; 82 | Ozorno- Mesa | 1940 + |
| | ---; 130 | Floch & Abonnenc | 1942 + |
| | ---; 328 | Vogelsang & Cordero | 1940 |
| <i>sabanaeae</i> | ---; 82 | Ozorno- Mesa | 1940 + |
| Stoll | ---; 128 | Robinson | 1926 |
| <i>sculpturatum</i> | ---; 51, 53 | Robinson | 1926 |
| Neumann | | | |
| <i>soutatum</i> | ---; 128 | Robinson | 1926 |
| Neumann | | | |
| <i>striatum</i> | ---; 27 | Aragão | 1935 |
| Koch | Naturally infected with Rickettsioses; 53* | De Fonseca | 1935 |
| | ---; 53* | Aragão | 1936 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---------------------|--------|
| <i>AMBLYOMMA</i> <i>striatum</i> Koch (cont.) | Naturally infected with exanthematic typhus; 53° | Travassos | 1938 |
| | Suspected vector of leishmaniasis; 53, 239 | Brumpt & Pedroso | 1913 |
| | ---; 53°* | Magalhaes | 1944 |
| | ---; 130°, 239° | Floch & Abonnenc | 1940 + |
| | ---; 237 | Osorno-Mesa | 1940 + |
| | ---; 297° | Reyne | 1923 |
| <i>tapirellum</i> Dunn | ---; 237 | Dunn | 1933 |
| | ---; 238° | Fairchild | 1943 |
| <i>tapiri</i> Tondelli Rondelli | Mov.; 129 | Tonelli Rondelli | 1939 |
| <i>testudinis</i> (Comil) | ---; 27 | Aragão | 1935 |
| | ---; 328 | Vogelsang & Cordero | 1940 |
| <i>torrei</i> Vigueras | ---; 18 | Vigueras | 1934 |
| | ---; 21 | Whittick | 1939 |
| <i>tuberculatum</i> Marx | ---; 18 | Vigueras | 1934 |
| <i>variegatum</i> (F.) | ---; 24 | Senevet | 1938 |
| | ---; 127, 128 | Robinson | 1926 |
| <i>varium</i> Koch | ---; 27, 53, 75, 82, 129, 223, 237, 238, 297 | Robinson | 1926 |
| | ---; 328 | Vogelsang & Cordero | 1940 |
| <i>williamsi</i> Banks | April; 116 | Banks | 1924 |
| <i>ANOCENTER</i> <i>columbianus</i> Schulze | ---; 82 | Schulze | 1937+ |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---------------------|--------|
| <i>ANOCENTOR</i> <i>nitens</i> Neumann | —; 18, 20, 21, 27, 82, 83, 128, 204, 237, Arthur 329 | | 1960 |
| <i>ANTIPICOLA</i> <i>oophophilus</i> (McIntosh) | —; 204 | Cooley & Kohls | 1944 |
| <i>marginatus</i> (Banks) | —; 18 | Cooley & Kohls | 1944 |
| | —; 22 | Fox | 1947 |
| <i>APORONNA</i> <i>Leucie</i> Neumann | —; 27 | Schulze | 1936 |
| <i>patagonicum</i> Schulze | —; 27 | Schulze | 1936 |
| <i>ARGAS</i> <i>miniatus</i> Koch | —; 18 | Vigueras | 1934 |
| | —; 24, 329 | Anonymous | 1914 |
| | —; 129 | Cooley & Kohls | 1944 |
| | —; 237, 238 | Dunn | 1923 |
| <i>persicus</i> Oken | —; 18, 204*. In native huts; 238 | Cooley & Kohls | 1944 |
| | —; 27, 204 | Hoogstraal | 1956 |
| | Experimental transmission of yellow fever; 53 | Laemert et al. | 1946 |
| | —; 75 | Lahille | 1915 |
| | Common in chicken houses; 82 | Dunn | 1929 |
| | —; 129 | Cleare | 1919 |
| | —; 130 | Floch & Abonnenc | 1941 + |
| | Common in houses; 237* | Fairchild | 1943 |
| | —; 240 | Kacmol | 1924 |
| | —; 297 | Stage | 1947 |
| | —; 328 | Iriarte | 1943 |
| <i>persicus</i> var. <i>dissimile</i> Aragão | —; 53* | Aragão | 1936 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---------------------|------|
| <i>ARGAS</i> <i>persicus</i> var. <i>miniatuus</i> (Oken) | ---; 346 | Lahille | 1915 |
| <i>persicus</i> var. <i>porteri</i> Lahille | ---; 75 | Lahille | 1915 |
| <i>reflexus</i> (Fabricius) | ---; 75, 82 (Cracks and crevices of pigeons Moogstraal cotes, bites man, invade human habitations in the absence of pigeons, pain or irritation may be felt for years from the bite) | Moogstraal | 1956 |
| | ---; 328 | Vogelsang & Cordero | 1940 |
| <i>reflexus</i> <i>magnus</i> Neumann | Domestic; 99° | León & de León | 1947 |
| <i>BOOPHILUS</i> <i>annulatus</i> (Say) | ---; 18, 21, 24, 99, 128, 223 | Manning | 1934 |
| | ---; 22 | Tate | 1941 |
| | Jan-Apr.; 27 | Viton | 1922 |
| | ---; 59, 204 | Moogstraal | 1956 |
| | ---; 328 | Ballou | 1943 |
| <i>annulatus</i> <i>australis</i> Fuller | Common; 22 | Van Volkenberg | 1934 |
| | ---; 24 | Senevet | 1938 |
| | ---; 129 | Cleare | 1919 |
| | ---; 223 | Moke | 1947 |
| | ---; 297 | Bayne | 1923 |
| | ---; 352° | Toumanoff | 1944 |
| <i>annulatus</i> <i>microplus</i> (Can.) | ---; 22 | Tate | 1941 |
| | Experimental transmission of yellow fever; 52 | Loewenst et al. | 1946 |
| | ---; 85° | Squibb | 1946 |
| | ---; 297 | Stage | 1947 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------|--------|
| <i>BOPHILUS australis</i> (Fuller) | —; 16 | Vigueras | 1934 |
| | —; 21, 53 | Sharif | 1938 |
| | —; 82 | Dove | 1917 |
| <i>cyclops</i> Mimring | —; 237 | Osorno- Mesa | 1940 + |
| <i>decoloratus</i> (Koch) | —; 27 | Hoogstraal | 1956 |
| <i>microplus</i> (Canestrini) | —; 18 | Vigueras | 1934 |
| | —; 22, 69, 352 | Hoogstraal | 1956 |
| | All year peak May-Jul.; 23 | Wilson | 1921 |
| | —; 24 | Floch & Abonnenc | 1945 + |
| | —; 27°, 53, 99, 204, 237, 239 | Cooley | 1946 |
| | —; 27 | Aragao | 1935 |
| | —; 82 | Osorno- Mesa | 1940 |
| | —; 116 | Schulze | 1937 |
| | —; 128, 352 | Strong et al. | 1926 |
| | —; 130 | Floch & Abonnenc | 1940 + |
| | —; 328 | Ballou | 1945 |
| <i>CERATIXODES putae</i> Packard & Cambridge | —; 27 | Aragao | 1935 |
| <i>DERMACENTOR andersoni</i> Stiles | —; 53° | Da Fonseca | 1935 |
| | —; 33° | Magalhees | 1944 |
| | Experimental transmission of <i>Bartonella bacilliformis</i> ; 249 | Mets | 1943 |
| <i>dispar</i> Cooley | —; 128 | Arthur | 1960 |
| <i>dissimilis</i> Cooley | —; 128 | Arthur | 1960 |
| | —; 204 | Kohls & Gimat | 1952 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|-----------------------------------|--------------|
| <i>DERMACENTOR</i> | | | |
| <i>hohi</i> McIntosh | ---; 204 | Arthur | 1960 |
| <i>irritans</i> Herburton | ---; 85 | Herburton | 1933 |
| <i>hunleri</i> Bishopp | ---; 204 | Cooley | 1938 |
| <i>latum</i> Cooley | ---; 85 ---; 237 | Arthur Fairchild | 1960 1943 |
| <i>nigrolineatus</i> Packard | ---; 204 | Bishopp & Trembley | 1945 |
| <i>nitens</i> Neumann | ---; 18 ---; 20, 21, 23, 24, 85, 128, 137, 208, 329 | Viguerae Bishopp & Trembley | 1934 1945 |
| | Common; 82 | Dunn | 1929 |
| | ---; 99 | Espinosa- Tameyo | 1917 |
| | ---; 204 | Bequaert | 1933 + |
| | ---; 223 | Hoke | 1947 |
| | Common; 237 | Fairchild | 1943 |
| | ---; 328 | Finsen | 1943 |
| <i>parumspinosus</i> Neumann | Experimentally infected with Rocky Mountain spotted fever; 204 | Tover | 1944 |
| <i>parumspinosus</i> <i>marginalis</i> Banko | ---; 204 | Roberts | 1936 |
| <i>variabilis</i> Say | Suspected vector of Leishmaniasis; 33 | Brumpt Pedersen | 1913 |
| | ---; 204 | Bishopp & Trembley | 1945 |
| <i>MEDYPHYSALIS</i> | | | |
| <i>cinnaberina</i> Koch | ---; 82 | Cooley | 1946 |
| <i>jurtakoochi</i> Cooley | ---; 237, 238 | Cooley | 1946 |

TABLE I - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---------------------|--------|
| <i>HAEMAPHYSALIS</i> <i>kochi</i> Aragão | ---; 27 | Aragão | 1935 |
| | ---; 53 | Aragão | 1936 |
| | Nov.; 129 | Tonelli Rondelli | 1939 |
| | ---; 130 | Floch & Abonnenc | 1940 * |
| | ---; 237 | Fairchild | 1943 |
| | ---; 238 | Osono- Mesa | 1940 * |
| | ---; 328 | Cooley | 1946 |
| <i>Leporis</i> Packard | ---; 27 | Aragão | 1939 |
| <i>Leporis-</i> <i>palustris</i> (Packard) | ---; 27 | Aragão | 1936 |
| | Carrier of Rocky Mountain spotted fever; 53 | Da Fonseca | 1935 |
| | ---; 53* | Da Fonseca | 1935 |
| | ---; 82, 238 | Osono- Mesa | 1940 * |
| | ---; 204 | Cooley | 1946 |
| | ---; 237 | Fairchild | 1943 |
| <i>SYLLOPHUS</i> <i>aegyptium</i> Linn. | ---; 24 | Anonymous | 1914 |
| <i>diversidarii</i> Koch | ---; 27 | Hoogstraal | 1936 |
| | ---; 53 | Campana- Rouget | 1939 |
| <i>longirostre</i> Neumann | ---; 329 | Anonymous | 1914 |
| <i>Ixodes</i> <i>affinis</i> Neumann | ---; 53, 83, 128, 238 | Cooley & Kohls | 1945 |
| | ---; 237 | Cooley | 1938 |
| <i>avarelli</i> da Fonseca | ---; 53 | da Fonseca | 1935 b |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|--|--------------------------------|
| <i>Ixodes auritulus</i> Neumann | Jan; 27 ---; 53, 75, 85, 128 ---; 240 | de Meurepaire Aragao | 1938 1945 1916 |
| <i>bequaerti</i> Cooley | ---; 137, 204 | Cooley & Kohls | 1945 |
| <i>bicornis</i> Neumann | ---; 85, 128, 137, 204 ---; 237 | Cooley & Kohls | 1945 1938 |
| <i>boliviensis</i> Neumann | ---; 51, 85 ---; 82 | Nuttall | 1916 |
| <i>brunneus</i> Koch | ---; 82 ---; 328 | Osorno- Mesa | 1940 + |
| <i>coxaefurcatus</i> Neumann | ---; 53 | Osorno- Mesa | 1940 + |
| <i>dampfi</i> Cooley | ---; 204 | Cooley & Kohls | 1945 |
| <i>fuscipes</i> Koch | ---; ., 237 | Nuttall | 1916 |
| <i>hexagonus</i> <i>cookei</i> Packard | ---; 69, 85 | Nuttall | 1916 |
| <i>juvenis</i> Neumann | ---; 82 | Osorno- Mesa | 1940 + |
| <i>loriocatus</i> Neumann | ---; 27, 53, 204, 239 ---; 328 | Nuttall | 1916 1940 |
| <i>lorisatus</i> var. <i>spinoculus</i> Nuttall | ---; 82 ---; 137 ---; 237, 238 ---; 297 | galsang & dero Osorno- Mesa Root Fairchild Reyne | 1940 + 1924 1943 1923 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|-----------------------|--------|
| <i>IXODES</i> | | | |
| <i>lucliae</i> Senevet | ---; 27, 128, 130, 138, 237 | Cooley & Kohls | 1945 |
| <i>mexicanus</i> Cooley & Kohls | ---; 204 | Cooley & Kohls | 1945 |
| <i>minor</i> Neumann | ---; 237 | Fairchild | 1943 |
| <i>murreletti</i> Cooley | ---; 204 | Cooley & Kohls | 1945 |
| <i>nuttalli</i> Lahille | ---; 27, 240 | Nuttall | 1916 |
| <i>putus</i> Pickard-Cambridge | ---; 27 | Nuttall | 1916 |
| <i>reticulatus</i> Fabricius | ---; 18 | Vigueras | 1934 |
| <i>ricinus</i> Linnaeus | ---; 18 | Vigueras | 1934 |
| | ---; 27 | de Besur-paire Aragão | 1938 |
| | ---; 237° | Dunn | 1923 |
| | ---; 325 | Calzada | 1938 |
| <i>ricinus</i> <i>aragaoi</i> Da Fonseca | ---; 53 | da Fonseca | 1935 a |
| <i>ricinus</i> <i>scapularis</i> Say | ---; 85, 204 | Bishopp & Trembley | 1945 |
| <i>rubidus</i> Neumann | ---; 204, 237 | Cooley & Kohls | 1945 |
| <i>scapularis</i> Say | ---; 204 | Cooley & Kohls | 1945 |
| <i>tuncitarius</i> Cooley & Kohls | ---; 204 | Cooley & Kohls | 1945 |
| <i>uriæ</i> White | ---; 27 | Cooley & Kohls | 1945 |
| <i>MARGAROPUS</i> <i>annulatus</i> (Say) | ---; 18 Rare; 237, 238 | Vigueras | 1934 |
| | | Dunn | 1923 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|------------------|------|
| <i>MARGAROPUS annulatus australis</i> (Fuller) | ---; 18 | Vigueras | 1934 |
| | Common, all year; 23 | Wilson | 1921 |
| | Common along river banks; 82 | Dunn | 1929 |
| | Common; 237 | Dunn | 1923 |
| | ---; 352 | Larrousse | 1925 |
| <i>australis</i> (Fuller) | ---; 24, 329 | Anonymous | 1914 |
| | ---; 53 | Brumpt | 1919 |
| <i>ORNITHODOROS ambles</i> Chamberlain | Common in guano islands; 240 | Cooley & Kohls | 1944 |
| | Experimentally infected with <i>Trypanosoma cruzi</i> ; 240° | Mazzotti & Osono | 1943 |
| <i>andusei</i> Matheson | Bat caves, December; 328 | Matheson | 1941 |
| <i>asteoi</i> Matheson | ---; 18 | Cooley & Kohls | 1944 |
| | Caves; 237, 238 | Fairchild | 1943 |
| <i>brasiliensis</i> Aragao | In houses; 53° | Aragao | 1936 |
| <i>brodyi</i> Matheson | Caves; 237 | Fairchild | 1943 |
| <i>coprophilus</i> McIntosh | Abandoned mines harboring bats' guano; 204 | Cooley & Kohls | 1944 |
| <i>coriaceus</i> Koch | Experimental transmission of <i>Spirochaeta persica</i> ; 204 | Brumpt | 1939 |
| | ---; 204° | Cooley & Kohls | 1944 |
| <i>dugesi</i> Mazzotti | ---; 204 | Mazzotti | 1943 |
| <i>domi</i> Matheson | ---; 237, 238 | Fairchild | 1943 |
| <i>dyeri</i> Cooley & Kohls | Abandoned mines harboring bats' guano; 204 | Cooley & Kohls | 1944 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---------------------|------|
| <i>ORNITHODOROS</i> <i>furocosus</i> Neumann | Huts and pigsties, experimentally infected with relapsing fever and spotted fever; 99° | Mazzotti & Osono | 1947 |
| | Experimentally infected with <i>Trypanosoma cruzi</i> ; 99° | Mazzotti & Osono | 1943 |
| | Experimentally infected with spotted fever; 204 | Mazzotti & Varela | 1946 |
| <i>marginatus</i> Banks | ---; 18 | Vigueras | 1934 |
| <i>magnini</i> Duges | ---; 18 | Vigueras | 1934 |
| | ---; 27 | Aragão | 1935 |
| | All year, peak Dec.-Jan.; 75 | Descazeaux | 1925 |
| | ---; 204° | Sen | 1938 |
| | ---; 240 | Escomel | 1924 |
| | ---; 328 | Vogelsang & Cordero | 1940 |
| <i>natteri</i> Warburton | ---; 53 | Aragão | 1936 |
| <i>nicollei</i> Mooser | Rat burrows, naturally infected with relapsing fever Spirochaeta; 204 | Brumpt et al. | 1939 |
| | Experimental transmission of Spirochaeta duttoni and <i>S. persicoa</i> ; 204 | Brumpt | 1939 |
| | Experimentally infected with Rocky Mountain spotted fever; 204° | Davis | 1943 |
| <i>puertoricensis</i> Fox | All year; 22 | Fox | 1947 |
| <i>rostratus</i> Aragão | ---; 27, 51, | Aragão | 1935 |
| | In houses, experimental transmission of yellow fever; 53°, 239 | Aragão | 1936 |
| | ---; 130 | Floch & Abonnenc | 1941 |
| <i>rudis</i> Karsh | In houses; 82°, 204°, 237°, 328° | Cooley & Kohls | 1944 |
| | Common in houses, possible vector of relapsing fever; 237° | Fairchild | 1943 |
| | ---; 328° | Vellard | 1937 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---|------------------------------|
| <i>ORNITHODOROS talaje</i> Guerin & Meneville | ---; 27 Occasionally bite man; 53° ---; 69* | Aragão Aragão Cooley & Kohls | 1935 1936 1944 |
| | Enters huts; 75, 204, 328 | Roy & Brown | 1954 |
| | In houses; 82°. Bamboo beds in thatched huts, naturally and experimentally infected with spirochetes (<i>Spirocheta</i> <i>neotropicalis</i>); 238* | Clark | 1942 |
| | Experimental vector of relapsing fever; 82 | Osorno- Mesa | 1940 + |
| | April; 116 | Banks | 1924 |
| | Enters houses; 128° | Theodor | 1932 |
| | ---; 128*, 237° | Coolsey & Kohls | 1944 |
| | May, in cave inhabited by wild animal; 130 | Floch & Abonnenc | 1944 |
| | ---; 204*, 237* | Brumpt et al. | 1939 |
| | In houses, common; 237° | Fairchild | 1943 |
| | Experimentally infected with relapsing fever; 237 | Dunn | 1923a |
| | ---; 239. Among stones far from houses; 325 | Cordero et al. | 1928 |
| | ---; 240 | Chamberlain | 1920 |
| <i>talaje</i> <i>expensis</i> Neumann | ---; 23, 259 | Schulze | 1937 |
| <i>turicata</i> (Duges) | ---; 27, 82 ---; 53 In native huts, experimental transmission of relapsing fever; 204 | Roy & Brown Dios & Knopoff Cooley & Kohls | 1954 1934 1944 |
| | Naturally Infected with <i>Spirocheta</i> <i>turicata</i> , at 1900 meter altitudes; 204* | Brumpt et al. | 1939 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|------------------|--------|
| <i>ORNITHODOROS venezuelensis</i> Brumpt | In houses, possible vector of spotted fever; 82 | Patino et al. | 1937 |
| | Naturally infected with <i>Spirocheta venezuelensis</i> ; 82, 237, 328 | Brumpt et al. | 1939 |
| | ---; 82°. Experimentally and naturally infected with relapsing fever spirochetes; 237° | Clark | 1942 |
| | ---; 82*, 237*, 328*. In houses, bites man at night, suspected vector of relapsing fever, experimental transmitter of relapsing fever; 99° | León & De León | 1947 |
| | In houses, bites man at night; 238° | Dunn | 1931 |
| <i>viguerasi</i> Cooley & Kohls | Bat cave, Sept.; 18 | Cooley & Kohls | 1941 |
| | ---; 21 | Cooley & Kohls | 1944 |
| <i>OTOBIAUS magnini</i> (Duges) | ---; 18°, 27°, 53°, 204° | Cooley & Kohls | 1944 |
| <i>OTOCENTOR nitens</i> (Neumann) | ---; 18, 20, 21, 85, 91, 128, 204, 237, 329 | Cooley | 1938 |
| | Experimentally infected with spotted fever; 82 | Patino-Camargo | 1940 + |
| <i>RHIPICEPHALUS annulatus</i> Neumann | ---; 18 | Vigueras | 1934 |
| <i>annulatus</i> var. <i>argentina</i> Wolffhügel | ---; 27 | Aragao | 1939 |
| <i>annulatus</i> var. <i>microplus</i> (Canestrini) | ---; 18 | Vigueras | 1934 |
| <i>australis</i> Fuller | ---; 53 | Strong et al. | 1926 |
| <i>burea</i> Canestrini & Fanzago | ---; 18 | Vigueras | 1934 |
| | ---; 130 | Floch & Abonnenc | 1941 + |
| <i>evertsi</i> <i>evertsi</i> Neumann | ---; 53 | Hoogstraal | 1956 |

TABLE 1 - TICKS (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|--|--------|
| <i>RHIPICEPHALUS</i> <i>sanguineus</i> (Latreille) | ---; 18 | Vigueras | 1934 |
| | In houses; 22° | Tate | 1941 |
| | ---; 22, 237. In houses; 69°, 204° | Cooley | 1946 |
| | ---; 24 | Senevet | 1938 |
| | ---; 27 | Aragão | 1935 |
| | Barely bites man, experimental transmission of <i>Rickettsia brasiliensis</i> ; 53° | Aragão | 1936 |
| | Experimental transmission of yellow fever; 53 | Lacourert et al. | 1946 |
| | Carrier of spotted fever; 53 | Da Fonseca | 1935 |
| | ---; 53* | Magalhaes | 1944 |
| | ---; 53° | Bequaert | 1926 |
| | ---; 69, 352 | Leeson | 1951 |
| | ---; 75 | Macchiavello | 1942 |
| | In houses; 82 | Dunn | 1929 |
| | ---; 129 | Cleare | 1919 |
| | Experimental transmission of relapsing fever; 130* | Floch & Abonnenc | 1941 + |
| | Sept.; 130 | Senevet | 1940 |
| | In houses, naturally infected with spotted fever; 204° | Bustamante, Varela & Ortiz Mariotte | 1946 |
| | Naturally infected with spotted fever; 204 | Bustamante & Varela | 1947 |
| | ---; 204* | Ortiz Mariotte et al. | 1944 |
| | ---; 223 | Woke | 1947 |
| | Common; 237* | Fairchild | 1943 |
| | ---; 297 | Reyes | 1923 |
| | ---; 328 | Ballou | 1945 |

TABLE 1 - TICKS (conclusion)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|---|---------------|-------|
| <i>Rhipicephalus</i> <i>sanguineus</i> <i>sanguineus</i> (Latreille) | ---; 53, 328. Lake regions, in rural dwellings, possible vector of Rocky Mountain spotted fever; 204° | Hoogstraal | 1956 |
| <i>tessanum</i> Banks | ---; 18 | Vigueras | 1934 |
| <i>Spelaeorhynchus</i> <i>latus</i> Banks | ---; 22 | Fox | 1947 |
| | ---; 53, 238 | da Ponseca | 1935c |
| <i>Uroboophilus</i> <i>cyclops</i> Manning | ---; 85, 116, 237 | Schulze | 1937 |
| | In mountainous regions at an elevation of 1000 meters; 128 | Manning | 1934 |
| <i>microplus</i> Canestrini | ---; 18, 21, 24, 27, 51, 53, 82, 130, 239, 297, 325, 328 | Manning | 1934 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY TICKS

| SPECIES | DISEASE ORGANISM | | | | | DISTRIBUTION |
|--|---------------------------------------|---|--------------------|-----------|-------|----------------------|
| | VIRUS & | : | PROTOZOA | HELMINTHS | OTHER | |
| : | RICKETTSIA | : | : | : | : | : |
| <i>AMBLYOMMA</i> <i>brasiliense</i> Aragão | Rocky Mountain spotted fever | | | | | 53 |
| | <i>Rickettsia</i> <i>maculatum</i> | | | | | 53 |
| <i>coquilletti</i> (Fabricius) | Spotted fever | | | | | 53, 82 |
| | Spotted fever | | | | | 130 + |
| <i>maculatum</i> Koch | Rocky Mountain spotted fever | | | | | 27 |
| <i>striatum</i> Koch | Brazilian spotted fever | | | | | 53 |
| | Rocky Mountain spotted fever | | | | | 53 (Aragão 1934) |
| | Rickettsiosis | | | | | 53 (De Fonseca 1935) |
| | Exanthematic typhus | | | | | 53 (Travassos 1938) |
| <i>DERMACENTOR</i> <i>andersoni</i> Stiles | Rocky Mountain spotted fever | | | | | 53 |
| <i>HAEMAPHYSALIS</i> <i>leporispalustris</i> (Packard) | Rocky Mountain spotted fever | | | | | 53 |
| <i>OENITMODORUS</i> <i>ruficollis</i> Karach | | | Relapsing fever | | | 204, 237, 238 |

TABLE 2 - TICKS (conclusion)

| SPECIES | DISEASE ORGANISM | | | | | DISTRIBUTION |
|-----------------------------------|--------------------------------|------------|----------|-----------|-----------------|----------------------------|
| | VIRUS & | RICKETTSIA | PROTOZOA | HELMINTHS | OTHER | |
| <i>ORNITHODCRUS</i> | | | | | | |
| <i>talaje</i> | | | | | Relapsing fever | 69, 82, 128, 204, 237, 238 |
| <i>Cuern-</i> <i>Mesabilis</i> | | | | | | |
| <i>turicata</i> (Duges) | | | | | Relapsing fever | 204 |
| <i>venezuelensis</i> Brumpt | | | | | Relapsing fever | 82, 237, 328 |
| <i>RHIPICEPHALUS</i> | | | | | | |
| <i>sanguineus</i> Latreille | Rocky Mountain spotted fever | | | | | 53, 204 |
| | Spotted fever | | | | | 130 + |
| | <i>Rickettsia brasiliensis</i> | | | | | 237 |

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L. MITES

The entries for mites include a wide variety of species, most of which seldom bite man. For the most part, there are no biological entries. The trombiculid entries are, of course, for larval stages. Most of the others will be for various stages, but mostly for adults. There are 73 species or subspecies recorded in the table.

TABLE 1 - MITES

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------|--------|
| <i>Acarus</i> sp. <i>trifolii</i> Torres & Braga | ---; 53°* | Wharton & Fuller | 1952 |
| <i>Acaronychia</i> <i>filiformis</i> De Geer | ---; 328° | Vogelaeng | 1944 |
| <i>Uchonomaia</i> <i>regalis</i> (Floch & Abonnenc) | ---; 130° | Jenkins | 1949 a |
| <i>U. sp.</i> (Hoffmann) | ---; 204°* | Wharton & Fuller | 1952 |
| <i>Uromyces</i> <i>alpinus</i> Oudemans | ---; 27, 69, 204, 346 | Jenkins | 1948 |
| <i>U. sp.</i> (Linnaeus) | ---; 22, 82, 204, 238, 328 Common in grassy areas around houses and in villages where domestic animals are numerous, larvae attached to man, greatest larvae activity after grass becomes partially dry in morning, May; 237° | Jenkins | 1948 |
| <i>Urothrips</i> Ewing | ---; 237 | Fairchild | 1943 |
| <i>U. sp.</i> Oudemans | ---; 237 | Fairchild | 1943 |
| <i>U. sp.</i> (Oudemans) | In jungle or brush covered areas; 237°. ---; 297° | Michener | 1946 |
| <i>U. sp.</i> Ewing | ---; 237° | Fairchild | 1943 |
| <i>U. sp.</i> Ewing | ---; 237 | Fairchild | 1943 |
| <i>U. sp.</i> (Hirst) | ---; 27 | Da Fonseca | 1942 |
| <i>U. sp.</i> (Hirst) | ---; 53° | Da Fonseca | 1939 |
| <i>U. sp.</i> Da Fonseca | ---; 53° | Da Fonseca | 1939 |
| <i>U. sp.</i> (Berlese) | Common; 53° ---; 53* | Da Fonseca | 1935 |
| | | Machado | 1943 |

TABLE I - MITES (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|--|---------------------|-------|
| <i>SARCOPTES</i> | | | |
| <i>scabiei</i> (De Geer) | ---; 53° | Strong et al. | 1925 |
| <i>scabiei</i> var. <i>hominis</i> (Linn.) | ---; 129° | Cleare | 1919 |
| <i>TROMBICULA</i> <i>alfreddugesi</i> (Oudemans) | ---; 17, 18, 20, 22, 27, 53, 82, 204, 237, 240, 297, 325, 328, 329 (Host man, vector of dermatitis) | Wharton & Fuller | 1952 |
| | ---; 53° | Jenkins | 1949a |
| <i>alfreddugesi</i> <i>tropica</i> Ewing | ---; 328° | Jenkins | 1949a |
| <i>allelei</i> Ewing | ---; 237 | Wharton & Fuller | 1952 |
| | Under aquatic vegetation left stranded on river banks by receding water and on floating plants of <i>Pistia stratiotes</i> , Sept.-March; 238 | Michener | 1946b |
| <i>attenuata</i> Michener | ---; 237 | Wharton & Fuller | 1952 |
| | On floating plants of water lettuce, <i>Pistia stratiotes</i> , Aug.-Oct.; 238 | Michener | 1946b |
| <i>australis</i> Ewing | April; 240 | Ewing | 1929 |
| <i>avie</i> Floch & Abonnenc | ---; 130 | Wharton & Fuller | 1952 |
| <i>bakeri</i> Ewing | In mass, Dec.; 204 | Ewing | 1946 |
| <i>batatas</i> (L.) | ---; 21, 22, 53, 82, 130, 204, 237, 297, 328 (Host: man, vector of dermatitis) | Wharton & Fuller | 1952 |
| | ---; 53°, 130°, 204°, 237°, 297°, 328° | Jenkins | 1949a |
| <i>beltrami</i> Hoffmann | ---; 204 | Wharton & Fuller | 1952 |
| <i>biops</i> Wharton | ---; 240 | Wharton & Fuller | 1952 |
| <i>brasiliensis</i> Ewing | ---; 53° | Strong et al. | 1926 |
| <i>bruyanti</i> (Oudemans) | ---; 53 | Ewing | 1931 |
| <i>butantanaensis</i> Da Fonseca | ---; 53° | Da Fonseca | 1933 |

TABLE I - MITES (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--|---|---------------------|--------|
| TROMbicula | | | |
| <i>camilla</i> Wharton | ---; 204 | Wharton & Fuller | 1952 |
| <i>cunic</i> Flach & Aboimenc | ---; 130° | Jenkins | 1949+ |
| <i>caverman</i> Ewing | Bat caves; 237 | Fairchild | 1943 |
| <i>charr</i> Wharton | ---; 240 | Wharton & Fuller | 1952 |
| <i>coarctata</i> (Berlese) | ---; 27, 75, 239 | Wharton & Fuller | 1952 |
| <i>dasyproctas</i> Ewing | Aug.; 237 | Ewing | 1937 |
| <i>desdentata</i> Boshell & Kerr | ---; 82 | Wharton & Fuller | 1952 |
| <i>duouri</i> Ewing | ---; 237 | Ewing | 1931 |
| <i>swingi</i> Perezaca | ---; 53 | Wharton & Fuller | 1952 |
| <i>flui</i> van Thiel | ---; 297 | Ewing | 1931 |
| <i>golitii</i> (Oudemans) | ---; 53, 130, 237, 297, 328 (Host: man, vector of dermatitis) | Wharton & Fuller | 1952 |
| | Humus, tree holes and under barks of fallen logs, fairly common all year; 82 | Womersley | 1952 |
| | ---; 82°, 130°, 297°. ---; 237°, 328° (Commonly in the tropical forest, especially on second growth jungle areas) | Jenkins | 1949+ |
| | ---; 238, 328° | Jenkins | 1949 + |
| <i>guineensis</i> (Bruyant & Jaques) | ---; 130 | Ewing | 1931 |
| <i>Helleri</i> (Oudemans) | ---; 237 | Womersley | 1952 |
| | ---; 297 | Womersley | 1951 |
| <i>insularis</i> Ewing | ---; 91 | Ewing | 1923 |

TABLE I - MITES (continued)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|---------------------|------|
| <i>TRICHOBLICULA</i> | | | |
| <i>irritans</i> (Lucas) | ---; 13°* | Wharton & Fuller | 1952 |
| <i>irritans</i> var. <i>tropica</i> Ewing | ---; 32° | Ewing | 1925 |
| <i>japa</i> (Ribeyro & Bambaraen) | Wooded areas; 240°* | Jenkins | 1949 |
| | ---; 240° | Wharton & Fuller | 1952 |
| <i>Lacertillas</i> Boshell | ---; 82 | Boshell & Kerr | 1942 |
| <i>lahillei</i> Sig Thor & Willman | ---; 27°* | Wharton & Fuller | 1952 |
| <i>landazuri</i> Boshell & Kerr | ---; 51°, 82° | Wharton & Fuller | 1952 |
| <i>mauriquai</i> (Ewing) | ---; 82 | Womersley | 1952 |
| <i>mauriquai</i> Ewing | Tree hole, Oct.; 82 | Ewing | 1937 |
| <i>mexicana</i> Ewing | ---; 204 | Ewing | 1937 |
| <i>myope</i> Vitzthum | ---; 204, 32° | Wharton & Fuller | 1952 |
| <i>nativitatus</i> Hoffmann | ---; 204 | Wharton & Fuller | 1952 |
| <i>ophidion</i> De Monaco | ---; 53 | Wharton & Fuller | 1952 |
| <i>panamensis</i> Ewing | ---; 237 | Wharton & Fuller | 1952 |
| | ---; 23° | Ewing | 1925 |
| <i>pastorae</i> Boshell | ---; 82 | Boshell & Kerr | 1942 |
| <i>pearsoni</i> Wharton | ---; 240 | Wharton & Fuller | 1952 |
| <i>peruviana</i> Ewing | June; 240 | Ewing | 1925 |
| <i>picta</i> Hoffmann | ---; 204 | Wharton & Fuller | 1952 |

TABLE I - MITES (conclusion)

| SPECIES | SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|---------------------|--------|
| <i>TROMbicula psittaci</i> Floch & Abonnenc | ---; 130 | Wharton & Fuller | 1952 |
| <i>punctata</i> Boshell & Kerr | ---; 82 | Wharton & Fuller | 1952 |
| <i>shannoni</i> Ewing | May; 240 | Ewing | 1929 |
| <i>thomasi</i> (Oudemans) | ---; 240 | Ewing | 1931 |
| <i>tinami</i> (Oudemans) | ---; 53 | Ewing | 1931 |
| <i>tlazakuate</i> Brumpt | ---; 204 | Jones | 1950 |
| <i>travassosi</i> Fonseca | ---; 53 | Wharton & Fuller | 1952 |
| <i>trifuroa</i> Ewing | Bat caves; 237 | Fairchild | 1943 |
| <i>tropica</i> Ewing | Common in coastal areas; 22 | Van Volkenberg | 1935 |
| | ---; 326 | Ewing | 1931 |
| <i>vannomereni</i> Schierbeck | ---; 204, 237 | Womersley | 1952 |
| <i>velascae</i> Boshell & Kerr | ---; 82, 237 | Wharton & Fuller | 1952 |
| | All year, under stones and logs and in leaf mold frequently in dry situations; 238 | Michener | 1946 b |
| <i>yorki</i> Sombon | ---; 53 | Ewing | 1931 |
| <i>TRYOGLYPHUS farinae</i> (De Geer) | ---; 53°* | Machado | 1943 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY MITES

| SPECIES | DISEASE OR DISEASE ORGANISMS | | | | | DISTRIBUTION |
|---|------------------------------|---|----------|---|---|--------------|
| | VIRUS & | : | PROTOZOA | : | HELMINTHS | |
| | RICKETTSIA | : | | : | OTHER | |
| <i>APOLONIA tigipioensis</i> Torres & Braga | | | | | Dermatitis | 53 |
| <i>EUSCHONGASTIA nunesi</i> (Hoffmann) | | | | | Dermatitis | 204 |
| <i>LIPONYSSUS bursa</i> (Berlese) | | | | | Dermatitis | 53 |
| <i>TROMBICULA goldii</i> (Oudemans) | | | | | Trombiculosis | 237, 238 |
| <i>irritans</i> (Lucas) | | | | | Dermatitis | 53 |
| <i>japa</i> (Ribeyro & Bambaren) | | | | | Trombiculosis | 240 |
| | | | | | Dermatitis | 240 |
| <i>lahillei</i> Thor & Willmann | | | | | Dermatitis | 27 |
| <i>TYROGLYPHUS farinae</i> (De Geer) | | | | | Cutaneous & intestinal irritation | 53 |

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M. MISCELLANEOUS ARTHROPODS

The entries listed as miscellaneous arthropods are largely scorpions and spiders.
There are only 35 species or subspecies listed.

TABLE 1 - MISCELLANEOUS ARTHROPODS

| SPECIES | BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|-------------------------|--------|
| <i>CENTRUROIDES elegans</i> Thorell | ---; sting fatal to children; 204° | Baerg | 1934 |
| <i>infamatus</i> <i>infamatus</i> (Koch) | ---; sting fatal to children; 204° | Baerg | 1934 |
| <i>limpidus</i> Karsch | ---; sting fatal to children; 204° | Baerg | 1934 |
| <i>limpidus</i> <i>tecomanus</i> Hoffmann | ---; sting fatal to children; 204° | Baerg | 1934 |
| <i>margaritatus</i> Gervais | ---; venomous; 238° | Baerg | 1925 |
| <i>noxius</i> Hoffmann | ---; sting fatal to children; 204° | Baerg | 1934 |
| <i>GLIPTOCRANIUM</i> <i>gasteracanthoides</i> Nicolet | ---; sting poisonous, sometimes causes death; 240° | Escomel | 1917 |
| <i>HETEROPODA</i> <i>venatoria</i> (Linn.) | ---; venomous; 53 | Ihering | 1916 |
| <i>HOMOEOMMA</i> <i>nigrum</i> Pockock | ---; venomous; 53 | Ihering | 1916 |
| <i>KARNIOTHRIPS</i> <i>flavipes</i> (Jones) | ---; ---; 329° | Hood | 1927 |
| <i>LATRODECTUS</i> <i>curasaviensis</i> Miller | On tobacco plantation; causes Arachnoidism; 27°* | Mazza & Arias Arenda | 1931 |
| <i>mactans</i> Fabricius | ---; venomous; 27° | Sampayo | 1943 |
| | ---; venomous; 53 | Ihering | 1916 |
| | ---; severe general poisoning of nervous system; 75° | Donoso Barros | 1948 + |
| | ---; prefers dry places, most abundant in country, venomous; 240° | Escomel | 1919 |
| <i>LOXOSCELES</i> <i>laeta</i> Nicolet | ---; in houses, bite causes cutaneous gangrene and general systemic disturbances; 75° | Donoso Barros | 1948 + |
| <i>LYCOSA</i> <i>muma</i> Nicolet | ---; necrotic cutaneous lesions; 75° | Donoso Barros | 1948 + |
| <i>raptoria</i> | ---; venomous; 53 | Ihering | 1916 |

TABLE 1 - MISCELLANEOUS ARTHROPODS (continued)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|---|--|------------------|--------|
| <i>MENEMERUS bivittatus</i> (Dufour) | ---; venomous; 53° | Ihering | 1916 |
| <i>OPISTHACANTHUS lepturus</i> Palde | ---; ---; 238° | Baerg | 1925 |
| <i>PARAPONERA clavata</i> (F.) | ---; stings, causing severe irritation; 53°, 129° | Strong et al. | 1926 |
| | ---; ---; 237°, 238° | Weber | 1939 |
| <i>PEDICULUS corporis</i> De Geer | ---; common on man at high altitude; 82° | Dunn | 1929 |
| | ---; ---; 240° | Escomel | 1924 |
| <i>humanus capititis</i> De Geer | ---; on man, infected with spotted fever; 82° | Patino et al. | 1937 |
| <i>PHTHIRIUS pubis</i> Linnaeus | ---; common in the pubic region of humans, sometimes going to the underarms, head, and even the eyebrows; 328° | Martorell | 1939 |
| <i>POLYPLAX spinulosa</i> Burm. | ---; experimental transmission of typhus; 75° | Macchiavello | 1942 |
| <i>RHOPALURUS agamemnon</i> (Koch) | ---; may cause death; 53° | Neiva & Penna | 1916 |
| <i>borelli</i> Pocock | ---; occasionally fatal, 53° | Machado | 1943 |
| <i>SCOLOPENDRA gigantea</i> Linnaeus | ---; ---; 53°, 75°, 204, 328° (Bite may be fatal) | Machado | 1943 |
| <i>moreitana</i> Linnaeus | ---; bite causes general systemic disturbances, including vomiting; 53° | Machado | 1943 |
| <i>semichrasti</i> Saussure | ---; poisonous; 238° | Baerg | 1925 |
| <i>SCYTODES globula</i> Nicolet | ---; in houses, bite causes rash and fever; 75° | Donoso Barros | 1948 + |
| <i>SERICOPELMA connexa</i> Cambridge | ---; poisonous; 238° | Baerg | 1925 |
| <i>SOLEMOPSIS geminata</i> (Fabricius) | ---; in houses, bites severely; 53° | Strong et al. | 1926 |

TABLE 1 - MISCELLANEOUS ARTHROPODS (conclusion)

| SPECIES | BREEDING HABITS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS) | AUTHOR | DATE |
|--------------------------------------|---|------------------|--------|
| <i>TITYUS bahiensis</i> (Perty) | ---; may cause death of children; 53° | Neiva & Penna | 1916 |
| <i>cambridgei</i> Pocock | ---; ---; 130°* | Floch et al. | 1950 + |
| <i>serrulatus</i> Lutz & Mello | ---; enter houses, occasionally causes death; 53° | Machado | 1943 |
| <i>trinitatis</i> Pocock | ---; damp places in cane fields and banana plantations clinging to old wood, damp leaves, sugar canes, venomous; 329° | Waterman | 1939 |
| <i>TRICHODECES ornis</i> De Geer | ---; intermediate host of dog tapeworm (<i>Dipylidium caninum</i>) which is occasionally reported especially on children; 223 | Woke | 1947 |

TABLE 2 - SUMMARY OF DISEASES OR DISEASE ORGANISMS TRANSMITTED BY
MISCELLANEOUS ARTHROPODS

| SPECIES | DISEASE ORGANISM | | | | DISTRIBUTION |
|---|------------------------|----------|--|-------|----------------|
| | VIRUS & RICKETTSIA | PROTOZOA | HELMINTHS | OTHER | |
| <i>LATRODECTUS</i> <i>curacaoensis</i> Miller | | | | | Arachnidism 27 |
| <i>PEDICULUS</i> <i>corporis</i> De Geer | Exanthematic typhus | | | | 240 |
| <i>TITYUS</i> <i>cambridgei</i> Pocock | | | Severe poisoning and convulsions | | 130 + |

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13. ABSTRACT

The occurrence of insects and other arthropods of medical importance in Latin America (used here to denote all of South and Middle America, including the West Indies), adjacent islands (Bermuda and the Falklands), and lands within the Antarctic Circle, is summarized on the basis of a compilation of almost all available references in the scientific literature. The report includes, for each major group of arthropods, a listing of species and subspecies with biological and distributional data, tabulations of diseases or disease organisms transmitted, and complete literature citations.

The groups of arthropods included, with the number of species or subspecies in parentheses, are:

Part I: Mosquitoes (1,251)

Part II: Arthropods other than mosquitoes: Black flies (275), Sand flies (204), Midges (178), Horse flies (1,115), Biting flies (3), Non-biting flies (24), Fleas (356), Bugs (70), Urticating and vesicating arthropods (25), Ticks (182), Wites (73), and Miscellaneous arthropods (35).

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| KEY WORDS | LINK A | | LINK B | | LINK C | |
|-------------------|--------|----|--------|----|--------|----|
| | ROLE | WT | ROLE | WT | ROLE | WT |
| Distribution | 8 | | 8 | | | |
| Behavior | 8 | | 6 | | | |
| Arthropods | 9 | | 6 | | | |
| Mosquitoes | 9 | | 6 | | | |
| Flies | 9 | | 6 | | | |
| Fleas | 9 | | 6 | | | |
| Midges | 9 | | 6 | | | |
| Mites | 9 | | 6 | | | |
| Ticks | 9 | | 6 | | | |
| Latin America | 9 | | 9 | | | |
| Military medicine | 4 | | 7,9 | | | |
| Diseases | | | 9 | | | |
| Disease vectors | | | | | | |

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