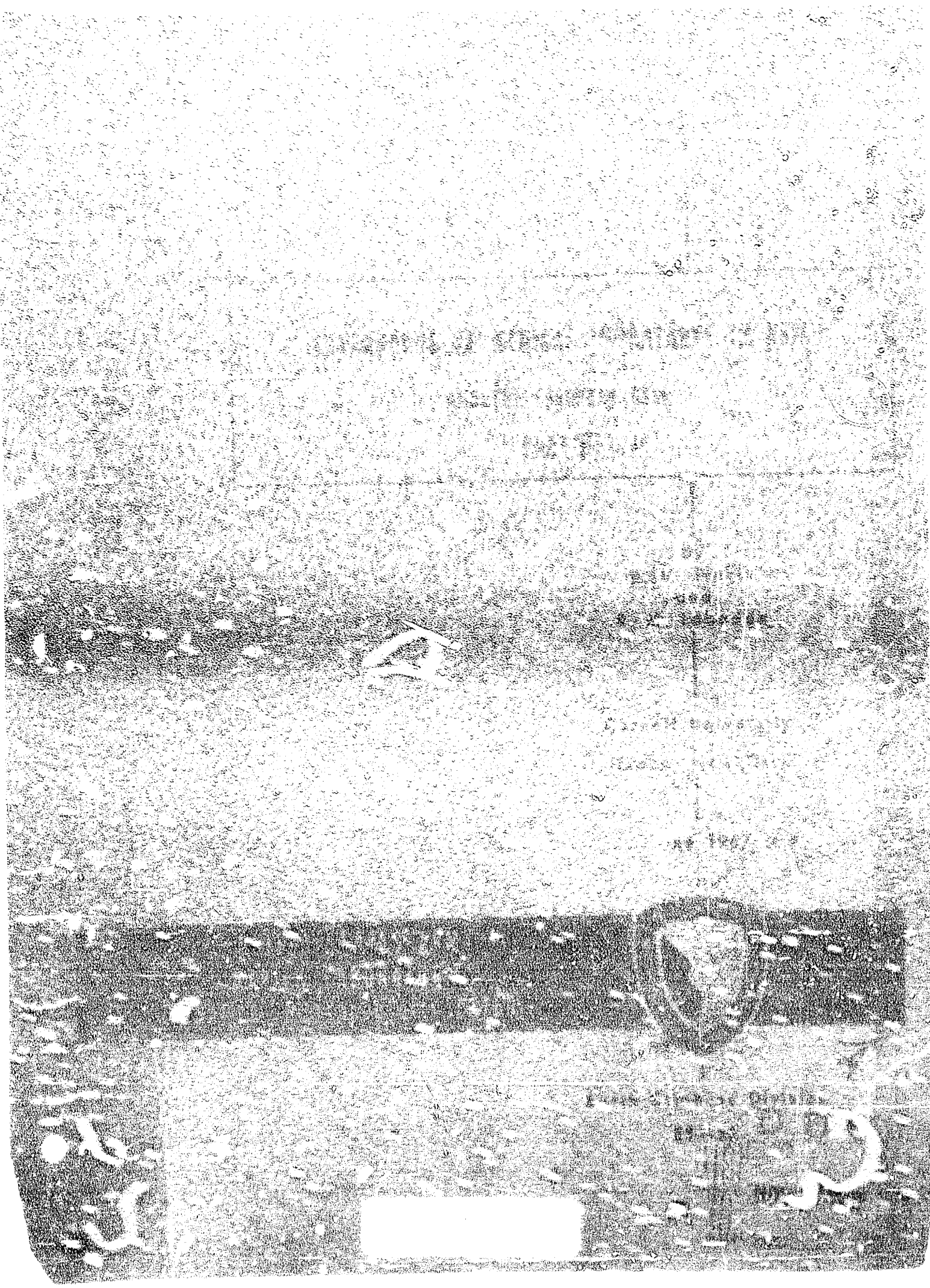




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TECHNICAL REPORT
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ARTHROPODS OF MEDICAL IMPORTANCE IN ASIA
(AND THE EUROPEAN USSR)

Part II of Two Parts, Printed Separately

by

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**ARTHROPODS OF MEDICAL IMPORTANCE IN ASIA
(AND THE EUROPEAN USSR)**

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 all countries or major regions in alphabetical order, and assigning a number to each. The following list consolidates the countries of Asia from that Index and makes a few additions to it. The countries, as named at the time of publication of the present report, are shown on the adjacent map. Major islands and important political units having less than country status are also identified on the map and in the following list.

All the numbers of Asian countries, and areas in Europe controlled by the Soviet Union, are listed in order. All entries in this report use these numbers instead of country or regional names. For example, when number 3 is entered, it stands for Afghanistan; 59 stands for Burma. Where the authors have not recorded a specific country, an inclusive title is entered, e.g., 31 for Asia. This is the principal purpose of the Index: to identify the countries represented by numbers under DISTRIBUTION (Table 1) or COUNTRY (Table 2).

The Index also includes at least the major synonyms. The synonymy is preceded by a dash, the numbers appearing with the main entries. For example, the number 150 identifies Iran, but in alphabetical order among the P's is the synonym "-Persia or Iran, 150".

All countries in the 1962 Index are listed and cross-referenced through "332. Yemen" (the last number). The addenda to the original Geographic Index start with number 337. The numerical order is maintained in the addenda, but not the alphabetical order. However, entries from the addenda are cross-referenced alphabetically in the main list. For example, in the main list we have "-Middle East (Inclusive title), 340."

*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, 259 pp.

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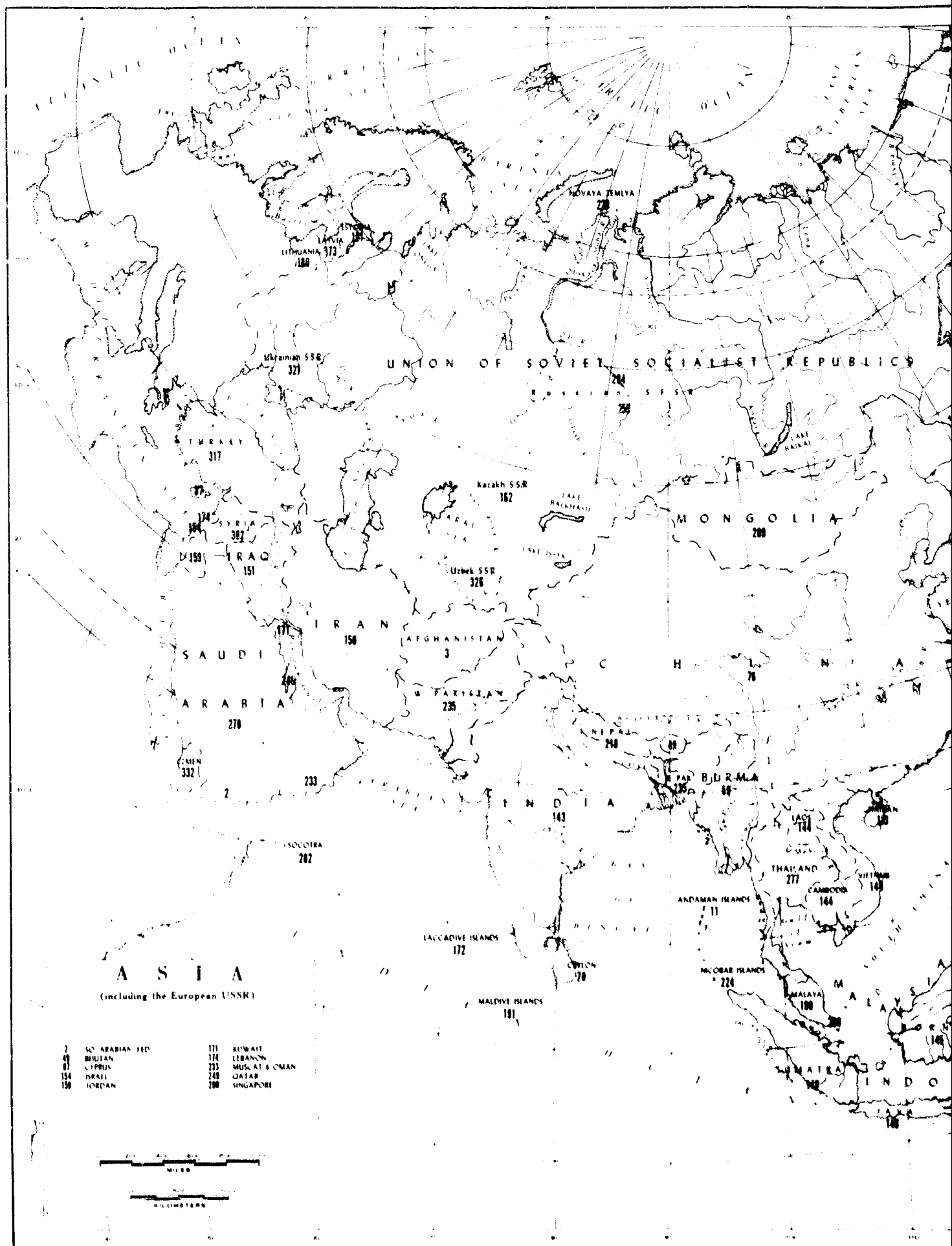
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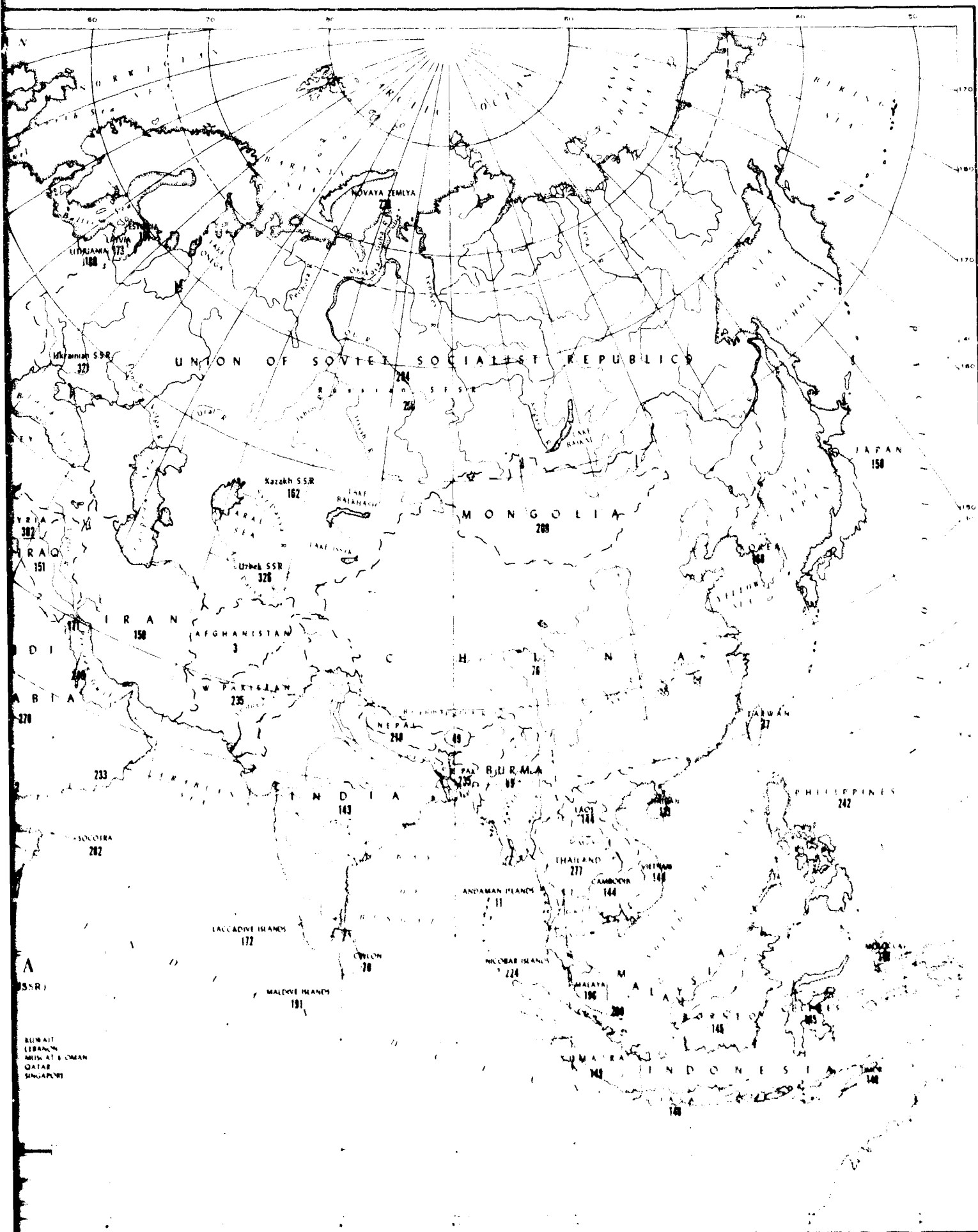
332. Yemen

* * * * *

ADDENDA:

- 337. East Indies or Indonesia (Inclusive title)
- 339. South Japan Islands (Inclusive title)
- 340. Middle East (Inclusive title)
- 342. Palestine (formerly), now includes Israel, 154 and Jordan, 159 (in part)
- 345. Transcaucasia or Caucasus (Inclusive title)
- 349. Portuguese India (formerly) (Inclusive title)
- 350. Asia Minor (Inclusive title)
- 353. Mongolia (Inclusive title)
- 354. Transcaspia (Inclusive title)
- 366. Bengal (Inclusive title)





B

B. BLACK FLIES

The black fly entries include little on biology. No disease transmission was recorded. Most of the recorded information is on distribution. In the table are listed 228 species or subspecies.

TABLE 1 - BLACK FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ASTEGA</i> <i>lanata</i> Takahasi	---; ---; 194	Takahasi	1940
<i>BOOPHTHORA</i> <i>erythrocephala</i> (De Geer)	---; ---; 60°, 162, 294. Forest streams, seldom in rivers; ---; 256°	Ussova	1961
<i>BYSSODON</i> <i>transiens</i> (Rubtsov)	Fast rivers with rocks and vegetation; June-July; 256	Ussova	1961
<i>CNEPHIA</i> <i>kariyai</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>lanta</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>lapponica</i> (Enderlein)	---; ---; 30. On rock face of fast flowing rivers; May and June; 256. ---; April; 321	Ussova	1961
<i>pallipes</i> (Fries)	Mountain and foothill rivers with rocky bottom; ---; 256	Ussova	1961
<i>trigonia</i> (Lundström)	---; ---; 256	Ussova	1961
<i>EUSIMULIUM</i> <i>angustitarse</i> (Lundström)	---; ---; 256, 294	Ussova	1961
<i>annuum</i> (Lundström)	Fast cold rivers with rocks and water plants; ---; 256	Ussova	1961
<i>aureum</i> Fries	Slow and clean warm waters, sometimes dirty streams; ---; 72, 256	Ussova	1961
	---; ---; 194	Barnett & Toshioka	1951
<i>beltukovae</i> Rubtsov	Cold, clean and shaded spring streams with sand and silt bottom; ---; 256 (Bites man)	Ussova	1961
<i>bicornis</i> (Dorogustajski & Rubtsov)	Clean lake, mud, spring, streams, small mountain rivers with rocky bottom; ---; 256 (Bites man)	Ussova	1961
<i>bicornis</i> (Dorogustajski, Rubtsov & Vlasenko)	---; ---; 194, 256	Barnett & Toshioka	1951

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>EUSIMULIUM</i> <i>bonninense</i> Shiraki	---; ---; 257	Shiraki	1935
<i>crassum</i> (Rubtzov)	Small mud streams with rocks and water plants; Aug.; 256	Ussova	1961
<i>dogieli</i> (Ussova)	Mud streams with rocky bottom; July; 256	Ussova	1961
<i>falsum</i> Shiraki	---; ---; 158	Shiraki	1935
<i>fontinale</i> (Rubtzov)	Fast moving mountain streams with rocky bottom; June; 256	Ussova	1961
<i>goniatare</i> Shiraki	---; ---; 77°	Shiraki	1935
<i>hololepis</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>koidzumii</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>larionum</i> Rubtzov	Warm moving waters, attached to rocky bottom; ---; 256. ---; ---; 294	Ussova	1961
<i>latipes</i> (Meigen)	---; ---; 194, 256, 345 (Near springs)	Barnett & Toshioka	1951
	Mud streams, lake, spring, small rivers with rocks; May; 256°, 294°	Ussova	1961
<i>longum</i> Ussova	Slow flowing cold water; May; 256	Ussova	1961
<i>pygmaeum</i> (Zetterstedt)	River with rocky bottom; July-Aug.; 72. 256	Ussova	1961
<i>ripes</i> Shiraki	---; ---; 77°	Shiraki	1935
<i>robustum</i> (Rubtzov)	Big fast flowing rivers and clear water with rocky bottom, July-Aug.; 256°	Ussova	1961
<i>shikotsuensis</i> Takahasi	---; ---; 194	Takahasi	1940
<i>shikotsuensis</i> (Wahlberg)	Cold and clear small river, mountain streams with rocks and moss bottom; ---; 256	Ussova	1961

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HELODON</i>			
<i>japonicum</i> (Matsumura)	---; ---; 158°	Kono & Takahasi	1940
<i>sapporoensis</i> Shiraki	---; ---; 158	Shiraki	1935
<i>NEVERMANNIA</i>			
<i>brunetti</i> Enderlein	---; ---; 143	Enderlein	1934
<i>ODAGMIA</i>			
<i>bidentata</i> Shiraki	---; ---; 158	Shiraki	1935
<i>frigida</i> (Rubtsov)	River with vegetations, rivulets with warm water and seldom in reservoirs; ---; 256	Ussova	1961
<i>halonensis</i> Takahasi	---; ---; 194	Takahasi	1949
<i>iwatensis</i> Shiraki	---; ---; 158°, 256°	Kono & Takahasi	1949
	---; ---; 158	Shiraki	1935
<i>japonica</i> Shiraki	---; ---; 158	Shiraki	1935
<i>karankensis</i> Shiraki	---; ---; 77	Shiraki	1935
<i>kiritschenkoi</i> Rubtsov	---; ---; 28	Terterjan	1957
<i>monticola</i> (Friederick)	Cold streams; ---; 256, 345	Ussova	1961
<i>oizumi</i> Shiraki	---; ---; 158	Shiraki	1935
<i>ornata</i> (Meigen)	---; ---; 158, 162, 294. Lake streams and rivers; active in June and July; 256	Ussova	1961
	---; ---; 256°	Kono & Takahasi	1940
<i>rotundata</i> Rubtsov	Small streams and rivulets; ---; 256	Ussova	1961
<i>PROSIMULIUM</i>			
<i>alpestre</i> Dorogustajski, Rubtsov & Vlasenko	---; ---; 256	Anonymous	1945a
<i>ferrugineum</i> Wahlberg	---; ---; 256	Rubtsov	1940

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PROSIMULIUM</i> <i>hirtipes</i> (Fries)	---; ---; 194, 256 (Near springs and streams, attacks man severely)	Barnett & Toshioka	1951
	Mountains and rivers with no vegetation, fast streams; ---; 256°	Ussova	1961
<i>hirtipes</i> <i>tridentatum</i> (Fries)	---; ---; 256	Anonymous	1945a
<i>kamtshaticum</i> Rubtsov	---; ---; 256	Anonymous	1944
<i>kamtshaticum</i> <i>irritans</i> (Rubtsov)	---; ---; 256	Anonymous	1945
<i>kiitoense</i> Shiraki	---; ---; 158	Shiraki	1935
<i>meropyga</i> (Lundström)	Spring rivulet, mountain streams, rivers, leaves and rocks; ---; 256	Ussova	1961
<i>pezoense</i> Shiraki	---; ---; 158°	Kono & Takahasi	1940
	---; ---; 158	Shiraki	1935
<i>colombi</i> <i>colombi</i> Fabricius	---; ---; 256	Ussova	1961
<i>SCHÖNHAUSERIA</i> <i>ortholepsis</i> Enderlein	In fast flowing water; ---; 256°	Bening	1924
	---; ---; 294	Enderlein	1920
<i>pusilla</i> (Fries)	Large and small rivers, smooth and fast flowing waters; July; 60, 256	Ussova	1961
<i>pusilla</i> (Rubtsov)	Smooth and slow flowing waters with vegetation; ---; 256	Ussova	1961
<i>pusilla</i> <i>pusilla</i> Meigen	---; ---; 256	Ussova	1961
<i>pusilla</i> <i>pusilla</i> Rubtsov	---; ---; 256	Anonymous	1945a
<i>pusilla</i> Shiraki	---; ---; 77	Shiraki	1935
<i>pusilla</i> Lundström	---; ---; 101	Dampf	1924
	---; ---; 256	Anonymous	1945a

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>annulipes</i> Shiraki	---; ---; 158, 256	Shiraki	1935
<i>arenosae</i> Rubtsov	---; ---; 256	Anonymous	1945a
<i>argentipes</i> Edwards	---; ---; 190	Edwards	1928
<i>argyrolatus</i> Meigen	---; ---; 101	Dampf	1924
	Large and small rivers, warm and slow flowing waters, rivulets, rocks and vegetations; ---; 256. ---; June; 294	Ussova	1961
<i>argyrochlamys</i> de Meijere	Grass in rapid streams; ---; 146, 149	Edwards	1934
	---; ---; 337	Puri	1932
<i>arispum</i> Shiraki	---; ---; 77	Shiraki	1935
<i>atratum</i> de Meijere	---; ---; 146	Edwards	1934
	---; ---; 190	Edwards	1928
<i>auriculatus</i> Brunetti	---; ---; 70	Edwards	1928
	Small streams with vegetation, stagnant water; ---; 143, 235	Puri	1933b
	Channel in rice field; ---; 146, 149	Edwards	1934
<i>caeruleum</i> Fries	---; ---; 101	Dampf	1924
	Streams; ---; 143	Puri	1933b
	---; irritating bite, prefers to obtain blood from a number of punctures; 154°	Buxton	1924
	---; June; 256°	Olenev	1945
	---; ---; 256	Rubtsov	1940
<i>caudatum</i> Edwards	Fast flowing warm water, large river bottom with vegetation and rocks; ---; 60, 256	Ussova	1961
<i>californicum</i> Delfinado	---; ---; 242	Delfinado	1960
<i>californicum</i> Delfinado	---; ---; 242	Delfinado	1960

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>barraudi</i> Puri	Streams; ---; 143, 235	Puri	1932c
<i>batoensa</i> Edwards	Small and not very rapid streams; ---; 146	Edwards	1934
<i>beckeri</i> Roubaud	---; ---; 342	Edwards	1923
<i>bianchii</i> Rubtzov	---; ---; 256	Anonymous	1945a
<i>blacarne</i> Dorogustajski & Rubtzov	---; ---; 256	Anonymous	1945a
<i>bicornis</i> Dorogustajski & Rubtzov	---; ---; 256	Rubtzov	1940
<i>bipunctatum</i> Austen	---; May-June, common after sunrise; 151	Austen	1923
<i>bujakovi</i> Rubtzov	---; ---; 256	Anonymous	1945a
<i>cygnorum</i> Enderlein	---; ---; 190	Edwards	1928
<i>choledkovskii</i> Rubtzov	Found on grass and stones in rivers; June-July, 256° ---; on vegetation; 256	Rubtzov Detinova & Bel'Tyukova	1940 1958
<i>christophersi</i> Puri	Streams; ---; 143, 235	Puri	1932b
<i>conimilis</i> Puri	Mill-stream, river, stream; ---; 143	Puri	1932
<i>crassum</i> Friedrichs	Streams and rivers of moderate speed; severe bloodsucker; 256° ---; ---; 256 ---; ---; 345	Edwards et al Rubtzov Pronevich	1939 1940 1945
<i>curvicauda</i> Rubtzov	---; ---; 256	Anonymous	1944
<i>dissectum</i> Dorogustajski, Rubtzov & Nasenko	---; ---; 256	Rubtzov	1940

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>dentatum</i> Puri	Hill streams; ---; 143	Puri	1932c
<i>dershavini</i> Rubtzov	---; ---; 256	Anonymous	1945a
<i>deserticola</i> (Rubtzov)	---; ---; 256	Anonymous	1944a
<i>digitatum</i> Puri	Streams; ---; 143	Puri	1932c
<i>digrammicum</i> Edwards	---; ---; 190, 277	Edwards	1928
<i>diversipes</i> Edwards	---; ---; 146	De Meillon	1930
<i>duodecimatum</i> (Rubtzov)	---; ---; 256	Anonymous	1945a
<i>edwardsianum</i> Gibbins	---; ---; 256	Anonymous	1945a
<i>ephemerophilum</i> Rubtzov	In rivers, on larvae of <i>Ephemera</i> ; ---; 162	Grenier & Mouchet	1959
<i>equinum</i> (Linnaeus)	Below surface of water; ---; 76	Patton	1926
	---; ---; 101	Dampf	1924
	---; ---; 154	Austen	1921
	---; ---; 256	Anonymous	1945a
	---; ---; 342	Edwards	1923
<i>equinum</i> var. <i>mediterraneum</i> Puri	Streams with grass; ---; 143. Submerged grass in irrigation channel, river and stream on stones; ---; 235	Puri	1933b
	---; ---; 345	Rubtzov	1940
<i>erythrocephalum</i> (De Geer)	---; ---; 256	Anonymous	1944a
<i>eximium</i> de Meijere	---; ---; 146	Edwards	1934
	---; ---; 190	Edwards	1928
	---; ---; 337	Puri	1932

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>fenestratum</i> Edwards	Forest streams; ---; 149	Edwards	1934
<i>ferganica</i> Rubtzov	---; ---; 345	Rubtzov	1940
<i>ferrugineum</i> Wahlberg	---; ---; 256	Ussova	1961
<i>feuerborni</i> Edwards	Streams; ---; 146	Edwards	1934
<i>flavipes</i> Austen	---; ---; 159	Austen	1921
<i>flavoantennatum</i> (Rubtzov)	---; ---; 256	Anonymous	1945a
<i>flavocinctum</i> Edwards	Forest stream; ---; 149	Edwards	1934
<i>forbesi</i> Malloch	---; ---; 256	Ussova	1961
<i>fridolini</i> Rubtzov	---; ---; 256	Anonymous	1945a
<i>friederichsi</i> Edwards	---; ---; 146	Edwards	1934
<i>fuscopilosum</i> Edwards	---; ---; 190	Edwards	1928
<i>galeratum</i> Edwards	---; river; 256°	Detinova & Bel'Tyukova	1958
<i>gravelyi</i> Puri	Stream; ---; 143	Puri	1933
<i>griseifrons</i> Brunetti	Streams, falls; ---; 143, 235	Puri	1932c
	---; ---; 190	Edwards	1928
<i>griseescens</i> Brunetti	---; ---; 70	Senior-White	1922
	Streams; ---; 143	Puri	1932
	---; ---; 190	Edwards	1928
<i>griseescens</i> <i>palmatum</i> Puri	Streams; ---; 143	Puri	1932
<i>gurneyae</i> Senior-White	Streams; ---; 143	Puri	1932a

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>haackeri</i> Edwards	---; in mountains; 190, 277	Edwards	1928
<i>halonensis</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>himalayense</i> Puri	Small streams, hills; ---; 143	Puri	1932a
<i>hirtinervis</i> Edwards	---; ---; 190	Edwards	1928
<i>hirtipannus</i> Puri	---; ---; 143	Puri	1932
<i>hirtipes</i> Fries	Cold and clean waters in mountain-like areas; ---; 256	Ussova	1961
	---; ---; 256° (In rapid hill streams; on large stones or rocky bottom)	Edwards et al.	1939
	---; ---; 342	Bodenheimer	1937
<i>howletti</i> Puri	---; ---; 143	Puri	1932
<i>indicum</i> Becker	---; ---; 143°	Brunetti	1917
	---; ---; 190	Edwards	1928
<i>iridescens</i> de Meijere	Forest streams; ---; 146, 149	Edwards	1934
	---; ---; 190	Edwards	1928
<i>ishikawai</i> Takahasi	---; ---; 194	Takahasi	1940
<i>jaenticum</i> (Rubtzov)	---; ---; 256	Anonymous	1945a
<i>japonicum</i> Matsumura	---; ---; 158, 170, 256	Kono & Takahasi	1940
<i>kariyai</i> Takahasi	---; ---; 194	Hsiao	1946
<i>kashmiricum</i> Edwards	---; ---; 235°	Edwards	1927
<i>katoi</i> Shiraki	---; ---; 77	Shiraki	1935
<i>kerteszi</i> Enderlein	---; ---; 101	Dampf	1924

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>kerteszi</i>			
<i>melanobrachium</i> Dampf	---; ---; 101	Dampf	1924
<i>koidzumi</i> Takahasi	---; ---; 194	Hsiao	1946
<i>lanata</i> Takahasi	---; ---; 194	Hsiao	1946
<i>latipes</i> Meigen	---; June; 256°	Olenev	1945
	---; ---; 256	Rubtzov	1940
	---; ---; 342	Bodenheimer	1937
	---; ---; 345	Pronevich	1945
<i>latipes</i> var. <i>tjibodense</i> Edwards	---; ---; 146	Edwards	1934
<i>latipes</i> var. <i>tosariense</i> Edwards	---; ---; 146	Edwards	1934
<i>latistriatum</i> Senior-White	---; ---; 143	Senior-White	1922
	---; ---; 190	Edwards	1928
<i>lineatum</i> Puri	Streams; ---; 143	Puri	1932c
<i>lineothorax</i> Puri	---; ---; 143	Puri	1932
<i>lyra</i> (Lundström)	---; ---; 256	Anonymous	1945a
<i>maculatum</i> Meigen	Submerged vegetation in not too strong current; ---; 256	Bening	1924
	---; islands in river, June; 256°	Olenev	1945
<i>maculatum</i> <i>ussurianum</i> Rubtzov	---; ---; 256	Blagoveschenskii	1940
<i>malyahevi</i> Dorogustajski & Rubtzov	---; ---; 256	Rubtzov	1940
<i>matthiesseni</i> Enderlein	---; islands in river, June; 256°	Olenev	1945

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>melanopus</i> Edwards	---; ---; 242	Delfinado	1960
<i>metatarsale</i> (Brunetti)	---; ---; 143, 146	Edwards	1934
	---; ---; 190	Edwards	1928
<i>minutum</i> Shiraki	---; ---; 77	Shiraki	1935
<i>montanum</i> Rubtzov	---; ---; 345	Pronevich	1945
<i>monticola</i> Friedrichs	---; ---; 345	Rubtzov	1940
<i>morsitans</i> Edwards	---; ---; 194, 256 (Bites man)	Barnett & Toshioka	1951
	Warm waters, small and large clean, slow-flowing rivers; July-Aug.; 256. ---; ---; 294	Ussova	1961
<i>murmanum</i> Enderlein	---; ---; 256	Enderlein	1935
<i>nebulicola</i> Edwards	---; ---; 146	Edwards	1934
<i>nikkoense</i> Shiraki	---; ---; 158	Shiraki	1935
<i>nilgiriicum</i> Puri	---; ---; 143	Puri	1932a
<i>nipponense</i> Shiraki	---; ---; 158*	Kono & Takahasi	1940
	---; ---; 158	Shiraki	1935
<i>nitidithorax</i> Puri	---; ---; 143	Puri	1933a
<i>nobile</i> de Meijere	---; at light; 146	Edwards	1925
	---; ---; 149	Edwards	1934
	---; ---; 190	Edwards	1928
<i>nodosum</i> Puri	---; ---; 143	Puri	1933a
<i>nölleri</i> Friedrichs	---; ---; 194	Barnett & Toshioka	1951
	Warm streams and rivulets with rocky bottom; ---; 256. ---; ---; 294 (Bites man)	Ussova	1961

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i>			
<i>novolineatum</i> Puri	---; ---; 143	Puri	1933a
<i>omorii</i> Takahasi	---; ---; 194	Barnett & Toshioka	1951
<i>ornatum</i> Meigen	---; ---; 101	Dampf	1924
	---; ---; 143	Puri	1932
	---; June; 256°	Olenev	1945
	---; ---; 256	Rubtzov	1940
<i>ornatum</i> <i>caucasicum</i> Rubtzov	In clear water; ---; 256	Pronevich	1945
	---; ---; 345	Rubtzov	1940
<i>oshimanum</i> Shiraki	---; ---; 158	Shiraki	1935
<i>pallidum</i> Puri	Small streams, rivers; ---; 143	Puri	1932
<i>pallipes</i> Meigen	---; ---; 256	Ussova	1961
	---; ---; 345	Rubtzov	1940
<i>palmiense</i> Puri	Streams; ---; 143	Puri	1933
<i>paraequinum</i> Puri	---; ---; 28	Crosskey	1962
	Stream; ---; 235	Puri	1933b
<i>paramonitans</i> Rubtzov	Warm and fast flowing water, river bottom with vegetations; ---; 60, 256, 321	Ussova	1961
<i>pattoni</i> Senior-White	---; ---; 70	Puri	1932
	---; ---; 143	Senior-White	1922
	---; ---; 190	Edwards	1928
<i>philipinensis</i> Delfinado	---; ---; 242	Delfinado	1960
<i>popovae</i> Rubtzov	---; ---; 345	Rubtzov	1940
<i>pseudonartium</i> (Rubtzov)	---; ---; 256	Anonymous	1944
<i>pulchripes</i> Austen	River bed; ---; 317	Austen	1925

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>pusillum</i> Fries	---; Aug.; 256	Breev	1950
<i>ramosum</i> Puri	---; ---; 143	Puri	1932b
<i>relictum</i> Rubtzov	---; ---; 256	Rubtzov	1940
<i>reptans</i> Linnaeus	---; ---; 28	Popoff	1924
	---; ---; 194°	Barnett & Toshioka	1951
	---; ---; 194	Takahasi	1940
	Fast flowing clean rivers; ---; 256, 294 (Bites man)	Ussova	1961
<i>reptans</i> var. <i>syriaca</i> Roubaud	---; ---; 342	Bodenheimer	1937
<i>rufibasis</i> Brunetti	Streams, rivers; ---; 143	Puri	1932b
	---; ---; 190	Edwards	1928
<i>rufibasis</i> <i>fasciatum</i> Puri	Streams; ---; 143	Puri	1932b
	Hill stream; ---; 235	Puri	1932b
<i>ruficornis</i> Macquart	---; ---; 342	Van Someren	1944
<i>rufithorax</i> Brunetti	---; ---; 190	Edwards	1928
<i>senile</i> Brunetti	---; ---; 143	Brunetti	1917
	---; ---; 190	Edwards	1928
<i>septentrionale</i> Enderlein	---; ---; 256	Enderlein	1935
<i>sericatum</i> Meigen	---; ---; 101	Dampf	1924
<i>shaujakovi</i> Dorogustajski & Rubtzov	---; ---; 256	Rubtzov	1940
<i>sibiricum</i> Enderlein	---; ---; 256	Anonymous	1945a

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>similis</i> Rubtzov	In streams; ---; 256	Rubtzov	1940
<i>splendidum</i> Rubtzov	---; ---; 194, 256	Barnett & Toshioka	1951
<i>stevensoni</i> Edwards	---; ---; 235	Edwards	1927
<i>striatum</i> Brunetti	---; ---; 70, 143	Puri	1932
	---; ---; 190	Edwards	1928
	---; ---; 349	De Mello & Afonso	1921
<i>submorsitans</i> (Seguy)	---; ---; 256	Anonymous	1945a
<i>subornatum</i> Edwards	---; ---; 256	Rubtzov	1940
<i>subpusillum</i> (Fries)	---; ---; 256	Anonymous	1945a
<i>subvariegatum</i> Rubtzov	---; ---; 256	Rubtzov	1940
<i>sundatium</i> Edwards	Small stream; ---; 146, 149	Edwards	1934
<i>tarnogradskii</i> Rubtzov	---; April-June; 35	Abusalimov	1947
	---; ---; 345	Rubtzov	1940
<i>tenuitarsus</i> Puri	Stream; ---; 143	Puri	1933
<i>terminassjanae</i> Rubtzov	---; ---; 345	Pronevich	1945
<i>thienemannii</i> Edwards	---; ---; 146	Edwards	1934
<i>transbaicalicus</i> Rubtzov	---; ---; 256	Rubtzov	1940
<i>transcaspius</i> Enderlein	---; ---; 345	Enderlein	1920
<i>transiens</i> Rubtzov	---; ---; 256	Rubtzov	1940

TABLE 1 - BLACK FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIMULIUM</i> <i>truncatum</i> Lundström	Warm waters, small and large streams, rivulets, bottom rocks and plants; June; 256. ---; ---; 294 (Bites man)	Jasova	1961
<i>tuberosum</i> (Lundström)	Small and large fast flowing warm rivers, streams with vegetation and rocky bottom; ---; 256 (Bites man)	Uasova	1961
	---; Aug.; 256	Breev	1950
<i>tuberosum</i> <i>polare</i> Lundström	---; ---; 256	Anonymous	1945a
<i>tuberosum</i> <i>vulgaris</i> Dorogustajski & Rubtsov	---; ---; 256	Rubtsov	1940
<i>varicolum</i> Seguy	---; ---; 342	Bodenheimer	1937
<i>varicorne</i> Edwards	Forest stream; ---; 146, 149	Edwards	1934
	---; in house; 149	Edwards	1925
	---; ---; 190	Edwards	1928
<i>variegatum</i> Meigen	---; ---; 345	Pliginskich	1945
<i>varium</i> Meigen	---; ---; 342	Bodenheimer	1937
<i>venustum</i> Say	---; ---; 158°, 256°	Kono & Takahasi	1940
	---; June; 256	Olenev	1945
<i>venustum</i> <i>swedeni</i> Edwards	---; ---; 256	Anonymous	1945
<i>venustum</i> <i>kamtschaticum</i> Rubtsov	---; ---; 256	Anonymous	1944
<i>yakutense</i> Shiraki	---; ---; 158	Shiraki	1935
<i>amictus</i> Rubtsov	---; April-June; 35	Abusalimov	1947
<i>amictus</i> Edwards	Forest stream; ---; 149	Edwards	1934

TABLE 1 - BLACK FLIES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STEGOPTERNA</i> <i>richteri</i> Enderlein	Shallow rivulets with bed channel covered with small rocks or silt; ---; 256	Ussova	1961
<i>STILBOPLAX</i> <i>equinum</i> Linnaeus	---; occasionally bites man; 158°	Shiraki	1935
<i>S-striatum</i> Shiraki	---; ---; 77, 158	Shiraki	1935
<i>TITANOPTERYX</i> <i>koidzumii</i> Takahasi	---; ---; 194	Takahasi	1940
<i>WILHELMIA</i> <i>equina</i> (Linnaeus)	Large and small rivers, smooth and fast flowing water with vegetation; ---; 256. ---; ---; 294 (Bites man)	Ussova	1961
<i>paraequina</i> Puri	---; ---; 28	Terterjan	1957

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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 biology and disease transmissions of these species. Most of the data are distributional records.

The tables include 166 species or subspecies most of which are in the large genus *Phlebotomus*.

TABLE 1 - SAND FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PERICOMA</i>			
<i>margininotata</i> Brunetti	---; ---; 143	Brunetti	1917
<i>margininotata</i> var. <i>bella</i> Brunetti	---; ---; 143	Brunetti	1917
<i>metatarsalis</i> Brunetti	---; ---; 143	Brunetti	1917
<i>metatarsalis</i> var. <i>knasiensis</i> Senior-White	---; ---; 143	Senior-White	1922
<i>mixta</i> Brunetti	---; ---; 143	Brunetti	1917
<i>spiniornis</i> Brunetti	---; ---; 143	Brunetti	1917
<i>PHLEBOTOMUS</i>	---; ---; 143, 342	Theodor	1948
<i>africana</i>	---		
<i>asiatica</i> (Theodor)	---; ---; 154	Pringle	1953
<i>africanus</i> Newstead	---; ---; 143	Sinton	1932 a
	---; ---; 154, 159	Adler & Theodor	1929
	---; ---; 326	Khodukin	1929
	---; ---; 342	Adler & Theodor	1927
<i>alexandri</i> Sinton	---; ---; 31	Theodor	1948
	---; ---; 143, 317	Theodor	1947
	---; ---; 151°, 154	Pringle	1953
	---; caves, ruins; 162	Grebel'skii	1939
	---; enters houses; 166	Petrishcheva & Aluimov	1940
	---; enters houses; 318	Petrishcheva	1936
<i>angustipennis</i> de Meijere	---; ---; 146	Sinton	1928
<i>annandalei</i> Sinton	---; ---; 70	Sinton	1924 a
	---; enters houses, Feb.; 143	Sinton	1923

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>antennatus</i> Newstead	---; July-Aug., enters houses; 70	Carter & Antonipulle	1949
	---; ---; 143	Roy & Brown	1954
<i>arboris</i> Sinton	---; ---; 70	Theodor	1948
	Tree holes; ---; 143	Sinton	1932 a
<i>argentipes</i> Annandale & Brunetti	---; warm moist climate up to 4,000 feet altitude, suspected carrier of Kala-azar; 59, 143	Sinton	1932 a
	---; enters houses, July, Aug. and Jan.; 70	Carter & Antonipulle	1949
	---; active all year; 70, 143	Sinton	1924 a
	---; ---; 70 (Bites man). ---; carrier of <i>Leishmania</i> ; 143	Roy & Brown	1954
	Sides of reservoirs, in soil sheltered from sun by thick vegetation; enters houses; 143	Smith et al.	1936
	Debris near houses; rare Dec.-Feb.; 143	Shortt et al.	1930
	---; transmits visceral Leishmaniasis by crushing and occasionally by bite; 143*°	Adler	1929
	---; naturally infected with <i>Leishmania donovani</i> , experimentally infected with Kala-azar; 143	Shortt et al.	1927
	---; experimentally infected with <i>Leishmania</i> <i>donovani</i> and <i>L. tropica</i> ; 143	Napier	1930
	---; suspected vector of visceral Leishmania; 143. ---; April; 144	Raynal & Gaschen	1935 d
	---; experimental transmission of Kala-azar; 143	Shortt & Swaminath	1928
	---; in stables; 143	Christophers et al.	1925
	---; Apr.-June; 143	McCombie Young	1927
	---; Mar.-Nov.; 143	Shortt	1945
<i>argentipes</i> <i>marginatus</i> Annandale	---; ---; 70, 143	Sinton	1924 a

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>babu</i>	---; ---; 143°	Smith et al.	1936
<i>Annandale</i>	---; ---; 143	Sinton	1932 a
	---; ---; 235	Roy & Brown	1954
<i>babu</i>			
<i>var. niger</i>	---; ---; 143	Sinton	1932 a
<i>Annandale</i>			
<i>baghdadis</i>	---; ---; 143, 235	Roy & Brown	1954
<i>Adler & Theodor</i>	---; ---; 151	Adler & Theodor	1929
<i>bailyi</i>	---; enters houses; 143. ---; ---; 235	Sinton	1931 a
<i>Sinton</i>			
<i>bailyi</i>	---; ---; 76, 133. ---; plains; 143. ---; wooded rolling country, at altitudes of 20-130 meters, enters houses, abandoned buildings and ruins; 144	Dicke & Hsiao	1946
<i>campester</i>	---; plains, hilly regions; 144	Gaschen & Nguyen-Nguyen	1938
<i>Sinton</i>	---; enters houses; 277	Sinton	1931
<i>barraudi</i>	---; ---; 59, 143	Hsiao	1945
<i>Sinton</i>	---; enters houses, on man; 76°. ---; in low regions, in altitudes of 3,900-5,200 feet, near dwellings; 144°	Raynal	1936
	---; August; 76. ---; May-June; 144	Raynal & Gaschen	1935
	---; ---; 133, 144 (Found almost exclusively at high altitudes)	Dicke & Hsiao	1946
<i>barraudi</i>			
<i>var. kwangsiensis</i>	---; ---; 76, 133	Dicke & Hsiao	1946
<i>Yao & Wu</i>			
<i>barraudi</i>	---; ---; 143, 144, 277 (Cool moist soil rich with decaying matter, enters houses)	Causey	1938
<i>var. siamensis</i>			
<i>Causey</i>			
<i>bigtii</i>	---; ---; 242	Manalang	1931
<i>Manalang</i>			
<i>borovskii</i>	---; ---; 31	Chodukin & Sofieff	1931
<i>(Chodukin & Sofieff)</i>			

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>bukidnonis</i> Quate	---; tree holes; 242	Quate	1965
<i>caucasicus</i> Marzinowsky	---; ---; 3, 162, 325, 345. ---; bites day and night, indoors and outdoors, experimentally infected with <i>Leishmania tropica</i> ; 150°	Adler et al.	1930
	---; ---; 28	Burakova & Mirzayan	1934
	---; ---; 31	Chodukin & Sofieff	1931
	Dark, damp places with decomposing organic matter; June-Nov.; 118	Kamalow	1934
	---; caves and ruins; 162	Grebel'skii	1939
	---; enters houses; 166°	Petrishcheva & Aluimov	1940
	---; ---; 303°	Shchurenkova	1937
	---; ---; 317	Anonymous	1944
	---; ---; 321	Nasonov	1929
<i>chalami</i> Young & Chalam	---; ---; 143	McCombie Young & Chalam	1927
<i>chinensis</i> Newstead	---; ---; 28	Burakova & Mirzayan	1934
	---; ---; 31	Chodukin & Sofieff	1931
	---; ---; 35	Perfil'ev & Gutzevich	1935
	---; experimentally infected with flagellates, naturally infected with and vector of <i>Leishmania donovani</i> , May-Sept., enters houses; 76*. ---; experimentally infected with flagellates; 144	Dicke & Hsiao	1946
	---; naturally infected with flagellates, in houses, May-July; 76*	Yuan	1939
	---; experimental transmission of <i>Leishmania donovani</i> ; 76	Hindle	1931
	---; carrier of <i>Leishmania donovani</i> ; 76	Roy & Brown	1954
	---; naturally infected with <i>Wuchereria bancrofti</i> , in houses; 76	Hsiao	1943

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS chinensis</i> Newstead (cont.)	---; ---; 76, 194 (Attacks man)	Barnett & Toshioka	1951
	Dark, damp places with decomposing organic matter; June-Nov.; 118	Kamalov	1934
	---; ---; 143, 345	Sinton	1928
	---; enters houses, in cracks and crevices; 154	Jacusieli	1947
	--- ---; 152, 302, 326, 342. ---; restricted to highlands, rare; 150	Adler et al.	1930
	---; June-Aug.; 162°	Andreev	1943
	---; enters houses; 166	Petrishcheva & Aluimov	1940
	---; ---; 174	Adler & Theodor	1929
	---; ---; 194*	Anonymous	1946
	---; ---; 317	Anonymous	1944
	---; ---; 321	Artemenko	1945
	---; ---; 326	Perfil'ev	1931
<i>chinensis longiductus</i> Nitzulescu	---; ---; 150, 256, 302	Dicke & Hsiao	1946
	---; ---; 303°	Shchurenkova	1937
	---; ---; 326	Theodor	1948
<i>chinensis sinici</i> Nitzulescu	---; ---; 150, 154	Pringle	1953
	---; ---; 342	Theodor	1948
<i>christophersi</i> Sinton	---; ---; 143	Sinton	1932 a
<i>olydei</i> Sinton	---; ---; 143	Sinton	1932 a
	---; enters houses; 235	Sinton	1928
	---; ---; 303	Shchurenkova	1941
<i>oulabaensis</i> Young & Chalam	---; ---; 143	Sinton	1928
<i>orinious</i> Shtefko & Minkevich	---; ---; 256*	Shtefko & Minkevich	1923

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>dapsilidentae</i> Quate	---; in forest; 242	Quate	1965
<i>dayapensis</i> Manalang	---; ---; 242	Manalang	1931
<i>delfinadoae</i> Quate	---; tree holes; 242	Quate	1965
<i>demeijerei</i> Nitzulescu	---; ---; 143	Sinton	1933
	---; ---; 146	Nitzulescu	1930
<i>dentaceus</i> Quate	---; under loose tree bark; 242	Quate	1965
<i>dentatus</i> Sinton	---; ---; 143, 162	Theodor	1948
	---; ---; 235	Sinton	1933 a
<i>dubosqui</i> Neveu-Lemaire	---; ---; 28	Sinton	1928
	---; ---; 162	Popov	1929
<i>edithae</i> Sinton	---; ---; 143	Sinton	1932
<i>eleanorae</i> Sinton	---; enters houses; 143	Sinton	1931 a
<i>erebicolus</i> Quate	---; bat-inhabited limestone cave; 242	Quate	1965
<i>exastis</i> Quate	---; malaise trap, tree holes; 242	Quate	1965
<i>franciscanus</i> Quate	---; tree holes; 242	Quate	1965
<i>grekovi</i> Khodukin	---; ---; 31, 326	Chodukin & Sofieff	1931
	---; caves and ruins; 162	Grebel'skii	1939
	---; enters houses; 166	Petrishcheva & Aluimov	1940
	---; enters houses; 318	Petrishcheva	1936

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>haiseri</i> Manalang	---; ---; 242	Manalang	1930
<i>himalayensis</i> Annandale	---; ---; 70, 143	Sinton	1924 a
<i>hitchensi</i> Manalang	Tree holes; Oct.; 242 ---; in forests; 242	Manalang Quate	1930 1965
<i>hiernus</i> Raynal & Gaschen	---; ---; 144	Raynal & Gaschen	1935 c
<i>hodgsoni</i> Sinton	---; ---; 143 ---; ---; 151 ---; enters houses; 235	Theodor Pringle Sinton	1948 1953 1933 b
<i>hospitii</i> Sinton	---; ---; 143	Sinton	1933
<i>imitor</i> Quate	---; under loose tree bark; 242	Quate	1965
<i>iraqi</i> Adler & Theodor	---; ---; 151	Adler & Theodor	1929
<i>iyengari</i> Sinton	---; ---; 143 ---; March; 144	Sinton Raynal & Gaschen	1933 c 1935 b
<i>iyengari</i> var. <i>hainanensis</i> Yao & Wu	---; ---; 133	Hsiao	1945
<i>iyengari</i> <i>hibernus</i> Raynal & Gaschen	---; ---; 144	Theodor	1948
<i>jacobaei</i> Theodor	---; ---; 154 ---; ---; 342	Pringle Theodor	1953 1948
<i>kaohsiensis</i> Yao & Wu	---; ---; 76 ---; ---; 133	Theodor Hsiao	1948 1945

TABLE 1 - SAND FLIES (continued).

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>kandelakii</i> Schourenkova	---; ---; 28	Eurakova & Mirzayan	1934
	---; ---; 35	Kamaloﬀ	1933
	Dark, damp places with decomposing organic matter; June-Nov., peak in July, Sept.; 118	Kamalow	1934
	---; restricted to highlands, June; 150	Adler et al.	1930
	---; ---; 162, 174	Theodor	1948
	---; ---; 256, 326, 345	Perfil'ev	1931
	---; ---; 318	Perfil'ev	1932
<i>keshishiani</i> Shchurenkova	---; ---; 162	Theodor	1948
	---; ---; 303°	Shchurenkova	1937
<i>khawi</i> Raynal	---; ---; 76	Barnett & Toshioka	1951
<i>kiangsuensis</i> Yao & Wu	---; ---; 76, 168°	Barnett & Toshioka	1951
<i>lagunensis</i> Quate	---; ---; 242	Quate	1965
<i>Larroussiei</i> <i>cananiticus</i> Adler & Theodor	---; ---; 154	Pringle	1953
<i>li</i> Popov	---; ---; 28, 150, 162, 345	Sinton	1928
	---; ---; 326	Lauret	1928
<i>losareus</i> Quate	---; under loose tree bark; 242	Quate	1965
<i>macedonicus</i> Adler & Theodor	---; implicated in the transmission of Kala-azar; 342	Anonymous	1944 a
<i>major</i> Annandale	---; ---; 28	Eurakova & Mirzayan	1934
	---; ---; 31, 76	Heian	1945
	---; ---; 35	Popov	1935
	---; 5,000 feet-7,000 feet, disappears in the winter; 70, 143	Sinton	1924 a

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>major</i> Annandale (cont.)	Dark, damp places with decomposing organic matter; June-Nov., peak Jul., Sept.; 118	Kamalow	1934
	---; above 5,500 feet altitudes, suspected vector of Sandfly fever; 143	Sinton	1925 a
	---; enters houses; 143	Sinton	1928 b
	---; 151, 159, 302, 342. ---; enters houses, more common in mountains than plains; 174	Adler & Theodor	1929
	---; enters houses; 154	Jacusiell	1947
	---; implicated in the transmission of Kala-azar; 159	Anonymous	1944
	---; ---; 162	Popov	1929
	---; ---; 194*	Anonymous	1946
	---; ---; 235	Pringle	1953
	---; dry places although chiefly associated with sea coasts; 256	Dolmatova	1949
	Moist dark cellars and bathrooms; suspected vector of Kala-azar; 317	Anonymous	1944 a
	---; 5000 to 7000 feet altitudes; 345	Sinton	1928
<i>major</i> var. <i>chinensis</i> Newstead	---; naturally infected with flagellates of <i>Leishmania</i> , experimental transmission of Kala-azar, May to July, bites at night; 76°	Patton & Hindle	1927
	---; possible carrier of Kala-azar; 76	Patton	1926
	---; suspected vector of Sandfly fever; 143	Sinton	1925 a
	---; ---; 194°	Patton & Hindle	1928
<i>major</i> var. <i>grisea</i> Annandale	---; ---; 70, 143	Sinton	1924 a
<i>major</i> <i>longiductus</i> Parrot	---; ---; 162	Perfiliev	1929
	---; July; 326	Parrot	1928

TABLE 1 -- SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>	---; ---; 162, 321, 345	Popov	1929
<i>major</i>			
<i>perniciosus</i>	---; ---; 256	Terdechanian	1929
Newstead	---; ---; 326	Khodukin	1927
	---; ---; 342	Sinton	1928
<i>major</i>	---; ---; 154, 302	Pringle	1953
<i>syriacus</i>			
Adler & Theodor	---; ---; 342	Theodor	1948
<i>malabaricus</i>	---; ---; 70, 349	Sinton	1924 a
Annandale	---; large tree holes; 143	Sinton	1931 b
	---; ---; 190	Edwards	1928
<i>manganus</i>	---; ---; 242	Manalang	1930
Manalang			
<i>maris-mortui</i>	---; overhanging rocks, caves; 154°, 159°	Theodor	1947
Theodor	---; ---; 342	Theodor	1948
<i>masceittii</i>	---; ---; 31	Sinton	1928
Grassi	---; ---; 162	Popov	1929
<i>maynei</i>	---; enters houses, July; 143	Sinton	1930
Sinton			
<i>minutus</i>	---; ---; 35	Perfil'ev & Gutzevich	1935
var. <i>arpaklensis</i>			
Perfil'ev	---; ---; 318	Sinton	1933
<i>minutus</i>	---; bites at night; 2°	Smith & Loughnan	1914
Rondani	---; dark places of houses and caves; 2	Loughnan	1913
	---; ---; 28	Popoff	1924
	---; ---; 31, 303	Chodukin & Sofieff	1931
	---; ---; 59	Sinton	1927 a
	---; ---; 70, 349. ---; cowsheds and dwellings; 235 (Active all year)	Sinton	1924 a

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>minutus</i> Bondani (cont.)	---; enters houses, infected with flagellate of <i>Hexpetomonas</i> , Feb.-March; 143	Mackie	1914
	---; on plains and mountains, suspected vector of Sandfly fever; 143. ---; vector and carrier of Sandfly fever; 151*	Sinton	1925 a
	---; ---; 143°	Lloyd & Napier	1930
	Moist cracks, crevices in ground; transmits the unknown parasite of Sandfly fever; 151°	Patton	1920
	---; probably transmits Phlebotomus fever, suspected carrier of Oriental sore; 151	Patton	1919
	---; at light, Nov.; 151. ---; Aug.; 235	Newstead	1920
	---; ---; 151*	Patton	1922
	Cisterns; active at sunset; 154°. ---; large collection; 302	Brunetti	1913
	---; June and July; 154. ---; May; 342	Buxton	1924
	---; ---; 159, 174	Adler & Theodor	1929
	---; caves and ruins; 162	Grebel'skii	1939
	---; enters buildings by day, rests on walls near ceiling or roof, June-Aug., transmits Sandfly fever; 235*	Graham	1915
	---; ---; 317	Akalin	1941
	---; ---; 326	Perfil'ev	1929
	---; common in rainy months; 349	de Mello & Afonso	1921
<i>minutus</i> var. <i>africanus</i> Newstead	Cracks and crannies of basement walls; enters houses; 154°	Austen	1921
	---; ---; 317, 342	Austen	1925
<i>minutus</i> <i>antennatus</i> Newstead	---; ---; 143	Sinton	1928
	---; enters houses; 235	Sinton	1922
<i>minutus</i> <i>arpaklensis</i> Perfil'ev	---; enters houses; 318	Petrishcheva	1936

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>minutus</i>			
var. <i>montanus</i> Sinton	---; above 5,000 feet altitude; 143	Sinton	1924 a
<i>minutus</i>	---; ---; 143	Sinton	1925
var. <i>niger</i> Annandale	---; ---; 154	Adler & Theodor	1927
	---; ---; 235	Sinton	1924
<i>minutus</i> <i>sogdianus</i> Parrot	---; ---; 318	Orlowa & Schachow	1930
	---; June, July; 326	Parrot	1928
<i>mongolensis</i> Sinton	---; ---; 76	Theodor	1948
<i>montanus</i> Sinton	---; above 5,000 feet altitude; 143	Sinton	1928
<i>morini</i> Raynal & Gaschen	---; April; 144	Raynal & Gaschen	1935 d
<i>neglectus</i> Tonnoir	---; ---; 317	Senevet & Parrot	1922
<i>neras</i> Quate	---; tree buttress in primary forest, above 500 meters altitude; 242	Quate	1965
<i>newsteadii</i> Sinton	---; enters houses; 143	Sinton	1928 b
<i>nicot</i> Banks	Kitchen drains; bites at night; 242*	Banks	1919
	Tree holes; ---; 242	Manalang	1930
	---; Apr.-May, July; 242	Manalang	1930 a
<i>nifer</i>	---; ---; 28	Popoff	1924
<i>palestinensis</i> Adler & Theodor	---; ---; 150, 342	Theodor	1948
	---; ---; 151, 159	Adler & Theodor	1929
	---; ---; 154	Pringle	1953

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>	---; ---; 3	Sinton	1925
<i>papatasi</i>	---; ---; 28	Popoff	1924
<i>Scopoli</i>	---; ---; 31	Theodor	1948
	---; ---; 70. ---; in cowsheds, seldom in dwellings, active all year; 235	Sinton	1924 a
	---; experimentally infected with <i>L. donovani</i> ; 76, 143. ---; host of <i>Leishmania tropica</i> ; 342	Adler & Theodor	1930
	---; well-known carrier of "Papatasi" or "Sandfly" fever; 76	Patton	1926
	Sides of reservoirs, thick vegetated soil protected from sun during dry season, paved floors; enters houses; 143°	Smith et al.	1936
	Pits; ---; 143	McCombie Young	1927
	---; suspected vector of Sandfly fever; 143. ---; experimental transmission of Sandfly fever; 345	Sinton	1925 a
	---; huts, cattlesheds, dry plains, experimentally infected with Kala-azar; 143	Napier & Smith	1927
	---; naturally infected with <i>Leishmania tropica</i> ; 143	Farooq & Qutubuddin	1945
	---; experimentally infected with oriental sore; 143	Koy & Brown	1954
	---; carrier of Sandfly fever; 143	Sinton	1932 a
	---; active morning and night; 150. ---; dry regions; 302	Adler et al.	1930
	---; bloodsucker; 150, 151°, 154, 159, 302	Pringle	1953
	Moist cracks and crevices in the ground; Mar.-Dec.; 151*	Patton	1920
	---; in houses along riverbank, experimentally infected with <i>Leishmania tropica</i> ; 151. ---; enters houses, naturally infected with and carrier of <i>L. tropica</i> ; 159°. ---; carrier of oriental sore; 302	Adler & Theodor	1929
	---; in houses, naturally infected with <i>Herpetomonas</i> , experimental transmission of cutaneous Leishmaniasis to man, artificially infected with <i>Herpetomonas tropica</i> from oriental sore, Apr.-Dec.; 151, 159, 342°	Adler & Theodor	1926

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i> <i>papatasi</i> Scopoli (cont.)	---; vector of <i>Leishmania tropica</i> ; Sept.-Jan.; 151	Mills et al.	1930
	---; probably transmits Phlebotomus fever, suspected carrier of Oriental sore; 151	Patton	1919
	---; ---; 151*, 302*	Weyer & Zumpt	1952
	Cisterns; active at sunset, Oct.; 154*. ---; common; 302	Brunetti	1913
	---; transmits Sandfly fever, May to Oct.; 154*, 159*, 342*	Kligler	1928
	---; June, July; 154, 342	Buxtor	1924
	---; bloodsuckers; 154	Austen	1921
	---; salt desert; 154	Hertig & Fisher	1945
	---; in houses; 154	Jacusieli	1947
	---; naturally and experimentally infected with <i>Leishmania tropica</i> ; 159*. ---; experimentally infected with <i>L. tropica</i> , vector of oriental sore; 342*	Adler & Ber	1941
	---; ---; 162. ---; in houses; 326	Perfiliev	1929
	---; enters houses; 166	Petrishcheva & Aluimov	1940
	---; experimentally infected with dengue; 174	Couvy	1922
	---; enters buildings by day, rests on walls near ceiling or roof, June-Aug.; 235*	Graham	1915
	Small pit with water; abundant in houses; 256	Yatsenko	1929
	Soil; ---; 256	Livshits & Tarumov	1942
	---; damp shady places with dense vegetation, cracks in floors, enters houses, avoids light and active in complete darkness, active June-Sept.; 256*	Kremer	1930
	---; ---; 256*	Voinov et al.	1936
	---; ---; 303*	Latushchov & Sochilova	1936
	---; vector of sandfly fever and oriental sore; 317**	Anonymous	1944
	---; indoors, active at sunrise and hottest part of day, Mar.-Oct.; 317	Adelmann	1919

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>	---; ---; 321	Artemenko	1945
<i>papatasi</i>	---		
Scopoli	---; ---; 326	Sinton	1928
(cont.)	---; naturally infected with cutaneous Leishmaniasis; 342	Adler	1926
	---; experimentally infected with <i>Leishmania tropica</i> ; 342	Adler & Theodor	1927 a
	---; ---; 342	Dubarry & Giraud-Costa	1941
<i>papatasi</i>			
var. <i>antennatus</i>	---; ---; 70, 143	Sinton	1924
Newstead			
<i>papatasi</i>			
var. <i>montanus</i>	---; ---; 70, 143	Sinton	1924 a
Annandale			
<i>paportasi</i>			
var. <i>niger</i>	---; ---; 70, 143	Sinton	1924 a
Sinton			
<i>pawlowsky</i>	---; ---; 162	Theodor	1948
Perfiljev	---; ---; 318	Perfiljev	1933
<i>perfiliewi</i>	---; ---; 154	Pringle	1953
Perrot			
<i>perfiliewi</i>			
<i>transcaucasius</i>	---; ---; 35	Theodor	1948
Perfil'ev			
<i>pernicius</i>	---; ---; 28	Popoff	1924
Newstead	---; ---; 118*	Geigy & Herbig	1955
	---; ---; 162	Popov	1926 a
	---; ---; 256	Popov	1927
	---; May; 302	Buxton	1928
	---; ---; 317	Akalin	1941
	---; ---; 318	Orlowa & Schachow	1930
	---; ---; 321	Nasomov	1929
	---; ---; 326	Khodukin	1928
	---; experimentally infected with <i>Leishmania</i> <i>infantum</i> ; 342	Adler & Ber	1941
	---; suspected vector of Sandfly fever; 345	Sinton	1925 a

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>perniciosus</i>			
var. <i>tauricus</i>	---; ---; 256	Nasonov	1929
Nasonov			
<i>perniciosus</i>	---; ---; 118	Parrot	1934
<i>tobbi</i>			
Adler, Theodor	---; experimentally infected with <i>Leishmania donovani</i> , possible vector of Kala-azar; 150. ---; 154, 242	Adler et al.	1930
& Laurie			
	---; in dry places although associated with sea coasts; 256	Dolmatova	1949
	---; ---; 342	Caminopetros	1935
<i>perturbans</i>	---; ---; 70, 146. ---; active all year; 143	Sinton	1924 a
de Meijere			
	---; May-Sept.; 76	Patton & Hindle	1927
	---; enters houses; 143	Awati	1922
	---; ---; 190	Edwards	1928
<i>philippinensis</i>	---; tree trunk, at light in cave; 242	Quate	1965
Manalang			
<i>pholetor</i>	---; limestone cave in mountain near coast; 242	Quate	1965
Quate & Fairchild			
<i>pimemoui</i>	---; ---; 28	Burakova & Mirsayan	1934
Burakova & Mirsayan			
	---; ---; 35, 118	Perfil'ev & Gutsevich	1935
	---; ---; 166	Pogrishcheva & Aluimov	1940
<i>pooi</i>	---; ---; 76	Hsiao	1945
Yao & Wu			
<i>purii</i>	Tree holes in dense forest; ---; 143	Sinton	1931 c
Sinton			
<i>sejunotus</i>	---; bat-inhabited caves; 242	Quate	1965
Quate			
<i>selectus</i>	---; ---; 326	Khodukin	1929
Khodukin			
<i>sequens</i>	---; in caves, rarely in houses; 256	Perfil'ev	1941
Perfil'ev			
	---; ---; 256	Theodor	1948

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS sergenti</i> Parrot	---; 31, 350	Sinton	1928
	---; ---; 35	Popov	1935
	---; ---; 70, 143. ---; in stables, indoors, July-Aug.; 235	Sinton	1924 a
	---; May, Aug. and Sept.; 76*	Yuan	1939
	---; experimentally infected with Kala-azar; 76	Young & Hertig	1929
	Dark, damp places with decomposing matter; June-Nov.; 118	Kamalow	1934
	---; rare; 118	Kamaloff	1933
	---; suspected vector of Sandfly fever; 143. ---; enters houses; 150. ---; ---; 342. ---; possible vector of Sandfly fever; 345	Sinton	1925 a
	---; vector of Oriental sore; 143*	Kirk & Lewis	1955
	---; vector of <i>Leishmania tropica</i> ; 143*	Geigy & Herbig	1955
	---; experimentally infected with Oriental sore; 143	Roy & Brown	1954
	---; enters houses, cracks in walls, dark holes; 150°. ---; ---; 350	Adler et al.	1930
	---; transmits oriental sore; 151*. ---; cave; 159. ---; probably transmits oriental sore, common; 302	Theodor	1947
	---; in houses, main carrier of <i>Leishmania tropica</i> ; 151°. ---; ---; 174. ---; carrier of oriental sore; 302	Adler & Theodor	1929
	---; ---; 154	Pringle	1953
	---; caves and ruins; 162	Grebel'skii	1939
	---; ---; 162	Perfiliev	1929
	---; enters houses; 166	Petrishcheva & Aluimov	1940
	---; ---; 302 (Vector of Sandfly fever, cutaneous <i>Leishmaniasis</i> , Kala-azar)	Anonymous	1944
	---; ---; 303°	Shchurenkova	1937
	---; ---; 317	Akalin	1941
	Rodent burrows; ---; 318	Petrishcheva & Gubar	1949
	---; deep holes in mountains; 318	Perfil'ev	1932

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>	---; ---; 321	Artemenko	1945
<i>sergenti</i>	---		
Parrot	---; July; 326	Parrot	1928
(cont.)			
<i>sergenti</i> var.	---; naturally infected with flagellates, possible vector of Kala-azar; 76*	Patton & Hirdle	1927
<i>sergenti</i>	---; ---; 143, 303. ---; rare; 151	Adler et al.	1930
<i>alexandri</i>	---		
Sinton	---; ---; 235	Sinton	1928
	Rodent burrows; ---; 318	Petrishcheva & Gubar	1949

	---; ---; 326	Perfil'ev	1929
<i>sergenti</i>			
var. <i>lii</i>	---; July; 326	Parrot	1928
Popow			
<i>sergenti</i>	---; ---; 31	Chodukin & Sofieff	1931
<i>mongolensis</i>			
Sinton	Enters houses; experimentally infected with Kala-azar, May-Sept.; 76. ---; ---; 303, 318, 326	Dicke & Hsiao	1946
	---; experimental transmission of <i>Leishmania donovani</i> ; 76	Hindle	1931
	---; vector of <i>Leishmania donovani</i> ; 76**	Geigy & Herbig	1955
	---; possible vector of <i>Leishmania</i> ; 76	Hsiao	1945
	---; experimentally infected with filariasis; 76	Yao et al.	1938
	---; ---; 194*	Anonymous	1946
	---; ---; 194	Barnett & Toshioka	1951
<i>shortii</i>	---; ---; 59, 235	Sinton	1928
Adler & Theodor	---		
	---; ---; 76	Patton	1926
	---; among banana clumps; 143*	Smith et al.	1936

	---; ---; 326	Perfil'ev	1931
<i>silvestris</i>	---		
Sinton	---; ---; 143	Nitzulescu	1930
<i>simillimus</i>	---		
var. <i>hospittii</i>	---; ---; 143	Sinton	1927
Sinton	---; enters houses, at 2,023 feet altitude; 235	Sinton	1924

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>amirnovi</i> Perfiliev	---; ---; 162	Theodor	1948
<i>smithi</i>	---; ---; 143	Roy & Brown	1954
<i>sogdianus</i> Parrott	---; ---; 162	Theodor	1948
	---; ---; 326	Perfil'ev	1931
<i>spinifaucis</i> Quate	---; tree buttress in disturbed forest near ocean at sea level; 242	Quate	1965
<i>squamipleuris</i> Newstead	---; ---; 31, 133	Hsiao	1945
	---; ---; 70, 235	Sinton	1924 a
	---; attracted by artificial light, enters houses, July; 143	Sinton	1932
	---; sea level to 5,500 feet altitude; 143	Sinton	1923
	---; ---; 151	Sinton	1927
	---; electric lights in railway stations; 277	Sinton	1931
	---; ---; 277, 303, 318 (May bite man)	Dicke & Hsiao	1946
	---; ---; 277 (Cool moist soil rich with decaying organic matter, enters houses)	Causey	1938
	---; enters houses; 318	Petrishcheva	1936
<i>squamirostris</i> Newstead	---; May-Sept.; 76. ---; ---; 133, 158 (In houses)	Dicke & Hsiao	1946
	---; experimentally infected with Kala-azar; 76	Hindle	1931
	Tree holes; ---; 143	Sinton	1931 b
	---; ---; 194	Anonymous	1946
<i>stalinabadi</i> (Chodukin & Sofieff	---; ---; 31, 326. ---; enters houses; 303	Chodukin & Sofieff	1931
<i>stantoni</i> Newstead	---; ---; 76, 133. ---; enters houses; 143, 190, 277. ---; enters houses, April-Dec.; 144	Dicke & Hsiao	1946
	---; plains, hilly regions; 144	Gaschen & Nguyen-Nguyen	1938
	---; common; 144	Raynal & Gaschen	1935 d

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS stellae</i> Quate	---; ---; 242	Quate	1965
<i>sumbaricus</i> Perfil'ev	---; ---; 162	Theodor	1948
	---; enters houses; 166	Petrishcheva & Aluimov	1940
	---; enters houses; 318	Petrishcheva	1936
<i>sylvaricus</i> Raynal & Gaschen	---; Sept., Oct.; 144	Raynal & Gaschen	1935 c
<i>sylvestris</i> Sinton	---; jungle and foothills; 59, 143	Sinton	1932 a
	---; large tree holes; 143	Sinton	1931 b
	---; Oct., Nov.; 144. ---; ---; 146, 366	Raynal & Gaschen	1935 a
	---; plains, hilly regions; 144	Gaschen & Nguyen-Nguyen	1938
<i>taianensis</i> Patton & Hindle	---; ---; 76	Nitzulescu	1930
<i>thapari</i>	---; ---; 143	Roy & Brown	1954
<i>tiberiadis</i> Adler, Theodor & Laurie	---; ---; 154	Pringle	1953
	---; ---; 342	Sinton	1932
<i>tobbi</i> Adler & Theodor	---; ---; 150	Theodor	1948
	---; ---; 154	Pringle	1953
<i>tonkinensis</i> Raynal & Gaschen	---; Nov.; 144	Raynal & Gaschen	1935
<i>torrechantei</i> Manalang	---; ---; 242	Manalang	1931
<i>tracheolus</i> Quate	---; tree holes, tree buttresses in primary forest; 242	Quate	1965
<i>venyoni</i> Adler & Theodor	---; active from midnight to dawn, restricted to highlands; 150	Adler et al.	1930
	---; bloodsucker; 151	Pringle	1953
	---; ---; 162	Theodor	1948
	---; ---; 318	Petrishcheva	1935

TABLE 1 - SAND FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PHLEBOTOMUS</i>			
<i>yashimotoi</i> Quate	---; tree buttresses; 242	Quate	1965
<i>seylanicus</i> Annandale	---; April-Aug. at 1500 feet elevation; 70	Sinton	1924 a
	---; tree holes; 143	Sinton	1931 b
	---; jungle, warm moist conditions; 143	Sinton	1932 a
<i>PSYCHODA</i>			
<i>alternata</i> Say	Stones of sewage filters; ---; 190	Garter	1929
<i>b. punctata</i> Curtis	---; ---; 158*	Okada	1927
<i>bengalensis</i> Brunetti	---; ---; 59, 70. ---; common, plains; 143	Brunetti	1917
<i>hirtipennis</i> Brunetti	---; ---; 143	Brunetti	1917
<i>nigripennis</i> Brunetti	---; plains; 143	Brunetti	1917
<i>SERGENTOMYIA</i>			
<i>babu</i> var. <i>insularis</i> Theodor	---; ---; 70	Theodor	1948
<i>dentata</i> <i>mediensis</i> Pringle	---; ---; 151	Pringle	1953
<i>fallax</i> (Parrot)	---; ---; 154	Pringle	1953
	---; ---; 342	Theodor	1948
<i>iyengari</i> var. <i>malayensis</i> Theodor	---; ---; 190	Theodor	1948
<i>koloshanensis</i> Yao & Wu	---; ---; 76	Theodor	1948
<i>mervynae</i> Pringle	---; ---; 151	Pringle	1953
<i>murgabiensis</i> Perfiliew	---; ---; 162	Theodor	1948
<i>punjabensis</i> Sinton	---; ---; 143	Theodor	1948

TABLE 1 - SAND FLIES (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SERGENTOMYIA</i>			
<i>silvatica</i> Raynal & Gaschen	---; ---; 144	Theodor	1948
<i>sintoni</i> Pringle	---; ---; 151	Pringle	1953
<i>squamipleuris</i> var. <i>indica</i> Theodor	---; ---; 143, 162	Theodor	1948
<i>theodori</i> (Parrot)	---; ---; 154, 174, 302	Pringle	1953
	---; ---; 342	Theodor	1948
<i>theodori</i> <i>babylonica</i> Pringle	---; ---; 151, 154, 159	Pringle	1953
<i>TELMATOSCOPIUS</i>	Sewage tanks; ---; 190	Garter	1929
<i>albipunctatus</i> Will.	---; at light; 190	Edwards	1928

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

	DISEASE OR DISEASE ORGANISM					COUNTRY
	: VIRUS & : RICKETTSIA	: PROTOZOA	: HELMINTHS	: OTHER	:	
<i>PHLEBOTOMUS</i>						
<i>argentipes</i> Annandale & Brunetti		Kala-azar				143
<i>chinensis</i> Newstead		Kala-azar				76 (Yuan 1939)
		<i>Leishmania</i> <i>donovani</i>				76
	Sand fly fever					194
<i>crimicus</i> Shtefko & Minkevich	Sand fly fever					256
<i>major</i> Annandale	Sand fly fever					194
<i>minutus</i> Rondani		Oriental sore				151 (Patton 1922)
	Sand fly fever					151 235
<i>papatasi</i> Scopoli		<i>Leishmania</i> <i>tropica</i>				159
		Oriental sore				151 317 (Anonymous 302 342 1944)
	Sand fly fever					151 (Kligler 1928) 154 159 (Kligler 1928) 235 256 317 342
<i>pernicius</i> Newstead				"Khava fever"		118 (Kandelaki 1920)
		<i>Leishmania</i> <i>tropica</i>				118
<i>sergenti</i> Parrot		Kala-azar				76
		<i>Leishmania</i> <i>tropica</i>				143 151
		Oriental sore				143

TABLE 2 - SAND FLIES (concluded)

	DISEASE OR DISEASE ORGANISM					COUNTRY
	: VIRUS & : RICKETTSIA :	: PROTOZOA :	: HELMINTHS :	: OTHER :		
PHLEBOTOMUS						
<i>sergenti</i>		<i>Leishmania</i>				
<i>mongolensis</i>		<i>donovani</i>				76
Sinton						
	Sand fly					
	fever					194
PSYCHODA						
<i>b. punctata</i>				<i>Myiasis</i>		158
Curtis						

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D. MIDGES

The midges include representatives from the family Ceratopogonidae. In some areas the biting species, especially *Culicoides*, 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. Although quite important as pests, these biting midges are vectors for several disease organisms.

The tables include 272 species or subspecies, most of which are in the large genus *Culicoides*.

TABLE 1 - MIDGES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY· DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPOGON</i>			
<i>maculatus</i> (Shiraki)	---; severely bites man in mountainous region; 77°	Tokunaga	1937
<i>okuni</i> de Meijere	---; near mouth of river, bites by day, preferably in sunlight, periods of abundance irregular; 149°	Salm	1914
<i>shimai</i> Sasaki	---; attacks by night; 158°	Tokunaga	1937a
<i>stimulans</i> de Meijere	---; near water, bites by day, preferably in sunlight, periods of abundance irregular; 149°	Salm	1914
<i>taiwanus</i> (Shiraki)	---; houses at day time; 77*	Tokunaga	1937
<i>vexans</i> de Meijere	---; near mouth of river, bites by day, preferably in sunlight, periods of abundance irregular; 149°	Salm	1914
<i>CULICOIDES</i>			
<i>actoni</i> Smith	---; ---; 143°	Smith	1929
	---; ---; 143	Vargas	1949
	---; collected from light traps, Sept., collected from slope of mountains, Aug.; 242	Delfinado	1961
<i>albicans</i> (Winnertz)	---; ---; 101. Wet soil, sphagnum morras; ---; 256. ---; ---; 366	Gutzevich	1960
	---; ---; 194	Takahasi	1941
<i>albifascia</i> Tokunaga	---; in mountains; 77	Tokunaga	1937
	---; ---; 158	Tokunaga	1940
<i>albibasis</i> Wirth & Hubert	---; carabao-baited trap, Jan., Aug., Nov.-Dec., light trap, Oct.; 242	Delfinado	1961
<i>albihalter</i> <i>nitreipennis</i> Austen	---; ---; 342	Vargas	1949
<i>albipennis</i> Smith & Swaminath	---; ---; 143	Vargas	1949
<i>alboguttatus</i> Kieffer	---; ---; 77	Kieffer	1921
<i>albonotatus</i> Kieffer	---; ---; 342, 350	Vargas	1949
<i>albosignatus</i> Vimmer	---; ---; 342	Vargas	1949

TABLE 1 - MIDGES (continued).

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>naminiensis</i> Tokunaga	---; troublesome, bites man in evenings; 158*°, 257°	Tokunaga	1937
	---; ---; 194	Vargas	1949
<i>andrewsi</i> Causey	---; light traps; 277	Causey	1938
<i>anophelis</i> Edwards	---; ---; 143, 149, 190. Water in leaf axils of <i>Colocasia indica</i> ; Sept.; 146	Johannsen	1931
	---; feeds on <i>Anopheles hyrcanus</i> ; 144	Gutzevich	1960
	---; ---; 277	Causey	1938
<i>anophelis</i> <i>ferox</i> (Lalor)	---; ---; 143, 190	Vargas	1949
<i>anophelis</i> var. <i>flavescens</i> Macfie	---; ---; 190	Vargas	1949
<i>arakawai</i> (Arakawa)	---; ---; 76, 77, 150, 168 (Attacks man)	Barnett & Toshioka	1951
	---; collected from light trap, May, Sept.; 242	Delfinado	1961
	---; ---; 256°	Gutzevich	1960
<i>arakawae</i> (Matsumura)	Dung of fowls; ---; 158	Tokunaga	1937
<i>arboreus</i> Gutzevich	Tree holes; ---; 256	Gutzevich	1960
<i>arcuatus</i> (Winnertz)	Fresh water ponds; ---; 158	Tokunaga	1937
	---; ---; 194	Vargas	1949
	---; ---; 256	Fraser	1920
<i>arcuatus</i> var. <i>no. 1</i>	---; ---; 194	Tokunaga	1941
<i>arcuatus</i> var. <i>nigrus</i> Takunaja	---; ---; 194	Vargas	1949
<i>assamensis</i> Smith & Swaminath	---; ---; 143	Vargas	1949

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>assimilis</i> Delfinado	---; carabao-baited trap, July, Oct., light traps, May, Sept.; 242	Delfinado	1961
<i>aterinerois</i> Tokunaga	---; mountainous region, enters houses; 158°	Tokunaga	1937
<i>aurantiacus</i> Kieffer	---; ---; 275	Vargas	1949
<i>baisasi</i> Wirth & Hubert	---; carabao-baited trap, Jan., May, Nov., light trap, Jan., Oct., Dec.; 242	Delfinado	1961
<i>barnetti</i> Wirth & Hubert	---; carabao-baited trap, Nov., Dec., light trap, May, Sept.; 242	Delfinado	1961
<i>biarcuatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>bimaoulicosta</i> Floch & Abonnec	---; ---; 143°	Smith	1929
<i>bipunctatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>biscapus</i> Kieffer	---; ---; 144° ---; ---; 144	Kieffer Vargas	1925 1949
<i>bisulcatus</i> Gutsevich	---; ---; 256	Gutsevich	1960
<i>bodenheimeri</i> Vimmer	---; ---; 342	Vargas	1949
<i>boophagus</i> Macfie	---; ---; 190 ---; Sept.; 242	Vargas Delfinado	1949 1961
<i>brevimanus</i> Kieffer	---; ---; 337	Vargas	1949
<i>brevipalpis</i> Delfinado	---; from light traps, Sept.; 242	Delfinado	1961
<i>bubalus</i> Delfinado	---; carabao-baited trap, Aug.; 242	Delfinado	1961

TABLE 1 - MIDGES (continued).

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>buckleyi</i> Macfie	---; ---; 190	Vargas	1949
<i>buhetoensis</i> Takahasi	---; active in cold evening; 194°	Takahasi	1941
	---; ---; 194	Vargas	1949
<i>carjalaensis</i> Gluchova	---; ---; 256	Gutzevich	1960
<i>caspius</i> Gutzevich	---; ---; 256	Gutzevich	1960
<i>chaetophthalmus</i> Amosova	---; ---; 256 (Bites man)	Gutzevich	1960
<i>chispherus</i> Mergin	---; ---; 162. Rotten mushrooms, dried cow dung in the field; ---; 256 (Bites man in some areas)	Gutzevich	1960
	---; ---; 194	Takahasi	1941
<i>circumscriptus</i> Kieffer	---; ---; 76, 77, 158, 168 (Salt marshes and salt lakes)	Barnett & Toshioka	1951
	---; ---; 101. Dirty small ponds without plants; ---; 256. ---; ---; 345	Gutzevich	1960
	---; in lighted tent at night; 154	Austen	1921
	Small salt water pools of rocky seashore; ---; 158, 342, 350	Tokunaga	1937
<i>circumscriptus</i> <i>albonotatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>circumscriptus</i> <i>nadayanus</i> Kieffer	---; ---; 350	Vargas	1949
<i>circumscriptus</i> var. <i>piotidovaeum</i> Kieffer	---; ---; 256	Gutzevich	1960
<i>circumscriptus</i> <i>polymaculatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>clavipalpis</i> Mukerji	---; cowsheds; 143	Mukerji	1931
	---; from light trap, Sept.; 242	Delfinado	1961
	---; collected from light traps; 277	Causey	1938

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>cordiformis</i> Kieffer	---; ---; 101	Vargas	1949
<i>cordiger</i> Macfie	---; ---; 190	Vargas	1949
	---; April-May; 242	Delfinado	1961
<i>sorti</i> Causey	---; from light traps; 277	Causey	1938
<i>crassipilosus</i> Tokunaga	---; ---; 158	Vargas	1949
<i>cubitalis</i> Edwards	---; ---; 101, 150, 256, 321, 340, 345 (Appeared late in the summer, bites man)	Gutzevich	1960
<i>cunctans</i> Winnertz	---; ---; 101, 256, 336	Gutzevich	1960
<i>daleki</i> Smith & Swaminath	---; ---; 143, 190, 277	Vargas	1949
<i>damnosus</i> Delfinado	---; March; 242*	Delfinado	1961
<i>dendrophilus</i> Amosova	Tree holes; ---; 256, 321	Gutzevich	1960
<i>dermeadi</i> Causey	---; ---; 277	Vargas	1949
<i>desertorum</i> Gutzevich	---; ---; 318	Gutzevich	1960
<i>desulfi</i> Goetghebuer	Dried cow dung; ---; 101	Gutzevich	1960
<i>duodenarius</i> Kieffer	---; ---; 77	Vargas	1949
	---; ---; 158	Tokunaga	1940
<i>effusus</i> Delfinado	---; carabao-baited trap, March, July-Sept., at sea level, Oct. 3300 feet altitude at light, Sept.; 242	Delfinado	1961
<i>ejeroittoi</i> Delfinado	---; near sea level, March-April; 242	Delfinado	1961
<i>epactius</i> Arnaud	---; ---; 158	Gutzevich	1960

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>	---	Gutzevich	1960
<i>erairai</i>	---	Takahasi	1941
Kono & Takahasi	---	Barnatt & Toshioka	1951
	---	Tokunaga	1940
<i>esmoneti</i>	---	Salm	1918
Salm	---	Gutzevich	1960
<i>fagineus</i>	---	Vargas	1949
Edwards	---	Gutzevich	1960
<i>fascipennis</i>	---	Vargas	1949
(Staeager)	---	Gutzevich	1960
	---	Vargas	1949
<i>fascipennis</i>	---	Vargas	1949
<i>albonotatus</i>	---	Vargas	1949
Kieffer	---	Vargas	1949
<i>ferox</i>	---	Vargas	1949
(Lalor)	---	Gutzevich	1960
<i>firusae</i>	---	Vargas	1949
Dzhafarov	---	Gutzevich	1960
<i>flavescens</i>	---	Vargas	1949
Macfie	---	Delfinado	1961
	---	Gutzevich	1960
<i>flavidus</i>	---	Vargas	1949
<i>flavipes</i>	---	Vargas	1949
Vimmer	---	Vargas	1949
<i>flavirostris</i>	---	Vargas	1949
Vimmer	---	Delfinado	1961
<i>flaviscutatus</i>	---	Vargas	1949
Wirth & Hubert	---	Delfinado	1961
<i>flumineus</i>	---	Vargas	1949
Macfie	---	Vargas	1949
<i>formosus</i>	---	Vargas	1949
Kieffer	---	Tokunaga	1940

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>fulvithorax</i> (Austen)	---; ---; 143°	Smith & Swanmath	1932
<i>furens</i> var. <i>maculithorax</i> Williston	---; ---; 143	Kieffer	1925
<i>gemellus</i> Macfie	---; ---; 145	Vargas	1949
	---; carabao-baited trap, at night, Jan., May, Aug., Nov., Dec.; 242	Delfinado	1961
<i>geminus</i> Macfie	---; ---; 190	Vargas	1949
<i>gentilis</i> Macfie	---; ---; 190	Vargas	1949
<i>grahami</i> Austen	---; ---; 256	Gutzevich	1960
<i>gewertzi</i> Causey	---; ---; 277	Vargas	1949
<i>griseolens</i> Edwards	Reservoir, wet soil, forest dirt road and trail, deforested area; Targa Landscape; 294°	Gutzevich	1960
<i>griseovittatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>guttifer</i> de Meijere	---; ---; 146. Tree holes; ---; 149	Johannsen	1931
	Small shady muddy pools; ---; 190	Edwards	1922
	---; from light traps, May; 242	Delfinado	1961
	---; in houses; 277	Causey	1938
<i>guttularis</i> Kieffer	---; in lighted tent at night; 154	Austen	1921
	---; ---; 317, 342	Austen	1925
<i>gymnopterus</i> Edwards	---; in mountains, 2000, 3000, 7000 feet; 145	Edwards	1926
	---; ---; 242	Edwards	1929
<i>halophilus</i> Kieffer	---; ---; 118, 173, 256, 303	Gutzevich	1960
<i>hegneri</i> Causey	---; from light traps, May, Sept. and Dec.; 242	Delfinado	1961
	---; collected from light traps; 277	Causey	1938

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>heliophilus</i> Edwards	---; ---; 101. Swamps sphagnum; active by day and to bright lights; 256°	Gutzevich	1960
<i>hewitti</i> Causey	---; ---; 277	Vargas	1949
<i>himalayae</i> Kieffer	---, bite of venomous nature; 218°	Mukerji	1931
<i>hirtipennis</i> Delfinado	---; at 1500 feet elevation, Jan.; 242	Delfinado	1961
<i>homotomus</i> Kieffer	---; ---; 76, 158	Gutzevich	1960
	---; ---; 77	Vargas	1949
<i>homotomus</i> <i>nubeculosus</i> Tokunaga	---; ---; 158, 194	Vargas	1949
<i>homotomus</i> <i>osakensis</i> Iwata	---; ---; 158	Vargas	1949
<i>housei</i> Causey	---; from light traps; 277	Causey	1938
<i>huxfi</i> Causey	---; from light trap, Sept. and Dec.; 242	Delfinado	1961
	---; from light traps; 277	Causey	1938
<i>humeralis</i> Okada	---; ---; 256°	Gutzevich	1960
<i>I</i> Tokunaga	---; ---; 194	Vargas	1949
<i>impunctatus</i> Goetghbuwer	---; ---; 194°	Barnett & Toshioka	1951
	Swamps, underzone mixed forest; June; 256°	Gutzevich	1960
<i>impunctatus</i> var. <i>minor</i> Tokunaga	---; ---; 194	Vargas	1949
<i>indecora</i> Kieffer	---; ---; 77	Vargas	1949
	---; ---; 158	Tokunaga	1940

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>infulatus</i> Delfinado	---; near sea level; Oct. and Nov.; 242	Delfinado	1961
<i>inornatipennis</i> Carter, Ingram & Macfie	---; ---; 280	Johannsen	1931
<i>insignipennis</i> Macfie	---; ---; 190 ---; carabao-baited trap, Dec.; 242	Vargas Delfinado	1949 1961
<i>jacobsoni</i> Macfie	---; ---; 149 ---; Oct.; 242	Vargas Delfinado	1949 1961
<i>javanicus</i> Salm	---; on the shore of a river, attracted to artificial light; 146	Salm	1918
<i>judaee</i> Macfie	---; ---; 342	Vargas	1949
<i>judicandus</i> Bezzi	Mountain streams; most abundant at rainfall; 242° ---; ---; 242	Banks Vargas	1919 1949
<i>kagiensis</i> Tokunaga	---; in house by night; 77 ---; ---; 158	Tokunaga Tokunaga	1937 1940
<i>kibunensis</i> Tokunaga	---; rapid stream; 158 ---; ---; 194	Tokunaga Vargas	1937 1949
<i>kiefferi</i> Patton	Eggs laid in mass in the vicinity of water with algal growth; Nov.-Apr.; 143° ---; ---; 143	Patton Vargas	1913 1949
<i>K II</i> Tokunaga	---; ---; 158	Vargas	1949
<i>klossi</i> Edwards	---; ---; 145	Vargas	1949
<i>koreensis</i> Arnaud	---; ---; 168. Pools; ---; 256	Gutzevich	1960
<i>kurensis</i> Dzhafarov	---; ---; 35, 326	Gutzevich	1960
<i>kyotoensis</i> Tokunaga	---; ---; 158	Tokunaga	1937

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>litoreus</i> Amosova	---; alkaline pool; 256	Gutzevich	1960
<i>longipalpis</i> Delfinado	---; at 3300 feet altitude, Sept.; 242	Delfinado	1961
<i>luteosignatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>macdowellii</i> Delfinado	---; sea level, March and April; 242	Delfinado	1961
<i>macfieii</i> Causey	---; ---; 277	Vargas	1949
<i>macrostoma</i> Kieffer	---; probable vector of Kala-azar; 143	Fletcher	1924
	---; ---; 143°	Christophers et al	1925
	---; ---; 337	Vargas	1949
<i>maculatus</i> (Shiraki)	---; May-Sept., mountainous regions; 77°.	Tokunaga	1937
	---; ---; 158*		
	---; ---; 77	Vargas	1949
<i>maculatus</i> <i>tainana</i> Kieffer	---; ---; 77	Vargas	1949
<i>maculipennis</i> (Macfie)	---; ---; 190	Vargas	1949
<i>malayi</i> Macfie	---; ---; 190	Macfie	1937
	---; at light, Dec.; 242	Delfinado	1961
<i>manohuriensis</i> Tokunaga	---; ---; 194	Tokunaga	1941
<i>marginatus</i> Delfinado	---; from light traps and near sea level, May, Oct., Dec.; 242	Delfinado	1961
<i>maritimus</i> Kieffer	Alkaline reservoir; ---; 256	Gutzevich	1960
<i>matsuii</i> Tokunaga	---; ---; 158	Gutzevich	1960
<i>mesopotamiensis</i> Patton	Algae in pools, streams, and creeks; along river banks and creeks; 151	Patton	1920

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>micromaculatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>miharai</i> Kinoshita	---; bloodsucking; 158°	Tokunaga	1940
	---; ---; 158. Muddy tidal flat along coast; in houses in the evening, June, Aug.-Sept.; 168	Tokunaga	1937
	---; active in the evening, Apr.-Aug., Oct.-Nov.; 168	Hsiao	1948
	---; biting most intense during early evening hours, cause intense itching; 168°	Barnett & Toshioka	1951
	---; seashore, riverside, attacks man towards evening; 168	Kinoshita	1918
	---; ---; 168	Vargas	1949
<i>mihensis</i> Arnaud	---; ---; 158	Gutzevich	1960
<i>minutissimus</i> Zetterstedt	---; ---; 342	Goetghebuer	1934
<i>montivagus</i> Kieffer	---; ---; 143	Brunetti	1917
	---; ---; 337	Vargas	1949
<i>moristae</i> Tokunaga	---; ---; 76	Barnett & Toshioka	1951
<i>mystacinus</i> Vimmer	---; ---; 342	Vargas	1949
<i>madayanus</i> Kieffer	---; ---; 350	Vargas	1949
<i>newsteadi</i> Austen	---; in lighted tent at night; 154°	Austen	1921
<i>nigroannulata</i> Goetghebuer	---; ---; 337	Vargas	1949
<i>nigrus</i> Tokunaga	---; ---; 194	Vargas	1949
<i>nitens</i> Edwards	---; ---; 145	Vargas	1949
<i>nitidulus</i> Kieffer	---; ---; 337	Vargas	1949

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>notatus</i> Delfinado	---; collected near sea level, Oct.; 242	Delfinado	1961
<i>nubeculosus</i> (Meigen)	---; ---; 76, 77, 158, 194, 210. (Salt marshes, bites man in early morning, night and on calm, cloudy days)	Barnett & Toshioka	1951
	---; ---; 151, 317	Austen	1925
	---; ---; 158*	Tokunaga	1937
	---; bites during day or at dusk causing painful swellings; 194°	Anonymous	1946
	Underzone of mixed forest, ditch, pond; ---; 256. ---; ---; 321	Gutzevich	1960
<i>nubeculoeus</i> var. no. 1 Meigen	---; ---; 194, 210	Tokunaga	1940
<i>nudipalpis</i> Delfinado	---; carabao-baited trap, March, from light traps, May, Sept.; 242	Delfinado	1961
<i>obsoletus</i> Meigen	---; ---; 101, 118. Wet soil, rotten leaves and mushrooms; forest landscape; 256	Gutzevich	1960
	Decaying fungi, sheep dung; troublesome; 158* , 256	Tokunaga	1937
	---; bite might produce a large swelling, reddish in color and accompanied by an edema, disagreeable inflammation and severe irritation; 158°, 256°	Kono & Takahasi	1940
	---; ---; 158, 194	Tokunaga	1941
	---; bites during day or at dusk causing painful swellings; 194°	Anonymous	1946
<i>obsoletus</i> <i>pygobius</i> Kieffer	---; ---; 158	Vargas	1949
<i>obsoletus</i> <i>yessoensis</i> (Matsumura)	---; ---; 158	Vargas	1949
<i>ediatu</i> Austen	---; in lighted tent at night; 154, 342	Austen	1921

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>odibilis</i> Austen	---; ---; 101, 118, 256, 345. (Bites man) Small reservoir, wet soil and marshland; ---; 256	Gutzevich	1960
	---; in lighted tent at night; 154	Austen	1921
	---; June-July; 256°	Olenev	1945
<i>okumensis</i> Arnaud	---; ---; 256, 257	Gutzevich	1960
<i>omogensis</i> Arnaud	---; ---; 158, 256	Gutzevich	1960
<i>onoï</i> Tokunaga	---; ---; 194	Tokunaga	1941
<i>opacus</i> Kieffer	---; ---; 337	Vargas	1949
<i>orientalis</i> Macfie	---; ---; 143, 146, 190, 277	Vargas	1949
	---; carabao-baited traps, Aug., Oct., light traps, Sept.; 242	Delfinado	1961
<i>osakensis</i> Iwata	---; ---; 158	Vargas	1949
<i>oxystoma</i> Kieffer	---; in houses in the evenings; 76, 143, 158, 190	Tokunaga	1937
	Sluggish drain water, algae of overflowed well water; rests on wall near host; 143°	Patel	1921
	---; probable vector of Kala-azar; 143	Fletcher	1924
	---; very common; 143	Smith & Swaminath	1932
	---; ---; 242	Edwards	1929
	---; ---; 277	Causey	1938
	---; ---; 326 (Attacks man)	Gutzevich	1960
<i>palawanensis</i> Delfinado	---; collected near sea level, March; 242	Delfinado	1961
<i>pallidicornis</i> Kieffer	Wet soil in marsh forest; underzone of mixed forests, July-Aug.; 256. ---; ---; 294	Gutzevich	1960
<i>palpifer</i> de Gupta & Gosh	---; carabao-baited trap-May, July, near sea level, Oct., light trap, Sept., May; 242	Delfinado	1961
<i>pampangensis</i> Delfinado	---; from light traps, May and Sept.; 242	Delfinado	1961

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>parroti</i> Kieffer	Small ponds with water plants; ---; 35, 256, 303, 317, 345	Gutzevich	1960
<i>pattoni</i> Kieffer	---; Dec.-Feb.; 122	de Mello & Afonso	1921
	---; ---; 143	Vargas	1949
<i>pegobius</i> Kieffer	---; ---; 158, 256	Kono & Takahasi	1940
<i>peliliouensis</i> Tokunaga	---; ---; 158	Tokunaga	1940
<i>peregrinus</i> Kieffer	---; ---; 76. ---; infected with filarial larvae; 277	Barnett & Toshioka	1951
	---; enters houses; 77. Small, shady, muddy pools; ---; 190	Tokunaga	1937
	Small pools near edge of lake; ---; 143	Annandale & Kemp	1916
	---; at night in corner of rooms, particularly near lighted lamp; 143*	Mukerji	1931
	In ricefield, near lakes; ---; 149	Johannsen	1931
	---; ---; 158	Tokunaga	1940
	---; carabao-baited trap, May, July, Aug., light trap, Jan.; 242	Delfinado	1961
	---; in houses; 277	Vargas	1949
<i>peregrinus</i> var. <i>asamanensis</i> Smith & Swaminath	---; ---; 143	Vargas	1949
<i>peregrinus</i> <i>semoneti</i> Sala	---; ---; 146	Vargas	1949
<i>perornatus</i> Delfinado	---; near sea level, Oct.; 242	Delfinado	1961
<i>philippinensis</i> Kieffer	---; ---; 242	Vargas	1949
<i>piotipennis</i> (Staeger)	---; ---; 101, 256, 321, 345 (Bites man)	Gutzevich	1960

TABLE 1 - MIDGES (continued).

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>piotipennis</i> <i>arcuatus</i> var. <i>nigrus</i> Tokunaga	---; ---; 194	Vargas	1949
<i>poeciloptera</i>	---; ---; 143°	Smith	1929
<i>polymaculatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>ponkikiri</i> Kono & Takahasi	---; ---; 158, 256	Tokunaga	1940
<i>praesignis</i> Delfinado	---; near sea level, Oct.; 242	Delfinado	1961
<i>pulicaris</i> (Linnaeus)	Damp areas, in decaying vegetation and manure heaps; ---; 158	Tokunaga	1937
	---; ---; 158, 168, 194, 210, 256. (Attacks man out of doors in evening)	Barnett & Toshioka	1951
	---; bites during day and at dusk causing painful swellings; 194°	Anonymous	1946
	Fresh water pond with water plants, wet ground; active in summer and autumn, mixed forest; 256°	Gutzevich	1960
<i>pulicaris</i> var. <i>ocellaris</i> Kieffer	---; ---; 158	Tokunaga	1940
	---; ---; 194	Tokunaga	1941
	---; ---; 210	Haiaso	1946
<i>pulicaris</i> <i>punctatus</i> Haigen	---; most active in the evening outdoors, inactive indoors; 158, 194	Takahasi	1941
	---; very troublesome, active out of doors in the evening; 194°	Haiaso	1946
<i>pulicaris</i> <i>cameratus</i> Kono & Takahasi	---; ---; 158	Vargas	1949
<i>pumilus</i> (Winnertz)	---; ---; 101, 121	Gutzevich	1960

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>pungens</i> de Meijere	---; attracted to lamp at altitude of 1,500 meters, near water, usually bites by day, preferably in full sun, periods of abundance irregular; 146°, 149°	Salm	1914
	---; ---; 149	Johannsen	1931
	---; ---; 190°, 337	Vargas	1949
	---; March; 242	Delfinado	1961
<i>pungens</i> <i>cotoni</i> Smith	---; ---; 143	Vargas	1949
<i>puncticollis</i> Becker	---; ---; 28, 318, 326. Small temporary ponds; ---; 35	Gutzevich	1960
<i>puncticollis</i> <i>flavitaris</i> Vimmer	---; ---; 342	Vargas	1949
<i>puncticollis</i> <i>vaurai</i> Vimmer	---; ---; 342	Vargas	1949
<i>puripennis</i> Austen	---; enters houses; 154, 342	Auster	1921
<i>quadrilobatus</i> Kieffer	---; ---; 143	Mukerji	1931
	---; ---; 337	Vargas	1949
<i>quadripunctatus</i> Goetghebuer	---; ---; 256	Goetghebuer	1934a
<i>quadrivittatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>quinquemaculatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>radiatus</i> Delfinado	---; from light traps, May and Sept.; 242	Delfinado	1961
<i>raripalpis</i> Smith	---; ---; 77	Tokunaga	1940
	---; ---; 143°	Smith	1929
	---; ---; 190, 277	Vargas	1949

TABLE 1 - MIDGES (continued).

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i> <i>recurvus</i> Delfinado	---; carabao-baited trap, May, light trap, Sept.; 242	Delfinado	1961
<i>riethi</i> Kieffer	---; ---; 2, 162, 321	Gutzevich	1960
<i>saevus</i> Kieffer	---; steppe and desert like landscape; 35, 256, 326, 345	Gutzevich	1960
<i>salinarius</i> Kieffer	---; alkaline reservoirs; 101, 162, 256	Gutzevich	1960
<i>sarawakensis</i> Wirth & Hubert	---; Dec.; 242	Delfinado	1961
<i>schultzei</i> Enderlein	---; ---; 76, 143, 158, 326 (Attacks man)	Gutzevich	1960
<i>sawamotoi</i> Kono & Takahasi	---; ---; 256°	Kono & Takahasi	1940
<i>soapularis</i> Kieffer	---; ---; 337	Vargas	1949
<i>schultzei</i> (Enderlein)	---; ---; 76, 77, 158, 168, 194	Barnett & Toshioka	1951
	---; ---; 190	Vargas	1949
	---; from light traps, Jan., March, May, June, Aug., Sept., from carabao-baited trap, May, Aug. and Dec.; 242	Delfinado	1961
<i>schultzei</i> <i>kiefferi</i> Patton	---; ---; 143	Vargas	1949
<i>schultzei</i> <i>oxystoma</i> Kieffer	---; ---; 143	Vargas	1949
<i>schultzei</i> <i>pattoni</i> Kieffer	---; ---; 143	Vargas	1949
<i>sootiana</i> Downes & Kettle	---; ---; 256, 318	Gutzevich	1960

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>sejfadinei</i> Dzhafarov	---; ---; 35, 256	Gutzevich	1960
<i>setiger</i> Kieffer	---; ---; 337	Vargas	1949
<i>setosus</i> Gutzevich	---; ---; 256, 321 (Attacks man at sundown)	Gutzevich	1960
<i>shermani</i> Causey	Tree holes; ---; 277	Causey	1938
<i>shortti</i> Smith & Swaminath	---; ---; 143°	Smith & Swaminath	1932
	---; ---; 190, 277	Vargas	1949
<i>sigaensis</i> Tokunaga	---; mountainous region, occasionally bites man in the evening; 158°	Tokunaga	1937
	---; ---; 158	Vargas	1949
<i>similis</i> Carter, Ingram & Macfie	---; ---; 31, 277	Causey	1938
	---; ---; 35, 118, 150, 256	Gutzevich	1960
	---; ---; 76, 210	Barnett & Toshioka	1951
	---; in laboratory window panes, on cattle sheds; 143	Smith & Swaminath	1932
	---; ---; 190	Macfie	1937
<i>simulans</i> Vimmer	---; ---; 342	Vargas	1949
<i>simulator</i> Edwards	---; ---; 101, 256	Gutzevich	1960
<i>sinanoensis</i> Tokunaga	Forest bedding; ---; 76°, 256°	Gutzevich	1960
	---; enters houses, in mountains; 158	Tokunaga	1937
	---; ---; 194	Vargas	1949
<i>stigma</i> (Meigen)	Ruts on the roads; forest zone; 256	Gutzevich	1960
<i>stigmaticus</i> Kieffer	---; June-July; 256°	Olenov	1945
<i>subfascipennis</i> Kieffer	---; ---; 101, 256 (Bites man)	Gutzevich	1960

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>subneglectus</i> Vimmer	---; ---; 342	Vargas	1949
<i>sugimotoi</i> Shiraki	---; enters houses in evening, bloodsucker; 77°, 158°	Tokunaga	1937
	---; ---; 77	Vargas	1949
	---; common; 158	Tokunaga	1940
	---; ---; 194	Tokunaga	1941
	---; attracted by light into houses; 168°	Hsiao	1948
<i>sugimotoi</i> <i>alboguttatus</i> Kieffer	---; ---; 158	Vargas	1949
<i>sugimotoi</i> <i>urakawae</i> (Matsumura)	---; ---; 158	Vargas	1949
<i>sugimotoi</i> <i>shimai</i> (Sasaki)	---; ---; 158	Vargas	1949
<i>sumatrae</i> Macfie	---; ---; 149	Macfie	1934
	---; ---; 190	Macfie	1937
	---; carabao-baited trap, June, Aug., light trap, Sept.; 242	Delfinado	1961
	---; ---; 277	Causey	1938
<i>tauricus</i> Gutzevich	---; ---; 256, 321	Gutzevich	1960
<i>taiwanus</i> (Shiraki)	---; ---; 77	Vargas	1949
<i>tentorius</i> Austin	---; in lighted tent at night; 154, 342	Austen	1921
	---; ---; 256	Gutzevich	1960
<i>tobaensis</i> Tokunaga	---; ---; 158	Tokunaga	1937
<i>tripunctatus</i> Vimmer	---; ---; 342	Vargas	1949

TABLE 1 - MIDGES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CULICOIDES</i>			
<i>trivittatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>truncorum</i> Edwards	---; ---; 101, 118. Wet soil, sphagnum; ---; 256	Gutzevich	1960
<i>turkmenicus</i> Gutzevich	---; ---; 318 (Feeds on man)	Gutzevich	1960
<i>unguis</i> Tokunaga	---; ---; 158	Vargas	1949
<i>unicus</i> Delfinado	---; at 3300 feet elevation, at light, Sept.; 242	Delfinado	1961
<i>univittatus</i> Vimmer	---; ---; 342	Vargas	1949
<i>verbosus</i> Tokunaga	---; at light, in house; 77	Tokunaga	1937
	---; ---; 158	Tokunaga	1940
<i>verans</i> Staeger	Wet soil, between bushes and under trees; 256°, 321, 345	Gutzevich	1960
<i>vitreipennis</i> Austen	---; in lighted tent at night; 154, 342	Austen	1921
<i>wenegi</i> Vimmer	---; ---; 342	Vargas	1949
<i>wenzeli</i> Delfinado	---; from light traps, May; 242	Delfinado	1961
<i>xanthocoma</i> Kieffer	---; ---; 143	Vargas	1949
<i>LASIOHELEA</i>			
<i>stimulans</i> de Meijere	---; ---; 70°, 149°	Tokunaga	1937
<i>taiwana</i> Shiraki	---; ---; sucks blood from man; 158°	Tokunaga	1940
	---; ---; 158*	Tokunaga	1937
<i>LEPTOCONOPS</i>			
<i>bessii</i> Noé	---; ---; 35, 256 (Bites man)	Gutzevich	1960
	---; irritating on face, eyes, ears; 154, 159	Buxton	1924
<i>bidentatus</i> Gutzevich	---; ---; 256°	Gutzevich	1960

TABLE 1 - MIDGES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LEPTOCONOPS</i>			
<i>borealis</i> Gutzevich	---; Aug.; 162, 256, 318, 321	Gutzevich	1960
<i>camelorum</i> Kieffer	---; ---; 256 (Bites man)	Gutzevich	1960
<i>caucasicus</i> Gutzevich	---; ---; 35 (Attacks man)	Gutzevich	1960
<i>flaviventris</i> Kieffer	---; ---; 350	Carter	1921
<i>indicus</i> Kieffer	---; ---; 143	Carter	1921
<i>kerteszi</i> Kieffer	Salt marshes; ---; 210°	Barnett & Toshioka	1951
<i>nipponensis</i> Tokunaga	---; ---; 158	Tokunaga	1937
<i>siamensis</i> Carter	---; ---; 277	Carter	1921
<i>STYLOCONOPS</i>			
<i>spinosifrons</i> (Carter)	---; ---; 190	Macfie	1934a
<i>TERSESTHES</i>			
<i>luteigaster</i> Senior-White	---; on seashore; 122°	Senior- White	1929
<i>mesopatamiensis</i> Theobald	---; tents during the heat of day; 151°	Patton	1920
<i>TRICHOTANYPUS</i>			
<i>tiberiae</i>	---; ---; 342°	Anonymous	1944
ADDENDA			
<i>CULICOIDES</i>			
<i>fascipennis</i> (Staeger)	---; ---; 256	Blagovesh- chenskii	1930
<i>nubeculosus</i> (Meigen)	---; ---; 256°	Blagovesh- chenskii	1930
<i>sugimotoi</i> Shiraki	Puddles; ---; 256	Gutzevich	1947

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

SPECIES	DISEASE OR DISEASE ORGANISMS					COUNTRY
	VIRUS &	PROTOZOA	HELMINTHS	OTHER		
	RICKETTSIA					
<i>CERATOPOGON</i> <i>taiwanus</i> (Shiraki)				Edematose swelling	77	
<i>CULICOIDES</i> <i>anamiensis</i> Tokunaga				Edematose swelling	158	
<i>maculatus</i> (Shiraki)				Edematose swelling	158	
<i>nubeculosus</i> Meigen				Edematose swelling	158	
<i>obsoletus</i> Meigen				Edematose swelling	158	
<i>pungens</i> de Meijere			<i>Onchocerca gibsoni</i>		190	
<i>LASIOHELEA</i> <i>taiwana</i> Shiraki				Edematose swelling	158	

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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 no disease transmission was recorded.

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

In the table are listed 1132 species or subspecies, but it is certain that many of these are not valid names.

TABLE 1 - HORSE FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>APLOCOCERA</i>			
<i>caucasica</i> (Enderlein)	---; ---; 345	Enderlein	1934
<i>decora</i> (Loew)	---; ---; 302	Enderlein	1934
<i>himalayana</i> (Enderlein)	---; ---; 31	Enderlein	1934
<i>panirensis</i> (Enderlein)	---; ---; 162	Enderlein	1934
<i>ATYLOTUS</i>			
<i>abaxus</i> Bigot	---; ---; 150, 345 ---; ---; 162	Kröber Kröber	1924a 1928
<i>alazinus</i> Bigot	---; ---; 345	Kröber	1923
<i>alexandrinus</i> Wiedemann	---; ---; 174, 302, 342	Kröber	1924a
<i>argenteo- maculatus</i> Kröber	---; ---; 326	Kröber	1928
<i>armeniensis</i> Kröber	---; ---; 28	Kröber	1928
<i>ater</i> Rossi	---; ---; 317 ---; ---; 350	Kröber Kröber	1928 1924a
<i>bifarius</i> Loew	---; ---; 256, 317, 321, 350, 354	Kröber	1924a
<i>bivittatus</i> Matsumura	---; ricefields; 77. ---; May-Aug.; 150	Shiraki	1918
<i>caucasicus</i> Portschinsky	---; ---; 31, 150, 162, 345	Kröber	1924a
<i>crassinervis</i> Villeneuve	---; ---; 256, 318, 354	Kröber	1924a
<i>erberi</i> Brauer	---; ---; 256, 354	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ATYLOTUS</i> <i>fulvus</i> Meigen	---; ---; 76. ---; June-Sept.; 158	Shiraki	1918
<i>gigas</i> Herbat	---; ---; 256, 302, 317, 342, 350, 354	Kröber	1924a
<i>insecutor</i> Austen	---; ---; 154, 302, 342	Kröber	1924a
<i>labanmeanus</i> Enderlein	---; ---; 350	Kröber	1939
<i>lunatus</i> Fabricius	---; ---; 150, 154, 302, 342, 345, 350	Kröber	1924a
<i>negativus</i> Ricardo	---; ---; 77, 139	Shiraki	1918
<i>nemoralis</i> Meigen	---; ---; 302, 342	Kröber	1924a
<i>peculiaris</i> Szilády	---; ---; 162	Kröber	1924a
<i>pusillus</i> Egger	---; ---; 317, 350	Kröber	1924a
<i>quatuornotatus</i> Meigen	---; ---; 256, 354	Kröber	1924a
<i>rusticus</i> Enderlein	---; ---; 158	Shiraki	1918
<i>rusticus</i> <i>niger</i> Enderlein	---; ---; 256	Goffe	1931
<i>rusticus</i> <i>parallelifrons</i> Szilády	---; ---; 256	Goffe	1931
<i>sabulorum</i> Loew	---; ---; 31, 150, 162, 256, 345, 354	Kröber	1924a
<i>tauricus</i> Enderlein	---; ---; 350	Kröber	1939
<i>tricolor</i> Zeller	---; ---; 150, 162, 256, 317, 345, 354	Kröber	1924a
<i>umbrinus</i> Meigen	---; ---; 317, 350	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BAIKALIA</i> <i>vaillanti</i> Surcouf	---; ---; 256	Kröber	1924a
<i>BUPLEX</i> <i>basini</i> Surcouf	---; ---; 76 ---; ---; 144	Seguy Surcouf	1934 1923
<i>CHASMIELLA</i> <i>polysoma</i> Szilády	---; ---; 143	Szilády	1926
<i>CHRYSOPS</i> <i>albicincta</i> van der Wulp	---; ---; 147	Schuermans Stekhoven	1926
<i>alter</i> Rondani	---; ---; 145	Schuermans Stekhoven	1926
<i>amurensis</i> Pleske	---; ---; 256	Kröber	1920
<i>angaricus</i> Olsuf'ev	---; ---; 256, 353	Kröber	1939
<i>anthrax</i> Olsuf'ev	---; ---; 256	Olsuf'ev	1937
<i>atrilineata</i> Schuurmans Stekhoven	---; ---; 145	Schuermans Stekhoven	1926
<i>atrivittata</i> Schuurmans Stekhoven	---; marsh; 147	Schuermans Stekhoven	1926
<i>basalis</i> Shiraki	---; ---; 76 ---; Aug., in shrubs near mountain-stream; 158	Hwang Shiraki	1936 1918
<i>beckeri</i> Kröber	---; ---; 162, 256	Kröber	1920
<i>binoculatus</i> Szilády	---; ---; 256	Kröber	1925
<i>buxtoni</i> Austen	---; ---; 151 ---; ---; 154. ---; May, June; 159 ---; ---; 342	Kröber Buxton Bodenheimer	1925 1924 1937
<i>caucasiensis</i> Linnaeus	---; ---; 28 Forest, edge of lake; rarely bite on first alighting, June and Aug.; 256* ---; May-June; 256. ---; ---; 345 ---; ---; 302	Kröber Fraser Olsuf'ev Kröber	1939 1920 1937 1920

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>			
<i>cascutiens</i> var. <i>ludens</i> Loew	---; ---; 350	Kröber	1939
<i>cincta</i> Bigot	---; ---; 190	Schuermans Stekhoven	1926
	---; ---; 242	Schuermans Stekhoven	1924
<i>clavicornis</i> Thompson	---; ---; 190	Schuermans Stekhoven	1924
<i>compactus</i> Austen	---; ---; 151	Kröber	1925
	---; ---; 154, 159	Austen	1924
	---; ---; 342	Bodenheimer	1937
<i>concausus</i> Loew	---; ---; 256*	Skufin	1949
	---; ---; 256	Kröber	1920
<i>designata</i> Ricardo'	---; ---; 76, 143, 218	Wu	1940
<i>dispar</i> (Fabricius)	---; ---; 59, 70, 76, 133, 143, 144, 146, 149, 199, 350. ---; active in evening, occasionally bites man, 5-6 p.m.; 77°	Shiraki	1918
	---; ---; 59, 133, 139, 218, 280. ---; common; 70, 76, 77, 143, 144, 146, 149, 158, 190, 277, 366 (All year)	Schuermans Stekhoven	1926
	---; ---; 122	Senior-White	1927
	---; ---; 139, 185	Hwang	1936
	---; ---; 145, 242	Wu	1940
	Fish ponds, open and forest pools and streams; ---; 146, 149	Nieschulz	1926
	---; ---; 235	Schuermans Stekhoven	1931
	---; ---; 256	Kröber	1920
<i>dissectus</i> Loew	---; ---; 166, 168, 194, 256, 353	Kono & Takahasi	1939a
<i>dissectus</i> var. <i>amurensis</i> Fleissner	---; ---; 256	Kröber	1939
<i>dissectus</i> <i>mongolicus</i> Szilády	---; ---; 353	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>	---; ---; 256°	Skufin	1949
<i>divaricatus</i> Loew	---; ---; 256	Kröber	1920
<i>fasciata</i> Wiedemann	---; ---; 11, 59, 143, 145, 146, 149, 190	Schuermans Stekhoven	1926
<i>fasciatus</i> Wiedemann	---; ---; 70, 145, 146, 149, 190, 277	Nieschulz	1935
	---; ---; 147	Senior-White	1927
<i>fixissimus</i> Walker	---; ---; 70, 145, 146, 149, 190, 280 (Nov.-Apr.)	Schuermans Stekhoven	1926
	---; ---; 242	Kröber	1924
<i>flaviceps</i> Meigen	---; ---; 235	Senior-White	1927
<i>flavipes</i> Meigen	---; ---; 143, 366	Schuermans Stekhoven	1926
	---; ---; 150, 302	Kröber	1920
	---; ---; 162, 166, 256, 354	Olsuf'ev	1937
	---; ---; 256°	Skufin	1949
	---; ---; 317	Austen	1925
	---; ---; 350	Kröber	1925
<i>flavipes</i> <i>askahabadensis</i> Szilády	---; ---; 318	Kröber	1925
<i>flavipes</i> var. <i>beckeri</i> Kröber	---; ---; 162	Kröber	1939
<i>flavipes</i> <i>punotifer</i> Loew	---; ---; 150, 302, 342, 345, 350	Kröber	1939
	---; ---; 318, 326	Olsuf'ev	1937
<i>flaviventris</i> Macquart	---; ---; 70, 143, 146, 149	Schuermans Stekhoven	1926
<i>flavocinctus</i> (Ricardo)	---; ---; 59	Senior-White	1922
	---; ---; 70, 145. ---; common, Nov.; 143	Schuermans Stekhoven	1926
	---; ---; 144	Schuermans Stekhoven	1928
	---; ---; 190	Senior-White	1927
	---; mountain region, enter houses, bite causes swelling and itching; 277°	Austen	1922

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>	---	Kröber	1920
<i>hamatus</i> Loew	---	Kröber	1925
<i>hermanni</i> Kröber	---	Kröber	1920
<i>horvathi</i> Szilady	---	Kröber	1939
<i>hyalipennis</i> Stackelberg	---	Stackelberg	1926
	---	Olsuf'ev	1937
<i>indianus</i> Ricardo	---	Schuermans Stekhoven	1926
<i>interruptus</i> Kröber	---	Kröber	1920
<i>italicus</i> Meigen	---	Kröber	1920
	---	Olsuf'ev	1937
	---	Kröber	1925
<i>italicus</i> var. <i>nigriventris</i> Loew	---	Kröber	1920
	---	Kröber	1939
<i>japonicus</i> Wiedemann	---	Hwang	1936
	---	Kröber	1920
	---	Shiraki	1918
	---	Schuermans Stekhoven	1931
<i>lapponicus</i> Loew	---	Kröber	1925
	---	Kröber	1920
<i>loewi</i> Kröber	---	Kröber	1920
<i>ludens</i> Loew	---	Kröber	1920
	---	Kröber	1925
<i>maculiventris</i> Becker	---	Kröber	1920

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>			
<i>makerovi</i> Pleske	---; ---; 256	Kono & Takahasi	1939
<i>manilensis</i> Schiner	---; ---; 242	Bezzi	1913
<i>marus</i> Siebke	---; ---; 76, 256	Kröber	1920
<i>mlokosiewiczi</i> Bigot	---, ---, 28, 194	Kröber	1920
	---; ---; 31, 76, 139, 150, 158, 256, 345	Wu	1940
	---; April-August; 77	Shiraki	1918
<i>mlokosiewiczi</i> var. <i>obscurus</i> Kröber	--; ---; 76	Kröber	1939
	---; ---; 345	Kröber	1923
<i>mlokosiewiczi</i> var. <i>oxienus</i> Pleske	---; ---; 76	Kröber	1939
<i>mlokosiewiczi</i> var. <i>van-der-wulpi</i> Kröber	---; ---; 76, 77, 158, 168, 194	Kono & Takahasi	1939b
<i>mongolicus</i> Szilády	---; ---; 353	Wu	1940
<i>nona</i> (Olsuf'ev)	---; ---; 256	Anonymous	1944a
<i>nigricornis</i> Matsumura	---; ---; 158	Kröber	1925
	---; ---; 256	Shiraki	1918
<i>nigripes</i> Zetterstedt	---; ---; 194, 256	Kono & Takahasi	1939
	---; ---; 256*	Gutzevich	1947
<i>nigripes</i> var. <i>lapponicus</i> Loew	---; ---; 256	Kröber	1939
<i>nigripes</i> var. <i>nigricornis</i> Matsumura	---; ---; 158	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>	---; ---; 31, 76	Hsiao	1945
<i>oxianus</i>			
Pleske	---; ---; 162	Stackelberg	1926
	---; ---; 256, 326	Kröber	1920
<i>parallogrammus</i>	---; ---; 256	Sassuchin et al.	1930
Zeller			
<i>pellucidus</i>	---; ---; 143, 366	Schuermans Stekhoven	1926
Fabricius			
<i>pettigrewi</i>	---; ---; 143	Senior-White	1927
Ricardo			
<i>pictus</i>	---; ---; 256°	Skufin	1949
Meigen	---; ---; 256	Olsuf'ev	1937
<i>pluvialis</i>	---; ---; 345	Olsuf'ev	1937
Linnaeus			
<i>potanini</i>	---; ---; 76, 158	Hsiao	1945
Pleske			
<i>przewalskii</i>	---; ---; 76	Kröber	1920
Pleske	---; ---; 210, 353	Wu	1940
<i>pseudoricardoae</i>	---; ---; 162, 256	Kröber	1920
Kröber			
<i>punctifer</i>	---; ---; 154	Austen	1922b
Loew	---; ---; 174, 302	Kröber	1920
	---; ---; 317*	Anonymous	1944
	---; ---; 342, 350	Kröber	1925
<i>punctifer</i>			
<i>abdominalis</i>	---; ---; 302	Kröber	1920
Kröber			
<i>punctifera</i>	Along creeks and watercourses; Apr.-May; 151	Patton	1920
Loew	---; ---; 154°, 159°, 302, 342°. ---; marshes; 174	Austen	1920
	---; October; 154. ---; April-September; 159, 174	Buxton	1924
	---; ---; 342	Bodenheimer	1937
<i>quadratus</i>	---; ---; 256	Kröber	1920
Meigen	---; ---; 345	Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>	---; ---; 162	Olsuf'ev	1937
<i>relictus</i>	---		
Meigen	---; ---; 256°	Skufin	1949
	---; ---; 256	Kröber	1920
<i>ricardoae</i>	---; ---; 162, 353	Olsuf'ev	1937
Pleske	---; ---; 210	Hsiao	1945
	---; ---; 256	Kröber	1920
<i>ricardoae</i>			
var. <i>przewalskii</i>	---; ---; 76	Kröber	1939
Pleske			
<i>ricardoae</i>	---; ---; 162	Kröber	1939
var. <i>pseudoricardoae</i>			
Kröber			
<i>ricardoae</i>			
var. <i>wagneri</i>	---; ---; 256	Kröber	1939
Pleske			
<i>rufipes</i>	---; ---; 256 (May bite man)	Olsuf'ev	1937
Meigen			
<i>sakhalinensis</i>	---; ---; 77, 158, 256	Kröber	1920
Pleske			
<i>sejunctus</i>	---; ---; 28, 321	Kröber	1939
Szilády	---; ---; 256	Kröber	1925
	---; ---; 345	Olsuf'ev	1937
<i>semiignitus</i>	---; ---; 76	Kröber	1939
Kröber			
<i>sepulralis</i>	---; ---; 256	Edwards et al.	1939
Fabricius			
<i>sepulralis</i>			
var. <i>maurus</i>	---; ---; 256	Kröber	1939
Siebke			
<i>signifer</i>	---; ---; 145, 242	Schuurmans	1928
Walker		Stekhoven	
	---; Aug.; 147	Schuurmans	1926
		Stekhoven	
<i>simillimus</i>	---; ---; 150, 151	Austen	1923
Austen			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPE</i>	---; ---; 76, 138. ---; May-Nov.; 77°	Shiraki	1918
<i>sinensis</i>			
Walker	---; ---; 77	Hsiao	1945
	---; ---; 139	Hwang	1936
	---; ---; 256	Kröber	1920
<i>sinensis</i>			
var. <i>balteatus</i>	---; ---; 76	Hwang	1936
Szilády			
<i>stackelbergi</i>	---; ---; 162	Olsuf'ev	1937
Olsuf'ev			
<i>stimulans</i>	Shallow water by a river bank; March-April; 143	Fletcher	1916
Walker	---; Nov.-Dec., Feb.; 143	Fletcher	1920
	---; ---; 366	Schuermans Stekhoven	1926
<i>striata</i>	---; ---; 139	MacFarlane	1915
van der Wulp			
<i>suavis</i>	---; ---; 76, 77	Wu	1940
Loew	---; July- 158. ---; ---; 256	Shiraki	1918
	---; ---; 168	Hsiao	1948
<i>suavis</i>			
<i>sakhalinensis</i>	---; ---; 158, 256	Kono & Takahasi	1939
Pleske			
<i>suavis</i>			
<i>suavis</i>	---; ---; 158, 168, 194, 256, 353	Kono & Takahasi	1939a
Loew			
<i>sinensis</i>	---; ---; 77	Schuermans Stekhoven	1926
Walker			
<i>stackelbergi</i>	---; ---; 162	Kröber	1939
Olsuf'ev			
<i>szechuanensis</i>	---; ---; 76	Kröber	1934
Kröber			
<i>translucens</i>	---; ---; 145	Schuermans Stekhoven	1932
Macquart	---; ---; 190	Schuermans Stekhoven	1926
<i>turanicus</i>	---; ---; 318, 326	Olsuf'ev	1937
Olsuf'ev			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOPS</i>			
<i>v-nigrum</i> de Meijere	---; ---; 77	Szilády	1922
<i>validus</i> Loew	---; ---; 168, 194, 256	Kono & Takahasi	1939a
<i>vander-wulpi</i> Kröber	---; ---; 256	Olsuf'ev	1937
<i>vitripennis</i> Meigen	---; ---; 28, 118, 345	Kröber	1920
<i>wagneri</i> Pleske	---; ---; 256	Kröber	1920
<i>CHRYSOZONA</i>			
<i>antennata</i> Shiraki	---; ---; 158, 168	Kono & Takahasi	1939a
<i>aquilina</i> Séguy	---; ---; 76	Séguy	1934
	---; ---; 144	Hwang	1936
<i>araxis</i> Szilády	---; ---; 345	Kröber	1925
<i>atrata</i> (Szilády)	---; ---; 76	Hsiao	1945
<i>caenofrons</i> Kröber	---; ---; 345	Kröber	1925
<i>caucasicola</i> Kröber	---; ---; 345	Kröber	1925
<i>crassicornis</i> Wahlberg	---; May-June; 256. ---; ---; 345	Olsuf'ev	1937
	---; ---; 256°	Skufin	1949
<i>crassicornis</i> var. <i>flavopilosa</i> Kröber	---; ---; 256	Kröber	1939
<i>desertorum</i> Szilády	---; ---; 256°	Gutzevich	1947
	---; ---; 256	Kröber	1925
<i>flavopilosa</i> Kröber	---; ---; 256	Kröber	1925
<i>formosana</i> Shiraki	---; common; 77	Shiraki	1932
<i>fusicornis</i> Becker	---; ---; 256	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOZONA</i>			
<i>grandis</i> Macquart	---; ---; 321	Olsuf'ev	1937
<i>grandis</i> Szilády	---; ---; 166	Olsuf'ev	1937
<i>hedini</i> Kröber	---; ---; 353	Kröber	1934
<i>hispanica</i> Szilády	---; ---; 256°	Skufin	1949
	---; ---; 256	Olsuf'ev	1937
<i>innominata</i> Austen	---; ---; 342	Kröber	1925
<i>italica</i> Meigen	---; ---; 256	Kröber	1939
<i>italica</i> var. <i>variegata</i> Fabricius	---; ---; 317	Kröber	1939
<i>kansuensis</i> Kröber	---; ---; 76	Kröber	1934
<i>kemali</i> Szilády	---; ---; 350	Kröber	1925
<i>koryoensis</i> Shiraki	---; ---; 168	Barnett & Toshioka	1951
<i>lata</i> (Ricardo)	---; ---; 59, 76, 143, 149	Hsiao	1945
<i>longiantennata</i> Olsuf'ev	---; ---; 345	Kröber	1939
<i>lunulata</i> Macquart	---; ---; 76, 146	Séguy	1934
	---; ---; 242	Bezzi	1913
<i>minuscule</i> Austen	---; ---; 342	Kröber	1939
<i>minuscularia</i> Austen	---; ---; 342	Kröber	1925
<i>minuscularia</i> <i>turkestanica</i> Szilády	---; ---; 256	Kröber	1925
<i>nana</i> Olsuf'ev	---; ---; 168	Barnett & Toshioka	1951
	---; ---; 256	Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOZONA</i>			
<i>obscurata</i> Bigot	---; ---; 150, 345	Kröber	1939
<i>ornata</i> Kröber	---; ---; 77	Kröber	1922
<i>pallens</i> Loew	---; ---; 162	Kröber	1928
	---; ---; 256, 321, 345. ---; common; 354	Olsuf'ev	1937
<i>pallidula</i> Kröber	---; ---; 256	Kröber	1925
<i>peculiaris</i> Kono & Takahasi	---; ---; 168	Barnett & Toshioka	1951
<i>pluvialis</i> Linnaeus	---; ---; 158	Kröber	1922
	---; ---; 256	Olsuf'ev	1937
	---; June-August; 256°	Skufin	1949
<i>pungens</i> Doleschall	---; ---; 144	Séguy	1934
<i>rufipennis</i> Bigot	---; ---; 158	Kröber	1923
<i>sakhalinensis</i> (Shiraki)	---; ---; 256	Kono & Takahasi	1939
<i>sewelli</i> Austen	---; ---; 342	Kröber	1939
<i>sinensis</i> Ricardo	---; ---; 76	Hwang	1936
<i>sobrina</i> Kröber	---; ---; 350	Kröber	1925
<i>eurooufi</i> Kröber	---; ---; 76	Hwang	1936
<i>tamerlani</i> Szilády	---; ---; 168, 194, 256, 353	Kono & Takahasi	1939a
<i>tristis</i> (Bigot)	---; ---; 158, 170, 256	Kono & Takahasi	1939
	---; ---; 168	Barnett & Toshioka	1951
<i>turkestanica</i> Kröber	---; ---; 162, 256	Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHRYSOZONA</i>			
<i>ustulata</i> Kröber	---; ---; 76	Kröber	1934
<i>vaillanti</i> Surcouf	---; ---; 256	Kröber	1925
<i>yamadai</i> Shiraki	---; ---; 194	Hsiao	1946
<i>CORIZONEURA</i>			
<i>caucasica</i> Kröber	---; ---; 345	Kröber	1925
<i>longirostris</i> Hardwicke	---; 5000 feet and 7500 feet elevation, July-Sept.; 143	Fletcher & Sen	1931
<i>oritensis</i> Bigot	---; ---; 345	Kröber	1923
<i>taprobanes</i> Walker	---; ---; 76	Senior-White	1927
	---; ---; 143	Fletcher & Sen	1931
	---; ---; 349	de Mello & Afonso	1921
<i>tigris</i> Bigot	---; ---; 150, 345	Kröber	1925
<i>varipes</i> (Ricardo)	---; ---; 147	Schuermans Stekhoven	1932b
<i>yencensis</i> Shiraki	---; ---; 158	Shiraki	1918
<i>sonata</i> Walker	---; ---; 25	Kröber	1925
<i>CYDISTOMYIA</i>			
<i>aluensis</i> Oldroyd	---; ---; 147	Oldroyd	1948
<i>DASYRRHAMPHIS</i>			
<i>ater</i> Rossi	---; ---; 350	Kröber	1939
<i>DASYSTYPIA</i>			
<i>bivittata</i> (Matsumura)	---; ---; 76	Séguy	1934
<i>labameana</i> Enderlein	---; ---; 350	Kröber	1923
<i>rustica</i> <i>nigra</i> Enderlein	---; ---; 256	Frober	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DIACHLORUS</i>			
<i>flavipennis</i> Macquart	---; ---; 242	Kröber	1924
<i>fulvescens</i> Brunetti	---; ---; 143	Senior-White	1927
<i>EUCOMPSA</i>			
<i>tecticallosa</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>GASTROIDES</i>			
<i>ater</i> Saunders	Muck in tree holes; June, July; 143 ---; Nov.-Jan.; 143	Isaac Fletcher	1925 1923
<i>aterrimus</i> Schuurmans Stekhoven	---; ---; 190	Schuurmans Stekhoven	1926
<i>atricinctus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1928
<i>fuscus</i> Schuurmans Stekhoven	---; ---; 190	Schuurmans Stekhoven	1926
<i>ornatus</i> Bigot	---; ---; 70	Senior-White	1927
<i>HAEMATOBIA</i>			
<i>stimilans</i> Meigen	---; ---; 294	Breev	1930
<i>HAEMATOPOTA</i>			
<i>albofasciatipennis</i> Brunetti	---; ---; 143	Senior-White	1927
<i>angustisegmentata</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>annandalei</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>annulipes</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>assamensis</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>atomaria</i> Walker	---; ---; 145	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>atrata</i> Szilády	---; ---; 76	Wu	1940
<i>atriventer</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>beesoni</i> Senior-White	---; ---; 59, 143	Senior-White	1922
<i>belligera</i> Austen	---; ---; 317	Austen	1925
<i>bilineata</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>birai</i> Szilády	---; ---; 143	Szilády	1926
<i>bisonata</i> Schuurmans Stekhoven	---; ---; 145, 146	Schuurmans Stekhoven	1932b
<i>borneana</i> Rondani	---; ---; 145	Schuurmans Stekhoven	1926
<i>brevia</i> Ricardo	---; ---; 70, 143, 218, 366	Schuurmans Stekhoven	1926
<i>burmanioa</i> Senior-White	---; ---; 59, 143	Senior-White	1922
<i>cana</i> Walker	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>cilipes</i> Bigot	---; ---; 59, 144, 277	Schuurmans Stekhoven	1926
<i>cingalensis</i> Ricardo	---; ---; 70, 143, 218, 366	Schuurmans Stekhoven	1926
<i>cingulata</i> Wiedemann	---; in jungle; 146	Schuurmans Stekhoven	1928
<i>confluens</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>coronata</i> Austen	---; ---; 2, 332	Oldroyd	1952
	---; ---; 154	Oldroyd	1957
<i>crassicornis</i> Wahlberg	---; ---; 143	Isaac	1925a
	---; ---; 256	Blagovesh- chenskii	1930

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>demellonis</i> Senior-White	---; ---; 122, 143	Senior-White	1927
<i>desertorum</i> Szilády	---; ---; 256	Szilády	1923
<i>dissimilis</i> Ricardo	---; ---; 143, 218, 366	Schuermans Stekhoven	1926
<i>elegans</i> Schuurmans Stekhoven	---; ---; 146	Schuermans Stekhoven	1926
<i>ensifer</i> Schuurmans Stekhoven	---; ---; 146	Schuermans Stekhoven	1926
<i>equitibiata</i> Schuurmans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>fasciata</i> Ricardo	---; ---; 59 ---; ---; 143, 218, 366	Szilády Schuurmans Stekhoven	1926 1926
<i>flavicornis</i> Szilády	---; ---; 143	Szilády	1926
<i>formosana</i> Shiraki	---; ---; 77°, 256	Shiraki	1918
<i>fraseri</i> Austen	---; ---; 317 ---; ---; 342	Austen Bodenheimer	1925 1937
<i>fumigata</i> Schuurmans Stekhoven	---; Nov.-Dec.; 146	Schuermans Stekhoven	1926
<i>fuscifrons</i> (Austen)	---; ---; 59 ---; ---; 143, 218, 366	Senior-White Schuurmans Stekhoven	1927 1926
<i>hindostani</i> Ricardo	---; ---; 143	Senior-White	1927
<i>hispanioa</i> Szilády	---; ---; 256 ---; ---; 345	Leclercq Kalugin	1961 1945
<i>immaculata</i> Ricardo	---; ---; 143, 218, 366 ---; ---; 146	Schuermans Stekhoven Szilády	1926 1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>inconspicua</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>indiana</i> Bigot	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926
<i>indianus</i> Ricardo	---; ---; 122	Senior-White	1927
<i>innominata</i> Austen	---; May, June; 154, 159	Buxton	1924
	---; ---; 342	Austen	1922b
<i>intermedia</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>irregularis</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>irrorata</i> Macquart	---; ---; 145, 146, 149, 190	Schuurmans Stekhoven	1926
<i>irrorata</i> <i>cristata</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>jacobsoni</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>javana</i> Wiedemann	---; July-Aug.; 59. ---; ---; 143, 144, 146, 190, 218. ---; all year; 149	Schuurmans Stekhoven	1926
	---; ---; 145	Senior-White	1927
	---; ---; 277	Schuurmans Stekhoven	1928
<i>kemali</i> Szilády	---; ---; 350	Szilády	1923
<i>lata</i> Ricardo	---; ---; 59, 143, 144, 218, 366	Schuurmans Stekhoven	1926
	---; ---; 76, 149	Wu	1940
<i>latebricola</i> Austen	---; ---; 317	Austen	1925
<i>lufasoi</i> Ricardo	---; ---; 143, 218, 366	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>limbata</i> Bigot	---; ---; 143, 218, 366	Schuermans Stekhoven	1926
<i>litoralis</i> Ricardo	---; ---; 143	Senior-White	1927
<i>lunulata</i> Macquart	---; ---; 145	Schuermans Stekhoven	1932b
	---; ---; 146, 149, 190	Schuermans Stekhoven	1926
<i>macer</i> Bigot	---; ---; 122	Senior-White	1927
<i>maculata</i> de Meijere	---; ---; 146	Schuermans Stekhoven	1926
<i>malayensis</i> Ricardo	---; ---; 190	Schuermans Stekhoven	1926
<i>marginata</i> Ricardo	---; ---; 70	Schuermans Stekhoven	1926
	---; ---; 143	Senior-White	1927
<i>mediatrifrons</i> Schuurmans Stekhoven	---; ---; 145	Schuermans Stekhoven	1928
	---; ---; 149, 190	Schuermans Stekhoven	1926
<i>minuscule</i> Austen	---; ---; 159	Austen	1920
	---; ---; 256	Szilády	1923
	---; ---; 342	Bodenheimer	1937
<i>minuscule</i> var. <i>turkestanica</i> Szilády	---; ---; 162	Szilády	1923
<i>minuscularia</i> Austen	---; ---; 159*	Austen	1920
	---; ---; 342	Bodenheimer	1937
<i>mirabilis</i> Schuurmans Stekhoven	---; ---; 145	Schuermans Stekhoven	1932b
<i>montana</i> Ricardo	---; ---; 143	Patton	1922
<i>nigricans</i> Schuurmans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i> <i>nigrita</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>pachycera</i> Bigot	---; ---; 59, 144, 190, 277	Schuurmans Stekhoven	1926
<i>paucipunctata</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
	---; ---; 149	Schuurmans Stekhoven	1928
<i>pluvialis</i> Linnaeus	---; ---; 101	Dampf	1924
	---; ---; 143	Isaac	1925a
	---; ---; 162, 256	Sassuchin et al.	1930
	---; June; 256°	Fraser	1920
	---; ---; 345	Kalugin	1945
<i>punctifera</i> Bigot	---; ---; 146	Schuurmans Stekhoven	1926
<i>pungens</i> Doleschall	---; ---; 145, 146, 149	Schuurmans Stekhoven	1926
<i>rhizophorae</i> Senior-White	---; ---; 143	Senior-White	1927
<i>ricardonis</i> Senior-White	---; ---; 70	Senior-White	1925
<i>rcralis</i> Fabricius	---; ---; 70, 145, 146, 218, 366	Schuurmans Stekhoven	1926
	---; Aug.; 143	Fletcher	1930
	---; ---; 190	Roy & Brown	1954
<i>rubida</i> Ricardo	---; ---; 59, 144, 190, 277	Schuurmans Stekhoven	1926
<i>rufipennis</i> Bigot	---; ---; 158	Shiraki	1918
<i>sakhalinensis</i> Shiraki	---; ---; 256	Shiraki	1918
<i>sewelli</i> Austen	---; in marsh; 154°. ---; on river bank; 159°	Austen	1920
	---; ---; 342	Anonymous	1944b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMATOPOTA</i>			
<i>sinensis</i> Ricardo	---; ---; 76	Schuurmans Stekhoven	1931
<i>singularis</i> Ricardo	---; ---; 59, 144, 277	Schuurmans Stekhoven	1926
<i>splendens</i> Schuurmans Stekhoven	---; ---; 190	Schuurmans Stekhoven	1926
<i>stantoni</i> Ricardo	---; ---; 190	Ricardo	1916
<i>striatipennis</i> (Brunetti)	---; ---; 143	Senior-White	1922
<i>tenasserimi</i> Szilády	---; ---; 59	Szilády	1926
<i>tenasserimi</i> var. <i>tonkinians</i> Szilády	---; ---; 144	Szilády	1926
<i>tessellata</i> Ricardo	---; ---; 70	Schuurmans Stekhoven	1926
<i>tristis</i> Bigot	---; May-Sept.; 158°	Shiraki	1918
<i>truncata</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>tuberculata</i> de Meijere	---; ---; 146	Schuurmans Stekhoven	1926
<i>turkestanica</i> Krüber	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
<i>unisonata</i> Ricardo	---; ---; 70, 190	Schuurmans Stekhoven	1926
	---; ---; 143, 149	Senior-White	1927
<i>unisonata</i> <i>matherani</i> Szilády	---; ---; 143	Szilády	1926
<i>variegata</i> var. <i>rotunda</i> Szilády	---; ---; 31	Szilády	1923
<i>yamadai</i> (Shiraki)	---; ---; 194	Wu	1940

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HEPTOTOMA pellucens</i> Fabricius	---; ---; 256 (Blood sucker)	Olsuf'ev	1937
<i>HETEROCHRYSOPS mlokosiewiczi</i> Bigot	---; ---; 76, 158	Séguy	1934
<i>ISSHIKIA japonica</i> Bigot	---; ---; 158	Kröber	1924a
<i>trifasciata</i> Szilády	---; ---; 158	Shiraki	1932
<i>LISSIMAS moestus</i> Szilády	---; ---; 145	Szilády	1926
<i>MELISSOMORPHA indiana</i> Ricardo	---; ---; 143	Senior-White	1927
<i>NANORRHYNCHUS crassinervis</i> Kröber	---; ---; 318, 354 ---; ---; 326	Kröber Olsuf'ev	1939 1937
<i>NEMORIUS vitripennis</i> Meigen	---; ---; 345	Kröber	1925
<i>NEOBOLBODIMYIA argentata</i> Szilády	---; ---; 145	Szilády	1926
<i>lacticornis</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>NEOCHRYSOPS grandis</i> Szilády	---; ---; 77	Szilády	1922
<i>NEOTABANUS ceylonicus</i> Ricardo	---; ---; 70	Senior-White	1927
<i>NUCERIA longirostris</i> Hardwicke	---; ---; 143	Schuurmans Stekhoven	1932b
<i>taprobanae</i> (Ricardo)	---; ---; 70	Schuurmans Stekhoven	1932b
<i>varipes</i> (Ricardo)	---; ---; 31, 143	Schuurmans Stekhoven	1932b
<i>OCHROPS adjacens</i> Ricardo	---; ---; 28, 150, 345	Kröber	1924

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>OCHROPS</i>	---; ---; 25, 162	Kröber	1924a
<i>agrestis</i> Wiedemann	---; ---; 256	Kröber	1925
<i>agricola</i> Wiedemann	---; ---; 25, 77, 139, 158, 342	Kröber	1924a
<i>albicans</i> Macquart	---; ---; 25	Kröber	1924a
<i>albopruinosus</i> Szilády	---; ---; 151	Kröber	1925
<i>angusticornis</i> Loew	---; ---; 77, 158	Kröber	1924a
<i>austeni</i> Szilády	---; ---; 28, 150, 317, 345	Kröber	1924a
<i>austeni</i> var. <i>trifasciatus</i> Szilády	---; ---; 28, 150, 317, 345	Kröber	1924a
<i>austeni</i> var. <i>unifasciatus</i> Szilády	---; ---; 28, 150, 317, 345	Kröber	1924a
<i>bivittatus</i> Matsumura	---; ---; 77, 158	Kröber	1924a
<i>ditaeniatus</i> Macquart	---; ---; 25, 28, 31, 76, 77, 150, 158, 345	Kröber	1924a
<i>farinosus</i> Szilády	---; ---; 25, 302, 342	Kröber	1924a
<i>flavoguttatus</i> Szilády	---; ---; 28, 150, 345	Kröber	1924a
<i>flavoguttatus</i> var. <i>quadripunctatus</i> Szilády	---; ---; 28, 150, 345	Kröber	1924a
<i>fulvus</i> Meigen	---; ---; 76, 77, 158, 256, 350	Kröber	1924a
<i>fulvus</i> var. <i>loewianus</i> Villaeneuve	---; ---; 256	Kröber	1924a
<i>griseocens</i> Szilády	---; ---; 25	Kröber	1924a
<i>horvathi</i> Szilády	---; ---; 158	Shiraki	1932

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>OCHROPS</i>			
<i>karybei</i> thinus Szilády	---; ---; 162, 318, 326, 353	Kröber	1924a
<i>kerdeszi</i> Szilády	---; ---; 162, 256	Kröber	1924a
	---; ---; 342	Kröber	1925
<i>lacteipennis</i> Becker	---; ---; 28, 150, 345	Kröber	1924a
<i>latestriatus</i> Brauer	---; ---; 162, 256, 318, 353	Kröber	1924a
<i>miser</i> Szilády	---; ---; 162, 194, 256, 318, 353	Kröber	1924a
<i>nigrifacies</i> Gobert	---; ---; 256	Kröber	1924a
<i>niveipalpus</i> Bigot	---; ---; 28, 150, 345	Kröber	1924a
<i>petiolatus</i> Szilády	---; ---; 76	Kröber	1939
<i>pulchellus</i> Loew	---; ---; 25, 28, 150, 345, 350	Kröber	1924a
	---; ---; 151, 354	Kröber	1925
<i>quadrifarius</i> Loew	---; ---; 151, 162, 256, 318, 353	Kröber	1924a
<i>rusticus</i> Linnaeus	---; ---; 28, 77, 101, 150, 158, 256, 345	Kröber	1924a
	---; ---; 180	Bouvier	1945
<i>rusticus</i> <i>parallelifrons</i> Szilády	---; ---; 256	Kröber	1925
<i>PANGONIA</i>			
<i>amboinensis</i> Fabricius	---; ---; 146, 147	Schuermans Stekhoven	1926
<i>argentata</i> Szilády	---; ---; 302, 317, 350	Szilády	1923
<i>caffra</i> Macquart	---; ---; 25	Kröber	1925
<i>caucasiou</i> Kröber	---; ---; 162	Kröber	1939
	---; ---; 256	Szilády	1923
<i>flavocincta</i> Szilády	---; ---; 317	Szilády	1923
	---; ---; 350	Kröber	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PANGONIA</i>	---; ---; 302, 350	Szilády	1923
<i>fulvipes</i> Loew	---; ---; 317	Kröber	1933
<i>fulvipes</i> <i>palpalis</i> Kröber	---; ---; 350	Kröber	1925
<i>haustellata</i> Fabricius	---; ---; 317, 350	Kröber	1939
<i>lucida</i> Szilády	---; ---; 317	Szilády	1923
	---; ---; 350	Kröber	1925
<i>marginata</i> Fabricius	---; ---; 317, 350	Szilády	1923
<i>obscurata</i> Loew	---; ---; 350	Kröber	1925
<i>oritensis</i> Bigot	---; ---; 345	Kröber	1939
<i>pyritosa</i> Loew	---; ---; 321, 345. ---; ---; 256 (May bite man)	Olsuf'ev	1937
	---; ---; 350	Kröber	1925
<i>pyritosa</i> <i>decepiens</i> Kröber	---; ---; 350	Kröber	1925
<i>rhynchocephala</i> Kröber	---; ---; 317	Szilády	1923
<i>sinensis</i> Enderlein	---; ---; 76	Kröber	1939
<i>subfasciata</i> Walker	---; ---; 25	Szilády	1923
<i>tigris</i> Bigot	---; ---; 150, 345	Kröber	1925
<i>variegata</i> Fabricius	---; ---; 350	Szilády	1923
<i>yessoensis</i> Shiraki	---; ---, 158	Kono & Takahasi	1939
<i>sonata</i> Walker	---; ---; 25	Szilády	1923

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PANGONIUS</i> <i>haustellatus</i> Fabricius	---; ---; 317	Austen	1925
<i>pyritosus</i> Loew	---; ---; 317	Austen	1925
<i>sinensis</i> Enderlein	---; ---; 76	Hwang	1936
<i>tigris</i> Bigot	---; ---; 151, 345	Kröber	1939
<i>PARACANTHOCERA</i> <i>parallelus</i> Walker	---; ---; 147	Oldroyd	1948
<i>PHYRTA</i> <i>administrans</i> Schiner	---; ---; 77, 158	Kröber	1939
<i>amaena</i> Walker	---; ---; 76, 77, 158, 353	Kröber	1939
<i>amaena</i> var. <i>adumbrata</i> Szilády	---; ---; 76	Kröber	1939
<i>amaena</i> var. <i>lateralis</i> Shiraki	---; ---; 77	Kröber	1939
<i>grisea</i> Kröber	---; ---; 256	Kröber	1939
<i>grisea</i> var. <i>pallidiventris</i> Olsuf'ev	---; ---; 76, 168	Kröber	1939
<i>mandarina</i> Schiner	---; ---; 76, 77, 158	Kröber	1939
<i>takasagoensis</i> Shiraki	---; ---; 76, 77, 158	Kröber	1939
<i>PITYOCERA</i> <i>festae</i> Giglio-Tos	---; ---; 194	Wu	1940
<i>PSYLOCHRYSCOPS</i> <i>clavicus</i> Thomson	---; ---; 190, 242	Szilády	1926
<i>flaviventris</i> Macquart	---; ---; 146	Schuermans Stekhoven	1932b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY (GENERAL STATEMENTS)	DISTRIBUTION	AUTHOR	DATE
<i>PSYLOCHRYSOPS</i>				
<i>grandis</i> Szilády	---; ---; 77		Shiraki	1932
<i>unizona</i> Szilády	---; ---; 145		Szilády	1926
<i>SILVIOCHRYSOPS</i>				
<i>fasciatipectus</i> Kröber	---; c mon; 77		Shiraki	1932
<i>flavescens</i> Szilády	---; ---; 77		Szilády	1922
<i>SILVIUS</i>				
<i>caucasicus</i> Olsuf'ev	---; ---; 345		Kröber	1939
<i>celebensis</i> Schuurmans Stekhoven	---; in forest; 145		Schuurmans Stekhoven	1932a
<i>ceylonicus</i> Szilády	---; ---; 70		Szilády	1926
<i>coquilletti</i> Kröber	---; ---; 158		Kröber	1925
<i>dimidiatus</i> van der Wulp	---; ---; 147		Schuurmans Stekhoven	1926
<i>dorsalis</i> Coquillett	---; ---; 158, 257		Shiraki	1918
<i>fasciatus</i> Kröber	---; ---; 77		Kröber	1922
<i>fascipennis</i> Kröber	---; ---; 77		Kröber	1922
<i>formosensis</i> Ricardo	---; ---; 76		Shiraki	1918
	---; ---; 77		Kröber	1922
<i>indianus</i> Ricardo	---; ---; 143		Senior-White	1927
<i>inflaticornis</i> Austen	---; ---; 317		Austen	1925
<i>irritans</i> Ricardo	---; ---; 3, 150, 151		Austen	1923
<i>latifrons</i> Olsuf'ev	---; ---; 345		Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SILVIUS</i>			
<i>matsumurai</i> Kono & Takahasi	---; ---; 158	Kono & Takahasi	1939
<i>nigripennis</i> Shiraki	---; ---; 77	Shiraki	1932
<i>ochraceus</i> Loew	---; ---; 350	Kröber	1925
<i>pictus</i> Szilády	---; ---; 70	Szilády	1926
<i>tecticallosa</i> Schuurmans Stekhoven	---; ---; 145	Schuermans Stekhoven	1932b
<i>unicolor</i> Becker	---; ---; 150	Kröber	1922
<i>vitripennis</i> Meigen	---; ---; 318, 326, 345	Olsuf'ev	1937
<i>vituli</i> Fabricius	---; ---; 256	Kröber	1939
	---; ---; 321	Kröber	1922
	---; ---; 345	Olsuf'ev	1937
<i>SIRIDORHINA</i>			
<i>korosiceomana</i> Szilády	---; ---; 143	Szilády	1926
<i>zernyi</i> Szilády	---; ---; 70	Szilády	1926
<i>STIGMATOPHTHALMUS</i>			
<i>chrysurinus</i> Enderlein	---; ---; 158	Kröber	1925
<i>STYPORRHAMPUS</i>			
<i>bucolicus</i> Schiner	---; ---; 139	Kröber	1939
<i>buddah</i> Portschinsky	---; ---; 353	Kröber	1939
<i>chrysurinus</i> Enderlein	---; ---; 158	Kröber	1939
<i>chrysurus</i> Loew	---; ---; 158	Kröber	1939
<i>coquilletti</i> Shiraki	---; ---; 158	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STYPORRHAMPIS</i> <i>coreanus</i> Shiraki	---; ---; 168	Kröber	1939
<i>yao</i> Macquart	---; ---; 76	Kröber	1939
<i>SZILADYNUS</i> <i>acuminatus</i> Loew	---; ---; 150, 256, 353	Kröber	1939
<i>agnitionalis</i> Austen	---; ---; 342	Kröber	1939
<i>altaianus</i> Szilády	---; ---; 256	Kröber	1939
<i>altaicus</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>angustipalpis</i> Olsuf'ev	---; ---; 256, 353	Kröber	1939
<i>arpadi</i> Szilády	---; ---; 256	Kröber	1939
<i>astur</i> Erichson	---; ---; 168, 256, 345, 353	Kröber	1939
<i>aterrimus</i> Meigen	---; ---; 345	Kröber	1939
<i>atripes</i> Kröber	---; ---; 76	Kröber	1939
<i>bimaculatus</i> Enderlein	---; ---; 256	Kröber	1925
<i>borealis</i> Loew	---; ---; 256	Kröber	1939
<i>borealis</i> <i>bimaculatus</i> Enderlein	---; ---; 256	Kröber	1925
<i>brevifrons</i> Kröber	---; ---; 76	Kröber	1939
<i>brevis</i> Loew	---; ---; 76, 158, 256	Kröber	1939
<i>caucasi</i> Szilády	---; ---; 28, 345	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SZILADYNUS</i> <i>caucasicus</i> Enderlein	---; ---; 345	Kröber	1925
<i>confinis</i> Zetterstedt	---; ---; 256	Kröber	1939
<i>confinis</i> var. <i>nitidifrons</i> Szilády	---; ---; 256	Kröber	1939
<i>cuspidatus</i> Austen	---; ---; 342	Kröber	1939
<i>cyanops</i> Frauer	---; ---; 302	Kröber	1939
<i>decorus</i> Loew	---; ---; 302, 342	Kröber	1939
<i>decorus</i> var. <i>amani</i> Szilády	---; ---; 350	Kröber	1939
<i>decorus</i> var. <i>defaciatus</i> Szilády	---; ---; 302	Kröber	1939
<i>distinguendus</i> Verrall	---; ---; 158, 256	Kröber	1939
<i>flavipes</i> Wiedemann	---; ---; 256	Kröber	1939
<i>guttipennis</i> Enderlein	---; ---; 256	Kröber	1925
<i>hirticeps</i> Loew	---; ---; 158, 256	Kröber	1939
<i>hunnorum</i> Szilády	---; ---; 162	Kröber	1939
<i>komurae</i> Matsumura	---; ---; 256	Kröber	1939
<i>lapponicus</i> Wahlberg	---; ---; 158, 180, 256	Kröber	1939
<i>lapponicus</i> var. <i>albomaculatus</i> Zetterstedt	---; ---; 256	Kröber	1939
<i>lateralis</i> Meigen	---; ---; 256	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SZILADYNUS</i>			
<i>luridus</i> Fallen	---; ---; 256	Kröber	1939
<i>mendicus</i> Billen	---; ---; 342	Kröber	1939
<i>montanus</i> Meigen	---; ---; 158, 256	Kröber	1939
<i>montanus</i> var. <i>flavicornis</i> Meigen	---; ---; 256	Kröber	1939
<i>mühlfeldi</i> Brauer	---; ---; 162, 256, 350	Kröber	1939
<i>nigellus</i> Szilády	---; ---; 256	Kröber	1939
<i>nigricauda</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>nigricornis</i> Zetterstedt	---; ---; 162, 256	Kröber	1939
<i>nigrivitta</i> Olsuf'ev	---; ---; 256, 321, 353	Kröber	1939
<i>pavlovskii</i> Olsuf'ev	---; ---; 256, 353	Kröber	1939
<i>polaris</i> Frey	---; ---; 256	Kröber	1939
<i>popovi</i> Olsuf'ev	---; ---; 345	Kröber	1939
<i>pulchriventris</i> Portschinsky	---; ---; 353	Kröber	1939
<i>reinigianus</i> Enderlein	---; ---; 256, 353	Kröber	1939
<i>sachalinensis</i> Enderlein	---; ---; 256	Kröber	1925
<i>sareptanus</i> Szilády	---; ---; 256	Kröber	1939
<i>sareptanus</i> var. <i>melas</i> Szilády	---; ---; 256	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SZILADYNUS</i>			
<i>semipollinosus</i> Olsuf'ev	---; ---; 166	Kröber	1939
<i>shiraki</i> Enderlein	---; ---; 76	Kröber	1925
<i>shritnikovi</i> Olsuf'ev	---; ---; 166	Kröber	1939
<i>sibiricus</i> Enderlein	---; ---; 256	Kröber	1925
<i>silicicus</i> Enderlein	---; ---; 350	Kröber	1925
<i>solstitialis</i> Schiner	---; ---; 256, 350	Kröber	1939
<i>stenopselaphus</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>stigmopterus</i> Olsuf'ev	---; ---; 168, 256	Kröber	1939
<i>sven-hedini</i> Kröber	---; ---; 76	Kröber	1939
<i>tarandinoides</i> Olsuf'ev	---; ---; 194, 256, 353	Kröber	1939
<i>tarandinus</i> Linnaeus	---; ---; 77, 158, 256	Kröber	1939
<i>tataricus</i> Fortschinsky	---; ---; 76, 162, 256	Kröber	1939
<i>tataricus</i> var. <i>aurantiacus</i> Szilády	---; ---; 326	Kröber	1939
<i>tataricus</i> var. <i>bicolor</i> Szilády	---; ---; 76	Kröber	1939
<i>tetracus</i> Szilády	---; ---; 56, 345	Kröber	1939
<i>tibetanus</i> Szilády	---; ---; 76	Kröber	1939
<i>tropicus</i> Panzer	---; ---; 77, 158, 256	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SZILADYNUS</i>			
<i>tropicus</i>			
var. <i>bisignatus</i> Jaennicke	---; ---; 256	Kröber	1939
<i>tsing-vang</i> Szilady	---; ---; 76	Kröber	1939
<i>turanicus</i> Olsuf'ev	---; ---; 318	Kröber	1939
<i>turkestanus</i> Szilady	---; ---; 162	Kröber	1939
<i>turkestanus</i> var. <i>ater</i> Szilady	---; ---; 162	Kröber	1939
<i>turkestanus</i> var. <i>minor</i> Szilady	---; ---; 162	Kröber	1939
<i>ussuriensis</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>vulpes</i> Szilady	---; ---; 342	Kröber	1939
<i>vuvang</i> Szilady	---; ---; 76	Kröber	1939
<i>zonatus</i> Szilady	---; ---; 326	Kröber	1939
<i>TABANUS</i>			
<i>abacus</i> Bigot	---; ---; 150, 345	Kröber	1925
<i>abbreviatus</i> Bigot	---; ---; 59, 77, 144, 146, 277	Schuermans Stekhoven	1926
	---; ---; 76	Hwang	1936
	---; ---; 77°. ---; ---; 143, 190	Shiraki	1918
<i>abscondens</i> Walker	---; ---; 59, 76, 144, 277	Schuermans Stekhoven	1926
<i>aoallus</i> Szilady	---; ---; 143	Szilady	1926
<i>aocensus</i> Austen	---; ---; 159°	Austen	1920
	---; ---; 302, 342, 350	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; ---; 162	Szilády	1923
<i>accipiter</i>			
Szilády	---; ---; 318	Kröber	1925
	---; ---; 326	Olsuf'ev	1937
<i>acuminatus</i>	---; ---; 256	Kröber	1925
Loew			
<i>adjacens</i>	---; ---; 150	Kröber	1925
Ricardo	---; ---; 235	Senior-White	1927
<i>administrans</i>	---; ---; 77, 158	Shiraki	1932
Schiner			
<i>aetherus</i>	---; ---; 294 (May bite man)	Olsuf'ev	1937
Bigot			
<i>aetherus</i>			
<i>sibiricus</i>	---; ---; 256	Anonymous	1945a
Olsuf'ev			
<i>agnitionalis</i>	---; ---; 154	Austen	1922
Austen	---; ---; 342	Kröber	1925
<i>agnoscibilis</i>	---; ---; 277	Austen	1922
Austen			
<i>agrestis</i>	---; ---; 76, 158, 350, 353	Kröber	1934
Wiedemann	---; ---; 256, 321	Olsuf'ev	1937
<i>agricola</i>	---; ---; 76	Anonymous	1945
Wiedemann	---; ---; 139, 159	Schuermans Stekhoven	1931
<i>aino</i>	---; ---; 256	Kono & Takahasi	1939b
Kono & Takahasi			
<i>albicans</i>	---; ---; 25	Kröber	1925
Macquart			
<i>albicaudus</i>	---; ---; 35, 345	Kröber	1939
Olsuf'ev			
<i>albicinctus</i>	---; ---; 146, 149	Schuermans Stekhoven	1926
Schuermans Stekhoven			
<i>albifascies</i>	---; ---; 150, 342	Kröber	1925
Loew	---; ---; 159	Austen	1924

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; ---; 122	de Mello & Afonso	1921
<i>albimedi</i>	---; ---; 139	Ricardo	1916
Walker	River bank; Feb.-June, Oct.; 143	Fletcher	1916
	---; Nov.-Jan.; 143	Fletcher	1920
	---; ---; 146	Szilády	1926
	---; ---; 235	Senior-White	1922
<i>albipes</i>	---; ---; 350	Kröber	1939
Fabricius			
<i>albitriangularis</i>	---; ---; 149, 190	Schuermans Stekhoven	1926
Schuermans			
Stekhoven			
<i>albivittatus</i>	---; ---; 146	Schuermans Stekhoven	1926
Schuermans	---; ---; 190	Schuermans Stekhoven	1928
Stekhoven			
<i>albocostatus</i>	---; ---; 143	Senior-White	1927
Bigot			
<i>albofasciatus</i>	---; ---; 143	Senior-White	1927
Ricardo			
<i>albopruinosus</i>	---; ---; 151	Szilády	1923
Szilády			
<i>albopunctatus</i>	---; ---; 146	Schuermans Stekhoven	1926
Schuermans			
Stekhoven			
<i>alexandrinus</i>	---; May; 154. ---; June; 174. ---; ---; 302	Austen	1920
Wiedemann	---; ---; 342	Szilády	1923
<i>altianus</i>	---; ---; 256	Szilády	1926
Szilády			
<i>amaenus</i>	---; ---; 76, 139, 353. ---; in uncultivated fields, in pastures near villages or town in daytime, Apr.-Sept.; 77. ---; Jul.-Sept.; 158	Shiraki	1918
Walker	---; ---; 168	Barnett & Toshioka	1951
	---; ---; 209	Schuermans Stekhoven	1931
	---; ---; 256	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>amaenus</i>			
<i>lateralis</i>	---; ---; 158	Kröber	1925
Shiraki			
<i>amoenatus</i>	---; ---; 76	Séguy	1934
Séguy	---; ---; 144	Hwang	1936
<i>amoenus</i>	---; ---; 76, 77	Schuermans	1932b
Walker		Stekhoven	
	---; ---; 168	Hsiao	1948
<i>andamanicus</i>	---; ---; 11, 143, 218, 366, 367	Schuermans	1926
Bigot		Stekhoven	
<i>angusticornis</i>	---; ---; 158	Kröber	1925
Loew			
<i>angustilimbatus</i>	---; ---; 70	Senior-White	1927
Senior-White			
<i>angustilimbatus</i>	---; ---; 70	Szilády	1926
var. <i>particolor</i>			
Szilády			
<i>angustipalpis</i>	---; ---; 256, 353	Kono &	1939
Olsuf'ev		Takahasi	
<i>angustistriatus</i>	---; ---; 149	Schuermans	1926
Schuermans		Stekhoven	
Stekhoven			
<i>angustitriangularis</i>	---; ---; 146, 149	Schuermans	1926
Schuermans		Stekhoven	
Stekhoven			
<i>angustiventer</i>	---; ---; 146, 149	Schuermans	1926
Schuermans		Stekhoven	
Stekhoven			
<i>annamitus</i>	---; ---; 144	Schuermans	1926
Bigot		Stekhoven	
<i>anthrax</i>	---; ---; 150	Kröber	1939
Olsuf'ev			
<i>appendicifer</i>	---; ---; 318	Kröber	1939
Szilády			
<i>appendiculatus</i>	---; ---; 318	Kröber	1925
Szilády			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>apricus</i> Meigen	---; ---; 28, 256, 345	Kröber	1924a
<i>arabicus</i> Macquart	---; ---; 25, 151	Kröber	1925
<i>arenivagus</i> Austen	---; September-November; 154	Buxton	1924
	---; in train; 154	Austen	1924
	---; ---; 302, 350	Kröber	1924a
	---; Sept.-Oct., in tent, attracted by artificial light; 342°	Austen	1920
	Coast dunes; ---; 342	Anonymous	1944b
<i>argenteomaculatus</i> Kröber	---; ---; 256	Olsuf'ev	1937
	---; ---; 326	Kröber	1939
<i>argentsignatus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>arisanus</i> Shiraki	---; ---; 77°	Shiraki	1918
<i>armeniacus</i> Kröber	---; ---; 28	Kröber	1939
<i>arpadi</i> Szilády	---; ---; 158	Kono & Takahasi	1939b
	---; ---; 180	Szilády	1923
	---; June; 256	Olsuf'ev	1937
<i>astur</i> Erichson	---; ---; 168, 256, 353	Kono & Takahasi	1939a
<i>ater</i> Rossi	---; ---; 317	Austen	1925
	---; ---; 350	Kröber	1925
<i>aterrimus</i> Meigen	---; ---; 345	Kröber	1925
<i>atrimaculatus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>atripes</i> Kröber	---; ---; 76	Hwang	1936
<i>atripilosus</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>atripunctatus</i> Schuermans Stekhoven	---; ---; 146	Schuermans Stekhoven	1926
<i>atri-signatus</i> Schuermans Stekhoven	---; ---; 145	Schuermans Stekhoven	1926
<i>atriventer</i> Schuermans Stekhoven	---; ---; 145	Schuermans Stekhoven	1926
<i>atrohirtus</i> Ricardo	---; ---; 70, 149	Schuermans Stekhoven	1926
	---; ---; 190	Senior-White	1927
<i>atropathenicus</i> Olsuf'ev	---; ---; 345	Kröber	1939
<i>aurantiacus</i> Schuermans Stekhoven	---; ---; 145	Schuermans Stekhoven	1930
<i>auribundus</i> Schuermans Stekhoven	---; ---; 146	Schuermans Stekhoven	1926
<i>aurioingulatus</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1932b
<i>aurifer</i> Schuermans Stekhoven	---; ---; 146	Schuermans Stekhoven	1926
<i>auriflamma</i> (Walker)	---; ---; 143	Senior-White	1922
<i>aurilineatus</i> Schuermans Stekhoven	---; ---; 149, 190, 277	Schuermans Stekhoven	1926
<i>aurisegmentatus</i> Schuermans Stekhoven	---; ---; 143	Schuermans Stekhoven	1932b
<i>aurisparvus</i> Schuermans Stekhoven	---; ---; 146	Schuermans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---	Senior-White	1922
<i>auristriatus</i> (Ricardo)	---; ---; 59	Schuurmans Stekhoven	1926
<i>auriventer</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>aurotestaceus</i> Walker	---; ---; 76, 77, 144	Wu	1940
<i>autumnalis</i> Linnaeus	---; ---; 28, 317, 342, 345	Kröber	1924a
	---; ---; 76	Hwang	1936
	---; ---; 150	Leclercq	1961
	---; ---; 154, 302, 350	Austen	1920
	---; rests on shady side of tree trunks at midday; 159	Buxton	1924
	---; ---; 162. ---; experimental transmission of tularemia; 256	Olsuf'ev	1937
	---; June-July; 256°	Skufin	1949
<i>autumnalis</i> <i>brunescens</i> Szilády	---; ---; 150, 162	Leclercq	1961
	---; ---; 302, 350	Kröber	1925
	---; ---; 318, 326, 345	Olsuf'ev	1937
<i>avittatus</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>badiocallosus</i> Kröber	---; ---; 158	Kröber	1928
<i>barnesi</i> Austen	---; ---; 143, 277°	Austen	1922
<i>basalis</i> Macquart	---; ---; 146, 149	Schuurmans Stekhoven	1926
<i>basioallus</i> Szilády	---; ---; 150	Szilády	1926
<i>bicallosus</i> Ricardo	Along the banks of the river; March; 143	Fletcher	1921
	---; Nov.-Dec.; 143	Fletcher	1920
<i>bioinotus</i> Ricardo	---; March, July; 77°	Shiraki	1918
	---; ---; 143, 190, 218, 365, 367	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; ---; 256, 321	Olsuf'ev	1937
<i>bifarius</i> Loew	---; ---; 350	Kröber	1925
<i>bifarius</i> var. <i>tauricus</i> Enderlein	---; ---; 350	Kröber	1939
<i>biguttatus</i> Wiedemann	---; ---; 25	Kröber	1925
<i>bilateralis</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>birmanicus</i> Bigot	---; ---; 59, 77, 143, 144, 190, 277	Schuurmans Stekhoven	1926
<i>bivittatus</i> Matsumura	---; ---; 76	Kröber	1939
	---; ---; 77	Szilády	1922
	---; ---; 158	Kono & Takahasi	1939
	---; ---; 256	Olsuf'ev	1937
<i>bombayensis</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>borealis</i> Loew	---; ---; 256	Kröber	1925
<i>bovinus</i> Loew	---; ---; 28, 345	Kröber	1924a
	---; ---; 143	Isaac	1925a
	---; ---; 150, 342	Kröber	1939
	---; ---; 162, 256	Sassuchin et al.	1930
	---; June-July; 256°	Skufin	1949
<i>brevifrons</i> Kröber	---; ---; 76	Kröber	1934
<i>brevis</i> Loew	---; ---; 76, 158, 168, 194, 256	Kono & Takahasi	1939a
<i>bromiolus</i> Szilády	---; ---; 302, 317, 318	Szilády	1923

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; ---; 3	Leclerq	1961
<i>bromius</i>			
Linnaeus	---; ---; 28, 150, 151, 345, 354	Kröber	1924a
	---; ---; 154°	Austen	1924
	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
	---; experimental transmission of tularemia; 256 (Attack man)	Olsuf'ev	1937
	---; ---; 342	Kröber	1925
<i>bromius</i>	---; ---; 150, 303, 326	Leclerq	1961
<i>flavofemoratus</i>			
Strobl	---; ---; 345	Olsuf'ev	1937
<i>bromius</i>	---; ---; 342	Kröber	1939
var. <i>nigricans</i>			
Szilády	---; ---; 354	Kröber	1924a
<i>brunneocallosus</i>	---; ---; 256	Kröber	1939
Olsuf'ev			
<i>brunneothorax</i>	---; hills and mountainous region; 147	Schuermans	1924
Schuermans		Stekhoven	
Stekhoven			
<i>brunnescens</i>	---; ---; 28, 256, 302, 317, 342, 350	Kröber	1924a
Szilády			
<i>brunneus</i>	---; ---; 145, 146, 190, 277	Schuermans	1928
Macquart		Stekhoven	
	---; ---; 149	Schuermans	1926
		Stekhoven	
<i>brunnipennis</i>	---; ---; 59, 143, 146, 277	Schuermans	1926
(Ricardo)		Stekhoven	
<i>brunnipes</i>	---; ---; 143	Roy & Brown	1954
Schuermans			
Stekhoven	---; forests; 149	Nieschulz	1935
<i>brunnitibiatus</i>	---; ---; 76, 139	Schuermans	1931
Schuermans		Stekhoven	
Stekhoven			
<i>brunniventer</i>	---; ---; 149	Schuermans	1926
Schuermans		Stekhoven	
Stekhoven			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>bubalophilus</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>bubbermani</i> Nieschulz	Small muddy pond; ---; 149	Nieschulz	1927
<i>bucolicus</i> Schiner	---; ---; 76	Anonymous	1945
	---; ---; 139	Hsiao	1945
<i>budda</i> Portschinsky	---; ---; 76, 168, 256, 353	Kono & Takahasi	1939a
<i>burmanense</i> Schuermans Stekhoven	---; ---; 59, 144, 277	Schuermans Stekhoven	1926
<i>caerulescens</i> Macquart	---; ---; 146	Schuermans Stekhoven	1926
<i>calidus</i> Walker	---; ---; 31	Schuermans Stekhoven	1926
<i>camelarius</i> Austen	---; ---; 302, 342, 350	Kröber	1924a
<i>candidus</i> Ricardo	---; ---; 77	Shiraki	1918
<i>canipalpis</i> Bigot	---; ---; 150, 151	Kröber	1924a
<i>canipus</i> Schuermans Stekhoven	---; ---; 145, 149	Schuermans Stekhoven	1926
<i>capito</i> Olsuf'ev	---; ---; 28, 345	Kröber	1939
<i>carabaghensis</i> Portschinsky	---; ---; 31	Kröber	1925
	---; ---; 318, 345	Olsuf'ev	1937
<i>caucasi</i> Szilády	---; ---; 35	Szilády	1923
	---; ---; 345	Kröber	1925
<i>caucasius</i> Kröber	---; ---; 28, 256, 345	Kröber	1924a
<i>cepuricus</i> Surcouf	---; ---; 144	Surcouf	1922

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>ceramensis</i> Schuurmans Stekhoven	---; ---; 147	Schuurmans Stekhoven	1926
<i>ceylonicus</i> Schiner	---; ---; 70, 145, 146, 147, 149, 190, 277. ---; in town and jungle, rare; 280	Schuurmans Stekhoven	1926
<i>ceylonicus</i> var. <i>ceylonicus</i> Schiner	---; ---; 145, 149	Schuurmans Stekhoven	1932b
<i>ceylonicus</i> var. <i>nitidulus</i> Bigot	---; ---; 145, 149	Schuurmans Stekhoven	1932b
<i>chloropis</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>christophi</i> Kröber	---; ---; 150	Kröber	1928
<i>chrysater</i> Schuurmans Stekhoven	---; ---; 146, 149	Schuurmans Stekhoven	1926
<i>chrysurus</i> Loew	---; ---; 76, 353 ---; ---; 77, 158, 210 ---; July-Sept.; 158° ---; ---; 168, 256	Kröber Schuurmans Stekhoven Shiraki Kono & Takahasi	1924a 1931 1918 1939
<i>cinerascens</i> MacLeay	---; ---; 145	Ricardo	1914
<i>cinnamomeus</i> Doleschall	---; ---; 147	Szilády	1926
<i>circumalbatus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>otitripilosus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>oohaerens</i> Walker	---; ---; 147	Oldroyd	1948

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---		
<i>confinis</i>	---; ---; 168	Barnett & Toshioka	1951
Zetterstedt	---		
	---; May-June; 256°	Skufin	1949
	---; ---; 256	Olsuf'ev	1937
	---; ---; 353	Kono & Takahasi	1939a
<i>confinus</i>			
<i>nitidifrons</i>	---; ---; 256	Anonymous	1945a
Szilády			
<i>conformis</i>	---; ---; 256	Blagoveshchenskii	1930
Frey			
<i>confucius</i>	---; ---; 76	Hsiao	1945
Macquart			
<i>conicus</i>	---; ---; 76, 143, 190	Senior-White	1927
Bigot			
<i>consanguineus</i>	---; ---; 143	Senior-White	1927
Macquart			
<i>consocius</i>	---; ---; 143	Austen	1922a
Walker			
<i>coquilletti</i>	---; Aug. and Sept.; 158	Shiraki	1918
Shiraki			
	---; ---; 256	Kröber	1924a
<i>cordiger</i>	---; ---; 76, 158, 302, 350	Kröber	1934
Meigen			
	---; ---; 150, 168	Leclerq	1961
	---; ---; 256, 317, 342	Kröber	1924a
	---; ---; 345	Olsuf'ev	1937
<i>coreanus</i>	---; ---; 158, 168	Kono & Takahasi	1939a
Shiraki			
<i>crassinervis</i>	---; ---; 318, 354	Kröber	1925
Villen			
<i>crassus</i>	---; ---; 59, 77, 139, 146, 190. Leaves of plants overhanging on water along river bank; all year; 143	Isaac	1924
Walker			
<i>crocitinotipennis</i>	---; ---; 143	Schuermans	1926
Schuermans			
Stekhoven			
<i>ououlus</i>	---; ---; 318	Kröber	1925
Szilády			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; ---; 154, 159	Austen	1924
<i>cuspidatus</i>			
Austen	---; ---; 342	Kröber	1925
<i>cylindricollosus</i>	---; ---; 145	Schuermans	1926
Schuermans		Stekhoven	
Stekhoven			
<i>dalei</i>	---; ---; 302, 342, 350	Kröber	1924a
Austen	---; May; 342	Austen	1920
<i>decoratus</i>	---; ---; 143	Szilády	1926
Szilády			
<i>decorus</i>	---; ---; 154, 174, 302, 342	Austen	1920
Loew			
<i>decorus</i>			
<i>cyanops</i>	---; ---; 302	Kröber	1925
Brauer			
<i>decorus</i>	---; ---; 302	Kröber	1925
<i>defasciatus</i>	---; ---; 317	Szilády	1923
Szilády			
<i>demellonis</i>	---; ---; 143	Senior-White	1927
Senior-White			
<i>discrepans</i>	---; ---; 70	Schuermans	1926
Ricardo		Stekhoven	
<i>dissimilis</i>	---; ---; 145, 149, 190, 280	Schuermans	1926
Ricardo	---; ---; 277	Schuermans	1928
		Stekhoven	
<i>distinguendus</i>	---; ---; 158, 256	Kono &	1939
(Verrall)	---; ---; 162	Takahasi	
	---; June-July; 256°	Sassuchin	1930
		et al.	
<i>ditaeniatus</i>	---; ---; 31, 76, 139, 143, 150, 158	Skufin	1949
Macquart	---; ---; 151	Wu	1940
	---; ---; 235, 349	Patton	1919
<i>diversifrons</i>	---; ---; 143	Senior-White	1927
Ricardo	---; ---; 144	Senior-White	1927
		Szilády	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>dorsomaculatus</i> Macquart	---; ---; 302, 342, 350	Kröber	1924a
<i>effilatus</i> Schuurmans Stekhoven	---; ---; 146, 149, 190, 280	Schuurmans Stekhoven	1926
	---; ---; 149, 242	Schuurmans Stekhoven	1932b
	---; ---; 277	Schuurmans Stekhoven	1928
<i>eggeri</i> Schiner	---; ---; 150, 342	Senior-White	1927
	---; in tent; 154	Austen	1920
<i>eggeri</i> <i>prometheus</i> Szilády	---; ---; 345	Szilády	1923
<i>elegans</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>equicinctus</i> Schuurmans Stekhoven	---; ---; 277	Schuurmans Stekhoven	1926
<i>erberi</i> Brauer	---; ---; 76	Hsiao	1945
	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
	---; ---; 256, 326	Olsuf'ev	1937
<i>erberi</i> var. <i>fuscipennis</i> Szilády	---; ---; 76	Hwang	1936
<i>erythrocephalus</i> van der Wulp	---; ---; 147	Oldroyd	1948
<i>esakil</i> Szilády	---; ---; 158	Shiraki	1932
<i>euphanes</i> Surcouf	---; ---; 144	Surcouf	1921
<i>exoelous</i> Ricardo	---; ---; 143, 235	Senior-White	1922
<i>exolusus</i> Pandelle	---; ---; 302, 342, 350	Kröber	1924a
<i>exotious</i> Ricardo	---; 76, 77, 158, 256, 353	Kröber	1924a
	---; in pastures, woods and bushes, near streams, May-Aug.; 77°	Shiraki	1918

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>exoticus</i>			
<i>fulvipes</i> Szilády	---; ---; 70	Szilády	1926
<i>explicatus</i> Walker	---; ---; 143	Senior-White	1927
<i>extricans</i> Walker	---; ---; 147	Schuermans Stekhoven	1926
<i>factiosus</i> Walker	---; ---; 145, 242	Schuermans Stekhoven	1926
<i>farinosus</i> Szilády	---; ---; 25, 302	Kröber	1939
<i>felderi</i> van der Wulp	---; ---; 76, 139	Hwang	1936
<i>fenestratus</i> Schuurmans Stekhoven	---; ---; 139	Schuermans Stekhoven	1926
<i>filipjevi</i> Olsuf'ev	---; ---; 162	Kröber	1939
<i>finalis</i> Walker	---; ---; 277	Austen	1922
<i>flaviannulatus</i> Schuurmans Stekhoven	---; ---; 145, 149	Schuermans Stekhoven	1932
<i>flavioinotus</i> Ricardo	---; ---; 143	Schuermans Stekhoven	1926
<i>flavioornis</i> Schuurmans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>flavimarginatus</i> Schuurmans Stekhoven	---; ---; 76, 139	Schuermans Stekhoven	1931
<i>flavimediis</i> Schuurmans Stekhoven	---; ---; 143, 218, 366, 367	Schuermans Stekhoven	1926
<i>flavipennis</i> Ricardo	---; hill and mountainous region, prefers moist places; 147	Schuermans Stekhoven	1924
<i>flavipes</i> Wiedemann	---; ---; 256	Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>flavipilosus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1926
<i>flavipus</i> Schuurmans Stekhoven	---; ---; 143	Schuurmans Stekhoven	1926
<i>flaviscutellatus</i> Schuurmans Stekhoven	---; forests; 149	Nieschulz	1935
<i>flaviseimus</i> Ricardo	---; ---; 70	Schuurmans Stekhoven	1926
<i>flavistriatus</i> Schuurmans Stekhoven	---; ---; 146, 149	Schuurmans Stekhoven	1926
<i>flavitibiatus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>flavitriangularis</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>flaviventris</i> Bigot	---; ---; 59, 70, 143, 242	Arover	1924
	---; ---; 235	Szilády	1926
<i>flavivittatus</i> Schuurmans Stekhoven	---; in mountainous regions; 146	Schuurmans Stekhoven	1926
<i>flavoguttatus</i> Szilády	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
	---; ---; 326	Olsuf'ev	1937
<i>flavoguttatus</i> <i>quadripunctatus</i> Szilády	---; ---; 345	Krüber	1925
<i>flavothorax</i> Ricardo	---; ---; 139	Hwang	1936
	---; ---; 149, 190, 280	Schuurmans Stekhoven	1926
<i>flebilis</i> Walker	---; ---; 145, 242	Schuurmans Stekhoven	1926
	---; ---; 147	Szilády	1926
<i>fontinalis</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>formosiensis</i> Ricardo	---; May-July; 77	Shiraki	1918
<i>fraseri</i> Austen	---; ---; 317	Austen	1925
<i>freyi</i> Szilády	---; ---; 354	Kröber	1936
<i>fulvicinctus</i> Ricardo	---; mountains; 77°. ---; ---; 158	Shiraki	1918
<i>fulvicornis</i> Meigen	---; May-June; 256 ---; June-Aug.; 256°	Olsuf'ev. Skufin	1937 1949
<i>fulvimeidioides</i> Shiraki	---; ---; 77 ---; Apr.-Aug.; 158. ---; ---; 256	Kröber Kröber	1925 1924a
<i>fulvimeidius</i> Walker	---; ---; 59, 76, 143, 218 ---; mountains, Apr.-May; 77	Wu Shiraki	1940 1918
<i>fulvissimus</i> Rondani	---; ---; 145, 146, 149	Schuermans Stekhoven	1926
<i>fulvus</i> Meigen	---; ---; 76 ---; ---; 158. ---; ---; 256, 350 ---; ---; 162 ---; July-August; 256°	Wu Edwards et al. Olsuf'ev Skufin	1940 1939 1937 1949
<i>funicus</i> Austen	---; around lamp at night; 151	Austen	1923
<i>funicifer</i> Walker	---; ---; 144 ---; ---; 145 ---; ---; 146, 280. ---; all year aboard steamer; 149. ---; aboard steamer; 190 ---; ---; 242, 337	Séguy Schuermans Stekhoven Schuermans Stekhoven Kröber	1934 1932b 1926 1934
<i>fumipennis</i> van der Wulp	---; ---; 149	Schuermans Stekhoven	1926
<i>furunculigenus</i> Dolweschall	---; ---; 147	Szilády	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>fuscibarbus</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>fuscicauda</i> (Bigot)	---; ---; 11, 59, 70, 149	Senior-White	1922
<i>fuscicornis</i> Ricardo	---; ---; 77	Shiraki	1918
<i>fuscicrura</i> Bigot	---; ---; 70	Senior-White	1927
<i>fuscifrons</i> Schuermans Stekhoven	---; ---; 145	Schuermans Stekhoven	1926
<i>fuscithorax</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>fusciventer</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>fuscoannulatus</i> (Ricardo)	---; ---; 59, 143, 218	Senior-White	1922
	---; ---; 145	Szilády	1926
<i>galloisi</i> Kono & Takahasi	---; ---; 168	Hsiao	1948
<i>geminus</i> Szilády	---; ---; 194	Hsiao	1946
	---; ---; 256	Szilády	1923
<i>geniculatus</i> van der Wulp	---; ---; 145	Schuermans Stekhoven	1926
	---; ---; 149	Schuermans Stekhoven	1926
<i>gerokei</i> Brauer	---; ---; 28, 256, 302, 342, 345, 350	Krüber	1924a
	---; ---; 353	Krüber	1934
<i>gigas</i> Herbst	---; ---; 154, 256, 302, 350. ---; in marsh; 342	Austen	1920
	---; April; 159	Buxton	1924
<i>gigas</i> var. <i>rufula</i> Szilády	---; ---; 350	Krüber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>gigas</i>			
var. <i>trigonellum</i> Szilády	---; ---; 342	Kröber	1939
<i>gilvus</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>glaber</i> Bigot	---; ---; 3, 28, 143, 150, 162, 256, 345 Creek banks; common, July-Nov.; 151	Kröber Patton	1924a 1920
	---; ---; 235	Senior-White	1927
<i>glaucopsis</i> Meigen	---; ---; 256°	Skufin	1949
	---; ---; 256	Kröber	1939
	---; ---; 294	Olsuf'ev	1937
<i>glaucopsis</i> var. <i>cognatus</i> Loew	---; ---; 174, 302, 342, 350	Kröber	1924a
<i>glaucus</i> Meigen	---; ---; 256	Sassuchin et al.	1930
<i>golovi</i> Olsuf'ev	---; ---; 162	Olsuf'ev & Golov	1936
	---; ---; 166	Kröber	1939
<i>golovi</i> var. <i>pallidus</i> Olsuf'ev	---; ---; 162	Kröber	1939
<i>graeus</i> Fabricius	---; ---; 28, 256, 302, 317, 342, 345, 350	Kröber	1924a
<i>grandis</i> Szilády	---; ---; 350	Kröber	1925
<i>gratus</i> Loew	---; ---; 342	Kröber	1939
<i>griseifacies</i> Schuurmans Stekhoven	---; ---; 70, 143	Schuurmans Stekhoven	1926
<i>griseipalpis</i> Schuurmans Stekhoven	---; ---; 59, 144, 146, 149, 277	Schuurmans Stekhoven	1926
	---; ---; 145	Schuurmans Stekhoven	1932b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>griseithorax</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>griseoscutellatus</i> Kröber	---; ---; 242	Kröber	1924
<i>griseus</i> Kröber	---; ---; 256	Kröber	1928
<i>griseus</i> <i>griseus</i> Kröber	---; ---; 158, 168, 256, 326	Kono & Takahasi	1939a
<i>griseus</i> <i>pallidiventris</i> Olsuf'ev	---; ---; 76, 168	Kono & Takahasi	1939a
<i>hilaris</i> Walker	---; ---; 139	Ricardo	1916
	---; May; 143	Fletcher	1916
<i>hirticeps</i> Loew	---; ---; 77	Shiraki	1932
	---; ---; 153	Kröber	1925
<i>hirtipalpis</i> Ricardo	---; ---; 218	Senior-White	1927
<i>hirtistriatus</i> Ricardo	---; ---; 59	Senior-White	1922
	---; ---; 145	Schuermans Stekhoven	1932b
	---; ---; 149, 190	Schuermans Stekhoven	1926
<i>hirtus</i> Walker	---; ---; 143	Senior-White	1927
<i>hoang</i> Macquart	---; ---; 76	Wu	1940
<i>hongkongensis</i> Ricardo	---; ---; 76, 139	Hwang	1936
<i>horvathi</i> Szilády	---; ---; 158	Kröber	1939
<i>humilis</i> Coquillett	---; in mountainous areas; 138°	Shiraki	1918
	---; ---; 158, 256	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>humillimus</i> Walker	---; ---; 145, 146	Schuermans Stekhoven	1926
<i>humorum</i> Szilády	---; ---; 162, 256	Olsuf'ev	1937
	---; ---; 166	Kröber	1925
<i>hybridus</i> Wiedemann	---; ---; 59, 76, 139, 235	Hsiao	1945
	---; ---; 143, 145, 185, 190, 218, 366, 367. ---; in jungle; 149	Schuermans Stekhoven	1926
	Brackish, running, stagnant water in forests, marshes; ---; 149	Nieschulz	1926
<i>hypomacros</i> Surcouf	---; ---; 144	Surcouf	1921
<i>iostericus</i> Surcouf	---; ---; 144	Surcouf	1921
<i>ignobilis</i> Rondani	---; ---; 145	Schuermans Stekhoven	1926
	---; ---; 149	Schuermans Stekhoven	1932b
<i>immanis</i> Wiedemann	---; ---; 59, 144, 145, 190, 277. ---; all year, 149	Schuermans Stekhoven	1926
	---; rare; 146. ---; at edge of forest, and in forest; 149	Nieschulz	1935
<i>immixtus</i> Walker	---; ---; 145	Schuermans Stekhoven	1926
<i>imparicallosus</i> Schuermans Stekhoven	---; ---; 143	Schuermans Stekhoven	1926
<i>inaequannulatus</i> Schuermans Stekhoven	---; ---; 147	Schuermans Stekhoven	1932b
<i>inaequatus</i> Austen	---; ---; 151	Kröber	1925
<i>inoulus</i> van der Wulp	---; ---; 149	Schuermans Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---		
<i>indianus</i>	---; ---; 76, 77, 139, 143	Wu	1940
Ricardo	---		
	---; ---; 144, 145	Szilády	1926
	---; ---; 342	de Mello & Afonso	1921
<i>indifferens</i>	---		
Szilády	---; ---; 143	Szilády	1926
<i>indiscriminatus</i>	---		
Ricardo	---; ---; 70	Senior-White	1927
<i>infamis</i>	---		
Szilády	---; ---; 145	Szilády	1926
<i>inflatipalpis</i>	---		
Schuermans	---; ---; 70	Schuermans	
Stekhoven		Stekhoven	1926
<i>ingens</i>	---		
Schuermans	---; ---; 149	Schuermans	
Stekhoven		Stekhoven	1926
<i>innequannulatus</i>	---		
Schuermans	---; ---; 147	Schuermans	
Stekhoven		Stekhoven	1932b
<i>inobservatus</i>	---		
Ricardo	---; ---; 149	Schuermans	
		Stekhoven	1926
<i>insecutor</i>	---		
Austen	---; grassy plain; 154	Austen	1920
	---; ---; 159	Austen	1924
	---; ---; 342	Krüber	1925
<i>insidiator</i>	---		
Austen	---; ---; 59, 144. ---; very common in the jungle; 277 ^a	Schuermans	
		Stekhoven	1926
<i>insurgens</i>	---		
Walker	---; ---; 147	Schuermans	
		Stekhoven	1926
<i>intermedius</i>	---		
Egger	---; ---; 150, 151, 302, 317, 342, 350. ---; July-Sept.; 154	Krüber	1924a
<i>intermedius</i>	---		
<i>prometheus</i>	---; ---; 345	Krüber	1925
Szilády			
<i>internus</i>	---		
Walker	---; ---; 143	Schuermans	
		Stekhoven	1926
	---; ---; 146	Senior-White	1927

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>invalidus</i> Szilády	---; ---; 280	Szilády	1926
<i>iyomensis</i> Shiraki	---; July-Aug.; 158	Shiraki	1918
	---; ---; 256	Kröber	1924a
<i>izion</i> Osten Sacken	---; ---; 149	Kröber	1924
	---; ---; 242	Bezzi	1913
<i>japonicus</i> Bigot	---; ---; 158	Séguy	1934
<i>iridus</i> Bigot	---; ---; 143	Senior-White	1927
<i>juvundus</i> Walker	---; ---; 70, 76, 139, 143, 235	Schuermans Stekhoven	1931
<i>kakhyensis</i> Senior-White	---; ---; 59	Senior-White	1922
<i>karenkoensis</i> Shiraki	---; ---; 77	Shiraki	1932
<i>karyhenthinus</i> Szilády	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
	---; ---; 256, 326	Olsuf'ev	1937
	---; ---; 317, 318, 353	Kröber	1939
<i>kertesszi</i> Szilády	---; ---; 154	Austen	1922
	---; ---; 256, 342	Kröber	1939
<i>kervillei</i> Surcouf	---; ---; 302, 342, 350	Kröber	1924a
<i>ketonensis</i> Kono & Takahasi	---; ---; 256	Kono & Takahasi	1939b
<i>khasiensis</i> Ricardo	---; ---; 143, 149, 190, 218, 366, 367	Schuermans Stekhoven	1926
	---; ---; 277	Senior-White	1927
<i>kiangsuenensis</i> Kröber	---; ---; 16	Hwang	1936
<i>kingi</i> Austen	---; ---; 302, 342, 350	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>kinoshitai</i> Kono & Takahasi	---; ---; 158	Kono & Takahasi	1939b
<i>kotoshoensis</i> Shiraki	---; ---; 77°	Shiraki	1918
<i>laoteipennis</i> Packer	---; ---; 150	Krüber	1925
<i>laetitinctus</i> Becker'	---; ---; 150, 151	Krüber	1924a
	---; ---; 318	Szilády	1923
<i>laevigatus</i> Szilády	---; ---; 31	Krüber	1939
<i>Lama</i> Portschinsky	---; ---; 76, 353	Krüber	1924a
	---; ---; 210	Schuermans Stekhoven	1931
<i>laotianus</i> Bigot	---; ---; 143	Schuermans Stekhoven	1926
	---; ---; 144	Austen	1922
<i>lapponicus</i> Wahlberg	---; ---; 158, 256	Kono & Takahasi	1939
<i>Lapponicus</i> <i>albomaculatus</i> Zetterstedt	---; ---; 256	Krüber	1925
<i>lateralbus</i> Schuurmans Stekhoven	---; ---; 143	Schuermans Stekhoven	1932b
<i>lateralis</i> Meigen	---; ---; 158, 256	Krüber	1924a
<i>latioinctus</i> Schuurmans Stekhoven	---; ---; 143, 218, 365, 367	Schuermans Stekhoven	1926
<i>latifasciatus</i> Schuurmans Stekhoven	---; ---; 145	Schuermans Stekhoven	1926
<i>latifrons</i> Schuurmans Stekhoven	---; ---; 143	Schuermans Stekhoven	1926
<i>latistriatus</i> Brauer	---; ---; 318	Krüber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>lativenter</i> Schuurmans Stekhoven	---; ---; 145, 146	Schuurmans Stekhoven	1926
<i>latus</i> Szilády	---; ---; 59	Szilády	1926
<i>leleari</i> Austen	---; ---; 28, 150, 256, 302, 345, 350, 354. ---; July; 143. ---; April-June; 151. ---; rocky bank; 159	Kröber Austen	1924a 1920
	---; ---; 143, 151, 342	Austen	1923
	---; Apr.-Aug.; 159	Buxton	1924
	---; ---; 162	Olsuf'ev	1937
	---; ---; 317	Austen	1925
<i>lentisignatus</i> Schuurmans Stekhoven	---; ---; 145, 190	Schuurmans Stekhoven	1926
<i>leucozonematus</i> Bigot	---; ---; 59, 143	Senior-White	1922
<i>leucochirtus</i> Ricardo	---; ---; 143	Senior-White	1927
<i>leucopogon</i> Bigot	---; ---; 143	Senior-White	1927
<i>leucocephareus</i> Bigot	---; ---; 144	Austen	1922
<i>loosyi</i> Szilády	---; ---; 146	Szilády	1926
<i>longibasalis</i> Schuurmans Stekhoven	---; ---; 76, 139	Schuurmans Stekhoven	1926
<i>longicornis</i> Schuurmans Stekhoven	---; near the shore; 146	Schuurmans Stekhoven	1926
<i>longirostris</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>lucifer</i> Szilády	---; ---; 31, 76	Holac	1945

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; April-May; 154. ---; April; 159, 342	Buxton	1924
<i>lunatus</i>			
Fabricius	---; ---; 317, 350	Austen	1925
	---; ---; 345	Kröber	1939
<i>lunatus</i>			
var. <i>bactrianus</i>	---; ---; 326	Kröber	1939
Olsuf'ev			
<i>lunatus</i>			
var. <i>labaeanus</i>	---; ---; 350	Kröber	1939
Enderlein			
<i>lunatus</i>			
var. <i>politus</i>	---; ---; 302	Kröber	1925
Szilády			
<i>lunatus</i>			
<i>syriacus</i>	---; ---; 302	Kröber	1925
Szilády			
<i>luridus</i>			
Fallen	---; ---; 162	Szilády	1923
	---; common, May; 256	Olsuf'ev	1937
	---; ---; 256°	Skufin	1949
<i>maocer</i>	On low foliage overhanging water, damp earth a few inches above edge of water; March-April, July, Oct.-Nov.; 143	Isaac	1925
Bigot			
<i>maofarlanei</i>	---; ---, 76, 139	Wu	1940
Ricardo			
<i>maoultoornis</i>	Swampy ground, river or lake banks, edge of forest; most active between 6:00 and 7:00 p.m.; 256°	Fraser	1920
Zetterstedt			
	---; May-June; 256	Olsuf'ev	1937
<i>madoerensis</i>	---; ---; 146	Schuermans	
Schuermans		Stekhoven	1926
Stekhoven			
<i>major</i>	---; ---; 256	Sassuchin	
Evermann		et al.	1930
<i>malayensis</i>	---; ---; 145	Schuermans	
Ricardo		Stekhoven	1932b
	---; rare; 146	Nieschulz	1935
	---; ---; 149, 190, 280	Schuermans	
		Stekhoven	1926
	---; ---; 242	Kröber	1924

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; ---; 76, 139, 158. ---; Apr.-Aug.; 77°	Shiraki	1918
<i>mandarinus</i>			
Schiner	---; ---; 77, 194	Kono ; Takahasi	1939
	---; ---; 168	Hsiao	1948
	---; ---; 256, 353	Kröber	1924
<i>manfarinus</i>	---; ---; 76, 77, 139, 158	Schuermans	
Schiner		Stekhoven	1931
<i>manipurensis</i>	---; ---; 143	Senior-White	1927
Ricardo			
<i>martinii</i>	---; ---; 31	Kröber	1939
Kröber			
<i>matsumuras</i>	---; ---; 158	Shiraki	1932
Szilády			
<i>mediatrimaculatus</i>	---; ---; 144	Schuermans	
Schuermans		Stekhoven	1932b
Stekhoven			
<i>melanognathus</i>	---; ---; 59, 143, 144, 277	Schuermans	
Bigot		Stekhoven	1926
<i>melanopygatus</i>	---; ---; 242	Kröber	1924
Bigot			
<i>mendicus</i>	---; ---; 154	Austen	1922b
Villeneuve			
	---; April; 302. ---; on bank of stream; 342	Austen	1920
<i>mentitus</i>	---; ---; 76	Hsiao	1945
Walker			
<i>miki</i>	---; ---; 150	Kröber	1939
Brauer			
	---; June-July; 256°	Skufin	1949
	---; ---; 256	Anonymous	1945a
	---; ---; 345	Olsuf'ev	1937
<i>miki</i>			
var. <i>niger</i>	---; ---; 345	Kröber	1939
Olsuf'ev			
<i>minus</i>	---; ---; 145, 146, 190. ---; all year; 149	Schuermans	
van der Wulp		Stekhoven	1926
	---; common; 149	Nieschulz	1935

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; ---; 256°	Gutzevich	1947
<i>miser</i>			
<i>Szilády</i>	---; ---; 256	Olsuf'ev	1937
<i>mistshenkoi</i>	---; ---; 303	Krüber	1939
<i>Olsuf'ev</i>			
<i>mixtus</i>	---; ---; 302, 317, 333, 342	Krüber	1924a
<i>Szilády</i>	---; ---; 345, 350	Krüber	1925
<i>miyajima</i>	---; ---; 158, 256	Krüber	1924a
<i>Ricardo</i>			
<i>miyakei</i>	---; ---; 77	Shiraki	1918
<i>Shiraki</i>			
<i>mongolensis</i>	---; ---; 353	Krüber	1934
<i>Krüber</i>			
<i>monilifer</i>	---; ---; 143	Schuermans	
<i>Bigot</i>		Stekhoven	1926
<i>monogolensis</i>	---; ---; 76	Hwang	1936
<i>Bigot</i>			
<i>monotaeniatus</i>	---; ---; 59, 76, 143	Wu	1940
<i>(Bigot)</i>	---; ---; 146	Schuermans	
		Stekhoven	1926
	---; ---; 147	Schuermans	
		Stekhoven	1924
<i>montanus</i>	---; ---; 76	Krüber	1934
<i>Meigen</i>	---; ---; 101	Dampf	1924
	---; ---; 158, 170, 353	Kono & Takahasi	1939b
	---; July-Aug.: 256°	Skufin	1949
	---; June; 256	Olsuf'ev	1937
<i>morgani</i>	---; ---; 150, 151	Krüber	1924a
<i>Surcouf</i>			
<i>morio</i>	---; ---; 345	Krüber	1939
<i>Meigen</i>			
<i>moehasi</i>	---; ---; 150	Leclercq	1962
<i>Leclercq</i>			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; ---; 162, 256	Kröber	1925
<i>muhlfeldi</i> Brauer	---; ---; 353	Kröber	1934
<i>multicinctus</i> Schuurmans Stekhoven	---; ---; 146, 149, 277	Schuurmans Stekhoven	1926
<i>napaensis</i> Nieschulz	---; ---; 149	Nieschulz	1927
<i>negativus</i> Ricardo	---; ---; 76, 77, 139	Schuurmans Stekhoven	1931
<i>namocallosus</i> Ricario	Leaves and twigs over shallow water along river- banks, prefer hard caked up damp soil along river bank; in bushes, July, Oct.-Nov.; 143	Isaac	1925
	---; Jan., March-June, 143	Fletcher	1916
	---; Dec.; 143	Fletcher	1917
<i>namoralis</i> Meigen	---; April and May; 159	Buxton	1924
	---; ---; 256	Sassuchin et al.	1930
	---; ---; 342	Kröber	1925
<i>namoralis</i> var. <i>ruficornis</i> Surcouf	---; ---; 302	Surcouf	1920
<i>nephodes</i> Bigot	---; ---; 143	Senior-White	1927
<i>nervus</i> Walker	---; ---; 145, 149	Schuurmans Stekhoven	1926
<i>nicobarensis</i> Schiner	---; ---; 224	Senior-White	1927
<i>nigellus</i> Stålady	---; ---; 256	Kröber	1925
<i>nigerrimus</i> Schuurmans Stekhoven	---; ---; 145, 149	Schuurmans Stekhoven	1926
<i>nigricornis</i> Zetterstedt	---; ---; 162	Kröber	1925
	---; ---; 256, 353	Kono & Takahasi	1939b
	---; ---; 256*	Skufin	1949

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>nigrifacies</i> Gobert	Swampy ground, river or lake banks, edge of forest; most active between 6:00 and 7:00 p.m. June-Aug.; 256°	Fraser	1920
<i>nigrifer</i> Walker	---; ---; 25	Kröber	1925
<i>nigripes</i> Enderlein	---; ---; 145	Schuermans Stekhoven	1932
<i>nigritus</i> Fabricius	---; ---; 302, 317, 342, 350	Kröber	1924a
<i>nigrivitta</i> Olsuf'ev	---; June; 256°	Skufin	1949
<i>nigrocorpus</i> Kröber	---; ---; 256	Olsuf'ev	1937
<i>nigropictus</i> Macquart	---; ---; 143	Senior-White	1927
<i>nigrotectus</i> Bigot	---; ---; 144, 277	Austen	1922
<i>niveipalpis</i> Bigot	---; ---; 150, 345	Kröber	1939
<i>nocturnus</i> Schuermans Stekhoven	---; ---; 143	Schuermans Stekhoven	1926
<i>obconicus</i> Walker	---; ---; 143	Senior-White	1927
<i>obscuratus</i> Walker	---; ---; 147	Schuermans Stekhoven	1932b
<i>obtusipalpis</i> Schuermans Stekhoven	---; ---; 147	Oldroyd	1948
<i>oohrodter</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>oohroceras</i> Schuermans Stekhoven	---; ---; 143	Schuermans Stekhoven	1932b
<i>oohrogaster</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1932b

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>ochros</i> Schuermans Stekhoven	---; ---; 277	Schuermans Stekhoven	1926
<i>ohnos</i> Surcouf	---; ---; 144	Surcouf	1921
<i>okinawanus</i> Shiraki	---; pine tree forest, in houses in the evening, sometimes attracted by lights; 158°. ---; ---; 257	Shiraki	1918
<i>oppugnator</i> Austen	---; ---; 317	Austen	1925
<i>optatus</i> Walker	---; ---; 143, 145, 146, 149, 190, 218, 366, 367	Schuermans Stekhoven	1926
<i>orientalis</i> Wiedemann	---; ---; 76, 143	Hsiao	1945
<i>orientis</i> Walker	---; ---; 59	Senior-White	1922
	---; ---; 76, 218	Schuermans Stekhoven	1931
	---; at 7,000 feet elevation; 143	Brunetti	1917
<i>oviventris</i> Schuermans Stekhoven	---; ---; 149	Schuermans Stekhoven	1926
<i>oxyceratus</i> Bigot	---; ---; 59, 143, 277	Schuermans Stekhoven	1926
	---; ---; 235	Senior-White	1922
<i>pallesoens</i> Walker	---; ---; 25	Kröber	1925
<i>pallidipestoratus</i> Bigot	---; ---; 76	Hwang	1936
	---; ---; 77, 144	Shiraki	1918
<i>pallidipes</i> Austen	---; July-August, enters houses; 154	Buxton	1924
	---; ---; 153	Austen	1922b
	---; ---; 302, 342	Kröber	1925
<i>pallidiventer</i> Schuermans Stekhoven	---; ---; 143	Schuermans Stekhoven	1926
<i>pallitarsis</i> Olsuf'ev	---; ---; 256, 353	Kröber	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>palpalis</i>			
var. <i>incertus</i>	---; ---; 143	Szilády	1926
Szilády			
<i>parabrunneus</i>	---; ---; 145	Schuermans	
Schuermans		Stekhoven	1932
Stekhoven			
<i>paradoxus</i>	---; ---; 28, 256, 345	Kröber	1924a
Jaennicke			
	---; ---; 150	Kröber	1925
<i>parafuscomaculatus</i>	---; ---; 143	Schuermans	
Schuermans		Stekhoven	1932b
Stekhoven			
<i>parahybridus</i>	---; ---; 143	Schuermans	
Schuermans		Stekhoven	1932b
Stekhoven			
<i>parallelifrons</i>	---; ---; 145, 149	Schuermans	
Schuermans		Stekhoven	1926
Stekhoven			
<i>paralleliventer</i>	---; ---; 149	Schuermans	
Schuermans		Stekhoven	1926
Stekhoven			
<i>paramufiventris</i>	Small muddy pond; ---; 149	Nieschulz	1927
Nieschulz			
<i>parimixtus</i>	---; ---; 145	Schuermans	
Schuermans		Stekhoven	1932b
Stekhoven			
<i>pavlovakii</i>	---; ---; 256	Olsuf'ev	1937
Olsuf'ev			
<i>peculiaris</i>	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	
Szilády			1936
	---; ---; 256	Kröber	1925
	---; ---; 318, 326	Olsuf'ev	1937
<i>peculiaris</i>			
var. <i>kröberi</i>	---; ---; 162	Kröber	1939
Szilády			
<i>perakiensis</i>	---; ---; 77, 149, 190	Schuermans	
Ricardo		Stekhoven	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i> <i>persis</i> Ricardo	---; ---; 3, 150, 151, 342 (Along the creek banks and water courses)	Patton	1920
<i>petiolatus</i> Szilády	---; ---; 76	Hsiao	1945
<i>pfeifferi</i> Kröber	---; ---; 317	Kröber	1939
<i>philippinensis</i> Kröber	---; ---; 242	Kröber	1924
<i>pictiventris</i> Szilády	---; ---; 145	Szilády	1926
<i>platybasianulatus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926
<i>plebejus</i> Fallen	---; ---; 256	Kono & Takahasi	1939b
<i>plebejus</i> var. <i>aethereus</i> Bigot	---; ---; 256	Kröber	1939
<i>pleskei</i> Kröber	---; ---; 194	Hsiao	1946
	---; ---; 256°	Gutzevich	1947
	---; ---; 256	Kröber	1924a
<i>polaris</i> Frey	---; ---; 256	Anonymous	1945a
	---; ---; 294	Olsuf'ev	1937
<i>politus</i> Walker	---; ---; 25	Kröber	1925
<i>polygonus</i> Walker	---; ---; 150	Kröber	1925
	Creek banks; common, March-Sept.; 151	Patton	1920
<i>portschinskii</i> Olsuf'ev	---; ---; 345	Kröber	1939
<i>praematurus</i> Austen	---; enters houses, bites at day-break; 277°	Austen	1922
<i>pratti</i> Ricardo	---; ---; 145, 190	Schuurmans Stekhoven	1926
<i>provinoialis</i> Ricardo	---; ---; 143	Senior-White	1927

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>pseudo-</i> <i>pallidepectoratus</i> Surcouf	---; ---; 144	Surcouf	1922
<i>pseudorufiventris</i> Schuurmans Stekhoven	---; ---; 149	Schuurmans Stekhoven	1926
<i>pugiunculus</i> Austen	---; ---; 277	Austen	1922
<i>pugnax</i> Austen	---; ---; 277°	Austen	1922
<i>pulchellus</i> Loew	---; ---; 3. ---; around lamp at night, on screen in tent; 151	Austen	1923
	---; ---; 150, 350, 354	Kröber	1925
	Marsh; enter huts, May-July; 151	Patton	1920
	---; ---; 235	Senior-White	1927
	---; ---; 317	Anonymous	1944
	---; ---; 318	Kröber	1939
	---; ---; 342	Bodenheimer	1937
	---; ---; 354	Olsuf'ev	1937
<i>pulchriventris</i> Portschinsky	---; ---; 210	Hwang	1936
	---; ---; 353	Hsiao	1945
<i>pulverifer</i> Walker	---; ---; 150, 302, 342	Kröber	1924a
	Marshy area, along the river; ---; 151. ---; ---; 317	Patton	1920
	---; April-June; 151	Austen	1923
	---; ---; 235	Senior-White	1927
<i>pusillus</i> Egger	---; ---; 76	Hsiao	1945
	---; ---; 350	Kröber	1925
<i>puteus</i> Ricardo	---; ---; 70	Schuurmans Stekhoven	1926
<i>quadrifarius</i> Loew	---; ---; 151, 162, 256	Kröber	1925
<i>quatuornotatus</i> Meigen	---; ---; 321	Kröber	1939
	---; June-Aug.; 345	Olsuf'ev	1937

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>quinquecinctus</i> Ricardo	---; ---; 77°	Shiraki	1918
<i>rectilineatus</i> Schuurmans Stekhoven	---; ---; 143, 218, 366, 367	Schuurmans Stekhoven	1926
<i>rectus</i> Loew	---; ---; 302, 342, 350	Kröber	1924a
<i>recusans</i> Walker	---; ---; 147	Oldroyd	1948
<i>reducens</i> Walker	---; ---; 143	Schuurmans Stekhoven	1924
	---; ---; 145, 147, 242	Schuurmans Stekhoven	1926
<i>regularis</i> Jaennicke	---; ---; 150, 342. ---; on stems of orange trees at mid-day; 151	Austen	1923
	---; ---; 159, 235	Austen	1920
	---; ---; 302, 350	Kröber	1924a
<i>regularis</i> <i>rufus</i> Szilády	---; ---; 150, 151, 345	Leclerq	1961
	---; ---; 342	Kröber	1925
<i>reinigianus</i> Enderlein	---; ---; 256	Olsuf'ev	1937
<i>rohdendorfi</i> Olsuf'ev	---; ---; 345	Kröber	1939
<i>rousseleti</i> Macquart	---; ---; 302, 350	Austen	1925
<i>rubicundulus</i> Austen	---; ---; 277	Austen	1922
<i>rubicundus</i> Macquart	---; ---; 59, 70, 143, 146	Senior-White	1922
<i>rubidoides</i> Szilády	---; ---; 143	Szilády	1926
<i>rubidus</i> Wiedemann	---; ---; 59, 70, 76, 139, 144, 190, 218, 277, 280. ---; all year; 149	Schuurmans Stekhoven	1926
	Twigs and leaves overhanging water, wet soil close to water edge, on plants on the banks of stagnant pools, on foliage several feet above water; March- April, July, Oct.-Nov.; 143	Isaac	1925

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---; open or scarcely forested regions, Dec.; 146.	Nieschulz	1935
<i>rubidus</i>	---; open or scarcely forested regions; 149		
Wiedemann			
(cont.)	Running and stagnant water in forests, marshes, brackish water; ---; 146	Nieschulz	1926
	---; ---; 235	Schuermans Stekhoven	1931
	---; ---; 242, 366	Kröber	1924
<i>rubidus</i>			
<i>priscoides</i>	---; ---; 143, 146	Schuermans	
Wiedemann		Stekhoven	1926
<i>rubidus</i>			
<i>violaceus</i>	---; ---; 146, 280	Schuermans	
Wiedemann		Stekhoven	1926
<i>rubriscutatus</i>	---; ---; 145	Schuermans	
Schuermans		Stekhoven	1926
Stekhoven			
<i>rubriventris</i>	---; ---; 147	Oldroyd	1948
Macquart			
<i>rufidens</i>	---; ---; 158, 256	Kröber	1924a
(Bigot)			
<i>rufinotatus</i>	---; ---; 144	Szilády	1926
Szilády			
<i>rufinotatus</i>	---; ---; 76	Haiao	1945
(Bigot)			
<i>rufiscutellatus</i>	---; ---; 146, 149	Schuermans	
Schuermans		Stekhoven	1926
Stekhoven			
<i>rufiventris</i>	---; ---; 59, 158	Wu	1940
Fabricius			
	---; ---; 76, 139, 146, 149, 190, 218. ---; on road near sea shore; 77. ---; in houses; 143	Schuermans Stekhoven	1926
	---; ---; 143, 147	Schuermans Stekhoven	1931
	Forest streams; ---; 146, 149	Nieschulz	1926
	---; ---; 158	Haiao	1945
<i>rufifrater</i>	---; ---; 76	Haiao	1945
Walker			
<i>rupinae</i>	---; May-July; 159	Buxton	1924
Austen			
	---; ---; 302, 342, 350	Kröber	1924a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>rupium</i> Brauer	---; ---; 345	Olauf'ev	1937
<i>rusticus</i> Linnaeus	---; ---; 158	Kröber	1925
	---; ---; 162	Sassuchin et al.	1930
	---; July & August; 256°	Skufin	1949
	---; ---; 256, 345	Kröber	1939
	---; ---; 294	Olauf'ev	1937
<i>rusticus</i> <i>parallelifrons</i> Szilády	---; ---; 162	Szilády	1923
	---; ---; 256	Kröber	1925
<i>sabuletorum</i> Loew	---; ---; 31, 256, 345, 353	Hsiao	1945
	---; ---; 150	Kröber	1925
<i>sachalinensis</i> Enderlein	---; ---; 76	Kröber	1934
<i>sagittipalpis</i> Szilády	---; ---; 143	Szilády	1926
<i>salvazai</i> Surcouf	---; ---; 144	Surcouf	1921
<i>sanguineus</i> Walker	---; ---; 59, 139, 146, 147, 149, 158, 190, 256, 353	Kröber	1924a
	---; ---; 76, 277. ---; June, July and Sept.; 77	Shiraki	1918
	---; Nov.-Jan.; 143	Fletcher	1920
	---; May; 143	Fletcher	1916
<i>sapporoensis</i> Shiraki	---; ---; 77	Schuermans Stekhoven	1932b
	---; ---; 158°	Shiraki	1918
	---; ---; 158	Kono & Takahasi	1939
<i>sapporoensis</i> Shiraki	---; ---; 77	Schuermans Stekhoven	1932b
	---; ---; 158, 256	Kono & Takahasi	1939

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>sareptanus</i> Szilády	---; ---; 256	Kröber	1925
<i>sareptanus</i> <i>melas</i> Szilády	---; ---; 256	Kröber	1925
<i>eauteri</i> Ricardo	---; mountains; 77°	Shiraki	1918
<i>semenovi</i> Olsuf'ev	---; ---; 166, 326	Kröber	1939
<i>semiargenteus</i> Olsuf'ev	---; ---; 28, 345	Kröber	1939
<i>semipollinosus</i> Olsuf'ev	---; ---; 162, 256	Olsuf'ev	1937
<i>semirufus</i> Szilády	---; ---; 144	Szilády	1926
<i>serus</i> Walker	---; ---; 147	Schuermans Stekhoven	1932b
<i>servillei</i> Macquart	---; ---; 146	Schuermans Stekhoven	1926
<i>sexnotus</i> Ricardo	---; ---; 59, 77, 143, 144, 277	Schuermans Stekhoven	1926
	---; ---; 76, 235	Senior-White	1922
<i>shalkovnikovi</i> Paramonov	---; ---; 28	Kröber	1939
<i>shirakii</i> (Kunderlein)	---; ---; 76	Haiao	1945
<i>shnitnikovi</i> Olsuf'ev	---; ---; 162, 256	Olsuf'ev	1937
<i>siamensis</i> Ricardo	---; ---; 277	Austen	1922
<i>sieberi</i> Schuermans Stekhoven	---; ---; 145	Schuermans Stekhoven	1928
<i>signifer</i> Walker	---; ---; 76	Haiao	1945
	---; ---; 144	Szilády	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>significans</i> Ricardo	---; ---; 190	Schuermans Stekhoven	1926
<i>significans</i> <i>inaequusignatus</i> Ricardo	---; ---; 145	Schuermans Stekhoven	1932b
<i>simplissimus</i> Walker	---; ---; 145, 190, 280	Schuermans Stekhoven	1926
	---; ---; 149	Schuermans Stekhoven	1932b
<i>sinensis</i> Szilady	---; ---; 76	Anonymous	1945
	---; ---; 139	Hsiao	1945
<i>sinicus</i> Walker	---; ---; 76, 139	Schuermans Stekhoven	1926
<i>soembawensis</i> Schuermans Stekhoven	---; ---; 146	Schuermans Stekhoven	1926
<i>solstitialis</i> Schiner	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
	---; June, experimental transmission of tularemia; 256. ---; ---; 345	Olsuf'ev	1937
	---; June-July; 256*	Skufin	1949
	---; ---; 350	Kröber	1925
<i>speciosus</i> Ricardo	---; ---; 70	Senior-White	1927
	---; Aug.; 143	Fletcher	1930
<i>spectabilis</i> Loew	---; ---; 150, 151, 302, 317, 342, 350	Kröber	1924a
	---; ---; 256, 318, 321, 326, 345, 354	Olsuf'ev	1937
<i>speculum</i> Walker	---; ---; 145, 190	Schuermans Stekhoven	1926
<i>spodopterus</i> Meigen	---; ---; 23, 150, 151, 256, 345	Kröber	1924a
<i>spoliatus</i> Walker	---; ---; 145	Schuermans Stekhoven	1926
<i>stencpelaphus</i> Olsuf'ev	---; ---; 256	Olsuf'ev	1937
<i>stigmopterus</i> Olsuf'ev	---; ---; 168, 256	Kono & Takahasi	1939a

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---		
<i>striatus</i>	---; ---; 59, 139, 144, 180, 185, 218, 235, 280, 337, 367. ---; all year; 149. ---; in houses; 277	Schuermans Stekhoven	1926
<i>Fabricius</i>	---		
	---; ---; 70, 76	Schuermans Stekhoven	1931
	---; active at sunset, rest by day on shaded tree trunks; 143	Issac	1925a
	---; Feb., June, Oct.; 143	Fletcher	1916
	---; ---; 145, 147	Schuermans Stekhoven	1932
	---; Nov. and Dec.; 146	Nieschulz	1925
	Prefers open country; ---; 146, 149	Nieschulz	1926
	Creek, aquatic plants, drift wood, stones; active between 7:00 and 8:00 a.m., 3:30 to 6:00 p.m., Aug., Sept., Oct., and Dec.; 242	Mitzsain	1913
	---; attack especially children in vicinity of cattle or horses, bloodsucker; 242°	Banks	1919
	---; ---; 349	de Mello & Afonso	1921
<i>striatus</i>	---		
<i>Surcouf</i>	---; ---; 150, 151	Krüber	1924a
<i>striatus</i>	---		
<i>Saillady</i>	---; ---; 151	Krüber	1925
<i>subcallosus</i>	---		
<i>Ricardo</i>	---; ---; 143	Senior-White	1927
<i>subhirtus</i>	---		
<i>Ricardo</i>	---; ---; 143, 146	Senior-White	1927
<i>subbulbosus</i>	---		
<i>Olsuf'ev</i>	---; ---; 162, 342, 353	Krüber	1939
<i>subcylindricus</i>	---		
<i>Walker</i>	---; ---; 145	Schuermans Stekhoven	1926
	Along the river banks, marshes, stagnant pools; ---; 147	Schuermans Stekhoven	1924
<i>sudanicus</i>	---		
<i>Zeller</i>	---; ---; 150, 151, 256	Krüber	1924a
	---; ---; 256°	Stufin	1949

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>	---	Senior-White	1927
<i>sufia</i>	---		
Jaennicke	---; March-June; 151	Austen	1923
	Creek banks and water courses; ---; 151	Patton	1920
	---; ---; 159	Austen	1924
	---; ---; 302, 342, 350	Kröber	1924a
<i>sulcifrons</i>	---	Isaac	1925a
Macquart	---		
<i>sulfureoens</i>	---	Schuermans	
Schuermans	---	Stekhoven	1932b
Stekhoven	---		
<i>sven-hedini</i>	---	Kröber	1934
Kröber	---		
<i>spiridowi</i>	---	Kröber	1924a
Portschinsky	---	Kröber	1928

<i>syrtaous</i>	---	Kröber	1924a
Kröber	---		
<i>sylvioides</i>	---	Schuermans	
Walker	---	Stekhoven	1926
<i>sziladyi</i>	---	Szilady	1926
Szilady	---		
<i>sziladyi</i>	---	Schuermans	
Schuermans	---	Stekhoven	1932b
Stekhoven	---		
<i>takasagoensis</i>	---	Kröber	1924
Shiraki	---		
<i>taramidnoides</i>	---	Heiao	1946
Oleuf'ev	---	Oleuf'ev	1937

<i>taramidnoides</i>	---	Kono &	
Linnaeus	---	Takahasi	1939
	Swampy grounds, river or lake banks, edges of forests; most active between 6:00 and 7:00 p.m., June-Aug.; 256°	Fraser	1920

	---; May-June; 256	Oleuf'ev	1937
<i>tartaricus</i>	---	Hwang	1936
bicolor	---		
Szilady	---		

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>tartaricus</i>			
<i>sonatus</i>	---; ---; 326	Kröber	1925
Szilády			
<i>tataricus</i>	---; ---; 31, 76, 162, 256	Wu	1940
Portschinsky	---; ---; 166, 326	Szilády	1923
	---; ---; 317	Schuurmans Stekhoven	1931
	---; ---; 353	Hwang	1936
<i>tataricus</i>			
<i>aurantiacus</i>	---; ---; 326	Kröber	1925
Szilády			
<i>tenasserimi</i>	---; ---; 59	Szilády	1926
Szilády			
<i>tenebrosus</i>	---; ---; 143	Schuurmans Stekhoven	1926
Walker			
<i>tenens</i>	---; ---; 70, 218, 366, 367	Schuurmans Stekhoven	1926
Walker			
	---; ---; 76, 122, 146, 149, 190	Senior-White	1927
	Twigs and leaves above water along margin of small streams; walls of houses, March-April, July, Oct.- Nov.; 143	Isaac	1925
	---; common; 143	Isaac	1925a
	---; ---; 242	Wu	1940
<i>tener</i>	---; ---; 76	Wu	1940
Osten-Sacken			
<i>tenuicornis</i>	---; ---; 345	Kröber	1939
Enderlein			
<i>tergestinus</i>	---; ---; 256*	Skufin	1949
Egger	---; ---; 345	Oleuf'ev	1937
<i>terminalis</i>	---; ---; 25	Kröber	1924a
Walker			
<i>testaceus</i>	---; ---; 25	Kröber	1924a
Forekal			
<i>tetricus</i>	---; ---; 256, 345	Kröber	1925
Szilády			

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>tibetanus</i> Szilády	---; ---; 76	Hsiao	1945
<i>tiluënsis</i> Nieschulz	---; ---; 146	Nieschulz	1927
<i>tinctothorax</i> Ricardo	---; ---; 190, 277	Schuurmans Stekhoven	1928
<i>tinctus</i> Walker	---; ---; 150, 345	Leclerq	1961
<i>tinnunculus</i> Szilády	---; ---; 151	Szilády	1923
<i>tong-lai</i> Surcouf	---; ---; 144	Surcouf	1922
<i>transversus</i> Walker	---; ---; 145	Ricardo	1914a
<i>4-triangularis</i> Schuurmans Stekhoven	---; ---; 144	Schuurmans Stekhoven	1932b
<i>5-triangularis</i> Schuurmans Stekhoven	---; ---; 242	Schuurmans Stekhoven	1932b
<i>trichinopolis</i> Ricardo	---; ---; 143	Ricardo	1914
<i>tricolor</i> Zeller	---; ---; 28, 162, 256, 345, 350	Kröber	1925
<i>tricolor</i> var. <i>albifascius</i> Enderlein	---; ---; 345	Kröber	1939
<i>tricolor</i> var. <i>pallidicaudus</i> Olsuf'ev	---; ---; 256	Kröber	1939
<i>tricolor</i> var. <i>ruficaudus</i> Enderlein	---; ---; 350	Kröber	1939
<i>tricoloratus</i> Schuurmans Stekhoven	---; ---; 146	Schuurmans Stekhoven	1926

TABLE 1 - HCRSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LABANUS</i> <i>trigonus</i> Coquillett	---; June-Sept., active between 2:00 and 7:00 p.m.; 158°	Shiraki	1918
	---; ---; 158	Kono & Takahasi	1939b
	---; ---; 256	Kröber	1924a
<i>trinominata</i> Senior-White	---; ---; 143	Senior-White	1927
<i>tristis</i> van der Wulp	---; ---; 149	Schuermans Stekhoven	1926
<i>tropicus</i> Panzer	---; ---; 77	Kröber	1925
	---; ---; 143, 146	Senior-White	1927
	---; ---; 158, 170, 194	Kono & Takahasi	1939
	---; May-June; 256	Olsuf'ev	1937
	---; ---; 256°	Skufin	1949
<i>tropicus</i> var. <i>bisignatus</i> Jaennicke	---; June; 256	Fraser	1920
<i>tuberculatus</i> Ricardo	---; ---; 143	Senior-White	1927
<i>tunicatus</i> var. <i>rufescens</i> Szilády	---; ---; 302	Kröber	1939
<i>turkestanus</i> Szilády	---; ---; 76, 166	Kröber	1934
	---; experimental transmission of tularemia; 162	Olsuf'ev & Golov	1936
<i>turkestanus</i> <i>ater</i> Szilády	---; ---; 162	Kröber	1923
<i>turkestanus</i> <i>minor</i> Szilády	---; ---; 162	Kröber	1925
<i>umbrinus</i> Meigen	---; ---; 159°	Austen	1924
	---; ---; 317	Austen	1925
	---; ---; 318, 326, 345, 354	Olsuf'ev	1937
	---; ---; 342, 350		

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>undulans</i> Schuurmans Stekhoven	---; ---; 149, 190	Schuurmans Stekhoven	1926
<i>unifasciatus</i> Loew	---; ---; 28, 256, 302, 317, 342, 345, 350, 354	Kröber	1924a
<i>unifasciatus</i> var. <i>albescens</i> Kröber	---; ---; 317	Kröber	1939
<i>uniformis</i> Ricardo	---; ---; 190	Schuurmans Stekhoven	1926
<i>univentris</i> Walker	---; ---; 145, 146, 190, 242	Kröber	1924
<i>ussuriensis</i> Olsuf'ev	---; ---; 256	Olsuf'ev	1937
<i>vagus</i> Walker	---; ---; 139	Hwang	1936
<i>vandersulpi</i> Osten Sacken	---; ---; 242	Schuurmans Stekhoven	1932b
<i>ventri- flavimarginatus</i> Schuurmans Stekhoven	---; ---; 145, 149	Schuurmans Stekhoven	1926
<i>virgo</i> Wiedemann	On foliage hanging over streams, in damp soil on banks of streams; attracted to light, March-April, July, Oct.-Nov.; 143	Isaac	1925
<i>virgulatus</i> Austen	---; ---; 277	Austen	1922
<i>vulpes</i> Szilády	---; ---; 342	Kröber	1925
<i>wallacei</i> Szilády	---; ---; 143	Szilády	1926
<i>wyvillei</i> Ricardo	---; ---; 143	Senior-White	1927
<i>xanti</i> Szilády	---; ---; 145	Szilády	1926
<i>yao</i> Macquart	---; ---; 76, 158, 168	Kono & Takahasi	1939a
	---; ---; 77, 143	Szilády	1926

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TABANUS</i>			
<i>zebrinus</i> Schuurmans Stekhoven	---; ---; 145	Schuurmans Stekhoven	1932b
<i>zimini</i> Olsuf'ev	---; ---; 150	Kröber	1939
<i>znokoi</i> Olsuf'ev	---; ---; 35, 345	Kröber	1939
<i>THERIOPECTES</i>			
<i>acuminatus</i> Loew	---; ---; 256	Kröber	1923
<i>astur</i> Erichson	---; ---; 162, 256	Kröber	1923
<i>aterrimus</i> Meigen	---; ---; 345	Kröber	1923
<i>borealis</i> Loew	---; ---; 256	Kröber	1923
<i>brevis</i> Loew	---; ---; 256	Kröber	1923
<i>caucasi</i> Szilády	---; ---; 345	Kröber	1925
<i>confinis</i> Zetterstedt	---; ---; 256	Kröber	1923
<i>decorus</i> Loew	---; ---; 154, 159, 174, 302, 342	Kröber	1923
<i>decorus</i> var. <i>cyanops</i> Brauer	---; ---; 302	Kröber	1923
<i>distinguendus</i> Verrall	---; ---; 158, 256	Shiraki	1918
<i>erberi</i> Brauer	---; ---; 256	Kröber	1923
<i>flavipes</i> Wiedemann	---; ---; 256	Kröber	1923
<i>hirtioeps</i> Loew	---; ---; 158, 256	Kröber	1923
<i>hirtus</i> Walker	---; ---; 143	Brunetti	1917

TABLE 1 - HORSE FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>THERIOPECTES</i>			
<i>lapponicus</i> Wahlberg	---; ---; 256	Kröber	1923
<i>lapponicus</i> var. <i>albonotatus</i> Zetterstedt	---; ---; 256	Kröber	1923
<i>lateralis</i> Meigen	---; ---; 256	Kröber	1923
<i>luridus</i> Fallen	---; ---; 256	Kröber	1923
<i>mendicus</i> Villeneuve	---; ---; 302	Kröber	1922a
	---; ---; 342	Kröber	1923
<i>montanus</i> Meigen	---; ---; 158, 256	Kröber	1923
<i>montanus</i> var. <i>immaculiventris</i> Kröber	---; ---; 162, 166	Kröber	1923
	---; ---; 256	Kröber	1922a
<i>mühlfeldi</i> Brauer	---; ---; 162, 256, 350	Kröber	1923
<i>nigellus</i> Szilády	---; ---; 256	Kröber	1923
<i>nigricornis</i> Zetterstedt	---; ---; 256	Kröber	1923
<i>nigricorpus</i> Kröber	---; ---; 162, 166	Kröber	1923
<i>nitidifrons</i> Szilády	---; ---; 256	Kröber	1923
<i>pulohriventris</i> Portschinsky	---; ---; 210	Kröber	1923
<i>sareptanus</i> Szilády	---; ---; 256	Kröber	1923
<i>sareptanus</i> var. <i>melas</i> Szilády	---; ---; 256	Kröber	1923
<i>solstitialis</i> Schiner	---; ---; 256, 350	Kröber	1923
<i>suballosus</i> Ricardo	---; ---; 143	Brunetti	1917

TABLE 1 - HORSE FLIES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>THERIOPECTES</i>			
<i>tarandinus</i> Linnaeus	---; Aug.; 77. ---; ---; 158, 256	Shiraki	1918
<i>tataricus</i> Portschinsky	---; ---; 162, 166, 256	Kröber	1923
<i>tetricus</i> Szilády	---; ---; 166, 256, 345	Kröber	1925
<i>tricolor</i> <i>albifascia</i> Enderlein	---; ---; 345	Kröber	1925
<i>tricolor</i> <i>ruficauda</i> Enderlein	---; ---; 350	Kröber	1925
<i>tropicus</i> Panzer	---; ---; 77, 158, 256	Kröber	1923
<i>tropicus</i> var. <i>bisignatus</i> Jaennicke	---; ---; 256	Kröber	1923
<i>TYLOSTYPIA</i>			
<i>reinigiana</i> Enderlein	---; ---; 303	Enderlein	1934
<i>TYLOSTYPINA</i>			
<i>nigrocinota</i> Enderlein	---; ---; 162	Kröber	1925
<i>UDENOCERA</i>			
<i>brunnea</i> Ricardo	---; ---; 70	Senior-White	1927

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F. BITING FLIES

Biting flies belong to several families. *Glossina tachinoides* Westwood was recorded in Aden and the Arabian Peninsula.

The table includes 9 species or subspecies.

TABLE 1 - BITING FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GLOSSINA</i>	---; ---; 2	Lewis	1949
<i>tachinoides</i>			
Westwood	---; ---; 25	Gill	1916
<i>HAEMATOBIA</i>			
<i>sanguisugens</i>	Dung in a crack or crevice; Apr.-Nov.; 143°	Mitter	1916
Austen			
<i>HAEMATOBOSCA</i>			
<i>perturbans</i>	---; occasionally bites man; 76°, 168°	Barnett & Toshioka	1951
Bezzi			
<i>LYPEROSIA</i>			
<i>exigua</i>	---; seldom bites man; 146°	Handschin	1933
de Meijere			
<i>minuta</i>	---; troublesome in early morning and at sunset; 154°	Austen	1921
Bezzi			
<i>SIPHONA</i>	---; occasionally bites man; 168°	Barnett & Toshioka	1951
<i>irritans</i>			
(Linnaeus)	---; ---; 317°	Anonymous	1944
<i>STOMOXYS</i>	---; rarely bites; 76°	Meng	1943
<i>oalotrans</i>	---; Apr.-Nov.; 143°	Mitter	1916
Linnaeus	---; ---; 151°	Acton	1919
	---; enters houses; 154	Austen	1921
	---; May; 159°	Buxton	1924
	Mixture of straw and manure, decaying seaweed; vicious biter, biting during the day; 168°	Barnett & Toshioka	1951
	---; experimental transmission of cutaneous leishmaniasis; 174	Berberian	1938
	---; Nov.-Dec.; 233°	Gill	1916
	Animal manure; resting in interwoven cross-wire fence, attack man especially after rain shower, numerous between 5 a.m. and 6:40 a.m., all year; 242°	Mitzmain	1913
	---; June, Aug.; 256	Fraser	1920

TABLE 1 - BITING FLIES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STOMOXYS</i>	---; ---; 303°	Saïrnov	1940
<i>calcitrans</i> Linnaeus	Cow dung; ---; 317°	Anonymous	1944
<i>nigra</i> Macquart	Decomposing animal and vegetable matter; bloodsucker; 242°	Banks	1919

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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 tissues of living animals.

The tables include 36 species or subspecies.

TABLE 1 - NON-BITING FLIES

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>APHIOCHAETA</i>	---; ---; 143*	Patton	1921
<i>rufipes</i>			
Meigen	---; ---; 143°	Patton	1920
<i>scalaris</i>	---; lays eggs in cuts and sores; 76*, 190*	Patton	1926
Meigen	---; ---; 143*	Strickland & Roy	1941
<i>xanthina</i>	---; ---; 143*	Patton	1922
Speiser	---; ---; 143°	Patton	1920
<i>CALLIPHORA</i>			
<i>erythrocephala</i>	---; ---; 302*	Anonymous	1944a
(Macquart)			
<i>CEPHALOMYIA</i>			
<i>ovis</i>	---; ---; 303*	Pavlovskii	1929
Linnaeus			
<i>CHRY SOMYIA</i>			
<i>bessiana</i>	---; ---; 59*, 70*, 143*	Patton	1921
Villeneuve	---; ---; 59*, 366*	Strickland & Roy	1941
	---; ---; 76*	Patton	1926
	---; ---; 143°	Patton	1920
	---; ---; 144*	Motais & Borel	1928
	---; ---; 144*	Massias	1930
	---; ---; 242*, 277*	Geigy & Herbig	1955
<i>dur</i>	---; ---; 144*	Massias	1930
Eschscholtz	---; ---; 235*	Sinton	1921
<i>flavioeps</i>	---; ---; 143*	Fletcher	1917
Meigen			
<i>megacephala</i>	---; ---; 144*	Massias	1930
(Fabricius)			
<i>ERISTALIS</i>			
<i>tenax</i>	---; ---; 76*	Meng	1943
Linnaeus			

TABLE 1 - NON-BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GASTEROPHILUS</i>			
<i>haemorrhoidalis</i> (Linnaeus)	---; ---; 302*	Anonymous	1944a
<i>pecorum</i> Fabricius	---; ---; 318*	Paramonov	1940
<i>HYPODERMA</i>			
<i>bovis</i> Linnaeus	---; ---; 321*	Pavlovskii & Glezer	1932
<i>diana</i> Brauer	---; ---; 256*	Anonymous	1944
<i>lineatum</i> de Villers	---; ---; 143*°	Geigy & Herbig	1955
	---; ---; 321*	Pavlovskii & Glezer	1932
	---; ---; 345*	Seguy	1928
<i>LUCILIA</i>			
<i>sericata</i> (Meigen)	---; ---; 76*	Patton	1926
	---; ---; 143*, 235*	Sinton	1921
	---; ---; 321*	Paramonov	1937
	---; myiasis in wound causing gangrene; 342*	Buxton	1924
<i>MUSCA</i>			
<i>domestica</i> Linnaeus	---; ---; 321*	Yatzenko et al	1934
<i>sorbens</i> Wiedemann	---; enters houses; 76°, 150°, 256°, 270°, 302°, 342°. ---; enters houses, mechanical transmitter of eye disease organisms; 151°	Patton	1933
	---; ---; 302**	Anonymous	1944a
<i>tempestiva</i> Fallen	---; common; 76°. ---; ---; 143°, 150°, 151°, 253°, 270°, 302°, 342°	Patton	1933
<i>vitripennis</i> Meigen	---; ---; 143°, 150°, 151°, 253°, 270°, 302°, 342°	Patton	1933
<i>MUSCIA</i>			
<i>stabulans</i> (Fallen)	---; ---; 168*	Kobayashi	1925
	---; ---; 302*	Anonymous	1944a

TABLE 1 - NON-BITING FLIES (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>OESTRUS</i> <i>ovis</i> Linnaeus	---; ---; 342*	Buxton	1924
<i>PHAENICIA</i> <i>sericata</i> (Meigen)	---; ---; 76*	Hsiao	1945
<i>PHILAEMATOMYIA</i> <i>crassirostris</i> Stein	---; ---; 143* ---; ---; 342°	Patton Austen	1922a 1921
<i>RAVINIA</i> <i>trivialis</i> (van der Wulp)	---; ---; 143*	Seguy	1928
<i>RHINOESTRUS</i> <i>purpureus</i> Brauer	---; ---; 76°. ---; Aug. and Sept.; 350*° ---; ---; 162* ---; ---; 256* ---; ---; 303* ---; ---; 342*°	Seguy Portchinsky Patton Pavlovskii Patton	1928 1915 1922 1929 1921
<i>SARCOPHAGA</i> <i>oarnarta</i> Linnaeus	---; ---; 143*	Sinton	1921
<i>dux</i> Thomson	---; ---; 143**	Strickland & Roy	1941
<i>haemorrhoidalis</i> (Fallen)	---; ---; 31*	Seguy	1928
<i>hirtipes</i> Wiedemann	---; ---; 76*	Seguy	1928
<i>latifrons</i> (Fallen)	---; ---; 76*, 321*	Seguy	1928
<i>peregrina</i> Robineau-Desvoidy	---; ---; 76, 77, 148 (Found in digestive tube of man)	Seguy	1928
<i>ruficornis</i> Fabricius	---; ---; 366**	Strickland & Roy	1941

TABLE 1 - NON-BITING FLIES (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>SIPHUNCULINA</i> <i>funicola</i> de Meijere	---; attacks man about eyes and on wounds; 143°	Fletcher et al	1919
<i>SYNTHESIOMYIA</i> <i>nudiseta</i> van der Wulp	---; ---; 143*	Siddons & Roy	1942
<i>WOHLFAHRTIA</i> <i>magnifica</i> Schiner	---; ---; 256°, 350°	Patton	1921
	---; ---; 256*	Sinton	1921
	---; ---; 302*	Anonymous	1944a

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

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
	:	:	:	:		
<i>APHIOCHAETA</i> <i>rufipes</i> Meigen				Tissue & intestinal myiasis	143	
<i>soalaris</i> Meigen				Myiasis	76, 190	
				Intestinal myiasis	143	
<i>xathina</i> Speiser				Myiasis	143	
<i>CALLIPHORA</i> <i>erythrocephala</i> (Macquart)				Myiasis	302	
<i>CEPHALOMYIA</i> <i>ovis</i> Linnaeus				Ocular myiasis	303	
<i>CHRYSONYIA</i> <i>bezziana</i> Villeneuve				Rhinal, oral, ocular, vaginal & cutaneous myiasis	59, 70, 143	
				Inside dura mater of cord myiasis	59 (Strickland & Roy, 1941)	
				Nasal myiasis	366	
				Myiasis	76	
				Ocular myiasis	144	
				Genital myiasis	144 (Massias, 1930)	
				Myiasis	242, 277	
<i>dux</i> Eschscholtz				Nasal myiasis	144, 235	
<i>flavioeps</i> Meigen				Nasal & tumorous myiasis	143	
<i>megacephala</i> (Fabricius)				Myiasis	144	

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

SPECIES	DISEASE OR DISEASE ORGANISM				COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>ERISTALIS</i> <i>tenax</i> Linnaeus				Gastro- intestinal myiasis	76
<i>GASTEROPHILUS</i> <i>haemorrhoidalis</i> (Linnaeus)				Subcuti- cular myiasis	302
<i>pecorum</i> Fabricius				Myiasis	318
<i>HYPODERMA</i> <i>bovis</i> Linnaeus				Ocular myiasis	321
<i>diana</i> Brauer				Myiasis	256
<i>lineatum</i> de Villers				Myiasis	143
				Ocular myiasis	321
				Myiasis	345
<i>LUCILIA</i> <i>sericata</i> (Meigen)				Myiasis	76
				Cutaneous myiasis	143, 235
				Myiasis	321
				Myiasis	342
<i>MUSCA</i> <i>domestica</i> Linnaeus				Urethral myiasis	321
<i>sorbens</i> Wiedemann		Amoebic dysentery		Bacillary dysentery	302
<i>MUSCINA</i> <i>stabulans</i> (Fallen)				Intestinal myiasis	168
				Intestinal myiasis	302

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

SPECIES	DISEASE OR DISEASE ORGANISMS				COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
<i>OESTRUS</i> <i>ovis</i> Linnaeus				Ocular myiasis	342
<i>PHAENICIA</i> <i>sericata</i> (Meigen)				Myiasis	76
<i>PHILAEMATOMYIA</i> <i>crassirostris</i> Stein				Intestinal myiasis	143
<i>RAVINIA</i> <i>trivialis</i> (van der Wulp)				Myiasis	143
<i>RHINCESTRUS</i> <i>purpureus</i> Brauer				Ocular myiasis	162
				Ocular myiasis	256
				Ocular myiasis	303
				Ocular myiasis	342
				Myiasis	350
<i>SARCOPHAGA</i> <i>camarta</i> Linnaeus				Nasal myiasis	143
<i>dux</i> Thomson				Cutaneous and intestinal myiasis	143
<i>haemorrhoidalis</i> (Fallen)				Intestinal and body cavity myiasis	31
<i>hirtipes</i> Wiedemann				Intestinal myiasis	76
<i>latifrons</i> (Fallen)				Body cavity myiasis	76, 321
<i>ruficornis</i> Fabricius				Cutaneous and intestinal myiasis	366

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

SPECIES	DISEASE OR DISEASE ORGANISMS					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>SYNTHESIOMYIA nudiseta</i> van der Wulp				Myiasis	143	
<i>WOHLFAHRTIA magnifica</i> Schiner				Myiasis	256	
				Myiasis	302	

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H. FLEAS

The entries for fleas include almost no biology. Very few authors deal with flea biology. A few comment on fleas as vectors, but most of the literature deals with taxonomy and hosts. Only when the flea species is said to bite man is a host recorded. The tables include 717 species or subspecies.

TABLE 1 - FLEAS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ACERATOPHYLLUS</i>			
<i>euteles</i> (Jordan & Rothschild)	---; ---; 76	Wu	1940
<i>javanicus</i> (Ewing)	---; ---; 146	Kopstein	1931
<i>phillipsi</i> (Jordan)	---; ---; 70	Thompson	1937
<i>episema</i> Rothschild	---; ---; 143	da Costa Lima & Hathaway	1946
<i>AMPHALIUS</i>			
<i>clarus</i> (Jordan & Rothschild)	---; ---; 76	Hsiao	1945
<i>runatus</i> (Jordan & Rothschild)	---; ---; 194, 256, 353 ---; ---; 209 ---; ---; 210, 259	Hsiao Hsiao Wu	1945 1946 1940
<i>AMPHIPSYLLA</i>			
<i>anceps</i> Wagner	---; ---; 303	Wagner	1930
<i>anceps</i> <i>coangusta</i> Ioff & Tiflow	---; ---; 256	da Costa Lima & Hathaway	1946
<i>asiatica</i> Ioff	---; ---; 76 ---; ---; 162	Wu Ioff	1940 1928
<i>aspalavis</i> Jordan	---; ---; 194, 256	da Costa Lima & Hathaway	1946
<i>casis</i> Jordan & Rothschild	---; ---; 76, 143	da Costa Lima & Hathaway	1946
<i>contigua</i> Jordan & Rothschild	---; ---; 162	Ioff	1925
<i>contigua</i> <i>locuples</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMPHIPSYLLA</i>			
<i>daea</i> (Dampf)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Wu	1940
	---; ---; 345	Argyropulo	1937 +
<i>dumalis</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
<i>dumalis</i> <i>dumalis</i> Jordan & Rothschild	---; ---; 162	da Costa Lima & Hathaway	1946
<i>kalabukhovi</i> Ioff & Tiflow	---; ---; 31	da Costa Lima & Hathaway	1946
<i>kuznetzovi</i> Wagner	---; ---; 162, 256	Argyropulo	1937 +
	---; ---; 345	Wagner	1938
<i>kuznetzovi</i> <i>deminuta</i> Ioff & Tiflow	---; ---; 31	da Costa Lima & Hathaway	1946
<i>kuznetzovi</i> <i>glacialis</i> Argyropulo	---; ---; 35	Argyropulo	1937 +
	---; ---; 345	da Costa Lima & Hathaway	1946
<i>mitis</i> Jordan	---; ---; 209	Liu	1936
	---; ---; 210	Wu	1940
	---; ---; 256, 353	Hsiao	1945
<i>petrishevae</i> Darskaya	---; ---; 158, 168	Jameson	1953
<i>prima</i> Wagner	---; ---; 162	Tiflow & Ussov	1939 +
	---; ---; 256*	Pavlovskii	1931
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>primaris</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMPHIPSYLLA</i>			
<i>primaris</i> <i>botis</i> Jordan	---; ---; 256	Jordan	1929
<i>primaris</i> <i>mitis</i> Jordan	---; ---; 256, 353	da Costa Lima & Hathaway	1946
<i>primaris</i> <i>primaris</i> Jordan & Rothschild	---; ---; 162	da Costa Lima & Hathaway	1946
<i>rossica</i> Wagner	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 162°, 256°, 321°	Ioff	1928a
	---; ---; 256, 345	Wagner	1938
	---; ---; 294	Pavlovskii	1927
<i>rossica</i> <i>locuples</i> (Jordan & Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
<i>rossica</i> <i>rossica</i> Wagner	---; ---; 256, 345	da Costa Lima & Hathaway	1946
<i>schelkownikovi</i> Wagner	---; in houses; 28. ---; ---; 162	Wagner & Argyropulo	1934
	---; naturally infected with <i>Hymenolepis</i> sp.; 35	Popov & Akhundov	1934
	---; ---; 256	Sassuchin & Tiflow	1936
	---; ---; 345	da Costa Lima & Hathaway	1946
<i>transbaikaliae</i> Wagner	---; ---; 256	Wagner	1930
<i>tuta</i> Wagner	---; ---; 76	Haiao	1945
<i>vinogradovi</i> Ioff	---; ---; 194, 256	Wu	1940

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ARAEOPSYLLA gestroi</i> (Rothschild)	---; ---; 70	da Costa Lima & Hathaway	1946
<i>mera</i> Jordan & Rothschild	---; ---; 146	da Costa Lima & Hathaway	1946
<i>micula</i> Jordan & Rothschild	---; ---; 59	da Costa Lima & Hathaway	1946
<i>putilla</i> Jordan & Rothschild	---; ---; 143	da Costa Lima & Hathaway	1946
<i>signata</i> (Wahlgren)	---; ---; 146	da Costa Lima & Hathaway	1946
<i>ARCHAEOPSYLLA erinacei</i> (Bouché)	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 150	Wagner	1916
	---; ---; 256, 345	Ioff	1928a
	---; ---; 294	Pavlovskii	1927
	---; ---; 342	Buxton	1924
<i>sinensis</i> Jordan & Rothschild	---; ---; 76, 256	da Costa Lima & Hathaway	1946
<i>ARCTOPSYLLA hyaenae</i> (Kolenati)	---; ---; 150, 345	da Costa Lima & Hathaway	1946
<i>BRACHYCTENONOTUS myospalacis</i> Wagner	---; ---; 162, 256	Wu	1940
<i>CALLOPSYLLA raspius</i> (Ioff & Argyropulo)	---; ---; 28, 162	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CALLOPSYLLA</i>			
<i>dolabris</i> (Jordan & Rothschild)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>kozlovi</i> (Wagner)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>lagomys</i> (Wagner)	---; ---; 354	da Costa Lima & Hathaway	1946
<i>saxatilis</i> (Ioff & Argyropulo)	---; ---; 28	da Costa Lima & Hathaway	1946
<i>semenovi</i> Ioff	---; ---; 256	Wagner	1938
<i>tiflovi</i> Wagner	---; ---; 354	da Costa Lima & Hathaway	1946
<i>CATALLAGIA</i>			
<i>dacenkoi</i> Ioff	---; ---; 256	Ioff	1940
<i>CERATOPHYLLUS</i>			
<i>advenarius</i> Wagner	---; ---; 256	Wagner	1930
<i>agathus</i> Jordan & Rothschild	---; ---; 149	Jordan & Rothschild	1922c
<i>alladinis</i> Rothschild	---; ---; 143	Jordan & Rothschild	1921c
<i>andersoni</i> Rothschild	---; ---; 158	Jameson	1953
<i>anisus</i> Rothschild	---; all year, seems abundant in the spring and fall, possible vector of plague and murine typhus; 76	Ke et al.	1948
	---; carrier of typhus infection from rat to man, Feb.-Sept.; 76, 194°	Liu	1944
	---; naturally infected with typhus rickettsiae; 76°	Liu	1947
	---; ---; 158, 194	Wu	1940
	---; ---; 194**	Hsiao	1946
	---; ---; 256	Anonymous	1944a

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>arcotus</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921c
<i>argutus</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921c
<i>baikaiensis</i> Ioff	---; ---; 256	Ioff	1928
<i>borealis</i> Rothschild	---; ---; 256	Wagner	1938
<i>borneensis</i> Jordan & Rothschild	---; ---; 145	Kopstein	1931
<i>calcalifer</i> Wagner	---; ---; 256	Ioff	1928
<i>calceatus</i> Rothschild	---; ---; 146, 149	da Costa Lima & Hathaway	1946
<i>caliotes</i> Jordan	---; ---; 235	da Costa Lima & Hathaway	1946
<i>caspius</i> Tiflow	---; ---; 28, 76, 162	Ioff & Argyropulo	1934
<i>clarus</i> Jordan & Rothschild	---; ---; 76	Jordan & Rothschild	1922
<i>columbae</i> (Walckenaer & Gervais)	---; ---; 256 ---; ---; 345	Wagner Wagner	1927 1916
<i>consimilis</i> Wagner	---; ---; 28 ---; ---; 162 ---; experimental transmission of plague; 256° ---; ---; 321 ---; naturally infected with plague; 345	Ioff & Argyropulo Tiflow & Ussov Golov & Ioff Jordan & Rothschild Tiflow	1934 1939 + 1928 1921c 1946
<i>corneensis</i> Jordan & Rothschild	---; Sept., at high altitudes; 145	Jordan & Rothschild	1926

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>crispus</i>	---; ---; 76	Chow & Huang	1950
Jordan & Rothschild			
<i>curvigenus</i>	---; ---; 168	Hsiao	1948
Miyajima & Koidzumi			
<i>dacus</i>	---; ---; 345, 354	Wagner & Ioff	1926
Jordan & Rothschild			
<i>dolabris</i>	---; ---; 76	Hsiao	1945
(Jordan & Rothschild)			
<i>elatus</i>	---; ---; 162	Jordan & Rothschild	1915
Jordan & Rothschild			
	---; ---; 256	Wagner & Ioff	1926
<i>euteles</i>	---; March, at 10,000 feet elevation; 76	Jordan	1932
Jordan & Rothschild			
<i>farreni</i>	---; ---; 158	Jameson	1953
Rothschild			
	---; ---; 256	Wagner	1927
<i>fasciatus</i>	---; ---; 28	Ioff & Argyropulo	1934
Bosc d'Antic			
	---; ---; 35	Popov & Akhundov	1934
	---; March-June; 76	Raynal	1940
	---; ---; 77°	Omori	1935
	---; ---; 118	Stepanov	1931
	---; possible vector of plague, Sept.-Oct.; 143	Walker et al.	1931
	---; ---; 158, 256	Jordan & Rothschild	1921c
	---; ---; 162	Tiflow & Usov	1939 +
	---; enters houses; 256	Ioff	1928a
	---; ---; 294	Pavlovskii	1927

TABLE 1 -FLEAS (continued)

SPECIES	BREEDING HABITATS: ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>fasciatus</i>	---; ---; 321	Roshkovskaya	1937
Bosc d'Antic (cont.)	---; Oct.; 342	Buxton	1924
<i>fidus</i>	---; ---; 162	Jordan & Rothschild	1915
Jordan & Rothschild	---; ---; 256	Sassuchin et al.	1935
<i>fimbriatus</i>	---; ---; 143	Jordan & Rothschild	1921b
Jordan & Rothschild			
<i>fringillae</i>	---; ---; 256	Wagner	1927
Walker			
<i>gallinae</i>	---; ---; 31, 353	Wu	1940
(Schrack)	---; enters houses; 35	Argiropulo	1937 +
	---; ---; 76	Hsiao	1945
	---; ---; 256	Wagner	1927
	---; ---; 294	Pavlovskii	1927
<i>gallinae</i>	---; ---; 353	da Costa Lima & Hathaway	1946
<i>gallinae</i>			
(Schrack)			
<i>gallinae</i>	---; ---; 321	da Costa Lima & Hathaway	1946
<i>kievensis</i>			
Wagner			
<i>garei</i>	---; ---; 256	Wagner	1938
Rothschild	---; ---; 294	Jordan	1932c
<i>garei</i>	---; ---; 345	da Costa Lima & Hathaway	1946
<i>garei</i>			
Rothschild			
<i>garei</i>	---; ---; 256	Wagner	1938
<i>islandicus</i>			
Wagner			
<i>hastatus</i>	---; ---; 59	Jordan & Rothschild	1921b
Jordan & Rothschild			

TABLE 1 - FLEAS (Continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>hastatus</i>	---; ---; 59	Jordan & Rothschild	1922
<i>hastatus</i> Jordan & Rothschild			
<i>hastatus</i> <i>sikkinensis</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1922
<i>hirundinis</i> (Curtis)	---; ---; 256	Wagner	1927
<i>hirticus</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>hirundinus</i> (Curtis)	---; ---; 256	da Costa Lima & Hathaway	1946
	---; ---; 345	Argiropulo	1937 +
<i>idoneus</i> Rothschild	---; ---; 149	Jordan & Rothschild	1922c
<i>ilovaiskii</i> Wagner & Ioff	---; ---; 162	Kolpakova & Lippert	1938
	---; ---; 256	Ioff & Pokrowskaja	1934
<i>indoneus</i> Rothschild	---; ---; 149	Rothschild	1919
<i>iranus</i> Wagner & Argyropulo	---; ---; 28	Argiropulo & Yavrumov	1937 +
<i>kaanakovi</i> Wagner	---; ---; 76	Hsiao	1945
<i>klossi</i> Rothschild	---; ---; 149	Kopstein	1931
<i>kozlovi</i> Wagner	---; ---; 76	Hsiao	1945
<i>laeviceps</i> Wagner	---; ---; 162, 345, 354	Wu	1940
	---; experimentally infected with and experimental transmission of plague; 256	Nikanoroff	1929
<i>laeviceps</i> <i>allobii</i> Wagner	---; ---; 209	Wu	1940
	---; ---; 353	Hsiao	1945

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>laeviceps</i> <i>laeviceps</i> Wagner	---; ---; 162, 256, 345, 354	Hsiao	1945
<i>laeviceps</i> <i>mongolicus</i> Wagner	---; ---; 210	Wagner	1930
<i>laeviceps</i> <i>turkmenicus</i> Vlasov & Ioff	---; ---; 318	Ioff	1940
<i>lebedewi</i> Wagner	---; ---; 166	Wagner	1933
<i>levis</i> Jordan & Rothschild	---; ---; 190	Jordan & Rothschild	1922a
<i>londiniensis</i> Rothschild	---; ---; 342	Buxton	1924
	---; ---; 350	Jordan & Rothschild	1921c
<i>luculentus</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>lunatus</i> Jordan & Rothschild	---; ---; 256	da Costa Lima & Hathaway	1946
<i>macrophthalmus</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
<i>maculatus</i> Wagner	---; ---; 256	Wagner	1927a
<i>mokrzeckyi</i> Wagner	---; naturally infected with plague; 162°	Tikhomirova et al.	1935
	---; enters houses; 166, 345	Ioff	1928a
	---; experimentally infected with and experimental transmission of plague; 256	Nikanoroff	1929
	---; ---; 256°	Golov & Ioff	1928
	---; ---; 321	Roshkovskaya	1937

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>mongolicus</i> Jordan & Rothschild	---; ---; 256	Anonymous	1945
<i>monstrosus</i> Wagner	---; ---; 318	Wagner	1929
<i>mustelae</i> Schilling	---; ---; 256	Ioff & Tiflow	1932
<i>nicoanus</i> Jordan	---; ---; 76	Wu	1940
<i>nilgiriensis</i> Jordan & Rothschild	---; in houses; 143° ---; ---; 143	Iyengar Cragg	1934 1921
<i>orites</i> Jordan	---; ---; 235	da Costa Lima & Hathaway	1946
<i>penicilliger</i> Grube	---; ---; 256	Jordan	1932c
<i>phaeopsis</i> Jordan & Rothschild	---; ---; 76	Wu	1940
<i>pilatus</i> Jordan & Rothschild	---; ---; 144	Jordan & Rothschild	1922a
<i>praefectus</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
<i>probatas</i> Jordan & Rothschild	---; ---; 144	Jordan & Rothschild	1922a
<i>punensis</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921c
<i>punjabensis</i> Jordan & Rothschild	---; ---; 143, 235	Jordan & Rothschild	1921c
<i>retangulatus</i> Wahlgren	---; ---; 256	Jordan	1932c

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>runatus</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>ructious</i> Wagner	---; ---; 256	Wagner	1927
	---; ---; 345	Wagner	1938
<i>sarinus</i> Jordan & Rothschild	---; ---; 317	Jordan & Rothschild	1921b
	---; ---; 350	Jordan & Rothschild	1921c
<i>sauteri</i> (Rothschild)	---; ---; 76, 77	da Costa Lima & Hathaway	1946
<i>saxatilis</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934
<i>sciurorum</i> Schrank	---; ---; 28, 35	Ioff & Argyropulo	1934
	---; ---; 256	Wagner	1927
<i>sciurorum</i> <i>asiaticus</i> Ioff	---; ---; 162	Ioff	1940
<i>semanovi</i> Ioff	---; ---; 256	Ioff	1940
<i>silantiewi</i> Wagner	---; ---; 256*	Tiflow & Pavlov	1936 +
	---; ---; 256	Sukneff	1927
	---; ---; 353	Wu Lien Teh	1923
<i>simla</i> Jordan & Rothschild	---; possible vector of typhus, Feb.-March; 143	Mehta	1937
<i>simplex</i> Wagner	---; ---; 256	Wagner	1927
	---; ---; 321	Makarov	1928
<i>sincerus</i> Jordan & Rothschild	---; ---; 154	Jordan & Rothschild	1921b
	---; ---; 342	Jordan & Rothschild	1921c

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>sinensis</i> Liu	---; May-June, at altitudes of 1,000 feet; 76	Liu	1935
<i>sinicus</i> Jordan	---; May; 76	Jordan	1932
<i>sodalis</i> Rothschild	---; ---; 149	Kopstein	1931
<i>spadir</i> Jordan & Rothschild	---; ---; 59	Jordan & Rothschild	1921b
<i>sparsilis</i> Jordan & Rothschild	---; ---; 76	Wu	1940
<i>spinosus</i> Wagner	---; ---; 162, 345	da Costa Lima & Hathaway	1946
<i>stajnegeri</i> Jordan	---; ---; 47	da Costa Lima & Hathaway	1946
<i>styx</i> Rothschild	---; ---; 162	Tiflow & Ussov	1939 +
	---; ---; 256	Wagner	1927
<i>tamias</i> Wagner	---; ---; 256	Wagner	1927a
<i>tamilanus</i> Jordan & Rothschild	---; ---; 70	Jordan & Rothschild	1921c
<i>terens</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
	---; ---; 256	Sassuchin et al.	1935
<i>tesquor</i> Wagner	---; ---; 256	Sukneff	1927
<i>tesquorum</i> Wagner	---; ---; 162	Ioff	1929
	---; ---; 194	Wu	1940
	---; experimental transmission of plague; 256°	Golov & Ioff	1928
	---; naturally infected with plague; 256	Konovalova	1927
	---; all year; 256	Polyak & Tumenskii	1932

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>tesquorum</i> Wagner (cont.)	---; ---; 294 ---; ---; 321° ---; May-Jul.; 345°	Pavlovskii Boikov Ioff & Pokrovskaya	1927 1929 1929
<i>tesquorum</i> <i>famulus</i> (Jordan & Rothschild)	---; ---; 76	Wu	1940
<i>tesquorum</i> <i>jenissejensis</i> Wagner	---; ---; 256	Ioff	1928
<i>tesquorum</i> <i>mongolicus</i> Jordan & Rothschild	---; ---; 76, 256, 353	Hsiao	1945
<i>tesquorum</i> <i>sungaris</i> Jordan	---; ---; 76, 194 ---; ---; 256	Wu Anonymous	1940 1944a
<i>tesquorum</i> <i>tesquorum</i> Wagner	---; ---; 256	Ioff	1928
<i>tolii</i> Wagner	---; ---; 256	Wagner	1927
<i>transbaikalicus</i> Tiflow & Pavlov	---; ---; 256	Tiflow & Pavlov	1936 +
<i>transcaucasius</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934
<i>tribulin</i> Jordan	---; ---; 162	da Costa Lima & Matheway	1946
<i>triapinus</i> Wagner & Ioff	---; ---; 162 ---; ---; 256	Wagner & Ioff Sassuchin et al.	1926 1935
<i>vagabunda</i> (Boheman)	---; ---; 31	Jordan & Rothschild	1920

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CERATOPHYLLUS</i>			
<i>vagabundus</i>	---; ---; 256	da Costa Lima & Hathaway	1946
<i>orientalis</i> Wagner			
<i>vlasovi</i>	---; ---; 256	Sassuchin et al.	1935
Ioff	---; ---; 318	Ioff	1940
<i>volgensis</i>	---; ---; 256	Wagner & Ioff	1926
Wagner & Ioff			
<i>walkeri</i>	---; ---; 162	Tiflow & Us'ov	1939 +
Rothschild	---; ---; 256	Tiflow	1930
<i>CHAETOPSYLLA</i>			
<i>appropinquans</i>	---; ---; 256	Ioff & Tiflow	1934
Wagner			
<i>globiceps</i>	---; ---; 35	Wagner & Argyropulo	1934
Taschenberg	---; ---; 158, 345	da Costa Lima & Hathaway	1946
	---; ---; 162. ---; in houses; 321	Ioff & Tiflow	1934
<i>hangchowensis</i>	---; ---; 76	Hsiao	1945
Liu			
<i>homoeus</i>	---; ---; 28, 59, 143, 162, 256	Ioff & Tiflow	1934
Rothschild			
<i>homoeus</i>	---; ---; 59	da Costa Lima & Hathaway	1946
<i>oarenis</i> (Jordan)			
<i>homoeus</i>	---; ---; 28, 31, 143, 256	da Costa Lima & Hathaway	1946
<i>homoeus</i> Rothschild			
<i>korobkovi</i>	---; ---; 162	Wagner	1938
Tiflow & Kolpakova	---; ---; 256	da Costa Lima & Hathaway	1946
<i>lasius</i>	---; ---; 31	Ioff & Tiflow	1934
Rothschild			
<i>mikado</i>	---; ---; 158	Ioff & Tiflow	1934
Rothschild			

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CHAETOPSYLLA</i>			
<i>mirabilis</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934
<i>trichosa</i> Kohaut	---; ---; 28, 162, 256	Ioff & Tiflow	1934
	---; ---; 345	Wagner	1935
<i>dolabris</i> (Jordan & Rothschild)	---; ---; 76	Liu	1936
<i>jenissejensis</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>CITELLOPHILUS</i>			
<i>simplex</i> (Wagner)	---; ---; 28	Wagner	1935
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>tesquorum</i> Wagner	---; capable of transmitting plague; 256	Macchiavello	1954
<i>tesquorum</i> <i>altaicus</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>tesquorum</i> <i>caucasicus</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
	---; ---; 345	Wagner	1938
<i>tesquorum</i> <i>famulus</i> (Jordan & Rothschild)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>tesquorum</i> <i>mongolicus</i> (Jordan & Rothschild)	---; ---; 76, 358	Liu	1936
<i>tesquorum</i> <i>hungaris</i> (Jordan)	---; ---; 194	da Costa Lima & Hathaway	1946
<i>tesquorum</i> <i>tesquorum</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>tesquorum</i> <i>transvolgensis</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CITELLOPHILUS</i>			
<i>transcaucasicus</i> (Ioff & Argyropulo)	---; ---; 28	da Costa Lima & Hathaway	1946
<i>trispinus</i> (Wagner & Ioff)	---; ---; 162, 326	da Costa Lima & Hathaway	1946
<i>COPTOPSYLLA</i>			
<i>ardua</i> Jordan & Rothschild	---; ---; 162	Jordan & Rothschild	1915
<i>bairamaliensis</i> Wagner	---; ---; 162	Wagner	1935
	---; ---; 318	Ioff & Tiflow	1934
	---; March; 354	Wagner	1929
<i>lamellifer</i> Wagner	---; ---; 162, 166, 318, 326	Pavlovskii	1927
<i>lamellifer</i> <i>ardua</i>	---; ---; 162	Ioff & Tiflow	1934
Jordan & Rothschild	---; ---; 256	Sassuchin et al.	1935
<i>lamellifer</i> <i>fallax</i>	---; ---; 162	Ioff & Tiflow	1934
Ioff & Tiflow	---; ---; 256	Sassuchin et al.	1935
<i>lamellifer</i> <i>immanubriate</i>	---; ---; 162, 293	Ioff & Tiflow	1934
Ioff & Tiflow	---; ---; 256	Sassuchin et al.	1935
	---; ---; 354	Wagner	1935
<i>lamellifer</i> <i>lamellifer</i> (Wagner)	---; ---; 256	Sassuchin et al.	1935
	---; Jan., March, Oct.-Dec.; 318	Ioff & Tiflow	1934
	---; ---; 354	da Costa Lima & Hathaway	1946
<i>lamellifer</i> <i>rostrata</i>	---; ---; 162, 256, 293, 326	Ioff & Tiflow	1934
Ioff & Tiflow			
<i>CORRODOPSYLLA</i>			
<i>birulai</i> Ioff	---; ---; 256	Jordan	1932b

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CRATYNIUS</i> <i>bartelsi</i> Jordan	---; ---; 146	Jordan	1933
<i>CTENOCEPHALIDES</i> <i>arabicus</i> (Jordan)	---; ---; 25, 332	da Costa Lima & Hathaway	1946
<i>canis</i> (Curtis)	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 31°, 76°	Wu	1940
	---; ---; 35	Popov & Akhundov	1934
	---; ---; 70, 76, 143, 145, 149, 256	da Costa Lima & Hathaway	1946
	---; rare, 77°	Chow & Huang	1950
	---; ---; 151	Jordan	1938
	---; ---; 158°	Jameson	1953
	---; ---; 162	Rodionova	1943
	---; possible vector of murine typhus and plague; 168°	Barnett & Toshioka	1951
	---; ---; 174, 302	Anonymous	1944c
	---; ---; 194	Anonymous	1946
	---; probable transmitter of plague; 317°	Anonymous	1944
	---; experimentally infected with tularemia; 317	Server Kamil & Sait Bilal	1938
	---; enters houses; 345	Argyropulo & Yavrumov	1937 +
<i>felis</i> (Bouché)	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 35	Popov & Akhundov	1934
	---; ---; 76°	Hsiao	1945
	---; common; 77°	Chow & Huang	1950
	---; vector capacity for plague, most common Sept.-Oct.; 143	Walker et al.	1931

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALIDES</i>			
<i>felis</i> (Bouché) (cont.)	---; ---; 146	Thompson	1938a
	---; ---; 158	Jameson	1953
	---; ---; 194	Ono	1939
	---; ---; 242	Banks	1919
	---; ---; 280	Gilmour	1934
	---; ---; 317	Monziols & Collignon	1920
	---; ---; 345	Argiropulo & Yavrumov	1937
<i>felis</i> <i>felis</i> Bouché	---; ---; 59, 143, 162, 342	da Costa Lima & Hathaway	1946
	---; ---; 70	Thompson	1937
	---; common; 76	Chin & Li	1943
	---; ---; 146	Jordan	1933
	---; capable of transmitting plague; 256	Macchiavello	1954
<i>felis</i> <i>orientis</i> Jordan	---; ---; 59, 143, 149, 190	da Costa Lima & Hathaway	1946
	---; ---; 70	Thompson	1937
	---; ---; 143°	Iyengar	1934
	---; ---; 242	Traub	1951
<i>musculi</i> (Sugimoto)	---; ---; 77	Chow & Huang	1950
<i>paradoxuri</i> Wagner	---; ---; 70	Thompson	1937
<i>CTENOCEPHALUS</i>			
<i>cantis</i> (Curtis)	---; ---; 76	Patton	1926
	---; ---; 77	Neumann	1913
	---; ---; 118	Stepanov	1931
	---; ---; 143, 235 (Occasionally attacks man)	Sharif	1930
	---; most active Oct.-Dec.; 144	Herivaux & Toumanoff	1948

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALUS</i>			
<i>canis</i> (Curtis)	---; jungle in high altitudes; 145	Jordan & Rothschild	1926
	---; ---; 146	Kopstein	1931
	---; ---; 149	Jordan & Rothschild	1922c
	---; ---; 151	Patton	1920
	---; July; 154°. ---; ---; 342°	Buxton	1924
	---; enters houses; 162°. ---; ---; 345°	Ioff	1928a
	---; ---; 242	Banks	1919
	---; ---; 256	Sassuchin & Tiflow	1933
	---; ---; 326	Khodukin	1928
<i>felis</i> Bouché	---; ---; 11, 59 (Occasionally attacks man)	Sharif	1930
	---; June-July; 76°	Rothschild	1914
	---; ---; 76	Patton	1926
	---; ---; 118	Stepanov	1931
	---; naturally infected with <i>Herpetomonas</i> sp.; 143	Patton	1914
	---; ---; 143°	Pavlovskii	1927
	---; most active Oct.-Dec.; 144	Merivaux & Toumanoff	1948
	---; ---; 145, 146	Kopstein	1931
	---; ---; 149	Jordan & Rothschild	1922b
	---; Jul.-Aug.; 154°. ---; Sept.; 342°	Buxton	1924
	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256	Sassuchin & Tiflow	1933
	---; July; 321°	Makarov	1928
	---; ---; 326	Khodukin	1928

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOCEPHALUS</i>			
<i>felis</i>	---; ---; 11, 59, 70, 143, 149, 190, 242	Sharif	1930
<i>orientis</i> Jordan	---; in houses; 143°	Iyengar	1934
<i>inoratus</i> Wagner	---; ---; 345	Wagner	1916
<i>musculi</i> Sugimoto	---; ---; 76	Raynal	1940
<i>CTENOPHTHALMUS</i>			
<i>acuminatus</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934
<i>agyrtes</i> Heller	---; ---; 168	Hsiao	1948
	---; ---; 256	Sassuchin & Tiflow	1936
<i>agyrtes</i> <i>eurous</i> Jordan & Rothschild	---; ---; 256	da Costa Lima & Hathaway	1946
<i>arvalis</i> Wagner & Ioff	---; ---; 256	Wagner & Ioff	1926
<i>assimilis</i> Taschenberg	---; ---; 256	Ioff & Tiflow	1932
<i>bisocotodontatus</i> Kolenatti	---; ---; 256	Wagner	1927
<i>bogatschevi</i> Wagner & Argyropulo	---; ---; 35	Wagner & Argyropulo	1934
<i>breviatus</i> Wagner & Ioff	---; ---; 162	Ioff	1929
	---; ---; 256	Sassuchin & Tiflow	1933
<i>congener</i> Rothschild	---; ---; 158, 168	Jameson	1933
	---; ---; 256	Wagner	1927
<i>congener</i> <i>secundus</i> Wagner	---; ---; 256	Jordan & Rothschild	1920
<i>congeneroides</i> Wagner	---; ---; 256	Anonymous	1945

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>crudelis</i> Jordan	---; ---; 59	Jordan	1932a
<i>dahuricus</i> Ioff	---; ---; 256	da Costa Lima & Hathaway	1946
<i>dilatatus</i> Wagner	---; ---; 162	Wu	1940
<i>dinormus</i> Jordan	---; ---; 76	Wu	1940
<i>dolichus</i> (Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Ioff	1940
	---; ---; 354	Nikanorov & Knyazevskii	1927
<i>dolichus</i> <i>bair</i> Ioff	---; ---; 318	Ioff	1940
<i>dolichus</i> <i>dolichus</i> Rothschild	---; ---; 256	Ioff	1940
<i>dolichus</i> <i>idae</i> Ioff	---; ---; 326	Ioff	1940
<i>dolichus</i> <i>ustjurt</i> Ioff	---; ---; 256	Ioff	1940
<i>dur</i> (Jordan & Rothschild)	---; ---; 162	Jordan & Rothschild	1915
<i>fissura</i> (Wagner)	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 118	Wagner	1929
	---; ---; 345	Wagner	1935
<i>formosanus</i> Svihla	---; ---; 77	da Costa Lima & Hathaway	1946
<i>gigantospalaxis</i> Ioff	---; ---; 256	Ioff	1935
<i>golovi</i> Ioff & Tiflow	---; mountain 1,600 meters above sea level; 28. ---; mountain 2,000 meters above sea level; 35. ---; ---; 256	Argyropulo	1936

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>golovi</i>	---; ---; 35	Argyropulo	1937 +
<i>alpestris</i> Argyropulo	---; ---; 345	da Costa Lima & Hathaway	1946
<i>golovi</i> <i>bifurcus</i> Ioff	---; ---; 345	Ioff	1940
<i>golovi</i> <i>elegans</i> Argyropulo	---; ---; 28, 345	da Costa Lima & Hathaway	1946
<i>golovi</i> <i>golovi</i> Ioff	---; ---; 256	da Costa Lima & Hathaway	1946
<i>idae</i> Ioff	---; ---; 256	Sassuchin et al.	1935
<i>intermedius</i> Argyropulo	---; ---; 345	Argyropulo	1936
<i>iranus</i> Argyropulo	---; ---; 345	Wagner	1938
<i>isochaetus</i> Wagner	---; ---; 345	da Costa Lima & Hathaway	1946
<i>kirschenblatti</i> Argyropulo	---; at altitudes of 1,700 meters; 118	Argyropulo	1936
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>orientalis</i> Wagner	---; ---; 256	Sassuchin & Tiflow	1933
	---; ---; 321	Wagner & Ioff	1926
<i>parvus</i> Jordan	---; ---; 76	Wu	1940
<i>parvus</i> Argyropulo	---; ---; 256, 345	Wagner	1938
<i>phrator</i> Jordan	---; ---; 345	Jordan	1929
<i>pisticus</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1921

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>poller</i> Wagner & Ioff	---; ---; 162	Ioff	1928a
	---; experimental transmission of plague; 256	Nikanoroff	1929
	---; naturally infected with plague; 256	Tumanskii & Polyak	1932
<i>proximus</i> (Wagner)	---; ---; 35, 256	Wagner & Argyropulo	1934
	---; ---; 345	da Costa Lima & Hathaway	1946
<i>rettigi</i> Rothschild	---; ---; 256	Argyropulo	1936
<i>secundus</i> Wagner	---; ---; 35, 256	Wagner & Argyropulo	1934
	---; ---; 345	Wagner	1935
<i>secundus</i> <i>asiaticus</i> Argyropulo	---; ---; 345	Argyropulo	1936
<i>secundus</i> <i>secundus</i> (Wagner)	---; ---; 256, 345	da Costa Lima & Hathaway	1946
<i>solutus</i> Jordan & Rothschild	---; ---; 256	da Costa Lima & Hathaway	1946
<i>spalacis</i> Jordan & Rothschild	---; ---; 28	Ioff & Argyropulo	1934
	---; ---; 256°	Pavlovskii	1931 +
	---; ---; 256	Ioff	1928
	---; ---; 294	Pavlovskii	1927
	---; ---; 345°	Ioff	1928a
<i>tatianae</i> Argyropulo	---; at altitudes of 1,7000 meters above sea level; 118	Argyropulo	1936
<i>terres</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>typhlus</i> Motschulsky	---; ---; 256	Wagner	1938
<i>uralospalacis</i> Tiflo & Usov	---; ---; 162	da Costa Lima & Hathaway	1946
<i>wagneri</i> Tiflo	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256*	Pavlovskii	1931 +
	---; ---; 256	Tiflow	1930
	---; naturally infected with plague; 345	Tiflow	1946
<i>wagneri</i> <i>schuriscus</i> Ioff	---; ---; 256, 321, 345	Ioff	1940
<i>yunnanus</i> Jordan	---; ---; 76	Wu	1940
<i>CTENOPHYLLUS</i>			
<i>armatus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>hirtiorus</i> (Jordan & Rothschild)	---; ---; 194, 256	da Costa Lima & Hathaway	1946
<i>rigidus</i> Darskaya	---; ---; 158, 168	Jameson	1953
<i>subarmatus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>CTENOPSYLLA</i>			
<i>taschenbergi</i> Wagner	---; ---; 28	Ioff & Argyropulo	1934
<i>sexdentata</i> Wagner	---; ---; 162	Wagner	1930
<i>macoulé</i> Duges	---; ---; 76	Hertig & Nuane	1929
	---; enters houses; 162	Ioff	1928a
	---; ---; 294	Pavlovskii	1927

TABLE 1 - FL²AS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPSYLLUS</i>			
<i>algira</i> Jordan & Rothschild	---; ---; 345	Argyropulo	1936
<i>algira</i> <i>popovi</i> Wagner & Argyropulo	---; ---; 33	Wagner & Argyropulo	1934
<i>bidentatus</i> Kolenatti	---; ---; 256	Sassuchin & Tiflow	1936
<i>monoetena</i> Kolenatti	---; ---; 256	Wagner	1927
<i>musculi</i> Duges	---; enters houses; 256	Ioff	1928a
<i>segnis</i> (Schönherr)	---; ---; 31, 76, 139	Wu	1940
	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 162	Tiflow & Ussov	1939 +
	---; ---; 256*	Anonymous	1945
<i>sexdentata</i> Wagner	---; ---; 162	Wagner	1930
	---; ---; 256	Sassuchin & Tiflow	1936
<i>sicietas</i> Tiflow & Kolpakova	---; ---; 162	Wagner	1938
<i>subarmatus</i> Wagner	---; ---; 31	Wu	1940
<i>taschenbergi</i> Wagner	---; ---; 28, 35, 256	Wagner & Argyropulo	1934
	---; ---; 162	Tiflow & Ussov	1939 +
	---; ---; 345	Wagner	1935
<i>CTENOPHTHALMUS</i>			
<i>dinormus</i> Jordan	---; ---; 76	Malao	1945

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CTENOPHTHALMUS</i>			
<i>formosanus</i> Svihla	---; ---; 77	da Costa Lima & Hathaway	1946
<i>parvus</i> Jordan	---; ---; 76	Hsiao	1945
<i>yoernani</i> Jordan	---; ---; 76	Hsiao	1945
<i>CYSTIPSYLLA</i>			
<i>kiritschenkoi</i> Wagner	---; ---; 210	Wagner	1930
<i>DASYPSYLLUS</i>			
<i>gallinulae</i> (Dale)	---; ---; 242	Traub	1951
<i>klossi</i> (Rothschild)	---; ---; 149	da Costa Lima & Hathaway	1946
<i>DERMATOPHILUS</i>			
<i>oasoata</i> (Enderlein)	---; ---; 76	Roubaud	1925
<i>oascigena</i> (Jordan & Rothschild)	---; ---; 76	Wu	1940
<i>lagrangei</i> Roubaud	---; ---; 76	Wu	1940
<i>penetrans</i> (Linne)	---; ---; 76	Roubaud	1925
<i>DIAMANUS</i>			
<i>mandarinus</i> (Jordan & Rothschild)	---; ---; 76	Hsiao	1945
<i>montanus</i> Baker	---; ---; 76	Wu	1940
<i>montanus</i> <i>montanus</i> (Baker)	---; ---; 76	Hsiao	1945
<i>FORATOPSYLLA</i>			
<i>birulai</i> Ioff	---; ---; 256	Ioff	1928
<i>ooreana</i> Derezhaya	---; ---; 158, 168	Jameson	1953

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DGRATOPSYLLA</i>			
<i>dampfi</i> Argyropulo	---; ---; 345	da Costa Lima & Hathaway	1946
<i>dasyneumus</i> Rothschild	---; ---; 294	Pavlovskii	1927
<i>ochotonae</i> Kishida	---; ---; 158	Jameson	1953
<i>ECHIDNOPHAGA</i>			
<i>gallinacea</i> (Westwood)	---; ---; 28, 59, 70, 143, 162, 317, 354	Sharif	1930
	---; ---; 31, 76	Wu	1940
	---; ---; 35, 345	Ioff	1928
	---; ---; 59°	Kelsall	1927
	---; enters houses; 143°	Iyengar	1934
	---; ---; 158°	Jameson	1953
	---; ---; 158	Ohtomo et al.	1937
	---; ---; 162, 256, 345 (Sometimes attacks man)	Pavlovskii	1927
	---; ---; 174, 302	Anonymous	1944c
	---; ---; 256	Sassuchin et al.	1930
	---; ---; 318	Vlasov & Ioff	1937
	---; ---; 326	Khodukin	1928
<i>gallinaea</i> <i>gallinaea</i> (Westwood)	---; ---; 28, 76, 143	da Costa Lima & Hathaway	1946
<i>liopus</i> Jordan & Rothschild	---; ---; 143	Sharif	1930
<i>neohantzi</i> Wagner	---; ---; 162, 354	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS, ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ECHIDNOPHAGA</i> <i>popovi</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934
<i>EUCTENOPHTHALMUS</i> <i>arvalis</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>assimilis</i> (Taschenberg)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>bogatschevi</i> (Wagner & Argyropulo)	---; ---; 35	da Costa Lima & Hathaway	1946
<i>breviatus</i> (Wagner & Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>congener</i> Rothschild	---; ---; 256	da Costa Lima & Hathaway	1946
<i>congeneroides</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>intermedius</i> (Argyropulo)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>iranus</i> (Argyropulo)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>orientalis</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>parvus</i> (Argyropulo)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>pollex</i> (Wagner & Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>tatianae</i> (Argyropulo)	---; ---; 256, 345	da Costa Lima & Hathaway	1946
<i>teres</i> (Ioff & Argyropulo)	---; ---; 28, 256	da Costa Lima & Hathaway	1946
<i>uncinatus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>wagneri</i> (Tiflow)	---; ---; 256	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>FRONTOPSYLLA</i>			
<i>elata</i>	---; ---; 28	Liu	1936
(Jordan & Rothschild)	---; ---; 162, 166, 256, 318, 326	Pavlovskii	1927
<i>elata</i>	---; ---; 194	Wu	1940
<i>botis</i> Jordan			
<i>elata</i>	---; ---; 28	Ioff & Argyropulo	1934
<i>caucasica</i> Ioff & Argyropulo			
<i>elata</i>	---; ---; 162	da Costa Lima & Hathaway	1946
<i>elata</i> (Jordan & Rothschild)			
<i>elata</i>	---; ---; 28	Wagner	1935
<i>humida</i> Ioff & Argyropulo	---; ---; 162	da Costa Lima & Hathaway	1946
<i>elatoides</i> Wagner	---; ---; 162	da Costa Lima & Hathaway	1946
<i>frontalis</i> gud Argyropulo	---; ---; 345	da Costa Lima & Hathaway	1946
<i>hotera</i> Wagner	---; ---; 353	Hsiao	1945
<i>luculenta</i> (Jordan & Rothschild)	---; ---; 194 ---; ---; 256	Liu Wu	1936 1940
<i>luculenta</i> <i>luculenta</i> (Jordan & Rothschild)	---; ---; 76, 194, 256	da Costa Lima & Hathaway	1946
<i>luculenta</i> <i>parilis</i> Jordan	---; ---; 209 ---; ---; 210 ---; ---; 353	Liu Wu Hsiao	1936 1940 1945
<i>macrophthalmus</i> (Jordan & Rothschild)	---; ---; 31, 35, 162, 256. ---; on steppes; 345 ---; ---; 318	Wagner & Argyropulo Vlasov & Ioff	1934 1937

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>FRONTOPSYLLA</i>			
<i>ornata</i> Tiflow	---; ---; 162	da Costa Lima & Hathaway	1946
<i>protera</i> Wagner	---; ---; 166	Wagner	1933
	---; ---; 294	da Costa Lima & Hathaway	1946
<i>semura</i> Wagner & Ioff	---; Jan.-March, Oct.-Dec.; 162. ---; Jan.-March; 256	Ioff	1928a
	---; experimentally infected with plague; 256	Tumanskii & Polyak	1932
	---; ---; 294	Pavlovskii	1927
	---; ---; 321	Makarov	1928
	---; ---; 345	da Costa Lima & Hathaway	1946
<i>spadix</i> (Jordan & Rothschild)	---; ---; 59	Wu	1940
	---; ---; 76	Liu	1936
<i>spadix</i> <i>cansa</i> Jordan	---; ---; 76	Wu	1940
<i>spadix</i> <i>spadix</i> (Jordan & Rothschild)	---; ---; 59, 76	Hsiao	1945
<i>eubula</i> Wagner	---; ---; 256, 353	da Costa Lima & Hathaway	1946
<i>wagneri</i> Ioff	---; ---; 209	Liu	1936
	---; ---; 210, 256	Wu	1940
	---; ---; 353	Hsiao	1945
<i>GERBILLOPHILUS</i>			
<i>argutus</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>consimilis</i> Wagner	---; ---; 28, 345	Wagner	1935

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>GERBILLOPHILUS</i>			
<i>iranus</i> (Wagner & Argyropulo)	---; ---; 35	da Costa Lima & Hathaway	1946
<i>laeviceps</i> Wagner	---; ---; 28, 345	Wagner	1935
<i>laeviceps</i> <i>ellobi</i> Wagner	---; ---; 76, 353	da Costa Lima & Hathaway	1946
<i>laeviceps</i> <i>laeviceps</i> (Wagner)	---; ---; 76, 162, 345	da Costa Lima & Hathaway	1946
<i>tersus</i> (Jordan & Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
<i>GEUSIBIA</i>			
<i>torosa</i> Jordan	---; ---; 76	Haiao	1945
<i>HECTOPSYLLA</i>			
<i>psittaci</i> Frauenfeld	---; ---; 70	da Costa Lima & Hathaway	1946
<i>HOPLOPSYLLUS</i>			
<i>glacialis</i> <i>profugus</i> Jordan	---; ---; 162	da Costa Lima & Hathaway	1946
<i>HYSTRICOPSYLLA</i>			
<i>satunini</i> Wagner	---; 1,700 meters above sea level; 118 ---; ---; 345	Argyropulo da Costa Lima & Hathaway	1936 1946
<i>talpae</i> (Curtis)	---; ---; 162 ---; ---; 256	Tiflow & Ussov Ioff & Tiflow	1939 + 1932
<i>tripectinata</i> (Tiraboschi)	---; ---; 168	Haiao	1948
<i>ISCHNOPSYLLUS</i>			
<i>communis</i> Jordan & Rothschild	---; ---; 76 ---; ---; 77	Wu Chow & Huang	1940 1950

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ISCHNOPSYLLUS</i>			
<i>dolosus</i> Dampf	---; ---; 28, 256	da Costa Lima & Hathaway	1946
<i>elongata</i> (Curtis)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>hexactenus</i> Kolenati	---; ---; 162	Tiflow & Usov	1939 +
<i>hexactenus</i> <i>hexactenus</i> (Kolenati)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>hexactenus</i> <i>petropolitanus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>iae</i> Jordan	---; ---; 76	da Costa Lima & Hathaway	1946
<i>indicus</i> Jordan	---; ---; 70, 76, 143	da Costa Lima & Hathaway	1946
<i>intermedia</i> Rothschild	---; ---; 256	Ioff & Tiflow	1932
<i>kolenatii</i> Wagner	---; ---; 256	Wagner	1930
<i>nsedhamia</i> Hall	---; ---; 76	Hsiao	1945
	---; ---; 158	Jameson	1953
<i>obscura</i> Wagner	---; ---; 162	Tiflow & Usov	1939 +
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>octactenus</i> (Kolenati)	---; ---; 28, 101, 256	da Costa Lima & Hathaway	1946
	---; ---; 35	Wagner & Argyropulo	1934
<i>tatsienhi</i> Sugimoto	---; ---; 76, 77	Wu	1940
<i>teres</i> Jordan	---; ---; 345	Jordan	1929
<i>variabilis</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>wui</i> Hall	---; ---; 76	Wu	1940

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LAGAROPSYLLA</i>			
<i>mera</i> Jordan & Rothschild	---; ---; 146	Jordan & Rothschild	1921a
<i>micula</i> Jordan & Rothschild	---; ---; 59	da Costa Lima & Hathaway	1946
<i>putilla</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921a
<i>LEPTOPSYLLA</i>			
<i>aegnis</i> (Schönherr)	---; ---; 158, 168	Jameson	1953
<i>algira</i> <i>popovi</i> Wagner & Argyropulo	---; ---; 345	da Costa Lima & Hathaway	1946
<i>himalaia</i> Rothschild	---; ---; 143	Iyengar	1934
<i>musculi</i> Duges	---; ---; 59, 143	Cragg	1921
	---; in houses, possible vector of endemic typhus; 76	Liu & Zia	1940
	---; bites occasionally; 76*	Liu & Zia	1941
	---; all year; 76	Yang et al	1939
	---; Feb., Oct.-Nov.; 118	Stepanov	1931
	---; ---; 149	Kopstein	1931
	---; Oct.; 154, 342	Buxton	1924
	---; May, Oct.; 168	Hsiao	1948
	---; ---; 256	Pokrovskii	1935
	---; ---; 294	Pavlovskii	1927
<i>pavlovskii</i> Ioff	---; ---; 256	Ioff	1928
<i>pectiniceps</i> (Wagner)	---; ---; 256	Pavlovskii	1927

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LEPTOPSYLLA</i>			
<i>segnis</i> (Schönherr)	---; ---; 35	Popov & Akhundov	1934
	---; ---; 70	Thompson	1938
	---; naturally infected with typhus; 76	Liu & Zia	1941
	---; ---; 77	Chow & Huang	1950
	---; ---; 133	Landauer	1938
	---; ---; 139	Hsiao	1945
	---; ---; 143*	George & Timothy	1941
	---; ---; 144	Sorel	1937
	---; ---; 158	Ohtoma et al.	1937
	---; possible vector of murine typhus; 168*	Barnett & Toshioka	1951
	---; ---; 321	Roshkovskaya	1937
	---; ---; 342	Anonymous	1934
<i>sexdentata</i> Wagner	---; ---; 162	da Costa Lima & Hathaway	1946
<i>sicolas</i> Tiflow & Kolpakova	---; ---; 256	da Costa Lima & Hathaway	1946
<i>taschenbergi</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>LOENOPSYLLA</i>			
<i>cheopis</i> (Rothschild)	---; ---; 144	Kerandel	1915
	---; ---; 242*	Banks	1919
<i>MACROSTYLOPHORA</i>			
<i>borneensis</i> (Jordan)	---; ---; 145	da Costa Lima & Hathaway	1946
<i>euteles</i> (Jordan & Rothschild)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>fimbriata</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
MACROSTYLOPHORA			
<i>hastata</i> <i>hastata</i> (Jordan & Rothschild)	---; ---; 59	da Costa Lima & Hathaway	1946
<i>hastata</i> <i>sikkimensis</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>hastata</i> <i>tonkinensis</i> Jordan	---; ---; 144	da Costa Lima & Hathaway	1946
<i>heinrichi</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946
<i>levis</i> (Jordan & Rothschild)	---; ---; 190	da Costa Lima & Hathaway	1946
<i>lupata</i> <i>banana</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946
<i>lupata</i> <i>lupata</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>phillipsi</i> (Jordan)	---; ---; 70	da Costa Lima & Hathaway	1946
<i>pilata</i> (Jordan & Rothschild)	---; ---; 190	da Costa Lima & Hathaway	1946
<i>probata</i> (Jordan & Rothschild)	---; ---; 190	da Costa Lima & Hathaway	1946
<i>unionalis</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946
MALARAUS			
<i>loffii</i> (Darskaya)	---; ---; 168	Jameson	1933
<i>penicilliger</i> (Gruba)	---; ---; 158	Jameson	1933
MEGABOTHRIS			
<i>oaspis</i> Tiflow	---; ---; 28, 162	Wagner	1935

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MEGABOTERIS</i> <i>mustelae</i> Schill.	---; 1,700 meters above sea level; 118	Argyropulo	1936
<i>saxatilis</i> Ioff & Argyropulo	---; ---; 28	Wagner	1935
<i>MESOPSYLLA</i> <i>apscheronica</i> Wagner & Argyropulo	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 245	da Costa Lima & Hathaway	1946
<i>euota</i> Dampf	---; ---; 162	Ioff	1929
	---; ---; 166, 294, 318, 326	Pavlovskii	1927
<i>euota</i> <i>dampf</i> Wagner & Ioff	---; experimental transmission of plague; 256	Nikanoroff	1929
<i>hebes</i> Jordan & Rothschild	---; ---; 162, 256	Ioff	1929
	---; ---; 256*	Kuzenkov	1929
<i>hebes</i> <i>dampf</i> Wagner & Ioff	---; ---; 256	da Costa Lima & Hathaway	1946
<i>hebes</i> <i>hebes</i> Jordan & Rothschild	---; ---; 162, 256	da Costa Lima & Hathaway	1946
<i>hebes</i> <i>septentrionalis</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>lenis</i> Jordan & Rothschild	---; ---; 35	Popov & Akhundov	1934
	---; ---; 162, 256	Ioff	1929
	---; ---; 256*	Pavlovskii	1931 +

TABLE 1 - PLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MESOPSYLLA</i>			
<i>tuschkan</i>	---; ---; 162, 256	Ioff	1929
Wagner & Ioff	---; ---; 166, 294, 318, 326	Pavlovskii	1927
	---; ---; 345	Wagner	1938
<i>MICROPSYLLOIDES</i>			
<i>jaonis</i> (Jordan)	---; ---; 194	da Costa Lima & Hathaway	1946
<i>MIOCTENOPSYLLA</i>			
<i>arotica</i> Rothschild	---; ---; 256	Jordan	1932c
<i>MONOPSYLLUS</i>			
<i>anadyrus</i> Jordan	---; ---; 256	Jordan	1937
<i>anisus</i> (Rothschild)	---; Dec.-July, Sept.-Nov.; 76	Yang et al.	1939
	---; rare; 77	Chow & Huang	1950
	---; capable of transmitting plague; 158	Macchiavello	1954
	---; capable of transmitting plague; 168*	Barnett & Toshioka	1951
	---; ---; 194	Liu	1936
<i>argus</i> (Rothschild)	---; ---; 158	Jameson	1953
<i>indages</i> (Rothschild)	---; ---; 158	Jameson	1953
<i>sciurorum</i> (Schrank)	---; ---; 28, 35	Wagner & Argyropulo	1934
<i>sciurorum</i> <i>asiaticus</i> Ioff	---; ---; 31	da Costa Lima & Hathaway	1946
	---; ---; 326	Wagner	1938
<i>sciurorum</i> <i>dryas</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>sciurorum</i> <i>sciurorum</i> (Schrank)	---; ---; 162, 256, 345	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MONOPSYLLUS</i> <i>tamias</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>MYODOPSYLLA</i> <i>trisellii</i> Jordan	---; ---; 194	Hsiao	1945
<i>MYOXOPSYLLA</i> <i>jordani</i> Ioff & Argyropulo	---; ---; 28, 256	Ioff & Argyropulo	1934
<i>NEOCERATOPHYLLUS</i> <i>trispinosus</i> Liu	---; ---; 76	Hsiao	1945
<i>NEOCTENOPHTHALMUS</i> <i>dilatatus</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>NEOPSYLLA</i> <i>aacanthina</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>aliena</i> Jordan & Rothschild	---; ---; 76	Hsiao	1945
<i>anoma</i> Rothschild	---; ---; 76	Hsiao	1945
<i>avida</i> Jordan	---; ---; 144	da Costa Lima & Hathaway	1946
<i>bidentatiformis</i> (Wagner)	---; ---; 168	Barnett & Toshioka	1951
	---; ---; 194, 256, 353	Wu	1940
<i>compar</i> Jordan & Rothschild	---; ---; 76	Hsiao	1945
<i>democratica</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>dispar</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NEOPSYLLA</i>			
<i>honora</i> Jordan	---; ---; 76	Hsiao	1945
<i>kopsteini</i> Jordan	---; ---; 146	Jordan	1933
<i>mana</i> Wagner	---; ---; 256	Wagner	1927a
<i>meridiana</i> Tiflow & Kolpakova	---; ---; 166	da Costa Lima & Hathaway	1946
<i>pleskei</i> Ioff	---; ---; 256	Ioff & Argyropulo	1934
<i>pleskei</i> <i>armeniaca</i> Ioff & Argyropulo	---; ---; 28, 35	da Costa Lima & Hathaway	1946
<i>pleskei</i> <i>orientalis</i> Ioff & Argyropulo	---; ---; 256	da Costa Lima & Hathaway	1946
<i>pleskei</i> <i>pleskei</i> Ioff	---; ---; 256	da Costa Lima & Hathaway	1946
<i>pleskei</i> <i>rossica</i> Ioff & Argyropulo	---; ---; 256	da Costa Lima & Hathaway	1946
<i>secura</i> Rothschild	---; ---; 143	da Costa Lima & Hathaway	1946
<i>setosa</i> Wagner	---; naturally infected with plague; 162°	Tikhonirova et al.	1935
	---; experimental transmission of bubonic plague; 256	Aristarkhova	1930
	---; naturally infected with plague; 256	Konovaiova	1927
	---; ---; 294	Pavlovskii	1927
	---; ---; 321°	Boikiv	1929
	---; ---; 343	Ioff & Pokrovskaya	1929

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NEOPSYLLA</i>			
<i>setcea</i> <i>hajastanica</i> Ioff & Argyropulo	---; ---; 28	Ioff & Argyropulo	1934
<i>setosa</i> <i>setosa</i> (Wagner)	---; capable of transmitting plague; 256	Macchiavello	1954
<i>sondaica</i> Jordan	---; ---; 146	da Costa Lima & Hathaway	1946
<i>specialis</i> Jordan	---; ---; 76	Hsiao	1945
<i>stevensi</i> Rothschild	---; ---; 76, 143	Hsiao	1945
<i>teratura</i> Rothschild	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin & Tiflow	1936
<i>tricata</i> Jordan	---; ---; 144	da Costa Lima & Hathaway	1946
<i>uniseriata</i> Wagner	---; ---; 256	Wagner	1927a
<i>NESOLAGOBIOUS</i>			
<i>callosus</i> Jordan & Rothschild	---; ---; 149	da Costa Lima & Hathaway	1946
<i>NOSOPSYLLUS</i>			
<i>alladinis</i> (Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>arootus</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>consimilis</i> (Wagner)	---; ---; 28. ---; Jan.-Feb.; 35. ---; ---; 162,321	Wagner & Argyropulo	1934
	---; capable of transmitting plague; 256	Macchiavello	1954

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NOSOPSYLLUS</i>			
<i>fasoiatus</i> Bosc d'Antic	---; near human dwellings; 35	Wagner & Argyropulo	1934
	---; ---; 76	Wu	1940
	---; in houses at high altitudes; 77	Chow & Huang	1950
	---; ---; 143	Roy & Brown	1954
	---; ---; 144	Sorel	1937
	---; ---; 158**, 168**	Jameson	1953
	---; possible vector of plague; 168*	Barnett & Toshioka	1951
	---; May; 168	Hsiao	1948
	---; ---; 256	Anonymous	1945a
<i>fidus</i> (Jordan & Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
<i>henleyi</i> Rothschild	---; ---; 345	Argyropulo	1936
<i>iranus</i> Wagner & Argyropulo	---; ---; 35	Wagner & Argyropulo	1934
<i>laevioeps</i> Wagner	---; ---; 35, 162	Wagner & Argyropulo	1934
	---; ---; 256, 345, 354	Liu	1936
<i>laevioeps</i> <i>ellobii</i> Wagner	---; ---; 353	Liu	1936
<i>medus</i> Jordan	---; ---; 151	da Costa Lima & Hathaway	1946
<i>mokrneckyi</i> (Wagner)	---; ---; 35, 256	Wagner & Argyropulo	1934
	---; capable of transmitting plague; 256	Macchiavello	1954
	- -; ---; 345	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>NOSOPSYLLUS</i>			
<i>nioanus</i> Jordan	---; Dec.-May; 76	Yang et al.	1939
<i>nilgeriensis</i> (Jordan & Rothschild)	---; ---; 143	Roy & Brown	1954
<i>punensis</i> (Jordan & Rothschild)	---; ---; 143	da Costa Lima & Hathaway	1946
<i>punjabensis</i> (Jordan & Rothschild)	---; ---; 143	Roy & Brown	1954
<i>sarinus</i> (Jordan & Rothschild)	---; ---; 350	da Costa Lima & Hathaway	1946
<i>simla</i> (Jordan & Rothschild)	---; ---; 143	Roy & Brown	1954
<i>sincerus</i> (Jordan & Rothschild)	---; ---; 342	da Costa Lima & Hathaway	1946
<i>tamilanus</i> (Jordan & Rothschild)	---; ---; 70, 143	Roy & Brown	1954
<i>wualis</i> Jordan	---; ---; 76	da Costa Lima & Hathaway	1946
<i>NYCTERIDOPSYLLA</i>			
<i>dictena</i> Kolenati	---; ---; 256	da Costa Lima & Hathaway	1946
<i>eusarca</i> Dampf	---; ---; 256	Wagner	1927
<i>galba</i> Dampf	---; ---; 76	Hsiao	1945
<i>longioeps</i> Rothschild	---; ---; 256 ---; ---; 350	Wagner da Costa Lima & Hathaway	1927 1946
<i>pentaetena</i> Kolenati	---; ---; 256	Wagner	1927

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>OPHTHALMOPSYLLA</i>			
<i>arnoldi</i> Wagner & Argyropulo	---; ---; 35	Wagner & Argyropulo	1934
<i>jettmari</i> Jordan	---; ---; 76	da Costa Lima & Hathaway	1946
	---; sand dunes; 194	Liu	1936
<i>kasakiensis</i> Ioff	---; ---; 162	Ioff	1929
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>kiritschenkoi</i> Wagner	---; ---; 210	Wu	1940
	---; ---; 353	Hsiao	1945
<i>kukushkini</i> Ioff	---; ---; 76	da Costa Lima & Hathaway	1946
	---; sand dunes; 194. ---; ---; 256	Liu	1936
<i>praefecta</i> Jordan & Rothschild	---; ---; 162, 166, 256, 294, 318, 326	Pavlovskii	1927
<i>praefecta</i> <i>pernix</i> Jordan	---; ---; 162, 256	Wu	1940
	---; ---; 209	Liu	1936
	---; ---; 353	Hsiao	1945
<i>praefecta</i> <i>praefecta</i> (Jordan & Rothschild)	---; ---; 162, 256	da Costa Lima & Hathaway	1946
<i>volgensis</i> Wagner & Ioff	---; ---; 35	Wagner	1935
	---; ---; 162, 166, 256, 294, 318, 326	Pavlovskii	1927
	---; ---; 256*	Pavlovskii	1931 +
	---; ---; 345	Ioff	1928a
	---; ---; 354	Nikanorov & Knyazevskii	1927
<i>OROPSYLLA</i>			
<i>elana</i> Jordan	---; ---; 194	Hsiao	1945

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>OROPSYLLA</i>			
<i>ilovaiskii</i> Wagner & Ioff	---; ---; 162, 256	Ioff	1928a
	---; ---; 256°	Pavlovskii	1931 +
	---; steppes; 294	Pavlovskii	1927
<i>mandarina</i> (Jordan & Rothschild)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>montana</i> (Baker)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>segregata</i> (Wagner)	---; ---; 256	Wagner	1938
	---; ---; 303	da Costa Lima & Hathaway	1946
<i>silantiewi</i> Wagner	---; ---; 162, 194, 256, 354	Wagner	1936
	---; ---; 256°	Golov & Ioff	1928
	---; ---; 294	Pavlovskii	1927
	---; capable of transmitting plague; 353	Macchiavelle	1954
<i>silantiewi</i> <i>asiatica</i> Wagner	---; ---; 256	Wagner	1936
<i>silantiewi</i> <i>crassa</i> (Jordan & Rothschild)	---; ---; 76	Hsiao	1945
	---; ---; 194	da Costa Lima & Hathaway	1946
<i>silantiewi</i> <i>silantiewi</i> (Wagner)	---; ---; 31	Liu	1936
	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 194, 256, 353	Wu	1940
<i>silantiewi</i> <i>weiskai</i> Wagner	---; ---; 353	Wagner	1936
<i>sinensis</i> Liu	---; ---; 76	Liu	1936
<i>stejnegeri</i> Jordan	---; ---; 256	Jordan	1937

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PALAEOPSYLLA</i>			
<i>gracilis</i> Dampf	---; ---; 294	Pavlovskii	1927
<i>incurva</i> Jordan	---; ---; 59	da Costa Lima & Hathaway	1946
<i>klebsiana</i> Dampf	---; ---; 294	Pavlovskii	1927
<i>laxata</i> Jordan	---; ---; 146	Jordan	1933
<i>minor</i> Dale	---; ---; 256	Wagner	1927
<i>remota</i> Jordan	---; ---; 76	Heiao	1945
	---; ---; 143	Jordan	1932a
<i>similis</i> Dampf	---; ---; 256	da Costa Lima & Hathaway	1946
<i>sorecis</i> <i>starki</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>starki</i> Wagner	---; ---; 256	Ioff & Tiflow	1932
<i>PALAOCTENOPHTHALMUS</i>			
<i>acuminatus</i> (Ioff & Argyropulo)	---; ---; 28, 345	da Costa Lima & Hathaway	1946
<i>fissura</i> (Wagner)	---; ---; 28, 345	da Costa Lima & Hathaway	1946
<i>inornatus</i> (Wagner)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>PARACALLOPSYLLA</i>			
<i>kassakovi</i> (Wagner)	---; ---; 76	da Costa Lima & Hathaway	1946
<i>oreina</i> (Jordan)	---; ---; 143, 235	da Costa Lima & Hathaway	1946
<i>PARACERAS</i>			
<i>crispus</i> (Jordan & Rothschild)	---; ---; 76, 256	da Costa Lima & Hathaway	1946
<i>flabellum</i> Wagner	---; ---; 162, 256	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PARACERAS</i>			
<i>homatus</i> Jordan	---; ---; 59, 76	da Costa Lima & Hathaway	1946
<i>javanicus</i> (Ewing)	---; ---; 146	Jordan	1937
<i>melis</i> (Curtis)	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 158, 345	da Costa Lima & Hathaway	1946
<i>pendleburyi</i> Jordan	---; ---; 145	da Costa Lima & Hathaway	1946
<i>sauteri</i> (Rothschild)	---; ---; 77	Chow & Huang	1950
<i>segregatus</i> Wagner	---; ---; 303	Wagner	1930a
<i>sinensis</i> (Liu)	---; ---; 76	Hsiao	1945
<i>PARADOXOPSYLLUS</i>			
<i>conveniens</i> Wagner	---; ---; 210	Wagner	1930
	---; ---; 353	Hsiao	1945
<i>curvispinus</i> Miyajima & Koidzumi	---; ---; 76, 158, 162	Wu	1940
	---; ---; 168	Barnett & Toshioka	1951
<i>custodio</i> Jordan	---; ---; 76	Hsiao	1945
<i>naryni</i> Wagner	---; ---; 294	da Costa Lima & Hathaway	1946
<i>repandus</i> (Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935
<i>teretifrons</i> (Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PARADOXOPSYLLA</i> <i>transbaikalicus</i> Tiflow & Pavlov	---; ---; 256	da Costa Lima & Hathaway	1946
<i>PARANEOPSYLLA</i> <i>loffii</i> Tiflow	---; ---; 162	da Costa Lima & Hathaway	1946
<i>PARIODONTIS</i> <i>riggenbachii</i> (Rothschild)	---; ---; 143	Sharif	1930
<i>subjugis</i> Jordan	---; ---; 190	da Costa Lima & Hathaway	1946
<i>wernecki</i> da Costa Lima	---; ---; 143	da Costa Lima & Hathaway	1946
<i>PECTINOCTENUS</i> <i>adalis</i> Jordan	---; ---; 76, 194	da Costa Lima & Hathaway	1946
<i>otenophorus</i> Wagner	---; ---; 162	Wagner	1929 +
	---; ---; 210	Wu	1940
	---; ---; 294	da Costa Lima & Hathaway	1946
<i>lautus</i> (Rothschild)	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin & Tiflow	1936
<i>numerosus</i> Tiflow	---; ---; 162	da Costa Lima & Hathaway	1946
<i>pavlovskii</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>pectiniops</i> Wagner	---; ---; 256	da Costa Lima & Hathaway	1946
<i>PECTINOTECTUS</i> <i>adalis</i> Jordan	---; ---; 194	Neisao	1945
<i>PULEX</i> <i>canis</i> (Curtis)	---; sometimes in swamps in sandy places; 144	Cadet	1917

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PULEX</i>			
<i>cheopis</i> (Rothschild)	---; May, in houses; 144*	Cadet	1917
	---; naturally infected with plague; 242	Heiser	1914
<i>globioeps</i> Taschenberg	---; ---; 256	Baker	1895
<i>hyaenas</i> Kolen	---; ---; 345	Jordan & Rothschild	1920
<i>irritans</i> Linnaeus	---; ---; 59, 235. ---; mostly in hilly regions, enters houses; 143	Sharif	1930
	---; plays a role in the transmission of typhus; 76	Liu	1944
	---; May-June; 76°	Rothschild	1914
	---; common in plains and mountains; 77°	Chow & Huang	1950
	---; ---; 77	Omori	1935
	---; ---; 133	Landauer	1938
	---; only in hills; 143	Patton	1922
	---; common; 143	King et al.	1931
	---; ---; 143°	Iyengar	1934
	---; on beach, attracted by light, not very common; 144	Cadet	1917
	---; seldom found on man; 146°. ---; ---; 150°	Kopstein	1931
	---; ---; 150, 345	Wagner	1916
	---; vicinity of huts and villages; 151°	Patton	1920
	---; July; 154°, 342°	Buxton	1924
	---; ---; 158*°, 168*°	Jameson	1953
	---; ---; 159	Jordan	1937
	---; naturally infected with plague; 162°	Tikhomirova	1934
	---; ---; 162	Kalina	1931
	---; in houses, 168	Barnett & Toshioka	1951

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS, ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PULEX</i>			
<i>irritans</i>	---; ---; 174, 302	Anonymous	1944c
Linnaeus (cont.)	---; ---; 194°	Hsiao	1946
	---; ---; 194	Anonymous	1946
	---; ---; 242	Banks	1919
	---; experimentally infected with plague; 256	Golov & Ioff	1925
	---; ---; 256°	Ioff	1925
	---; ---; 280	Gilmour	1934
	---; ---; 317	Monziols & Collignon	1920
	---; ---; 321°	Makarov	1928
	---; ---; 326	Khodukin	1928
	---; ---; 342	Anonymous	1944b
<i>irritans</i> <i>fulvus</i> Ioff	---; ---; 256	da Costa Lima & Hathaway	1946
<i>jaoulans</i> Motschulsky	---; ---; 256	da Costa Lima & Hathaway	1946
<i>orientalis</i> Kishida	---; ---; 76	Hsiao	1946
<i>PYGIOPSYLLA</i>			
<i>ahalae</i> Rothschild	---; experimental infection and transmittal of pest; 146	Schwellengrabel & Otten	1914
<i>celebensis</i> Ewing	---; ---; 145	da Costa Lima & Hathaway	1946
<i>jaobsoni</i> Jordan & Rothschild	---; ---; 149	Jordan & Rothschild	1922c
<i>klossi</i> Jordan & Rothschild	---; ---; 144	Jordan & Rothschild	1922a
<i>robisoni</i> Rothschild	---; ---; 143	Jordan & Rothschild	1922c

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PYGIOPSYLLA</i>			
<i>sciuri</i> Ewing	---; ---; 145	da Costa Lima & Hathaway	1946
<i>synetus</i> Jordan & Rothschild	---; ---; 149	Jordan & Rothschild	1922c
<i>RECTOPONTIA</i>			
<i>acoola</i> (Wagner)	---; ---; 76	Wu	1940
<i>altaica</i> (Wagner)	---; ---; 31	Wu	1940
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>angusta</i> (Tiflow)	---; ---; 162	da Costa Lima & Hathaway	1946
<i>oasta</i> (Jordan)	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 345	da Costa Lima & Hathaway	1946
<i>dahurica</i> (Jordan & Rothschild)	---; ---; 194, 256	Hsiao	1945
<i>dives</i> (Jordan)	---; ---; 194	Wu	1940
<i>insolita</i> (Jordan)	---; ---; 194	Hsiao	1945
<i>jaonts</i> (Jordan)	---; ---; 76, 194	Wu	1940
<i>rothschildi</i> (Tiflow & Pavlov)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>tenella</i> (Jordan)	---; ---; 194	Hsiao	1945
<i>vicina</i> (Wagner)	---; ---; 76	Wu	1940
<i>RHADINOPSYLLA</i>			
<i>acoola</i> Wagner	---; ---; 76	Wagner	1930

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS: ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHADINOPSYLLA</i>			
<i>bivirgis</i> Rothschild	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Pavlovskii	1927
<i>casta</i> Jordan	---; ---; 345	Argyropulo	1937
<i>cedestis</i> Rothschild	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935
	---; ---; 318	Vlasov	1932
	---; ---; 354	Nikancrov & Knyazevskii	1927
<i>dahurica</i> Jordan & Rothschild	---; ---; 256	Jordan & Rothschild	1923
<i>diolinica</i> Tiflow	---; ---; 162	da Costa Lima & Hathaway	1946
<i>divas</i> (Jordan)	---; ---; 194	Jordan	1929a
<i>insolita</i> Jordan	---; ---; 168	Jameson	1953
	---; ---; 194	Jordan	1929a
<i>ioffi</i> Wagner	---; ---; 162	Wagner	1930
<i>jaonis</i> Jordan	---; ---; 194	Jordan	1929a
<i>rothschildi</i> Ioff	---; ---; 256	Ioff	1940
<i>soria</i> Wagner	---; ---; 162	da Costa Lima & Hathaway	1946
<i>tenella</i> Jordan	---; ---; 194	Jordan	1929a
<i>ucronica</i> Wagner & Argyropulo	---; ---; 118	Argyropulo & Yevranov	1937 +

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHADINOPSYLLA</i>			
<i>ukrainica</i> Ioff	---; ---; 28, 35, 256, 321	Ioff	1940
	---; ---; 162	Wagner & Argyropulo	1934
<i>valenti</i> Darskaya	---; ---; 168	Jameason	1953
<i>vicina</i> Wagner	---; ---; 76	Wagner	1930
<i>RHIONOLPHOPSYLLA</i>			
<i>unipectinata</i> (Taschenberg)	---; ---; 35	Wagner & Argyropulo	1934
<i>unipectinata</i> <i>indica</i> Jordan & Rothschild	---; ---; 143	Jordan & Rothschild	1921a
<i>ROSTROPSYLLA</i>			
<i>dacus</i> (Jordan & Rothschild)	---; ---; 162, 166, 318, 326	Pavlovskii	1927
	---; ---; 345	da Costa Lima & Hathaway	1946
<i>SPALACOTENOPH-</i> <i>THALMUS</i>			
<i>gigantospalacia</i> (Ioff)	---; ---; 345	da Costa Lima & Hathaway	1946
<i>typhlus</i> (Motschulsky)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>STENISCHIA</i>			
<i>mirabilis</i> Jordan	---; ---; 76	Wu	1940
<i>STENOPONIA</i>			
<i>coelestis</i> Jordan & Rothschild	---; ---; 76	Wu	1940
<i>conspicua</i> Wagner	---; ---; 162	Wagner	1926
	---; ---; 256	Sassuchin et al.	1935
	---; ---; 318	Vlasov	1932

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STENOPONIA</i>			
<i>formosovi</i> Ioff & Tiflow	---; ---; 256	Ioff & Tiflow	1934
<i>insperata</i> Weiss	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 345	Argyropulo	1936
<i>ivanovi</i> Ioff & Tiflow	---; ---; 162, 256, 345	da Costa Lima & Hathaway	1946
<i>lasovi</i> Ioff & Tiflow	---; ---; 318	da Costa Lima & Hathaway	1946
<i>montana</i> Darakaya	---; ---; 168	Jameson	1953
<i>sidimi</i> Marikovskiy	---; ---; 158, 168	Jameson	1953
	---; ---; 256	da Costa Lima & Hathaway	1946
<i>singularis</i> Ioff & Tiflow	---; ---; 256	Ioff & Tiflow	1934
<i>solitaria</i> Ioff & Tiflow	---; ---; 31	da Costa Lima & Hathaway	1946
	---; ---; 162	Wagner	1935
	---; ---; 256	Sassuchin et al.	1935
	---; March; 293	Ioff & Tiflow	1934
<i>suknevi</i> Ioff & Tiflow	---; ---; 31, 162	Ioff & Tiflow	1934
	---; ---; 256	da Costa Lima & Hathaway	1946
	---; ---; 318	Wagner	1935
<i>tripestinata</i> Tiraboschi	---; ---; 342, 350	Ioff & Tiflow	1934

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STENOPONIA</i> <i>vlasovi</i> Ioff & Tiflow	---; Feb.-March and Nov.; 318	Ioff & Tiflow	1934
<i>STIVALIUS</i> <i>ahalae</i> (Rothschild)	---; enters houses; 143° ---; ---; 143	Iyengar Jordan & Rothschild	1934 1922b
<i>aporus</i> Jordan & Rothschild	---; ---; 70, 143	Jordan & Rothschild	1922b
<i>cognatus</i> Jordan & Rothschild	---; in mountainous country 800 meters and higher, indoors; 146	Kopsch	1931
<i>ferinus</i> (Rothschild)	---; ---; 70, 143	Jordan & Rothschild	1922b
<i>jacobsoni</i> (Jordan & Rothschild)	---; ---; 146, 149	Jordan	1933
<i>javanus</i> Jordan	---; ---; 146	Jordan	1933
<i>klossi</i> (Jordan & Rothschild)	---; ---; 144 ---; ---; 146 ---; ---; 149	Jordan & Rothschild Jordan da Costa Lima & Hathaway	1922b 1933 1946
<i>loncinus</i> Jordan	---; ---; 145	da Costa Lima & Hathaway	1946
<i>mjöbergi</i> Jordan	---; at high altitudes; 145	Jordan & Rothschild	1926
<i>phoberus</i> Jordan & Rothschild	---; ---; 70	Thompson	1938
<i>pomerantzi</i> Traub	---; ---; 242	Traub	1951
<i>ralius</i> Traub	---; ---; 242	Traub	1951

TABLE 1 - FLEAS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>STIVALIUS</i>			
<i>rhaebus</i> Jordan	---; at high altitudes; 145	Jordan & Rothschild	1926
<i>robinsoni</i> (Rothschild)	---; ---; 146, 149, 190	Jordan & Rothschild	1922b
	---; ---; 242	Traub	1951
<i>spiramus</i> Jordan	---; ---; 242	da Costa Lima & Hathaway	1946
<i>synetus</i> Jordan & Rothschild	---; ---; 149	Jordan & Rothschild	1922b
<i>SYNOSTERNUS</i>			
<i>cleopatrae</i> Rothschild	---; ---; 342	da Costa Lima & Hathaway	1946
<i>longispinus</i> (Wagner)	---; ---; 162, 354	da Costa Lima & Hathaway	1946
	---; ---; 166, 318, 326	Pavlovskii	1927
<i>pallidus</i> (Taschenberg)	---; ---; 143, 151, 354	Sharif	1930
	---; ---; 256	Sassuchin et al.	1935
	---; ---; 318	Vlasov	1932
<i>pallidus</i> <i>pallidus</i> (Taschenberg)	---; ---; 143, 151, 354	da Costa Lima & Hathaway	1946
<i>TARSOPSYLLA</i>			
<i>octodecimdentata</i> (Kolenati)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>THAUMAPSYLLA</i>			
<i>breviceps</i> Rothschild	---; ---; 70, 242	da Costa Lima & Hathaway	1946
	---; ---; 146, 190, 277	Traub	1951
<i>longiforceps</i> Traub	---; ---; 145, 146, 242	Traub	1951
<i>TRICHOPSYLLA</i>			
<i>advenaria</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TRICHOPSYLLA</i>			
<i>andrya</i> (Jordan)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>appropinquans</i> Wagner	---; ---; 256	Wagner	1930
<i>calcarifer</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>globiceps</i> Taschenberg	---; ---; 294	Pavlovskii	1927
<i>homoeus</i> <i>carenis</i> Jordan	---; ---; 59	Jordan	1932a
<i>penciliger</i> <i>penciliger</i> (Grube)	---; ---; 158, 256, 354	da Costa Lima & Hathaway	1946
<i>rectangulata</i> (Wahlgren)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>toli</i> (Wagner)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>trichosa</i> Kobaut	---; ---; 294	Pavlovskii	1927
<i>turbida</i> (Rothschild)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>walkeri</i> (Rothschild)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>TUNGA</i>			
<i>caecigena</i> Jordan & Rothschild	---; ---; 76 ---; ---; 158	Riley Jameson	1932 1953
<i>lagrangei</i> Roubaud	---; ---; 76	Patton	1926
<i>penetrans</i> (Linnaeus)	---; ---; 76 ---; ---; 143 (Attacks man)	da Costa Lima & Hathaway Riley	1946 1932
<i>TYPHLOPSYLLA</i>			
<i>caucastica</i> Taschenberg	---; ---; 345	Baker	1895

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TYPHLOCALLOPSYLLA</i>			
<i>semenovi</i> (Ioff)	---; ---; 256	da Costa Lima & Hathaway	1946
<i>VERMIPSYLLA</i>			
<i>alacurt</i> Schimkewitsch	---; ---; 162, 353	Pavlovskii	1927
<i>dorcadia</i> Rothschild	---; ---; 76	Wu	1940
<i>hyasmae</i> Kolenati	---; ---; 345	Wagner	1916
<i>WAGNERINA</i>			
<i>shelkounikovi</i> Ioff & Argyropulo	---; indoors; 28	Ioff & Argyropulo	1934
<i>XENODAERIA</i>			
<i>telios</i> Jordan	---; ---; 143	Jordan	1932a
<i>XENOPSYLLA</i>			
<i>astia</i> Rothschild	---; ---; 25, 151, 280	Sharif	1930
	---; ---; 59*	Wilcocks	1944
	---; carrier of plague, Dec.-Jan., sharp rise in June; 70°	Philip & Hirst	1917
	---; experimental transmission of plague; 70, 143	Goyle	1928
	---; Feb.; 70	Leeson	1932
	---; ---; 70*	Cragg	1920
	---; ---; 76	Patton	1926
	---; potential carrier of plague, Jul.-Oct., peak March-June; 143	Strickland & Roy	1930
	---; vector capacity for plague, peak Sept.-Oct.; 143	Walker et al.	1931
	---; experimentally infected with plague; 143	Webster & Chitre	1930
	---; experimental infection of <i>Pasteurella pestis</i> ; 143	Webster & Chitre	1930b

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>astia</i>	---; enters houses; Jan., July-Aug.; 143	King et al.	1931
Rothschild (cont.)	---; near houses, Sept.-Dec.; 143*	King & Iyer	1933
	---; Oct.- March; 143	Taylor & Chitre	1923
	---; all year; 143	Webster & Chitre	1930a
	---; in huts, March-Apr.; 143	Iyer	1933
	---; ---; 143*	George & Timothy	1941
	---; ---; 144*	Herivaux & Toumanoff	1948a
	---; ---; 145, 146*, 235	Kopstein	1931
	---; ---; 302	da Costa Lima & Hathaway	1946
<i>brasiliensis</i> (Baker)	---; ---; 70	Thompson	1937
	---; ---; 76	Patton	1926
	---; experimental transmission of plague, experi- mentally infected with <i>Pasteurella pestis</i> ; 143	Webster & Chitre	1930b
	---; abundant in houses, March-Apr.; 143	Iyer	1933
	---; ---; 143*	George & Timothy	1941
	---; March-May, Aug.-Sept., Nov.; 143	Webster & Chitre	1930a
	---; Jan.-March, Oct.; 143	Taylor & Chitre	1923
	---; near houses; 143*	King & Iyer	1933
	---; ---; 235	Sharif	1930
<i>ohsopsis</i> (Rothschild)	---; ---; 31*, 76*	Wu	1940
	---; ---; 31, 151	Sharif	1930

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i> <i>chaopis</i> (Rothschild) (cont.)	---; in houses; 35	Wagner & Argyropulo	1935
	---; carrier of plague; 59	Wilcocks	1944
	---; Feb.; 70	Leeson	1932
	---; ---; 70*	Hirst	1933
	---; common, principal vector of plague and murine typhus; 76**	Ke et al.	1948
	---; common carrier of bubonic plague bacillus; 76	Patton	1926
	---; naturally infected with typhus rickettsiae; 76	Liu	1947
	---; all year, possible vector of plague; 76	Yang et al.	1939
	---; Feb.-Sept.; 76	Liu	1944
	---; May-June; 76	Rothschild	1914
	---; Aug.-Sept.; 118	Stepanov	1931
	---; enters houses; 118	Ioff	1928a
	---; ---; 133	Landauer	1938
	---; ---; 139*	Hsiao	1945
	---; experimental transmission of plague, experimentally infected with <i>Pasteurella pestis</i> ; 143	Webster & Chitre	1930b
	---; hot and damp coastal zone; 143. ---; ---; 145, 350. ---; high in the mountains, indoors; 146°	Kopstein	1931
	---; suspected vector of typhus, all year, peak Sept.-Oct.; 143	Mehta	1937
	---; experimental transmission of typhus strain, Aug.; 143	Covell & Mehta	1936
	---; enters houses, rare, Sept.-Oct.; 143	King et al.	1931
	---; peak July-Oct., Nov.-Feb.; 143	Strickland & Roy	1940
	---; Oct.- March; 143	Taylor & Chitre	1923

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>cheopis</i>	---; near houses, Nov.-Dec.; 143°	King & Iyer	1933
(Rothschild)	---; ---; 143*	Cragg	1920
(cont.)	---; frequents houses; 144**	Wilcocks	1944a
	---; most active Feb.-May; 144	Herivaux & Toumanoff	1948
	---; experimental infection and transmission of pest; 146	Schwellengrabel & Otten	1914
	---; ---; 149, 150, 242	da Costa Lima & Hathaway	1946
	---; July, Sept.; 154. ---; Sept.-Oct., principal vector of <i>Pasteurella pestis</i> ; 342*	Buxton	1924
	---; ---; 158**	Jameson	1953
	---; ---; 162	Povpov & Akhundov	1934
	---; readily attacks man, most important vector of plague and murine typhus; 168***	Barnett & Toshioka	1951
	---; all year, peak Aug.-Sept.; 168	Hsiao	1948
	---; ---; 174, 302	Anonymous	1944c
	---; experimentally infected with urban typhus, suspected vector of urban typhus; 190	Lewthwaite et al.	1935
	---; experimental transmission of tropical typhus; 190	Kingsbury	1936
	---; vector of plague and murine typhus; 194***	Hsiao	1946
	---; ---; 235	Sinton	1925
	---; ---; 242*	Banks	1919 +
	---; active Jan., March-May, July-Dec.; 256	Pokrovski	1931
	---; ---; 256°	Pavlovskii	1931 +
	---; ---; 280	Gilmour	1934

TABLE 1 - FLEAS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENOPSYLLA</i>			
<i>cheopis</i> (Rothschild)	---; ---; 317*	Anonymous	1944
(cont.)	---; Aug.-Sept.; 321	Roshkovskaya	1937
	---; ---; 337*	Farner	1943
	---; ---; 342 (Connected with bubonic plague)	Anonymous	1944b
<i>conformis</i> Wagner	---; ---; 35	Wagner & Argyropulo	1934
	---; ---; 150, 162, 345, 354	da Costa Lima & Hathaway	1946
	---; ---; 166, 318, 326	Pavlovskii	1927
	---; ---; 256	Sassuchin et al.	1935
<i>gerbilli</i> (Wagner)	---; ---; 162, 166, 318, 326	Pavlovskii	1927
	---; ---; 256	Sassuchin et al.	1935
	---; ---; 354	da Costa Lima & Hathaway	1946
<i>hirtipes</i> Rothschild	---; ---; 162, 326	Ioff	1928a
	---; ---; 256	Sassuchin et al.	1935
<i>hussaini</i> Sharif	---; ---; 143	Sharif	1930
<i>magdalinæ</i> Ioff	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Ioff	1935
<i>minax</i> Jordan	---; ---; 162	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935
<i>mycerini</i> Rothschild	---; ---; 162	Ioff	1928a
	---; experimental : transmission of plague; 256	Nikanoroff	1929
	---; ---; 256*	Pavlovskii	1931 +

TABLE 1 - FLEAS (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>XENCPSYLLA</i>			
<i>nesiotus</i> (Jordan & Rothschild)	---; ---; 146	da Costa Lima & Hathaway	1946
	---; ---; 149	Kopstein	1931
<i>nubia</i> Rothschild	---; ---; 302, 342	da Costa Lima & Hathaway	1946
<i>nutalli</i> Ioff	---; ---; 31	da Costa Lima & Hathaway	1946
	---; ---; 256	Sassuchin et al.	1935
<i>romensis</i> Rothschild	---; ---; 154	Buxton	1924
	---; ---; 342	Anonymous	1944b
<i>regis</i> Rothschild	---; ---; 25	da Costa Lima & Rothschild	1946
<i>sewelli</i> Sharif	---; ---; 143	Sharif	1930
<i>skrjabini</i> Ioff	---; ---; 162	Tiflow & Ussov	1939 +
	---; ---; 256	Sassuchin et al.	1935
	---; ---; 354	da Costa Lima & Hathaway	1946

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

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>CERATOPHYLLUS</i> <i>anisus</i> Rothschild	Murine typhus			Plague		194
<i>LEPTOPSYLLA</i> <i>segni</i> (Schönherr)				Plague		143
<i>LOENOPSYLLA</i> <i>cheopis</i> (Rothschild)				Plague		342
<i>NOSOPSYLLUS</i> <i>fasciatus</i> Bosc d'Antic	Murine typhus			Bubonic plague	158	166
<i>PULEX</i> <i>irritans</i> Linnaeus				Bubonic plague	158	168
<i>XENOPSYLLA</i> <i>astia</i> Rothschild				Plague	59 70	143 144
<i>brasiliensis</i> (Baker)				Plague		143
<i>cheopis</i> (Rothschild)				<i>Bacillus</i> <i>pestis</i>		342
				Bubonic plague		139
	Murine typhus					76 (Ka et al 1948) 158 (Jameson 1953) 168 (Barnett & Toshioka 1951) 194 (Meisao 1946)
				Plague	70 76 144 158	168 194 242 317

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I. BUGS

The bugs or Hemiptera seem to be uncommon as pests of man in Asia. The few entries comprise a variety of species, several of which are not obligated blood feeders. Only 11 species or subspecies are listed for this group.

TABLE 1 - BUGS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>CIMEX</i> <i>hemiptera</i> (Fabricius)	---; experimentally infected of <i>Leishmania donovani</i> ; 143	Shortt & Swaminath	1924I
	---; bites man in the dark and hides in crevices of walls, beds and seams of bedding in the daytime, experimental transmission of relapsing fever, Kala-azar, plague, and tularemia; 168°	Hsiao	1948
<i>Leotularius</i> Linnaeus	---; experimentally infected with Kala-azar; 76	Young & Hertig	1929
	---; in beds, experimentally infected with <i>Spirochasta recurrentis</i> ; 76	Chung	1936
	---; found in cracks and crevices in furniture, experimental transmission of typhus from man to man; 76	Liu	1944
	---; experimentally infected with <i>Leishmania donovani</i> ; 143	Shortt & Swaminath	1924I
	---; bites man in the dark and hides in crevices of walls, beds and seams of bedding in daytime; experimental transmission of relapsing fever, Kala-azar, plague and tularemia; 168°	Hsiao	1948
	---; in crevices of beds and of rooms, bloodsucker; 242°	Banks	1919
	---; experimentally infected with tularemia; 256	Bozhenko	1936
	---; experimentally infected with plague; 256	Novikova & Lalazarov	1932
	---; naturally and experimentally infected with <i>Spirochasta recurrentis</i> and <i>S. duttoni</i> , in houses; 256	Rosenholz	1927
	---; experimentally infected with tularemia; 317	Server Kamil & Sait Bilal	1938
	---; ---; 317°	Anonymous	1944
<i>rotundatus</i> Linnaeus	---; from a bed, naturally infected with Kala-azar; 143	Adie	1922I
	---; in clothing; 146	Schwellengrebel & Otten	1914

TABLE 1 -- BUGS (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ECTOMOCORIS</i>			
<i>atrox</i> Stal	---; bites may lead to secondary infection in man; 242°	Banks	1919
<i>ululans</i> Rossi	---; ---; 318°	Vlasov	1935
<i>NEPHOTETIX</i>			
<i>apicalis</i> Motsch.	---; bites at night; 242°	Banks	1919
<i>bipunctatus</i> Fabricius	---; bites at night; 242°	Banks	1919
<i>REDUVIUS</i>			
<i>fedtschenkianus</i> Osch.	---; ---; 318°	Vlasov	1935
<i>TRIATOMA</i>			
<i>rubrofasciata</i> (De Geer)	---; experimentally infected with <i>Trypanosoma</i> <i>cruzi</i> ; 11, 59, 70, 76, 77, 139, 143, 144, 145, 146, 149, 190, 242, 270, 277	Neiva & Lent	1941
	---; enters houses at night; 76°	Esaki	1926
	---; enters houses; 143	Awati	1921
	---; infected with flagellates of <i>Crithidia</i> <i>conorhini</i> Donovan, suspected vector of Kala-azar; 143. ---; enters houses at night, possible vector of chagas disease; 242°	Africa	1934
	---; enters houses, possible vector of <i>Leishmania</i> ; 150°	Anonymous	1943
<i>rubrovaria</i> (Blanchard)	---; ---; 146°	Larrousse	1924

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J. URTICATING AND VESICATING ARTERPODS

The entries for urticating and vesicating arthropods are surprisingly few. Actually, only 23 species or subspecies are listed.

TABLE 1 - URTICATING AND VESICATING ARTHROPODS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ARCTORNIS</i> <i>xanthocampa</i> Dyar	---; ---; 168*	Hsiao	1948
<i>DENDROLINUS</i> <i>spectabilis</i> Butler	---; ---; 158*	Wada	1925
	---; ---; 168*	Hsiao	1948
<i>indana</i> <i>excellens</i> Butler	---; ---; 168*	Hsiao	1948
<i>EOBIA</i> <i>cinererpernis</i> <i>ogasawarensis</i> Mats.	---; ---; 232*	Kono	1939
<i>EUPROCTIS</i> <i>flava</i> Bremer	---; attracted to light, enters houses, August; 76*. Illingworth ---; indoors, July; 158*		1926
	---; ---; 168*	Mills	1923
<i>GASTROPACHA</i> <i>quercifolia</i> Linnaeus	---; ---; 168*	Hsiao	1948
<i>MARSOIDEUS</i> <i>flavidorealis</i> Staudinger	---; ---; 168*	Hsiao	1948
<i>MICROLEON</i> <i>longipalpis</i> Butler	---; ---; 168*	Hsiao	1948
<i>NYGMIA</i> <i>sub-flava</i> Bremer	---; early summer to early fall, poisonous hairs cause urticarial dermatitis when in contact with the body; 168*, 194*, 256*	Hsiao	1948
<i>OPHRANVEUS</i> <i>brevilabiatus</i> Hemp.	---; common in houses in warm season, during day hidden in dark spots and cracks of walls; nocturnal, secretes a phosphorescent substance of strong phosphor smell, causing redness of the skin, unnatural swelling, blisters, crusts, peeling of the skin accompanied by much itching; 144*	Phisalix & Houdemer	1934
<i>OTOSTIGMUS</i> <i>aculeatus</i> Hasee	---; common indoors during hot season, during day hidden in dark spots and cracks of walls, nocturnal, secretes a phosphorescent substance of strong smell, causing redness of the skin, unnatural swelling, blisters, crusts, peeling and much itching of the skin; 144*	Houdemer	1926

TABLE 1 - URTICATING AND VESICATING ARTHROPODS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PAEDERUS</i>	---; ---; 256*	Dallas	1936
<i>albipilis</i>			
Solsky	---; experimentally produced dermatitis; 303	Pavlovskii & Stein	1929
<i>alternans</i>	Found during the whole season, on boards of partly flooded ricefields, on grassy boards of ponds in marshes; May-Sept., common, enters houses; attracted to artificial light; 144*	Genevray et al	1934
Walker	---; produce dermatitis; 144*	Pickel	1940
<i>fuscipes</i>	---; ---; 31, 235, 256. Under grass and low bushy vegetation on sloping banks along rivers or permanent water channels, damp sandy loam or sandy soil; April-June, enters houses with artificial light, causes dermatitis; 143*	Isaac	1933
Curtis	Found during the whole season on boards of partly flooded ricefields, on grassy boards of ponds, in marshes; May-Sept., common, enters houses attracted by artificial light; 144*	Genevray et al	1934
	---; ---; 256*	Pickel	1940
<i>idae</i>	---; ---; 76*, 168*	Dallas	1936
Sharp	---; ---; 158*	Pickel	1940
<i>melampus</i>	---; enters houses, barracks, tents in rainy season; 143*	Rujatti	1947
Erichs			
<i>peregrinus</i>	---; ---; 146*	Pickel	1940
Erichs	---; ---; 146*	Dallas	1936
<i>riparius</i>	---; ---; 158*	Pickel	1940
Linnaeus			
<i>PARASA</i>			
<i>consocta</i>	---; ---; 168*	Hsiao	1948
Walker			
<i>hilarata</i>	Experimental transmission of dermatitis; ---; 76	Mills	1925
Staudinger			

TABLE 1 - URTICATING AND VESICATING ARTHROPODS (conclusion)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PARASA</i> <i>sinica</i> Moore	---; ---; 168*	Hsiao	1948
<i>SCOLOFENDRA</i> <i>cingulata</i>	---; sting causes intense pain, wide inflammatory swollen condition of the tissue in various parts of the body; 144*	Phisalix & Houdemer	1934
<i>XANTHOCHROA</i> <i>atriiceps</i> Lewis	---; common July, August; 158*, 256*	Kono	1939

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

SPECIES	DISEASE ORGANISM				COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER	
ACTORNIS					
<i>xanthoampa</i> Dyar				Der . titis	168
DENDROLIMUS				Dermatitis	158
<i>spectabilis</i> Butler				Dermatitis	168
<i>undans</i> <i>excellens</i> Butler				Dermatitis	168
EOBIA					
<i>cinererpennis</i> <i>ogawarenensis</i> Mats.				Skin vesicant	232
EUPROCTIS				Dermatitis	76, 158
<i>flava</i> Bremer				Dermatitis	168
GASTROPACHA					
<i>quercifolia</i> Linnaeus				Dermatitis	168
MAROSOIDIUS					
<i>flavidorealis</i> Staudinger				Dermatitis	168
MICROLEON					
<i>longipalpis</i> Butler				Dermatitis	168
NYGMIA				Dermatitis	168
<i>sub-flava</i> Bremer					194 56
ORPHANOEUS					
<i>brevilabialis</i> Wemp.				Skin vesicant	144
OTOSTMIGNUS					
<i>aculeatus</i> Haase				Skin vesicant	144

TABLE 2 - URTICATING AND VESICATING ARTHROPODS (conclusion)

SPECIES	DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>PAEDERUS</i>						
<i>albipilis</i>					Dermatitis	256
Solsky						
<i>alternans</i>					Dermatitis	144
Walker						
<i>fuscipes</i>					Dermatitis	143
Curtis					Dermatitis	144
					Dermatitis	256
<i>idae</i>					Dermatitis	76, 168
Sharp					Skin vesicant	158
<i>melampus</i>					Vesicular	143
Erichs					dermatitis	
<i>peregrinus</i>					Dermatitis	146 (Dallas, 1936)
Erichs					Skin vesicant	146
<i>riparius</i>					Skin vesicant	158
Linnaeus						
<i>PARASA</i>						
<i>consocia</i>					Dermatitis	168
Walker						
<i>sinica</i>					Dermatitis	168
Moore						
<i>SCOLOPENDRA</i>					Dermatitis	144
<i>cingulata</i>						
<i>XANTHOCHROA</i>					Skin vesicant	158
<i>atriceps</i>					Dermatitis	256
Lewis						

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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 Asia; and also, some serious disease organisms are transmitted by ticks. In Table 1 are listed 401 species or subspecies.

TABLE 1 - TICKS

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYONMA</i> <i>americanum</i> (Linnaeus)	---; 242	Robinson	1926
<i>babirussae</i> Schulze	---; 145°	Anastos	1950
<i>boucaudi</i> Toumanoff	---; 144	Toumanoff	1944
<i>caelaturum</i> Cooper & Robinson	---; 145 ---; 190, 280	Schulze Robinson	1936 1926
<i>caelaturum</i> <i>perfectum</i> Schulze	---; 149	Schulze	1936
<i>cayennense</i> Fabricius	---; 151	Brumpt	1938
<i>clypeolatum</i> Neumann	---; 70, 143	Robinson	1926
<i>compactum</i> Neumann	---; 149	Bequaert	1933
<i>cordiferum</i> Neumann	---; 146, 147, 277	Anastos	1950
<i>orenatum</i> Neumann	---; 146, 149, 190	Anastos	1950
<i>cyprum</i> Neumann	---; 76, 77, 242 ---; 144 ---; 145, 146, 147, 190	Hsiao Toumanoff Anastos	1945 1944 1950
<i>cyprum</i> <i>aeratiops</i> Schulze	In houses; 242°	Kohls	1950
<i>dissimile</i> Koch	---; 242	Robinson	1926
<i>elephantinum</i> Koch	---; 190	Bequaert	1933
<i>elephantinus</i> Linnaeus	---; 149	Bequaert	1933
<i>extraoculatum</i> Neumann	---; 280	Robinson	1926

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i> <i>fallax</i> Schulze	---; 190	Bequaert	1933
<i>feuerborni</i> Schulze	---; 146	Schulze	1933
<i>formosanum</i> Schulze	---; 77	Schulze	1935
<i>geoemydae</i> (Cantor)	---; 145, 149	Anastos	1950
<i>hebraeum</i> Koch	---; 70	Robinson	1926
	Rare; 143	Roy & Brown	1954
<i>helvolum</i> Koch	---; 143, 145, 146, 190, 224, 242, 277, 280, 337	Anastos	1950
	Feb.; 149	Warburton	1926a
<i>infestum</i> Koch	---; 59	Schulze	1939
	---; 146, 149	Bequaert	1933
<i>infestum</i> <i>borneense</i> Schulze	---; 145	Schulze	1936a
<i>infestum</i> <i>taivanicum</i> Schulze	---; 77	Schulze	1935
<i>integrum</i> Karsch	---; 70	Warburton	1925
	---; 143*	Toumanoff	1944
	---; 143	Sen	1938
<i>javanense</i> (Supino)	---; 59, 70, 75, 76, 133, 143, 144, 146, 149, 190, 242, 277, 337	Anastos	1950
<i>laticaudae</i> Warburton	---; 280	Warburton	1933
<i>lepidum</i> Dönitz	---; 251	King	1926
	---; 342	Bodenheimer	1937
<i>melayanum</i> Neumann	---; 149, 190, 242, 280	Anastos	1950
<i>nitidum</i> Hirst & Hirst	---; 11	Toumanoff	1944

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>AMBLYOMMA</i>			
<i>quadrinaculatum</i> Neumann	---; 146, 149	Schulze	1933
<i>robinsoni</i> Warburton	---; 144	Toumanoff	1944
	---; 146	Anastos	1950
<i>sublaeve</i> Neumann	---; 59, 76, 143, 146, 149, 190, 235, 277	Robinson	1926
	---; 70	Warburton	1925
	---; 76, 143, 190, 337	Hsiao	1945
	---; 366	Sen	1938
<i>subluteum</i> Neumann	---; 149	Bequaert	1933
<i>supinoi</i> Neumann	---; 59, 366	Schulze	1939
	---; 143	Sen	1938
	---; 144	Toumanoff	1944
	---; 235	Robinson	1926
<i>testudinarium</i> Koch	---; 59°, 70°, 76°, 77, 143°, 144°, 145°, 146°, 147°, 149°, 190°, 337	Anastos	1950
	---; 59, 70, 143, 144, 145, 146, 190	Robinson	1926
	May; 149	Warburton	1926b
	---; 242°	Kohls	1950
	---; 377°	Toumanoff	1944
	---; 366	Sen	1938
<i>variegatum</i> (Fabricius)	---; 143	Morel & Mouchet	1958
	At elevations 2500-5000 feet; 332	Hoogstraal	1956
<i>yajimai</i> Kishida	---; 77	Kishida	1935
<i>APORONEM</i>			
<i>barboursi</i> Anastos	---; 146	Anastos	1950
<i>bouretti</i> Toumanoff	---; 144	Toumanoff	1944

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>APONOMMA</i>	---; 144	Toumanoff	1944
<i>crassipes</i> Neumann	---; 166	Yakimoff	1917
<i>draconis</i> Warburton	---; 146, 337	Warburton	1933
<i>ecinotum</i> Neumann	---; 242	Kohls	1950
<i>fuscolineatum</i> (Lucas)	---; 143, 337	Schulze	1936a
<i>gervaisi</i> (Lucas)	---; 70, 143	Schulze	1936a
	---; 144	Toumanoff	1944
	---; 146, 149	Farner	1943
<i>gervaisi</i> var. <i>luoasi</i> Warburton	---; 143	Roy & Brown	1954
<i>komodoense</i> Oudemans	---; 146	Anastos	1950
<i>laeve</i> Neumann	---; 143	Sen	1938
<i>latum</i> (Koch)	---; 337	Howard	1908
<i>luoasi</i> Warburton	---; 59, 70, 143, 146, 147, 149, 224, 277, 337	Anastos	1950
<i>pattoni</i> Neumann	---; 70	Warburton	1925
	---; 143	Roubaud & Colas-Belcour	1935
<i>primaculatum</i> (Lucas)	---; 70	Warburton	1925
<i>pseudolaeve</i> Schulze	---; 76	Maiao	1945
<i>primaculatum</i> (Lucas)	---; 147, 337	Anastos	1950
	Feb.; 149	Warburton	1926a
<i>undatum</i> Fabricius	---; 149	Schulze	1933
<i>ARGAS</i> <i>boueti</i> Roubaud & Colas-Belcour	---; 342	Hoogstraal	1956

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ARGAS</i>			
<i>brumpti</i> Neumann	---; 251°	King	1926
<i>miniatus</i> Koch	---; 77	Sugimoto	1936 _a
<i>persicus</i> Oken	---; 28	Pomorantzev	1934
	---; 31, 76, 162, 317, 318, 326, 345 (Summer)	Anastos	1957
	---; 70	Crawford	1938
	---; 76°	Hsiao	1945
	---; 112	Matikashvili	1932
	---; 143	Sen	1938
	---; 144	Toumanoff	1944
	---; 146	Farner	1943
	In houses, attacks man and can cause illness and death; 150° (Bloodsucker, hides in crevices of woodwork)	Bedford	1934
	Suspected of transmitting relapsing fever to man; 150, 342. Widely spread; 342	Adler et al.	1937
	Stables; 150	Delpy	1947
	---; 151	Brumpt	1938
	---; 154	Buxton	1924
	---; 168°	Kobayashi	1925
	In houses, in hay used for bedding; 235	Rao & Kalra	1949
	---; 251	King	1926
	Experimentally infected with plague; 256	Faddeeva	1932
	---; 317	Vogel	1932
	---; 332	Hoogstraal	1956
	Lowlands, subtropical and tropical countries, resistant to climactic influences; 342	Rodenheimer	1934
<i>persicus</i> <i>persicus</i> Flecher de Waldheim	---; 167, 326	Yakimoff	1917

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ARGAS</i>			
<i>pipistrellae</i> Audouin	---; 76	Hoeppli & Feng	1933
<i>pusillus</i> Kohls	---; 242	Kohls	1950
<i>reflexus</i> (Fabricius)	---; 76°, 256°.---; 303, 321, 326	Anastos	1957
	---; 143, 150, 256, 340, 342, 345 (Bites man, in houses)	Hoogstraal	1956
	---; 162,	Yakimoff	1922
	Indoors, in cracks in walls and beams, May, July, Aug., Sept.; 317	Vogel	1927
<i>reflexus</i> <i>hermanni</i> Audouin	---; 256	Hoogstraal & Kohls	1960
<i>reflexus</i> var. <i>indicus</i> Warburton	---; 143	Sharif	1938
<i>eavignyi</i> Audouin	---; 2, 25, 143 (Loose soil in shade of desert trees and rocks, on man)	Bedford	1934
<i>vespertilionis</i> (Latreille)	---; 70, 76, 143, 168, 242, 256	Hoogstraal	1956
	---; 77	Neumann	1913
	Nov.; 144	Borel	1928
	Tents, furniture, clothes; 151	Patton	1920
	---; 162, 345	Anastos	1957
	---; 321	Yakimoff	1922
<i>BOOPHILUS</i>			
<i>annulata</i> Doeve	---; 143	Roy & Brown	1954
<i>annulatus</i> (Say)	---; 145, 147	Shuurmans Stekhoven	1923
	---; 151	Patton	1920
	---; 154	Barton	1924
	---; 303	Galuso & Boopalov	1935
	---; 317	Stefko	1917
	---; 342	Smith	1931

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BOOPHILUS</i> <i>annulatus</i> var. <i>australis</i>	---; 11, 143, 144, 242* (Larvae found on man)	Toumanoff	1944
<i>australis</i> Fuller	---; 11, 59, 242, 366	Sharif	1938
	---; 70	Warburton	1925
	Game forest, fields, bushes, experimentally infected with murine typhus rickettsia; 143	Kalra & Roa	1949
	---; 235	Sen	1938
<i>annulatus</i> var. <i>oalocaratus</i> (Birula)	---; 35	Yakimoff et al.	1932
	---; 143	Sen	1938
	---; 146	Schuurmans Stekhoven	1923
	---; 162	Yakimoff et al.	1926
	---; 256	Zolotarev	1934
	---; 321	Yakimoff	1929
	---; 342	Smith	1931
	Apr.-Aug.; 345	Yakimoff et al.	1929
<i>annulatus</i> var. <i>caudatus</i> (Neumann)	---; 77, 158, 168, 257	Ugura	1936
<i>oalocaratus</i> Birula	---; 35, 150, 162, 166, 303, 318, 321, 326, 345, 350 (Lowlying marshy areas, water meadows and edges of irrigation ditches)	Anastos	1957
	Apr.-Oct., Nov.; 118	Markov & Bogoroditskii	1935
	---; 151	Brumpt	1932
	Abundant Mar.-Apr., June-Sept.; 256	Kurchatov	1940
	---; 317	Weyer & Zumpt	1952
<i>oalocaratus</i> <i>balcanicus</i> Minning	---; 317	Minning	1934
<i>oalocaratus</i> <i>oalocaratus</i> Birula	---; 345	Minning	1936

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>BOOPHILUS</i>	---; 154	Minning	1934
<i>calcaratus</i>			
<i>palestinensis</i>	---; 342	Minning	1936
Minning			
<i>calcaratus</i>			
<i>persicus</i>	---; 150	Minning	1936
Minning			
<i>caudatus</i>	---; 31, 168	Barnett & Toshioka	1951
Neumann			
<i>decoloratus</i>	---; 144	Lagrange	1922
(Koch)			
	---; 150, 302	Hoogstraal	1956
	---; 168	Hsiao	1948
<i>intraocularis</i>	---; 150	Minning	1936
Minning			
<i>microplus</i>	---; 59, 145, 146, 147, 149, 224, 242, 337	Anastos	1950
(Canestrini)			
	---; 70, 76, 144, 158, 235	Minning	1934
<i>minningi</i>	---; 168	Hsiao	1948
(Koshida)			
<i>schulzei</i>	---; 154, 342	Minning	1934
Minning			
<i>DERMACENTOR</i>			
<i>albopictus</i>	Experimentally infected with spotted fever; 168	Hsiao	1948
(Packard)			
<i>andersoni</i>	Experimentally infected with typhus rickettsiae; 76	Liu	1944
Stiles			
<i>antromi</i>	---; 28	Anastos	1957
Resnik			
<i>asper</i>	---; 76	Arthur	1960
Arthur			
<i>atrosignatus</i>	---; 77	Neumann	1913
Neumann			
<i>auratus</i>	---; 59*	Anastos	1950
Supiao			
	---; 70	Warburton	1925
	Suspected vector of tick typhus fever; 143. Naturally infected with tick typhus fever; 149	Sharif	1938
	---; 145*	Sen	1938

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMACENTOR</i>	---	Toumanoff	1944
<i>auratus</i>	---	Arthur	1960
Supino (cont.)	---	Warburton	1926a
	Apr.; 14°	Warburton	1926b
	Aug.; 149	Hsiao	1945
<i>birulai</i>	---	Olenev	1929
<i>Olenev</i>	---		
<i>birulai</i>	---		
<i>bukunorunsis</i>	---		
<i>Olenev</i>	---		
<i>coreus</i>	---	Barnett & Toshioka	1951
Itaki, Noda & Yamaguchi	---		
<i>daghestanicus</i>	---	Pomerantzev	1946
<i>Olenev</i>	---		
<i>daghestanicus</i>	---	Schulze	1933a
<i>daghestanicus</i>	---		
<i>Olenev</i>	---		
<i>daghestanicus</i>	---	Schulze	1933a
<i>sillemi</i>	---		
Schulze	---		
<i>everestianus</i>	---	Hsiao	1945
Hirst	---		
<i>marginatus</i>	---	Anastos	1957
(Sulzer)	---		
	Steppe forest; 256*	Karpov et al.	1960
<i>marginatus</i>	---	Schulze	1933a
<i>marginatus</i>	---		
(Sulzer)	---		
<i>nitens</i>	Experimentally infected with typhus	Liu	1944
Neumann	<i>rickettsiae</i> ; 76		
	---	Sugimoto	1936

<i>niveus</i>	---	Anastos	1957
Neumann	---		
	---	Yakimoff et al.	1932

	---	Matikashvili	1932

	Apr.-June; 256°	Popov	1928

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMACENTOR</i>			
<i>nuttalli</i>	---; 76, 256°, 353	Anastos	1957
<i>Olenev</i>	---; 209	Schulze	1933a
	Transmitter of a typhical typhus; 256*	Pletzity	1947
	---; 256*	Petrova- Plootkovskaya	1941
<i>otrosignatus</i>	---; 77	Sugimoto	1936
<i>Neumann</i>			
<i>pavlovskyi</i>	---; 31, 162, 166, 326	Anastos	1957
<i>Olenev</i>			
<i>pictus</i>	---; 60, 162, 166, 194, 256°. Aug.-Apr.; 345	Anastos	1957
<i>Hermann</i>			
	In steppes; 256	Pletzity	1947
	---; 256*	Karpov et al.	1960
<i>pomerantzevi</i>	---; 256	Anastos	1957
<i>Serdiukova</i>			
<i>pomerantzevi</i>	---; 256	Serdiukova	1951
<i>serdjukova</i>			
<i>Serdiukova</i>			
<i>raskemensis</i>	Nov.; 162	Anastos	1957
<i>Pomerantzev</i>			
<i>reticulatus</i>	---; 60, 162, 256, 321, 345	Yakimoff	1917
<i>Fabricius</i>	---; 76	Hsoppli & Feng	1933
	---; 168°	Barnett & Toshioka	1951
	---; 194°	Hsiao	1945
	---; 194	Hsiao	1946
	Possible vector of Omsk haemorrhagic fever and Russian Spring Summer Encephalitis; 256	Thompson	1964
	Attacks man; 256°	Belitzer	1914
<i>reticulatus</i>			
<i>niveus</i>	---; 162, 345	Yakimoff	1922
<i>Neumann</i>			
<i>reticulatus</i>			
<i>reticulatus</i>	---; 162, 318	Yakimoff	1917
<i>Fabricius</i>			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMACENTOR</i>	---	Anastos	1957
<i>silvarum</i>	---	Matikashvili	1932
<i>Olenev</i>	Mar.-Sept.; 162°	Golov	1933
	---	Hsiao	1946
	Forest and bush vegetation, May-Sept.; 256, 353 (Vector of endemic encephalites, tularemia, plague and tick-borne typhus)	Arthur	1960
	Grass steppes, July-Aug.; 256*	Pletzity	1947
	Steppe forest zone; 256	Karpov et al.	1960
	Experimentally infected with tularemia; 256	Sassuchin	1936
	---	Pavlovskii	1947
	---	Anastos	1957
	---	Pogorely	1936
<i>silvarum</i>	---		
<i>ablutus</i>	---	Schulze	1933a
Schulze			
<i>silvarum</i>	---		
<i>silvarum</i>	---	Schulze	1933a
<i>Olenev</i>			
<i>sinicus</i>	---	Hsiao	1945
Schulze			
<i>sinicus</i>	---	Hsiao	1945
<i>pallidior</i>			
Schulze			
<i>sinicus</i>	---	Schulze	1933a
<i>sinicus</i>			
Schulze			
<i>taiwanensis</i>	---	Toumanoff	1944
Sugimoto			
<i>variabilis</i>	---	Banks	1919
Say			
<i>variegatus</i>	---	Yakimoff	1917
var. <i>kamtschadalis</i>			
Neumann			
<i>varius</i>	---	Schulze	1933a
<i>kamtschadalis</i>			
Neumann			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>DERMACENTOR</i>			
<i>renustus</i> Banks	---; 280	Sarsuchin	1934
<i>DISCOLOPHUS</i>			
<i>tokunagai</i> Kishida	---; 76	Hsiao	1946
<i>HAEMAPHYSALIS</i>			
<i>aborensis</i> Warburton	---; 143, 144	Toumanoff	1944
<i>aculeata</i> Lavorra	---; 70	Warburton	1925
	---; 143°	Strickland	1939
<i>arbigua</i> Neumann	---; 162	Yakimoff	1922
	---; 345	Yakimoff	1917
<i>angorensis</i> Schulze & Schlottke	---; 317	Schulze & Schlottke	1927
<i>bequaerti</i> Hoogstraal	---; 332	Hoogstraal	1956
<i>binneari</i> Warburton	---; 143	Toumanoff	1944
<i>birmaniae</i> Supino	---; 31, 143	Schulze	1935
	---; 59, 76, 77, 145, 149, 158	Hsiao	1945
	---; 144	Toumanoff	1944
<i>biapinosa</i> Neumann	---; 11, 59, 70, 76, 77, 144, 145, 146, 158, 190, 337	Anastos	1950
	Probable vector of tropical typhus fever; 143, 149	Toumanoff	1944
	---; 143°	Roy & Brown	1954
	---; 151	Patton	1920
	Possible vector of "Q" fever; 168°	Barnett & Toshioka	1951
	---; 256°	Hsiao	1948
	---; 256	Hsiao	1945
	---; 280	Krijgeman & Ponto	1931

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>			
<i>bispinosa</i>			
<i>neumanni</i>	---; 294	Pospelova-Schtroum	1940
Pospelova-Schtroum			
<i>bispinosa</i>	---; 70	Warburton	1925
<i>intermedia</i>			
Warburton & Nuttall	---; 143	Sen	1938
<i>calvus</i>	---; 145	Toumanoff	1944
Nuttall & Warburton			
<i>campanulata</i>	---; 76, 158, 353	Hsiao	1945
Warburton			
	---; 143	Sen	1938
	Experimentally infected with <i>Trypanosoma</i> and <i>Leishmania</i> ; 151	Brumpt	1938
	---; 168	Barnett & Toshioka	1951
<i>campanulata</i>			
<i>hoepli</i>	---; 76	Hsiao	1945
Schulze			
<i>caucasica</i>	---; 150, 162, 166, 256, 303, 345	Anastos	1957
Olenev			
<i>centropi</i>	---; 59, 190, 242	Kohls	1950
Kohls			
<i>chodorovskii</i>	---; 28	Pavlovskii & Pomerantzev	1934
Olenev			
	---; 118	Matikashvili	1932
	---; 150	Delpy	1938
	---; 256	Zolotarev	1934
<i>choprai</i>	---; 143	Toumanoff	1944
Sharif			
<i>cinnabarina</i>	---; 154	Buxton	1924
Koch			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>	---; 28	Pavlovskii & Pomerantzev	1934
<i>cinabarinna</i>			
<i>punctata</i>	---; 35	Yakimoff et al.	1932
Canestrini & Fanzago			
	---; 143	Sharif	1938
	---; 150	Delpy	1938
	---; 151	Khayyat & Gilder	1947
	---; 162	Galuzo et al.	1944
	---; 256	Sassuchin & Tiflow	1933
	---; 317	Nuttall	1916
<i>oonoinna</i>	---; 31, 150, 158, 168 (Forest zones).	Anastos	1957
Koch	---; 35, 118, 162, 166, 256, 345 (Forest zones, March-Sept.)		
	March-Aug.; 168, 194**	Pavlovskii	1947
	---; 256*	Karpov et al.	1960
	---; 256*	Pletchity	1947
<i>oonoinna</i>			
<i>kochi</i>	---; 162, 256	Yakimoff	1917
Neumann			
<i>oonigera</i>	---; 59, 77, 143, 145, 146, 190, 235, 280, 337	Anastos	1950
Neumann			
	April; 144. ---; 149	Larrouse	1925
<i>oonigera</i>	---; 143	Sen	1938
<i>anomala</i>			
Warburton	---; 144, 145, 190	Toumanoff	1944
<i>oonigera</i>			
<i>taiwana</i>	---; 77	Sugimoto	1936
Sugimoto			
<i>cuspidata</i>	---; 70	Toumanoff	1944
Warburton			
<i>dentipalpis</i>	---; 144	Toumanoff	1944
Warburton & Nuttall			
<i>doenitzi</i>	---; 190, 280	Kohls	1950a
Warburton & Nuttall			
<i>exoniensis</i>	---; 168	Barnett & Toshioka	1951
Ogura & Takada			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>	---; 77, 158	Toumanoff	1944
<i>flava</i>	---		
Neumann	---; 143*	Sen	1938
	---; 151	Patton	1920
	---; 168	Barnett & Toshioka	1951
	---; 345	Yakimoff	1917
<i>formosensis</i>	---; 59, 144	Toumanoff	1944
Neumann	April; 77	Neumann	1913
<i>genevrayi</i>	---; 144	Toumanoff	1944
Toumanoff			
<i>heinrichi</i>	---; 59*	Schulze	1939
Schulze			
<i>hirudo</i>	---; 256	Yakimoff	1917
Koch			
<i>hoogstraali</i>	---; 242	Kohls	1950
Kohls			
<i>houletti</i>	---; 143	Toumanoff	1944
Warburton			
<i>hylobatis</i>	---; 149	Anastos	1950
Schulze			
<i>hystrioides</i>	---; 59*, 70, 76, 77, 143, 144, 145, 190, 337	Anastos	1950
Supino			
	---; 59, 146	Schulze	1935
	April; 149	Warburton	1926a
	July; 149	Warburton	1926b
<i>iberica</i>	---; 345	Zakharov	1926
(Jordan)			
<i>inermis</i>	---; 28, 35, 118, 150, 162, 166, 207, 256. Sept.-April; 345	Anastos	1957
Birula			
<i>japonica</i>	---; 76, 158	Heiao	1945
Warburton	---; 256	Grusdeva	1943

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>	---	Anastos	1957
<i>japonica</i>	---		
<i>douglasi</i>	---	Pospelova-Schtroum	1940
Nuttall & Warburton	---		
<i>japoensis</i>	---	Ogura & Takada	1927
Ogura & Takada			
<i>kinneari</i>	---	Toumanoff	1944
Warburton			
<i>koningsebergeri</i>	---	Anastos	1930
Nuttall & Warburton			
<i>lagrangei</i>	April; 144	Larrousse	1925
Larrousse			
<i>leachi</i>	---	Sen	1938
Audouin			
	---	Toumanoff	1944
	---	Farner	1943
	Apr.; 149	Warburton	1926a
	May; 149	Warburton	1926b
	---	Fielding	1926
	---	King	1926
	---	Olenov	1928
	---	Bodenheimer	1937
<i>leachi</i>	Experimental transmission of fever;	Browning &	1948
var. <i>indica</i>	143	Kalra	
Warburton			
	---	Toumanoff	1944
<i>leachii</i>	---	Hoogstraal	1956
<i>leachii</i>	---		
(Audouin)	---		
<i>leachii</i>	---	Hoogstraal	1956
<i>muhammadi</i>	---		
Santos Dias			
<i>lemuris</i>	---	Hoogstraal & Theiler	1939
Schulze			
<i>leporis</i>	---	Yakimoff	1917
(Packard)			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>			
<i>menui</i> Toumanoff	---; 144	Toumanoff	1944
<i>mesnardi</i> Toumanoff	---; 144	Toumanoff	1944
<i>minuta</i> Kohls	---; 70	Kohls	1950a
<i>mjobergi</i> Warburton	---; 145	Warburton	1926
<i>montgomeryi</i> Nuttall	---; 143 ^o	Strickland	1939
	---; 143	Sen	1938
<i>neumanni</i> Donitz	---; 70, 76, 158, 256	Hsiao	1946
	---; 168	Barnett & Toshioka	1951
<i>nishiyamas</i> Sugimoto	---; 77 ^o	Sugimoto	1935
	---; 77	Sugimoto	1936
<i>novae-guineae</i> Krijgsman & Ponté	---; 144	Toumanoff	1944
<i>numidiana</i> Neumann	---; 162	Sassuchin	1933
	---; 256	Sassuchin & Tiflow	1933
	---; 326	Olenev	1930
<i>numidiana</i> <i>turanica</i> Pospelova- Schtron	---; 31, 150, 162, 166, 256, 303, 318, 326, 345	Anastos	1957
	---; 294	Pospelova- Schtron	1940
<i>obesa</i> Larrousee	February; 144	Larrousee	1925
<i>otophila</i> Schulze	---; 28, 35, 118, 256, 321, 345, 350	Anastos	1957
	---; 151, 159, 342	Hoogstraal & Kaiser	1960
	---; 317	Vogel	1927
<i>palawanensis</i> Kohls	---; 242	Kohls	1950

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES: DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>	---; 144, 145, 146, 147, 149, 190	Anastos	1950
<i>papuae</i>			
Thorell	---; 168	Barnett & Toshioka	1951
	---; 242	Kohls	1950
	---; 345	Yakimoff	1917
<i>parva</i>	---; 70, 143	Schulze	1933
Neumann			
<i>pavlovskii</i>	---; 294	Pospelova- Schtrom	1940
Pospelova- Schtrom	---; 303	Anastos	1957
<i>punctata</i>	---; 28, 35, 118, 150, 162, 166, 256, 303, 321, 326	Anastos	1957
Canestrini & Fanzago	---; 342	Bodenheimer	1937
	---; 345	Yakimoff	1917
<i>ranschi</i>	Mountain lake at 1200 m. elevation, mountain rainforest with sparse under- brush; 146	Schulze	1936
Schulze			
<i>roubaudi</i>	---; 144	Toumanoff	1944
Toumanoff			
<i>rusae</i>	---; 242	Kohls	1950
Kohls			
<i>sciusi</i>	---; 242	Kohls	1950
Kohls			
<i>sewelli</i>	---; 235	Toumanoff	1944
Sharif			
<i>spinigera</i>	---; 70	Warburton	1925
Neumann	---; 143	Sen	1938
	---; 144	Toumanoff	1944
<i>subdata</i>	---; 28, 35, 76, 118, 143, 150, 162, 256, 303, 326, 342, 343	Anastos	1957
Canestrini & Fanzago			
<i>sundrai</i>	---; 143	Toumanoff	1944
Sharif			
<i>taxopei</i>	---; 147	Anastos	1950
Warburton			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HAEMAPHYSALIS</i>			
<i>traguli</i> Oudemans	---; 146, 190	Anastos	1950
<i>trispinosa</i> Toumanoff	---; 144	Toumanoff	1944
<i>turturis</i> Nuttall & Warburton	---; 70	Toumanoff	1944
	---; 142	Sen	1938
<i>turturis</i> <i>lalipunctata</i> Toumanoff	---; 144	Toumanoff	1944
<i>vidua</i> Warburton & Nuttall	---; 190	Toumanoff	1944
<i>warburtoni</i> Nuttall	---; 35, 118, 166, 256, 345	Anastos	1957
	---; 76, 77, 158	Hsiao	1945
<i>wellingtoni</i> Nuttall & Warburton	---; 11, 59, 143, 144, 145, 146, 149, 190, 277, 337	Anastos	1950
<i>yeni</i> Toumanoff	---; 144	Toumanoff	1944
<i>HYALOMMA</i>			
<i>aegyptium</i> (Linnaeus)	---; 3, 28, 35, 118, 150, 162, 256, 302, 303, 317, 318, 326, 345, 350	Anastos	1957
	---; 70	Hutson	1921
	---; 76	Howard	1908
	Common, possible vector of typhus; 143	Mehta	1937
	Jan.-March; 143	Sharif	1930a
	---; 143°	Roy & Brown	1954
	---; 146, 353	Hsiao	1945
	---; 151	Patton	1920
	---; 154, 159	Buxton	1924
	---; 168	Barnett & Toshioka	1951
	---; 235	Sharif	1938
	---; 251	King	1926
	---; 317°, 342	Hoogetraal	1956
	---; 321	Yakimoff	1917
	Desert, less tolerant towards low humidity; 342°	Bodenheimer	1934

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i>			
<i>aegyptium</i>			
<i>aegyptium</i> Linnaeus	---; 162, 318, 326	Yakimoff	1917
<i>aegyptium</i> <i>dromedarii</i> Koch	---; 143, 235	Sharif	1938
	---; 162, 326	Yakimoff	1917
	---; 345	Yakimoff	1922
<i>aegyptium</i> <i>ferozodini</i> Sharif	---; 143	Sen	1938
<i>aegyptium</i> <i>isaaci</i> Sharif	---; 143	Sen	1938
<i>aegyptium</i> <i>mesopotamium</i> Schulze	---; 151	Schulze	1919
<i>amurensae</i> Schulze	---; 256	Anonymous	1944a
<i>anatolicum</i> Koch	---; 35	Kurchatov	1941
	---; 150, 256, 318, 326	Pomerantsev	1946
	Mar.-Sept.; 162	Galuso	1944
	---; 303	Serdiukova	1946
	---; 342*	Bodenheimer	1937
	---; 350	Olenev	1931
<i>anatolicum</i> <i>excavatum</i> Koch	---; 150, 162, 318	Pomerantsev	1946
	---; 256	Pervomaiskii	1949
<i>asiaticum</i> Schulze & Schlotke	---; 162*, 318*, 326	Pomerantsev	1946
	---; 256	Markov et al.	1948
	---; 303	Serdiukova	1946a
<i>oinnaharina</i> <i>punctata</i> Canestrini and Fantago	---; 342	Smith	1931
<i>dalpyi</i> Schulze & Gossel	---; 150	Schulze	1936b

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA detritum</i> Schulze	Saline, marshy grasslands and pasture-lands; 28. ---; 31, 76, 143, 150. Oct., moist meadows, water side vegetations or under grasses, Feb.-Sept.; 162. ---; 168, 194. Forest meadows and open fields, common; 256. ---; 294, 302. Common in irrigated valleys; 303. ---; 317, 321. Possible vector of Uzbekistan hemorrhagic fever, natural reservoir of <i>Coxiella burnetii</i> ; 326. ---; 340, 342. Deserts and steppes; 345. ---; 349, 350, 353. (Harbors <i>Pasteurella pestis</i>).	Hoogstraal	1956
	---; 35, 118, 162°, 318, 354	Anastos	1957
	---; 154	Feldman-Muehsam	1948
<i>detritum albipictum</i> Schulze	---; 76	Schulze	1930 a
	---; 194	Hsiao	1946
<i>detritum damascenium</i> Schulze & Schlottke	---; 302	Schulze	1930 a
<i>detritum perstrigatum</i> Schulze	---; 76	Hsiao	1945
<i>detritum rubrum</i> Schulze & Olenov	---; 28	Pomerantzev	1934
	---; 35	Yakimoff et al.	1932
	---; 162	Schulze	1930 a
	---; 303	Galuzo & Bepalov	1935
	Mar.-July; 326	Galuzo	1935
<i>dromedarii</i> Koch	---; 2, 3, 28, 31, 76, 143, 144, 150, 159, 235, 256°, 270, 294, 303, 317, 318, 326, 340, 342. April-Oct.; 162. Mountain areas at 7000 feet altitude, attracted to man; 332. Deserts and semi-deserts; 345 (Host and vector of <i>Coxiella burnetii</i>)	Hoogstraal	1956
	---; 35, 166, 256, 302, 353	Anastos	1957
	Experimentally infected with <i>Trypanosoma</i> , <i>Crithidia</i> , <i>Leishmania</i> parasite; 151	Brumpt	1938
	---; 342°	Bodenheimer	1937

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HiALOMMA</i>			
<i>dromedarii</i>	---; 28	Caluzo	1934
<i>asiaticum</i>	---; 162	Olenov	1930
Schulze & Schlottke	---; 318	Vlasov	1932
<i>dromedarii</i>			
<i>indosinensis</i>	---; 144	Toumanoff	1944
Toumanoff			
<i>excavatum</i>	---; 2, 3, 25, 143, 150, 151°, 174, 256, 270, 302, 313, 342, 349, 350. In pastures, at 6500 feet and higher; 28. Transovarial transmission of Japanese encephalitis and Russian encephalitis; 293. Feb.-Nov.; 303. Common on steppes, at 6500 feet elevation and higher; 317°. Naturally infected with <i>Coxiella burnetii</i> ; 326°. At 6500 feet elevation and higher; 332°. Deserts and semi-deserts and steppe formations; 345	Hoogstraal	1956
Koch	---; 162, 318. All year, peak May-July, possible vector of Haemorrhagic fever; 326. March-Oct.; 345	Anastos	1957
<i>hussaini</i>	Jan.; 143	Sharif	1930
Sharif	---; 349	Hoogstraal	1956
<i>hussaini</i>	---; 143, 366	Sharif	1938
var. <i>brevipunctata</i>			
Sharif			
<i>impeltatum</i>	---; 25, 150, 151, 317, 332, 342	Hoogstraal	1956
Schulze & Schlottke			
<i>impressum</i>	---; 342°	Bodenheimer	1937
Koch	---; 342	Adler & Feldman-Muehsam	1948
<i>kozlovi</i>	---; 256	Anonymous	1945
Olenov	---; 353	Hsiao	1945
<i>kumari</i>	Feb.; 143	Sharif	1930
Sharif	---; 235	Sen	1938

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALomma</i> <i>marginatum</i> Koch	In semi-deserts and at altitudes of 6500 feet and over; 28. ---; 143, 144, 150, 151, 159, 174. Forest, March-Sept.; 256*° ---; 294, 302, 317, 332, 342. Highlands, forest zones, in desert and steppe formations; 345 (Naturally infected with <i>Coxiella brunetii</i>)	Hoogstraal	1956
	---; 35	Yakimoff et al.	1932
	---; 118	Matikashvili	1932
	---; 162	Tzelishcheva	1940
	Steppe, mountain forest; 256	Korshunova & Piontkovskaya	1949
	---; 321, 350	Pomerantzev	1946
	---; 342°	Bodenheimer	1937
<i>marginatum</i> <i>bucuense</i> Schulze	---; 35	Olenev	1935
<i>marginatum</i> <i>balsanum</i> Schulze & Schlottke	---; 256, 350	Olenev	1931
<i>marginatum</i> <i>impressum</i> Koch	---; 162, 256	Pomerantzev	1946
<i>marginatum</i> <i>olenevi</i> Schulze & Schlottke	---; 162, 345	Olenev	1931
<i>marginatum</i> <i>turanicum</i> (Pomerantzev)	---; 150, 162	Pomerantzev	1946
<i>pavlovskii</i> Schulze & Schlottke	---; 345	Olenev	1931
<i>pusillum</i> Schulze	---; 2	Bequaert	1930
	Naturally and experimentally infected with <i>Trypanosoma</i> , <i>Crithidia</i> , <i>Leishmania</i> , Oct.; 151	Brumpt	1938
<i>pusillum</i> <i>alexandrinum</i> Schulze	---; 317	Vogel	1927

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i>	---; 162, 345	Yakimoff	1922
<i>phipicephaloides</i> Neumann	---; 342	Schulze	1919
<i>rufipes</i> Koch	---; 162, 256. Mountain pastures; 303. ---; 317, 332, 342. Deserts; 345	Hoogstraal	1956
<i>amignyi</i> (Gervais)	---; 28, 35, 118, 150, 166, 256, 321, 326, 350. June-Aug.; 162. Mar.-Nov.; 345	Anastos	1957
	---; 154	Feldman- Muehsam	1948
	Aug.; 303	Galuzo	1935
	---; 342°	Bodenheimer	1937
	---; 342	Adler & Feldman- Muehsam	1948
<i>amignyi</i> <i>armeniorum</i> Schulze	---; 28	Lototskii & Popov	1934
	---; 162	Olenev	1930
<i>schulzei</i> Olenev	---; 3, 151, 342	Hoogstraal	1956
	Jan., May; 150	Anastos	1957
	---; 159	Schulze	1936
	---; 342°	Bodenheimer	1937
<i>scupesae</i> Schulze	---; 162, 254, 321	Pomerantzev	1946
	---; 345	Markov et al.	1948
<i>steineri</i> Schulze & Gossel	---; 317	Schulze	1936b
<i>syriacum</i> Koch	---; 154	Buxton	1924
	---; 162, 326, 345	Yakimoff	1917
	Steppes; 256, 317	Vogel	1927
	---; 342	Smith	1931
<i>triviatum</i> Koch	---; 332 (Vector of Tick paralysis and <i>Coxiella burnetii</i>)	Hoogstraal	1956
<i>tunesiacum</i> Schulze & Schlottke	---; 342°	Bodenheimer	1937

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>HYALOMMA</i> <i>turanicum</i> Pomerantzev	---; 3, 31, 150. In meadows, semi-deserts, low areas of fields, at the base of hills, on mountain slopes to the wooded belts, March-May; 162, 256	Hoogstraal	1956
<i>turkmenienae</i> Olenev	---; 256	Markov et al.	1948
<i>uralense</i> Schulze & Schlottke	Jan.-May; 162, 256	Sassuchin	1933
<i>verae</i> Olenev	---; 256	Anonymous	1945
	---; 353	Hsiao	1945
<i>volgensae</i> Schulze & Schlottke	---; 162	Sassuchin	1935
	Experimentally infected with plague; 256	Borzenkov & Donskov	1933
	---; 321	Pogorely	1936
<i>watkenaerii</i> Gervais	---; 190	Bequaert	1933
<i>yakimovi</i> <i>persianum</i> Olenev	---; 318	Olenev	1931
<i>INDOCENTOR</i> <i>auratus</i> Supino	Common; 59°. ---; 146	Schulze	1939
	---; 59, 143, 149	Schulze	1933a
<i>auratus</i> <i>sumatranus</i> Schulze	---; 149	Schulze	1939
<i>bellulus</i> Schulze	---; 77	Schulze	1935
<i>compactus</i> Neumann	---; 143, 145, 146	Schulze	1933a
<i>compactus</i> <i>compactus</i> Neumann	---; 145	Schulze	1933a
<i>compactus</i> <i>tricuspis</i> Schulze	---; 242	Kohls	1950
<i>confractus</i> Schulze	---; 146	Schulze	1933a
<i>steini</i> <i>levicululus</i> Schulze	---; 146, 149	Schulze	1933a

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>acuminatus</i> Neumann	---; 168	Barnett & Toshioka	1951
<i>acutitarsus</i> (Karch)	---; 31°	Sharif	1938
	Apr.; 59°. ---; 76, 77, 143 (On man). ---; 158	Schulze	1939
	---; 59 (On man)	Hsiao	1945
	---; 76	Sen	1938
	---; 143°, 158°	Schulze	1935
<i>angulatus</i> Kishida	---; 76	Hsiao	1945
	---; 170	Anastos	1957
	---; 194	Anonymous	1946
<i>angustus</i> Neumann	---; 256	Anastos	1957
<i>apronophorus</i> Schulze	Apr.-Oct.; 162	Golov	1933
	Forest; 256	Karpov et al.	1960
<i>arboricola</i> <i>bogatschevi</i> Kirschenblatt	August; 345	Anastos	1957
<i>arcticus</i> Osborn	---; 47	Yakimoff	1922
	---; 256	Yakimoff	1917
<i>areolaris</i> Olenev	---; 161, 256	Olenev	1939
<i>arenicola</i> Eichwald	---; 256	Yakimoff	1917
	---; 354	Yakimoff	1922
<i>autumnalis</i> Leach	---; 31, 162, 353	Hsiao	1945
	---; 194	Hsiao	1946
	---; 207, 321	Anastos	1957
	Naturally infected with plague; 256	Pavlovskii	1931a
<i>berlessei</i> Birula	---; 256, 303	Anastos	1957
	Rivershore; 294	Yakimoff	1917
<i>birulai</i> Yakimoff, Saikovich & Vasilevskaya	---; 256	Anastos	1957

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>brunneus</i> Koch	---; 150, 158, 321	Nuttall	1916
<i>canisuga</i> Johnston	---; 150	Nuttall	1916
	---; 256	Anastos	1957
	---; 342	Bodenheimer	1937
<i>ceylonensis</i> Kohls	---; 70	Kohls	1950a
<i>cordifer</i> Neumann	---; 145, 147	Farner	1943
	---; 337	Toumanoff	1944
<i>coreensis</i> Kishida	---; 168	Barnett & Toshioka	1951
<i>corniger</i> Kol.	---; 317	Stefko	1917
	---; 345	Yakimoff	1922
<i>oreulavus</i> Koch	---; 35, 118, 166, 207, 256, 303, 321, 345, 353	Anastos	1957
	Xerophilous steppe; 256	Dubinin	1948
<i>sinensicoxalis</i> Kirschenblatt	In rodent nest; 345	Kirschenblatt	1935
<i>elephantinus</i> Fabricius	---; 190	Bequaert	1933
<i>frequens</i> Ogura & Takada	---; 158°	Ogura & Takada	1927
	---; 158	Schulze	1930
<i>frontalis</i> (Panzer)	---; 118, 256, 321, 345	Anastos	1957
<i>gigas</i> Warburton	In jungle, 7000-8000 feet elevation; 76°. ---; 143	Nuttall	1916
<i>granulatus</i> Supino	Mar.; 59	Schulze	1939
	---; 143, 145, 146, 242, 337	Anastos	1950
	Oct.; 149	Warburton	1926b
<i>hexagonus</i> Leach	---; 77	Sugimoto	1936
	---; 256	Tikhomero & Nikanorov	1930

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>hirsutus</i> Birula	---; 256	Yakimoff	1917
<i>holocyclus</i> Neumann	---; 143°	Fielding	1926
	---; 143	Sharif	1938
	---; 147	Krijgsman & Ponto	1931
	---; 337	Toumanoff	1944
<i>japonensis</i> Neumann	Jungle, 6000-8000 feet elevation; 59. ---; 76. 5400-7000 feet elevation; 158	Nuttall	1916
	---; 143	Hsiao	1945
<i>kazakstani</i> Olenev & Sorokoumov	---; 162, 166	Anastos	1957
<i>kempi</i> Nuttall	---; 143	Nuttall	1916
<i>laguri</i> <i>armeniacus</i> Pomerantzev & Kirschenblatt	---; 28	Anastos	1957
<i>laguri</i> <i>oolohious</i> Pomerantzev	---; 256	Pomerantzev	1946
<i>laguri</i> <i>laguri</i> Olenev	---; 35. Suspected vector of tularemia; 162, 256, 321	Anastos	1957
<i>mindanensis</i> Kohls	---; 242	Kohls	1950
<i>muniaoi</i> Schulze	April; 59	Schulze	1939
<i>nitens</i> Neumann	---; 78	Toumanoff	1944
<i>nuttalianus</i> Schulze	---; 76	Hsiao	1945
<i>occultus</i> Pomerantzev	---; 318	Anastos	1957
<i>ovatus</i> Neumann	---; 158, 256, 345	Anastos	1957

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>pavlovskii</i> Pomerantsev	---; 256	Anastos	1957
<i>persulcatus</i> Schulze	---; 158*, 194*, 256*	Kitaoka	1950
	---; 162, 166, 170	Anastos	1957
	Mixed forests, steppes; 256. ---; 294	Schulze	1936
	Forest zones; 256	Pletsity	1947
	Has been demonstrated as the vector of the tick-borne encephalitis; 256	Hsiao	1946
	Apr.-Dec., peak May-June; 256°	Karpov et al.	1960
	June and July; 256	Chumakov	1941
	---; 256*	Hsiao	1945
	---; 256°	Anonymous	1944a
<i>persulcatus</i> <i>diversipalpis</i> Schulze	---; 256	Schulze	1930
<i>persulcatus</i> <i>persulcatus</i> Schulze	---; 256	Schulze	1930
<i>petauristas</i> Warburton	---; 70	Thompson	1938
<i>plumbeus</i> Leach	---; 162	Anastos	1957
<i>pomerantzevi</i> Serdikova	---; 256	Anastos	1957
<i>praematurus</i> Schulze	---; 146	Anastos	1950
<i>putus</i> (Richard-Cambridge)	---; 77	Muttall	1916
	---; 256°	Pavlovskii	1947
<i>radfordia</i> Kohls	---; 143	Kohls	1950
<i>redikorzevi</i> Olenev	---; 35, 118, 256, 303, 345	Anastos	1957
	---; 342	Olenev	1931
<i>redikorzevi</i> <i>emberisae</i> Pomerantsev	---; 35, 303	Anastos	1957

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>redikoraevi</i> <i>laguri</i> Olenev	---; 162	Olenev	1930
<i>redikoraevi</i> var. <i>lagurae</i> Olenev	---; 256	Sassuchin & Tiflow	1933
<i>reduvius</i> (Linnaeus)	---; 101, 162, 180, 256, 345	Yakimoff	1922
	---; 32	Yakimoff	1917
<i>ricinoides</i> Nuttall	---; 76	Nuttall	1916
<i>ricinus</i> (Linnaeus)	---; 25*, 31	Toumanoff	1944
	---; 28	Lotoskii & Popov	1934
	---; 35, 76, 118, 161, 162, 173, 180, 207, 303, 321, 350	Anastos	1957
	---; 77	Suginoto	1936
	---; 101, 294	Schulze	1936
	---; 143	Sharif.	1938
	---; 158, 235, 256, 345	Nuttall	1916
	---; 158°	Ogura & Takada	1927
	---; 162°	Pavlovskii & Stein	1927
	Reportedly a vector of Russian spring- summer encephalitis; 168°	Barnett & Toshioka	1951
	---; 194	Heiao	1946
	Infected with or actually transmitting Russian spring-summer encephalitis, louping-ill virus and <i>Pasteurella</i> <i>tularensis</i> ; 256°	Thompson	1964
	Naturally infected with encephalitis; 256	Chumakov	1941
	---; 256°	Olenev	1929a
	Possibly vector of tick paralysis; 317	Anonymous	1944
	---; 326	Olenev	1930
	---; 342	Bodenheimer	1937

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>IXODES</i>			
<i>ricinus</i>			
<i>gibbosus</i>	---; 317	Nuttall	1916
Nuttall			
<i>ricinus</i>	---; 158	Toumanoff	1944
<i>ovatus</i>			
Neumann	---; 194, 256	Olenev	1929a
<i>semenovi</i>	---; 162	Anastos	1957
Olenev	---; 256	Olenev	1930
<i>shinohikvensis</i>	---; 77	Sugimoto	1937
Sugimoto			
<i>signatus</i>	---; 158, 256	Anastos	1957
Birula			
<i>simplex</i>	---; 76	Hsiao	1945
Neumann			
<i>simplex</i>			
<i>simplex</i>	---; 76, 158, 342	Hoogstraal	1956
Neumann			
<i>spinicoxalis</i>	---; 146	Anastos	1950
Neumann	May; 149	Warburton	1926b
	---; 337	Toumanoff	1944
	---; 345	Yakimoff	1917
<i>taiwanensis</i>	---; 77	Sugimoto	1936
Sugimoto			
<i>theodori</i>	---; 342*	Bodenheimer	1937
Warburton			
<i>trianguliceps</i>	---; 118, 161, 256, 321, 345	Anastos	1957
Birula	---; 294	Yakimoff	1917
<i>urias</i>	---; 118, 170, 256	Anastos	1957
White			
<i>vespertilionis</i>	---; 28, 150, 256, 318, 321	Anastos	1957
Koch	---; 143	Roy & Brown	1957
	---; 158, 317, 342	Hoogstraal	1956
<i>burneri</i>	---; 190, 242	Kohls	1950
Kohls			

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>MARGAROPUS</i>	---; 77	Neumann	1913
<i>annulatus</i> (Say)	---; 317	Stefko	1917
	---; 345	Yakimoff	1917
<i>annulatus</i> var. <i>australis</i> (Fuller)	---; 77	Sugimoto	1936
	Apr.; 144	Larrousse	1925
	---; 145, 149, 280	Howard	1908
<i>annulatus</i> <i>calcaratus</i> (Birula)	---; 162, 318, 326, 345	Yakimoff	1917
	---; 256	Yakimoff	1922
<i>australis</i> Fuller	---; 242	Banks	1919
<i>NOSOMMA</i>	---; 143, 366	Sharif	1938
<i>monstrosum</i> (Nuttall & Warburton)	---; 144	Toumanoff	1944
	---; 235	Sen	1938
<i>ORNITHODOROS</i>	Nymph found in rodent burrows, experimental transmission of <i>Spirochasta</i> <i>babylonensis</i> ; 151	Brumpt	1939
<i>asperus</i> Warburton	---; 151*	Weyer & Zumpt	1952
<i>batuensis</i> Hirst	---; 190	Kohls	1950
<i>canestrinii</i> Birula	---; 35, 150, 162, 345	Anastos	1957
	---; 317	Pavlovskii	1948
<i>capestrini</i> Laboulbène & Magnin	---; 345	Yakimoff	1917
<i>chołodkovskii</i> Pavlovskii	---; 31, 162, 318*, 326	Anastos	1957
<i>coniceps</i> (Canestrini)	---; 59. In wall crevices; 342*	Theodor	1932
	---; 162	Olenov	1930
	---; 256	Hoogstraal	1956
	Hill country; 342	Bodenheimer	1934
<i>ocriaceus</i> Koch	---; 162*	Pavlovskii & Stein	1927

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i> <i>crossi</i>	---; 143	Cross & Patel	1922
	In houses, stables, Dec.-Feb.; 235*	Rao & Kaira	1949
<i>erraticus</i> Lucas	---; 150	Hoogstraal	1956
	---; 317	Leeson	1956
<i>lahorensis</i> Neumann	---; 28, 31, 35, 76, 150°, 166, 256, 318, 345, 350. Dec.-Mar.; 162. Dec.-Feb.; 303. Dec.-Apr.; 326	Anastos	1957
	---; 143, 235, 342. Possible carrier of relapsing fever; 317	Roy & Brown	1954
	In houses, stables; 150	Delpy	1947
	---; 154. May; 159	Theodor	1932
	---; 162*	Andreev	1944
	In cracks of walls and beams, May, July-Sept.; 317	Vogel	1926
	Possible vector of tick fever and tularemia; 317	Anonymous	1944
	Experimentally infected with tularemia; 317	Server, Kamil & Sait Bilal	1938
	Experimentally infected with Q. fever; 317	Payzin	1948
	Dec.-Feb.; 326	Sofiev	1929
<i>magnini</i> (Duges)	---; 77	Sugimoto	1936a
	---; 143	Roy & Brown	1954
<i>miana</i> Starobynski	---; 150*	Starobynski	1922
<i>moubata</i> (Murray)	---; 76	Brumpt	1936
	---; 162°	Pavlovskii & Stein	1927
	---; 256	Mironov et al.	1940
<i>nereensis</i> Pavlovskii	---; 256	Compano-Rouget	1959
	Shallow burrows and crevices of clay stone huts, upturned stones, experimental transmission of sprochaetes; 318*	Pavlovskii	1941
	Suspected vector of relapsing fever; 318	Anastos	1957

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i> <i>papillipes</i> Birula	In houses; 31. ---; 143, 150, 162, 235, 302, 326, 345. In caves; 166, 342	Roy & Brown	1954
	---; 76	Hoepli & Feng	1933
	Experimentally infected with typhus; 150°, 317	Pavlovskii	1948
	In caves, naturally and experimentally infected with relapsing fever; 154*°	Adler et al.	1937
	---; 159*	Anonymous	1944b
	In houses; 162*°	Pavlovskii	1930
	---; 166	Pavlovskii	1931
	---; 302*	Anonymous	1944
	---; 303°	Sosnina	1949
	In caves; 303	Chodukin & Sofief	1931
	In grotto-like cave, shallow burrows and crevices of clay, stone huts and upturned stones; 318*	Pavlovskii	1941
	---; 326	Sofief	1929
<i>salahi</i> Hoogstraal	---; 154	Leeson	1956
	---; 342	Hoogstraal	1956
<i>savignyi</i> Audouin	---; 2, 70, 143, 332, 342 (In sandy soil, corrals, under trees where man and animals rest, well sides, in houses, bites man)	Hoogstraal	1956
	Occasionally bites man; 143°	Roy & Brown	1954
	---; 256°	King	1926
<i>severus</i>	---; 151	Pavlovskii	1948
<i>talajae</i> Guerin & Meneville	---; 150, 162°	Pavlovskii & Stein	1927
	---; 256. On lake shores; 294	Yakimoff	1917
<i>tartakovskyi</i> Olenev	---; 162°. In burrows; 318, 326 (Naturally and experimentally infected with relapsing fever)	Anastos	1957
	---; 256	Sassuchin et al.	1935
	In turtle holes, carrier and vector of spirochaetes; 318*	Pavlovskii	1941

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i> <i>tartakovskyi</i> Olenev (cont.)	Naturally infected with relapsing fever; 326	Sofief	1941
<i>tholozani</i> (Laboulbene & Megnin)	---; 3, 35, 151, 303, 345°, 354. In houses, winter; 150°. In houses; 162, 326°. In cave and burrows; 318	Anastos	1957
	---; 76	Hoepli & Feng	1933
	---; 118, 150, 151, 159, 174, 317. Grottos, naturally infected and experimental transmission of <i>Borellia persica</i> ; 154. In houses; 235. In houses, experimentally infected with <i>Spirochaeta</i> ; 294	Davis & Hoogstraal	1956
	In houses, stables; 150	Delpy	1947
	June-Aug.; 162	Skopin	1944
	---; 166*	Naumov & Mezentzeva	1942
	Enters houses; 256	Pospelova & Schtrom	1944
	---; 302*	Sautet	1941
	---; 318*	Pavlovskii	1945
	---; 342	Bodenheimer	1937
	---; 345	Yakimoff	1922
<i>tholozani</i> var. <i>peresepdiensis</i> Delpy	---; 150	Delpy	1947
<i>tholozani</i> <i>tholozani</i> Laboulbene & Megnin	---; 150, 159	Hoogstraal	1956
<i>turicata</i> (Duges)	Experimentally infected with typhus rickettsiae; 76	Liu	1944
	---; 162°	Pavlovskii & Stein	1927

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ORNITHODOROS</i> <i>verrucosus</i> Olenev, Sassuchin & Fenynk	Naturally infected and experimental transmission of relapsing fever; 35	Popov & Akhundov	1940
	In burrows; 35. In burrows and caves; 162°. ---; 345	Anastos	1957
	---; 256°	Olenev et al.	1934
	---; 345°	Olenev et al.	1934
<i>PALPOBOOPHILUS</i> <i>decoloratus</i> (Koch)	---; 168°	Barnett & Toshioka	1951
<i>minningi</i> Kishida	---; 168	Barnett & Toshioka	1951
<i>RHIPICEPHALUS</i> <i>bursa</i> Canestrini & Fanzago	---; 28, 31, 35, 118, 162, 318, 321, 345	Anastos	1957
	---; 150	Roy & Brown	1954
	Mar.-Sept.; 256	Kurchatov	1940
	---; 317	Lestoquard & Ekram	1931
	---; 342	Bodenheimer	1937
<i>calcaratus</i> Birula	---; 345	Yakimoff	1917
<i>evertsi</i> Neumann	---; 251	King	1926
<i>evertsi</i> <i>evertsi</i> Neumann	---; 332	Hoogstraal	1956
<i>haemaphysaloides</i> Supino	---; 59	Schulze	1939
	---; 70	Warburton	1925
	---; 76°	Haiao	1945
	In houses; 143°. ---; 235	Sen	1938
	Suspected vector of tick typhus fever; 143, 149	Sharif	1938
	Nov.; 143	Sharif	1930a
	---; 144°	Toumanoff	1944
	---; 145, 149	Farner	1943
	---; 146	Schuermans Stekhoven	1923
	---; 256, 353	Wu Lien Teh	1923

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>			
<i>haemaphysaloides</i> <i>expeditus</i> Neumann	---; 76, 149	Hsiao	1945
<i>haemaphysaloides</i> <i>haemaphysaloides</i> Supino	---; 59, 70, 76, 77, 143, 144, 149	Anastos	1950
<i>haemaphysaloides</i> <i>paulopunctatus</i> Neumann	---; 149	Schulze	1936
<i>haemaphysaloides</i> <i>pilans</i> Schulze	Bamboo woods; 145 ---; 146, 149, 242	Schulze Anastos	1936 1950
	---; 337	Kohls	1950
<i>intermedius</i> Neumann	---; 149	Farner	1943
<i>leporis</i> Pomerantzev	---; 326	Pomerantzev	1946
<i>macropis</i> Schulze	---; 2	Schulze	1936
<i>pilans</i> Schulze	Small bamboo forests, June and July; 146	Schulze	1936
<i>pumilio</i> Schulze	---; 294	Zumt	1939
<i>rossicus</i> Yakimoff & Kohl- Yakimoff	---; 28, 35, 118, 256, 318, 321. June-Aug.; 162. Apr.-Sept.; 345 In dense grassy river edges; 321° May-Sept., seldom on man; 321	Anastos Kulikoff Kolomietz	1957 1935 1936
<i>sanguineus</i> (Latreille)	---; 28, 31, 35, 76, 118, 151, 162, 256, 303, 317, 321, 326. March-Sept.; 345 ---; 59 ---; 70 ---; 76° ---; 77 Possible vector of tick typhus fever; 143 Aug.-Sept.; 143	Anastos Wilcocks Warburton Hsiao Neumann Sharif Sharif	1957 1944 1925 1945 1913 1938 1930a

TABLE 1 - TICKS (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS sanguineus</i> (Latreille) (cont.)	---; 143°	Strickland	1939
	Apr.; 144	Larrousse	1925
	---; 144°	Toumanoff	1944
	---; 145, 146, 147, 149	Anastos	1950
	Experimental transmission of Rocky Mountain Spotted Fever; 146°	Krijgsman & Ponto	1931
	---; 150, 174, 270, 280	Howard	1908
	---; 154, 159	Euxton	1924
	Experimentally infected with <i>Trypanosoma christophersi</i> , <i>Crithidia</i> , <i>Leishmania</i> parasite; 157	Brumpt	1936
	Possible vector of "Q" fever, tularemia, Rocky Mountain spotted fever, and relapsing fever; 168°	Barnett & Toshioka	1951
	---; 190	Lewthwaite et al.	1935
	---; 194	Hsiao	1946
	---; 235	Sen	1938
	---; 242	Kohls	1950
	---; 251	King	1926
	---; 256*	Pletzity	1947
	---; 256°	Pomerantsev	1946
	---; 318	Povov & Lotoskii	1932
	---; 332°	Hoogstraal	1956
	---; 342	Bodenheimer	1937
<i>sanguineus rossicus</i> Yakimoff & Kohl-Yakimova	---; 162, 207	Zumpt	1939
	Feb.-Nov.; 256	Kurchatov	1940
<i>sanguineus sanguineus</i> (Latreille)	---; 2°, 143, 151, 235, 242, 256, 270, 317°. Mountains and lowlands; 332°, 342	Hoogstraal	1956
	---; 303, 326, 345	Zumpt	1939

TABLE 1 - TICKS (conclusion)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIPICEPHALUS</i>	---; 35, 166, 303, 318, 324, 345	Anastos	1957
<i>schulzei</i>			
Olenev	May-Aug.; 162°	Kolpakova	1931
	Naturally infected with plague; 256	Pavlovskii	1931a
<i>simus</i>	---; 145	Howard	1908
Koch	---; 162	Yakimoff	1917
	---; 317	Stefko	1917
<i>simus</i>	---; 76, 326	Yakimoff	1917
<i>simus</i>			
Koch	Mountains; 332	Hoogstraal	1956
<i>turanicus</i>	---; 150, 162	Pomerantzev	1946
Pomerantzev	---; 345	Lagereva	1946
<i>UROBOOPHILUS</i>			
<i>caudatus</i>	---; 76, 158	Hsiao	1945
(Neumann)			
<i>distans</i>	---; 76, 77, 139, 144	Hsiao	1945
Minning			
<i>indicus</i>	---; 143	Minning	1936
Minning			
<i>occidentalis</i>	---; 150	Minning	1936
Minning			
<i>sharifi</i>	---; 59	Schulze	1939
Minning			
<i>sinensis</i>	---; 76, 77, 139, 158	Minning	1934
Minning			

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

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>DERMACENTOR marginatus</i> (Sulzer)	Encephalitis					256
<i>nuttalli</i> Olenev	Atypical typhus					256 (Pletzity, 1947)
	Spotted fever					256
<i>pictus</i> Hermann	Encephalitis					256
<i>silvarum</i> Olenev	Atypical typhus					256
	Tick-borne typhus					353
	Tick-borne encephalitis					
<i>HAEMAPHYSALIS concinna</i> Koch	Tick-borne typhus fever & Tick-borne encephalitis					194
	Atypical typhus					256 (Pletzity, 1947)
	Encephalitis					256
<i>HYALOMMA marginatum</i> Koch	Crimean hemorrhagic fever					256
<i>IXODES persulcatus</i> Schulze	Russian spring-summer encephalitis					158, 194, 256
	Tick-borne encephalitis					256 (Hsiao, 1945)
<i>ricinus</i> (Linnaeus)				Tick paralysis		25
	Russian spring-summer encephalitis					256
<i>ORNITHODOROS asperus</i> Warburton				Relapsing fever		151
<i>rossi</i>				Relapsing fever		235
<i>lahorensis</i> Neumann				Relapsing fever		162

TABLE 2 - TICKS (conclusion)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>ORNITHODOROS</i> <i>miana</i> Starobyński				Relapsing fever		150
<i>nereensis</i> Pavlovskii				Relapsing fever		318
<i>papillipes</i> Birula				Relapsing fever		154
				Relapsing fever		159
				Relapsing fever		162
				Relapsing fever		302
				Relapsing fever		318
<i>tartakovskyi</i> Olenov				Relapsing fever		318
<i>tholonani</i> Laboulbène & Megnin				Relapsing fever		166
				Relapsing fever		302
				Relapsing fever		318
<i>RHIPICEPHALUS</i> <i>sanguineus</i> (Latreille)	Marseille fever					256

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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 134 species or subspecies recorded in the tables.

TABLE 1 - MITES

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ACOMATACARUS</i> <i>australiensis</i> (Hirst)	---; 145 (On man, vector of dermatitis)	Wharton & Fuller	1952
<i>ALEUROBIUS</i> <i>farinae</i> De Geer	---; 77°	Sugimoto	1940
<i>BDELLONYSSUS</i> <i>bursa</i> (Berlese)	Naturally infected with Sindbis virus; 143	Shah et al.	1960
<i>CARPOGLYPHUS</i> <i>taiwanensis</i> Sugimoto	---; 77°	Sugimoto	1940
<i>DEMODEX</i> <i>folliculorum</i> Simon	Suspected cause of skin disease; 76 ---; 256° ---; 342°	Patton Anonymous Bodenheimer	1926 1945 1937
<i>DERMANYSSUS</i> <i>muris</i> Hirst	Capable of transmitting plague; 70°	Philip	1923
<i>DERMATOPHAGOIDES</i> <i>saitoi</i> (Sasa)	In sputum of patient with Loeffler's syndrome; 158	Sasa	1950
<i>schermetewskyi</i> Bodganoff	---; 158 ---; 256°	Sasa Sasa	1951 1950
<i>takeuchii</i> (Sasa)	In urine of patient with liver cirrhosis; 158	Sasa	1950
<i>GLYCIPHAGUS</i> <i>domesticus</i> De Geer	May cause dermatitis; 70 ---; 77°	Castellani & Hirst Sugimoto	1912 1940
<i>LAELAPS</i> <i>jettmari</i> Vitzthum	---; 158 (Attacks man). Associated with the transmissions of epidemic hemorrhagic fever; 194°	Barnett & Toshioka	1951
<i>LEIOGNATHUS</i> <i>morsitans</i> Hirst	---; 143°	Hirst	1915
<i>LEPTUS</i> <i>akamushi</i> (Brumpt)	Causes severe fever; 158*	Banks	1919

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>LEPTUS</i> <i>autumnalis</i> Gudden	---; 76° Produce irritation and vesication; 76*	Feng & Hoeppli Patton	1933 1926
<i>LIPONYSSUS</i> <i>bacoti</i> Hirst	May transmit typhus from rat to man; 76 Naturally infected with typhus; 76 Possible vector of typhus; 143° Possible vector of murine typhus; 168°	Liu Liu Mehta Barnett & Toshioka	1944 1947 1937 1951
<i>nagayoi</i> Yamada	Experimental transmission of endemic typhus; 194 Experimental transmission of typhus <i>rickettsiae</i> ; 76 Abundant in houses in Nov.-Dec.; 77° Enters houses, experimental transmission of plague, may cause dermatitis; 158° Experimental transmission of endemic typhus; 194	Kodama & Kōno Liu Morishita & Omori Yamada Kodama & Kōno	1933 1947 1932 1931 1933
<i>MICROTHROMBIDIUM</i> <i>wichmanni</i> (Oudemans)	Bite causes irritation; 147**	Ewing & Hartzell	1918
<i>NEOSCHÖNGASTIA</i> <i>kohlsi</i> (Philip & Woodward)	---; 242°	Philip & Woodward	1946
<i>philippensis</i> (Philip & Woodward)	---; 242°	Philip & Woodward	1946
<i>schuffneri</i> Walch	---; 149°	Womersley & Heaslip	1943
<i>NOTOEDRES</i> <i>cati</i> Hering	---; 321*	Chebotarev	1937
<i>PEDICULOIDES</i> <i>ventricosus</i> (Newport)	---; 70* Causes cutaneous eruptions; 76* ---; 256* ---; 317*	Carter et al. Patton Rodionov Anonymous	1944 1926 1940 1944

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>RHIZOGLYPHUS</i> <i>echinopus</i> Fumouze & Robin	---; 256*	Rodionov	1940
<i>parasiticus</i> Dalgetty	---; 70*	Castellani & Hirst	1912
<i>SARCOPTES</i> <i>scabiei</i> (De Geer)	Female burrows into the skin and lays its eggs there, causes secondary infections and eczematous conditions and scabies; 76*	Patton	1926
	Commonly invades the skin producing "scabies" in man, previously suspected vector of leprosy; 168*	Barnett & Toshioka	1951
	---; 194*	Anonymous	1946
	---; 256°	Anonymous	1945
	---; 342°	Anonymous	1944a
<i>scabiei</i> var. <i>canis</i> Gerlach	---; 342°	Bodenheimer	1937
<i>scabiei</i> var. <i>hominis</i> Hering	---; 342°	Bodenheimer	1937
<i>SCHÖNGASTIA</i> <i>schliffneri</i> (Walch)	---; 149*, 190*	Williams	1944
	---; 190, 337 (On man, vector of dermatitis)	Wharton & Fuller	1952
<i>vandersandei</i> (Oudemans)	---; 337 (On man, vector of dermatitis)	Wharton & Fuller	1952
<i>TROMBICULA</i> <i>acuticellaris</i> Walch	---; 59, 70, 149, 191, 242 (Host: man)	Wharton & Fuller	1952
	Dec.; 143°	Mehta	1937
	---; 143*	Williams	1944
	---; 143	Mackie & others	1946
	---; 149°	Farner	1943
	Aug.-Jan.; 190°	Womersley & Heaslip	1943
	Rice field; 190°	Gater	1932

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i> <i>agamae</i> André	---; 154	Wharton & Fuller	1952
<i>akamushi</i> (Brumpt)	Active during early morning, vector of <i>Rickettsia orientalis</i> , grasslands, prefer river edges or land that is periodically flooded, on the ground or grass stems, flowers and bushes; 59, 70*, 77*, 143*, 144*, 149*, 158*, 168*, 190*, 277	Geigy & Herbig	1955
	Adults on vegetables and organic matter, naturally infected and vector of Tsutsugamushi; 59*, 77*, 158*, 190*, 242*	Philip	1948
	Carrier of Japanese River fever; 76°, 77°, 149°, 158°	Patton	1926
	---; 76, 77, 145, 168, 242. Silt covered fields on river banks; 158	Roy & Brown	1954
	---; 76*	Williams	1944
	Suspected vector of Japanese River fever or Tsutsugamushi disease, vector of <i>typhus</i> ; 77*, 158*	Womersley & Heaslip	1943
	Carrier of Tsutsugamushi virus; 77°, 158	Hatori	1919
	---; 143*	Mehta	1937
	---; 144, 158	Hsiao	1945
	---; 146*	Giapen	1950
	---; 149*	Williams	1944
	Vector of Japanese River fever; 158*	Mehta	1948
	---; 158*	Philip et al.	1946
	Oct.-Jan., probable vector of Tsutsugamushi; 190°	Gater	1932
	---; 190	Kingsbury	1930
	---; 242	Philip et al.	1946
<i>akamushi</i> var. <i>deliensis</i> Walch	---; 59, 70, 76, 143, 149, 190, 242 (On man)	Fuller	1952

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i> <i>autumnalis</i> (Shaw)	---; 77	Miyashima & Okumura	1919
	---; 158	Hayashi et al.	1926
<i>batui</i> Philip & Traub	---; 190	Womersley	1952
<i>bhintalensis</i> Womersley	---; 143	Roy & Brown	1954
<i>bodensis</i> (Gunther)	June, Sept.-Oct.; 145	Womersley	1952
	---; 242	Wharton & Fuller	1952
<i>butmensis</i> Ewing	June-July; 59	Ewing	1945
	Sept.-Oct.; 143	Womersley	1952
	---; 235	Wharton & Fuller	1952
<i>burnsi</i> Sasa, Teramura & Kanoh	---; 158	Wharton & Fuller	1952
<i>buxtoni</i> Womersley	---; 143	Womersley	1952
<i>cervulicola</i> Ewing	---; 143	Womersley	1952
<i>coluberina</i> (Radford)	---; 143	Womersley	1952
<i>consueta</i> Womersley	June; 190	Womersley	1952
<i>corvi</i> Hatori	---; 77	Womersley & Heaslip	1943
<i>cuneata</i> (Traub & Evans)	---; 59, 143	Womersley	1952
<i>deliensis</i> Walch	Active during early morning, vector of <i>Rickettsia orientalis</i> , grasslands, prefer river edges or land that is periodically flooded, on the ground or grass stems, flowers and bushes; 59, 70*, 143*, 144*, 149*, 158*, 168*, 190*, 277	Geigy & Herbig	1955

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA deliensis</i> Walch (cont.)	Common, May-Nov., vector of Tsutsugamushi disease; 59*, 143* (Transmits <i>Rickettsia orientalis</i> to susceptible experimental animals, abundant monsoon season, attaches to man)	Mackie et al.	1946
	Naturally infected with Tsutsugamushi; 70*, 76*, 145*, 146*, 149*, 191*	Philip	1948
	Common; 70, 143, 145, 146, 190, 235 (Vector of scrub typhus)	Womersley	1952
	Suspected vector of Tsutsugamushi; 76	Millsbaugh & Fuller	1947
	Dump scrub, humus soil, wild rats (<i>Rattus rattus</i>), experimental transmission of scrub typhus, Sept.-Nov.; 143	Browning & Kalra	1948
	Suspected transmitter of tropical typhus; 143, 149	Abdussalam	1939
	All year; 143	Mehta	1937
	---; 143°	Mehta	1948
	Probable vector of a "tsutsugamushi"-like fever; 149	Womersley & Heaslip	1943
	Carrier of Tsutsugamushi; 158	Lewthwaite et al.	1935
	Jan.-May, July-Dec.; 190	Gater	1932
	---; 190°	Mehta	1948
	---; 190*	Williams	1944
	---; 191	Roy & Brown	1954
	---; 235 (On man)	Wharton & Fuller	1952
<i>densipiliata</i> Walch	---; 242	Philip et al.	1946
	---; 145	Womersley	1952
	---; 149	Womersley & Heaslip	1943
<i>dux</i> Womersley	---; 143, 235	Womersley	1952
<i>fletcheri</i> Womersley & Heaslip	---; 190	Womersley & Heaslip	1943

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i>			
<i>foliacea</i> (Traub & Evans)	Feb.-March; 59	Womersley	1952
<i>fordi</i> Womersley	Common; 59, 143	Womersley	1952
<i>frittsi</i> Wharton	---; 190	Womersley	1952
<i>fuji</i> Kuwato, Berge & Philip	---; 158	Womersley	1952
<i>fujigmo</i> Philip & Fuller	March-April; 59	Philip & Fuller	1950
<i>fulleri</i> (Ewing)	---; 59	Ewing	1945
<i>gallinarum</i> Hatori	---; 77	Sugimoto	1936
<i>gliricolens</i> (Hirst)	---; 143, 242	Womersley	1952
<i>gymnodaactyla</i> Ewing	Suspected vector of tropical typhus; 143	Abdussalam	1939
<i>harrisoni</i> Womersley	---; 190	Womersley	1952
<i>hastata</i> Gater	May; 190	Gater	1932
<i>hatorii</i> Womersley & Heaslip	---; 77	Womersley & Heaslip	1943
<i>hexasternalae</i> Vercammen- Grandjean	---; 3	Nadchatram & Mitchell	1965
<i>hirsti</i> Sambon	---; 77, 149, 190, 242 (On man, vector of dermatitis)	Wharton & Fuller	1952
	---; 146	Womersley	1952
	All year; 190°	Gater	1932
<i>hirsti</i> form <i>hakei</i> Radford	---; 143	Womersley	1952

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i> <i>indica</i>	June-Nov.; 143	Mehta	1937
<i>insolli</i> Philip & Traub	March; 190	Womersley	1952
<i>intermedia</i> Nagayo, Mitamura & Tamiya	---; 143, 158	Womersley	1952
<i>irritants</i> Talice	---; 76	Feng	1933
<i>isshikii</i> Sugimoto	---; 77	Womersley & Heaslip	1943
<i>japonica</i> Kaiwa, Teramura & Kagaya	Sept.-Dec.; 158	Philip & Fuller	1950
<i>jayewickremei</i> Womersley	---; 70	Womersley	1952
<i>jubbulporensis</i> Womersley	---; 143	Womersley	1952
<i>kansalwanensis</i> Womersley	Oct.; 235	Womersley	1952
<i>kashmirensis</i> Womersley	July; 235	Womersley	1952
<i>keukensohrijveri</i> Walch	---; 143 (On man)	Wharton & Fuller	1952
	---; 149°, 190°	Womersley	1952
<i>khurdangensis</i> Womersley	July; 235	Womersley	1952
<i>kitasatoi</i> Fukuzumi & Obata	---; 158	Wharton & Fuller	1952
<i>koomori</i> Sasa & Jamason	---; 158	Nadchatram & Mitchell	1965
<i>kukongensis</i> Chen & Hsu	---; 76	Nadchatram & Mitchell	1965
<i>lanceolata</i> Womersley	---; 59	Womersley	1952
<i>leverii</i> Womersley	March; 190	Womersley	1952

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i>			
<i>longiseta</i> Womersley	---; 59, 143	Womersley	1952
<i>maoacus</i> Womersley	---; 143	Womersley	1952
<i>mediocris</i> Berlese	---; 77	Miyashima & Okumura	1919
	---; 146	Hatori	1919
<i>minor</i> Berlese	---; 146	Womersley & Heaslip	1943
<i>minor</i> var. <i>daliensis</i> Walch	---; 149, 190	Womersley & Heaslip	1943
<i>mitamuri</i> Sasa, Teramura & Kano	---; 158	Wharton & Fuller	1952
<i>miyajimai</i> Fukuzumi & Obata	---; 158	Wharton & Fuller	1952
<i>miyasakii</i> Sasa, Sawada, Kano, Hayashi & Kumada	---; 158	Wharton & Fuller	1952
<i>munda</i> Gater	---; 70	Womersley	1952
	All year; 190	Gater	1932
<i>muridia</i> Womersley	---; 190	Womersley	1952
<i>nagayoi</i> Sasa, Hayashi, Sato, Miura & Asahina	---; 158	Wharton & Fuller	1952
<i>orientalis</i> Schluger	---; 294	Wharton & Fuller	1952
<i>oudemansi</i> Walch	March, May-Nov.; 143	Mahta	1937
<i>pallida</i> Nagayo, Mitamura & Tamiya	---; 158	Womersley	1952
	---; 158*	Wharton & Fuller	1952

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i>			
<i>palpalis</i> Nagayo, Mitamura & Vamiya	---; 158	Womersley	1952
<i>parapalpalis</i> Womersley	---; 143	Roy & Brown	1954
	---; 235	Womersley	1952
<i>parmifera</i> Womersley	---; 190	Womersley	1952
<i>pavlovskyi</i> Schluger	---; 294	Wharton & Fuller	1952
<i>pelta</i> Womersley	Oct.; 143	Womersley	1952
<i>piercei</i> Ewing	---; 242	Womersley	1952
<i>pomeranseri</i> Schluger	---; 294	Wharton & Fuller	1952
<i>pseudoakamushi</i> Hatori	---; 77	Hatori	1919
<i>pseudo-schliffneri</i> Walch	---; 149*	Farner	1943
<i>puta</i> Womersley	Oct.; 235	Womersley	1952
<i>radfordi</i> Schluger	---; 294	Wharton & Fuller	1952
<i>rajoriensis</i> Womersley	May; 235	Womersley	1952
<i>rara</i> Walch	---; 146 (On man)	Wharton & Fuller	1952
	---; 149*, 190. April; 242	Womersley	1952
	---; 190*	Audy	1950
<i>rossica</i> (Oudemans)	---; 256	Fuller	1952
	---; 294	Wharton & Fuller	1952
<i>schmitzi</i> (Oudemans)	---; 143	Wharton & Fuller	1952

TABLE 1 - MITES (continued)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i>			
<i>scitnooides</i> Womersley	---; 242	Womersley	1952
<i>scutellaris</i> Nagayo, Miyagawa, Tamiya & Tenjin	Sept.; 158 ---; 158°	Womersley Wharton & Fuller	1952 1952
<i>siamensis</i> Nadchatram & Mitchell	---; 277	Nadchatram & Mitchell	1965
<i>spicea</i> Gater	---; 70 Aug.; 190	Womersley Gater	1952 1932
<i>squamifera</i> Womersley	---; 235	Womersley	1952
<i>squamosa</i> (Radford)	---; 143	Womersley	1952
<i>subakamushi</i> Schluger	---; 294	Wharton & Fuller	1952
<i>sylvestris</i> Audy & Traub	Dec.; 190	Womersley	1952
<i>tamiyai</i> Philip & Fuller	Sept.-Nov.; 158° ---; 158	Philip & Fuller Wharton & Fuller	1950 1952
<i>taphozous</i> Womersley	---; 190	Womersley	1952
<i>tenjin</i> Sasa, Kumada, Hayashi & Miura	---; 158	Wharton & Fuller	1952
<i>teramurai</i> Sasa, Kumada & Teramura	---; 158	Wharton & Fuller	1952
<i>tithwalensis</i> Womersley	---; 235	Womersley	1952
<i>traubi</i> Womersley	---; 143	Womersley	1952
<i>vietsi</i> Womersley	---; 143	Womersley	1952
<i>villosa</i> Womersley	---; 143	Womersley	1952

TABLE 1 - MITES (conclusion)

SPECIES	SPECIFIC NOTES; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>TROMBICULA</i> <i>walohi</i> Womersley & Heaslip	---; 190	Womersley & Heaslip	1943
<i>webri</i> Browning &	Experimental transmission of scrub typhus Sept.-Nov.; 143	Browning & Kalra	1948
<i>wichmanni</i> (Oudemans)	---; 59, 77, 145, 147, 149, 242 (On man, vector of dermatitis)	Wharton & Fuller	1952
	---; 145°, 146, 242°	Womersley	1952
	---; 190°	Lewthwaite	1927
<i>zschvatkini</i> Schluger	---; 294	Wharton & Fuller	1952
<i>TYROGLYPHUS</i> <i>farinae</i> Linnaeus	In human alimentary and urinary tracts; 70*	Carter et al.	1944
<i>longior</i>	In sputum of man; 70°	Carter et al.	1944
<i>longior</i> var. <i>castelani</i> Hirst	---; 70*	Castellani & Hirst	1912
<i>TYROPHAGUS</i> <i>dimidiatus</i> (Schränk)	In human urine; 158	Sasa	1951

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

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS RICKETTSIA	:	PROTOZOA	:	HELMINTHS OTHER	
<i>LEPTUS</i>						
<i>akamushi</i> (Brumpt)	Fever					158
<i>autumnalis</i> Gudden					Dermatitis	76
<i>MICROTHROMBIDIUM</i>					Dermatitis	147
<i>wichmanni</i> (Oudemans)						
<i>NOTOEDRES</i>						
<i>cati</i> Hering					Dermatitis	321
<i>PEDICULOIDES</i>						
<i>ventriosus</i> (Newport)					Dermatitis	70
					Cutaneous eruptions	76
					Dermatitis & Asthma	256
					Dermatitis	317
<i>RHIZOGLYPHUS</i>						
<i>echinopus</i> Fumouze & Robin					Dermatitis	256
<i>parasiticus</i> Dalgetty					Dermatitis	70
<i>SCARCOPTES</i>						
<i>scabiei</i> (De Geer)					Scabies	76 194 168
<i>SCHÖNGASTIA</i>						
<i>schöffneri</i> (Walch)	Tsutsugamushi typhus					149 190
<i>TROMBICULA</i>						
<i>acutellaris</i> Walch	Tsutsugamushi					143
<i>akamushi</i> (Brumpt)	Japanese River fever					158 (Philip et al. 1946)
	<i>Rickettsia orientalis</i>					70 149 (Williams 1944) 77 158 (Mehta 1958) 143 168 144 190

TABLE 2 - MITES (conclusion)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS & RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>TROMBICULA</i> <i>akamushi</i> (Brumpt) (cont.)	Scrub typhus				146 158	242 (Philip 1948)
	Tsutsugamushi					59 76 77 (Philip 1948) 143 (Mehta 1937) 149 158 (Philip 1948) 190 (Philip 1948) 242
	Typhus					77 (Geigy & Herbig 1955) 158 (Philip 1948)
<i>TROMBICULA</i> <i>deliensis</i> Walch	<i>Rickettsia</i> <i>orientalis</i>				70 77 143 144	149 158 168 190
	Scrub typhus					242
	Tsutsugamushi					59 70 (Philip 1948) 76 143 145 146 149 (Philip 1948) 190 (Philip 1948) 191
<i>TYROGLYPHUS</i> <i>farinae</i> Linnaeus				Infection of urinary tracts		70
<i>longior</i> var. <i>castellani</i> Hirst				Dermatitis		70

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M. MISCELLANEOUS ARTHROPODS

The entries listed as miscellaneous arthropods are largely scorpions and spiders.
There are in all only 24 species or subspecies listed.

TABLE 1 - MISCELLANEOUS ARTHROPODS

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>ASTEGOTERYX</i> <i>styracicola</i> Takahashi	---; pierces skin upon contact causing eruptions; 77	Takahashi	1930
<i>BLATTA</i> <i>germanica</i> Linnaeus	---; experimentally infected with typhoid fever and paratyphus; 294	Rosenholtz & Iudina	1940
<i>BUTHUS</i> <i>europaeus</i>	---; may cause death in children; 143	Efrati	1949
<i>quinquestriatus</i> Hemprich & Ehrenberg	---; sting may cause death; 154°	Efrati	1949
<i>CACCOBIUS</i> <i>mutans</i> Sharp	---; rare, in intestines of children; 143*	Iyengar	19281
<i>LATRODECTUS</i> <i>agonyangyang</i> Plantilla & Mabalay	---; in farms, across holes of old stones and dried leaves or stumps of wood on the ground surface, bite poisonous to man; 242*	Plantilla & Mabalay	1935
<i>hasselti</i> Thorell	---; sting poisonous to man; 242°	De Asia	1934
<i>lugubris</i> Motschulsky	---; sting may cause acute abdominal pain; 342°	Hargreaves & Mackenzie	1942
<i>tredecimguttatus</i> Russi	---; ---; 256°	Martsinovskii	1934
<i>LINGUATULA</i> <i>serrata</i> Frölich	---; in respiratory tract of man; 143	Roy & Ganguly	1940
<i>ONTHOPHAGUS</i> <i>bifasciatus</i> Fabricius	---; common, human intestines; 59*, 143* ---; in lower intestines of children; 70*	Iyengar Senior-White	19281 1920
<i>ONTHOPHAGUS</i> <i>unifasciatus</i> Schall	---; in children's intestines; 70*, 143*	Iyengar	19281
<i>PEDICULUS</i> <i>capitis</i> (De Geer)	---; vector of <i>Rickettsia prowazekii</i> ; 25*, 76*, 150*, 158*, 256* ---; ---; 77° ---; experimental transmission of recurrent fever; 256 ---; vector of typhus and relapsing fever; 317**	Geigy & Herbig Neumann Shapsheva Anonymous	1955 19131 1924 1944

TABLE 1 - MISCELLANEOUS ARTHROPODS (continued)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PEDICULUS</i> <i>corporis</i> De Geer	Eggs in clothing; naturally infected with <i>Spirochaeta recurrentis</i> , in clothing; 76	Chung	1936
	Eggs fastened to threads and seams of garments; bloodsucker; 242°	Banks	1919
	---; vector of typhus and relapsing fever; 317**	Anonymous	1944
<i>humanus</i> Linnaeus	---; experimental transmission of relapsing fever; 76	Chung & Wei	1938
	---; possible carrier of typhus; 76	Liu & Zia	1941
	---; found in houses; 143	Awati	1922
	---; experimental transmission of typhus; 143°	Covell & Mehta	1936
	---; ---; 144*	Lepine	1936
	---; in clothing, natural infected and experimental transmission of plague; 146	Schwellengrebel & Otten	1914
	---; experimental transmission of recurrent fever; 256	Shapshava	1924
	---; vector of typhus and relapsing fever; 317**	Anonymous	1944
<i>humanus</i> <i>capitis</i> De Geer	---; ---; 76°	Patton	1926
	---; capable of transmitting epidemic typhus and relapsing fever; 168	Barnett & Toshioka	1951
<i>humanus</i> <i>corporis</i> De Geer	---; ---; 76*	Hsiao	1945
	---; transmits murine typhus from man to man; 76*	Liu	1944
	---; causes irritation of the scalp often leading to septic infection; 159. ---; ---; 342**	Anonymous	1944
	---; most prevalent during cooler months, vector of epidemic typhus and louseborne relapsing fever; 168**	Barnett & Toshioka	1951
	---; ---; 164**	Hsiao	1946
<i>humanus</i> <i>var. vestimentis</i> Linnaeus	---; ---; 76***	Patton	1926

TABLE 1 - MISCELLANEOUS ARTHROPODS (concluded)

SPECIES	BREEDING HABITATS; ADULT ACTIVITY; DISTRIBUTION (GENERAL STATEMENTS)	AUTHOR	DATE
<i>PEDICULUS</i> <i>vestimenti</i> Nitzsch.	---; vector of <i>Rickettsia prowazeki</i> ; 25*, 76*, 150*, 158*, 256*, 270*	Geigy & Herbig	1955
<i>PERIPLANETA</i> <i>orientalis</i> Linnaeus	---; experimentally infected with typhoid fever and parathyphus; 294	Rosenholtz & Iudina	1940
<i>PHTHIRUS</i> <i>pubis</i> (Linnaeus)	---; experimentally infected with typhus; 76	Chung	1945
	---; ---; 76°	Patton	1926
	---; bloodsucker; 242°	Banks	1919
	---; vector of typhus and relapsing fever; 317**	Anonymous	1944
<i>PRIONURUS</i> <i>crassicauda</i>	---; ---; 154°	Efrati	1949
<i>RUTHUS</i> <i>martinsi</i> Karsch	---; enters houses during summer, painful sting causing fever and death; 168**	Hsiao	1948
<i>SCOLOPENDRA</i> <i>subspinipes</i> Leach	---; ---; 242°	Remington	1950

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

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &	PROTOZOA	HELMINTHS	OTHER		
	RICKETTSIA					
<i>CACCOBIUS</i> <i>mutans</i> Sharp				intestinal myiasis	143	
<i>LATRODECTUS</i> <i>agoyangyang</i> Plantilla & Mabalay				Arachnidism	242	
<i>ONTHOPHAGUS</i> <i>bifasciatus</i> Fabricius				intestinal myiasis	59, 70, 143	
<i>unifasciatus</i> Schall				intestinal myiasis	70, 143	
<i>PEDICULUS</i> <i>capitis</i> (De Geer)	<i>Rickettsia</i> <i>provascki</i>				25, 76, 150, 158, 256	
	typhus			relapsing fever	317	
<i>corporis</i> De Geer	typhus			relapsing fever	317	
<i>humanus</i> Linnaeus	epidemic typhus				144	
	typhus			relapsing fever	317	
<i>humanus</i> <i>corporis</i> De Geer				relapsing fever	76	
	Murine typhus				76 (Liu, 1944)	
	epidemic typhus			louseborne relapsing fever	168	
	typhus fever			relapsing fever	194	
	typhus			relapsing fever	342	
<i>humanus</i> var. <i>vestimenti</i> Linnaeus	typhus trench fever			relapsing fever	76	

TABLE 2 - MISCELLANEOUS ARTHROPODS (conclusion)

SPECIES	DISEASE OR DISEASE ORGANISM					COUNTRY
	VIRUS &					
	RICKETTSIA	PROTOZOA	HELMINTHS	OTHER		
<i>PEDICULUS</i> <i>vestimenti</i> Nitsch	<i>Rickettsia</i> <i>provanseki</i>					25, 76, 150, 158, 256, 270
<i>PHTHIRUS</i> <i>pubis</i> Linnaeus	typhus			relapsing fever		317
<i>RUTHUS</i> <i>martinsi</i> Karsch				fever		168

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13. ABSTRACT The occurrence of insects and other arthropods of medical importance in Asia and the European USSR is summarized on the basis of a compilation of 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 (1236) Part II: Arthropods other than mosquitoes: Black flies (228), Sand flies (166), Midges (272), Horse flies (1132), Biting flies (9), Non-biting flies (36), Fleas (717), Bugs (11), Urticating and vesicating arthropods (23), Ticks (401), Mites (134), and Miscellaneous arthropods (24).		

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Fleas	9		6			
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Mites	9		6			
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