REVIEW OF THE LITERATURE OF THE FAMILY
ASILIDAE, ROBBER FLIES, AND A DETERMINATION
OF THE POTENTIALLY RARE, ENDANGERED AND ENDEMIC
SPECIES IN THE CALIFORNIA DESERT STUDY AREA,
December 1978.

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REVIEW OF THE LITERATURE OF THE FAMILY ASILIDAE, ROBBER
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STUDY AREA, December 1978.

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Review of the Literature of the family Asilidae, Robber

Flies, and a determination of the potentially rare,

endangered and endemic species in the California

Desert Study Area

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Introduction

The Asilidae is a family of two-winged flies (Diptera) that vary in size from 3 to 50 mm. in length. They are called "robber flies" as the adults are predacious on other insects. They sit on the ground, on rocks, on tips of twigs or on the sides of trees waiting for other insects to fly by. They usually attack in the air, grasp their prey with their powerful legs, pierce them with their sharp mouth parts and inject a fluid which usually renders them motionless in a few minutes. Then they fly to a convenient location where they suck out the contents of their prey. A few insects such as grasshoppers are attacked while moving on the ground. Frequently the prey is larger than the fly and after a struggle at times it gets away. The larvae are reported to be predacious on white grubs in the ground and beetle larvae living in and under the bark of trees. One authority reported that the mouth parts of some Asilid larvae were not strong enough to be predacious.

The Asilidae are world wide in distribution and in North America range from the subarctic regions (Alaska and Canada) to the tropical regions (Panama). About half of the species live in the mountains, forests, river valleys and along the sea shore, while the other half live in the deserts and open plains. Some species found in the highest mountains in California are found nearly at sea level in Alaska. There are about 5,000 species in the World, about 1,000 of which occur in America, north of Mexico. California has one of the richest faunas in the world with over 400 species, about half of which live in the desert areas.

In arid areas the Asilidae can only survive in uncultivated and undisturbed areas. A good example is Los Angeles and Orange Counties, east and south of the mountains. D. W. Coquillett lived here from 1882-1893 and collected and described many flies, sixteen of which were robber flies. Only one of his species of robber flies can be found here now and one of his species has never been found. His other species have been found in Riverside, San Bernardino and San Diego Counties where cultivation of the soil, destruction of the native vegetation and urban growth has not been so extensive.

The desert areas as defined and included here are: all of Imperial County; eastern San Diego County including Mt. Palomar and the Laguna Mts.; eastern Riverside County including the eastern and northern slopes of the San Jacinto Mts.; northern San Bernardino County including the northern slopes of the San Bernardino and San Gabriel Mts. and Cajon Pass; Los Angeles County north of and including the north slopes of the San Gabriel Mts.; Kern County south and east of Lake Isabella; and Inyo and Mono Counties including the eastern slopes of the Sierra Nevada Mts.

The Asilidae are divided into subfamilies which have been changed in this century and are subject to change in the future. Williston (1908) recognized the following four subfamilies: Asilinae, Laphrinae, Dasypogoninae and Leptogastrinae and were in general use for about 40 years. G. H. Hardy (1948) after many years work with the Australian Asilidae reduced the families to two: the Dasypogoninae (with 10 tribes) and the Asilinae (with 3 tribes including the Leptogastrini). Carraera (1960) adopted this plan for the South American Asilidae and added one tribe to the Dasypogoninae. Hull (1962) in his great work on the World genera used the four subfamilies of Williston (1908) and added a fifth, the Megapodinae. Martin (1968) elevated the Leptogastrinae to family rank and gave them the common name "Grass Flies". Papavero (1973) after his study of the World genera divided the Asilidae into eight subfamilies but left out the Leptogastrinae. His subfamilies are used here plus the Leptogastrinae as its elevation to family rank has not been accepted by several authorities. The subfamilies are listed below and all but the Ommatiinae are found in California. Apocleinae (Lehr 1969), Asilinae (Leach 1819), Dasypogoninae (Macquart 1838), Laphrinae (Macquart 1838), Laphystiinae (G. H. Hardy (1948), Leptogastrinae (Schiner 1862), Ommatiinae (G. H. Hardy 1927), Stenopogoninae (Hull 1962), and Trigoninae (Enderlein 1914).

Institutions and Collections where Specimens are Located

American Entomological Society, Philadelphia, Pa.	AESP
American Museum of Natural History, New York, N. Y.	AMNH
Arizona State University, Tempe, Ariz.	ASU
Bellardi Collection, Turin, Italy	BCTI
British Museum of Natural History, London	BMNH
California Academy of Sciences, San Francisco, Ca.	CAS
California Department of Agriculture, Sacramento	CDA
California Insect Survey, University of California, Berkeley. CIS	
Canadian National Collection, Ottawa	CNC
Cornell University, Ithaca, N. Y.	CU
Eric M. Fisher, Riverside, Ca.	EMF
Florida State Collection of Arthropods, Gainesville (plus Charles H. Martin Collection . CHM)	FSCA
Hope Museum, Oxford, Eng.	HM
Joseph Wilcox, Anaheim, CA.	JW
Long Beach State University, Long Beach, Ca.	LBSU
Los Angeles County Museum of Natural History, Los Angeles, Ca. LACMNH	
Museum of Comparative Zoology, Cambridge, Mass.	MCZ
Museum of Zoology, University of Sao Paulo, Brazil	MZUSP
Northridge California State University, Northridge, Ca. . . .	NCSU
Ohio State University, Columbus	OSU
Oregon State Department of Agriculture, Salem	OSDA
R. H. Painter, Manhattan, Kansas	RHP

San Diego Natural History Museum, San Diego, Ca. SDNHM
University of California, Davis, Ca. UCD
University of California, Riverside, Ca. UCR
University of Idaho, Moscow, Id. UI
University of Kansas, Lawrence, Kansas UK
United States National Museum, Washington, D. C. USNM
Utah State University, Logan, Utah USU
Yale University, New Haven, Conn. YU

The numbers in parenthesis preceeding each species refers to
code
the following of the U. S. Department of Interior, Bureau of Land
Management for the California Desert Study Area.

- (1) Species is widespread in distribution (throughout the western states, the United States, or North America, etc.).
 - (a) Species is widespread to the east of the California Desert, but reaches its western limit in the California Desert.
 - (b) The species is widespread in both the deserts and sismontane California.
- (2) Species is widespread, but only marginally occurs in the California Desert.
- (3) Species is found outside the California Desert, but where it occurs in the California Desert it is at the higher elevations.
- (4) Species occurs in the western deserts of the United States.
- (5) Species occurs in the Sonoran deserts.
- (6) Species occurs in the Mojave Desert.
- (7) Species is endemic to the California Desert.

Subfamily: Apocleinae Lehr (1969)

Genus *Efferia* Coquillett (1893)

Efferia Coquillett, 1893: 175.

Type-species, candida Coquillett.

Erax authors, not Scopoli (1763).

Nerax Hull, (1962): 476.

Type-species, Asilus aestuans Linnaeus.

Hine (1919) divided the species into eight groups that are used here except that the names of two groups have been changed to conform with the present knowledge.

Aestuans Group: Hine 1919: 120.

(?) aestuans(Linnaeus), 1763: 1007 (Asilus).

Type ?. Pennsylvanis, ?.

Geographic range: USA (Arizona to the east coast and in most of the eastern states).

California records: none, but might be found in the desert areas.

(7) species, new

Geographic range: USA (Arizona and California).

California records:

Riverside Co.: Pinto Wash Well, Joshua Tree N. M., VII-13 '63

(E. L. Sleeper) blacklight, CSUEB.

San Bernardino Co.: Kelso Dunes, VII-18 '66 (Fred G. Andrews) UCR.

ALBIBARBIS Group: Martin 1962: 248. (Barbatus Group, Hine 1919: 108).

(1) albibarbis (Macquart), 1838: 118 (Erax).

Type ?, N. A., Paris.

barbatus (Hine) 1919: 109 (Erax), not Fabricius (1805).

albibarbis Martin, 1962: 251. (Type badly damaged in Paris).

Neotype ♂, Bainbridge, Ohio, USNM.

Geographic range: Canada (southern); USA (widespread); Mexico, Central America and Venezuela.

California records: Widespread up to 6000' elevation. Many desert records in Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino and San Diego Counties: April to August. See p. 7a.

(1a) bicolor (Bellardi), 1861: 47 (Erax).

Type ♂, Mexico, Bellardi Coll., Turin.

Geographic range: USA (California to Mississippi); Mexico (Chihuahua). These specimens might be distinct from Bellardi's species as most of his material came from the area of Mexico City to Veracruz.

California records: Calaveras and Lassen Counties, but most records from the desert areas of Imperial, Inyo, Los Angeles, Riverside, San Bernardino and San Diego Counties; May to September). See p. 7b.

(2) peralta Wilcox, 1966: 115.

Types ♂♀, Peralta, Orange Co., Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties. Mainly a hill species from west of the mountains but with following records from desert areas.

Imperial Co.: Calipatria, V; Calexico, IV; Gordons Well, IV, VIII;
Gray's Well, VII; Palo Verde, IV, VII, X; Potholes, IV; E. Salton
Sea, VI; Westmoreland, V; Winterhaven, VII.

Inyo Co.: Antelope Spgs., VIII; Death Vly., IV, Furnace Crk. III;
Deep Spgs., VII, Lk., VI, VII; Little Lk., VI, VII; Olancho, VIII;
Panamint Spgs., VII, Mts., VII; White Mts., VII.

Kern Co.: Walker Pass, VII.

Los Angeles Co.: Big Rock Crk., VII, VIII; Lancaster, VI, VII;
Mint. Cyn., VII; Palmdale, VIII.

Riverside Co.: Andreas Cyn., IV; Blythe, V, VI, VIII, 18 mi. W.,
IX; Cathedral City, VII; Coachella, V; Deep Cyn., IV to IX; Hopkins
Joshua Tree N.M., Cottonwood Spgs., Fried Liver Wash, Pleasant Vly., Squaw Tank, Up. Covington Flat,
Well, IV; Indian Wells, IV; Indio, IV to VII, Pushawalla Palms, V; ^{Y to IX,}
_{CSULB, I.F.}
Magnesia Cyn., VI to VII; Mecca, VI to VIII; Palm Cyn., VII; Palm
Springs, V to X; Ripley, VI; Salton Sea N., V; Thermal, IV, VI;
Thousand Palms, V; Vidal, 16 mi. S., VII; White Water, V, VII, IX, X.

San Bernardino Co.: Cajon Pass, VI, VII; Cushenbury Spgs., V, IX;
Deep Crk., VI; Desert Spgs., VI; Kramer Hills, V; Mojave R.--Apple Vly.,
VI; Morongo Vly., IX; Newberry Spgs., VII; Pioneertown, VII;
Victorville, VII; Yermo, V; Yucca Vly., X.

San Diego Co.: Agua Caliente Spgs., VIII; Anza S. P., IV, X;
Borrego, IV, V, VII, IX; San Felipe Crk., IV, V; Scissors Crossing,
VI, VII; Yaqui Well, IX.

Imperial Co.: 13 mi. S. W. Palo Verde, VIII-1 '67 (J. M. Davidson,
M. A. Cazier) ASU.

Inyo Co.: 3 mi. S. Olancho, VIII-6 '48 (P. D. Hurd, J. W. MacSwain)
CIS.

Los Angeles Co.: 2 mi. N. Lancaster, IX-8 '56 (J. A. Chemsak) CIS.

Riverside Co.: Cathedral City, VII-16 '50 (B. Adelson, J. W.
MacSwain) CIS; Coachella, V-21 '28 (E. C. Van Dyke) CAS; Deep Cyn.,
IX-5 '63 (E. I. Schlinger) UCR; Indio, VIII-5 '35 (R. H. Beamer) UK;
Joshua Tree N.M., Pleasant Vly., VII-8 to VII-31, CSULB, EF;
A Magnesia Cyn., VII-21, 22 '52, '56 (J. J. Menn) CIS; Palm Springs,
VII-2 '36 (P. H. Timberlake) UCR; Pinyon Flat, VI-27 '56 (J. J. Menn) CIS.

San Bernardino Co.: Joshua Tree N.M., Lower Covington Flat,
VII-8 '61 (E. L. Sleeper) CSULB; Victorville, VIII-1 '35 (R. H. Beamer)
UK; Yermo, VII-2 '49 (R. van den Bosch) CIS.

San Diego Co.: Borrego, Palm Cyn., VI-16 '56 (M. E. Irwin) UCR;
San Felipe Crk., IX-1, 10 '38 (P. H. Timberlake) UCR.

peralta Wlx, cont'd.

Imperial Co.: Coyote Wells, X-2 '47, UCR.

San Bernardino Co.: Joshua Tree N. M., V-18 '46 (A. L. Melander)
Flat (Riverside Co.) to VII-31
USNM. L. Covington Wash and Smith Water Wash, VII-6 '60 (M. Knox,
E. Sleeper) CSULB.

San Diego Co.: Jacumba, VIII-12 '35 (Jack Beamer, Jean Russell)
UK; 3.2 mi. E. Julian, VIII-7 '65 (Saul Frommer) UCR.

vertebrata (Bromley) 1940: 14 (Erax).

Type ♂, Warners Springs, Cal., ♀, Idyllwild, Cal., UK.

Geographic range: USA (California). Bromley (1940) also reported
from Arizona but ^his record is questioned.

California records: Fresno, Inyo, Kern, Lake, Los Angeles,
Madera, Mariposa, Merced, Mono. Riverside, Sacramento, San Benito, San
Bernardino, San Diego, Tulare, Tuolumne, and Ventura Counties. Mainly
a mountain species with desert areas as follows.

Inyo Co.: Bigpine, VIII-5 to 12 '57 (Itol J. and J. Wilcox) JW;
Independence, VIII-13 '57 (Itol J. and J. Wilcox) JW; 6 mi. S. Lone
Pine, VIII-20 '60 (E. I. Schlinger) UCD; Westgard Pass, 7200', VII-26
'62 (C. D. MacNeill, D. C. Rentz) CAS.

San Bernardino Co.: Big Bear Lake, Hanna Flats, VIII-15 '51
(Guy F. Toland, J. Wilcox) JW, Horse Thief Flats, IX-18 '48 Guy F.
Toland, J. Wilcox) JW; Mojave R. and Deep Crk., VIII-14 '36 (A. J.
Basinger) on rocks and sand in river wash, CAS.

San Diego Co.: Warner Springs, VII-28 '38 (Jean Russell) UK.

ANQMALA Group Hine 1919: 119.

(5) ~~←~~ aztec Wilcox 1966: 128.

Types ♂♀, Aztec, Arizona, CAS.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: 11 mi. W. Calexico at foot of Mt. Signal, X-10 '76

(John D. Pinto) UCR.

Riverside Co.: 9 mi. W. Blythe, X-11 '58 (J. W. MacSwain) CIS,

10 mi. W., X-12 '54 (J. C. Hall) UCD; Hopkins Well, X-11 '58 (R. W.

Thorp) CIS; 5 mi. E. Mecca, X-3 '76 (John D. Pinto) UCR.

~~davisi Wilcox 1966~~

(5) candida (Coquillett 1893: 173.

Types ♂♀, Los Angeles Co., Cal., USNM.

Geographic range: USA (Arizona and California); Mexico (Baja California N. and Sonora).

California records: Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino and San Diego Counties; April to September. Many records mainly from desert areas. See pp. 9a & 9b.

(2) davisi Wilcox 1966: 132.

Types ♂♀, 12 mi. N. Sasabe, Arizona, CAS.

Geographic range: USA (Arizona, California and New Mexico)

California records:

Imperial Co.: Palo Verde, X-28 '67 (S. A. Gorodenski, M. A. Cazier) ASU.

San Diego Co.: 3 mi. N. W. and 13 mi. E. Borrego Spgs., X-7. '67

(G. L. Lytle, S. A. Gorodenski, M. A. Cazier) ASU.

Imperial Co.: 4.7 mi. E. Bard Corner, IV-14 '49 (P. H. Timberlake)
UCR; Fig Tree ⁰J~~ahn~~'s, IV-5 '31 (A. C. Brousse) CDA; Glamis, 10.1 mi.
W., IV-3 '60 (P. H. Timberlake) UCR, 1 mi. W., IV-25, VI-13, X-1 '65
(G. R. Ballmer, M. E. Irwin, R. E. Somerby) UCR, 5 mi. W., IV-22 '68
(Fred G. Andrews) UCR; Kane Spgs., VIII-28 '47 (J. Wilcox) JW; 10 mi.
S. Oasis, IX-6 '47 (J. Wilcox) JW; Palo Verde, IX-15 '61 (P. D. Hurd)
EIS; Salton Sea Beach, IV-30 '53 (J. C. Hall) UCD; Westmoreland,
V-24 '32 (H. Gentry) CAS.

Inyo Co.: Death Vly., Furnace Crk., IV-27 '56 (R. M. Bohart) UCD;
Little Lk., VII-14 '60 (H. K. Court) UCD; White Mts., Westgard Pass,
VII-5 '59 (J. Wilcox) JW.

Los Angeles Co.: 6 mi. W. Lancaster, V-24 '67 (S. M. Hogue, R. L.
Penrose) UI; 8 mi. N. ^Llano, VII-2 '58 (J. C. Hall) UCD; Mint Cyn.,
VII-31 '35 (E. I. Beamer, Jean Russell) UK; Palmdale, VIII-6 '62
(Sugarman) UCR; Vincent, VIII-10 '60 (G. H. Nelson) FSCA.

Riverside Co.: Coachella Vly., V-9 '27, VI-21, 22 '28 (E. C. Van
Dyke) CAS; Deep Cyn., IX-10 '64, IX-24 to X-9 '63 (M. E. Irwin, E. I.
Schlinger) UCR; Devil's Cyn., V-7 '32 (H. Gentry) CAS; 4 mi. E. Edom,
IV-17 '37 (P. H. Timberlake) UCR; Indio, IV-22, V-7 '41, IX-19 '46
Joshua Tree N.M., Pleasant Vly, Pinto Wash, VIII-29, CSULB, EF;
(A. F. Howland, J. Wilcox) JW, VIII-29 '58 (J. C. Hall) UCD; [^]Palm
Springs, V*21 to 31 '43, V-30 '42, VIII-9 '42, IX-6 '47 (Guy F. Toland,
J. Wilcox) JW, V-22 '17 (E. P. Van Duzee) CAS, VII-20 '34 (C. M.
Dammers) UCR; Salton Sea, V-30 '30 (P. H. Timberlake) UCR; White Water,
VI-19 '49 (J. Wilcox) JW, VII-9 '50 (L. W. MacSwain) small Buprestid
prey, CIS, X-28 '34 (A. J. Basinger) CAS.

San Bernardino Co.: 11 mi. S. Adelanto, VIII-5 '57 (J. Wilcox) JW; Cajon, VII-17 '56 (R. M. Bohart) UCD, Pass, VI-24 '49 (H. E. Cott) UCD, 4 mi. N. Jct., VII-1, 4 '58 (J. C. Hall) UCD; Cronise Vly., V-5 '60 (F. D. Parker) UCD; Joshua Tree N. M., Pinto Wash Well, VIII-18 '62 (E. L. Sleeper) CSULB; Kelso Dune, VII-18 '66 (Fred G. Andrews) UCR; Lucerne Vly., VII-27 '47 (Guy F. Toland) JW; Mojave R. at Deep Crk., VIII-14 '36 (E. G. Linsley) CIS; 2 mi. N. E. Twentynine Palms, V-24, 25 '66 (J. Wilcox) JW Adiocera prey; Yermo, V-28 '40 (M. Cazier, W. Reeves, P. C. Ting) JW.

San Diego Co.: Agua Caliente Spgs., VIII-26 '47 (J. Wilcox) JW; 6 mi. E. Banner, VI-26 '63 (J. Powell) CIS; Borrego, IV-5 '40 (R. M. Bohart) UCD, V-16 '48, IX-24 '45 (Grace H. and John L. Sperry) USNM, 3 mi. E. Borrego Spgs., IV-15 '62 (D. J. Burdick) CSUFresno; 3 mi. N. Scissors Crossing, IX-8 '55 (J. C. Hall) UCR.

(2) halli Wilcox 1966: 134.

Types ♂♀, Oak Grove, Cal., CAS.

Geographic range: USA (California).

USA

California records: (Riverside, San Bernardino and San Diego Counties). Mainly a mountain species adjacent to desert areas.

Riverside Co.: Anza, VII-5 '56 (B. M. Bartosh) UCR.

San Bernardino Co.: 4 mi. N. Cajon Pass, VII-1 '58 (J. C. Hall) UCR.

San Diego Co.: Oak Grove, VI-1 '41 (Thelma, Edith, Dan F. and Guy F. Toland, J. Wilcox) JW.; Warner Springs, VII-4 '62 (J. Wilcox) JW, 9 mi. S., VII-8 '56 (R. C. Bechtel) UCD and VII-4 '56 (H. W. Michalk) CDA.

(5) pernicis Coquillett, 1893: 175.

Types ♂♀, Los Angeles and San Diego Counties, Cal., USNM.

Geographic range: USA (Arizona, California and Utah).

California records: Imperial, Inyo, Los Angeles, Orange, Riverside, San Bernardino and San Diego Counties; April to August. Mainly a desert species but invades the coastal areas of the southern counties, many records. See p. 10a.

(2) tricella(Bromley) 1951: 32 (Erax).

Type ♂. Buckeye, Arizona, ♀, Salome, Arizona, USNM.

Geographic range: USA (Arizona, California and New Mexico).

California records:

Imperial Co.: 1 mi. W. Glamis, IX-26 '64 (M. E. Irwin) UCR; 2 mi. S. Palo Verde, VII-16 '62 (P. D. Hurd) 251.1, prey Saropogon mohawki Wilcox, Tamerix galliacea, CIS.

Imperial Co.: Bard, V-28 '52 (D. Cox) CIS; 10 mi. W. Calipatria, V-27'56 (T. R. Haig) UCD; Niland, V-22 '56 (T. R. Haig) UCD; Palo Verde, 245', VII-11 '66 (J. M. Davidson, M. A. Cazier) ASU, VIII-9 to 27 '46 (W. F. Barr, P. D. Hurd) prey treehopper, Tamarix gallica, CIS, 10 mi. S., IX-8 '67 (S. C. Williams, M. A. Cazier) ASU; Seeley, VIII-10 '62 (D. A. Kilgore) CDA; Westmoreland, V-24 '32 (H. Gentry) CAS; Winterhaven, IV-29 '61, LACMNH.

Riverside Co.: Blythe, V-7 to VII-20 '47, VI-9 to VIII-19 '45, VII-6 to VIII-26 '46 (W. F. Barr, P. D. Hurd, E. G. Linsley, J. W. MacSwain) CIS, VII-5, 15 '38 (P. H. Timberlake) UCR, VIII-15 '50 (L. W. Isaak) UCD, VIII-19 '38 (G. P. Engelhardt) JW, IX-1 '60 (K. L. Japport) Argon light, CDA, 13 mi. N., VII-26 '66 (J. M. Davidson, M. A. Cazier) Atriplex lentiformis (Torr.) Wats., ASU.; Coachella, V-9 '27, Vly., V-17 to 25 '28 (E. C. Van Dyke) CAS, VI-11 '30 (D. G. Hall) JW; Indio, V-25 '48 (J. Wilcox) JW, VII-19 (29 (D. G. Hall) JW; 4 mi. E. Mecca, VII-16 '56 (M. Wasbauer) Croton californica, CIS; Palm Springs, VI-22 '45, CIS; Ripley, VIII-14, 16 '46 (W. F. Barr) sweeping alfalfa, CIS; Pushawalla Palma, nr. Indio, V-20 '65 (H. Ewing) UCR; 16 mi. S. Vidal, VII-11 '66 (J. M. Davidson, M. A. Cazier) ASU; White Water, IX-17 '48 (Guy F. Toland) JW.

San Bernardino Co.: Morongo, IX-28 '44 (A. L. Melander) USNM; Needles, VI-4 '38 (P. H. Timberlake) UCR; Yermo, V-28 '40 (M. Cazier, W. Reeves, P. C. Ting) CAS.

San Diego Co.: Borrego, IV-26 to V-6 '46 (John L. Sperry) USNM.

Inyo Co.: Death Vly., Eagle Borax Works, IV-18 '65 (R. L. Westcott) UI, Furnace Crk., IV-1 '53 (J. W. MacSwain) CIS, Nevares Spgs., IV-17 '65 (W. F. Barr) UI; Deep Spgs., VII-5 '57 (J. Wilcox) JW, VII-11, 16 '53 (H. Nakakihara) UCR.

ARIDA Group Hine: 1919: 115.

(6) arida^{us} (Williston) 1893: 254 (Eraz).

Type ♀, Death Valley Expedition, Cal., USNM.

Geographic range: USA (Arizona, California and Utah).

California records:

Inyo Co.: Death Valley Expedition, IV-'91, USNM.

Kern Co.: Boron, IV-3 '59 (E. G. Linsley, J. W. MacSwain)

Correopsis californica, CIS; Inyo (Kern), III-14 '41 (T. Aitken) CAS; Mojave, III-23 '37 (G. E. and R. M. Bohart) ICD, 28 mi. N., III-24 '68 (S. M. Hogue, R. I. Penrose) wild bee prey, UI; Mojave Desert, Rogers Dry Lake, III-16 '35 (A. L. Melander) USNM.

Los Angeles Co.: Littlerock, III-18 '57, III-23 '41 (Josephine and Mary V. Lee, M. W. Stone jr., Dan Toland, Itol J., J. Jr., and J. Wilcox) JW; Llano, III-18 '57 (J. Wilcox) JW; Lovejoy Buttes, Mojave Desert, II-16 '45 (C. Henne) LACMNH; Palmdale, III-18 '57 (J. Wilcox) JW.

San Bernardino Co.: Adelanto, IV-6 '46, CIS, III-17, IV-7 '57 (C. H. Martin, J. Wilcox) CHM, JW; Cima, ^(not shown on map) III-27 '32 (Edmand Jaeger) CIS, 16 mi. S. W., 5000', IV-2 '66 (R. W. Brown) CAS; 6 air mi. S. Hills Ivanpah, IV-16 '64 (R. L. Langston) CIS; Kramer ~~xxx~~, IV-30 '53, IV-25 '57 (J. Powell, G. I. Stage) CIS, Jct., IV-30 '53 (G. A. Marsh) CIS, 3 mi. S., IV-6 '66 (R. L. Brumley) UCD; New York Mts., 6 air mi. S. Ivanpah, IV-16 '64 (D. D. Linsdale) CIS, Kingstone Cyn., 5400-5800', IV-20 to 22 '60 (J. M. and S. N. Burns) CIS; Oro Grande, IV-15 '38 (T. Aitken) CAS; Providence Mts., IV-10/16 '49 (B. Weber) LACMNH; Salt Wells, 7 mi. W., III-31, IV-1 '59 (R. W. Thorpe, G. I. Stage, J. R. Powers) CIS; Yermo, IV-12, 25 '66 (J. Wilcox) JW.

(2) basingeri Wilcox, 1966: 144.

Types ♂♀, Pyramid Lake, Nevada, CAS.

Geographic range: USA (California and Nevada).

California records: Inyo, Lassen and Modoc Counties.

Inyo Co.: Antelope Springs, VIII-24 '60 (J. W. MacSwain) CIS;

Deep Springs, IX-10 '56 (J. A. Chemsak, P. D. Hurd) Chrysothamnus, CIS.

(?) harveyi (Hine) 1919: 115 (Erax).

Types ♂♀, Vernon, British Columbia, OhioSU.

Geographic range: Canada (British Columbia); USA (California, Idaho, Oregon and Washington).

California records:

Siskiyou Co.: Gazelle, IX-22 '51 (Jack Hall, E. I. Schlinger) UCD.

A fall species of the Great Basin that might be found in eastern Mono or Inyo counties.

†

(7) Polandi Wilcox 1966: 150.

Types ♂♀, Independence, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: 5 mi. N. Bigpine, IX-6 '58 (A. D. Telford) UCD;
Independence, X-26 '63 (J. R. Birchim) CAS, Grays Mdw., X-9 '63 (Itol J. and J. Wilcox) JW; 6 mi. W. Lone Pine, IX-19 '65 (J. Wilcox) prey
Polacantha composita (Hine), JW.

Kern Co.: 3 mi. N. E. Mojave, X-6 '67 (J. W. MacSwain) CIS;
Walker Pass, X-8 '57 (J. C. Hall) UCD.

Mono Co.: Benton, 5600', IX-1 '37, IX-5 '36 (E. G. Anderson) USNM,
Insp. Sta., X-20 '64 (W. E. Simonds) CDA; Mono Lk., IX-13 '63, N. side,
IX-18 '65, and 2 mi. N., IX-18 '65 (Itol J. and J. Wilcox) JW.

San Bernardino Co.: Cushenbury Springs, IX-18 '48, X-4 '63

(Guy F. Toland, J. Wilcox) JW; 10 mi. N. W. Landers, X-11 '67

(J. Wilcox) JW, 6 mi. E. Lucerne Vly, XI-7 '78 (Eric Fisher) EF

CARINATA Group, Hine 1919: 130.

(5) caliente Wilcox, 1966: 153.

Types ♂♀, Agua Caliente Springs, Cal., CAS.

Geographic range: USA (Arizona, California and Nevada); Mexico (Baja California N.).

California records:

Imperial Co.: Coyote Wells, III-28 '60 (S. M. Hogue, R. L. Penrose) UI; 5 mi. S. Fish Springs, III-25 '39 (P. H. Timberlake) UCR.
Riverside Co.: 10 mi. E. Desert Center, IV-13 '41 (J. Wilcox) JW; Edom, IV-17 '37 (~~Rxxxxxxxxrxxxx~~)xNOR (E. G. Linsley) CIS; Lone Palm Cyn., III-31 '60 (P. H. Timberlake) UCR; Palm Desert, I-25 '49 (Grace H. and John L. Sperry) USNM, IV-11 to 13 '50 (P. D. Hurd) CIS, nr., IV-24 '50 (C. D. MacNeill) CIS; 3 mi. N. W. Palm Springs, IV-24 '64 (W. F. Barr) UI; Salton Sea, III-24 '49 (R. A. Flock) UCR; 4.5 mi. E. Thousand Palms, IV-3 '49 (P. H. Timberlake) UCR..

San Bernardino Co.: Cronise Vly., IV-3 '53 (J. W. MacSwain) CIS; 22 mi. N. Manix, IV-26 '58 (P. D. Hurd, R. O. Schuster) Larrea, CIS; Morongo Vly., IV-25 '57 (R. R. Snelling, M. D. Stage) CIS.

San Diego Co.: Agua Caliente Springs, III-31 to IV-3 '42 (Don Meadows, W. Schweikhard, J. Wilcox) JW; Campo, 1 mi. W., III-31 '60 (P. H. Timberlake) UCR; 4 mi. S. E. Dry Lake (Ocotillo Wells), IV-3, 4 '42 (W. Schweikhard, J. Jr. and J. Wilcox) JW.

POGONIAS GROUP, Wilcox 1966: 163. (Caudatus Group, Martin 1962: 147.

Rufiharbis Group, Hine 1919: 136}.

(?) frewinzi Wilcox, 1966: 169.

Types ♂♀, Antelope Mt., Harney Co., Oregon, CAS.

Geographic range: Canada (Alberta); USA (California, Nevada, Oregon, Utah and Washington).

California records:

Modoc Co.: Lava Beds N. M., VIII-24 '40 (T. Aitken) CAS.

(2) mortensoni Wilcox, 1966: 173.

Types ♂♀, 2 mi. N. E. Portal, Arizona, CAS.

Geographic range: USA (California, Arizona and New Mexico).

California records.

San Bernardino Co.: Colorado River opposite Parker, Arizona,

October (Eric M. Fisher) EMF. Definite localities to be added later.

Riverside Co.: Joshua Tree N.M., 5 mi. N. Cottonwood Spgs., XI-11, CSULB, EF

STAMINEA Group: Hine 1919: 139 (Stramineus Group Hine, misnomer).

(2) benedicti (Bromley) 1940: 15 (Erax).

Type ♂, Winslow, Arizona, ♀, Santa Rita Mts., Arizona, UK.

Geographic range: USA (Arizona, California, Colorado, Idaho, Nevada, Oregon, Utah, and Washington); Mexico (Baja California N.).

California records: Imperial, Inyo, Fresno, Kern, Lassen, Los Angeles, Modoc, Mono, Riverside, San Bernardino and San Diego Counties. Many records in desert areas, mainly April and May but other records to October. See p. 16a.

(1b) cana (Hine) 1916: 22 (Erax).

Types ♂♀, Claremont, Cal., OhioSU.

Geographic range: USA (Arizona, California, Colorado and Utah.

California records: Colusa, Contra Costa, Fresno, Inyo, Kern, Kings, Los Angeles, Madera, Monterey, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, Stanislaus, Ventura and Yolo Counties).

Inyo Co.: Argus Mts., VI-4 '39 (R. M. Bohart) UCD.

Kern Co.: E. B. Last Chance Mine, E. Hwy. 6, 9 mi. N. Ricardo, IV-10 '60 (C. A. Toschi) CIS; Mojave, IV-26 '50 (R. G. Horwell) and VI-1 '17, CAS, Desert, V-'37 (R. H. Smith) CAS; Randsburg, V-1 '52 (R. M. Bohart) UCD; Walker Pass, VI-18 '63 (J. Wilcox) JW; Wheeler Ridge, V-13 '53, LACNHM.

Los Angeles Co.: 2.4 mi. N. Desert Springs, V-29 '53 (P. H. Timberlake) UCR; Littlerock, IV-15, V-15, 18 '62 (S. Nakagawa, E. Sandor, M. Thompson) NCSU, V-10 '41, V-13, 22 '42, V-15 '53 (J. C. Elmore, Guy F. Toland, Itol J. and J. Wilcox) JW, 1 mi. W., V-13 '56 (E. G. Linsley, J. W. MacSwain) CIS; Llano, VI-1 '57 (W. E. Simonds) CDA, 8 mi. E., V-14 '52 (P. H. Timberlake) UCR; Lovejoy Buttes,

See p. 17

Imperial Co.: 10 mi. S. Palo Verde, IX.

Inyo Co.: Antelope Spgs., VI, VIII; Deep Spgs., IX, 13 mi. S., VIII; Olancho, VI; Panamint, VII, Mts. V, Parker's Camp, 5000', VII; Westgard Pass, VI to IX; White Mts., Cedar Flats IX, Wyman Cyn., VII.

Kern Co.: Walker Pass, VI.

Los Angeles Co.: Desert Spgs., VIII; Littlerock, IX; Palmdale, IV, VI.

Riverside Co.: Andreas Cyn., IV; Coachella, V, VI; Deep Cyn., X;
Joshua Tree N.M., Pleasant Vly., VI-1 to VIII-2, CSULB, EF;
~~Littleton, IX~~ Edom, IV; McCoy Spg., IV; Mecca, IV; Palm Springs, III-V, IX; Tahquitz Cyn., VI; Whitewater, V, IX.

San Bernardino Co.: Atolia, VI; 13 mi. W. Barstow, VI; Clark Mts., VII; Cushenbury Spgs., VI, IX; Deep Crk., V; 2.5 mi. E. Desert Spgs., VII; 25 mi. S. Ivanpah, X; Lucerne Vly., VI, VII; Morengo Vly., IV, V; Needles, VIII; Phelan, VII; Twentynine Palms, IX; Victorville, VI; Windmill Sta., IV.

San Diego Co.: Agua Caliente Spgs., VIII; Borrego, IV, V, XI, Culp Cyn. IV, Palm Cyn., IV, VI, Tub Cyn., IV, V; La Puerta Vly., X; San Felipe Crk., IX.

Cana (Hine), cont'd.

V-10 '44 (P. H. Timberlake) UCR; Palmdale, V-4 '57 (Itol J. and J. Wilcox) JW, VI-22 '49 (L. W. Isaak) UCD; Red Rock Cyn., V-1 '58 (R. M. Bohart) UCD.

Joshua Tree N.M., 0.7 mi. N. Squaw Tank, V-15, CSULB, EF;

Riverside Co.: Pleasant Vly., Dry Lake, VI-14 '63 (P. M. Estes)

UCR.

San Bernardino Co.: Adelanto, V-14 '57, V-31 '48 (C. H. Martin, J. Wilcox) CHM, JW, 5 mi. N., V-30 '48 (Guy F. Toland, J. Wilcox) JW; 4 mi. E. Boron, V-7 '68 (J. W. Stubblefield) UCR; 13 mi. W. Barstow, VI-21 '42 (J. Wilcox) JW; Cajon Pass, V-20 '51 (E. I. Schlinger, E. J. Taylor) UCR, 2 mi. W., VI-7 '56 (J. C. Hall) UCD; Deep Crk., V-16 '37 (P. H. Timberlake) UCR; Hesperia, V-19 '55 (A. W. Levi) USU; Kramer Hills, V-21, VI-1 '53 (P. D. Hurd, R. A. Marsh, R. Schuster) Larrea, Malacothrix sp., CIS; Joshua Tree, V-12 '57 (R. F. Ernest) LACMNH; Mojave R. nr. Victorville, V-28 '32 (P. H. Timberlake) UCR; 2 mi. W. Phelan, VI-7 '58 (J. C. Hall, E. I. Schlinger) Tachinid prey, UCR; Summit Cajon Pass, V-15 '36 (J. Corcoran); Victorville, V-30 '44 (A. L. Melander) USNM, V-31 '41 (Dan and Guy F. Toland, J. Jr. and J. Wilcox) JW, 3 mi. S. W., V-9 '48 (P. H. Timberlake) UCR; Yermo, V-23 '40 (G. E. Bohart) UCD, V-31 '41 (J. Wilcox) JW.

(5) coquilletti (Hine) 1919: 149 (Erax).

Types ♂♀, San Diego Co., Cal., USNM.

Geographic range: USA (Arizona and California).

California records: Imperial, Inyo, Riverside, San Bernardino, and San Diego Counties. March to May, all desert localities. *See pp. 18a, 18b.*

deserti Wilcox, 1966: 199.

Types ♂♀, 10 mi. E. Desert Center, Cal., CAS.

Geographic range: USA (Arizona, California, Nevada and Utah).

California records: Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino and San Diego Counties. March to June, all desert localities except part of Los Angeles County. *See pp. 18c, 18d.*

(2) ehrenbergi Wilcox, 1966: 203.

Types ♂♀, 35 mi. E. Ehrenberg, Arizona, CAS.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: 5 mi. N. E. Ogilby, IV-24 '55 (David Cox) ASU;
3 mi. S. Palo Verde, IV-18 '49 (P. D. Hurd) CIS.

(1b) inflata (Hine) 1911: 310 (Erax).

Types ♂♀, Los Angeles Co., Cal., Ohio SU.

Geographic Range: USA (California).

California records: Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura Counties. Most records west of the mountains.

Los Angeles Co.: Big Rock Camp, V-30 '59 (J. A. Honey) LACMNH;
Mint Canyon, VII-31 '35 (E. I. Beamer) UK; Tapia Park, IV-12 '62,

V-22 '60 (D. Gibo) NCSU.

San Bernardino Co.: Joshua Tree N.M., Lower Covington Flat, V-28, CSULB, E.F.
See p. 19.

Imperial Co.: Hot Mineral Spa, III-30 '59 (Menke & Stange) LACMNH.

Inyo Co.: 12 mi. S. Death Vly. Jct., IV-12, 14 '65 (D. L. Coates, R. L. Penrose, E. L. Westcott) UI; Panamint Spgs., V-6 '61 (P. M. Marsh) UCD, 5 mi. N. W., V-8 '58 (L. A. Stange) UCD.

Riverside Co.: Andreas Cyn., III-3, IV-25 '56 (R. M. Bohart, J. C. Hall) UCD; Cathedral City, II-22 '60 (Fred G. Andrews) #7, UCR; Deep Cyn., III-9 '64, III-28, IV-4 '63 (M. E. Irwin, E. I. Schlinger) *Joshua Tree N.M., Pinyon Wells, Squaw Tank, Pleasant Vly., III-3 to VI-13, CSULB, EF;* UCR, IV-6 '63 (R. L. Langston) CIS; ^Λ McCoy Spgs., IV-8, 9 '63 (J. C. Hall, E. I. Schlinger) UCR; Palm Springs, III-5 '68 (J. Wilcox) JW, III-14 to 25 '16, III-31 '63 (A. M. Barnes, C. L. Fox) CIS, CAS, III-28 '37 (G. E. and R. M. Bohart) UCD, IV-12 '41 (Itol, J. Jr., and J. Wilcox) JW, 10 mi. E., IV-10 '45 (J. Wilcox) JW, ^C Rhino Cyn., IV-9 '61 (R. L. Westcott) LACMNH; 12 mi. S. W. Rice, IV-21 '51 (C. D. MacNeill) CIS; Thousand Palms, III-7 '57, III-9 '41, IV-4 '64 (R. M. Bohart, J. C. Hall) UCD, III-25 '66 (S. and S. Frommer) UCR, III-30 '58 (D. D. Linsdale) CIS, Cyn., IV-5 '66 (J. C. Hall) UCR; White Water, III-18 '60 (R. M. Bohart) UCD, IV-17 '48, V-7 '41 (J. Wilcox) JW, 10 mi. E., III-18 '60 (R. M. Bohart) UCD.

San Bernardino Co.: Amboy Crater, IV-24 '60 (J. Powell, J. R. Powers) CIS, 13 mi. E., IV-12 '58 (J. W. MacSwain) CIS; Baker, IV-20 '69 *lava flows S. of, IV-24 '71 (M. E. Irwin, J. D. Pinto) UCR,* (Fred G. Andrews) UCR; ^Λ Carsons Well, IV-4 '66 (R. M. Bohart, R. L. Brumley) UCD; 10 mi. N. E. Earp, IV-17 '64 (D. D. Linsdale) CIS; Lk. Havasu, IV-15 '66 (D. L. Coates) UI; Lobeckes Pass, 18 mi. S. Needles, IV-14 '65 (R. L. Westcott) UI; 1 mi. W. Needles, III-8 '66 (Torchio and Burwell) Phacelia, USU; Oro Grande, IV-15 '38 (T. Aitken) CAS; Windmill Sta., V-28 '50 (H. E. Cott) UCD.

San Diego Co.: IV (D. W. Coquillett) USNM; Anza S. P., IV-23 '51
(E. I. Schlinger) UCD; Borrego, IV-8 '39, IV-18 '57 (R. M. Bohart,
H. R. Moffitt) UCD, IV-5 '49, IV-10 '52, IV-25, 28 '54 (P. D. Hurd,
J. W. MacSwain) CIS, IV-19 '41 (N. R. Anderson, Itol J., J. Jr., and
J. Wilcox) JW, Spgs., III-30 '60 (M. Wasbauer) CDA; Vallecito Vly.,
III-23 '48 (G. A. Marsh) CIS.

Imperial Co.: 3.5 mi. N. W. Glamis, Algodones Dunes, IV-13 '68
(E. M. Bellet, L. O. Tejada, J. De Voe) UCR; Kane Spgs., IV-9 '52
(E. G. and Joan Linsley) CIS; 22 mi. S. Oasis, III-30, IV-20 '41
(Dan Toland, J. Jr., and J. Wilcox) JW; 3 mi. S. Palo Verde, IV-8 '49
IV-9 '63, IV-30 '52 (P. D. Hurd, R. L. Langston, J. Powell, W. A.
Steffen) prey 2 tachinids, CIS.

Inyo Co.: 4 mi. E. Balarat, IV-9 '55 (R. F. Smith) CIS; Westgard
Pass Plateau, V-27 '37, CIS.

Kern Co.: Mojave, IV-22 '40, JW; Randsburg, V-1 '52, UCD.

Riverside Co.: 18 and 22 mi. W. Blythe, IV-9 '63, IV-12 '51,
IV-29 '52 (J. V. Hall, P. H. Timberlake) UCR; Box Cyn., IV-26 '52
(P. D. Hurd) CIS; 10, 20, 23 mi. E. Desert Center, III-27, IV-13 '41
(N. R. Anderson, J. C. Elmore, Itol J., J. Jr., and J. Wilcox) JW,
18 mi. E., III-1 '33 (P. H. Timberlake) UCR; 4 and 5 mi. E. Edom,
IV-10, 17 '37 (P. H. Timberlake) UCR; Hopkins Well, IV-14 to 16 '48,
IV-27, 28 '49, IV-29 '52 (J. E. Gillaspay, P. D. Hurd, C. A. Marsh,
J. Powell, L. W. Quate, J. G. Rozen, R. F. Smith) CIS; Indian Wells,
IV-1, 9 '61 (R. L. Westcott) LACMNH; Indio, III-16, 29, IV-20 to 30 '41,
IV-5 '42 (N. R. Anderson, Itol J., J. Jr. and J. Wilcox) JW; , ~~xxxxx~~
IV-1 '48 (J. W. MacSwain) tachinid prey, CIS; La Quinta, IV-11 '48
(Guy F. Toland, J. Wilcox) JW; Mecca, IV-13 '41 (N. R. Anderson, Itol
J., J. Jr. and J. Wilcox) JW, 10 mi. S., IV-4 '37 (P. H. Timberlake)
UCR; Thousand Palms Cyn., IV-9 '64 (F. D. Parker) UCD, 5.1 mi. E.
IV-3 '49 (P. H. Timberlake) UCR.

San Bernardino Co.: Amboy Crater, IV-24 '60 (J. Powell) CIS,
13 mi. E., IV-12 '58 (J. W. MacSwain) CIS; 5 mi. N. Adelanto, V-4 '66
(J. C. Hall) UCR; nr. Baker, IV-21 '52 (C. A. Hill) LACMNH; Barstow,
V-31 '41 (J. Wilcox) JW; Cronise Vly., IV-3 '53, IV-29 '56 (J. W.
MacSwain, J. Powell) CIS, Prosopis; Daggett, VI-3 '48, CIS; Kramer
Hills, V-4 '66 (F. Andrews) UCR; 7 mi. W. Ludlow, V-7 '53 (C. D. MacNeill)
♂ with small ♂ prey, CIS; Manix, IV-25 '53 (P. H. Timberlake) UCR;
Needles, IV-3 '41 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS,
1 mi. W., III-8 '66 (Torchio, Burwell) USU; Yermo, IV-28 '49 (E. G.
Linsley, J. W. MacSwain, R. F. Smith) CIS, IV-25 '66, V-31 '41 (Dan F.
and Guy F. Toland, J. Jr. and J. Wilcox) JW.

San Diego Co.: Borrego, IV-24 '49 & '54, IV-26 '55 (P. D. Hurd,
L. W. Quate, J. G. Rozen) CIS, IV-27 '55 (P. H. Timberlake) UCR, dunes
and Palm Cyn., IV-6, 7 '64, IV-18 to 20 '57 (R. C. Bechtel, R. M. Bohart,
R. W. Bushing, J. C. Hall, P. M. Marsh, H. R. Moffitt, F. D. Parker,
E. I. Schlinger) UCD; 4 mi. S. E. Ocotillo Wells (Dry Lake), IV-4 '42
(W. Schweikhard, J. Jr. and J. Wilcox) JW.

inflata (Hine), cont'd.

Riverside Co.: Banning, V-14 '53 (J. Wilcox) JW, V-17 '41 (E. C. Deep Cyn., 2800', IV-19 '74 (Saul Frommer), 2960-3280', V-11 '74 (B. W. Kaul) UCR; Van Dyke) CAS; Morongo Valley, V-23, 24 '41 (E. C. Van Dyke) CAS;

^
S. W. Palm Desert, 2000-3000', V-8 '62 (A. E. Michelbacher) CIS;

Thousand Palms, V-1 '60 (R. D. Sjogren) UCR.

San Bernardino Co.: Cajon, VIII-9 '44 (A. L. Melander) USNM, Pass, VII-16 '49 (L. D. Anderson) UCR; Joshua Tree N. M., L. Covington Flat, V-28 '60 (M. Knox, E. L. Sleeper) CSULB; Morongo Vly., V-19 '51 (E. I. Schlinger, E. J. Taylor) UCD; 2 mi. N. Phelan, VI-17 '58 (J. C. Hall) UCD; Wrightwood, V-22 '54 (A. L. Melander) USNM, VI-14 '59 (J. C. and E. M. Hall) UCD.

(7) vermo Wilcox, 1966: 233.

Types ♂♀, Yermo, Cal. CAS.

Geographic range: USA (California).

California records:

Kern Co.: Mojave, V-12 '40, JW.

San Bernardino Co.: nr. Baker, IV-21 '52 (C. A. Hill) LACMNH, 5 mi. N., III-29 '53 (J. W. MacSwain) CIS; Cronise, IV-29 '53 (P. H. Timberlake) UCR, Vly., IV-3 '53, IV-29 '56 (J. W. MacSwain, M. Wasbauer) CIS; Ludlow, 12 mi. W., IV-11 '52 (E. E. Gilbert) CIS; Yermo, IV-12 '66 (J. Wilcox) JW, IV-28 '59 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS.

(2) yuma Wilcox 1966: 224.

Types ♂♀, 16 mi. E. Yuma, Arizona, CAS.

Geographic range: USA (Arizona and California); Mexico (Sonora).

California records:

Imperial Co.: Col. Desert, III-133 (R. M. and G. E. Bohart) UCD; Glamis, IV-8 '64 (R. M. Bohart) UCD, 6.2 mi. W., III-2 '68 (M. E. Irwin) P. A. Rauch) UCR; 5 mi. N. Kane Springs, IV-9 '52 (E. G. Linsley, J. W. MacSwain) CIS; 21, 22 mi. S. Oasis, III-30, IV-20 '41 (N. R. Anderson, Itol J., J. Jr. and J. Wilcox) JW; Yuhu Plain, IV-17 '41 (J. Jr. and J. Wilcox) JW.

TUBERCULATA Group, Hine 1919: 135.

(3) producta(Hine)1919: 136 (Erax).

Types ♂♀, Flinn Springs, Cal., Ohio SU.

Geographic range: USA (Arizona and California).

California records:

Kern Co.: Inyokern, VI-12 '64 (D. G. and John D. Pinto) UCR; Mojave, VI-8 '46 (W. F. Barr) UI.

Los Angeles Co.: 6.3 mi. W. Acton Jct., VIII-2 '59 (G. H. Nelson) Quercus dumosa, FSCA.

Riverside Co.: Cathedral City, VII-3 '51 (J. W. MacSwain, R. F. Smith) CIS; Deep Cyn., VI-3 to VII-10 (63, VI-24 to VII-8 '64 (Fred G. Andrews, G. Ballmer, K. Brown, P. Rauch, E. I. Schlinger) mostly at Joshua Tree N.M., Cottonwood Spgs., Pleasant Vly., Quail Guzzler, VI-11 to VIII-4, CSULB, EF; light, UCR; Magnesia Cyn., VII-27 '52 (J. W. MacSwain) CIS; Pinyon Flat, V-24 '39 (E. G. Linsley) CIS; Tahquitz Cyn., VI-8 '57 (Brumley, Menke and Stange) LACMNH.

San Bernardino Co.: Adelanto, VI-10 '61, VI-19 '52 (M. E. Irwin, A. T. McClay) UCD; 1³/₈ mi. W. Barstow, VI-21 '42 (Guy F. Toland, J. Wilcox) JW; Clark Mt., 45008, VII-8 '38 (P. H. Timberlake) UCR; Cottonwood Spg.,

Granite Mts., VII-18 '66 (Fred G. Andrews) UCR; Joshua Tree N. M.,
L. Covington Flat, VII-11 '60 (M. Knox) CSULB, Smithwater Wash, VII-23
'60 (E. L. Sleeper) CSULB part at black light, Squaw Tank, VI-16, VII-2 '60
(J. Geest, W. Schilling) C ULB; 3 mi. S. Kramer Jct., VI-18 '61 (R. M.
Bohart, M. E. Irwin) UCD, 15 mi. E., VII-6 '51 (J. W. MacSwain, R. F.
Smith) CIS, 15 mi. W., VII-20 '50 (R. Schuster) CIS; Magnesia Cyn.,
VII-21 '52 (D. E. Barcus, J. K. Hester) UCD; Morengo Vly., VIII-4 '33
(P. H. Timberlake) UCR; Vistorville, VI-22 '59, VII-7 '51 (P. H.
Arnaud, Jr., J. C. Hall) CDA; Yermo, V-30 '41 (J. Wilcox) JW; Yucca Vly.,
20 Mi. W. Twentynine Palms, VIII-3 '33 (H. L. McKenzie) Croton
californicus, UCR.

San Diego Co.: Mountain Spgs., VI-14 '61 (R. L. Westcott) LACMNH;
Sentenac Cyn., VI-15 '54 (J. Powell) ~~WCR~~ CIS.

(16) aetigera Wilcox 1966: 228.

CAS,
Type ♂, Camp Baldy, Cal., ¹/₂ 2 mi. N. Warner Spgs., Cal., UCD.
Geographic range: USA (California); Mexico (Baja California N.).
California records: Los Angeles, Riverside, San Diego and Santa
Barbara Counties; west of the mountains except the following:

San Diego Co.: Sentenac Cyn., VI-15 '54 (J. Powell) CIS;
Warner Spgs., VIII-4 '63 (Paul A. Rude) CIS, 2 mi. N., VII-8 '56
(B. M. Bartosh) UCD.

(16) tucsoni Wilcox, 1966: 231.

Types ♂♀, Portal, Arizona, CAS.
Geographic range: USA (Arizona, California and New Mexico).
California records: Inyo Co.: Antelope Spgs., VII-17 '53, VIII-24
'60 (E. Jessen, J. W. MacSwain) CIS. San Bernardino Co.: 25 mi. S.
Ivanpah, X-13 '58 (J. A. Chemsak) Chrysothamnus, CIS.

Genus *Furcilla* Martin

Furcilla Martin, 1975: 76.

Type-species, dorothyae Martin.

Geographic range: USA (California to Texas); Mexico (Baja California to Coahuila).

(2) species, undescribed.

Geographic range: USA (California and Nevada).

California record:

San Bernardino

~~Imperial~~ Co.: Death Vly., Saratoga Spgs., V-5 '60 (H. E. Menke) UCD.

Genus *Mallophora* Macquart

Mallophora Macquart 1834: 300.

Type-species, Asilus bomboides Wiedemann.

(1b) fautricoides Curran 1930: 13.

Type ♂, San Diego, Cal., AMNH.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Imperial, Kern, Kings, Los Angeles, Maricopa, Mono, Orange, Riverside, San Diego, Santa Clara, Tulare and Ventura Counties. Most records west of the mountains, July to September.

Imperial Co.: Palo Verde, VII-17 '61 ~~{RxxRxxRdx}xJW~~ (O. L. Brauner) UCR.

Kern Co.: Inyokern, VII-21 (F. F. Foley) JW.

Mono Co.: VI-15 '22 (W. N. Burdick) Univ. Colo.

San Diego Co.: Sentenec Cyn., IX-11 '38 (C. M. Dammers) UCR.

Genus Megaphorus⁵ Bigot

Megaphorus Bigot 1857b: 542.

Type-species, Mallophora heteroptera Macquart (orig. des.) ==
laphroides (Wiedemann).

Mallophorina Curran, 1934b: 183.

Type-species, Mallophora guildiana Williston (orig. des.).

(3) frustra (Pritchard) 1935: 11 (Mallophorina).

Types ♂♀, Tem, Arizona, AMNH.

Geographic range: USA (Arizona, California, Colorado, Nevada,
New Mexico and Utah).

California records:

Inyo Co.: Baxter Crk. Rd., VII-4 '65 (J. Birchim) CAS; Darwin
Falls, VII-15 (R. M. Bohart) UCD; Little Lake, VI-29 (Court) UCD;
Westgard Pass, 5000', VIII-24 (T. Gantenbein) UCD.

Riverside Co.: Pushawalla Palms, Indian Hills, V-20 '65 (H. Ewing)
UCR.

(3) frustra brunnea (Cole) 1964: 89 (Mallophorina).

Types ♂♀, Portal, Arizona, CAS.

Geographic range: USA (Arizona, California, Colorado, Nevada and
New Mexico).

California records:

Inyo Co.: Westgard Pass (T. Gantenbein) UCD.

(1b) frustra flavida (Cole) 1964: 87 (Mallophorina).

Type ♂, Scissors Crossing, Cal., ♀, Twentynine Palms, Cal., CAS.

Geographic range: USA (California and Arizona); Mexico (Baja California)
Fresno, Imperial, Inyo, Kern,

California records: ^ Los Angeles, ~~Orange~~ Riverside, San Bernardino,
San Diego, Shasta and Tulare Counties. Mainly from desert localities,
May to September. See pp. 23a & 23 b.

Imperial Co.: Mountain Spgs., VI-25 '66 (J. Powell) CIS;

Seeley, VII-17 (Lipovsky) UK.

Inyo Co.: Argus Mts., Mt. Spgs. Cyn., VI-27 '59 (J. C. Downey)
Sill.U.; Deep Spgs., VII-16, 17 (J. W. MacSwain, D. D. Linsdale) CIS;
Little Lake, VII-14 (Court) UCD.

Kern Co.: Rosamond, VII-23 (Hardy) UK, IX-8 (Hurd) Chrysothamnus
nauseosus mohavensis, CIS.

Los Angeles Co.: VII (D. W. Coquillett) USNM; Big Rock Crk., 3900',
VII-21 '36 (P. H. Timberlake) UCR; Lancaster, 2 mi. N. [^](Hurd and Chemsak)
on C. n. mohavensis, CIS, 6 mi. W., V-24 '67 (S. M. Hogue, R. L. Penrose)
UI; Littlerock, VIII-16 '47 (J. Wilcox) JW; Pearblossom, VI-22 '59
(P. H. Arnaud, Jr.) CDA; 3-4 mi. S. E. Valyermo, VIII-22 '66 (R. L.
Westcott) UI.

Riverside Co.: Anza, VII-7 (Linsley) Eriogonum fasciculatum polifolium,
Joshua Tree N.M., 5 locations, VI-1 to IX-23, CSULB, EF;
CIS; Deep Cyn., VI-24 '64 (E. I. Schlinger) UCR; [^]Palm Springs, V-28 '43
(J. Wilcox) JW, VI-22 '58 (G. H. Nelson) FSCA, VI-24 (Stange) LACMNH;
Pinyon Flat, VI-24, 21 (Van Dyke) CAS.

San Bernardino Co.: Atolia, VII-9 (Bohart) CHM; 20 mi. E. Barstow,
VI-30 (Beamer, La Berge) UK; mouth Deep Crk., VIII-11 (Schlinger) CHM;
Daggett to Needles, VI-9 (Van Dyke) CAS; Joshua Tree N. M., L. Covington
Flat, VI-24 '61 (M. L. West) CSULB; Morongo Vly., VI-18 (Bechtel) CHM,
VIII-3 '33 (P. H. Timberlake) UCR; Twentynine Palms, IX-17 (Toland) UK;
Victorville, VII-7 (Hall) CHM, VIII-1 (Beamer) UK; Yucca Vly., 19 mi.
W. Twentynine Palms, VIII-3 '33 (P. H. Timberlake) UCR.

San Diego Co.: Agua Caliente Spgs., VIII-26 '47 (J. Wilcox) JW;
Borrego, Palm Cyn., VI-12 '65 (G. R. Ballmer) UCR, S. Indian Cyn., VII-15
(Marsh) CIS; Jacumba, VIII-12 (Russell) JW, VI-27 '52 (D. J. and J. N.
Knull) OSU, VI-29 '63 (J. H. Pogojeff) UCD; Mountain Springs, VII-25

San Diego Co. cont'd.

(Craik and Sailor) UK; San Felipe Vly., VIII-17 '36 (C. M. Dammers)
LACMNH, IX-9, 11 '38 (P. H. Timberlake) UCR; Scissors Crossing, VII-4
(Bechtel, Menke, Wiley) Prosopis or "mesquite", CAS, CHM, VI-26 '63
(E. I. Schlinger) UCR, X-10 '64 (G. R. Ballmer) UCR; Sentenec Cyn.,
VI-15 (Powell) CIS; Vallecito, IX-24 '36 (J. A. Comstock) LACMNH.

Note: records without year of collection taken from Cole and
Pritchard (1964).

(2) megachile (Coquillett) 1893: 118 (Mallophora).

Types ♂♀, Los Angeles Co., Cal., USNM.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Los Angeles, Orange, Riverside and San Diego Counties, mainly in coastal areas, June to September.

Riverside Co.: Anza, VIII-6 '35 (E. I. Beamer, Jean Russell) UK.

San Diego Co.: Tenaja C. G., 2100', VIII-3 '65 (B. Ruge, R. Somerby) UCR; Warner Ranch, IX-12 '35 (A. J. Basinger) CAS.

(2) prudens (Pritchard) 1935: 10 (Mallophorina).

Type ♂, Oracle, Arizona, ♀, Whiteriver, Arizona, AMNH.

Geographic range: USA (Arizona, California, New Mexico and Texas).

California records:

Riverside Co.: Pine Flats Camp, nr. Indio, VII-12 (Todd) UK.

(2) pulchra^{us} (Pritchard) 1935: 11 (Mallophorina).

Types ♂♀, Carlsbad, New Mexico, AMNH.

Geographic range: USA (Arizona, California, Nevada, New Mexico and Texas); Mexico (Chihuahua, Durango and Sonora).

California records:

Riverside Co.: Blythe, VIII-17 (G. P. Engelhardt) JW, X-16 '34 (C. M. Dammers) UCR; Ripley, VIII-12, X-19 (P. D. Hurd) alfalfa, CIS.

San Bernardino Co.: New York Mts., VIII.

San Diego Co.: 12 mi. E. Julian in Anza Desert, CIS; San Felipe Crk., VIII-29 '36, IX-9 '38 (P. H. Timberlake) UCR.

Genus *Proctacanthella* Bromley

Proctacanthella Bromley, 1934: 96.

Type-species, *Asilus cacopillogus* Hine.

(2) leucopogon (Williston) 1893: 75 (*Asilus*).

Types ♂♀, South Dakota and Nebraska, UK.

Geographic range: USA (Arizona, California, Colorado, Kansas, Montana, Nebraska, New Mexico, South Dakota and Texas); Mexico (Baja California and Sonora).

California records:

Imperial Co.: 1 mi. W. Glamis, IX-26 '64 (M. E. Irwin) UCR.

Riverside Co.: 18 mi. W. Blythe, X-16 '65 (F. D. Parker) UCD;
Cathedral City, VII-16 '50 (J. W. MacSwain) CIS; Deep Canyon, VII-1 '64, VIII-9 '63 (E. I. Schlinger) UCR; Hopkins Well, X-11 '58 (W. E. Ferguson) *Joshua Tree N.M., Pleasant Vly, VII-29 to VIII-28, CSULB, EF;*
CIS; ^ Magnesia Cyn., VI-27 to VII-21 '52 (R. M. Bohart, J. W. MacSwain, J. J. Menn, J. H. Nakata) CIS, UCD, UCR; Tahquitz Cyn., VI-24 '56 (G. I. Stage) CIS.

San Bernardino Co.: Twentynine Palms, IX-17 '48 (Guy F. Toland, J. Wilcox) JW.

San Diego Co.: Agua Caliente Hot Springs, VIII-27 '47 (J. Wilcox) JW; Jct. Hwys. 78 and 52, VIII-7, 8 '65 (S. I. and S. L. Frommer, S. Larisch) UCR.

(7) tolandi Wilcox 1965: 109.

Types ♂♀, Whitewater, Cal., CAS

Geographic range: USA (Arizona and California).

California records:

Los Angeles Co.: 8 mi. E. Lancaster, VIII-17 '56 (E. I. Schlinger)

UCD.

Riverside Co.: 18 mi. W. Blythe, X-16 '65 (R. M. Bohart, F. D. Parker)
UCD; Coachella, X-24 '51 (A. Williamson) CAS; Hopkins Well, X-11 '58,
X-24 '51 (J. A. Chemsak, W. E. Ferguson, P. D. Hurd, J. W. MacSwain,
R. W. Thorp) part at light, CIS; Palm Springs, VIII-27 '52, X-9 '55
(H. Graham, J. W. MacSwain) CIS, VIII-20 '57 (G. H. Nelson) UCD, 6 and 8
mi. N. W., IX-9, 19 (71 (Nelson Papavero, Itol J. and J. Wilcox) JW, MZUSP,
7.5 mi. N., sand dunes, XI-18 '33 (P. H. Timberlake) UCR; Thousand Palms,
X-15 '65 (R. M. Bohart) UCD; White Water, IX-28 '64 (M. W. Stone, Itol J.
and J. Wilcox) JW, Palm Springs R. R. Sta., VIII-10 to X-15 '47 (Guy F.
Toland, J. Wilcox) JW.

San Bernardino Co.: 9 mi. W. Rice, X-12 '63 (Eric Fisher) EMF;
26 mi. E. Twentynine Palms, X-13 '63 (Eric Fisher) EMF.

San Diego Co.: Borrego Desert, Clark Lk., XI-8 '45 (A. L. Melander)
USNM; 13 mi. E. Borrego Spgs., X-7 '67 (G. L. Lytle, S. A. Gorodenski,
M. A. Cazier) ASU.

Genus *Proctacanthus* Macquart

Proctacanthus Macquart, 1838: 120.

Type-species, *philadelphicus* Macquart.

(6) *coquilletti* Hine, 1911: 160.

Types ♂♀, Los Angeles Co., Cal. (D. W. Coquillett), OhioSU?.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Imperial, Inyo, Los Angeles, Riverside, San Bernardino and San Diego Counties. Occurs along the coast and in the desert areas.

Imperial Co.: Glamis, IV-8 '64 (F. D. Parker) UCD; Gray's Well, VI-23 '52 (D. J. and J. N. Knull) OhioSU; sand dunes on way to Yuma, Arizona, IV-9 '35 (G. P. Engelhardt) JW; 4 mi. N. Gordon's Well, IX-28 '71 (J. C. Hall) UCR.

Inyo Co.: Death Valley N. M., Bennett Well, IV-14 '68 (J. Bigelow) ASU, Stovepipe Well, IV-10 '68 (S. C. Williams, V. Lee) ASU; 15 mi. N. Trona, IV-13 '68 (S. C. Williams, V. Lee) ASU.

Riverside Co.: 3 mi. S. Rice, V-10, 17 '68 (J. Bigelow, R. N. Foster, M. A. Cazier) ASU.

San Bernardino Co.: Kelso, VII-18 '66 (Fred G. Andrews) dunes, UCR; Newberry, V-18 '68 (N. Foster, M. A. Cazier) ASU.

(?) *milbertii* Macquart, 1838: 124.

Type ?, N. A., Paris Mus.

Geographic range: USA (midwestern states, along Mississippi River, and as far west as Colorado).

California records: Hine (1911) reports from California, seems doubtful.

arno Hine, 1911: 161.

Misidentification of arno Townsend from Baja California Sur.

(2) nearno Martin 1962: 161.

Types ♂♀, Baboquivari Mts., Arizona, UK.

Geographic range: USA (Arizona, California, Colorado, Nevada, New Mexico, Oklahoma, Utah and Texas); Mexico (Baja California).

California records: Mainly a desert species but is found near the ocean in San Diego Co. and Hine (1911) reports from Palo Alto as arno Townsend which is questioned.

Inyo Co.: 15 mi. N. Bishop, VIII-5 '48 (P. D. Hurd, J. W. MacSwain) CIS.

Kern Co.: Saltdale, VI-19 '32 (A. T. McClay) JW.

Los Angeles Co.: Littlerock, VIII-16 '47 (J. Wilcox) JW; Lovejoy Lk., VII-25 '53 (W. McDonald) LACMNH.

Riverside Co.: Blythe, VI-17, VII-21 '46, VI-25 '45 (R. F. Smith) CIS, 17 mi. N. W., VII-26 '46 (W. F. Barr, P. D. Hurd) CIS; Cathedral City, VIII-1 '50 (L. W. Isaak) UCD; Coachella, VI-11, 26 '30 (D. G. Hall and Hall) JW; Gilman Hot Spgs., VII-2 '52 (R. E. Wagner) LACMNH; 5 mi. W. Indio, VII-9 '56 (P. D. Hurd) CIS; Palms to Pines Hwy., V-24 '40 (R. Husbands) CIS; Palm Springs, V-27 '59 (G. H. Nelson) FSCA; 16 mi. S. Vidal, VII-25 '67 (J. H. and J. M. Davidson, M. A. Cazier) ASU; Whitewater, IX-11 '38 (A. J. Basinger) CAS.

San Bernardino Co.: 13 mi. W. Barstow, VI-21 '42 (Guy F. Toland, J. Wilcox) JW; Needles, VI-30 '51 (Grace H. and John L. Sperry) USNM; Yermo, V-25 '40 (G. E. Bohart, M. Cazier, W. Reeves, P. C. Ting) CIS, UCD.

San Diego Co.: Scissors Crossing, VI-26 '63 (E. I. Schlinger) UCR.

(2) occidentalis Hine 1911: 159.

Type ♂, Los Angeles Co., Cal., ♀, Cal. or Idaho, OhioSU.

Geographic range: USA(California, Idaho, Oregon and Washington);
Mexico (Baja California N.).

California records: Records from practically every County in the
State. Mainly a Coastal and Valley species that gets through the
mountains in the north and a few in the south, April to October.

Kern Co.: Inyokern, VII-21 '56 (F. F. Foley) JW.

Mono Co.: 23 mi. W. Benton, IX-4 '63 (J. Wilcox) JW; 4 mi. E.
Jct. Hwys. 395 and 120, VIII-7 '58 (A. D. Telford) UCD.

Riverside Co.: Indio, VII-19 '29 (D. G. Hall and Hall) JW.

Genus Promachus Loew

Promachus Loew 1848: 390.

Type-species, Asilus maculatus Fabricius.

(?) albifacies Williston 1885: 63.

Types ♀♀, Arizona, UK.

Geographic range: USA (Arizona, Colorado, Nevada, New Mexico,
Utah and Wyoming.

California records: Hine (1911) reports from California but
this cannot be verified. It is widespread in Arizona but there are
no records from the Counties adjoining ⁱⁿ California.

(2) aldrichii Hine 1911: 171.

Types ♂♀, Utah, OhioSU.

Geographic range: USA (California, Idaho, Nevada, Oregon, Utah and Washington.

California records: Inyo, Kern, Lassen, Los Angeles, Modoc, Mono, Riverside and San Bernardino Counties. Confined to the fringe areas East of the mountains except two records from Riverside Co. (Perris and Riverside).

Inyo Co.: Antelope Spg., 8 mi. W. Deep Spg., VI-10, 24 '60, VI-14 to VIII-1 '61 (J. W. MacSwain, J. Powell, G. I. Stage, C. A. Toschi) CIS; N. Bishop, VIII-1 '36 (G. E. and R. M. Bohart) UCD; Independence, VIII-13 '57, VIII-21 '63 (J. Wilcox) honey bee prey, JW; Olancho, IX-9 '56 (J. A. Chemsak) CIS; Owens Vly., VIII-2 '31 (G. E. and R. M. Bohart) UCD; Panamint Mts., Wildhorse Cyn., VI-7 '56 (J. M. Burns) CIS, 7000-7500', VI-17 '61 (G. H. Nelson) yellow jacket prey, FSCA; Portal C. G., VII-11 '65 (Ballmer and Bath) UCR; West⁹ard Pass, VIII-24 '60 (D. Q. Cavagnaro) cerambycid prey, FER, IX-11 '56 (J. A. Chemsak, E. G. Linsley) CIS, IX-15 '63 (Itol J. Wilcox) leaf-footed bug prey, JW.

Kern Co.: N.W. of Randsburg, VI-27, VIII '63 (D. Gibo)NSCU.

Los Angeles Co.: Granite Hills, VIII-5 '62 (Sugarman) UCR; Littlerock, V-22 '42, VIII-16 '47, IX-19 '48 (Guy F. Toland, J. Wilcox) JW; Lovejoy Buttes, VIII-28 '44 (C. Henne) LACMNH.

Mono Co.: Benton, VII-10 '40 (J. G. Shanafelt) LACMNH, Insp. Sta., VIII-7 '63, CDA; Topaz Lk., VII-10 '51 (T. R. Haig) tiger beetle prey, UCD.

Riverside Co.: Anza, 20 mi. S. E., IX-15 '49 (R. P. Allen) CAS;
Banning, VII-9 '50 (T. R. Haig) M. J. Stebbins, H. N. Yokoyama) CIS, UCD;
Indio, IX-19 '46 (J. Wilcox) JW.

San Bernardino Co.: Adelanto, V-31 '48, 5 mi. N., V-30 '48
(Guy F. Toland, J. Wilcox) JW; Cajon Pass, VII-16 '49 (H. T. Reynolds)
UCR; Clark Mts., 5000', VII-8 '38, IX-5 '34 (C. M. Dammers, P. H.
Joshua Tree N.M., 7 mi. S.E. Joshua Tree, Lower Covington Flat, IX-14 to X-7, CSULB, EF;
Timberlake) UCR; Ivanpah Mts., Mexican Well, IX-1 '46 (C. Henne) JW; [^]
New York Mts., IX-8 '45, IX-23 '40 (C. Henne) JW; Victorville, VI-24 '49
(H. E. Cott) UCD; Wheaton Spgs., VI-6 '58 (J. Wilcox) JW; 1.2 mi. E.
Yucca Vly., IX-9 '46 (P. H. Timberlake) UCR.

(?) nigripilosus Schaeffer 1916: 67.

Type ♂, Shasta Co., Cal., USNM.

Geographic range: USA (California and Oregon).

California records: Calaveras, San Diego, Shasta and Trinity
Counties but none from desert areas. This appears to be a variation
of princeps Williston.

(1b) princeps Williston 1885: 62.

Types ♂♀, Washington Territory, UK.

Geographic range: USA (California, Nevada, Oregon, Utah and
Washington).

California records: Alameda, Butte, Eldorado, Inyo, Lassen, Los
Angeles, Mariposa, Modoc, Mono, Placer, Plumas, Riverside, San Benito,
San Bernardino and San Luis Obispo Counties. Mainly a species west
of the mountains with a few in the desert areas.

Inyo Co.: Antelope Spg., VII-1 '61 (D. R. Miller) UCD.

Mono Co.: Mono Lake, VII-17 '51 (R. W. Morgan) UCD.

San Bernardino Co.: 3 mi. N. Cajon Pass, VII-6 '67 (J. Wilcox)
honey bee prey, JW; Mojave Desert, VI-13 '37 (P. D. Gerhardt) CAS;
Morongo Vly., VI-18 '51 (R. C. Bechtel) UCD; Phelan, VII-9 to 24 '45
(Grace H. and John L. Sperry) USNM; Providence Mts., Cedar Cyn.,
V-27 '50 (H. E. Cott) UCD; 4 mi. E. Wrightwood, VI-7 '66 (J. Wilcox)
JW.

(7) species, new ?

Similar to aldrichii Hine but smaller and is collected later in
year.

Geographic range: USA (California).

California records:

Riverside Co.: Pinyon Flat, VIII-24 to X-24 '64 to '67 (J. Wilcox)
JW.

San Diego Co.: Borrego Vly., X-19 '66 (M. W. Stone, J. Wilcox) JW.

Genus Regasilus Curran

Regasilus Curran, 1931: 24.

Type-species, strigarius Curran (Ecuador), AMNH.

(?) blantoni Bromley, 1951: 35.

Type: ♂♀, Wills (Wells), Nevada; USNM.

Geographic range: USA (Arizona, Idaho, New Mexico, Nevada and Utah).

California records: none, but it should be found on the eastern fringes as it is a desert species, August to October.

Genus Triorla Parks

Triorla Parks, 1968: 175.

Type-species, Asilus interruptus ~~Wiedemann~~ Macquart.

(!) interruptus (Macquart), 1834: 310 (Asilus).

Placed in the genera Erax or Efferia prior to 1968.

Type ♀, Georgia, Paris Mus.

Geographic range: USA (coast to coast and as far north as Kansas); Mexico south to Guatemala or farther.

California records: Butte, Colusa, Contra Costa, Fresno, Imperial, Sacramento, Kern, Lassen, Los Angeles, Merced, Orange, Placer, Riverside, San Bernardino, San Diego, San Joaquin, Santa Barbara, Tulare and Yolo Counties; June to October.

Imperial Co.: Calexico, VII-14 '31 (H. W. Capps) CAS; Gordons Well, 3 mi. W., VII-19 '56 (E. I. Schlinger) UCD; Palo Verde and 5 mi. S., 245', VII-11, 14 '66 (J. M. Davidson, M. A. Cazier) small moth prey, ASU.

Riverside Co.: Blythe, VII-22 to VIII-20 '46 (W. F. Barr, P. D. Hurd) alfalfa, prey, Colias sp., Diognites sp., and acridid Lonozona sp., CIS, VIII-28 '48 (L. D. Anderson) alfalfa, UCR; Coachella, V-19 '28 (E. C. Van Dyke) CAS; Palm Springs, VII-22 '45, CIS; Ripley, VIII-12 to 26 '46 (W. F. Barr, P. D. Hurd) alfalfa, prey, Tachinid, immature Acridid, Colias sp., non-honey bee, and camel cricket, CIS; Thermal, VI-24 '57 (E. I. Schlinger) UCD, 3 mi. S., VIII-19 '53 (J. T. Brooks) CIS, Rummerd's Ranch, 62 St./Tyler, VIII-24 '65 (Dan Gerling) UCR.

San Bernardino Co.: 8 mi. W. Needle, VIII-25 '46 (P. D. Hurd) prey, Acridid Boottattix, CIS; Newberry Springs, VII-30 '56 (M. B. Jackson) UK.

San Diego Co.: Borrego Spgs., VI-22 '58 (L. A. Stange) LACMNH, VII-25 '67 (J. H. and J. M. Davidson, M. A. Cazier) ASU; San Felipe Crk., IX-9 '38 (P. H. Timberlake) UCR; Scissors Crossing, VII-4 '56 (H. W. Michalk) CDA, IX-4 '55 (J. Powell) CIS.

Subfamily Asilinae Leach (1819)

Genus Asilus Linnaeus (1758)

Asilus Linnaeus, 1758: 605.

Type-species, crabroniformis Linnaeus.

Probably none of the American species belong in this genus.

Hine (1909) placed all of the Nearctic species in Asilus L. and rejected the various groups proposed by Loew (1848) for the European species. Since 1909 a number of the groups proposed by Loew (1848) are considered to be genera and new genera have been erected by Curran (1934), Bromley (1935) and Martin (1975). There are a few species that have not been placed otherwise, so for the present they are listed under Asilus L.

(1b) astutus Williston, 1893: 70.

Types ♂♀, California, UK.

Geographic range: USA (California and Oregon).

California records: Inyo, Kern, Lassen, Los Angeles, Mariposa, Mendocino, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Stanislaus, Tulare, Ventura, Yolo and Yuba Counties, April to September.

Inyo Co.: Bigpine, VII-11 '53 (J. W. MacSwain) CIS, 3 mi. E., VII-10 '53 (H. Nakakihara) UCR, 7 mi. E., VII-10 '53 (J. T. Brooks) CIS, Crk., 7500', VI-12 '42 (R. M. Bohart) UCD; Bishop, VI-21 '29 (R. L. Usinger) CAS; Deep Springs, VI-14 '60, VII-17 '58 (J. E. Court, W. D. McLellan) UCD, VII-4, 5 '57 (J. Wilcox) JW, VII-11 to 19 '53, VII-17 '58 (D. D. Linsdale, J. W. MacSwain, H. Nakakihara, R. L. Usinger) CIS, UCR; Lone Pine, VI-4, 14 '57 (J. H. Mitchell) CAS, CIS, V-20 '51 (R. C. Bechtel, E. J. Taylor) UCD; Westgard Pass, VII-10 '53 (H. Nakakihara) UCR.

Kern Co.: Mojave, IX-2 '37 (E. G. Anderson) USNM.

Los Angeles Co.: Neenach, V-16 '28 (E. G. Linsley) CAS; Palmdale, Leona Vly., V-6 '49 (A. L. Melander) USNM.

Riverside Co.: Dark Cyn., VI-15 '40, CIS; Indio, III-28 to IV-1 '48 (A. F. Howland, J. Wilcox) JW; Oasis, IV-21 '51 (C. D. MacNeill) CIS; Thermal, IV-11 '57 (J. C. Hall) UCD.

San Bernardino Co.: Victorville, V-5 '56 (J. Powell) CIS, V-16 '33 (C. M. Dammers) LACMNH, USNM.

San Diego Co.: Lake Henshaw Dam, VII-17 '63 (E. I. Schlinger) UCR; Mt. Laguna, VI-15 '57 (C. L. Hogue) LACMNH.

(2) formosus Hine, 1918: 321.

Type ♂, Clary (?Clay) Co., Kansas, August 29, 1911 (F. X. Williams) OhioSU.

~~Distribution~~

Geographic range: ~~USA~~ Canada (Alberta); USA (Arizona, California, Colorado, Idaho, Kansas, Nebraska, Nevada, New Mexico, Utah and Wyoming); Mexico (Chihuahua).

California records:

Inyo Co.: Antelope Springs, VII-21 '67 (M. E. Irwin) UCR.

These flies have been noted sitting at and in the entrances to prairie dog holes in Colorado (James 1941), ground squirrel and badger holes in Wyoming (Lavigne 1968), and wood rat burrows in Arizona by Mont A. Cazier (~~personal communication~~), ASU.

(2) vescus Hine, 1918: 320.

Types ♂♀, Monterey Co., Cal., AMNH.

sackeni Banks, 1920: 67.

Type ♂, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (Arizona, California, Colorado, Nevada, Oregon and Washington).

California records: Alpine, Butte, Calaveras, Eldorado, Fresno, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Modoc, Mono, Monterey, Nevada, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Joaquin, San Mateo, Santa Barbara, Santa Clara, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Trinity, Tulare, Tuolumne and Yolo Counties.

Mono Co.: Bodie, Bodie Crk., 8320', VIII-12 '62 (H. B. Leech) CAS; Leavitt Mdw., 7200', VII-6 '51 (C. A. Downing) UCD, VII-13 '63 (H. B. Leech) flight trap, CAS; Sardine Crk., VI-27 '57 (A. E. Pritchard) J. W. MacSwain, J. M. Burns) CIS, VI-28 '51 (T. R. Haig) UCD; 2.5 mi. E. Sonora Pass, 9000', VII-1 '64 (P. Rude) CIS.

Riverside Co.: San Jacinto Mts., Marion Mt. Camp, VII-1 '52 (A. T. McClay) UCD.

San Bernardino Co.: Barton Flat, 6300', VIII-15 '40 (M. Ehman) CAS; Big Bear Lake, V-30 '49 (D. R. Estes) CIS; Mt. Home Cyn., VI-8 '24 (F. R. Cole) CIS; South Fork F. C., 6000', VII-26 '41 (Guy F. Toland, J. Wilcox) JW; upper Santa Ana R., VI-11 '50, VIII-6 '54, VIII-12 '53, VIII-24 '46 (A. L. Melander) USNM, opp. Fish Crk., VIII-4 '47 (John L. Sperry) USNM.

Genus Machimus Loew

Machimus Loew, 1849: 1.

Type-species, Asilus chrysites Meigen.

Tolmerus Loew, 1849: 94.

Type-species, Asilus pyraura Zeller.

Epitrintus Loew, 1849: 94.

Type-species, Asilus cingulatus Fabricius.

(2) callidus (Williston), 1895: 75 (Asilus, Tolmerus).

Types ♂♀, Mt. Hood, Oregon (4 specimens), Washington (6 specimens), UK.

Geographic range: Canada (Alberta and British Columbia); USA (California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming).

California records: Alpine, Calaveras, Eldorado, Fresno, Humbolt, Inyo, Kern, Modoc, Mono, Mariposa, Nevada, Placer, Plumas, Sierra, Siskiyou, Trinity, Tulare and Tuolumne Counties; July to October.

Inyo Co.: Bigpine, VIII-12, 15 '57 (Itol J. and J. Wilcox) JW.

Kern Co.: Walker Pass, IX-16 '63 (J. Wilcox) JW.

Mono Co.: June Lake, X-2 '62 (M. W. Stone) JW; Leavitt Mdw., 7200', VIII-14 '63 (H. B. Leech) flight trap, CAS; Mammoth, VII-1 to IX-13 '57 & '63 (Itol J. and J. Wilcox) JW; Rock Crk., 1 mi. W. Tom's Place, VIII-8 '59, CAS.

(7) species nr. callidus (Williston)

Geographic range: USA (California).

California record:

Riverside Co.: ~~San Jacinto Mts.~~, San Jacinto Mts.; Hemet ~~XXXX~~. Reservoir, VI-13, 14 '39 (W. C. Bish) CAS; Herkey Crk., VI-12 '39 (B. Brookman, C. D. Michener) CAS; Idyllwild, VII-24 '28 (E. C. Van Dyke) CAS; Vandevanter Flat, VI-11, 12, 14 '39 (E. S. Ross, B. Brookman, C. D. Michener) CAS.

(?) coleus Martin, 1975: 26.

Type ♂. Azusa, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Los Angeles Co.: Azusa, IV-27 '59, IV-28 '41 (J. Wilcox) CAS, JW;
Claremont (Baker) USNM?; Pasadena, nr., 1200', V-5 '10 (F. Grinnell, Jr.)
OhioSU.

San Bernardino Co.: Claremont, VI-8 '41 (J. Wilcox, Jr.) JW.

San Diego Co. VI-15 (E. P. Van Duzee) CAS, VI '36 (F. L. Parker) JW;
Camp Pendelton, Santa Margarita R. nr. Ranch House, IV-23 '46 (P. H.
Timberlake) UCR; Newton, VII-11 '56 (D. J. Knull) OhioSU.

(2) ?johnsoni (Hine), 1909: 159 (Asilus).

Types ♂♀, Folsom, Delaware Co., Pennsylvania, July 7, 1893

(Charles W. Johnson), OhioSU.

Geographic range: USA (California, Kansas, Maryland, Missouri,
New Mexico, Ohio, Oklahoma and Pennsylvania).

California records:

San Diego Co.: Cottonwood Rec. Area, In-Ko-Pah Mts., 4850',
IX-12 '69 (J. B. Heppner) blacklight, FSCA; Laguna Mts., X-3 '63
(J. Wilcox) JW.

The western specimens are much smaller than the eastern ones
but will need a male from the ^{NE}~~NE~~ to be certain.

(1b) latapex Martin, 1975: 20.

Holotype ♂, Alhambra, Los Angeles Co., Cal., VII-16 '36

(M. W. Stone), CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: Alhambra, V-31 '34, VIII-6 '36 (M. W. Stone) JW;
El Monte, V-22, VI-1 '34 (M. W. Stone) JW; Monrovia Cyn., VI-20 '30
(C. H. Martin) FSCA; Palmdale, V-17 '47 (McDonald).; Pomona, VII-14 '33
(B. J. Hall) CAS; San Gabriel, VII-3 '57 (J. Wilcox) at light, JW.

Orange Co.: Brea Cyn., VI-28 '41 (W. R. Cobb) JW; El Toro,
VII-5 '58 (J. L. Bath) UCR; 4 mi. E. Olive, V-29 to VII-15 '64, '72,
'75 (Ito J. Wilcox) JW.

Riverside Co.: Banning, V-14 '53 (C. H. Martin) FSCA, S. of,
VI-17/25 '64 (John D. Pinto) UCR; Riverside, VI-3 '61 (W. H. Ewart) on
screen door, UCR, VII-11 '25 (P. H. Timberlake) UCR, V-19 '47 (pupae
in ground) issued VI-3 '47 (P. H. Timberlake) pupal case on pin, UCR.

San Bernardino Co.: Claremont, VI-22 '41 (Guy F. Toland) JW.

San Diego Co.: 1 mi. E. Del Mar, VII-17 '63 (J. C. Hall) UCR;
Pine Vly., VIII-1 '27 (F. W. Kelsey) VI-25 '30 (Rae Stumb) SDNHM;
N. Island, San Diego, VII-22, 30 '21, SDNHM.

(?) Iatapex alticolus Martin, 1975: 21.

Holotype ♂, Big Bear Lake, San Bernardino Co., Calif.,

VIII-6 1968 (J. Wilcox), CAS. The paratypes are

labelled M. alticolus Martin.

Geographic range: USA (California).

California records:

Los Angeles Co.: Monrovia Cyn., VII-20 '30 (C. H. Martin) FSCA;
Palmdale, V-17 '47 (W. A. McDonald).

Riverside Co.: Banning, V-14 '53 (C. H. Martin) FSCA; San Jacinto
Mts., VII-21 '29 (L. D. Anderson) UK?, 3 mi. E. Idyllwild, Fern Vly.,
VIII-12 '64 (E. I. Schlinger) UCR.

San Bernardino Co.: Big Bear Lk., VII-28 '32 (R. H. Beamer) UK,
Hanna Flats, VIII-15 '63 (Guy F. Toland) JW, Snow Vly., VI-27 '48
(J. Wilcox) JW; Crestline, IX-1 '63 (M. W. Stone) JW.

San Diego Co.: Pine Vly., VIII-1 '27 (F. W. Kelsey) SDNHM;
San Diego, VII-20/22 '21, SDNHM, North Island, VI-25 '30 (Rae Stumb)
SDNHM.

(1b) longipennis Martin, 1975: 25.

Type ♂, Ozena Forestry Camp, upper Cuyama River, Ventura Co.,

Cal., VI-22 '57 (C. W. Kirkwood), CAS, ♀, same data, VI-10 '63,

CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: Martin (1975), no data.

Riverside Co.: Riverside, V-10 '45 (R. A. Flock) UCR,
VI-5 '63 (RDS) UCR; San Jacinto, Massacre Cyn., V-18 '33 (A. J.
Basinger) CAS; Temecula, IV-24 '51 (R. C. Bechtel) JW.

San Bernardino Co.: Colton, IV-22, V-7 '41 (J. Wilcox) JW;
11 mi. N. Crestline, VII-27 '52 (R. H. and L. D. Beamer) JW; Yermo,
V-28 '40 (W. Reeves, M. Cazier, P. C. Tings) CAS.

San Diego Co.: Warner Springs, VI-21 '62 (Itol J. Wilcox) JW.

Santa Barbara Co.: Goleta, VII-1 '59 (J. L. Bath) UCR, VI-29 '59
(A. E. Menke) JW; Santa Ynez Mts., VI-24 '59 (J. L. Bath) UCR.

Ventura Co.: Camp Ozena (see above); McGrath Lk., VII-9 '48
(M. W. Stone) JW; 1 mi. W. Santa Susana, V-16 '65 (M. E. Irwin) UCR;
Sespe Gorge, VI-24 '67 (Carl W. Kirkwood) JW.

(1b) notialis Martin, 1975: 23.

Type ♂, Big Bear Lk., San Bernardino Co., Cal., VIII-8 '68

(J. Wilcox), CAS.

Geographic range: USA (Arizona, California, Nevada, New Mexico and Utah); Mexico (Baja California N.).

California Records:

Inyo Co.: Bigpine, VI-8 '37 (E. C. Van Dyke) CAS, Glacier Lodge, 8500', VII- '57 (J. Wilcox) JW; Independence, VI-27 '37, ~~(E. C. Van Dyke) CAS~~, VII-4 '58 (J. Wilcox) JW. Lone Pine, VI-13 '37 (E. C. Van Dyke) CAS, 7.3 mi. W., VII-13 '65 (Ballmer and Bath) UCR. Owens Lk., V-5 '26 (J. O. Martin) CAS. 4 mi. E. Whitney Portal, V-31 '63 (Eric Fisher) EMF.

Los Angeles Co.: Littlerock, V-15 '53 (J. Wilcox) JW.

Mono Co.: 4 mi. E. Jct. Hwys. 120 & 395, VIII-7 '58 (A. D. Telford) UCD; 7 mi. S.W. Leevining, VIII-3 '59 (A. D. Telford) UCD; Mono Lk. N., VIII-29 '69 (J. Wilcox) JW.

Riverside Co.: Banning, V-4 '53 (J. Wilcox) JW; Idyllwild, foot of grade, VI-13 '41 (E. C. Van Dyke) CAS; Pinyon Flat, V-11 '53 (Dorothy Martin) FSCA, V-24 '39, VI-18 '41 (E. C. Van Dyke) CAS; Santa Rosa Pk., 8000', VI-22 '40 (E. C. Van Dyke) CAS; Vandevanter Flat, VI-12 '39 (W. C. Bush) CAS; Tahquitz Cyn., VI-30 '38 (E. C. Van Dyke) CAS.

San Bernardino Co.: 11 mi. S. Adelanto, V-25 '57 (J. Wilcox) JW; Barton Flat, VI-VIII '36-'66 (M. W. Stone, Guy F. Toland, J. Wilcox) JW; Big Bear Lk., VI-VIII '51, '67, '68 (J. Wilcox) JW, Hanna Flats, VII-31 '49, VIII-13 '51 (C. H. Martin) FSCA; S. Fork Camp Ground, VII-VIII '41-'64 (Guy F. Toland, J. Wilcox) JW, up. Santa Ana R., VII-4 to VIII-24 '60, '61 (A. L. Melander) USNM, Melander Cabin, 1890 m., VI-27 '68 (Paul H. Arnaud, Jr.) CAS.

San Diego Co.: Laguna (Mt.), VI-24 '26 (W. S. Wright) SDNEM; Palomar Mt., VII-13 '41 (J. Wilcox) JW, 1524 m., VI-27 '68 (P. H. Arnaud, Jr.) CAS; Warner Sngs., VII-4 '62 (J. Wilcox) JW.

(1b) occidentalis (Hine), 1909: 147 (Asilus).

Types ?, British Columbia, Nevada, California, Oregon and
Washington, OhioSU.

occidentalis Martin, 1975: 19.

Lectotype ♂, Los Angeles Co., Cal. (D. W. Coquillett), OhioSU.

Geographic range: Canada (British Columbia); USA (California,
Idaho, Oregon,
Colorado, Montana, Nevada, Utah, Washington and Wyoming); Mexico
(Baja California N.).

California records: Alpine, Amador, Inyo, Lassen, Los Angeles, Marin,
Mono, Nevada, Orange, Riverside, San Bernardino, San Diego, San Luis
Obispo, Santa Barbara, Tulare and Tuolumne Counties; April to July.
Probably occurs in all Counties with the possible exception of Imperial
County.

Inyo Co.: Lake Sabrina, VI-1 '68 (J. D. Birchim) CAS; Onion Vly.,
VII-10 '63 (Fred G. Andrews) UCR; White Mts., Wyman. Cyn., VI-15, VII-15
(61, VII-10 '67 (Saul and Suzy Frommer, E. I. Schlinger) UCR.

Los Angeles Co.: 2.5 mi. N. W. Desert Spgs., V-25 '55 (P. H.
Timberlake) UCR; Big Pines, VII-11 '27 (P. H. Timberlake) prey,
small Scarab, UCR.

Riverside Co.: 4 mi. N. Banning, V-31 '64 (P. M. Estes) UCR;
3 mi. N. Beaumont, V-18 '68 (Fred G. Andrews) UCR; Temecula, Woodchuck
Camp, VI-9 '64 (L. D. Anderson) UCR; top of Palm Cyn., VI-31 '63
(E. I. Schlinger) UCR.

San Diego Co.: Cuyama Ranch S. P., VI-10 '64 (L. D. Anderson) UCR;
Mt. Laguna, VI-21 '63 (J. D. Birchim) CAS; Mt. Palomar, V-30, VI-28 '63
(J. D. Birchim) UCR; San Luis Rey C. G., IV-26 '68 (Fred G. Andrews) UCR.

There are probably many more records from Southern California.
The ones listed above have had the ♂ genitalia dissected.

(2) paropus (Walker), 1849: 455 (Asilus).

Type ♀, New York. Presented by E. Doubleday, Esp., BMNH.

Geographic range: Canada (Alberta, Manitoba, Nova Scotia, Ontario and Quebec); USA (California, Colorado, Connecticut, Illinois, Indiana, Massachusetts, North Dakota, New Hampshire, New Mexico, New York, Ohio, Utah, Washington and Wyoming).

California records: Alpine, Eldorado, Inyo, Lassen, Plumas, Shasta and Trinity Counties; June and July.

Inyo Co.: approx. .5 mi. S. Deep Springs College, VII-11 '67
(Saul and Suzy Frommer) Sarcobatus-Atriplex-Dalea, alkaline flat, UCR.

Genus Negasilus Curran

Negasilus Curran, 1934: 384.

Type-species, belli Curran (Short description but no locality given).

(?) belli James, 1941: 44.

Type-locality, Nevada, Fallon, June 14 (E. L. Bell), AMNH (data supplied by Dr. Curran). Complete description given.

Geographic Range: Canada (Alberta); USA (California, Colorado, Idaho, Nevada, Oregon, Utah and Washington).

California records: Lassen, Modoc and Siskiyou Counties; June to August. Should be found farther south in California.

Genus *Neomochtherus* Osten Sacken

Machtherus Loew, 1849: 58.

Type-species, Asilus pallipes Meigen.

Neomochtherus Osten Sacken, 1873: 82, 235. (change of name, preoccupied by Schmidt-Gobel, 1846 in Coleoptera).

Type-species, Asilus pallipes Meigen.

(1b) californicus (Hine), 1909: 164 (Asilus).

Type ♂, Cisco, Cal., OhioSU.

oregonae Martin, 1975: 92.

Type ♂, 2 mi. W. Sisters, Ore., VI-25 '48 (S. E. Grunb, Jr.), CAS.

Geographic range: USA (California, Idaho, Nevada and Oregon); Mexico (Baja California N.).

California records: Alameda, Alpine, Amador, Calaveras, Eldorado, Fresno, Humboldt, Inyo, Lassen, Los Angeles, Madera, Marin, Mariposa, Merced, Mono, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Bernardino, San Diego, Santa Cruz, Shasta, Sierra, Siskiyou, Tehama, Trinity, Tulare, Tuolumne and Yolo Counties; April to September.

Inyo Co.: Bigpine, VI-12 '58 (J. Wilcox) JW; Bishop, VI-19 '64 (J. R. Birchm) CAS; Lone Pine, IV-29 '59 (R. Pallen) CDA, V-18, VI-24 '37 (L. R. Gillogly) CAS; Olancho, V-20 '60 (R. P. Allen) CDA; Owens Lk., V-5 '26 (J. O. Martin) CAS; White Mts., Wyman Cyn., VII-27 '67 (Saul & Suzy Frommer) nr. Stream, UCR.

Los Angeles Co.: Big Pines Camp, VII-13 '37 (P. H. Timberlake) UCR; Crystal Lk., VI-29 '50 (H. L. Hamen, P. D. Hurd, R. Schuster) CIS, VI-19 '50, VII-2, 9 '52 (A. T. McClay, A. A. Grigarick) UCD, 4700', VII-9 '52 (W. V. Garner) CIS, 1 mi. N. E., VII-1 '62 (J. F. Lawrence) CIS; Tapia Park, V-17 '60 (G. Gibo) NCSU; 2 mi. S.W. Valyermo, VI-11 '64 (J. S. Buckett) UCD.

Mono Co.: Baker Sta. nr. Sonora Pass, 1800 m., VI-12 '60 (E. S. Ross) CAS; June Lake, Pine Cliff Trailer Park, VI-9 to 16 '60 (Jack Tomlinson) SFSU; Sardine Crk., VI-27 '57 (A. E. Pritchard) CIS.

Riverside Co.: Banning, V-8 '28 (E. C. Van Dyke) CAS; San Jacinto Mts. (many records and localities, May and June); Dripping Spgs. F. C., VI-12 '62 (J. Wilcox) JW; 7 mi. S. W. Elsinore, VI-30 '62 (J. F. Lawrence) CIS; Tahquitz Cyn., VI-20, 30 '28 (E. C. Van Dyke) CAS.

San Bernardino Co.: Baker Sta., VII-15 '50 (D. Davis) CIS; Baldwin Lk., VI-7 '41 (D. J. and J. N. Knull) OhioSU; San Bernardino Mts. (several records).

San Diego Co.: Aguanga, 10 mi. W., IV-2 '62 (E. I. Schlinger) UCR; Julian, VI-20 '61 (W. H. Ewart) UCR, VII-4 '62 (J. A. Froebe) UCD; Mt. Palomar, VI-22 '66 (M. W. Stone, J. Wilcox) JW, VI-28 '63 (P. D. Hurd, R. L. Langston, J. Powell) Cryptantha intermedia, CIS, VI-30 '36 (W. J. Gertsch) AMNH, VII-13 '41 (J. Wilcox) JW, 1 mi. W., VI-28 '63 (J. F. Lawrence) CIS; Oak Grove, V-8 '45 (A. L. Melander) USNM; Warner Spgs., V-13 '34, VII-4 '62 (M. W. Stone, J. Wilcox) JW.

(?) montanus (Hine), 1909: 149 (Asilus).

Type ♂, Mt. Lowe, Cal., 5000', VIII-12 (T. D. A. Cockerell), USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: see above.

San Bernardino Co.: Barton Flats, 6300', VIII-15, 19 '40 (M. Ehman)
LACMNH, X-30 '63 (J. Wilcox) JW, S. Fork Camp, XI-9 '44 (A. L. Melander)
A. L. Melander
USNM, Cinega, IX-28 '46 (~~John L. Sperry~~) USNM, Thousand Spgs., IX-16 '46
(John L. Sperry) USNM, up. Santa Ana R., VIII-3, X*7 '47, IX-15 '49
(Grace H. and John L. Sperry) USNM; Big Bear Lk., N. side, VIII-18 '67
(J. Wilcox) JW, Hanna Flats, VIII-15 '51 (Guy F. Toland) JW; 0.5 mi.
S.E. Cedar Glen, VIII-20 '61 (R. E. Somerby) JW.

San Diego Co.: Mt. Palomar, 5500', IX-15 '53 (F. X. Williams) CAS,
Palomar, IX-9 '48 (C. A. Marsh) CIS.

(?) species, new ?

Geographic range: USA (California).

California records:

San Bernardino Co.: Barton Flat, VIII-18 '65 (J. Wilcox) JW;
Big Bear Lk., VIII-19 '67 (Jeff and J. Wilcox) JW, Hanna Flats, VIII-15
'51 (J. Wilcox) JW.

(2) species, new ?

Geographic range: USA (California).

California records:

Inyo Co.: Alabama Hills, VI-24 '37 (J. H. Mitchell) CAS; 8 mi.
W. Bigpine, V-4 '66 (J. Wilcox) JW; Independence, VI-12 '58 (J. Wilcox)
JW, 6 mi. SWW, Pinyon Crk., VI-11 '76 (John D. Pinto) UCR; 4 mi. E.
Whitney Portal, V-31 '63 (Eric ^F~~A~~isher) EMF.

Mono Co.: Benton, VI-7 '17 (C. L. Fox) CAS; 5 mi. S. E.
Tom's Place, VI-8 '62 (Eric Fisher) EMF, Rock Crk. C. G., VII-3 '67
(Paul H. Arnaud, Jr.) CAS.

(?) species, new ?

Geographic range: USA (California).

California records:

Riverside Co.: 8 mi. N. W. Keen Camp, San Jacinto Mts., V-17
'39 (B. Brookman) CAS.

San Diego Co.: Campo, V-18 '41 (D. J. and J. N. Knull) OSU;
Ramona, IV-14 '50 (E. G. Linsley) Cryptantha, CIS; Warner Springs,
IV-19 '50 (J. W. MacSwain) CIS; others (Eric Fisher) EMF.

Genus *Neoitamus* Osten Sacken

Itamus Loew, 1849: 84.

Type-species, Asilus cyanurus Loew.

Neoitamus Osten Sacken, 1878: 82, 235. (Change of name, preoccupied by Schmidt-Gobel, 1846 in Coleoptera).

Type-species, Asilus cyanurus Loew.

(1b) terminalis (Hine), 1909: 155 (Asilus).

Geographic range: USA (California); Mexico (Baja California N.).

Types ♀, San Antonio Cyn., nr. Ontario, Cal., VII-25 '07

(J. S. Hine), OhioSU.

California records:

Los Angeles Co.: Sierra Madre, Chantry Flat, VI-28, VIII-11 '42

(Guy F. and Jim Toland, J. Wilcox) JW; Tanbark Flat, VII-2 '50

(F. X. Williams) CAS.

Riverside Co.: 7 mi. S. Elsinore, VI-30 '62 (J. F. Lawrence) CIS;

San Jacinto Mts., Hemet Resv., VI-1 '66 (J. Wilcox) JW, Herkey Crk.,

VI-11 '39, VI-14, 20 '40 (E. G. Linsley, C. D. Michener, E. S. Ross)

Cas, CIS, Idyllwild, VI-9 '39 (Ray F. Smith) CAS, Keen Camp, VI-5 '39

(E. S. Ross) CIS, Santa Rosa Pk., 8000', VI-20 '40 (E. C. Van Dyke) CAS.

San Bernardino Co.: Forest Home, VII-20 '66 (J. Wilcox) JW;

Mill Crk., VI-4 '24 (F. R. Cole) CIS.

San Diego Co.: Laguna Mts., VII-6 '29 (P. W. Oman) JW, VII-13 '41,

CIS, Storm Cyn., VI-29 '62 (J. F. Lawrence) CIS; Palomar Mt., VI-22

'66, VII-13 '41 (Max England, J. Wilcox) JW, Observatory C. G., 1544 m.,

VI-27 '68 (Paul H. Arnaud, Jr.) CAS.

Genus *Polacantha* Martin

Polacantha Martin, 1975: 49.

Type-species, Asilus compositus Hine.

(1b) compositus (Hine), 1918: 321 (Asilus).

Type ♂, San Diego, Cal., June 30, 1913 (E. P. Van Duzee), ChioSU.

Geographic range: USA (Arizona, California, Nevada, New Mexico, Oregon, Texas and Utah); Mexico (Baja California, Chihuahua, San Luis Potosi).

California records:

Inyo Co.: Antelope Spg. 8 mi. W. Deep Spg., VI-29, VII-1 '61, VII-7 '53, VII-9 '66 (H. K. Court, A. S. Menke) Eriognum neerncannii, UCD; Deep Spgs., VII-17 '53 (W. D. Lelton, D. D. Linsdale), UCD, CIS; 9 mi. Sourdough Cyn., 6500', VII-30 '71 (S. Juhuar) UCR, Thompson's Camp, 6496', VII-18 '71 (L. La Prie) UCR, W. Lone Pine, VII-19 '61 (P. D. Hurd, J. Powell) CIB; Panamint Mts., ^

Chris Wicht Camp, VII-10 '65 (G. Ballmer, J. Bath) UCR ^

Kern Co.: Walker Pass, VIII-23 '63 (J. Wilcox) JW.

Los Angeles Co.: Bouquet Cyn., VIII-7, X-29 '37 (N. Westerland) LACMNH; Llano, VII-8 '50 (Simonds) CDA.

Mono Co.: Benton, VII-10 '50 (H. A. Hunt) UCD, Inspection Sta., VI-22, VII-22 '64, VIII-20 '60 (R. Pallen, F. L. Reichert) moth prey, blacklight, CDA; Hit Crk., VIII-1 '36 (G. E. and R. M. Bohart) UCD; 1 mi. W. Tom's Place, VIII-13 '57 (D. D. Linsdale) CIS, 1 mi. S.W., IX-1 '65 (M. J. Tauber, C. A. Toschi) CIS, 1 mi. S., VIII-8 '62 (L. A. Stange) UCD.

Riverside Co.: Deep Cyn., VII-26 '63 (E. I. Schlinger) UCR; Joshua Tree N. M., (San Bernardino Co.) L. Covington Flat, VI-8, 24 '61, VII-30 '60, VIII-17 '62 (J. Geest, E. L. Sleeper) blacklight, CSULB, Smithwater wash, VI-27 '61, VII-23 '60 (E. L. Sleeper, R. E. Somerby) blacklight, CSULB, Squaw Tank, VII-6 '59 (E. L. Sleeper) CSULB; Palms to Pines Hwy., 3000',

~~V-24 '64 (E. I. Schlinger) UCR~~ V-24 '40 (C. D. Michener) CAS; upper Palm Cyn., 14 mi. S. E. Keen Camp Summit, VII-8 '64 (E. I. Schlinger) UCR; Pinyon Flat, IX-17 '48 (J. Wilcox) JW; Thousand Palms, VII-30 '65 (K. Brown) UCR.

San Bernardino Co.: Cajon Pass, VII-16 '49 (L. D. Anderson) UCR, VIII-6 '36 (M. B. Jackson) UK; Desert Spg., VI-25 '55 (P. H. Timberlake) UCR; Victorville, VI-16 '50 (J. W. MacSwain) CIS, VI-6 '41 (D. J. and J. N. Knull) ChioSU.

San Diego Co.: Borrego, Tub Cyn., VII '48 (Noel Crickmer) USNM; Jacumba, VIII-12 '35 (E. I. Beamer) UK.

Genus *Prolatiforceps* Martin

Prolatiforceps Martin, 1975: 61.

Type-species, Asilus melanocerus Williston.

(2) species, new ?

Geographic range: USA (California).

California records:

Inyo Co.: Bigpine, VIII-55 to 12 '57 (Itol J. and J. Wilcox) JW; Grandview C. G., White Mts., 8500', VIII-16 '66 (Paul H. Arnaud, Jr.) CAS.

Mono Co.: Rock Crk., Bishop, VIII-13 '61 (L. D. Anderson) UCR; 1 mi. S. W. and 1 mi. W. Tom's Place, VIII-13 '57, '63 (D. D. Linsdale, J. Powell, M. J. Tauber, C. A. Toschi) CIS.

Subfamily Dasypogoninae Macquart (1838)

Genus *Blepharepium* Rondani

Blepharepium Rondani, 1848: 89.

Type-species, luridum Rondani.

(2) sonorensis Papavero and Bernardi, 1973: 175.

Type ♂, Arizona, Palo Verde, VIII '49 (C. H. Martin) MZUSP.

Geographic range: USA Arizona, California, New Mexico, Texas and Utah); Mexico (Chihuahua, Coahuila, Durango, Nayarit and Tamaulipas); and Cuba.

California records:

San Diego Co.: 5.5 mi. N. W. Scissors Crossing, VII-8 '69 (A. R. Hardy) UCR.

Genus *Comantella* Curran

Comantella Curran, 1923a: 93.

Type-species, Cyrtopogon maculosis Coquillett (misident.) =

Cophura fallei Back.

(1b) cristatus (Coquillett), 1893b: 33 (Blacodes).

Type ♀, Ventura Co., Cal., USNM.

Geographic range: USA (California).

California records:

Inyo Co.: Independence, II-9 '64 (J. R. Birchim) CAS.

Los Angeles Co.: Claremont (Baker) CSU; San Dimas Cyn., III-27 '41 (J. Wilcox) JW.

San Bernardino Co.: Box S. Cyn., 6 mi. S. E. Lucerne Vly., IV-15 '64 (R. L. Langston) CIS; Harper Dry Lk., III-13 '72 (W. D. Sumlin, S-46) UCR; Mill Crk., Cyn., XII-9 '30 (C. H. and D. Martin) FSCA.

Genus *Cophura* Osten Sacken

Cophura Osten Sacken, 1887: 181.

Type-species, Cophura sodalis Osten Sacken.

Synonyms: Blax ~~Ln.~~, Blacodes ~~Ln.~~, Loewiella Will., Buckellia Curran.

brevicornis (Williston), 1884: 22 (Taracticus).

Types ♂♀, Washington Territory, UK.

Geographic range: USA (California, Colorado, Idaho, Montana, Nebraska, Oregon and Washington).

California records: Del Norte, Kern, Fresno, Madera, Marin, Mendocino, Modoc, Mono, Napa, Nevada, Placer, Plumas, Santa Barbara, Siskiyou, Sierra, Sonoma, Trinity, Tulare and Tuolumne Counties; June to August.

Kern Co.: Cerro Noroeste, 8000', VII-15 '65 (J. Powell) CIS.

Mono Co.: Leavitt Mdw., 7200', VII-13, 14 (63) (H. B. Leech) CAS.

brevicornis melanoch^{ae}ita Pritchard, 1943: 306.

melanochaeta Melander, 1924: 210.

Types ♂♀, Waha, Idaho, USNM.

Geographic range: USA (California, Idaho and Montana).

California Records:

Kern Co.: Frazier Mt., VII-19 '46, CIS; Mill Potrero, VII-6 '59 (J. L. Bath) UCR.

Riverside Co.: Cinco Pesos Well, 7240', VII-30 '64 (L. E. Irwin) UCR; Santa Rosa Mt., 7500', VI-18 '40 (C. D. Michener) CAS; Tahquitz Vly., San Jacinto Mts., VII-6 '50 (C. J. Weinmann). UCD.

San Bernardino Co.: San Bernardino Mts., many locations; June ^{to} ~~21~~ September.

San Diego Co.: Julian, VII-4 '62 (J. A. Froese) UCD; Laguna Mts., VII-1 '41 (John and J. Wilcox) JW, VII-6 '29 (R. H. Beamer) UK, VII-19 '59 (Paul A. Rude) CIS.

(3) brevicornis rubidus Wilcox, 1965: 814.

Types ♂♀, Bigpine, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: Bishop, VII (Pritchard, 1943); Bigpine, 7500-8500',
VII-7 '66, VIII-5, 6 '57, VIII-22 '63 (Itol J. and J. Wilcox) JW.

Mono Co.: Convict Lk., 9000', VIII-8 '37 (R. M. and G. E. Bohart)
←UCD; June Lk., VII-25 '56 (J. Wilcox) JW.

(7) dammersi Wilcox, 1965: 807.

Types ♂♀, 25 mi. S. Oasis, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Imperial Co.: Laguna Dam, IX-25 '35 (C. M. Dammers) UCR; 25 mi.
S. of Oasis, X-19 '66, X-26 '56, X-28 '62 (J. Wilcox) JW.

(2) dora Pritchard, 1943: 296.

Types ♂♀, Mitchell, Nebr., VII-29, VIII-5 '12 (L. M. Gates) UNeb.

Geographic range: USA (Arizona, California and Nebraska).

California records:

Inyo Co.: Panamint Mts., V-29 '37 (L. R. Gillogly) CAS.

(4) Fisher Wilcox, 1965: 808.

Types ♂♀, 9 mi. W. ^{Ice}Rice, Cal., LACM:NMU.

Geographic range: USA (Arizona, California and Nevada).

California records:

Imperial Co.: 30 mi. S. E. Holtville, X-20 '21 (E. R. Kalmbach) USNM.

Kern Co.: 6 mi. N. E. Mojave, X-6 '57 (J. A. Chemsak) J. W.

MacSwain) CIS.

Los Angeles Co.: Littlerock, X-5 '64 (J. Powell) CIS.

Riverside Co.: 10 mi. W. Blythe, X-23 '57 (P. H. Timberlake)

Dalea, UCR, X-16 '65 (F. D. Parker) UCD; Hopkins Well, X-11 '58 W. E.

Ferguson, J. W. MacSwain, R. W. Thorp) 2 at light and 1 on Dalea, CIS;

2 mi. N. W. Indio, X-26 '52 (E. G. Linsley, R. F. Smith) CIS; Pinto

Wash Well, Joshua Tree N. M., X-15 '61 (E. L. Sleeper) blacklight, CSULB.

San Bernardino Co.: 15 mi. N. W. Landers, X-11 '67 (J. Wilcox) JW;

9 mi. W. Rice, X-12 '63 (Eric Fisher) EMF; 26 mi. E. Twentynine Palms,

X-3 '63 (Eric Fisher) EMF, 27 mi. E., X-18 '65 (M. W. Stone, J. Wilcox)

JW, 2 mi. N., X-11 '67 (J. Wilcox) JW.

San Diego Co.: Borego Desert, X-19 '50 (A. L. Melander) USNM.

(4) ^(Williston)
fur ~~Williston~~, 1885: 53 (Aphamartania).

Type ♂, Arizona, UK.

Geographic range: USA (Arizona, California and Nevada).

California records:

Inyo Co.: 5 mi. Death Vly. Jct., V-20 '65 (A. S. Menke) UCD.

Riverside Co.: Andreas Cyn., IV-7 '40 (R. M. Bohart) UCD;

Boyd Desert Research Center (Deep Cyn.), 4 mi. S. Palm Desert, IV-12 '63

(C. A. Toschi) CIS, V-18 '69 (M. E. Irwin) UCR, V-30 '63 (E. I.

Schlenger) UCR; Devil's Cyn., V-7 '32 (H. Gentry) CAS; 22 mi. W,

Desert Center, V-5 '63 (Eric Fisher) EMF.

San Bernardino Co.: Carson's Well, IV-4, 10 '66 (R. M. Bohart,
R. O. Schuster) UCD.

San Diego Co.: Borrego, IV-27 '54 (M. Wasbauer) CIS; San
Diego, IV-17 '33 (A. M. Barnes) CIS.

(7) getzendaneri Wilcox, 1959: 123.

Types ♂♀, Indio, Cal., CAS.

Geographic range: USA (Arizona and California); Mexico (Baja California N.).

California records:

Imperial Co.: 1 mi. W. Glamis, XII-21 '63 (M. E. Irwin, F. D. Parker) UCD, 6.2 mi. W., III-2 '68 (M. E. Irwin, P. A. Rauch) sand dune assoc., UCR, 12.2 mi. W., Algodones sand dunes, XI-8 '63 (E. I. Schlinger) UCR; 15 mi. S. Oasis, XII-9 '62 (J. Wilcox) JW; E. Salton Sea, II-13 '64 (M. W. Stone, J. Wilcox) JW.

Riverside Co.: Cathedral City, XI-22 '44 (A. L. Melander) USNM; 9 mi. N. E. Desert Center, II-22 '61 (J. Wilcox) JW; Indio, XI-8 to XII-2 (A. F. Howland, J. Wilcox) JW, 5 mi. S. E., I-12 '66 (J. Wilcox) JW; ^{Joshua Tree N.M., Pinto Wash Well, X-23,24, CSULB, EF;} Mecca, I-14 '33 (C. W. Getzendaner) JW, XI-11 '47 (J. Wilcox) JW; 2 mi. E. of N. Palm Springs, XII-16, 22 '63 (M. E. Irwin, E. I. Schlinger) on sand dunes, UCR; 5 mi. S. Oasis, XI-10, 18 (A. F. Howland, Itol J. and J. Wilcox) JW; 7 mi. N. Palm Springs, III-17 '38 (P. H. Timberlake) sand dunes, UCR; Palm Springs, XII-15 to I-12 (P. H. Arnaud, Jr., J. Wilcox) JW, 2 mi. N., XII-16 '64 (J. Wilcox) JW, 7 mi. N., III-17 '38 (P. H. Timberlake) sand dunes, UCR; White Water, XI-10 to I-6 (A. F. Howland, J. Wilcox) JW.

San Bernardino Co.: Joshua Tree N. M., Pinto Wash, XI-23 '62 (E. L. Sleeper) CSULB; 8 mi. W. Rice, X-24 '65 (J. Wilcox) JW; 2 mi. N. E. and 27 mi. E. Twentynine Palms, X-18 '65, X-22 '68, XI-10 '70 (J. Wilcox) JW.

(3) hesperia (Pritchard), 1935: 7 (Buckellia).

Types ♂♀, Tucson, Ariz., VIII-22 '34 (A. E. Pritchard) AMNH.

Geographic range: USA (Arizona and California).

California records:

Inyo Co.: Wildhorse Cyn., Panamint Mts., V-27 '59 (Truxal and Martin) LACMNH.

(2) painteri Pritchard, 1943: 293.

Type ♀, Safford, Arizona, VII-26 (F. M. Hull), RHP.

Geographic range: USA (Arizona, California and New Mexico);
Mexico (Baja California and Chihuahua).

California records:

Riverside Co.: Deep Cyn., VIII-22 '63 (E. I. Schlinger) at
light, UCR.

Pollinosa
curvica
p. 7a

(7) powersi Wilcox, 1965: 813.

Type ♂, McCoy Spgs., Cal., ♀, Amboy Crater, Cal., CAS.

Geographic range: USA (Arizona and California).

Riverside Co.: McCoy Springs, IV-8 '63 (J. C. Hall, E. I.
Schlinger) UCR-CAS.

San Bernardino Co.: Amboy Crater, IV-24 '60 (J. R. Powers),
15 watt blacklight, CIS-CAS.

(7) rozeni Wilcox, 1965: 813.

Type ♂, Box Cyn., Cal., CAS.

Geographic range: USA (California).

California Records:

Riverside Co.: Box Canyon, VI-26 '52 (J. G. Rozen) CIS-CAS.

(3) pollinosa Curran, 1930: 10.

Type ♂, Kits Peak Rincon, Baboquivari Mts., Ariz., VIII-14 '16,
AMNH.

Geographic range: USA (Arizona, California and Utah.

California records:

Riverside Co.: Pinyon Flat, San Jacinto Mts., VII-11 '68,
VIII-23 '65, IX-2 '64 (J. Wilcox) UW.

(16) tanbarki Wilcox, 1965: 811.

Types ♂♀, Tanbark Flat, Los Angeles Co., Cal., VII-17 '50

(P. D. Hurd) CIS.

Geographic range: USA (California).

California records: Contra Costa, Los Angeles, Monterey and
Riverside Counties; April to July.

Los Angeles Co.: Glendora, Angeles N. F., VII-15 '44, coastal sage,
C28b, C1066, Hemizonia field, USNM; Tanbark Flat, June and July (P. D.
Hurd, R. Schuster) CIS, R. C. Bechtel, R. M. Bohart, A. A. Grigarick,
A. T. McClay) UCD.

Riverside Co.: Andreas Cyn., Palm Spgs., IV-24 '32, VIII-10 '54
(P. H. Timberlake) on Eriogonum polifolium, UCR, IV-25 '56 (R. M.
Bohart) UCD; Palms to Pines Hwy., V-24 '39 (E. S. Ross) CAS; Palm
Springs, IV-23 '44 (A. L. Melander) USNM.

(7) timberlakei Wilcox, 1965: 808.

Types ♂♀. Palm Springs, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Palm Springs, XI-11 '41 (Guy F. Toland, John and
J. Wilcox) JW, XI-23 '63 (Eric Fisher) EMF, 6 mi. N., XI-13 '45 (P. H.
Timberlake) UCR; White Water, X-22 '56, XII-1 '47 (J. Wilcox) JW,
XI-11 '44 (A. L. Melander) USNM.

San Bernardino Co.: Morongo Vly., X-12 '58 (O. C. La France) CIS.

San Diego Co.: Borrego, X-24 '55 (M. Wasbauer) CIS, S. P.,
XI-20 '56 (J. W. MacSwain) CIS.

(7) tolandi Wilcox, 1959: 125.

Type ♂♀, White Water, Cal., CAS

Geographic range: USA (Arizona and California); Mexico (Sonora).

California records:

Los Angeles Co.: Littlerock, XI-23 '41 (Guy F. Toland) JW.

Riverside Co.: 9 mi. N. E. Desert Center, II-22 '61 (J. Wilcox)
Joshua Tree N.M., Fried Liver Wash, Pinto Wash Well, X-29 to II-17, CSULB, EF;
JW; ^ Palm Springs, XII-25 to I-7 (Paul H. Arnaud, Jr.) JW, III-24 '35

(A. L. Melander) USNM; White Water, XI to I (A. F. Howland, C. H.
Martin, J. Wilcox) CHM, JW.

San Bernardino Co.: E. Highlands, XI-17 '56 (J. Wilcox) JW;
Joshua Tree N. M., Indian Cove, XI-11 '70 (J. Wilcox) JW, Pinto
Wash, II-17 '62 (E. L. Sleeper) CSULB; Twentynine Palms and 2 mi.
N. E., XI-10 '70, XI-13 '63 (J. Wilcox) JW.

San Diego Co.: Borego S. P., XI-20 '56 (J. W. MacSwain) CIS.

(3) truncus (Coquillett), 1893: 34. (Blacodes).

Types ♂♀, Los Angeles Co., Cal., USNM.

highlandica Cole, 1916: 63.

Type ♀, East Highlands, Cal., USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: (D. W. Coquillett) USNM.

Riverside Co.: Washes in Badlands, vic. Jct. U.S. 60 & San Jacinto-
Hemet Rd., X-13 '63 (Saul and Suzy Frommer, Brian Cheary) UCR.

San Bernardino Co.: E. Highlands (F. R. Cole) USNM, X-22 '56
XI-25 '14
(J. Wilcox) JW; Mill Crk. Cyn., VII-22 (E. P. Van Duzee) CAS.

San Diego Co.: Coronado, X-11 '90 (F. E. Blaisdell) CAS.

(3) vanduzeei Wilcox, 1965: 810.

Types ♂♀, 0.5 mi. S. E. Cedar Glen, Cal., LACMNH.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Los Angeles Co.: Tujunga Wash, X-19 '59 (D. Gibo) NCSU.

Pinto Wells, IX-12, CSULB, EF,

Riverside Co.: Joshua Tree N. M., Split Rock, X-5 '49 (A. L.

Melander) USNM; Riverside, X '52 (A. L. Melander) USNM, X-1 '62, UCR;

San Jacinto Mts., VIII-5 '35 (R. H. Beamer) JW.

San Bernardino Co.: 0.5 mi. S. E. Cedar Glen, VIII-4 to 26 '61

(R. E. Somerby) LACMNH, EMF; Hanna Flats, Big Bear Lk., VIII-15 '57

(J. Wilcox) JW; Mill Crk. Cyn., IX-22 '23 (E. P. Van Duzee) CAS.

San Diego Co.: Mt. Palomar, IX-24 '47, white Caenothus, UCR.

San Diego Co.: San Diego, X-4 '23 (E. P. Van Duzee) CAS.

(7) vandykei Wilcox, 1965: 810.

Types ♂♀, 16 mi. N. Blythe, Cal., CAS.

Geographic range: USA (Arizona and California).

California records:

Riverside Co.: 16 mi. N. Blythe, IV-16 '41 (Itol J. and J. Wilcox)

CAS, JW; Coachella Vly., V-9 '27 (E. C. Van Dyke) CAS; Palm Springs,

IV-12 '57 (C. W. Schaefer) LACMNH.

San Bernardino Co.: 27 mi. E. Twentynine Palms, X-11 '63 (Eric Fisher) EMF.

Genus *Diognites* Loew

Diognites Loew, 1866: 21.

Type-species, platypterus Loew.

(7) contortus Bromley, 1936: 235.

Types ♂♀, Yuma, Arizona, USNM.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: Winterhaven, VIII-16 '62 (W. J. Atkins) CDA.

Riverside Co.: Blythe, VIII-20 '27, lot 542, subplot 327, CU,
VI- '49 (L. D. Anderson, H. T. Reynolds) UCR, VII-5 '37, VIII-20 '27,
IX-25 '32 (P. H. Timberlake) UCR, VII-15 '38, IX-25 '32 (C. M. Dammers)
UCR, USNM, VII-21 '46, VIII-1 to 26 '46, (VII-8, 15 '47 (W. F. Barr,
P. D. Hurd, J. W. MacSwain, Ray F. Smith) part on Tamarix, CIS,
VII-15 '53 (C. M. Dammers) LACMNH, VIII-5 '50 (L. W. Isaak) CDA.
Indio, VII-13 to 31 '62 (E. J. Dietrich) UCR, Rummonds Ranch, 62 St./
Tyler, VIII-24 '65 (Dan Gerling) UCR; Ripley, VIII-16, 26 '46
(W. F. Barr, P. D. Hurd) CIS; Thermal, VI-24 '57 (H. R. Moffitt,
E. I. Schlinger) UCD.

San Diego Co.: San Felipe Wash, VI-5 '36 (C. M. Dammers) LACMNH.

(1b) grossus Bromley, 1936: 236.

Types ♂♀, Lamar, Colorado, USNM.

Geographic range: USA (Arizona, California, Colorado, Idaho and Utah.

California records:

Fresno Co.: Fresno, VIII-21 '51 (B. Adelson), IX '29, CIS, summer '54 (C. Blazquez) SFSU; 8 mi. N. W. Kerman, VIII-10 '61 (Pat V. Vail) JW; Kingsburg, VIII-7 '52 (J. Nakata) wild be prey, UCD; Reedley, VIII-20 '50, IX-11 '52 (J. C. Hall, A. Laemmlen) UCD.

Inyo Co.: Round Mt., VIII-21 '35 (W. N. Burdick) UCol.

Kern Co.: Bakersfield, VIII-28 '58 (E. I. Schlinger) UCD; Buttonwillow, VII-6 '35 (J. Powell) CIS; Shafter, VIII-26 '59 (R. Edwards) CDA, IX-14 '52 (T. F. Leigh) CIS.

Kings Co.: Lemoore, VIII-6 '32 (Lamereaux) CAS, CIS, IX-22 '22 (L. R. Rive) ♀ paratype, UMich.

Madera Co.: Madera, IX-13 '59 (H. T. McLean) in house, CDA.

Riverside Co.: Ripley, VII-12 '46 (J. F. Barr, P. D. Hurd) sweepinh alfalfa, honey bee prey, CIS.

Tulare Co.: Lindsay, IX-6 '32 (P. H. Yimberlake) UCR; Porterville, IX-5 '23 (E. R. Leach) CIS; Visalia, VIII-23 '50 (R. C. Bechtel) yellow jacket prey, UCD, IX-9 '45 (R. P. Allen) CAS.

These records are all from the San Joaquin Valley except those ^{from Inyo Co.} ~~are~~ from Ripley. This record is not out of place as there are several records from Yuma, Arizona taken in alfalfa fields.

(2) pulchra (Back), 1909: 361 (Deromyia).

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California; Arizona ?).

California Records:

Los Angeles Co. (D. W. Coquillett) USNM; Compton, VII-21 '55 (Bill Hopkins) CDA; Huntington Park, VII-20, VIII-25 '40 (Albert Bauman) LACMNH, IX-1 '37, CAS; Norwalk, VIII-8 '49 (P. Nelson) CIS.

Orange Co.: Irvine, VIII-4 '59 (M. W. Stone) JW; Garden Grove, VIII-15 to IX-4 '41 (A. F. Howland, Tom Miller, Guy F. Howland, J. Wilcox) JW; Orange, VIII-20 '60 (M. Wasbauer) yellow jacket prey, CDA.

Riverside Co.: Banning, VIII-24 (W. D. Pierce) LACMNH; Riverside, VIII-23, IX-20 '62 (L. E. Anderson), IX-17 '33, IX-18 '37 (P. H. Timberlake), IX-17 '62 (J. C. Hall), X-19 '35 (H. L. McKenzie) UCR.

Ventura Co.: Ventura, VIII-30 '51, CDA.

This species is mainly coastal where it is rapidly disappearing. The only record on the desert fringes is Banning in Riverside County.

Genus *Hodophylax* James

Hodophylax James, 1935: 1.

Type-species, aridus James.

(4) basingeri Pritchard, 1938: 130.

Type ♀, Quail Spring, Cal., CAS.

Geographic range: USA (Arizona and California).

California records

Imperial Co.: Palo Verde, X-28 '67 (S. A. Gorodenski, M. A. Cazier) ASU, 2 mi. S., X-18 '59 (J. M. MacSwain) Pectis papposa, CIS.

Riverside Co.: Berdoo Cyn., top of, X-29 '63 (M. E. Irwin) UCR; Blythe, XI-2 '36 (C. M. Dammers) USNM, 7, 10, and 10.5 mi. W., X-2 '54 (J. C. Hall, P. H. Timberlake) UCD, UCR, 18 mi. W., X-14 '67 (R. M. Bohart) UCD; Corona, XI-1 '60 (E. G. Brawner) UCR; Deep Cyn., X-15 '63 (E. I. Schlinger) UCR; ^{Pleasant Vly., Squaw Tank, IX-5 to X-7, CSULB, EF,} Joshua Tree N. M., Split Rock, X-4/6 '49 (A. L. Melander) USNM, X-5 '65 (M. W. Stone, J. Wilcox) JW; Palm Springs, XI-30 '65 (J. Wilcox) JW, 2 mi. E. of N., XII-17 '63 M. E. Irwin) UCR; Thousand Palms, XI-9 '60 (E. G. Brawner) UCR; White Water (Palm Springs R.R.S.) IX-17, 28, XI-10, 11 '41 to '64 (J. Wilcox) JW, X-27 '34 (A. L. Melander) USNM.

San Bernardino Co.: 11 mi. S. Adelanto, IX-16 '63 (J. Wilcox) JW; 3 mi. N. Cushenbury Spgs., IX-16 '67 (M. W. Stone, J. Wilcox) JW;

Joshua Tree N. M., N. W. old Dale Jct., XI-7 '64 (E. Camero, S. Jenkins) ^{7 mi. S.E. Joshua Tree, IX-15, EF,} CSULB; 8 mi. E. and 8 mi. W. Lucerne Vly., IX-16, X-11 '67 (M. W.

Stone, J. Wilcox) JW; Morongo Vly., X-4 '49, X-5 '34 (A. L. Melander) USNM; Quail Springs, X-5 '34 (A. J. Basinger) type ♀, CAS; Twentynine Palms, IX-17 '48, X-5 '65 (J. Wilcox) JW, 2 mi. N., X-10 '67 (M. W. Stone) JW, 27 mi. E., X-10, 25 '65 (J. Wilcox) big eyed bug prey, JW, 6 mi. N., X-11 '67 (J. Wilcox) JW.

San Diego Co.: Borrego, X-19 '66 (M. W. Stone, J. Wilcox) JW,
X-24 '55 (M. Wasbauer) big eyed bug prey, CIS; Julian, IX-18 '38
(W. N. Burdick) UCol.; Scissors Crossing, X-10 '64 (G. R. Ballmer) UCR.

halli Wilcox, 1961: 115.

Types ♂♀, Walker Pass, Cal., UCD.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Kern Co.: Walker Pass, IX-2, 22 '57 (J. C. Hall, H. R. Moffitt,
E. I. Schlinger) UCD, about 3 mi. E. of Summit, IX-16 '63 (J. Wilcox) JW.
Joshua Tree N.M., Salton View, X-8 '67 (Eric Fisher) EF,
Riverside Co.: Pinyon Flat, X-24 '67 (J. Wilcox) JW.

San Bernardino Co.: 11 mi. S. Adelanto, IX-16 '63, IX-25 '59,
X-11 '67 (J. Wilcox) JW; 2 mi. S. E. Desert Spg., IX-1 '66 (P. A. Rufe)
CIS; 4 mi. E. Yucca Vly., X-5 '65 (J. Wilcox) JW.

San Diego Co.: 2 mi. W. Manzanita, X-3 '64 (J. Powell) CIS.

Genus *Lestomyia* Williston

Lestomyia Williston, 1883: 19.

Type-species, Clavator sabulonum Osten Sacken.

(4) species 1, new

Geographic range: USA (Arizona and California); Mexico (Sonora).

California records:

Imperial Co.: Glamis, IV-4 '64 (R. M. Bohart) UCD.

Inyo Co.: 7.5 mi. S. W. Balarat, IV-7 '55 (E. G. Linsley) CIS.

Kern Co.: Iron Cyn., El Paso Mts., IV-17 '62 (C. A. Toschi) CIS.

Riverside Co.: 10 mi. N. W. Cottonwood Spg., Joshua Tree N. M.,
IV-11 '63 (C. A. Toschi).

San Bernardino Co.: Kramer Hills, IV-19 '59 (P. H. Timberlake)
UCR.

San Diego Co.: Agua Caliente Hot Spgs., IV-1 '42 (Itol J.
Wilcox) JW.

(7) species 2, new

Geographic range: USA (California).

California records:

San Diego Co.: Jacumba, IV-11 '53 (J. Powell) CIS, 4 mi. E.,
3000', IV-15 '64, IV-21 '66, IV-26 '65 (J. Wilcox) Therevid and
Tipulid prey, JW.

(4) species 3, new

Geographic range: USA (California); Mexico (Baja California N.).

California Records:

Imperial Co.: Ocotillo, III-22 '66 (J. W. MacSwain) CIS.

(6) species 4, new

Geographic range: USA (California).

California records:

Inyo Co.: Lone Pine, V*30 '48 (J. Wilcox) JW; W. side Owens Lk., 3600', IV99 '68 (S. C. Williams, V. Lee) ASU; Short Cyn., 3 mi. W. ~~Brown~~ Brown, IV-14 '62 (R. M. Bohart) UCD.

Kern Co.: Boron, IV-2 '59 (E. G. Linsley) Coreopsis californica, CIS; 2 mi. E. Inyokern, IV-11 '62 (R. W. Thorp) CIS, 3 mi. E., III-31 '59 (R. W. Thorp, J. R. Powers) CIS, 6.5 mi. N., IV-15 '54 (J. W. MacSwain) CIS.; Kernville, IV-24 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS; Mojave, IV-6 '46, CIS; 9 mi. N. Ricardo, E. of Hwy. 6, Last Chance Cyn., IV-10 '60 (C. A. Toschi) CIS, 3/4 mi. N. Ricardo, E. of Hwy. 6, Dove Spring Cyn., IV-15 '60 (C. A. Toschi) CIS; Rosamond, IV-29 '41 (J. Wilcox) JW; Sand Cyn., 3 mi. W. Brown, IV-5 '68, IV-7 '66 (R. O. Schuster) UCD; Short Cyn., 6 mi. W. Brown, III-28/30 '59, III-31 '60, IV-11, 16 '54, IV-11 '62 (E. G. Linsley, J. W. MacSwain, J. R. Powers, R. F. Smith, G. I. Stage, R. W. Thorp) on Malacothrix in part, CIS.

Los Angeles Co.: Bouquet Cyn., III-22 '41 (J. Wilcox) JW; Littlerock, III-23 to V-2 '41, '48 (Guy F. Toland, J. Wilcox) JW; Palmdale, III-15 to V-10 '41 (Itol J. and J. Wilcox) JW, III-26 '47 (A. L. Melander) USNM, 2.5 mi. S., IV-27 '67 (J. C. Hall) UCR.

San Bernardino Co.: Adelanto, III-30 to IV-9 '57, '62 (Itol J. and J. Wilcox) JW, III-25 '57 (Paul H. Arnaud, Jr.) CAS, 11 mi. S., III-30 to V-6 '56, '57, '62 (Itol J. and J. Wilcox) JW, 20 mi. N., IV-18 '62 (M. E. Irwin) UCD; Apple Vly., V-9 '58 (P. D. Hurd) CIS; Baker, IV-5 '66 (R. M. Bohart) UCD; 5 mi. W. ^tDesert Spgs., IV-11 '62 (E. M. Bellet, E. I. Schlinger) UCR; 4 mi. E. Hesperia, IV-13 '62 (R. M. Bohart) UCD, vic. Hesperia, 1 mi. N. corner Roundup Way-Japatal rd., IV-8 '66

(S. Frommer) UCR; 10 mi. E. Midway, IV-6 '66 (R. L. Brumley) UCD;
Mojave^V R. and Deep Crk., IV-27 '41 (J. Wilcox) JW, mouth of Deep Crk.,
IV-8 '62 (J. C. Hall) UCR; Sheep Crk. Cyn., Phelan or nr. Phelan,
IV-25 '46 (A. L. Melander) USNM.

(2) species 5, new

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Riverside Co.: III-4 '33 (C. M. Dammers) USNM; Bautista Cyn.,
III-1 '72 (W. D. Sumlin) UCR; Gavilan Hills, IV-18 '65 (G. R. Ballmer)
UCR; 3 mi. E. Hemet, IV-18 '62 (Eric Fisher) EMF, 9 mi. S. (J. L.
Bath, 2888), UCR; Pinyon Flat, IV-7 to 13 '63 (D. E. Bright, T. L.
Langston, J. Powell, G. Tamaki, C. A. Toschi) CIS, 5 mi. W., V-29 '64
(M. W. Stone) JW; Sage, IV-16 '65 (J. Powell) CIS; Santa Rosa Mt.,
III-24 '71 (J. C. Hall) UCR; 8 mi. E. Sunnymead, III-26, 27 '58, '59
(J. C. Hall, H. R. Moffit, E. I. Schlinger) UCD, CHM.

San Diego Co.: 4 mi. E. Campo, III-26 '61 (W. A. Steffan) CIS;
Oak Grove, IV-15, 18, 26 '48, '64, '65 (Guy F. Toland, J. Wilcox) JW.

(2) montis Cole, 1916: 67.

Type ♀, Bear Valley, Cal., 8000', VI '13 (F. R. Cole), USNM.

Geographic range: USA (California).

California records:

San Bernardino Co.: Bear Vly. (see above), Hanna Flats, VI-22
'48 (J. Wilcox) JW; Big Bear Lake, N. shore, V-20, 24 '63 (J. Wilcox)
JW.

(2) sabulonum (Osten Sacken), 1877: 292 (Clavator).

Types ♂♀, Crafton, nr. San Bernardino, Cal., March (Osten Sacken), MCZ.

redlandae Cole, 1916: 64.

Type ♂, Redlands, Cal., 1913 (F. R. Cole), USNM.

Geographic range: USA (California). Reported from Oregon (Cole and Lovett, 1921), Wyoming (Curran 1931), Colorado (James 1941), and Alberta and British Columbia (Adisoemarto 1967) incorrectly.

California records:

Los Angeles Co.: Azusa, II-11 '25 (S. W. Bromley) USNM; Burbank, III-25 '39, CIS; Calabasas Highlands, Sta. Monica Mts., III-2 '72 (Eric Fisher) EMF; Chatsworth, III-27 '62 (P. Bellinger) NCSU; Claremont (Baker) OSU, USNM; Sierra Madre, III-26 '41 (J. Wilcox) JW; Tanbark Flat, III-29 '57 (D. D. Linsdale) CIS; Tapia Park, IV-12 '62 (A. Nakagawa) NCSU.

Riverside Co.: 19 mi. S. Aguanga, IV-22 '62 (Eric Fisher) EMF; Dripping Spgs. F. C., IV-7 '62 (Itol J. and J. Wilcox) JW; 6 mi. E. Jct. 395 & 71 Hwys., IV-4 '68 (Saul and Suzy Frommer) UCR; Millard Cyn., 3500', 3500', IV-13 '63, IV-25 '59 (E. I. Schlinger) CIS, UCR, IV-26 '69 (B. Hunt) UCR; Pinyon Flat, V-6 '65 (M. W. Stone) JW; Temecula, IV-11 '50 (P. D. Hurd) CIS, 9 mi. E., IV-13, V-3 '69 (R. R. Snelling) EMF; The Gavilan, IV-11 '48 (Guy F. Toland) JW, III-27 to IV-22 '40 to '61 (P. H. Timberlake) UCR.

San Bernardino Co.: 2 mi. N. of summit of Cajon Pass, III-18 '65 (J. Wilcox) JW; Crafton, March (Osten Sacken) MCZ, II-28 '43, III-7 '42 (C. H. Martin, Guy F. Toland, J. Wilcox) CHM, JW; East Highlands, III-20 '23 (F. R. Cole) CIS, IV-3 '63 (J. Wilcox) JW; Hills N. of Redlands, 1913 (F. R. Cole) USNM; Mt. Home Cyn., VI-21 '48, VII-7 '49

(A. L. Melander) USNM; mouth of Santa Ana Cyn., II-28 '43, III-7 '42
(C. H. Martin, Guy F. Toland, J. Wilcox) CHM, JW; N. San Bernardino,
II-22 '23 (F. R. Cole) CIS; Verdemon, V-9 '49 (A. L. Melander) USNM;
Yucaipa, V-2 '45 (J. Wilcox) JW.

San Diego Co.: Alpine, III-27 '68 (S. M. Hogue, R. L. Penrose)
UI; Desert Edge, IV-13 '15 (E. P. Van Duzee) OSU; Pine Vly., IV-19 '62
(Paul A. Rude) CIS; Warner Springs, IV-19 '50 (J. W. MacSwain) CIS,
V-1 '63 (J. Wilcox) JW.

(2) ?fraudizera Williston, 1883: 21.

Type ♂, Mendocino Co., Cal. (D. T. Baron) UK.

Geographic range: USA (California) and Oregon).

California records: Kern County west of the mountains and
most of the Counties to the Oregon Border. A similar but slightly
smaller fly occurs in the desert areas of Inyo Co. and South with
many records from Kern, Los Angeles, Riverside, San Bernardino and
San Diego Counties from both sides of the mountains but mainly in
the desert areas, March to June but mainly in April.

See pp. 73a, 73b.

Inyo Co.: Olancha, V-18 '56 (J. Wilcox) JW; Short Cyn., 3 mi. W. Brown, IV-14 '62 (R. M. Bohart) UCD.

Kern Co.: Boron, IV-10 '60 (E. G. Linsley) CIS; El Paso Mts., Iron Cyn., IV-17 '62 (C. Slobodichikoff) small Bombylid prey, CIS; Indian Wells, IV-18 '62 (C. A. Toschi) CIS, Cyn. W. of Hwy. 6, IV-9 '62, V-12 '60 (K. Kehre, C. A. Toschi) small moth prey, CIS; Inyokern, 3 mi. E., III-31 (J. R. Powers) CIS, 6.5 mi. N., IV-18 '54 (J. W. MacSwain) CIS; 7 mi. N. W. Mojave, IV-18 '60 (J. Powell) CIS; 4 mi. N. Muroc, IV-30 '50 (T. F. Leigh) CIS; Red Rock Cyn. and 4 mi. N., V-1, 2 '68 (J. Doyen, D. Veirs) CIS, V-1 '72 (R. J. Hamton) EF; Rosamond, IV-29, V-3 '41 (J. Wilcox) JW; San^d Cyn., 3 mi. W. Brown, IV-17 '66 (R. M. Bohart) UCD; Short Cyn., IV-5 '68 (R. M. Bohart, R. O. Schuster) UCD, 6 mi. W. Inyokern, IV-16 '54 (Ray F. Smith) CIS; 7 mi. E. Walker Pass, IV-25 '52 (G. A. Marsh, J. G. Rozen) Franseria sp., CIS.

San Bernardino Co.: 11 mi. S. Adelanto, IV-7 to V-6 '56, '57, '66 5 mi. W. Desert Spgs., IV-11 '62 (J. C. Hall) UCR; (J. Wilcox) JW; Apple Vly., V-8, 9 '58 (P. D. Hurd) CIS; Granite Pass V-26 '68 (E. M. Bellett) UCR; vic. Hesperia, 9 mi. E. Hwy. 395, 117° 12', 34° 25', IV-8 '66 (Frommer, Gerling) dirt road, UCR; Kramer, Hills, IV-12 '64, IV-18 '62 (M. E. Irwin, E. I. Schlinger) UCR, V-4 '58 (P. D. Hurd) CIS, IV-18 '62, V-19 '59 (J. C. Hall, M. E. Irwin) UCD, Jct., IV-12 '58, IV-15 '65, IV-26 '53 (R. L. Langston, G. A. Marsh, R. O. Schuster) CIS, 2 mi. E., IV-30 '53 (P. H. Timberlake) UCR, 3 and 4 mi. S., IV-4 '68, IV-6 '66 (R. M. Bohart) UCD, 15 mi. E., IV-12 '58 (J. W. Mojave R. and Deep Crk., IV-27 '41 (J. Wilcox) JW; MacSwain) CIS; Mtn. Cajon Cyn., IV-25 '36 (E. G. Linsley) Phacelia, CIS; Victorville, V-1 '53 (G. A. Marsh, R. O. Schuster) CIS, 3 mi. S. W., V-9 '48 (P. H. Timberlake) UCR; Yermo, IV-12 '66 (J. Wilcox) JW.

Los Angeles Co.: Desert Spgs., IV-22 '55, V-5 '56 (P. D. Hurd, R. Schuster) CIS; Devil's Punch^Cbow1, V-1 '65 (J. Powell) CIS; Littlerock, V-2 '48, V-3 '41, V-15 '53 (J. Wilcox) JW, Dam, IV-30 '68 (P. A. Opler) CIS; Palmdale, V-2 '48, V-3 '41 (J. Wilcox) JW; 4 mi. S. Pearblossom, V-13 '66 (E. G. Linsley) CIS; 6.4 mi. W. Pinon Hills, IV-23 '66 (S. Frommer) UCR, 6 mi. N. W., IV-4 '68 (J. Wilcox) JW; Red Rock Cyn., V-2 '52 (R. M. Bohart) UCD.

Riverside Co.: Deep Cyn., IV-25 to V-2 '71, UCR; Joshua Tree N. M., Cottonwood Spg., IV-26 '49 (J. E. Gillaspay, L. W. Quate) CIS, 1 mi. W., IV-11 '63 (C. A. Toschi) CIS, Lower Covington Dlat, IV-21, 27 '62 (E. L. Sleeper) EMF; Palm Springs, I-21 '53 (J. Wilcox) JW, Andreas Cyn., III-3 '56, IV-2 '55 (J. C. Hall, E. I. Schlinger) UCD, IV-2 '55 (P. H. Timberlake) UCR; Pinyon Flat, V-4, 10 '53, V-16 '64, V-23 '48 (Earl G. Davis, Guy F. Toland, J. Wilcox) JW, IV-7, 13 '63 (D. E. Bright, C. A. Toschi) CIS, 4 mi. N. E., IV-21 '63 (Eric Fisher) EMF.

San Diego Co.: Agua Caliente Hop Spgs., III-15 '68 (J. C. Hall) UCR; Borrego, IV-10 '52 (J. W. MacSwain) CIS, Coyote Crk., III-24 '59 (C. A. Toschi) CIS, Culp Cyn., IV-2 '62, IV-9 '59 (J. C. Hall, E. I. Schlinger) UCD, UCR, Hellhole Cyn., III-25 '59 (R. M. Bohart) UCD; Jacumba, IV-26 '35 (G. P. Engelhardt) JW, 4 mi. E., IV-15 '64 (J. Wilcox) JW, IV-22 '62 (Eric Fisher) EMF; Scissoors Crossing, Valle de San Felipe, 2240-2800', V-4 '68 (R. Honza) UCR.

Genus *Nicocles* Jaennicke

Pygostolus Loew, 1866: 16 (preocc. Haliday, 1833).

Type-species, argentifer Loew equals politus (Say).

Nicocles Jaennicke, 1867: 355.

Type-species, analis Jaennicke.

(2) abdominalis Williston, 1883: 17.

Type ♂♂, California (O. T. Baron), UK.

Geographic range: USA (California).

California records: Butte, Eldorado, Lake, Los Angeles, Napa, Orange, San Bernardino, Solano and Tuolumne Counties: March to May, July and September.

Los Angeles Co.: Chantry Flat, IV-18 '43 (C. H. Martin) CHM;
Fish Cyn., VII-4 '49 (E. I. Schlinger) UCD; Monrovia Cyn., III-22, 31
'31 (C. H. Martin) CHM.

Orange Co.: Holy Jim Cyn., IV-28 '61 (K. D. Peyton) EMF.

San Bernardino Co.: 2 mi. W. Devore, II-20 '68 (Fred G. Andrews)
UCR; Lytle Crk., 7 mi. N. Fontana, IV-17 '65 (R. L. Langston) CIS.

(2) argentatus Coquillett, 1893: 119.

Types ♂♀, Los Angeles, and San Bernardino Co's. Cal., USNM.

Geographic range: USA (California).

Los Angeles Co.: IV (D. W. Coquillett) USNM; Beverly Glen,
I-10 '65 (Eric Fisher) EMF; upper Mint Cyn., 2500', II-18 '65 (C. Henne)
alightling on bush, midday, JW.

Riverside Co.: 2 mi. S. E. Console Spgs., II-3 to 18 '66 (M. W.
Stone, J. Wilcox) JW, XII-15 '66 (Eric Fisher) EMF; Eden Hot Spgs.,
nr. San Jacinto, around Juniperus californica, CIS; Massacre Cyn.,
II-12 '66 (M. W. Stone) JW, UCR; 2 mi. N. E. Moreno, IV-15 '65

(C. Slobodchikoff) CIS; Reche Cyn., I-27, XII-15 '66 (M. W. Stone, J. Wilcox) JW; Riverside, X-24 '33, XII-22 '29 (P. H. Timberlake) UCR, XI-5 '28, CIS, IV-19 '90, USNM; 8 mi. E. Sunnymead, I-18, II-17, III-18, IV-2 and XII-20 '64 to '66 (J. Wilcox) JW, IV-16 '65 (M. E. Irwin, P. A. Rauch) UCR; 1 mi. S. San Timateo Cyn., II-15 '66 (J. Wilcox) JW.

San Bernardino Co.: IV (D. W. Coquillett) USNM; E. Highlands, X-31 to XII-17 '56 to '65 (J. Wilcox) JW; 2 mi. S. Redlands, II-15 '66 (J. Wilcox) JW.

Ventura Co.: Piru, IX-'48 (Ros. Miller) USNM.

(2) dives(Loew), 1866: 17 (Pygostolus).

Types ♂♀, California (Agassiz), MCZ.

Geographic range: USA (California, Oregon and Washington).

California records: Alameda, Contra Costa, Fresno, Humboldt, Lake, Madera, Marin, Mariposa, Napa, Nevada, Plumas, Sacramento, San Bernardino, San Benito, San Diego, San Francisco, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Solano, Sonoma, Tehama, Trinity, Tuolumne, Ventura and Yolo Counties.

San Bernardino Co.: Forest Home, VII-20 '66 (J. Wilcox) JW; S. Fork F. C., 6300', VII-1 '43, VII-3 '42, VIII-13 '47 (Guy F. Toland, J. Wilcox) JW; S. Fork Santa Ana R., VI-16 '45 (A. L. Melander) USNM; upper Santa Ana R., III-31 '50, X-13 '46 Grace H. and John L. Sperry) USNM.

San Diego Co.: Palomar Mt., VII-13 '41, X-18 '66 (J. Wilcox) JW.

(2) lanae Cole, 1916: 67.

Type ♂, Redlands, Cal., USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: Beverly Glen, (Eric Fisher) EMF; Co.,
IX (D. W. Coquillett) USNM; Santa Monica Mts., Tapia Park, IV-17 '76
(N. J. Reimer) UCR.

Riverside Co.: 2 mi. S. E. Console Spgs., II-3, 5 '66 (J. Wilcox)
JW; Riverside, II-2 '30 (P. H. Timberlake) UCR.

San Bernardino Co.: Redlands, IV '14 (F. R. Cole) taken on a
sandy plot of ground in the foothills south of, USNM.

(3) utahensis Banks, 1920: 66.

Type ♀, Eureka, Utah, MCZ.

punctipennis Melander, 1924: 217.

Types ♂♀, Wawawai, Wash., USNM.

Geographic range: Canada (Alberta); USA (Arizona, California,
Idaho, Nevada, Utah and Washington).

California records: Eldorado, Inyo, Mariposa, Modoc, Mono,
Nevada, Placer and Tulare Counties.

Inyo Co.: Bigpine Crk., 7500', IX-12 '49 (R. M. Bohart) UCD.

Mono Co.: Blanco's Corral, White Mts., 10000', VI-23 '53
(H. Nakakihara) UCR, VI-23, 30 '53 (T. Brooks, J. W. MacSwain) CIS;
Convict Lk., VI-22 '65 (J. R. Birchim) CAS; Dead Man's Pass, 8000',
X-4 '49 (E. I. Schlinger) UCD.

Genus *Omniablautus* Pritchard

ⁿ
Omniablautus Pritchard, 1935: 1.

Type-species, arenosus Pritchard.

(3) nigronotum (Wilcox), 1935: 224 (Ablautus).

Types ♂♀, Prairie Hill, Oregon, CAS.

Geographic range: USA (California, Idaho, Oregon and Washington).

California records: Lassen, Modoc, Mono, Nevada and Plumas Counties.

Mono Co.: 7 mi. W. Benton, IX-14 '63 (J. Wilcox) JW; Blanco's Corral, White Mts., 10000', VIII-25 '60 (G. W. Colliver, E. Jessen, J. W. MacSwain, C. A. Toschi) CIS, (D. Q. Gavagnaro, A. E. Menke) UCD; Bridgeport, VIII-31 (T. F. Winburn) RHP; 7 mi. S. W. Leevining, VII-3 '58 (A. D. Telford) UCD; Mammoth, VIII-22, IX-16 '63 (J. Wilcox) JW.

(7) nigripes Wilcox, 1966: 681.

Type ♀, Deep Canyon, Cal., UCR-CAS.

Geographic range: USA (California); Mexico (Baja California N.?).

California records:

Riverside Co.: Deep Canyon, VI-21 '63 (E. I. Schlinger) UCR-CAS.

(7) tolandi Wilcox, 1966: 682.

Type ♀, Palm Springs, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.?).

California records:

Imperial Co.: 7 mi. N. Ogilby, Indian Wash, V-28 '74 (J. D. Pinto)
on ironweed, UCR.

Joshua Tree N.M., Pleasant Vly., VII-16, CSULB, EF;
Riverside Co.: [^] Palm Springs, V-30 '43 (Guy F. Toland) CAS, taken
at mouth of Tahquitz Canyon but repeated visits have not produced more
specimens.

(7) new species

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Imperial Co.: 8 mi. NNW Ocotillo, V-9 '71 (John D. Pinto) UCR.

San Bernardino Co.: 2 mi. N. E. Twentynine Palms, XI-10 '70,
XI-22 '68 (Eric Fisher, J. Wilcox) EMF, JW.

Genus Parataracticus Cole

Parataracticus Cole: 1924: 11.

Type-species, rubidus Cole.

(2) niger Martin, 1955: 118.

Types ♂♀, 7 mi. S. Perris, Cal., CHM.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Kern, Riverside, San Bernardino and Riverside Counties.

Riverside Co.: Aguanga, V-11 '53 (C. H. Martin, J. Wilcox) CHM, JW; Box Spgs. Mts., V-27 '65 (M. E. Irwin) UCR; Deep Cyn., V-3 '63, V-25 '64 (M. E. Irwin, E. I. Schlinger) UCR; Joshua Tree N. M., Jumbo Rocks, VI-8 '65 (J. Wilcox) JW; Perris, 1.5 mi. S., V-4 to VI-18 '38, '39 (P. H. Timberlake) UCR; 7 mi. S. W. Perris, IV-29 to V-30 '53, '66 (C. H. Martin, M. W. Stone, Guy F. Toland, Itol J. and J. Wilcox) CHM, JW; Riverside, V-6 to VI-2 '31, '54, '62-'69 (J. C. Hall, M. E. Irwin, E. I. Schlinger, P. H. Timberlake) UCR; Temecula, IV-24 '51 (E. I. Schlinger) UCR.

San Bernardino Co.: Granite Mts., 4200', V-9 '76 (T. Griswald) T8N, R12E, Sec. 15, T8.

San Diego Co.: 3 mi. W. Alpine, VI-2 '65 (J. C. Hall) UCR; Borego, IV-12, 17 '56, IV-30 '57 (F. X. Williams) CAS, IV-28 '55 (R. O. Schuster) CIS, Coyote Cyn., IV-6 '64 (M. E. Irwin) UCR; 4 mi. E. of Jacumba^b, IV-15 '64 (J. Wilcox) JW.

(2) wylliei Martin, 1955: 116.

Types ♂♀, Wrightwood, Cal., CHM.

Geographic range: USA (California).

California records:

Inyo Co.: Bishop Crk., 7500', VI-18 '74 (T. Griswold) TG.

Kern Co.: Walker Pass, VII-8 '66, VII-23 '63 (J. Wilcox) JW.

Los Angeles Co.: IV-30 '33, USNM, IV-30 '35, UCD; Buckhorn Flats, VII-20 '41 (J. Wilcox) JW; Crystal Lk. Road, 4700', VII-9 '52 (A. A. Grigarick, J. H. Nakata) UCD; Monrovia Cyn., VII-2 to 24 '30, '31 (C. H. Martin) CHM; Tanbark Flat, VII-12 '52, VII-14, 18 '56 (R. C. Bechtel, R. M. Bohart, R. Schuster) UCD, (A. Menke, Jr.) LACMNH; Wrightwood, VII-27 '52 (C. H. and Dorothy Martin, J. Wilcox) CHM, JW.

Orange Co.: Santa Ana Cyn., Peralta, VII-25 '53, VII-25 '54 (C. H. Martin) CHM.

San Bernardino Co.: Cajon, VII-16, 19 '56 (R. C. Bechtel, R. M. Bohart, A. E. Menke, H. R. Moffitt, L. A. Stange) LACMNH, UCD; Camp Baldy, VI-26 '58, VII-7 '52 (R. M. Bohart, R. W. Bushing) UCD.

San Diego Co.: 9 mi. S. Warner Spgs., VII-14 '56 (L. A. Stange) LACMNH.

Santa Barbara Co.: 3 mi. W. Lk. Cachuma, VII-6 '59 (P. E. Paige) UCD; 4 mi. E. Los Prietos, VI-25, VII-12 '65 (M. R. Gardner) UCD.

Genus *Saropogon* Loew

Saropogon Loew, 1847: 439.

Type-species, Dasypogon luctuosus Wiedemann.

(5) albifrons Back, 1904: 291.

Type ♀♀, Bill Williams Fork, Ariz., UK, UMass.

semiustus Back not Coquillett, 1909: 351, albifrons Back made a synonymn of semiustus Coquillett.

albifrons Wilcox, 1966: 130. Found different from semiustus and restored to specific rank.

Geographic range: USA (Arizona and California); Mexico(Baja California N.).

California records:

Riverside Co.: Blythe, IV-15 '66 (M. A. Brusven) UI, 16 mi. N., IV-14 '41 (J. Wilcox) JW, 32 mi. N., IV-15 '66 (D. L. Coates) UI; Box Cyn., IV-26 '52 (P. D. Hurd) CIS; Deep Cyn., V-18 to VI-30 '63 to '69 (G. R. Ballmer, K. Brown, Saul Frommer, M. E. Irwin, E. I. Schlinger) malaise trap and blacklite, UCR; 2 mi. S. E. Dos Palmas, IV-2 '60 (P. H. Timberlake) UCR; 6 mi. W. Indio, IV-30 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) Melilotus, CIS; Palm Springs, V-23 '43 (Guy F. Toland) JW.

San Bernardino Co.: 13 mi. W. Barstow, VI-21 '42 (Guy F. Toland) JW; Cronise Sta., VII-12 '55, LACMNH; 10 mi. N. Earp, IV-22 '60 (J. R. Powers) 15 Watt black light, CIS; 2 mi. N. E. Twentynine Palms, V-24 '66 (J. Wilcox) JW, 10 mi. E., VI-11 '66, black light, CDA; Wheaton Spgs., V-9 '61 (G. E. Bohart) USU.

(2) hyalinus Coquillett, 1904: 185.

Types ♂♀, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Alameda, Fresno, Imperial, Inyo, Kern,
Los Angeles, San Bernardino, San Luis Obispo, Santa Barbara Counties.

Imperial Co.: Kane Spgs., IX-7 '56 (C. M. Dammers) USNM.

Inyo Co.: Batchelder Spgs., VII-10 '67 (R. M. Bohart) UCD.

Los Angeles Co.: (D. W. Coquillett) USNM.

San Bernardino Co.: Adelanto and 10 mi. S., VII-23 '63 (J. A.
Froebe) UCD, 11 mi. S., VII-6 '57 (J. Wilcox) JW; Victorville,
VII-25 '58 (P. D. Hurd).

(2) luteus Coquillett, 1904: 185.

Types ♂♀, Los Angeles Co., Cal., USNM.

rufus Back, 1904: 290.

Type ♀, Tehachapi, Cal., BSNH (MCZ).

Geographical range: USA (California); Mexico (Baja California N.).

California records: Alameda, Butte, Calaveras, Fresno, Inyo,
Kern, Los Angeles, Mariposa, Merced, Monterey, Orange, Riverside, San
Bernardino, San Diego, Santa Barbara, Santa Clara, Santa Cruz, Sonoma,
Stanislaus, Tulare, Tuolumne, Ventura and Yolo Counties; May to August.
A common species west of the mountains and almost as numerous in the
desert areas of Los Angeles, Riverside, San Bernardino and San Diego
Counties. *see p. 81a.*

Kern Co.: Walker Pass, VII-8 '57 (J. C. Hall) UCD.

Los Angeles Co.: Mint Cyn., VII-31 '35 (E. I. Beamer) UK;
Palmdale, V-29 '48 (J. Wilcox) JW; 2 and 2.5 mi. S. S. W. Valyermo,
4700', VI-11 '64, VII-6 '65 (J. S. Buckett, C. Henne) UCD, JW;
Wrightwood, VII-7 '52 (J. Wilcox) JW.
Riverside Co.: Joshua Tree N.M., Pleasant Vly, VI-13, CSULB, EF.
San Bernardino Co.: Atolia, VII-9 '50 (R. M. Bohart) UCD; Cajon
and 4 mi. N. W., VII-1 '58, VII-17 '56 (C. L. Wiley, E. I. Schlinger)
UCD, Vly., VII-24 '45 (Grace H. and John L. Sperry) USNM; Cronise Vly.,
V-5 '60 (F. D. Parker) UCD; Deep Crk. C. G., VII-12 '64 (R. R. Snelling)
LACMNH; Pioneertown, 6 mi. N., VII-3 '65 (G. R. Ballmer) UCR; Sheep Crk.
Cyn., VI-29 '48 (A. L. Melander) USNM.

San Diego Co.: Anza S. P., Culp Cyn., VI-16 '58 (H. R. Moffitt)
UCD; Banner, 6 mi. E., VI-26 '63 (J. Powell) CIS; Scissors Crossing,
VI-26 '63 (E. I. Schlinger) UCR, 7 mi. N., VII-15 '63 (H. R. Moffitt)
UCR.

(5) mohawki Wilcox, 1966: 134.

Types 82, Mohawk, Arizona, CAS.

Geographic range: USA(Arizona and California); Mexico (Baja California N.).

California records:

Imperial Co.: Fish Spgs., V-30 '31 (H. Gentry) CAS; Glamis, VII-11 '66 (J. M. Davidson, M. A. Cazier) ASU; Palo Verde, VIII-27 '46 (P. D. Hurd) CIS, 2 mi. S.W., VII-16 '62 (P. H. Timberlake) on Tamerix galliae, UCR, 2 mi. S., VII-16 '62 (P. D. Hurd) prey Efferia tricella Bromley on Tamerix galliae, CIS, 10 and 13 mi. S., VII-24, VIII-1, IX-7 '67 (S. C. Williams, J. M. Davidson, M. A. Cazier) Acacia greggii Gray, ASU.

Riverside Co.: Blythe, VI-23 '45, Coyote melon, CIS; Cathedral City, VII-16 '50 (J. W. MacSwain) CIS; Deep Cyn., VI-21 to IX-5 '63, '64 (G. Ballmer, K. Brown, M. E. Irwin, E. I. Schlinger) one at white light, UCR; 8 mi. W. Desert Center, IX-16 '59 (P. H. Timberlake) UCR; Magnesia Cyn., VII-9 '50 (R. M. Bohart) UCD; Palm Springs, V-28, 31 '43 (Guy F. Toland, J. Wilcox) JW, 3 mi. S., VII-13 '40 (P. H. Timberlake) UCR; 16 mi. S. Vial, VII-23 '67 (J. H. and J. M. Davidson, M. A. Cazier) MSU.

San Bernardino Co.: Baker, VI-24 '30 (F. H. Wymore) UCD, 29 mi. S. Needles, VII-2 '63 (A. E. and Martha Michelbacher-628) CIS.

San Diego Co.: Borego Vly., V-26 '54 (F. X. Williams) CAS.

semiustus Coquillett, 1904: 186.

Types ♂♀, San Diego, Cal., USNM.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: ^(San Diego Co.?) Clark Vly., V-2 '32 (H. Gentry) CAS; 8 mi. E. ^tHolville, III-27 '68 (R. L. Westcott) UI; Kane Spgs., IV-12 '52 (J. W. MacSwain) CIS; 3 mi. S. Palo Verde, IV-9 '63 (P. D. Hurd) CIS; Pinto Wash, IV-28 '58 (F. X. Williams) CAS; San Felipe Crk., IV-8 '39 (R. M. Bohart) UCD; Westmoreland, V-6 '33 (R. M. and G. E. Bohart) UCD.

Riverside Co.: Blythe, IV-15 '66 (M. A. Brusven) UI, 8 and 22 mi. N., IV-8, 9 '63 (E. I. Schlinger) UCR, IV-9 '62 (R. M. Bohart, R. M. Bushing) UCD; Indio, III-30, IV-5 '42, IV-20, 22 '41 (J. Jr. and J. Wilcox) ~~JW~~, 5 and 6 mi. W., IV-22 '50, IV-30 '49 (P. D. Hurd, E. G. Linsley, J. W. MacSwain, R. F. Smith) Melilotus, CIS; Hopkins Well, IV-16 '58, IV-28 '29, IV-29 '52 (J. E. Gillaspay, P. D. Hurd, G. A. Marsh, ^{Joshua Tree N.M., Pleasant Vly., IV-30 to VI-14, CSULB, EF;} J. Powell, J. W. MacSwain, J. G. Rozen) CIS; [^]nr. Palm Springs, VI-8 '30 (P. H. Timberlake) UCR.

San Bernardino Co.: Yermo, V-23 '40 (M. Cazier, P. C. Ting), W. Reeves) CAS, (G. E. bohart) UCD.

San Diego Co.: (D. W. Coquillett) USNM; Borego, V-26 '54 (F. X. Williams) CAS, IV-20 '51, IV-25, 29 '54, V-2 '52 (P. D. Hurd, C. D. Macneill, M. Wasbauer) CIS, Vly., IV-5 '40, IV-23 '55, IV-18, 20 '57 (R. C. Bechtel, R. M. Bohart, J. C. Hall, E. I. Schlinger) UCD.

Subfamily Lapriinae Macquart 1838

Genus *Andrenosoma* Rondani

Andrenosoma Rondani, 1856: 160.

Type-species, *Asilus atrum* Linnaeus.

(2) *fulvicauda* (Say), 1823: 53 (*Ladaria*).

Type ?, Missouri (lost).

Geographic range: Canada (Ontario); USA (Arizona, California, Colorado, District of Columbia, Florida, Illinois, Maryland, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Texas, Virginia and Washington).

California records: Amador, Butte, Calaveras, Eldorado, Fresno, Humboldt, Los Angeles, Madera, Marin, Mendocino, Nevada, Placer, Plumas, Riverside, San Bernardino, San Diego, Santa Clara, Shasta, Siskiyou, Trinity, Tulare and Tuolumne; mainly a mountain species, a few fringe areas.

Riverside Co.: Idyllwild, VII-8 '28 (E. C. Van Dyke) CAS;
Pinyon Flat, VII-24 '60 (H. H. Nelson) FSCA.

San Bernardino Co.: Barton Flat F. C., VIII-28 '65 (J. Wilcox) JW;
Cajon Station, VII-28 '61 (R. Westcott) LACMNH; Lytle Crk., VI-7 '28
(E. C. Van Dyke) CAS; nr. Mountain Top Jct., VII-23 '61 (R. L.
Westcott) LACMNH.

Genus *Atomosia* Macquart

Atomosia Macquart, 1838: 73.

Type-species, Atomosia incisuralis Macquart equals puella
Wiedemann.

(2) melanogon Hermann, 1912: 144.

Type ♂, Texas, Hermann Coll., Munich?

Geographic range: USA (Arizona, California, Colorado, Iowa,
Kansas, Oklahoma, New Mexico and Texas); Mexico (Chihuahua, Nuevo Leon,
and Zacatecas); Guatemala.

California records:

Imperial Co.: Bard, VIII-10, 12 '65 (R. Haygood) Ex. Gossypium
hirsutum, CDA; 5 mi. S. Palo Verde, VII-14 '66 (J. M. Davidson, M.
A. Cazier) Sesuvium verrucosum Ref. (sea-purslane), ASU.

Riverside Co.: Blythe, VI-13 to VIII-3 '47 (J. W. MacSwain,
R. F. Smith) alfalfa, CIS, VIII-31 '59 (K. L. Japport) ex. Argon lite,
CDA; Thermal, VIII-17 '57 (J. C. Hall) UCD.

(2) mucida Osten Sacken, 1887: 184.

Types ♂♀, Mexico, Presidio (Borrer), BMNH.

Geographic range: USA (Arizona, California and Texas); Mexico
(Chihuahua, Sinaloa, Oaxaca and Yucatan).

California records:

Riverside Co.: Deep Cyn., VI-24 to VII-14 '64 (E. I. Schlinger)
UCR.

Genus *Atomosiella* Wilcox

Atomosiella Wilcox, 1937: 40.

Type-species, Atomosia antennata Banks.

(2) antennata (Banks), ~~Temiziana~~~~Ariziana~~ 1920: 66.

Type ♂, Douglas, Arizona, MCZ.

Geographic range: USA (Arizona, California and New Mexico);
Mexico (Baja California).

California records: Inyo, Imperial and Tulare Counties.

Imperial Co.: 10 mi. N.W. Calipatria, V-27 '56 (T. R. Haig) UCD;
Niland, V-22 '56 (T. R. Haig) UCD; 5 mi. S. Palo Verde, VII-14 '66
(J. M. Davidson, M. A. Gazier) Sesuvium verrucosum Ref. (sea-lurslane),
ASU.

Inyo Co.: Panamint Vly., VII-25 '75 (John D. Pinto) UCR.

Genus *Cerotainiops* Curran

Cerotainiops Curran, 1930: 11.

Type-species, rufiventris Curran equals Nusa Abdominalis Brown.

(2) abdominalis (Brown), 1897: 103. (Nusa).

Type ♀, Cuba, New Mexico, UK lost?

Nusa similis Brown (1897), Nusa abdominalis Atripes McAtee (1919),

Cerotainiops rufiventris Curran (1930) are synonyms, Pritchard (1942).

Geographic range: USA (Arizona, California, Kansas, Nevada, New Mexico, Oklahoma, Utah^{kl} and Texas); Mexico (Coahuila).

California records: Los Angeles, Riverside, San Bernardino, San Diego and Santa Barbara Counties.

Los Angeles Co. (D. W. Coquillett) CIS.

Riverside Co.: Anza, VII-3, 5 '56 (R. C. Bechtel, R. M. Bohart)
Joshua Tree N.M., Pleasant Vly., Squaw Tank, VI-13 to 23, CSULB, EF;
UCD, (H. W. Michalk) CDA; ^{kl} Riverside, VII-1 '27 (P. H. Timberlake) UCR;

The Gavilan, VI-10 '35 (C. M. Dammers) USNM.

San Bernardino Co.: (D. W. Coquillett) CIS.

San Diego Co.: 6 mi. E. Banner, VI-26 '63 (W. O. Reische) UCD;
San Diego, VI-15 to VII-9 '21 (Geo. H. Field) SDNHM; San Felipe Vly,
V-4 '40, Eriognathus, CIS.

Linsley (1960) reports them preying on two species of bees, a wasp, and a worker harvester ant.

(2) lucyae Martin, 1959: 50.

Types ♂♀, Westbrook, Texas, UK.

Geographic range: USA (Arizona, California and Texas).

California records:

Los Angeles Co.: 5 mi. S. Lancaster, V-15 '56 (E. K. Linsley)

J. W. MacSwain) CIS; Palmdale, IV-28 '29 (E. G. Anderson) USNM.
Joshua Tree N.M., Squaw Tank, Upper Covington Flat, V-2, VI-6, CSULB, EF;
Riverside Co.: Pinyon Flat, 16 rd. mi., S. W. Palm Desert,

IV-13 '63 (J. Powell, C. A. Toschi) Sic, V-27 '64 (J. Wilcox) JW.

San Bernardino Co.: nr. Adelanto, IV-28 '49 (A. L. Melander)

USNM, 0.5 mi. N., V-3 '53 (C. D. MacNeill) CIS; 3 mi. N. E. Cajon
Pass, IV-16 '62 (R. Brown, C. D. MacNeill, D. Rentz) CAS; Phelan,
V-12 '63 (J. C. Hall) UCR.

San Diego Co.: 4 mi. E. Jacumba, IV-22 '62 (Eric Fisher) EMF,

IV-14 '64 (J. Wilcox) JW.

(7) mcclayi Martin, 1959: 51.

Types ♂♀, Warner Springs, Cal., UCD.

Geographic range: USA (California).

California records:

San Diego Co.: Boulder Oaks, VI-30 '57 (David Peterson) UCR;

San Ysabel, VII-4 '56 (Simonds) CDA; Warner Springs, 2 mi. N.,

VII-4 '56 (H. R. Moffitt, R. W. Bushing) UCD, 5 mi. N., VI-27, VII-8

'58 (Dorothy and C. H. Martin) CHM, LACMNH, VI-12 '62 (J. Wilcox) JW.

(5) omus Pritchard, 1942: 22.

Types ♂♀, Los Angeles, Cal., USNM.

Geographic range: USA (Arizona and California); Mexico (Baja California).

California records: Imperial, Inyo, Los Angeles, Monterey, Orange, Riverside, San Diego, San Luis Obispo, Santa Clara and Stanislaus Co.

Imperial Co.: Borrego Vly., IV-30 '32 (H. Gentry) CAS.

Inyo Co.: Salsberry Pass, 3315', V-6 '60 (A. S. Menke) UCD.

Los Angeles Co.: V (D. W. Coquillett) USNM, CIS.

Riverside Co.: Deep Cyn., IV-28 '65, V-9 '64, V-3 to VI-1 '63 (M. E. Irwin, E. I. Schlinger) UCR.

San Diego Co.: 2 mi. S. E. Bonita, V-25 '65 (R. L. Langston) CIS; Borrego, IV-24 '55, IV-26-29 '54 (P. D. Hurd, R. O. Schuster) CIS, 14-8-40 (P. H. Timberlake) UCR, IV-25 '55 (R. M. Bohart, E. I. Schlinger) UCD, V-15 '48 (Grace H. and John L. Sperry) USNM, dunes, IV-18 '57 (H. R. Moffitt) UCD, Palm Cyn., V-3 '45 (A. L. Melander) USNM.

(5) wilcoxi Pritchard, 1942: 23.

Type ♂, Tempe, Arizona (D. K. Duncan), U. Minn.
pritchardi Hull: 1960: 71. Type ♂, San Fernando, Baja California, CAS.
Geographic range: USA (Arizona and California); Mexico (Baja California, ~~and~~ Chihuahua) And Sonora).

California records:

Imperial Co.: Palo Verde, 245', VII-12 '66 (J. M. Davidson, M. A. Cazier) Atriplex lentiformis Toor.-Wats. (Quail bush), ASU;
San Felipe, VI-20 '32 (R. M. and G. E. Bohart);,UCD; Westmoreland,
VII-20 '33 (H. G. Gentry) UCD; Winterhaven, VI-22, 23 '63 R. L. Westcott, D. S. Verity) UCR.

Inyo Co.: Antelope Spg., VII-8 '60 (H. K. Court) UCD, VIII-24 '60 (C. A. Toschi) CIS.

Los Angeles Co.: 9 mi. S. Palmdale, VIII-15 '63 (R. L. Westcott) UCD; Vincent, VIII-10 '60 (G. H. Nelson) FSCA.

Riverside Co.: Anza, VII-3 '56 (L. A. Stange) LACMNH; Blythe, VI-5 '51, IX-16 '58 (J. W. MacSwain, F. H. Parker, R. F. Smith) CIS, 7 mi. N., VI-23 '46 (W. F. Barr) CIS, 13 mi. N., VII-23 '67 (H. H. and J. M. Davidson, M. A. Cazier) ASU; Cathedral City, VII-13 '51 (J. W. MacSwain, R. F. Smith) CIS; 10 mi. S. Coachella, V-10 '56 (T. R. Haig) CIS; Indian Wells, V-21 '61 (R. L. Westcott) UCR; Indio, X-28 '33 (P. H. Timberlake) UCR; Las Quinta, IX-16 '48 (J. Wilcox) JW; Magnesia Cyn. VII-9 '50 (R. M. Bohart) UCD; Palm Springs, VII-19 '58 (L. A. Stange) LACMNH, VIII-24 '48 (C. H. Martin) CHM, 8 mi. N. W., IX-7, 19 '71 (Claude and Nelson Papavero, J. Wilcox) DZUSP, JW.

San Bernardino Co.: 12 mi. S. Adelanto, VIII-13 '61 (R. L. Westcott) LACMNH; 13 mi. W. Barstow, VI-21 '42 (Guy F. Toland, J. Wilcox) JW; 4 mi. S. E. Desert Spgs., VII-15 '61 (R. L. Westcott) LACMNH; Four Corners, VI-14 '61 (R. W. Thorp) CIS; 13 mi. W. Ilyomar Jct., VII-20 '50; VIII-20 '51 (R. Schuster) CIS; 13 mi. S. Kramer Jct., VII-20 '50 (R. Schuster) CIS.

Genus *Laphria* Meigen

Laphria Meigen, 1803: 270.

Type-species, Asilus gibbosus Linnaeus.

(2) aimatis McAtee, 1918: 160.

Type ♂, California (Barn) USNM, ♀, same data, UK.

Geographic range: USA(Arizona, California, Colorado, Idaho, Montana, Oregon and Washington).

California records: Alameda, Butte, Calaveras, Eldorado, Lake, Madera, Mariposa, Mendocino, Modoc, Napa, Nevada, Placer, Plumas, Riverside, Sacramento, San Bernardino, Santa Barbara, Shasta, Siskiyou, Solano, Trinity and Tulare Counties.

Riverside Co.: Hemet Vly., V-22 '56 (Menke and Stange) UCD;
Keen Camp, San Jacinto Mts., IV-28 '55 (C. D. MacNeill) CIS;
Pinyon Flat, V-24 '39 (J. G. Shanafelt) LACMNH.

San Bernardino Co.: Barton Flats, VII-7 '56; Lk. Arrowhead, VI-10 (35 (A. R. Mead) UCD.

(2) astur Osten Sacken, 1877: 285 (Laphria Dasyllis).

Types 6 ♂♂, 9 ♀♀, California: Petaluma, Mendocino, Saucelito and Weber Lake, MCZ.

californicus (Banks), 1917: 54 (Dasyllis).

Types ♂♀, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California, Idaho, Oregon and Washington).

California records: Alpine, Amador, Calaveras, Eldorado, Glenn, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Nevada, Placer, Plumas, Riverside, San Bernardino, San Diego, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Trinity, Yulare, Tuolumne and Yolo Counties.

Los Angeles: Crystal Lake, VI-29 '50 (P. D. Hurd) CIS.

Riverside Co.: San Jacinto Mts., VII-1 '52 (D. E. Barcus) UCD.

San Bernardino CO.: Barton Flat, VI-VII-7 '36, CAS; S. Fork
Mdws., VI-25, VII-12 '48 (Grace H. and John L. Sperry) USNM; upper
Santa Ana R., V-2 '47, VII-6 '48 (A. L. Melander) USNM.

(2) coquilletti McAtee, 1919: 157.

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Alameda, Butte, Lake, Los Angeles, Madera,
Monterey, San Bernardino, San Diego, San Mateo, Santa Clara, Santa
Cruz, Solano, Sonoma and Ventura Counties.

Los Angeles Co.: (D. W. Coquillett) USNM; Camp Baldy, VI-11 '50
(P. D. Hurd) CIS; Chantry Flat, VIII-11 '42 (Guy F. Toland, J. Wilcox)
JW; Crystal Lake, 4700', VI-28 '50, VII-9 '52 (R. L. Anderson, R. M.
Bohart, J. H. Nakata) UCD, VIII-2 '60 (Fred G. Andrews) UCR.

Inyo Co.: Bigpine, VIII-10 '57 (J. Wilcox) JW.

San Bernardino Co.: S. E., VI-15 '30 (Hall and Hall) JW; Glen
Martin, VIII-16 '20 (F. R. Cole) CIS; Mt. Home Cyn., VIII-8 '42
(Guy F. Toland) JW.

(3) felis Osten Sacken, 1877: 286.

Type ♀, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California,
Idaho, Oregon, Utah, Washington and Wyoming).

California records: Eldorado, Fresno, Lassen, Los Angeles, Mariposa,
Modoc, Mono, Napa, Nevada, Placer, Plumas, San Bernardino, Santa Barbara,
Shasta, Sierra, Siskiyou, Tulare and Tuolumne Counties.

Los Angeles Co.: Tanbark Flat, VI-22 '50 (J. D. Paschke) CIS,
VII-3 '50 (R. Schuster) UCD.

Mono Co.: Crooked Crk., White Mts., 9500', VI-22 '61 (J. Powell) CIS.

(2) franciscana Bigot, 1878: 225.

Type ?, California, Hope Museum, Oxford.

Geographic range: Canada (British Columbia, Ontario); USA (California, New York, Oregon, Vermont and Washington).

California records: Alameda, Eldorado, Lassen, Marin, Mariposa, Monterey, Nevada, Placer, Plumas, Riverside, San Bernardino, San Mateo, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Trinity, Tulare and Tuolumne Counties.

Riverside Co.: San Jacinto Mts., Idyllwild, VII-6 '50 (B. Adelson) CIS; Santa Rosa Pk., 8000', VI-20 '40 (E. C. Van Dyke) CAS.

San Bernardino Co.: Mt. Home Cyn., IX-20 '22 (F. R. Cole) CIS.

(2) sackeni (Banks), 1917: 54 (Dasyllis).

Types ♂♀, Brookdale, Walnut Creek, San Francisco and Contra Costa, Cal., MCZ.

Geographic range: USA (California, Oregon and Washington).

California records: Alameda, Calaveras, Contra Costa, Eldorado, Humboldt, Imperial, Lake, Los Angeles, Madera, Marin, Mariposa, Modoc, Monterey, Orange, Plumas, Riverside, Sacramento, San Bernardino, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Tehama, Trinity, Tuolumne and Yolo Counties.

Imperial Co.: Brawley, X-29 '48 (J. W. Hache) UCR.

Los Angeles Co.: Crystal Lk., VII-9 '52 (R. L. Anderson) UCD;
Tapia Park, IV-12 '62 (E. Sandor) NCSU; Tujunga Cyn., IV-22 '62
(D. Gibo) NCSU.

San Bernardino Co.: Barton Flat, VI-27 '36, CAS; S. Fork Mdw., VI-12 to VII-20 '48 (John L. Sperry) USNM; upper Santa Ana R., VIII-17 '46 (John L. Sperry) USNM.

(2) sadales Walker, 1849: 378.

Type ?, New York, BMNH.

pubescens Williston, 1883: 32.

Types ♂♀, Washington Territory and Mt. Hood, Ore. (H. K. Morrison), UK.

Geographic range: Canada (Alberta, British Columbia and Ontario); USA (California, Colorado, Idaho, Michigan, New Hampshire, New York, Oregon, Utah, Vermont, Washington, Wisconsin and Wyoming).

California records: Del Norte, Eldorado, Humboldt, Lassen, Mendocino, Nevada, Plumas, San Bernardino, Sierra, Siskiyou, Trinity, Tulare and Tuolumne Counties).

San Bernardino Co.: Barton Flat, 6500', VII-12 '47 (J. Wilcox) JW, S. Fork Mdw., VI-47, VI-21 '48 (A. L. Melander, John L. Sperry) USNM.

(2) trux McAtee, 1919: 158.

Type ♂, Los Angeles Co., Cal. (Coquillett), USNM.

carbonarius McAtee, 1919: 158, are ♀♀ of trux.

anthrax Williston, 1884: 29.

Type ♀, northern California (O. T. Baron) UK.

carbonarius Snow, 1895: 181 (n.name for anthrax Williston not Meigen).

This may be the proper name for these flies but there are other flies in northern California that agree with the descriptions that are not related to trux McAtee.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Los Angeles, Riverside, Santa Barbara, San Diego, San Bernardino, Shasta and Ventura Counties.

Los Angeles Co.: (D. W. Coquillett) USNM; Crystal Lake, 4700', VII-9 '52 (B. M. Bartosh, R. M. Bohart, A. A. Grigarick, S. Miyagawa, N. Nakata, D. S. Thompson) UCD; Mt. Wilson, VI-8 '40 (G. P. McKenzie) JW; Tanbark Flat, VI-21, VII-3 '50, VI-23 '52 (J. W. MacSwain) CIS, (R. E. McKenzie, K. G. Whitesell) UCD; Wrightwood, VII-7 '52 (C. H. Martin, J. Wilcox) JW, CHM.

Riverside Co.: Keen Camp, San Jacinto Mtd., VI-10 '39 (C. L. Townsend) CIS.

San Bernardino Co.: (D. W. Coquillett) USNM; 4 mi. W. Cajon Jct., VII-4 '58 (J. C. Hall, E. I. Schlinger) UCD; 2.3 mi. S. Camp Angelus, VI-26 '60, LACMNH; Camp Cajon, V-20 '34 (C. M. Dammers) USNM; Forest Home, VI-19 '28 (E. C. Van Dyke) CAS; Sheep Cyn., VI-26 '25, JW.

San Diego Co.: nr. Boulder Oaks, (David Peterson) UCR; Campo, VIII-10 '35 (Jean Russell) UK; Kearny Mesa, VI-20 '38, USNM; Laguna Mts., VI-19 '20 (W. S. Wright) SDNHM; The Willows, VI-14 '57 (C. L. Hogue) LACMNH; S. W. of Tragedy Spgs., VII-9 '68 (Fred G. Andrews) UCR; Warners, VI '22, VII '19 (Geo. H. Field) SDNHM.

(2) trux audax McAtee, 1919: 158.

Type ♂, San Bernardino Co., Cal. (Coquillett), USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: (Coquillett), USNM.

San Bernardino Co.: (Coquillett) USNM.

San Diego Co.: 969, SDNHM; Laguna Mts., 1 mi. N. Hwy. 80, VI-18 '60 (G. H. Nelson) FSCA; San Diego (Geo H. Field) SDNHM.

(3) vivax Williston, 1883: 50.

Type ♂, Washington Territory (H. K. Morrison), UK.

Geographic range: Canada (British Columbia); USA (California, Colorado, New Mexico, Oregon and Washington).

California records: Eldorado, Inyo, Mariposa, Plumas, San Mateo and Santa Clara Counties.

Inyo Co.: Mono Pass (N. W. Inyo), 12000', VII-9 '61 (C. D. MacNeill) CAS, VII-12 '64 (J. R. Birchim, C. D. MacNeill) CAS.

Genus Pogonosoma Rondani

Pogonosoma Rondani, 1856: 160.

Type-species, Asilus maroccanum Fabricius.

(3) hesperium Martin, 1966: 160.

Type ♂, Crystal road, Cal., ♀, Redding, Cal., CAS.

Geographic range: USA (California and Oregon).

California records: Kern. Lake, Los Angeles, Plumas, Riverside, San Bernardino, San Diego, Santa Clara, Shasta, Tulare and Yolo Counties.

Los Angeles Co.: Crystal Lake road, 4700', VII-9 '52 (J. H. Nakota) CAS, (R. M. Bohart) UCD, VI-26 '50 (K. G. Whitesell) USNM.

Riverside Co.: Idyllwild, VI-7 '40, USNM.

San Bernardino Co.: Forest Home, Mill Crk., VIII-28 '58 (J. C. Hall) UCD.

San Diego Co.: Julian, Spencer Vly., VII-28 '63 (D. E. Rich) Quercus, EMF; Palomar Mt., 5000', VI-27 '56 (Bernard Bailey) SDNHM, Nate Harrison Grade, 3200-3500, VI-2 '68 (L. Brattston) among decaying logs, UCR.

Subfamily Laphystiinae G. H. Hardy (1948)

Genus Laphystia Loew

Laphystia Loew, 1847: 538.

Type-species, sabulicola Loew.

(2) duncani Wilcox, 1960: 334.

Types ♂♀, Tempe, Arizona, CAS.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: El Centro, IV-19 '54 (R. Van Den Bosch) alfalfa,
UCD; Potholes, IV-11 '23 (E. P. Van Duzee) CAS.

Riverside Co.: Blythe, IV-5 '51 (J. W. MacSwain) CAS.

(7) howlandi Wilcox, 1960: 335.

Types ♂♀, Indio, Cal., CAS.

Geographic range: USA (Arizona and California).

Imperial Co.: 12 mi. E. Heber, V-11 to 23 '56 (T. R. Haig) UCD;
Laguna Lake, VI-9, 11 '50, LAGUMH; Palo Verde, 245', VII-12 '66
(J. M. Davidson, M. A. Cazier) Atriplex lentiformis (Torr.) Wats.
(Quail Brush), ASU.

Riverside Co.: Indio, V-13 to '25 '48 and 9 mi. S., IV-1, V-12 to
19 '48 (A. F. Howland, J. Wilcox) JW.

(7) martini Wilcox, 1960: 338.

Types ♂♀, Temecula, Cal., CAS.

Geographic range: USA (California).

California records:

Imperial Co.: Calipatria, V-26 '56 (T. R. Haig) UCD.

Riverside Co.: Temecula, VI-30 to VII-21 '56 (C. H. and D. Martin),
Guy F. Toland, J. Wilcox) CHM, JW.

San Diego Co.: Borrego Vly., dunes, IV-18 '57 (R. C. Bechtel,
J. C. Hall) UCD.

(4) tolandi Wilcox, 1960: 344.

Types ♂♀, Lahontan^a Reservoir, Nevada, CAS,

Geographic range: USA (California, Idaho, Nevada and Utah).

California records: ~~in~~ Modoc and Inyo Counties.

Inyo Co.: Death Vly., 0.3 mi. N. Bennett's Well, IV-17 '73
(G. R. Ballmer, J. D. Pinto) UCR.

(2) utahensis Wilcox, 1960: ~~344~~ 345.

Types ♂♀, 12 mi. N. E. St. George, Utah, CAS.

Geographic range: USA (Arizona, California and Utah).

California records:

Riverside Co.: Blythe, V-1 '47 (A. L. Melander) USNM.

(2) jamesi Wilcox, 1960: 336.

Types ♂♀, Long Beach, Cal., M. T. James Collection.

Geographic range: USA (California).

California records: Los Angeles, Riverside and San Diego Counties.

Riverside Co.: 8 mi. E. Sunnymead, V-7 '66 (Eric Fisher) EMF;
Temecula, V-10 to VI-15 '44 to '48 (A. L. Melander) USNM. We have
previously classed this as a coastal species but it appears to do very
well in semi-desert areas.

Genus *Zabrops* Hull

Zabrops Hull, 1957: 90.

Type-species, Triclis tagax Williston.

(5) tagax tagax (Williston) 1883: 9 (Triclis).

Type ♀, Kern Co., Cal., UK

Geographic range: USA (Arizona and California; Mexico (Sonora)).

California records:

Los Angeles Co.: Piute Butte (May 12).

Imperial Co.: Truckhaven (Apr. 5).

Riverside Co.: Indio and 5 mi. S., Palm Springs, Thousand Palms,
10 mi. E. of Whitewater; (Febr. 26 to Apr. 29).

San Bernardino Co.: Adelanto, Barstow, Goffs and Yermo (March 25
to April 25).

San Diego Co.: Borrego Vly.; Borrego Spgs., Tub Cyn., and Coyote
Crk.; and 4.5 mi. N. of Ocotillo (Mar. 7 to Apr. 9).

Above data from Fisher (1977).

(2) tagax arcuatus Fisher, 1977: 204.

Types ♂♀, 7 mi. N. W. Rosario, Baja Cal., CAS.

Geographic range: USA (California); Mexico(Baja California).

California records: Los Angeles and Riverside Counties mainly
west of mountains.

Riverside Co.: Lk. Matthews, IV-16 '53 (A. L. Melander) USNM;
8 mi. E. Sunnymead, IV-12 '58 (E. I. Schlinger) UCD, CHM.

Subfamily Leptogastrinae Schiner (1862)

Family Leptogastridae Martin (1966)

The Leptogastrinae was not accepted by the 19th Century authors as a subfamily separate from the Dasypogoninae. In the 20th Century it was recognized as a separate subfamily until Martin (1966) raised it to family rank. This has not been accepted by several authorities so for the present it is retained in the Asilidae.

Genus *Apachekolos* Martin

Apachekolos Martin, 1957: 354.

Type-species, Leptogaster scapularis Bigot.

(2) crinita Martin, 1957: 354.

Type ♂, Pie Town, New Mexico, AMNH, ♀, Magdalena, New Mexico, OSU.

Geographic range: USA (Arizona, California, New Mexico and Oregon); Mexico (Sonora).

California records:

Riverside Co.: Joshua Tree N. M., Smith Water Wash, IX-25 '60
(W. Knox, E. L. Sleeper) CSULB.

(1a) scapularis (Bigot), 1878: 444 (Leptogaster).

Type ♂, California, Hope Museum, Oxford.

Geographic range: USA (California and Texas); Mexico (Baja California N.).

California records: Alameda, Contra Costa, Del Norte, Eldorado, Fresno, Los Angeles, Marin, Monterey, Napa, Riverside, San Benito, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Santa Clara and Ventura.

(2) lacinia Martin, 1957: 358.

Types ♂♀, Santa Rita Mts., Arizona, UK.

Geographic range: USA (Arizona and California).

Riverside Co.: Anza, VII-12 '41 (L. H. Banker) UK.

San Diego Co.: ^G~~Guatay~~, VII-12 '41 (L. H. Banker) UK.

Genus Leptogaster Meigen

Leptogaster Meigen, 1803: 269.

Type-species, Asilus tipuloides Fabricius, equals Asilus cylindricus De Geer.

(2) arborcola Martin, 1957: 368.

Types ♂♀, Santa Rita Mts., Arizona, AMNH.

Geographic range: USA (Arizona and California).

California records:

Inyo Co.: White Mts., VII-15 '61 (E. I. Schlinger) UCR.

(2) aridus Cole, 1919: 229.

Types ♂♀, Hood River and Forest Grove, Oregon, CAS.

Geographic range: USA (Arizona, California and Oregon).

California records: Butte, Eldorado, Onyo, Los Angeles, Monterey, Napa, San Bernardino. San Diego, San Luis Obispo, Sierra, Tuolumne and Ventura Counties.

Inyo Co.: Bigpine, Glacier Lodge, 8000-9000', VIII-8, 9 '57 (Dorothy and C. H. Martin, J. Wilcox) CHM, JW; Whitney Portal, VIII-6 '48 (P. D. Hurd, J. W. MacSwain) CIS.

Los Angeles Co.: Tanbark Flat, VI-18 to VII-15 '56, VI-23 '50 (R. C. Bechtel, R. M. Bohart, W. A. McDonald, H. R. Moffitt) UCD, VI-25 '52 (J. W. MacSwain) CIS.

San Bernardino Co.: 20 mi. N. Adelanto, IV-18 '62 (E. I. Schlinger)
UCR; Big Bear Lk., Hanna Flats, VIII-15 '51 (C. H. Martin, Guy F. Toland,
J. Wilcox) CHM, JW; Forest Home, VIII-22 '53 (J. C. Hall) UCD.

(2) californica Martin, 1957: 373.

Types ♂♀, Monrovia Canyon, Cal., AMNH.

Geographic range: USA (California).

California records: Inyo, Kern, Los Angeles, Mariposa, Monterey,
Placer, Plumas, Riverside, San Bernardino, Tulare and Tuolumne Counties.

Inyo Co.: Bishop, VIII-4 '37 (G. E. and R. M. Bohart) UCD.

Kern Co.: Walker Pass, VII-15 '61 (E. I. Schlinger) UCD.

Los Angeles Co.: Monrovia Cyn., VI-7 to VII-2 '31 (C. H. and
D. Martin) CHM; Tanbark Flat, VI-20 to VII-13 '50, VI-19 to VII-14 '56
(D. F. Barnes, R. C. Bechtel, R. M. Bohart, J. C. Hall, W. A. McDonald,
R. E. McKenzie, J. W. MacSwain, J. J. Menn, C. D. Michener, S. Miyagawa,
H. R. Moffitt, H. E. Robinson, E. I. Schlinger, K. G. Whitesell, F. X.
Williams) CAS, CIS, UCD.

Riverside Co.: Herkey Crk., San Jacinto Mts., VI-4 '40 (C. D.
Michener) CAS; Idyllwild Road, VII-22 '30 (R. H. Painter, T. F. Winburn)
RHP; Millard Cyn., Kitchen Peak Rd., VI-20 '63 (E. I. Schlinger) UCR;
Mt. San Jacinto, 4000', VI-12 '42 (R. M. Bohart) UCD; Riverside, IV-22 '28
(P. H. Timberlake) UCR; White Water Cyn., X-5 '61 (L. D. Anderson) UCR.

San Bernardino Co.: S. E., 5000', VI-8 '30 (Hall and Hall) JW.

(2) cultiventris Martin, 1957: 375.

Types ♂♀, Danville, Cal., CAS.

Geographic range: USA (California, Oregon and Washington).

California records: Alameda, Contra Costa, Los Angeles, Madera, Mariposa, Nevada, Riverside, Santa Clara, Santa Cruz, Trinity and Tulare Counties.

Los Angeles Co.: Monrovia Cyn., VI-7 '31 (C. H. Martin) CHM.

Riverside Co.: Cabazon, VI-1 '41 (E. C. Van Dyke) CAS; Dark Cyn., San Jacinto Mts., VI-6 '39 (E. S. Ross) CAS.

(2) fornicata Martin, 1957: 37.

Types ♂♀, Long Vly., Alpha, Idaho, VI-17 '34 (C. H. Martin), AMNH.

Geographic range: USA (~~Krizzan~~ California, Idaho and Oregon).

California records:

Kern Co.: Rosamond, 2 mi. N., V-12 '56 (E. G. Linsley) CIS.

(4) specios, new

USA

Geographic range: (Arizona, California and Oregon).

California records:

Inyo Co.: Cedar Flat, Westgard Pass, VIII-21 '63 (H. B. Leech)
CAS.

Subfamily Ommatinae Wiedemann (1821)

Ommatius Wiedemann, 1821: 213.

Type-species, Asilus marginellus Fabricius.

California records: None. There are seven species in Arizona one of which might be found in California.

maculatus Banks, 1911: 128.

Type ♂, Bill Williams Fork, Arizona, VIII (F. H. Snow) MCZ.

The locality on the Bill Williams River which flows west into the Colorado River above the Parker Dam, is about 30 miles from the ~~Arizona~~ California line in Yuma County, Arizona and shown on some maps as the town of Alamo. This fly has also been taken in Gila, Graham, Maricopa, Pima and Pinal Counties of Arizona.

Subfamily Stenopogoninae Hull (1962)

Genus Ablautus Loew

Ablautus Loew, 1866: 37.

Type-species, trifarius Loew.

(2) arnaudi Wilcox, 1966: 675.

Types ♂♀, San Felipe, Baja California N., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records: north of Indio, II-27 '30 (C. H. Martin) CHM;
1 mi. E. Palm Springs, II-1 '71 (J. Wilcox) JW; Thousand Palms,
II-8 '64 (M. E. Irwin) UCR, 2.5 mi. E., II-1 '71 (Eric Fisher, J.
Wilcox) EMF, JW; 10 mi. E. Whitewater, III-18 '60 (R. M. Bohart) UCD.

(7) basini Wilcox, 1966: 676.

Types ♂♀, ~~Kramer~~⁷ Hills, San Bernardino Co., Cal., UCR-CAS.

Geographic range: USA (California and Nevada).

California records:

Inyo Co.: ~~xxxxxxxInyo~~ Independence, 11 mi. N., III-23 '40
15 mi. N.E., Inyo Mts., 6500', VI-11 '69 (P. Rude) UCR;
(B. Brookman) CAS; Lone Pine, 4 mi. S. E., III-23 '40 (B. Brookman)
CAS, 1 mi. S. E., V-5 '66 (J. Wilcox) JW.

Kern Co.: 6 mi. W. Inyokern, Short Cyn., III-19 '60 (E. G. Linsley)
CIS, IV-5 '58 (R. M. Bohart, R. Schuster) UCD; 6 mi. E. Mojave, IV-12 '58
(E. G. Linsley) CIS, 28 mi. N., III-24 '68 (R. L. Penrose, S. M. Hogue) UI.

Los Angeles Co.: 4 mi. E. Lancaster, IV-30 '68 (F. G. Andrews) UCR;
8 mi. N. Llano, IV-11 '62 (J. C. Hall, E. I. Schlinger) UCR; Piute
Butte, IV-26, V-14 '57 (Itol J. and J. Wilcox) JW.

San Bernardino Co.: 6 mi. E. Dale Dry Lk. (M. E. Irwin, R. Dickson)
Kelso, IV-24 '71 (M. E. Irwin) sand dunes, UCR;
dune under Larrea, UCR; $\wedge$ Kramer Hills, III-13 to IV-25 '53-'68 (J. C.
Hall, M. E. Irwin, E. I. Schlinger) prey Lycus bug, UCR, (P. D. Hurd,
G. I. Stage) CIS; Saddleback Butte, VI-20 '59 (L. A. Dawson) UCD;
Vidal Jct., II-22 '51 (C. D. MacNeill) CIS.

(4) californicus Wilcox, 1935: 226.

Type ♂, Palmdale, Cal., CAS.

Geographic range: USA (California and Nevada).

California records: Inyo, Kern, Los Angeles, Mono, Riverside,
San Bernardino and San Diego Counties; January to April. All desert
localities practically, many records. See pp. 108a, 108b.

(7) coachellus Wilcox, 1966: 677.

Types ♂♀, Indio, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: Death Vly., Shorty's Well, II-18 '70 (Eric Fisher) EMF.

Riverside Co.: Indio, X-14, XI-11 '47, XI-18 '41 (J. Wilcox) JW;
5 mi. S. Oasis, XI-13 '47, XI-18 '55 and 2 mi. S. XII-3 '47 (J. Wilcox) JW.

San Bernardino Co.: 2 mi. N. E. Twentynine Palms, X-21 '68, X-23,
XI-6 '67 (Eric Fisher, J. Wilcox) EMF, JW.

(1b) coquilletti Wilcox, 1935: 226.

Types ♂♀, Los Angeles Co. Cal., V (D. W. Coquillett), USNM.

Geographic range: USA (Arizona, California, New Mexico and Utah);
Mexico (Baja California N. and Sonora).

California Records: Fresno, Inyo, Kern, Los Angeles, Orange,
Riverside, San Bernardino, San Luis Obispo and Ventura Counties; March
to June. Many records from desert areas. See p. 108c.

Inyo Mts., 15 mi. N.E. Independence, 5000', VI-11 '69 (P. Rude) CIS;

Inyo Co.: Little Lake, 5 mi. N., IV-20 '62 (J. W. MacSwain) CIS.

Kern Co.: Dove Well, V-1 '64 (J. Powell, P. Ride) CIS; Inyokern, 6.5 mi. N., IV-11 '54, '62 (J. W. MacSwain, R. W. Thorp) CIS; Mojave, 6 mi. E., IV-12 '58 (E. G. Linsley) CIS; Red Rock Cyn., 25 mi. N.E. Mojave, IV-14 '62 (R. Brown, C. D. MacNeill, D. C. Rentz) CAS; Rosamond, III-15 '41 (J. Wilcox) JW; Short Cyn., 6 mi. W. Inyokern, IV-11, 18 '54, '62, III-15, IV-3 '55, III-30 '53 (P. D. Hurd, E. G. Linsley, J. W. MacSwain, J. R. Powers, G. I. Stage, R. W. Thorp, M. Wasbauer) CIS, IV-15 '68 (R. M. Bohart, R. O. Schuster) UCD; Walker Pass, V-14 '63 (J. Wilcox) JW.

Los Angeles Co.: Juniper Hills, Mojave Desert, 3400-3600', I-20, II-2 '65 (C. Henne) alighting on ground, midday and mid afternoon, JW; Littlerock, II-6 '62 (H. R. Moffitt) UCR, III-18 '57 (J. Wilcox) JW; Palmdale, III-18 '57 (J. Wilcox) JW, III-19 '31, Type ♂, CAS.

Riverside Co.: Carrizo Spg., 2400', III-1 '63 (E. I. Schlinger)
10 localities, I-7 to IV-29, CSULB, EF,
UCR; Joshua Tree N.M., IV-21 '42 (A. L. Melander) USNM, 10 mi. N. W.
XII-22 '72 (S. Frommer, Ali Tabet) UCR,
Cottonwood Spg., IV-11 '63 (P. D. Hurd) CIS; Deep Cyn., III-6 '63
(E. I. Schlinger) UCR; Pinyon Flat, IV-7, 13 '63 (D. S. Bright, J. Powell, C. A. Raschi) CIS; N. Palm Springs, 3 mi. E., I-25 '65 (M. E. Irwin, Saul Frommer) UCR; White Water, III-18 '60 (R. M. Bohart) UCD.

San Bernardino Co.: Adelanto, 11 mi. S., III-10 to 30 '57, III-18 '65, IV-4 '62, IV-14 '57 (Itol J. and J. Wilcox) JW; Box Spgs., 6 mi. S. E. Lucerne Vly., IV-15 '64 (D. D. Linsdale) CIS; Cajon Pass, 3.5 mi. E. Summit, IV-30 '64 (J. Wilcox) JW; Cronise Vly., II-14, XI-14 '65 (M. E. Irwin) dunes, UCR, IV-3 '53 (J. W. MacSwain) CIS; Desert Spgs., 5 mi. W., IV-11 '62 (J. C. Hall, E. I. Schlinger) UCR; Granite Pass, IV-26 '68 (E. M. Bellet) UCR; Hesperia, 4 mi. W., IV-13 '62 (R. M. Bohart) UCD; Joshua Tree, 3 mi. E., III-31 '66 (J. Wilcox) JW; Mojave R. and Deep

San Bernardino Co., cont'd.

Crk., IV-18 '65 (M. W. Stone, J. Wilcox) JW; Morongo Lakes~~m~~ Morongo Vly., II-20 '66 (G. R. Ballmer) UCR; New York Mts., 3 mi. S. W. Barnwell, IV-2 '70 (R. E. Dietz) CIS; Sheep Crk. Cyn., nr. Phelan, V-9 '49 (A. L. Melander) USNM; Twentynine Palms, III-31 '66 (J. Wilcox) JW; Yucca Vly., 6 mi. E., III-31, IV-11 '66 (J. Wilcox) tiny moth prey, JW.

San Diego Co.: Borrego, II-28, III-15 '50 (Grace H. and John L. Sperry) USNM, III-4 '64 (J. Wilcox) JW, IV-11 '52 (E. G. Linsley) Phacelia, CIS; Dos Cabezas, III-28 '61 (R. L. Langston) CIS; Earthquake Vly., IV-21, 22 '49 (Noel Crivkmer) USNM; 4 mi. E. Jacuma^b, IV-21 '66 (M. W. Stone, J. Wilcox) JW; Vallecito Spg., III-15 '68 (J. C. Hall) UCR.

Inyo Co.: Olancha, V-9 '63 (G. E. Bohart) Malacothrix, USU.

Kern Co.: nr. Red Rock Cyn., 25 mi. N. E. Mojave, IV-14 '62 (C. D. MacNeill) D. C. Rentz, R. Brown) CAS; 2 mi. N. Rosamond, IV-12 '56 (E. G. Linsley) CIS.

Los Angeles Co.: V (D. W. Coquillett) USNM; Lancaster, V-1 '63 (O. L. Brawner) Coreopsis, UCD, 5 mi. S., V-15 '56 (E. G. Linsley, J. W. MacSwain) CIS; Littlerock, V-16 '43 (J. Wilcox) JW; Llano, IV-11 '62 (J. C. Hall, E. I. Schlinger) UCR; Palles Crk., IV-19 '51 (C. D. MacNeill) CIS; Pear Blossom, 4 mi. E., V-29 '64 (M. J. Wargo) UCR.

Riverside Co.: Indio, II, III, IV, '41, '42, '45, '48 (A. F. Howland, J. Wilcox) JW; ^{*Joshua Tree N.M., 4 localities, V-4 to VI-6, CSULB, EF;*} Palm Springs, IV-199 '45 (J. Wilcox) JW, 3 mi. N. & 3 mi. E., II-25, III-5 '68 (M. E. Irwin) sand dune assoc., UCR; Pinyon Flat, IV-23 '51, V-4 '58 (C. D. MacNeill) CIS, V-10 '53, V-27 '64 (J. Wilcox) JW; Thousand Palms, III-24 '57 (J. C. Hall) UCD; White Water, II-28 '63, IV-8 '64, V-2 '45 (A. F. Howland, M. W. Stone, J. Wilcox) JW, Cyn., IV-2 '48 (J. W. MacSwain) CIS.

San Bernardino Co.: Adelanto, 5 mi. N., V-4 '66 (J. C. Hall, Saul Frommer) garbage dump, UCR, 21 mi. N., V-13 '63 (J. Wilcox) JW, 11 mi. S., V-4, 25 '57, V-6 '56 (J. Wilcox) JW; Kramer Hills, IV-12 '64, IV-19 '59 (J. C. Hall, M. E. Irwin, E. I. Schlinger) UCD, UCR, V-1, 4 '53 (P. D. Hurd) CIS, *Oro Grande, V-15 '68 (J. Wilcox) JW.*

San Diego Co.: Borrego S. P., Coyote Cyn., IV-6 '64 (M. E. Irwin) UCR; Scissors Crossing, 4 mi. S., IV-21 '66 (J. Wilcox) JW.

(1b) flavipes Coquillett, 1904: 178.

Types ♂♀, Los Angeles and San Diego Counties, Cal., USNM.

Geographic range: USA (Arizona and California); Mexico (Baja California N. and Sonora).

California records: Imperial, Inyo, Los Angeles, San Bernardino, and San Diego Counties; March to May; many desert localities. *See p. 109a.*

(7) linsleyi Wilcox, 1966: 679.

Types ♂♀, Short Cyn., Cal., CIS-CAS.

California records:

Kern Co.: 6 mi. W. Inyokern, Short Cyn., III-19, 31 '60, III-29 '59, IV-11 '54 & '62 (E. G. Linsley, J. W. MacSwain, J. R. Powers, G. I. Stage, R. W. Thorp) CIS; 7 mi. N. W. Inyokern, Short Cyn., II-23 '70 (Eric Fisher) EMF, III-15 '55 (J. W. MacSwain) CIS; Short Cyn., IV-5 '68 (R. M. Bohart, R. O. Schuster) UCD.

(1b) minus Osten Sacken, 1877: 290.

Types ♂♀, Crafton, Cal., MCZ.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Imperial, Kern, Los Angeles, Riverside, San Bernardino, San Diego, Tulare and Ventura Counties; February to May. Many records from desert localities. *See pp. 109b, 109c.*

(3) minus squamipes Cole, 1924: 11.

Types ♂, Chiricahua Mts., Arizona, CAS.

Geographic range: USA (Arizona and California).
S.Bdo.

California records: ~~Imperial~~ Co.: 12 mi. S. E. Ivanpah, V-1 '56 (B. J. Adelson, P. D. Hurd) CIS. Inyo Co.: Independence, 11 mi. N., III-23 '40 (B. Brookman) CAS; Lone Pine, 4 mi. S. E., III-23 '40 (B. Brookman) CAS.

Imperial Co.: Glamis, 6.2 mi. W., III-17 '69 (M. E. Irwin) Sand dune Assoc., UCR; Holtville, 8 mi. E., III-27 '68 (R. L. Westcott) UI; Palo Verde, IV-1, 2 '68 (R. M. Bohart, R. O. Schuster) UCD, IV-5 '64 (M. E. Irwin) UCR, 3 mi. S., IV-9 '63 (C. Tamaki) CIS.

Inyo Co.: Saratoga Spgs., V-5 '60 (A. S. Menke) UCD. (*Death Vly., S. Bdo. Co.*)

Kern Co.: Short Cyn., IV-5 '68 (R. M. Bohart) UCD.

Los Angeles Co.: V (D. W. Coquillett) USNM.

Riverside Co.: Blythe, IV-10 '48 (Guy F. Toland, J. Wilcox) JW, 10 mi. W., IV-8 '64 (J. Wilcox) JW, 22 mi. W., IV-9 '63 (E. I. Schlinger) UCR; Hopkins Well, IV-29 '52 (J. G. Rozen) CIS; Palm Springs, IV-4 '35 (A. L. Melander) USNM; White Water, 10 mi. E., III-18 '60 (R. M. Bohart) UCD. ~~Santa~~

San Bernardino Co.: Cronise Vly., IV-5 '66 (R. M. Bohart) UCD, *4.2 mi. N. Goffs, V-3 '71 (M. E. Irwin) UCR;* IV-29 '56 (P. D. Hurd, J. Powell, M. Wasbauer) Prosopis, CIS; Ivanpah, *Kelso, IV-24 '71 (M. E. Irwin) sand dunes, UCR;* 12 mi. S. E., V-1 '56 (P. D. Hurd) CIS; Needles, III-20 '67 (R. O. Schuster) UCD, IV-21 '66 (Torchio, Rust, Yousef) USU; Vidal, 27 mi. N., IV-15 '38 (J. W. MacSwain) CIS; Yermo, IV-12, 28 '66 (J. Wilcox) JW, IV-28 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) Taraxcum, CIS.

San Diego Co.: V (D. W. Coquillett) USNM; Agua Caliente Spgs., III-31 '42 (J. Wilcox) JW; Borrego, III-31, IV-1, 2 '53, IV-24 '49 (J. E. Gillaspay, P. D. Hurd) CIS, IV-18 '37 (P. H. Timberlake) UCR, Palm Cyn., III-26 '59, IV-7 '54 (R. M. Bohart) UCD, Vly., dunes, III-26 '59, IV-1 '67, IV-18, 20 '57 (R. C. Bechtel, R. M. Bohart, H. R. Moffitt, E. I. Schlinger, J. E. Slansky) UCD, Tub Cyn., IV-20 '49, (Noel Crickmer) USNM, Spgs., III-30 '60 (M. Wasbauer) CDA, 6-6.5 N. Jct. Spgs. Rd., Di Giorgio Rd. and Coyote Crk., IV-5 '68 (Saul and Suzy Frommer) UCR; 4 mi. S. E. Dry Lake (Ccotillo Wells), IV-4 '42 (J. Wilcox) JW.

Imperial Co.: Glamis, 3.5 mi. N. W., IV-12 '68 (E. M. Bellet) UCR.

Kern Co.: Dove, V-1 '64 (J. Powell, P. Rude) CIS, Spgs. Cyn.,
3/4 mi. N. Ricardo, W. of Hwy. 6, III-15 '60 (C. A. Toschi) CIS;
Short Cyn., 6 mi. W. Inyokern, IV-5 '68 (R. O. Schuster) UCD, IV-11 '54
(J. W. MacSwain) CIS; Walker Pass, V-18 '56 (J. Wilcox) JW, 1 mi. W.,
IV-26 '64 (J. Doyen, R. L. Langston, P. Rude, W. Turner) CIS, 3 mi. W.,
Canebrake Crk., IV-30 '64 (J. Powell, C. A. Toschi) CIS.

Los Angeles Co.: Juniper hills, Mojave Desert, 3600', II-2 '65
(C. Henne) alighting on ground, midday, JW; Littlerock, II-6 '62 (H. R.
Moffitt) UCR, III-23 '41 (J. Wilcox) JW; upper Mint Cyn., II-18 '65
(C. Henne) JW; Palmdale, III-23, IV-27 '41, V-2 '48 (Guy F. Toland,
J. Wilcox) JW; Pearblossom, V-13 '56 (E. G. Linsley) CIS; Red Rover
Cyn., N. W. Acton, 3600', II-18 '65 (C. Henne) alighting on ground,
mid-afternoon, JW; Three Points, 6 mi. N. E., IV-11 '62 (J. C. Hall,
E. I. Schlinger) UCR.

Riverside Co.: DeepCyn., upper, III-19 '65 (M. E. Irwin) UCR;
Joshua Tree N.M., Pinyon Wells, III-2 to IV-29, CSULB, EF;
Pinyon Flat, IV-12, 13 '63 (J. Powell, C. Toschi) 2 pair in copula,
winged ant prey, CIS, V-8 '48 (J. Wilcox) JW; Toro Crk. 2 mi. W.,
Hwy. 74, III-19 '65 (M. E. Irwin, E. I. Schlinger) UCR.

San Bernardino Co.: Adelanto, nr., IV-28 '49 (A. L. Melander) USNM,
11 mi. S., III-18 '65, IV-7, 14 '57, V-13 '63 (J. Wilcox) JW; Cajon
Pass, IV-28 '49 (A. L. Melander) USNM, V-6 '56 (J. Wilcox) JW, 2 mi. N.,
III-18 '65 (M. W. Stone, J. Wilcox) JW, 3.5 mi. E. of summit, IV-30 '64
(J. Wilcox) JW; Deep Crk., mouth of, IV-8 '62 (J. C. Hall) UCR, and
Joshua Tree N.M., Lower Covington Flat, III-2 to IV-29, CSULB, EF;
Mojave R., III-18 '65, IV-27 '41 (M. W. Stone, J. Wilcox) JW; Phelan,
V-12 '63 (J. C. Hall) UCR, 2 mi. W., V-22 '57 (E. I. Schlinger) UCR,
nr., Sheep Crk. Cyn., IV-21 to V-9 '49, IV-25 '46, V-1 '46, V-5 '50,
V-24 '45 (A. L. Melander) USNM; Victorville, IV-14 '64 (D.D. Linsdale) CIS.

San Diego Co.: 4 mi. E. Jacumba, IV-21 '66 (J. Wilcox) JW;
Warner Spgs., IV-30, V-3 '62 (Itol J. and J. Wilcox) JW.

(1b) vanduzeei Wilcox, 1935: 225.

Type ♂, Coalinga, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Fresno, San Benito, Santa Barbara and Ventura Counties; March and April. Not desert localities.

Kern Co.: Dove Spgs. Cyn., 3/4 mi. N. Ricardo, W. of Hwy. 6,
III-15 '60 (C. A. Toschi) CIS; Tehachapi, IV-19 '51 (A. C. Browne)
pear orchard, CDA; 1 mi. W. Walker Pass, IV-25 '64 (P. Rude) CIS;
5.5 mi. N. Willow ^Spgs., III-5 '66 (J. W. MacSwain) CIS.

Riverside Co.: Garner Vly., III-19 '65 (M. E. Irwin, E. I.
Schlinger) UCR.

San Bernardino Co.: nr. Adelanto, IV-28 '48 (A. L. Melander) USNM.

San Diego Co.: 5 mi. N. Warner Spgs., IV-30, ^V~~IV~~-3 '62; IV-15 '64,
IV-21 '66 (Itol J. and J. Wilcox) JW.

Genus *Backomyia* Wilcox and Martin

Backomyia Wilcox & Martin, 1957: 1.

Type-species, *Eucyrtopogon limpidibennis* Wilcox.

(7) anomalus Wilcox & Martin, 1957: 4.

Types ♂♀, White Water, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Palm Springs, I-2 '54 (P. H. Arnaud, Jr.) JW;
White Water, XI-25 '47 (J. Wilcox) CAS.

(3) hannai Wilcox & Martin, 1957: 4.

Types ♂♀, Hanna Flats, Cal., CAS.

Geographic range: USA (California).

California records:

San Bernardino Co.: Barton Flat, 6500', X-30 '63 (M. W. Stone,
J. Wilcox) JW; Big Bear Lake, Hanna Flats and Baldwin Lk., IX-18 '48
(Guy F. Toland, J. Wilcox) CAS, JW; Morongo Vly., XI-23 '63 (Eric
Fisher) EMF; Onyx Summit, IX-16 '64 (J. Wilcox) JW.

(7) species, new ?

Geographic range: USA (California).

California Records:

Inyo Co.: Westgard Pass, IX-15 '63 (J. Wilcox) JW.

(7) species, new ?

Riverside Co.: Joshua Tree N.M., Cottonwood Spgs., Juniper Flat, Lost Hops
Ranger Sta., Piñon Wells, Pleasant Vly., X-7 to XI-11, CSULB, EF.
San Bernardino Co.: Lower Covington Flat, X-XI, CSULB, EF.

Genus Bohartia Hull

Bohartia Hull, 1958: 318.

Type-species, bromleyi Hull.

(2) isabella Adisoemarto & Wood, 1975: 531.

Types ♂♀, Westgard Pass, Inyo Co., Cal., VI-26 '53 (J. W.

MacSwain) CIS-CAS.

Geographic range: USA (California and Nevada).

California records: Inyo, Kern, Los Angeles, Mariposa, San Bernardino, Santa Clara, Tuolumne and Yolo Counties. Desert areas below:

Inyo Co.: Independence, V-17 '56 (J. Wilcox) JW; Little Lake, V-13 '62 (A. E. Menke) UCD; 13.8 mi. E. Trona, State Range, IV-17 '62 (C. A. Toschi) CIS; Westgard Pass (see above).

Kern Co.: Rosamond, IV-29, V-3 '41 (J. Wilcox) JW.

Los Angeles Co.: Palmdale, VI-6 '41 (D. J. and J. N. Knell) OSU; Piute (Piute) Butte, IV-26 '57 (J. Wilcox) JW.

San Bernardino Co.: Llano, Lovejoy Butte, V-9 '55 (J. E. H. Martin) CNC.

(2) martini Adisoemarto & Wood, 1975: 531.

Types ♂♀, Hy. 395, June Lane (Lake) Jct., VI-20 '54 (Dorothy Martin) CHM.

Geographic range: USA (Arizona, California, Idaho, Nevada, Oregon, Washington and Wyoming).

California records: Alpine, Eldorado, Inyo, Lassen, Mono, Nevada and Tuolumne Counties). Fringe desert areas below:

Mono Co.: 7 mi. E. Bodie, VII-2 '64 (P. Rude) CIS; June Lk. Jct. (see above) and (C. H. Martin) CHM; Lee Vining, VII-2 '67 (Eric Jessen) CIS; Mammoth, VII-7 '57 (J. Wilcox) JW; Rock Crk. C. G., VII-3, 4 '67 (P. H. Arnaud, Jr.) CAS; 4 mi. S. Tom's Place, VII-13 '61 (G. L. Storer) CIS.

(3) munda Adisoemarto & Wood, 1975: 532.

Types ♂♀, Bear Valley, Cal., VI-27 '48 (J. Wilcox) JW-CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Upper Deep Crk. at Horsethief Crk., 3400', VI-11 '65
(M. E. Irwin) UCR, 0.8 mi. N. Jct. Deep Crk. and Horsethief Crk., 2960',
V-30 to VI-5, VII-6 to 22 '63 (A. Tabet) Sec. 6, T7S, R6E, UCR.

San Bernardino Co.: Bear Vly. (see above); 2 mi. E. Baldwin Lk.,
March's Ranch Rd., V-25 '68 (P. A. Rauch, E. I. Schlinger) UCR; 2 mi.
W. Phelan, V*22 '57 (E. I. Schlinger) UCD.

Genus *Callinicus* Loew

Callinicus Loew, 1872: 71.

Type-species, calcareus Loew.

Chrysoceria Williston, 1907: 1.

Type-species, ? Labarus pictitarsis Bigot.

(1b) pictitarsis(Bigot), 1878: 417 (? Labarus).

Type ?, California, Hope Museum, Oxford.

Geographic range: USA (Arizona, California, Nevada and Utah);
Mexico (Baja California N.).

California records: Eldorado, Kern, Los Angeles, Madera, Maricopa, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Tuolumne and Ventura Counties. Mainly not a desert species but a few found in the desert area and the fringes.

Los Angeles Co.: Big Pines, VII-26 '65 (J. Wilcox) JW; Wrightwood, VII-8 & 53, VII-2 '54 (C. H. Martin, J. Wilcox) CHM, JW.

Riverside Co.: Anza, VI-25 '49 (Simonds) CDA; Banning, V-29 '48 (E. C. Van Dyke) CAS; Pinyon Flat, V-24 to 29 '39 (W. A. Fitch, E. S. Ross, Ray I Smith) Mallow, CAS, V-24, VI-18 '39 (E. G. Linsley, E. S. Ross) CIS.

San Bernardino Co.: Big Bear Lk., VII-11 '48 (J. Wilcox) JW, VII-16 '34 (E. G. Anderson) CIS; Cajon, VI-25 '45 (A. L. Melander) USNM, Valley, IV-21 '34 (C. M. Dammers) UCR, Pass, VI-24 '49 (L. W. Isaak) UCD; Sheep Crk., nr. Phelan, V-24 '45 (A. L. Melander) USNM.

San Diego Co.: Mt. Laguna, V-17 '48 (A. L. Melander) USNM, VI-21 '53, VII-5 '63 (E. L. Griffin, P. D. Hurd, J. Powell) Eriodictyon trichocalyx lanatum, Viguiera multifera, CIS; 9 mi. S. Warner Spgs., VII-4 '56 (R. M. Bohart) UCD.

(3) pollenius (Cole), 1919: 237 (Chrysoceria)¹.

Type ♂, Hood River, Oregon, ♀, McKenzie Ridge, Oregon, CAS.

Geographic range: USA (California, Idaho, Montana, Oregon, Washington and Wyoming).

California records: Fresno, Inyo, Lassen, Mariposa, Modoc, Mono, Nevada, Placer, Plumas, Shasta, Siskiyou, Trinity, Tulare and Tuolumne Counties. Mainly out of the desert areas.

Inyo Co.: Big Pine Crk., 6000', VI-16 '42 (R. M. Bohart) UCD; Independence, VI-7 '37 (N. W. Frazier) CIS.

Mono Co.: Benton, VI-6 '37, CIS; Hot Crk. Ranch Road, 4000', VII-13 '65 (T. W. Davies) YU; Mammoth, VII-5 '33 (G. E. and R. M. Bohart) UCD; nr. Whitmore Spgs., VI-24 '37 (E. C. Van Dyke) CAS.

Genus *Coleomyia* Wilcox and Martin

Coleomyia Wilcox & Martin, 1955: 305.

Type-species, *Metabogon setigerum* Cole.

crumborum Martin, 1955: 25.

Types ♂♀, Barton Flat, California, CAS.

Geographic range: USA (California).

California records:

San Bernardino Co.: Barton Flat, 6300', VII-7 to VIII-12 '42, '43
(Guy F. Toland, J. Wilcox) CAS, JW; upper Barton Crk., VIII-9 '49
(A. L. Melander) USNM; Jenks Lk., VII-18 '43 (C. H. Martin), ~~VIII-12~~ CHEM.

These records are all in the Barton Flats area and the nearest locality to the California desert area. The other species are mainly found farther north in the mountains but in Oregon and Washington they are found at or near sea level.

Genus *Cyrtopogon* Loew

Cyrtopogon Loew, 1847: 516.

Type-species, Asilus ruficornis Fabricius.

(3) aldrichi Wilcox & Martin, 1936: 51.

Types ♂♀, Mt. Home Canyon, Cal., USNM.

Geographic range: USA (California).

California records:

Riverside Co.: H. James Res., nr. Lk. Fulmer, 5322', V-22 '76
(K. Ota) UCR; Humber Pk., VI-21 '62 (J. F. Lawrence) CIS; Idlewild,
VI-25 '28 (E. C. Van Dyke) CAS; Marion Mt. Camp, VII-1 '52 (S. Miyagawa)
UCD; San Jacinto Mt. trail, VII-1 '52 (D. E. Barcus, A. L. Mathis) UCD.

San Bernardino Co.: nr. Fallsville, 6400', VI-23 '64 (John D. Pinto)
UCR; Mill Crk., V-30 '39 (P. H. Timberlake) UCR; Mt. Home Cyn.,
VI-8 '24 (J. M. Aldrich) USNM, VI-8 '24, VII-16 '21 (F. R. Cole) CIS.

San Diego Co.: Palomar Mt., VII-4 '48 (A. L. Melander) USNM; Pine
Valley, IV-24 '20 (W. M. Giffard) CIS.

(3) basingeri Wilcox & Martin, 1936: 49.

Types ♂♀, Forest Home, California, CAS.

Geographic range: USA (California); Mexico (Baja California N.).
Los Angeles,

California records: Riverside, San Benito, San Bernardino and
Tulare Counties.

Riverside Co.: Idyllwild, 6000', XI-11 '62 (E. I. Schlinger) UCR.

San Bernardino Co.: Barton Flats, 6300', X-30 '63 (M. W. Stone,
J. Wilcox) JW; Big Bear Lk., XI-4 '63 (J. Wilcox) JW; Cienega, IX-28 '47

(A. L. Melander) USNM; Forest Home, XI-10 '34 (A. J. Basinger) CAS, CHM, XI-10 '35 (M. W. Stone) JW; Hanna Flats, X-25, 26 '52 (A. S. Menke) LACMNH; Hesperia, XI-17 '28 (E. G. Anderson) USNM; upper Santa Ana R., IX-4 to X-28 '46 to '56 (N. Crickmer, A. L. Melander, Grace H. and John L. Sperry) USNM, CAS; S. Fork ~~Mdw~~^S., X-9 '46 (N. Crickmer) USNM.

(3) callipedilus nigritarsus Wilcox & Martin, 1936: 39.

Types ♂♀, ~~Carville~~^{Carville}, Cal., CAS.

Geographic range: USA (California).

California records: Kern, Riverside, San Bernardino, San Diego, Santa Cruz, Shasta, Siskiyou, Trinity, Tulare and Ventura Counties.

Riverside Co.: San Jacinto Mts.; Idyllwild, V-16 to VI-9 '39, V-26 to VI-15 '40 (W. C. Bush, C. D. Michener, Ray F. Smith) CAS; nr. Martin Crk., Santa Rosa Mts., VII-15 '67 (R. L. Westcott) UI.

San Bernardino Co.: Samp Seely, VI-8 '36 (C. M. Dammers) LACMNH; Crestline, VI-19 '44 (A. L. Melander) USNM.

San Diego Co.: Mt. Palomar, V-30 '63, VI-15 '57 (David Peterson, R. D. Sjogren) UCR, VI-14 '48 (A. L. Melander) USNM, VI-23 '62, VI-24 '53 (J. F. Lawrence, J. Powell) CIS.

(3) curtistylus Curran, 1923: 133.

Type ♂, Cache Junction, Utah, C. W. Johnson Coll., BMNH-MCZ.

Geographic range: USA (California, Idaho, Montana, Oregon and Utah).

California records: Alpine, Eldorado, Inyo, Lassen, Mariposa, Mono, Shasta and Tuolumne Counties.

Inyo Co.: Big Pine Crk., 7500', VI-22 '42 (R. M. Bohart) UCD;
Wyman Cyn., White Mts., 10000', VI-19 '61 (J. Powell) CIS.

Mono Co.: White Mts.: VII-15 '61 (E. I. Schlinger) UCD, Bancroft Lab., 125000', VII-5, 21 '61 (H. V. Daly, J. Powell, G. I. Stage) CIS, Blanco's Corral, 10000', VI-20 to VII-6 '53, VII-11, VIII-13 '51, VIII-30 '54 (D. D. Linsdale, C. D. MacNeill, J. W. MacSwain) CIS, Campito Mdw., head of Poison Crk., 10300', VIII-21 '63 (H. B. Leech) CAS, Crooked Crk. Lab., 10150', VI-26 '51 (J. Powell) CIS VI-4 '61 (J. S. Buckett) UCD, 1 mi. N. Piute Mt., VII-9, 22 '53 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS, Mt. Bancroft, 12500', VII-1 to 16 '61, VIII-9 '62 (D. C. Rentz) CAS (J. S. Buckett, D. R. Miller, A. S. Menke, R. D. Nelson, A. L. Stange) RER, UCD, Sheep Mt., 11200', VII-5 to 16 '61 (D. R. Miller, R. D. Nelson) RER, UCD (G. I. Stage) CIS, White Mt., 14000, VII-21 '53 (J. T. Brooks) CIS.

(3) cymbalista Osten Sacken, 1877: 297.

Types ♂♀, Summit Station and Webber Lake, Cal., MCZ.

Geographic range: USA (California).

California records: Alpine, Eldorado, Fresno, Inyo, Madera, Mariposa, Mono, Nevada, Plumas, Placer, Shasta, Sierra, Tulare and Tuolumne Counties.

Inyo Co.: White Mts., VII-24 '36 (W. T. McNear).

Mono Co.: Mammoth L., VII-27 '53 (G. E. and R. M. Bohart) UCD.

(3) dasyllis Williston, 1893: 66.

Type ♂, Deer Mt., Colorado, UK.

Geographic range: Canada (Alberta and British Columbia); USA
Alaska, California, Colorado, Oregon and Washington).

California records: Eldorado, Mono, Placer and Plumas Counties.

Mono Co.: Mt. Barcroft, 12500', VII-1 '61 (D. C. Rentz) CAS.

(3) infuscatus Cole, 1919: 233.

Type ♂, Mt. Jefferson, Oregon, CAS.

Geographic range: Canada (British Columbia); USA (California,
Idaho, Montana, Oregon, Washington and Wyoming).

California records: Eldorado, Inyo, Lassen, Madera, Mariposa,
Mono, Nevada, Placer, Shasta, Sierra, Tulare and Tuolumne Counties.

Inyo Co.: Big Pine, 8500', VII-7 '66 (M. W. Stone) JW.

Mono Co.: Lake Mary, VIII-8 '57 (J. Wilcox) JW; Mammoth L.,
VII-20, 21 '33 (G. E. and R. M. Bohart) UCD; 4 mi. S. W. Tom's Place,
VII-13 '61 (H. V. Daly) CIS..

(3) vandykei Wilcox and Martin, 1936: 27.

Types ♀♀, Forest Home, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Kern, Los Angeles, Riverside, San Bernardino
and San Diego Counties.

Riverside Co.: Santa Rosa Mt., V-27 '46 (D. J. and J. N. Knull) OSU,
7500', V-11 '40 (C. D. Michener) CAS.

San Diego Co.: Laguna Mts., VI-21 '53 (J. Powell) CIS; 1 mi. W.
M^T. Palomar, VI-23 '62, VI-24 '53 (J. Lawrence, J. Powell) CIS, Palomar
P. O., VI-16 '35 (C. M. Dammers) LACMNH.

evidens Osten Sacken, 1877: 306.

Types ♂♀, Webber Lake, Cal., MCZ.

Geographic range: USA (California, Oregon and Washington).

California records: Alpine, Amador, Eldorado, Fresno, Glen, Inyo, Lassen, Madera, Mariposa, Modoc, Mono, Nevada, Placer, Plumas, Riverside, San Bernardino, Shasta, Sierra, Siskiyou, Trinity, Tulare and Tuolumne Counties.

Inyo Co.: Bigpine, VIII-12 '57 (J. Wilcox) JW, 8500-9500', VII-1 '60 (W. F. Barr) UI, 9500', VI-22 '42 (R. M. Bohart) UCD; Inyo Craters, VII-2 '64 (Fred G. Andrews) UCR.

Mono Co.: Mammoth, VII-27 '36 (G. E. and R. M. Bohart) UCD; Rock Crk. Lake, VII-18 '64 (J. Wilcox) JW; 4 mi. W. Tombs Place, VII-15 '61 (H. V. Daly) CIS; White Mts., Crooked Crk. Lab., 10150', VI-20 '61 (J. Powell) CIS.

Riverside Co.: San Jacinto Mts., Idyllwild, VII-6 '50 (R. O. Schuster) CIS, Marion Mt. Camp, VII-1 '52 (E. M. Evans) UCD, Tahquitz Vly., VI-14 '39 (E. S. Ross) CIS, VII-6 '50 (W. A. McDonald) UCD.

San Bernardino Co.: Barton Flat, 6000', VI-11 to VIII-9 '38 to '42 (Guy F. Toland, J. Wilcox) JW, S. Fork Mdws., VII-27 '48 (John L. Sperry) USNM, upper Santa Ana R., VII-6 '56, VII-31 '52 (A. L. Melander) USNM; Green Vly., VII-26 '44 (A. L. Melander) USNM; Yermo, V-23 '40 (M. A. Cazier, W. Reeves, P. C. Ting) CAS.

(3) montanus Loew, 1874: 362.

Type ♂, Sierra Nevada, Cal., MCZ

Geographic range: Canada (Alberta and British Columbia); USA (California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming).

California records: Alpine, Amador, Calaveras, Del Norte, Eldorado, Fresno, Glenn, Inyo, Kern, Lassen, Los Angeles, Madera, Mariposa, Mendocino, Modoc, Mono, Monterey, Napa, Nevada, Placer, San Bernardino, San Francisco, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Tehama, Trinity, Tulare and Tuolumne Counties).

Inyo Co.: Schulman Grove, White Mts., 10500', VII-12 '65 T. W. and W. T. Davies) YU.

Mono Co.: White Mts., Blancos Corral, 10000', VI-13 to VII-5 '53, '54 (W. D. McClellan, W. Malley) UCD, (Don Burdick, D. D. Linsdale, E. G. Linsley, C. D. MacNeill) CIS, Crooked Crk. Lab., 3 airline mi. N. Inyo Co. line, VI-18 '63 (J. Powell) CIS.

(3) nugator Osten Sacken, 1877: 307.

Type ♀ (♂?), Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California, Idaho, Oregon and Washington). Back (1909) reports from New Mexico ?

California records: Alpine, Amador, Eldorado, Fresno, Inyo, Madera, Mariposa, Modoc, Mono, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Tehama and Tuolumne Counties.

Inyo Co.: 9700', VII-13 '34 (G. E. Bohart) UCD; Ruby Lk., 11500', VIII-13 '57 (E. D. Linsdale) CIS, (C. D. MacNeill) CAS.

(3) rainieri Wilcox & Martin, 1936: 77.

Types ♂♀, Mt. Rainier, Wash., CAS.

Geographic range: USA (California, Oregon and Washington).

California records: Inyo, Sierra, Tulare and Tuolumne Counties.

Inyo Co.: Onion Vly., VII-5 '65 (J. R. Birchim) CAS.

(3) sudator Osten Sacken, 1877: 307.

Types ♂♀, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California, Idaho, Nevada, Oregon and Washington).

California records: Alpine, Amador, Contra Costa, Eldorado, Fresno, Inyo, Lassen, Mariposa, Mono, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Tehama, Tulare and Tuolumne Counties.

Inyo Co.: Bigpine, 7500-8600', VII-6, 7 '57, '66 (M. W. Stone, Isol J. and J. Wilcox) JW; Westgard Pass, VII-10 '53 (E. G. Linsley) CIS.

Mono Co.: Cottonwood Crk., 9300', VII-10 '61 (H. V. Daly, G. I. Stage) CIS; White Mts., Blancos Corral, 10000', VI-20 to VII-9 '53 (J. T. Btooks, D. D. Linsdale, E. G. Linsley, C. D. MacNeill, J. W. MacSwain) CIS, (W. D. McClellan, N. Malley) UCD, (H. Nakakihara) UCR, Crooked Crk. Lab., 3 airline mi. N. Inyo Co. line, VI-18 to 22 '61, 10150' (J. Powell, G. I. Stage) CIS, Sheep Mt., 11200', VII-12 '61 (H. V. Daly) CIS, Wyman Cyn., 10000', VI-21 '61 (J. Powell) CIS.

Genus *Dicolonus* Loew

(2) *Dicolonus* Loew, 1866: 32.

Type-species, *simplex* Loew.

(3) *medium* Adisocemarto & Wood, 1975: 524.

Types ♂♀, Mineral King, Tulare Co., Cal., 8000', VII-7 '42

(G. Bohart), USNM.

Geographic range: USA (California and Nevada).

California records: Inyo and Tulare Counties.

Inyo Co.: 2 mi. E. Bigpine, VI-3 '74 (J. D. Pinto) UCR,

Lone Pine, V-13 '69 (J. A. Chemsak) CIS.

Genus *Dioctria* Meigen

Dioctria Meigen, 1803: 270.

Type-species, Asilus oelandicus Linnaeus.

(3) flavipes Banks, 1917: 119.

Type ♀, Yakima, Wash., July 2, 1882 (Samuel Henshaw), MCZ.

henshawi Johnson, 1918: 103 (n. name for flavipes Banks not Meigen).

vertebrata Cole, 1919: 230.

Type ♀, Parkdale, Oregon, July 12, 1917 (Cole), CAS.

Geographic range: Canada (British Columbia); USA (California, Idaho, Oregon, Utah and Washington).

California records: Eldorado, Inyo, Modoc, Mono, Siskiyou and Tuolumne Counties.

Inyo Co.: Grandview C. G., White Mts., 8500', VII-15 '66 (P. H. Arnaud, Jr.) CAS; 7 mi. N. Parcher's Camp, VI-30 '61 (D. R. Miller) UCD.

Mono Co.: Convict Lk., VII-18 '56, VIII-8 '57 (G. E. and R. M. Bohart) UCD; Leavitt Mdns., 2470 m., VII-24 '66 (Paul H. Arnaud, Jr.) CAS; Rock Crk. C. G., VII-4 '67 (Paul H. Arnaud, Jr.) CAS; 1 mi. S. Tom's Place, VIII-8 '62 (L. A. Stange) UCD.

(3) pleuralis Banks, 1917: 118.

Type ♀, Los Angeles, Cal., MCZ.

Geographic range: USA (Arizona and California).

California records: Los Angeles, Orange, Riverside, San Bernardino and San Diego ~~Counties~~, Santa Barbara and Ventura Counties.

Riverside Co.: Idyllwild, 7500', VII-6 '58 (F. X. Williams) CAS, VII-28 '40 (J. Wilcox) JW.

San Bernardino Co.: San Bernardino Mts., 5 localities, July-August.

San Diego Co.: Laguna Mts., VII-5,6 '29 (R. H. Beamer) UK; Palomar Mt., VII-13 '41 (J. Wilcox) JW.

(2) vera Back, 1909: 256.

Type ♂, Monterey Co., Cal., AMNH.

Geographic range: USA (California, Arizona, Colorado, Nevada, New Mexico and Texas).

California Records: Calaveras, Eldorado, Fresno, Inyo, Lake, Los Angeles, Mono, Nevada, Plumas, Riverside, San Bernardino, San Diego, Santa Barbara, Trinity, Tuolumne and Ventura Counties.

Inyo Co.: Antelope Spgs., VI-19 '61 (A. W. Frankie) CIS (D. R. Miller) UCD, VI-29 to VII-17 '60, '63 (H. K. Court, W. D. McClellan, D. R. Miller) UCD; Bigpines, VIII-5, 11 (57 (J. Wilcox) JW, Cyn. 8500', VII-5 '73 (G. Ballmer) UCR; Deep Spgs., VII-15 '53 (W. D. McLellan) UCD; Independence, VI-11 '37 (G. E. and R. M. Bohart) UCD; Mahogany Flats, 8133', VIII-8 '69 (L. P. La Pre, J. W. Stubblefield) UCR.

Mono Co.: Rock Crk. C. G., VII-4 '67 (P. H. Arnaud, Jr.) CAS.

Los Angeles Co.: Big Pines, VIII-2 '44 (A. L. Melander) USNM.

Riverside Co.: Tahquitz Vly., San Jacinto Mts., VII-6 '53 (C. J. Weinmann) UCD

San Bernardino Co.: San Bernardino Mts., Angelus Oaks, VI-13 '74 (C. and B. M. Hall) UCR, Fish Crk., VII-26 '48 (J. L. Sperry) USNM, South Fork C. G., 6300', VII-2 to VIII-2 '43, '47 (J. Wilcox) JW, IX-4 '48 (A. L. Melander) USNM, Mdws., VII-20 '48 (J. L. Sperry) USNM, Sugar Loaf Mt., VII-15 '46 (A. L. Melander) USNM.

San Diego Co.: Laguna Mt., VII-6, 21 '29 (R. H. Beamer) UK, VII-6 '41 (John Wilcox) JW; Palomar Mt. 5500', VIII-14 '71 (G. R. Ballmer) UCR.

Dioctria Nannodioctria Wilcox and Martin

Neodioctria Wilcox & Martin, 1941: 35 (subgenus of Dioctria).

Type-species, albicornis Wilcox & Martin.

Nannodioctria Wilcox & Martin, 1942: 35 (n.n. for Neodioctria Wilcox & Martin not Ricardo 1912).

Type-species, albicornis Wilcox & Martin.

♂
(3) albicornis Wilcox & Martin, 1941: 35.

Types ♂♀, Giant Forest, Cal., UK.

Geographic range: USA (California).

Fresno,
California records: ♂ San Bernardino, Siskiyou, Tulare and
Tuolumne Counties.

San Bernardino Co.: San Bernardino Mts., Barton Flats, VII-20 '50
(A. L. Melander) USNM, S. Fork Santa Ana R., VII-29 '42 (A. L. Melander)
USNM, upper Santa Ana R., VII-26 '48 (John L. Sperry) USNM.

Eudioctria Wilcox and Martin

Eudioctria Wilcox & Martin, 1941: 8 (as subgenus of Dioctria).

Type-species, Dioctria albius Walker.

Eudioctria Adisoemarto & Wood, 1975: 537 (elevate to generic^c rank).

(3) dissimilis Adisoemarto & Wood, 1975: 541.

Type ♂, Idyllwild, San Jacinto Mts., Cal., VI-18 '40 (C. D.

Michener), ♀, Harkey (Herkey) Crk., San Jacinto Mts., Cal.,

VI-4 '40 (C. D. Michener), CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: Crystal Lake (J. W. MacSwain) CIS.

Riverside Co.: San Jacinto Mts.: Idyllwild and Harkey Crk. (see above); Pinyon Flat, V-21 '40; Ribbonwood, V-18 '40 (C. D. Michener) CAS.

(3) doanei (Melander), 1923 :30 (Dioctria).

Type ♂, Pasadena, Cal., USNM.

Geographic range: USA (California and Oregon).

California records: Alameda, Amador, Eldorado, Kern, Lake, Los Angeles, Marin, Mono, Napa, Nevada, Orange, Placer, Shasta, Tuolumne, Tehama and Ventura Counties.

Los Angeles Co.: Crystal Lake, 4700', VII-9 '52 (R. M. Bohart) UCD; Monrovia Cyn., V-3 to VI-6 '61 (C. H. and D. Martin) CHM, V-18 '66 (J. C. Hall) UCR; Mt. Wilson, summit, VII-6 '16 (Harold^d Morrison) USNM; Pasadena, VI-6 '95 (R. W. Doane) type ♂, USNM; Tanbark Flat, VI-7 to VII-28 '50, '52, '56 (many collectors) 2 small scarabs prey, CIS, UCD, USNM.

(3) monrovia Wilcox & Martin, 1941 : 15.

Types ♂♀, Monrovia Canyon, Cal., CHM.

Geographic range: USA (California).

California records: Los Angeles, Riverside, San Bernardino and San Diego Counties (flies and localities similar to dissimilis A. & W., with some difference).

Los Angeles Co.: Monrovia Cyn., VII-6, 20 '30 (D. and C. H. Martin) CHM.

Riverside Co.: Cactus Spring Trail, between Hwy. 74 and Horse-thief Crk., Deep Canyon area, III-1 '77 (J. D. Pinto) UCR.

San Bernardino Co.: 2 mi. E. Baldwin Lk., March's ranch road, 6200', V-17 '69, V-25 '68 (S. Freeman, P. A. Rauch, E. I. Schlinger, L. D. Tejada) on Salvia dorsii, Purshia tridentata, Pinus monophylla, UCR; Joshua Tree N. M., Indian Cove, V-17 '58 (~~Joshua Tree N. M.~~) (R. Casebeer) LACMH.

San Diego Co.: Laguna Mts., VII-6 '29 (R. H. Beamer) UK, resorts, VI-4 '55 (W. E. Simonds) CDA; Palomar Mt., VI-28 '63 (W. C. Reische) UCD, VII-13 '41 (Max England) JW; 7 mi. N. Scissors Crossing, V-15 '68 (Fred G. Andrews) UCR.

Genus Eucyrtopogon Curran

Eucyrtopogon Curran, 1923: 95.

Type-species, Cyrtopogon nebulo Osten Sacken.

(3) incompletus Adiscoemarto, 1967: 40.

Type ♂, Cypress Hills, Alberta, CNC.

Geographic range: Canada (Alberta); USA (California, Montana, Nevada and Oregon).

California records: Alpine, Eldorado, Modoc, Mono, Nevada, Siskiyou and Tuolumne Counties.

Mono Co.: White Mts.: Blanco's Corral, 10000', 10150', VI-20 to VIII-26, '53, '54, '60 (W. D. McClellan, N. Malley) UCD, (H. Nakakihara) UVR, UCD (J. T. Brooks, Don Burdick, D. Q. Cavaganaro, D. D. Linsdale, C. D. MacNeill, J. W. MacSwain, C. A. Toschi, M. Wasbauer) CIS, Crooked Crk., 9000', VI-10 '53 (J. W. MacSwain), Lab., 10150', VI-8 '51 (J. Powell) CIS, Poison Crk., 10000', VI-26 '61 (J. Powell) CIS, Sheep Crk., 11200', VII-5 '61 (J. Powell) CIS.

(3) nebulo (Osten Sacken), 1877: 309 (Cyrtopogon).

Type ♀, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California, Nevada, Oregon and Washington).

California records: Inyo, Mariposa, Mono, Placer, Plumas, San Bernardino and Tuolumne Counties.

Inyo Co.: Independence, XII-28 '63 (J. R. Birchim) CAS.

San ~~Exigax2axx~~ Bernardino Co.: Barton Flat F. C., III-30, IV-3, V-20 '63 (M. W. Stone, J. Wilcox) JW; about half of the ground covered with snow at first two dates.

(7) species, new

Geographic range: USA (Arizona and California).

California records:

Inyo Co.: Death Valley, Scotty's Castle, III-23 '40, CAS.

Los Angeles Co.: Littlerock, XII-28 '41 (J. Wilcox) JW.

Joshua Tree NM, Pleasant Vly, II-4 to 19, CSULB, EF (S. Ddo. Co.).

Riverside Co.: [^]Palm Springs R. R. Station, XI-11 '41 (J. Wilcox)

JW; White Water, I-6 '48, XI-28 '47, XII-10 '62, XII-27, 28 '47

(C. H. Martin, J. Wilcox) CHM, JW.

San Bernardino Co.: 6 mi. E. Lucerne Vly., ^{XI-7 78} XI-29 '66 ^(Eric Fisker) _^ (J. Wilcox)

JW, EF.

Genus *Heteropogon* Loew

Heteropogon Loew, 1847: 488.

Type-species, Dasypogon manicatus Meigen.

Anisopogon Loew, 1874: 488. (unjustified n. name for Heteropogon Loew).

Type-species, Dasypogon manicatus Meigen.

(2) ~~cirrhatus~~ (Osten sacken), 1877: 293 (Pycnopogon).

Type ♂, Mariposa Co., Cal., MCZ.

Geographic range: USA (California, Nebraska, Oregon and Washington).

California records: Butte, Calaveras, Contra Costa, Eldorado, Glenn, Humbolt, Lake, Los Angeles, Marin, Mariposa, Mendocino, Modoc, Monterey, Orange, San Bernardino, San Benito, San Diego, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Siskiyou, Sonoma, Tehama, Trinity, Tuolumne, Ventura and Yolo Counties.

Los Angeles Co.: Hwy. 99, nr. Gorman, VI-22 '58 (W. E. Simonds) CDA.

San Bernardino Co.: Camp Baldy, VI-25, 27, '52, '56 (H. W. Michalk), C. L. Wiley) CIS.

(3) davisi Wilcox, 1965: 216.

Types ♂♀, Sabino Canyon, Santa Catalina Mts., Ariz., CAS.

Geographic range: USA (Arizona, California and Nevada).

California records:

Inyo Co.: Bishop, IX-4 '56 (R. M. Bohart) UCD; Independence, Gray's Mdw., VIII-23, IX-16 '63 (J. Wilcox) JW; 6 mi. W. Lone Pine, IX-19 '65 (J. Wilcox) JW; 5 mi. S. Olancho, VIII-13 '59 (J. A. Chemsak) CIS.

Kern Co.: Freeman Gulch, IX-8 '56 (P. D. Hurd) CIS; 1 mi. W.

Walker Pass, IX-3 '65 (A. J. Slater) CIS.

Riverside Co.: Joshua Tree N.M., Fried Liver Wash, X-9, CSOLA, EF.

Mono Co.: Benton, VIII-24 '48 (W. M. Pearce) CAS, VII-20 '50 (H. A.

Hunt) UCD, IX-1 '37 (E. G. Anderson) USNM, Insp. Sta., X-24 '64 (W. E.

Simonds) Chrysanthamnus, CDA; 2 mi. E. Convict Lk. VIII-13 '59 (J. Chemsak) CIS.

(2) fisheri Wilcox, 1965: 217.

Types ♂♀, Beverly Glen, Cal., LACMNH.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Los Angeles, Orange and San Diego Counties.

Los Angeles Co.: Beverly Glen Cyn., Santa Monica Mts., IX-9 '63,
IX-20 '64 (Eric Fisher) LACMNH, EMF; Saugus, X-1 '60 (Eric Fisher) EMF.

San Diego Co.: Laguna Mts., IX-15 '56 (F. X. Williams) CAS.

(1) ludius (Coquillett), 1893: 20 (Anisobogon).

Types ♂♀, Los Angeles and San Bernardino Counties, CAL., USNM.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Fresno, Los Angeles, Riverside, San Benito,
San Bernardino, San Diego, Santa Clara and Ventura Counties. Found
mainly west of the mountains.

Riverside Co.: Massacre Cyn., IV-29, V-13 '66 (J. Wilcox) JW.

San Bernardino Co.: Cajon Pass, VI-25 '49 (H. E. Cott) UCD.

San Diego Co.: Laguna Mts., 1 mi. N. Hwy. 80, VI-18 '60
(G. H. Nelson) FSCA.

(3) martini Wilcox, 1965: 218.

Types ♂♀, Montgomery Pass, Nevada, CAS.

Geographic range: USA (California, Nevada, Oregon and Utah).

California records: Inyo, Lassen, Modoc and Mono Counties.

Inyo Co.: Argus Mts., V-22 '37 (B. Brookman) CAS; 7.3 mi. W.
Lone Pine, VII-11 '65 (Ballmer and Bath) UCR.

Mono Co.: Mono Lake N., VII-7 '67 (J. Wilcox) JW; Topaz Lk.,
VI-27 '57 (J. M. Burns, J. W. MacSwain, A. E. Pritchard) CIS, VII-17 '51
(A. T. McClay) UCD.

(?) rubidus (Coquillett), 1893: 21 (Anisopogon).

Types ♂♀, Los Angeles Co., Cal.; USNM.

Geographic range: USA (California).

California records: Los Angeles County. Not found since described.

(3) senilis (Bigot), 1878: 423 (Anisopogon).

Type ♂, Hope Museum, Oxford.

Geographic range: USA (California, Oregon and Washington).

California records: Alpine, Contra Costa, Marin, Mendocino, Modoc, Mono, Napa, Nevada, Placer, Plumas, Riverside, San Bernardino, San Diego, Santa Barbara, Sierra, Siskiyou, Sonoma and Ventura Counties. Mainly found west of the mountains.

Riverside Co.: Banning, VI-5 '39, V-20 '41 (E. C. Van Dyke) CAS, CIS.

San Bernardino Co.: Big Bear Lake, VI-27 '48 (Guy F. Toland) JW.

San Diego Co.: Desert View, VI-14 '49 (G. A. Marsh) CIS; Julian VI '18, CDA.

(3) tolandi Wilcox, 1965: 219.

Types ♂♀, Pinyon Flat, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Pinyon Flat, IX-17 '48 (Guy F. Toland, J. Wilcox) CAS, JW.

San Bernardino Co.: San Bernardino Mts., 6 mi. N. E. of S. Fork F. C., 7500', VII-8 '64 (J. Wilcox) JW, Sugar Loaf, VII-4 '46 (A. L. Melander) USNM, upper Santa Ana R., VI-9 to VIII-10 '47 to '52 (A. L. Melander) USNM.

Genus *Holopogon* Loew

Holopogon Loew, 1847: 473.

Type-species, *Dasyopogon nigripennis* Meigen.

(3) *atrifrons* Cole, 1924: 8.

Types ♂♀, Mill Creek Canyon, Cal., CAS.

Geographic range: USA (California, Nevada and Oregon).

California records: Alameda, Alpine, Eldorado, Fresno, Los Angeles, Monterey, Plumas, Riverside, San Bernardino, San Diego, Shasta, Siskiyou, Solano, Tuolumne and Ventura Counties.

Los Angeles Co.: Wrightwood, VII-17 '52 (J. Wilcox) JW.

San Bernardino Co.: Big Bear Lk., Hanna Flats, VII-30, 31 '49
(C. H. and D. Martin, J. Wilcox) CHM, JW.

San Diego Co.: Mt. Palomar, VIII-24 '49 (C. H. and D. Martin) CHM.

(3) *crinatus* Martin, 1959: 37.

Types ♂♀, Big Bear Lake, Cal., AMNH.

Geographic range: USA (California).

California records:

Riverside Co.: San Jacinto Mts., Idyllwild, VI-6 '50 (F. X. Williams) CAS, VI-30 '28 (E. C. Van Dyke) CAS; Tahquitz Vly., IV-14 '30 (E. S. Ross) CAS, VII-1 '53 (R. E. Wagner) CIS, VII-7 '50 (E. G. Linsley) CIS.

San Bernardino Co.: Big Bear Lk., Hanna Flats, VII-3 '49 (C. H. and D. Martin) AMNH, CHM; Dollar Lake Trail, VII-11 '56 (R. C. Bechtel, R. M. Bohart) UCD.

(4) seniculus Loew, 1866: 36.

Types ♂♀, Nebraska (Heyden), MCZ.

Geographic range: ~~W&A~~ Canada (Alberta) Saskatchewan); USA (California, Colorado, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Utah and Wyoming).

California records:

Inyo Co.: Antelope Spgs., VI-14, 15 '51 (C. A. Toschi) CIS, VII-9 '66 (H. K. Court) UCD; Deep Springs, VI-15 '65, VII-16 '53 (H. K. Court, E. I. Schlinger) Chrysothamnus, UCD, 7 mi. W., VII-2 '65 (M. E. Irwin) UCR; Lone Pine, V-4 to VI-19 '37 (E. C. Van Dyke) CAS; 4 mi. W. Westgard Pass, VI-19 '61 (J. Powell) CIS.

Mono Co.: Mono Lake N., VII-5 '67 (J. Wilcox) JW.

(3) stellatus Martin, 1959: 28.

Types ♂♀, Mt. Palomar, Cal., AMNH.

Geographic range: Canada (British Columbia); USA (California, Nevada, Oregon, Utah and Washington); Mexico (Baja California N.).

California records: Alpine, Amador, Eldorado, Inyo, Kern, Lassen, Los Angeles, Madera, Mariposa, Mono, Monterey, Nevada, Placer, Plumas, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Sierra, Siskiyou, Trinity and Tuolumne Counties.

Mono Co.: White Mts., Crooked Crk., 10150', VI-24 '61 (D. R. Miller) UCD.

Riverside Co.: Anza, VI-24 '56 (G. I. Stage) CIS.

San Diego Co.: Laguna Mts., VII-6 '41 (John Wilcox) JW, VII-19 '59 (Paul A. Rude) CIS, 1 mi. N. W., VI-28 '62 (J. F. Lawrence) CIS; Mt. Palomar, VI-27 '58 (C. H. and D. Martin) AMNH, CHM, VII-13 '41 (Max England, J. Wilcox) JW; Oak Grove, V-9 '45 (A. L. Melander) USNM.

Genus *Itolia* Wilcox

Itolia Wilcox, 1936: 20.

Type-species, *maculata* Wilcox.

(5) *atrides* Wilcox, 1948: 193.

Types ♂♀, Mohawk, Arizona, CAS.

Geographic range: USA (Arizona and California); Mexico (Sonora).

California records:

Imperial Co.: Palo Verde, VIII-24 '58 (G. H. Nelson) FSCA.

Riverside Co.: ~~Indio, VIII-9~~ Deep Springs, IX-3 '64 (G. Wallace)

UCR; Palm Desert, VIII-19 '58 (L. A. Stange) LACMNH.

(7) *timberlakei* Wilcox, 1948: 192.

Types ♂♀, White Water, Cal., CAS.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: Gordon's Well, 4 mi. W., VI-22 '63 (R. L. Westcott) EMF.

Riverside Co.: Indio, VIII-9 '47 (Guy F. Toland, J. Wilcox) JW.
Snow Crk., VII-2 '36 (P. H. Timberlake) UCR; White Water, VIII-9, 10
'47 (Guy F. Toland, J. Wilcox) JW, CAS, VII-9 '50 (J. W. MacSwain) CIS,
(K. G. Whitesell) UCD.

This illustrates the ephemeral nature of insects on the desert.
Mr. Toland and I went back the next week end to get more of these flies
but not a single one was found.

Genus *Lasiopogon* Loew

Lasiopogon Loew, 1847: 508.

Type-species, Dasyopogon pilosellus Loew.

(3) drabicola Cole, 1916: 65.

Types ♂♀, Redlands, Cal., USNM.

Geographic range: USA (California); Mexico (Baja California N.).

California Records: Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura Counties. Mainly west of the mountains.

Los Angeles Co.: Tapia Park, IV '63 (D. Gibo) NCSU; Valyermo, V-13 '44 (A. L. Melander) USNM.

San Bernardino Co.: Mojave R. and Deep Crk., IV-27 '41 (J. Wilcox) JW.

San Diego Co.: Blue Pt. C. G., vic. Pine Crk., V-7 '66 (Saul and Suzy Frommer) UCR.

(3) species, new

Geographic range: USA (California).

California records:

San Bernardino Co.: Big Bear Lk. N., V-9, 23 '63 (M. W. Stone, J. Wilcox) JW.

(3) zonatus Cole and Wilcox, 1938: 80.

Types ♂♀, Santa Ana Cyn., Cal., CAS.

Geographic range: USA (California).

California records: Colusa, Fresno, Kern, Lake, Los Angeles, Napa, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Ventura and Yolo Counties.

Los Angeles Co. Bouquet Cyn., III-23 '41 (J. Wilcox) JW; Mint Cyn. F. C., V-10 '41 (J. Wilcox) JW.

Riverside Co.: La Quinta, III-28 '23 (F. R. Cole) CIS.

San Bernardino Co.: Banning, 4000', IV-14 '53 (J. Wilcox) JW;
Cajon Pass, summit, V-6 '66 (J. Wilcox) JW; Mojave R. and Deep Crk.,
IV-27 '41 (J. Wilcox) JW; Sheep Crk. Cyn., V-1 '46 (A. L. Melander)
USNM.

Genus Metadioctria Wilcox and Martin

Metadioctria Wilcox & Martin, 1941: 19 (as subgenus of Dioctria Meigen).

Type-species, Dioctria rubida Coquillett.

Metadioctria Adiscoemarto & Wood, 1975: 535 (elevated to generic rank

but limited it to rubida Coquillett). D. parvula Coquillett and D. resplendens Loew were not included because of their two-segmented style. They are retained here until they can be studied in relation to similar species from Mexico.

(3) parvula (Coquillett), 1893: 80 (Dioctria).

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Eldorado, Los Angeles, Mendocino and Napa Counties.

Los Angeles Co.: (D. W. Coquillett) USNM; Mint Cyn., VI-7 '35
(P. W. Oman) USNM, VII-6 '35 (R. H. Beamer) UK, JW.

(3) resplendens (Loew), 1872: 62 (Dioctria).

Type ♂, California (Hy. Edwards), MCZ.

Geographic range: USA (California and Nevada).

California Records: Inyo, Placer, San Diego, San Mateo, Solano,
Tulare and Yolo Counties.

Inyo Co.: Panamint Mts., V-29 '37 (J. H. Mitchell) CAS.

San Diego Co.: Julian, VII-4 '62 (J. A. Froebe) UCD.

(3) rubida (Coquillett), 1893: 213 (Dioctria).

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Los Angeles, Riverside, San Bernardino,
San Diego, Santa Barbara, Tuolumne and Ventura Counties.

San Bernardino Co.: Cajon Pass, 3700', VIII-15 '63 (P. H. Timberlake)
UCR.

San Diego Co.: Oak Grove, VI-12 '62, VI-24 '49 (J. Wilcox) JW;
Mt. Palomar, VII-13 '41 (J. Wilcox) JW.

Riverside Co.: Tahquitz Cyn., VI-22 '28 (E. C. Van Dyke) CAS.

Genus Metapogon Coquillett

Metapogon Coquillett, 1904: 181.

Type-species, gilvipes Coquillett.

(7) amargosae Wilcox, 1972: 46.

Types ♂♀, 3 mi. S. Beatty, Nye Co., Ne^V~~X~~, XII-24 '64 (D. L. Coates) UI-CAS.

Geographic range: USA (Arizona, California and Nevada).

California records:

Riverside Co.: Blythe, X-28 '40 (K. S. Snyder) Tamarix, CIS.

San Bernardino Co.: Needles, III-20 '67 (R. M. Bohart, D. S. Horning)

UCD; Twentynine Palms, 2 mi. N. E., X-23, XI-6 '67 (Eric Fisher) EMF.

carinatus Wilcox, 1964: 193.

Types ♂♀, White Water, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: Pine Cyn., IV-2 '53 (J. W. MacSwain) CIS.

Joshua Tree N.M., Quail Guzzler, Pinyon Wells, II-19 to III-2, CSULB, EF;

Riverside Co.: [^] Palm Springs, I-7 '54, I-14 '53 (P. H. Arnaud, Jr.)

JW; nr. Ribbonwood, I-21 '63, about 5000', (E. I. Schlinger) UCR;

White Water, XI-25, 28, XII-27 '47, I-6, 13, II-8 '48, II-1 '71

(Eric Fisher, A. F. Howland, Guy F. Toland, J. Wilcox) CAS, EMF, JW,

Cyn., III-3 '68 (J. C. Hall) UCR.

(3) gilvipes Coquillett, 1904: 182.

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: (D. W. Coquillett) USNM.

Riverside Co.: Quail Vly., X-18 '75 (J. D. Pinto) Coastal sage,
scrub ^C/₈ comm., UCR.

San Diego Co.: 5.2 mi. N. Escondido, X-2, 9 '63, X-12 '66 (M. W.
Stone, J. Wilcox) JW; San Marcos, Palomar College, X-12 '66 (J. Wilcox)
JW.

These are not desert localities but this species had not been
found since 1904 until we more or ^{less} stumbled on it north of Escondido.

(3) pictus Cole, 1916: 65.

Type ♂, East Highlands, Cal., USNM.

Geographic range: USA (California and Nevada).

California records: Contra Costa, Lake, Los Angeles, Marin,
Placer, Monterey, Riverside, San Bernardino, San Diego, San Mateo, Shasta
and Tulare Counties. Mainly west of mountains.

Riverside Co.: 8 mi. E. Sunnymead, III-27 '59 (E. I. Schlinger)
UCR.

San Bernardino Co.: 9 mi. S. Victorville, X-28 '34 (P. H.
Timberlake) UCR.

San Diego Co.: Witch Crk., XII-23 '61 (Paul A. Ryde) CIS.

(7) tricellus Wilcox, 1964: 199.

Types ♂♀, White Water, Cal., CAS.

Geographic range: USA (California and Nevada).

California records:

Inyo Co.: Independence, Grays Mdw., 6000', X-9 '64 (J. Wilcox)
on dead twig and flowers of sage, 1-1½' high, JW.

Kern Co.: 8 mi. N. Randsburg (D. Gibo) ♂ with 3 submarinal
cells, ♀ with 2, NCSU.

Joshua Tree N.M., Pinon Wells, Pleasant Vly, X-15 to II-21, CSULB, EF;
Riverside Co.: Palm Springs, I-6 '54 (Paul H. Arnaud, Jr.) JW;

R. R. Station, XI-11 '41 (J. Wilcox) JW; White Water, L-6 '48

XI-28, XII-27 '47 (A. F. Howland, J. Wilcox) CAS, JW.

San Bernardino Co.: Joshua Tree N.M., Indian Cove, II-11 '61
(E. L. Sleeper) CSULB, Canejo Well, X-15 '61 (E. L. Sleeper) CSULB.

(4) punctipennis Coquillett, 1904: 182.

Types ♂♀, Organ, New Mexico (T. D. A. Cockerell), USNM.

Geographic range: USA (Arizona, California and New Mexico).

California records:

Riverside Co.: 18 mi. W. Blythe, X-16 '65 (F. D. Parker) UCD.

San Bernardino Co.: 6 mi. N. W. Ivanpah, X-18 '78 (John D. Pinto)

Chrysothamnus, UCR.

Genus Myelaphus Bigot

Myelaphus Bigot, 1882: xci.

Type-species, melas Bigot.

(3) lobicornis (Osten Sacken), 1877: 287 (Ceraturgus).

Types ♂♀, Snake River, Idaho, MCZ.

Geographic range: Canada (British Columbia); USA (California, Idaho, Nevada, Oregon, Utah and Washington).

California records: Kern, Merced, Orange, Riverside, San Bernardino, San Diego, Sutter, Siskiyou Counties. Mainly west of mountains.

San Bernardino Co.: Victorville, V-20 '38, V-30 '44 (C. M. Dammers, A. L. Melander) USNM.

Genus *Nannocyrtopogon* Wilcox and Martin

Nannocyrtopogon Wilcox & Martin, 1936: 449.

Type-species, *Cyrtopogon cerussatus* Osten Sacken.

(7) *deserti* Wilcox & Martin, 1957: 380.

Types ♂♀, Littlerock, Cal., CAS.

Geographic range: USA (California).

California records:

Kern Co.: Dove Well, V-1 '64 (J. Powell) CIS, 5 mi. N. W.,
V-1 '64 (C. A. Toschi) CIS; Short Cyn., 6 mi. W. Inyokern, IV-11 '62
(J. W. MacSwain, R. W. Thorp) CIS; 16 mi. S. Weldon, IV-26 '64
(J. Powell, C. A. Toschi) CIS.

Los Angeles Co.: Littlerock, V-2 '48, V-3 '41 (Guy F. Toland,
J. Wilcox) CAS, JW; Piute Butte, IV-27 '57 (J. Wilcox) JW.

(7) *inyoi* Wilcox & Martin, 1957: 384.

Types ♂♀, Independence, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: Independence, and 3 mi. W., V-5 '66, V-18 '56,
V-25 '57, VI-12 '58 (Itol J. and J. Wilcox) CAS, JW; Lone Pine,
V-31 '37 (E. C. Van Dyke) CAS, VI-1 '41 (R. M. Bohart) UCD, VI-10
'49 (J. Wilcox) JW; Olancho, V-18 '56 (J. Wilcox) JW; Short Cyn.,
3 mi. W. Brown, IV-14 '62 (R. M. Bohart) UCD.

Kern Co.: Short Cyn., 7 mi. N. W. Inyokern, IV-17 '55 (C. D.
MacNeill) larkspur flowers, CIS.

(2) irvinei Wilcox & Martin, 1957: 384.

Types ♂♀, The Gavilan, Cal., CAS.

Geographic range: USA (California).

California records:

Los Angeles County: Crystal Lake, 4700', VII-9 '52 (Miyagawa)
UCD; Tanbark Flat, VI-17 to VII-20 and other mountain locations.

Riverside Co.: Dripping Springs F. C., V-11 '53 (J. Wilcox) JW;
Pinyon Flat F. C., V-10, 11 '53 (C. H. and D. Martin, J. Wilcox) CHM,
JW, V-24 '39 (E. G. Linsley) CAS; The Gavilan, V-21 '41, V-23 '48
(M. I. Irvine, Guy F. Toland, J. Wilcox) CAS, JW, Hills, IV-30 '33
(A. J. Basinger) USNM.

(2) lestomyiformis Wilcox & Martin, 1936: 454.

Type ♂, San Diego Co., Cal., OSU.

Geographic range: USA (California).

California records:

Imperial Co.: Kane Springs, IV-22 '64 (A. R. Gittins) UI.

Riverside Co.: Andreas Cyn., IV-21 '51 (R. C. Bechtel) UCD;
Aguanga, V-11 '53 (C. H. Martin, J. Wilcox) CHM, JW, UCD; Banning,
IV-15 '53 (J. Wilcox) JW; Chino Cyn., nr. Palm Springs, IV-21 '60
(J. F. Lawrence) Malacothamnus fasciculatus, CIS; Dripping Spgs. F. C.,
V-3 '62 (J. Wilcox) JW; Pinyon Flat F. C., V-10 '53, V-26 '48 (A. F.
Howland, C. H. Martin, Guy F. Toland, J. Wilcox) CHM, JW, UCD; Santa
Rosa Mt., V-24 '36 (A. J. Basinger) CAS.

San Diego Co.: Aguanga, IV-2 '62 (E. I. Schlinger); Culp Cyn.,
Anza S. P., IV-4 '59 (E. I. Schlinger) UCD; Desert Edge, IV-14 '15 (M. C.
Van Duzee) OSU; Oak Grove, IV-20 '52 (C. H. and D. Martin) CHM, V-9 '45
(A. L. Melander) USNM; Pine Vly., VI-16 '63 (Paul A. Rude) CIS; 8 mi. N.
Scissors Crossing, V-17 '64 (P. M. Estes, M. J. Wargo) UCR.

(2) monrovia Wilcox & Martin, 1936: 453.

Types ♂♀, Monrovia Canyon, Cal., CAS.

Geographic range: USA (California).

California records: Los Angeles, Riverside, San Bernardino, San Diego, Santa Barbara and San Luis Obispo. Mainly west of mountains.

Los Angeles Co.: Monrovia Cyn., VII-20, VIII-3 '30 (C. H. and D. Martin, R. H. Painter, T. F. Winburn) CAS, CHN, RHP; and other mountain localities.

Riverside Co.: Pinyon Flat, S. Rosa Mt., V-27 '41 (D. J. and J. N. Knull) OSU.

San Bernardino Co.: Cajon Pass, VI-26 '41 (D. J. and J. N. Knull) OSU.

(7) neoculatus Wilcox & Martin, 1957: 386.

Types ♂♀, Pinyon Flat, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: San Jacinto Mts., Pinyon Flat, V-15 '41 (E. C. Van Dyke) CAS, V-9 to 26 '48, '53 (C. H. and D. Martin, Guy F. Toland, Itol J. and J. Wilcox) CAS, CHN, JW, IV-20 '53 (F. X. Williams) CAS

H. A. Hespenheide (1978) article on "Prey, Predator and Courtship Habits".

(2) nigricolor (Coquillett), 1904: 183 (Cyrtopogon).

Type ♀, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Kern, Los Angeles, Mariposa, Orange, Riverside, San Bernardino, San Diego, Santa Barbara and Ventura Counties. Mainly localities west of the mountains.

Los Angeles Co.: Oak Flat Camp, V-13 '56 (J. Wilcox) JW.

Riverside Co.: Banning, VI-5 '39, CIS.

San Diego Co.: Jacumba, V-18 '41 (D. J. and J. N. Knull) OSU;
Mt. Palomar, Nate Harrison grade, 3500', VI-2 '68 (S. Freeman) UCR;
Mt. Laguna, VI-29 '62 (J. F. Lawrence) CIS.

(7) oculatus Wilcox & Martin, 1936: 452.

Type ♂, Lost Hills (Mint Canyon), Cal., CAS.

Geographic range: USA (California).

California records:

Kern Co.: Lost Hills, IV-11 '32 (E. P. Van Duzee) CAS.

Los Angeles Co.: Mint Cyn., IV-20 '32 (E. P. Van Duzee) CAS;
Palmdale, 4 mi. S., V-10 '41, V-23 '42, V-2, 29 '48 (Guy F. Toland,
Ito J. and J. Wilcox) JW.

(7) timberlakei Wilcox & Martin, 1957: 390.

Types ♂♀, Oro Grande Wash, Cal., UCR-CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: Littlerock, V-3 '41 (J. Wilcox) JW, 1. mi. W.,
IV-5 '59 (J. W. MacSwain) CIS; Llano, V-15 '55 (Simonds) ODA; 5 mi. S.
Pearblossom, IV-23 '56 (E. G. Linsley) Tamarix galica, CIS.

San Bernardino Co.: nr. Adelanto, IV-28 '49 (A. L. Melander) USNM;

Cajon Pass, V-20 '51 (R. C. Bechtel) UCD, IV-28 '49 (Grace H. and John L. Sperry) USNM; Deep Crk., V-9 '36 (E. G. Linsley) CIS; Oro Grande Wash, 11 mi. S. Adelanto, V-9 '48 (P. H. Timberlake) UCR, V-4, 25 '57, V-6 '56, IV-30 '64 (Itol J. and J. Wilcox) JW; Wrightwood, 5000', V-25 '59 (B. J. Adelson, H. Ruckes, Jr.) CIS.

San Luis Obispo Co.: 10 mi. W. Simmler, C-3 '62 (J. Powell) CIS.

We took this species at Littlerock in 1941 but failed to get any more in or near that locality. On the examination of Mr. Timberlake's specimens we went to 11 mi. S. of Adelanto and found them nearly swarming on the logs of Joshua Trees.

(7) tolandi Wilcox & Martin, 1957: 391.

Types ♂♀, Lone Pine, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: Bigpine, V-18 '56, V-25 '57, 7500-8500', VII-6 '57 (Itol J. and J. Wilcox) JW, Creek, VI-13 '65 (F. D. Parker) UCD, 7500', VI-12, 13 '42 (R. M. Bohart) UCD, Glacier Lodge, 8000-9000', VII-6 '57 (C. H. and D. Martin) CHM, UCD; Bishop, VI-11 '49 (Guy F. Toland, J. Wilcox) JW; Independence, V-5 '66, V-18 '56 (J. Wilcox) JW; Lone Pine, 7.3 mi. W., VII-11 '65 (Ballmer & Bath) UCR, Whitney Rd., VI-12, 17 '37 (E. C. Van Dyke) CAS, V-30 '48, VI-1 '49 (Guy F. Toland, J. Wilcox) CAS, JW; ^{Magazine Cyn, 6800', VII-4 '71 (J. Bice)} Panamint, Mts., VII-10 '65 (Ballmer & Bath) UCR; ~~Rexia~~ Whitney Portal, VI-3 '53 (D. D. Linsdale) CIS, C. G., VII-11 '65 (Ballmer & Bath) UCR.

(7) species, new

Geographic range: USA (California).

Riverside Co.: Joshua Tree N.M., Hidden Vly, V-3 '68 (J. Wilcox) JW.

California records: San Bernardino Co., Lower Covington Flat, IV-30 '60 (E. L. Sleeper, M. L. West) CSULB.

(4) ? mingusi Wilcox & Martin, 1957: 386.

Types ♂♀, Mingus Mt., Arizona, VII-3 '49 (J. Wilcox) CAS.

Geographic range: USA (Arizona, California and Nevada).

California records:

San Bernardino Co.: Granite Pass, 3800-4320', IV-27 '68

(E. I. Schlinger) UCR.

new species, cont'd. p. 151

Riverside Co.: Joshua Tree N. M., Pinyon Wells and Quail

Guzzler, April 6 to May 7, data from Eric Fisher (1970)CSULB;

Hidden Vly., V-3 '68 (J. Wilcox) JW.

Genus *Ospriocerus* Loew

Ospriocerus Loew, 1866: 29.

Type-species, Dasypogon aeacus Wiedemann, equals Asilus abdominalis Say.

(2) abdominalis (Say), 1824: 375 (Asilus).

Type ?, Northwest Territory, lost.

Geographic range: Canada (Alberta); USA (Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Texas, Utah and Washington); Mexico

(Chihuahua, Coahuila, Durango, Nuevo Leon, San Luis Potosi and Tamaulipas).

California records:

Mono.Co.: Topaz Lk., VII-17 '51 (C. A. Downing) CIS.

San Bernardino Co.: New York Mts., IX-3 '45, LACMNH.

(7) brevis Martin, 1968b: 411.

Type ♂, Randsburg, Cal., UCD.

Geographic range: USA (Arizona, California and Nevada); Mexico (Baja California and Sonora).

California records:

Imperial Co.: Kane Spgs., Ocotillo and Palo Verde, March to May.

Riverside Co.: Many records March and April.

San Bernardino Co.: Amboy, Ludlow and Yermo, Essex: April.

San Diego Co.: Borrego and Ocotillo; March, April and August.

See pp. 152a, 152b.

(2) vallensis Martin, 1968b: 420.

Types ♂♀, Grandview, Idaho, CAS.

Geographic range: USA (California, Colorado, Idaho, Nevada, Oregon and Utah).

California records: Inyo Co.: 22.7 mi. E. Bigpine on Westgard Pass Rd.,

See p. 153

Imperial Co.: bet. Indio and Kane spgs., III-25 '33 (H. L. McKenzie) USNM; Kane Spgs., III-22 '41 (G. P. McKenzie) UCR; Ocotillo, IV-21 '66 (M. W. Stone) JW; Palo Verde, IV-2 '68, IV-3 '66 (R. M. Bohart, R. O. Schuster) UCD, 3 mi. S., IV-7, 8 '49, V-9 '63 (P. D. Hurd, R. L. Langston) CIS.

Kern Co.: Randsburg, V-1 '52 (R. M. Bohart) UCD.

Riverside Co.: Andreas Cyn., IV-7 '40 (R. M. Bohart) UCD; 18 mi. W. Blythe, IV-2, 3 '63, IV-9 '62 (R. M. Bohart, M. E. Irwin, F. D. Parker) UCD, IV-15 '58, IV-17 '59 (P. H. Timberlake) asleep on grass, UCR; Deep Cyn., IV-6 '63 (J. Powell) CIS, IV-4 '63 (C. Wilkinson) UCR; 10 mi. E. Desert Center, IV-13 '41 (N. R. Anderson, J. Wilcox) JW; Hopkins Well, III-30 '59, IV-14, 16 '58, IV-28 '49, IV-29 '52 (J. E. Gillaspay, P. D. Hurd, E. G. Linsley, J. W. MacSwain, J. Powell, J. G. Rozen) CIS; Indio, IV-16 '52 (Grace H. and John L. Sperry) USNM, 6 mi. W., IV-30 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) meloid prey, CIS; Mecca, IV-9 '53 (E. G. Linsley) Geraea canascens, CIS, IV-13 '41 (J. Wilcox) JW; Palm Springs, IV-12 '41 (J. Wilcox) JW; Thousand Palms, III-31 '63, IV-2 '66 (R. M. Bohart, D. R. Miller, F. D. Parker, R. O. Schuster, A. Willink) UCD, IV-3 '49 (R. A. Flock) UCR, 5 mi. E., III-31 '63 (L. D. Anderson) UCR, 1 mi. E. (Jct. U.S. 10 & Ramon Rd.), III-25 '66 (Saul and Suzy Frommer) UCR;.

San Bernardino Co.: Amboy, 22 mi. S., IV-11 '66 (J. Wilcox) JW; Essex, 8 mi. N., IV-14 '66 (R. L. Penrose) UI; ^{11.2 mi. N. Goffs, V-3 '71 (J.C. Hall) UCR;} Ludlow, IV-30 '37 (H. B. Leech) CAS; Yermo, IV-25 '66 (J. Wilcox) JW.

San Diego Co.: Borrego, IV-8 '39, IV-10 '33 (R. M. Bohart, H. S. Gentry) UCD, Vly., IV-10, 11 '52, IV-24 '49, IV-27 '55, V-1 '52 (J. E. Gillaspay, P. D. Hurd, E. G. Linsley, J. W. MacSwain, C. A. Marsh, R. F. Smith) CIS, IV-19 '41 (N. R. Anderson, J. Jr. and J. Wilcox) JW, Coyote Crk., IV-5 '63

San Diego Co. cont'd.

(Willink, A.) UCD, Palm Cyn., III-29 '36 (F. R. Platt) UCR, Tub
Cyn., IV-5, 20 '49 (N. Crickmer, Grace H. and John L. Sperry) USNM;
Ocotillo, IV-6, 12 '49, VIII-26 (P. D. Hurd, C. A. Marsh).

VII-13 '63 (M. R. Lundgren) CAS.

Mono Co.: Blanco's Corral, White Mts., 10000', VII-15 '53

(J. W. MacSwain) CIS.

(?) longulus (Loew), 1866: 50 (Stenopogon).

Types ♂♀, New Mexico (Capt. Pope), MCZ.

Geographic range: (Arizona, ?California, New Mexico and Texas);
Mexico (Chihuahua, San Luis Potosi and Tamaulipas).

California records:

San Bernardino Co.: Daggett, J14, CDA. (A ♀ specimen in poor
condition probably taken from a car at the inspection station). In
Arizona this species has not been found west of Phoenix.

Genus Pritchardomyia Wilcox

Pritchardomyia Wilcox, 1965: 208.

Type-species, Anisopogon vespoides Bigot.

(2) vespoides (Bigot), 1878: 423 (Anisopogon).

Type ♂. California, Hope Museum, Oxford.

Geographic range: USA (California).

California records: Alameda, Calaveras, Kern, Mariposa, Monterey, San Mateo, Santa Cruz, Sonoma, Stanislaus and Tuolumne Counties.

Kern Co.: Antelope Springs, Tehachapi Mts., IX-12 '75 (John D. Pinto) UCR. A marginal desert area.

(2) species, new ?

Riverside Co.: Herkey Crk. C. G., San Jacinto Mts., VIII-31 '62 (J. Asher) EF. A marginal desert area similar to Pinyon Flat.

Genus *Prolepsis* Walker

Prolepsis Walker, 1851: 101.

Type-species, fumiflamma Walker (mon.) = lucifer (Wiedemann).

Dizonias Loew, 1866: 29.

Type-species, phoenicurus Loew = tristis (Walker).

Lamas M. (1973) also lists Cacodaemon Schiner (1866), Sphareus Loew (1866), Tolmerolestes Lynch Arribalzaga (1881), and Cacodaemonides Strand (1928) as synonyms.

tristis (Walker), 1851: 95 (Dasypogon).

Type ?, America, BMNH.

Lamas M. (1973) lists quadrinaculata (Bellardi) (1861), lucasi (Bellardi) (1861), phoenicurus (Loew) (1866), bicinctus (Loew) (1866), pilatei (Johnson) (1903), albifasciatus (Buck) (1905), and bromleyi (Carrera & d'Andretta) (1950), as synonyms.

Geographic range: USA (Florida to California in the southern part); Mexico (Colima, Jalisco, Michoacan, Morelos and Nayarit) and British Honduras?.

California records:

Imperial Co.: Palo Verde, VIII-15, 20 '46 (W. F. Barr) CIS.

Riverside Co.: Blythe, VII-21 '42, VIII-11 to 13 '46 (P. D. Hurd, R. F. Smith, W. F. Barr) CIS, VII-26 '31 (J. A. Comstock) LACMNH, VIII-12 '38 (C. M. Dammers) USNM; Ripley, VIII-20 '46 (J. W. MacSwain, P. D. Hurd) CIS.

Genus Scleropogon Loew

Scleropogon Loew, 1866: 26.

Type-species, picticornis Loew.

(4) duncani(Bromley), 1937: 307 (Stenopogon).

Types ♂♀, Silver City, New Mexico, CAS.

Geographic range: USA (Arizona, California, Nevada, New Mexico and Texas); Mexico (Baja California and Sonora).

California records: Imperial, Riverside, San Bernardino and San Diego Counties; April to June, and October. All desert records.

See p. 1542.

(2) neglectus(Bromley), 1937: 430. (Stenopogon).

Types ♂♀, Lander, Wyo., OSU.

Geographic range: USA (Arizona, California, Colorado, Idaho, Oregon, Utah, Washington and Wyoming).

California records:

Inyo Co.: Bigpine, VII-10 '53 (D. D. Linsdale) CIS, VII-12 '53 (J. Wilcox) JW; Blancos Corral, White Mts., 10150', VIII-1 '51 (J. E. Gillaspay) CIS winged grasshopper prey, CIS.

Mono Co.: White Mts., 10000', VII-10 '68 (D. S. Horning) UCD.

(?) picticornis Loew, 1866: 26.

Type ♀, California, MCZ.

Geographic range: USA (Arizona, California, Colorado, Nevada and New Mexico); Mexico (Baja California Sur, Chihuahua and Sonora).

California records: type ♀, Back (1909) identified a pair from Cal. from C. W. Johnson Coll., BSNH now MCZ. Common in Arizona but no records west of Ashfork or Phoenix.

Imperial Co.: Palo Verde, VIII-15 to 27 '46 (W. F. Barr, P. D. Hurd) pair, CIS, IV-2 '68 (R. O. Schuster) UCD, 2 mi. S., IX-18 '59 (J. A. Chemsak, P. D. Hurd, J. W. MacSwain) Pectis papposa, CIS, 3 mi. S., IV-18 '49, IV-9 '63 (P. D. Hurd) CIS.

Riverside Co.: 18 mi. W. Blythe, IV, 29, 30 '32 (P. H. Timberlake) UCR, 20 mi. W., X-17 '59 (J. A. Chemsak) CIS; Hopkins Well, IV-16 '58, IV-17, 28 '49, IV-29 '52 (J. E. Gillaspay, P. D. Hurd, G. A. Marsh, *Joshua Tree N.M., Fried Liver Wash, Pleasant Vly., VI-12, 14, CSULB, EF*, J. Powell, L. W. Quate) CIS; [^] Palm Springs, V-28, 31 '43 (Guy F. Toland, J. Wilcox) JW.

San Bernardino Co.: 13 mi. W. Baker, V-3 '66 (M. Jay, J. M. Davidson) ASU; 2 mi. N. E. Twentynine Palms, V-24 '66 (J. Wilcox) JW; Yermo, V-23 '40 (M. Cazier, W. Reeves, P. C. Ting) CAS, V-25 '66, V-31 '41 (Dan and Guy F. Toland, J. Wilcox) JW.

San Diego Co.: Borrego, IV-25 '55, V-1, 2 '52 (P. D. Hurd, G. A. Marsh, J. G. Rozen, P. H. Timberlake) CIS, UCR, IV-30, V-5 '46 (Grace H. and John L. Sperry) USNM, Tub Cyn., IV-18 '57 (N. Crickmer, Grace H. and John L. Sperry) USNM, Vly., V-23 '64 (J. E. Slansky) CDA, Vly. dunes, IV-18 '57 (R. C. Bechtel, R. M. Bohart, R. W. Bushing, H. R. Moffitt, E. I. Sahlinger) UCD; Clark Vly., Colorado Desert, V-2 '32 (H. Gentry) CAS; bet. Narrows and Sentenec, V-22 '41 (R. C. Dickson) UCR; San Felipe Crk., VI-6 '33 (H. L. McKenzie) UCR.

genus Sintoria Hull

Sintoria Hull, 1962: 197.

Type-species, emeralda Hull.

(7) mojavae Wilcox, 1972a: 50.

Type ♀, Grapevine Spgs. (Cushenbury Spgs.), San Bernardino Co., Cal., IX-18 '48 (J. Wilcox) CAS.

Only known specimen from California. These flies ^(other species) range from Arizona and Utah to Texas. In Mexico they are found in: Aguascalientes, Baja California Sur, Guanajuato, Jalisco, Mexico, Puebla, San Luis Potosi and Zacatecas.

(4) cyanea Wilcox, 1972a: 53.

Types ♂♀, Sabino Cyn., Santa Catalina Mts., Arizona, X-20, 25 '62 (J. Wilcox) CAS.

Geographic range: USA (Arizona and California); Mexico (Sonora).

California records:

San Bernardino Co.: 4.2 mi. S. E. Ivanpah, X-18 '78 (A. Mayor),

Chrysothamnus, Gutierrezia, UCR.

Genus *Stenopogon* Loew

Stenopogon Loew, 1847: 453.

Type-species, Asilus sabaudus Fabricius.

(7) adelantae Wilcox, 1971: 13.

Types ♂♀, 11. Mi. S. Adelanto, Cal., CAS.

Geographic range: USA (California).

California records: Los Angeles, Riverside, San Bernardino, San Diego, Santa Barbara and Ventura Counties.

Los Angeles Co.: 5 mi. S. Lancaster, V-15 '56 (E. G. Linsley, J. W. MacSwain) CIS; Littlerock, V-15 '53, V-23 '42 (Guy F. Toland, J. Wilcox) JW; Palmdale, V-4 '57, V-23 '42, V-29 '48, VI-10 '49 (Guy F. Toland, J. Wilcox) JW.

Riverside Co.: top of Berdoo Cyn., VI-14 '63 (E. I. Schlinger) UCR.

San Bernardino Co.: 11 mi. S. and 5 mi. N. Adelanto, V-20 '48, V-25 '57 (Itol J. and J. Wilcox) CAS, JW; Apple Vly., V-9 '58 (P. D. Hurd) CIS, nr. Arrastre Cyn., V-20 '41 (P. H. Timberlake) UCR; Deep Crk., V-16 '37 (P. H. Timberlake) UCR; Hesperia, V-16 '37 (P. H. Timberlake) UCR, 4 mi. E., Mojave R., V-16 '37 (P. H. Timberlake) UCR; 2 mi. W. Phelan, V-22 '57 (J. C. Hall) UCD.

San Diego Co.: Culp Cyn., IV-2 '62 (E. I. Schlinger) UCR.

(1b) albibasis Bigot, 1878: 422.

Type ♂, California, Hope Mus., Oxford.

Geographic range: USA (California and Nevada).

California records: Tuolumne County and north to Siskiyou Co. Back (1909) reports from Los Angeles Co. (Coquillett) which appears to be in error.

(3) antoniae Wilcox, 1971: 82.

Types ♂♀, Claremont, Cal., CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: (Goquillet-112) USNM; Tanbark Flat, VII-8 '52 (J. J. Menn) CIS.

San Bernardino Co.: 4 mi. N. W. Cajon Jct., VII-4 '58 (E. I. Schlinger) UCD; Claremont, VI-22 and VIII-31 '41 (Guy F. Toland, J. Wilcox) CAS, JW; Mountain Home. VIII-8 '58 (J. C. Hall) UCD.

(3) bartonae Wilcox, 1971: 17.

Types ♂♀, Barton Flats, Cal., CAS.

Geographic range: USA (California).

California records: Fresno, Inyo, Kern, San Bernardino and Tulare Counties:

Inyo Co.: Lone Pine, V-30 '48 (J. Wilcox) JW, VI-28 '59 (J. C. Downey) Sill. Univ., Crk., 10250', VII-7 '61 (H. V. Daly) CIS; Whitney Portal, VIII-6 '48 (P. D. Hurd, J. W. MacSwain) CIS; Whitney Rd., VI-12 '37 (E. C. Van Dyke) CAS.

Kern Co.: Walker Pass, VIII-23 '63 (J. Wilcox) JW.

San Bernardino Co.: Barton Flats, 6500' and S. Fork F. C., VI-30 to VIII-2 '38 to '42, '47, '64 (M. W. Stone, Gut F. Toland, Itol J. and J. Wilcox) CAS, JW; and other localities in the San Bernardino Mts.

(4) arnaudi Martin, 1968a: 375.

Types ♂♀, Rancho Viejo, 7000', VI-14 '53, Sierra San Pedro Martir, Baja California, Mexico (Paul H. Arnaud, Jr.) CAS.

Geographic range: USA (Arizona and California); Mexico (Baja California N.).

California records:

Riverside Co.: Indio, IV-4 to V-7 '41, '42 (N. R. Anderson, A. F. Howland, Itol J., J. Jr., and J. Wilcox) JW; La Quinta, IV-22 '58 (J. C. Hall) UED; 6 mi. W. Mecca, IV-22 '58 (J. C. Hall) UCD; Pinyon Flat, V-30 (39 (B. Brookman) CAS, V-21 to VI-16 '41 to '66 (A. F. Howland, M. W. Stone, J. Wilcox) JW; Thousand Palms, V-5 '66 (J. C. Hall) UCR; White Water, V-13 '66 (J. Wilcox) JW.

San Bernardino Co.: 3 mi. E. Yucca Vly., V-25 '66 (J. Wilcox) JW.

San Diego Co.: Anza S. P., IV-23 '31 (E. J. Taylor) UCD; Culp Cyn., IV-2 '62 (E. I. Schlinger) UCR; Jacumba, IV-13 '53 (J. Wilcox) JW; Scissors Crossing, 2240-2800', V-4 '69 (E. I. Schlinger) UCR.

(2) boharti Bromley, 1951: 6..

Types ♂♀, Yuma, Arizona, USNM.

rossi Martin, 1963a: 393.

Type ♂, Concepcion Bay, Baja California, CAS.

Geographic range: USA: (Arizona and California); Mexico (Baja California Sur, Chihuahua, Sinaloa and Sonora).

California records:

Imperial Co.: 12 mi. S. Palo Verde, IV-19 '62 (Eric Fisher) EMF.

Inyo Co.: Death Vly., VI-11 '52 (R. L. Levin) CIS.

Riverside Co.: Deep Cyn., VI-14 to VII-1 '64, '69 (K. W. Brown, P. A. Rauch, Saul Frommer, E. I. Schlinger, B. Worley) part in malaise trap, UCR; Hayfield Rd., 6.5 mi. W. Hwy. 60-70, VII-4 '60 (P. H. Joshua Tree N.M., Fried Liver Wash, Pleasant Vly., VI-11 to VII-15, CSULB, EF; Timberlake) on Eriogonum inflatum, UCR; 3 mi. S. Palm Desert, VI-20 '60 (R. L. Westcott) LACMNH; Palm Springs, V-31 '43 (Guy F. Toland) JW, VI-28 '52 (A. T. McClay) UCD, Tahquitz Cyn., VI-8 '57 (Menkem Stange, Bromley) LACMNH.

San Diego Co.: 13 mi. E. Borrego Spgs., X-8 '67 (G. L. Lytle, S. A. Gorodenski, M. A. Cazier) ASU.

(3) blaisdelli Wilcox, 1971: 41.

Types ♂♀, Coronado, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Los Angeles Co.: (Coquillett, 112 or 11-2) USNM.

San Diego Co.: Coronado, X-11, 21 '90 (F. E. Blaisdell) CAS;

San Diego (F. E. Blaisdell) CAS, Mission Vly., IX-11 '27 (Van Blocker) USNM; Poway (F. E. Blaisdell) CAS; Warners, IX '20 (Geo. H. Field) SDNHM.

(2) breviusculus Loew, 1872: 68.

Type ♂, California (Hy. Edwards), MCZ.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Fresno, Los Angeles, Mono, Monterey, Orange, Riverside, San Bernardino, San Diego, San Francisco, San Luis Obispo and Santa Barbara Counties. Mainly found west of the mountains.

Los Angeles Co.: Solemint, IX-19 '51 (J. L. Madigan) UCD.

Mono Co.: Mammoth, VIII-9 '57 (J. Wilcox) JW.

Riverside Co.: Anza, VIII-6 '35 (Jean Russell) UK; Dripping Spgs., VIII-27 '58 (J. C. Hall) UCD; Temecula, VI-30 '56 Guy F. Toland, J. Wilcox) JW, VII-2 '63, VIII-27 '58 (J. C. Hall, I. H. Pogojeff) UCD.

San Diego Co.: Warner Spgs., VIII-26 '41 (J. Wilcox) JW.

(2) bronleyi Wilcox, 1971: 52.

Type ♂, Ventura Co., Cal., ♀, Frazier Park, Cal., USNM.

Geographic range: USA (California);

California records: Alameda, Kern, Los Angeles and Ventura Counties. Mainly west of the mountains.

Kern Co.: Walker Pass, VI-26 '49 (L. W. Isaak) CAS, USNM.

(2) californiae Walker, 1849: 322.

Type ♂, California, BMNH.

Geographic range: USA (California).

California records: Los Angeles, Orange, Riverside, San Bernardino and San Diego Counties. Mainly west of mountains.

Los Angeles Co.: Castaic, VIII-24 '41 (W. R. Cobb) JW; Elizabeth Lk. Cyn., VIII-16 '62 (A. Fukushima) LACMNH; Mint Cyn., VII-31 '35 (E. I. Beamer) JW; San Fransisquito Cyn., VII-15 '56 (G. I. Stage) CIS; 2.5 mi. S.S.W. Valyermo, 4700', VII-6 '65 (C. Henne) JW.

Riverside Co.: White Water Cyn., IX-30 '45 (C. Henne) JW.

San Bernardino Co.: Cajon, VIII-9 '44 (A. L. Melander) USNM,
Pass, XIII-10 (C. H. Martin) CHM; W. Fork Mojave R., X-17 '37
(E. G. Anderson) CIS.

San Diego Co.: Mt. Palomar, VI-28 '63 (J. R. Birchim, R. L.
Langston) CAS, CIS; 7 mi. N. Scissors Crossing, X-19 '63 (M. Wargo)
Haplopappus junceus, UCR.

(2) engelhardti Bromley, 1937: 303.

Types ♂♀, Jacumba, Cal., CAS.

Geographic range: USA (California, Idaho, Nevada and Utah);
Mexico (Baja California N.).

California records: Inyo, Los Angeles, Mono, Nevada, Orange,
Riverside, San Bernardino, San Diego, Santa Barbara and Ventura
Counties. Mainly west of the mountains but many records from desert
localities.

Inyo Co.: Argus Mts., Bigpine, Bishop, Lone Pine and White Mts.

Los Angeles Co.: Mojave Desert, Palmdale, Tick Cyn., and
Valyermo.

Mono Co.: White Mts.

Riverside Co.: Anza, Dripping Spgs., Millard Cyn., San Geronio
Pass.

San Bernardino Co.: Hesperia, Mojave R. and Deep Crk. and Yermo.

San Diego Co.: Borrego Vly.; Jacumba, IV-26 '45 (G. P. Engelhardt)
types ♂♀, CAS; Mt. Laguna, Oak Groove, San Felipe Vly., and Warner
Springs.

See p. 161a

Inyo Co.: Argus Mts., V-22 '37 (T. Aitken, D. Little) CAS;
White Mts., Schulman Grove, 10500', VII-12 '65 (T. W. and W. T. Davies)
YU; Wyman Cyn., 10000', VI-21 '61 (J. Powell) CIS, Crooked Crk. Lab.,
VI '61 (J. Powell and G. I. Stage) CIS, took several hundred specimens
with prey but no honey bees which is the common prey of Stenopogon in
cultivated areas; see Powell and Stage (1962).

Los Angeles Co.: Valyermo, IV-21 '40 (R. M. Bohart) UCD.

Mono Co.: White Mts., Blancos Corral, 10000', VI-29 to VII-9 '53
(J. T. Brooks, J. Powell, G. I. Stage, M. Wasbauer) CIS, VII-5 to 8 '58
(H. Nakikihara) UCD, VII-10 '68 (R. M. Bohart, D. S. Horning) UCD,
Crooked Crk., 9500-10150', VI-19 to VII-19 '61, VII-5 '53 (D. D. Linsdale,
P. D. Hurd, J. Powell, G. I. Stage) CIS, (J. S. Buckett, D. R. Miller)
UCD, N. Fork Crooked Crk., nr. Naval Res., 10150', VIII-20 '63 (H. B.
Leech) CAS, Radio Sta., VII-10 '53 (E. G. Linsley, R. F. Smith) CIS,
Mt. Barcroft, 12500', VIII-9 '62 (A. S. Menke, L. A. Stange) UCD.

San Bernardino Co.: Hesperia, V-16 '37 (P. H. Timberlake) UCR;
Mojave R. and Deep Crk., IV-30 '39 (P. H. Timberlake) UCR; Yermo,
IV-25 '53 (P. H. Timberlake) UCR.

(3) inguinatus Loew, 1866: 27.

Types ♂♀, Nebraska (Heyden), MCZ.

modestus Loew, 1866: 26.

Type ♀, North Red River (Kennicott), MCZ.

morosus Loew, 1874: 356.

Types ♂♀, Sierra Nevada, Cal. (H. Edwards), MCZ.

Geographic range: Canada (Alberta, British Columbia, Manitoba and Saskatchewan); USA (Arizona, California, Colorado, Idaho, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming.

California records: Alpine, Inyo, Kern, Lassen, Los Angeles, Modoc, Mono, Nevada, Plumas, San Bernardino, Shasta, Sierra, Siskiyou, Tehama and Trinity Co. Mainly a mountain species in California with a few desert records.

3 mi. N., VI-26 '33 (J. T. Brooks) CIS;

Inyo Co.: Big Pine Crk.; Lone Pine Crk.; Westgard Pass, and Schulman Grove, 10,000', VI-29 '61 (J. Powell) CIS, Wyman Cyn., 8500', VI-27 '61 (J. Powell, G. I. Stange) CIS - White Mts.,

Mono Co.: White Mts., Blanco's Corral, 10,000', VII-45 '53 (J. W. MacSwain) CIS, Crocker Crk. Lab., 10,150', VI-22, 24 '61 (J. Powell) CIS, Poison Crk., 10,000', VI-26 '61 (J. Powell) CIS -

(3) jubatus (Coquillett) in Baker, C. F., 1904^a: 38 (Scleropogon).

Type ♂, Claremont, Cal., USNM.

nigriverticellus Bromley, 1937: 298.

Type ♀, San Diego, Cal., UK.

Distribution: USA Arizona and California); Mexico (Baja California N.).

California records: Mainly in land with a few desert localities.

Inyo Co.: Bigpine, VIII-10 '49 (R. A. Flock) UCR.

Los Angeles Co.: Palmdale, III-31 '29, CAS.

Riverside Co.: Pinyon Flat, V-28 '40, V-30 '39 (C. D. Michener,

Ray F. Smith, E. V. Stahl) CAS.

San Bernardino Co.: 2 mi. E. Baldwin Lk., March's Ranch Rd., 5000-6000', V-25 '68 (L. O. Tejada) UCR; Cajon Pass, VII-16 '49 (H. T. Reynolds) UCR, foot of, VI-11 '41 (E. C. Van Dyke) CAS; Twentynine Palms, V-25 '62 (Michael Hain) UCR.

San Diego Co.: Oak Grove, VI-1 '41 (Edith, Thelma and ^G Guy F. Toland, J. Wilcox) JW; 12 mi. N. Scissors Crossing, VII-15 '63 (H. R. Moffitt) UCR.

(3) loma Wilcox, 1971: 20.

Types ♂♀, Riverside, Cal., CAS.

Geographic range: USA (California).

California records: Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. Most records west of the mountains.

Riverside Co.: Banning, VII-2 '52 (H. L. Mathis) UCD; 8 mi. W. Beaumont, VII-24 '57 (J. C. Hall) UCR; Cabazon, VI-19 '49 (Guy F. Toland, J. Wilcox) JW; Millard Cyn., Kitchen Peak Rd., VI-20 '63 (E. I. Schlinger) UCR; White Water Cyn., VI-7 '63 (E. I. Schlinger) UCR.

San Bernardino Co.: La Quinta, VII-15 '20 (F. R. Cole) CIS (Riverside Co. ?).

(3) macswaini Wilcox, 1971: 58.

Types ♂♀, Tanbark Flat, Los Angeles Co., Cal., CIS-CAS.

Geographic range: USA (California).

California records: Los Angeles and San Bernardino Counties. mainly a mountain species.

San Bernardino Co.: Cajon Jct., VI-7 '58 (J. C. Hall) UCD, 4 mi. N. W., VII-4 '58 (E. I. Schlinger) UCD; 2 mi. W. Cajon Pass, VI-7 '58 (J. C. Hall) UCD; 4 mi. N. E. Wrightwood, VI-7, 20 '66, '68 (J. Wilcox) JW.

(2) martini Bromley, 1937: 303.

Types ♂♀, Parma, Idaho, CAS.

Geographic range: USA (Arizona, California, Colorado, Idaho, Kansas, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. Adisoemarto (1967) report of S. obscuriventris Loew from Alberta might be better placed here.

California records: Alameda, Contra Costa, Fresno, Inyo, Kern, Lake, Los Angeles, Marin, Mariposa, Mono, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Santa Clara, Tulare and Ventura Counties. Mainly localities west of the mountains but the following desert locations.

Inyo Co.: 13.8 mi. N. E. Trona, Slate Range, IV-17 '62 (C. A. Toschi) CIS.

Kern Co.: Indian Wells, W. of Hwy. 6, IV-18 '62 (C. A. Toschi) CIS, 2 mi. N. Inyokern turnoff, IV-12 '60 (C. A. Toschi) CIS; Iron Cyn., El Paso Mts., IV-17 '62 (C. A. Toschi) CIS; Mojave, V-3 '19 (Ralph Hopping) CAS; Short Cyn., 7 mi. N. W. Inyokern, IV-18 '54 (J. W. MacSwain) CIS; 10 mi. S. Weldon, V-1 '64 (R. L. Langston, J. Powell) P. Rude) CIS.

Los Angeles Co.: Littlerock, V '62 (L. Ahtela) NCSU; Mint Cyn., V-16 '52 (S. Nakagawa) NCSU; 6 mi. W. Palmdale, IV-20 '32 (E. P. Van Duzee) CAS.

Riverside Co.: Anza, VI-20 '57 (H. R. Moffitt) UCD.

Apple Vly., V-9 '58 (P. D. Hurd) CIS;

San Bernardino Co.: Barstow, IV-21 '62 (MacNeill, Rentz, Brown, Lundgren) CAS; 18 mi. E. Ludlow, IV-9 '60 (P. A. Opler) CIS; 2 mi. W. Phelan, VI-9 '58 (J. C. Hall, E. I. Schlinger) UCD; Victorville, IV-23 '55 (R. O. Schuster) CIS, V-³~~20~~ '35 (F. R. Platt) UCD; Yermo, IV-28 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS, V-25 '66 (J. Wilcox) JW.

San Diego Co.: Borrego Vly., dunes, IV-18 '57 (H. R. Moffitt) ~~UCD~~
E. I. Schlinger) UCD, Coyote Crk. 4.5 mi. N. of Spgs., III-18 '60 (E. G.
Linsley) CIS, Palm Cyn., IV-19 '57 (J. C. Hall, E. I. Schlinger, H. R.
Moffitt) UCD; Warner Spg., V-15, VI-12 '58 (H. R. Moffitt) UCD, VII-14
'62 (J. Wilcox) winged ant prey, JW.

(7) mojavae Wilcox, 1971: 68.

Types ♂♀, Yermo, Cal., CAS.

Geographic range: USA (California).

California records:

San Bernardino Co.: Yermo, V-23 '40 (W. Reeves, M. Cazier, P. C.
Ting) CAS, IV-12 '66 (J. Wilcox) JW.

(2) nigritulus Coquillett, 1904: 179.

Types ♂♀, Los Angeles and Kern Counties, Cal., USNM.

Geographic range: USA (Arizona and California); Mexico (Baja
California N.).

California records: Inyo, Kern, Los Angeles, Mono, Riverside,
San Bernardino and San Diego Counties. Mainly a mountain species
with the following desert records.

Inyo Co.: Antelope Spgs., 5500', VII-21 '67 (M. E. Irwin) UCR.

Los Angeles Co.: Crystal Lk., VI-28 '56, VI-29 '50, VII-9 '52
(R. M. Bohart, B. M. Bartosh, J. K. Hester, P. M. Marsh, H. L. Mathis,
H. F. Robinson, K. G. Whitesell) UCD.

Joshua Tree N.M., Upper Covington Flat, Pinyon Wells, Pleasant Vly., Quail Guzzler,
Riverside Co.: Indio, IV-5 to V-20 '41 (N. R. Anderson, A. F.
Squaw Tank, IV-30 to VI-29, CSULB, EF;
Howland, Ito J., J. Jr. and J. Wilcox) JW, 6 mi. W., IV-30 '49 (E. G.
Linsley, J. W. MacSwain, R. E. Smith) CIS.

San Bernardino Co.: Joshua Tree N. M., L. Covington Flat, V-14 '62,
Riverside Co.,
V-23, 28 '60 (M. Knox, E. L. Sleeper) CSULB, [^]Hidden Vly. and Jumbo Rocks,
VII-8 '65 (M. W. Stone, J. Wilcox) JW.

San Diego Co.: Jacumba, V-13 '53 (J. Wilcox) JW; Mt. Palomar, VI-28 '63 (J. R. Birchim) CAS, VII-3 '63 (P. D. Hurd) Eriodictyon trichocalyx v. lanatum, CIS; VII-13 '41 (J. Wilcox) JW; Oak Grove, VI-1 '41, VI-12, 21 '42 (Guy F. Toland, J. Wilcox) JW; 7 mi. N. Scissors Crossing, V-15 '68 (Fred G. Andrews) UCR; Warner Spg., VI-12 '58 (J. C. Hall) UCD.

(3) obscuriventris Loew, 1872: 69.

Type ♀, California (H. Edwards), MCZ.

andersoni Bromley, 1937: 302.

Types ♂♀, San Jacinto Mts., Cal., UK.

timberlakei Bromley, 1937: 302.

Types ♂♀, Brentwood, Cal., USNM.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Contra Costa, Fresno, Kern, Los Angeles, Mariposa, Modoc, Monterey, Riverside, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Tehama, Tulare, Ventura and Yolo Counties. Mainly found in and west of the mountains.

Inyo Co.: Baxter Crk. Rd., VII-4 '65 (J. R. Birchim) CAS.

Kern Co.: Walker Pass, VI-27 '49 (L. W. Isaak) UCD.

Mono Co.: White Mts., Blancos Corral, 10000', VII-6 '53 (J. T. Brooks) CIS.

Riverside Co.: 2 mi. W. Blythe, VI-17 '46 (W. F. Barr, E. G. Linsley) Asclepias, CIS; Cabazon, VI-19 '49 (J. Wilcox) JW; 3.4 mi. S. E. Palm Springs) VI-24 '55 (P. H. Timberlake) UCR.

San Bernardino Co.: Cajon Pass, VI-24 '49 (H. E. Cott) UCD, foot of, VI-11 '41 (E. C. Van Dyke) CAS, Cajon Jct., 4 mi. W., VII-1, 4 '58 (J. C. Hall, E. I. Schlinger) winged ant prey, UCD, Vly., VI-3 '29 (E. G. Anderson) USNM; Mouth Deep Crk., VI-24 '58 (J. C. Hall, A. D. Telford)

San Diego Co.: 6 mi. E. Banner, VI-25, 26 '63 (R. L. Langston, J. Powell) CIS; Borrego, Palm Cyn., V-21 '41 (R. C. Dickson) UCR; Mt. Palomar, VI '50 (F. X. Williams) CAS; Oak Grove, VI-1 '41, VI-14 '49 (Thelma and Guy F. Toland, Itol J., John, J. Jr. and J. Wilcox) JW, VI-6, 7 '40 (D. Raski, E. V. Stahl) CAS; Scissors Crossing, VI-26 '63 (E. I. Schlinger) UCD; 2 mi. N. Warner Spgs., VII-4 '56 (C. L. Wiley) CIS.

(3) pinyonae Wilcox, 1971: 62.

Type ♂, Pinon Flat, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Pinon Flat, San Jacinto Mts., Cal., V-28 '40 (E. V. Stahl) type ♂, same locality V-28 '40, V-27 '39 (H. Reynolds, W. A. Fitch, E. S. Ross) CAS; Santa Rosa Mts., Alpine Village, 4000', VII-14 '64 (E. I. Schlinger) UCR.

(2) rufibarbis Bromley, 1931: 431.

Type ♂, Lassen Co., Cal., ♀, San Antonio Cyn., Cal., OSU.

Geographic range: Canada (Alberta and British Columbia); USA (Arizona, California, Idaho, Nevada, Oregon, Utah and Washington); Mexico (Baja California N.).

California records: From practically every county in the state, mainly in the mountains and west. Desert records below:

Inyo Co.: Lone Pine, VI-28 '59 (J. C. Downey) Sill.U, Cyn., VI-16 '52, USU.

Los Angeles Co.: Antelope Vly., V-21 '45 (S. W. Bromley) USNM; Big Pines, VI-29 '48 (A. L. Melander) USNM; Palmdale, V-6 '49 (A. L. Melander) USNM.

Riverside Co.: Anza, VI-24 '56 (G. I. Stage) CIS; S. of Banning,

3000-4000', VI-17/20 '64 (John D. Pinto) UCR; 11 mi. N. Cabazon, 5800-7000', VI-24 '64 (John D. Pinto) UCR; Toro Peak, Santa Rosa Mts., V-31 '40 (C. D. Michener) CAS.

San Bernardino Co.: Barton Flat, VII-7 '36, CAS, east, VI-3 '46 (A. L. Melander) USNM; upper San Ana R., V-22 to VII-18 '47 to '57 (A. L. Melander, Grace H. and John L. Sperry) USNM.

San Diego Co.: Mt. Laguna, VI-21 '63 (H. R. Birchim) CAS; Oak Grove, VI-1 '41 (A. L. Melander) USNM; Warner Spgs., V-22 '66 (H. Adelson, H. Kucks) Jr.) CIS, VI-7 '21 (Geo. Field) CIS.

(3) tolandi Wilcox, 1971: 80.

Types ♂♀, Lone Pine, Cal., CAS.

Geographic range: USA (California and Nevada).

California records:

Inyo Co.: Alabama Hills, V-24 '37 (J. H. Mitchell) CAS; Argus Mts., V-22 '36 (F. Bryant) CIS; Bigpine, VI-8 '37 (L. R. Gillogly, L. D. Phillips) CAS, VI-12 '58 (J. Wilcox) JW, Crk., VI-13 '65 (F. D. Parker) UCD; Bishop, VI-11 '49 (Guy F. Toland) JW, 3 mi. N., VI-11 '49 (L. S. Hawkins, Jr., R. L. Penrose) UI; Cartago, V-30 '63 (Eric Fisher) EMF; Death Vly, 0.3 mi. N. Bennetts Well, IV-17 '73 (G. R. Ballmer, John D. Pinto) UCR; Deep Springs, VII-5 '57 (C. H. and D. Martin, J. Wilcox) CHM, JW, Lake, VI-16 '37 (D. Little) CAS, VII-17 '53 (D. D. Linsdale) CIS; Diaz Lk., VI-7, 10 '37 (T. G. Aitken, C. A. Hamsher) CAS; Independence, VI-17 '65 (J. R. Birchim) CAS, V-31 '63 (Eric Fisher) EMF; Little Lk., VI-22 '37 (J. H. Mitchell) CAS; Lone Pine, V-16 to VI-14 '37 B. Brookman, R. C. Dickson, N. W. Frazier, L. R. Gillogly, C. A. Hamsher, D. Little, L. D. Phillips, B. E. White CAS, VI-7 to 13 '37 (A. E. Meier) CIS, VI-10 '49 (Guy F. Toland, J. Wilcox) types ♂♀, CAS, JW, 1 mi. N., VI-12 '64 (A. Gillogly) EMF; Oak Crk., V-23 '37 (C. A. Hamsher) CAS; Owens Lk., V-20 to VI-7 '37 (T. G. Aitken, C. A. Hamsher) CAS; Paradise Camp,

VI-2 '54 (Don Burdick) CIS; Westgard Pass Plateau, V-27 '37 (T. G. Aitken) CAS.

Mono Co.: 7 mi. S. Benton Station, VII-25 '62 (R. P. Allen) CDA.

(3) utahensis Bromley, 1951: 8.

Types ♂♀, Leeds, Utah, USNM.

Geographic range: USA (Arizona, California, Nevada and Utah).

California records:

Imperial Co.: Clark Vly., V-2 '32 (H. Gentry) CAS.

Inyo Co.: Bigpine Crk., 6500', VIII-7 '66 (J. Wilcox) JW; 12 mi. S. Bishop, VII-2 '67 (M. E. Irwin) UCR; Lone Pine, 4599', IV-19 '47 (R. M. Bohart) UCD; Wyman Cyn., White Mts., VII-20 '67 (Saul and Suzy Frommer) UCR.

Mono Co.: 8 mi. W. Benton, VII-20 '64 (J. Wilcox) JW.

Riverside Co.: Carrizo Crk., V-30 '63 (E. I. Schlinger) UCR; Deep Cyn., 20-24, VI '69 (S. Frommer, B. Worley) UCR; Palm Spgs., V-2 '53 (R. M. Bohart) UCD, V-6 '46 (A. L. Melander) USNM, V-10 '41 (E. C. Van Dyke) CAS; 28-31 May '43 (A. F. Howland, Guy F. Toland, John and J. Wilcox) JW, V-30 '27 (A. C. Davis) CAS, 2 mi. N., V-10 '41 (P. H. Timberlake) UCR.

San Diego Co.: Borrego Vly. and dunes, IV-4 to V-2 '40 to '57 (J. E. Gillaspay, P. D. Hurd, M. Wasbauer) CIS, (R. C. Bechtel, R. M. Bohart, H. R. Moffitt, E. I. Schlinger) UCD, (P. H. Timberlake) UCR, (A. L. Melander, John Sperry) USNM, IV-13 '32 (H. Gentry) CAS; Tub Cyn., IV-20 '49 (N. Crickmer, Grace H. and John L. Sperry).

(3) wilcoxi Bromley, 1937: 300.

Types ♂♀, San Diego Co., Cal., UK.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Los Angeles, Riverside, San Bernardino and San Diego Counties. Most records from mountains and west.

Riverside Co.: Anza, VIII-6 '35 (Jack Beamer) UK, USNM; Banning VII-2 '52 (A. T. McClay) UCD; Pinyon Flat, V-7 '39 (W. A. Fitch) CIS; Santa Rosa Mts. (F. Grinnell, Jr.) USNM.

San Bernardino Co.: Cajon Pass, VIII-22 '31 (C. H. Martin) CHM.

San Diego Co.: Jacumba, VII-2, 3 '56 (D. J. and J. N. Knull) OSU, VIII-12 '35 (Jack Beamer) UK; Laguna Mts., VII-6 '29 (L. D. Anderson, P. W. Oman) UK; Warner's, VII-26 to VIII-2 '27 (M. T. James) MTJ.

(3) williamsi Wilcox, 1971: 38.

Type ♂, La Mesa, San Diego Co., Cal., V-6 '54 (F. X. Williams)
CAS, ♀, San Diego Co., Cal., IV-13 '14 (E. P. Van Duzee) CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Quail Vly., V '75 (John D. Pinto) coastal sage
scrub comm., UCR.

San Diego Co.: Ocotillo, IV (full data not found; could be in
Imperial Co. or collected prior to separation of Imperial Co. from
San Diego Co.).

Stichopogon Loew, 1847: 499.

Type-species, Dasypogon elegantulus Wiedemann.

(2) fragilis Back, 1909: 334.

Type ♂, Alamogordo, New Mexico, AESPhila.

fragilis Wilcox, 1937: 209.

Description of ♂ from Arizona.

Geographic range: USA (Arizona, California, Idaho, Nevada, New Mexico, Oregon, Utah and Washington. These small flies, 3 mm. in length are found mainly in desert areas except in California where some are found west of the mountains. It is probable that more than one species is involved and a study was begun by a graduate student at Washington State University but no results have appeared to date.

California records: from desert areas.

Joshua Tree N.M., Pleasant Vly, VI-15, CSULB, EF;
Riverside Co.: Hopkins Well, V-29 '52 (J. G. Rozen) UCR; White
Water, VI-7 '63 (E. I. Schlinger) UCR.

San Bernardino Co.: 25 mi. N. Needles, VI-4 '62 (J. Wilcox) JW;
Victorville, VII-25 '58 (P. D. Hurd) CIS.

San Diego Co.: Oak Grove, VI-1 '41 (J. Wilcox) JW; Warner
Springs, VII-4 to 17 '62 (J. Wilcox) JW.

(1) trifasciatus (Say), 1822: 51.

Type ?, Pa., lost.

Geographic range: Canada (Alberta, Manitoba, Ontario, Quebec);
USA (all states); Mexico (widespread); and Honduras.

California records: Colusa, Humbolt, Los Angeles, Mendocino,
Orange, Riverside, Sacramento, San Bernardino, San Diego, Siskiyou,
Ventura and Yolo Counties. Mainly west of mountains, desert localities
below.

Riverside Co.: Anza, VI-24, VII-3,5 '56 (G. I. Stage, C. L. Wiley)
CIS, (H. W. Michalk) CDA.

San Bernardino Co.: Mojave R. at Deep Crk., VIII-14 '36 (A. J.
Basinger) collected on racks and sand in river wash, CAS; Victorville,
V-30 '57, VII-25 '58 (P. D. Hurd) CIS.

San Diego Co.: Warner Spgs., VIII-1 to 6 '21 (Geo. Field) SDNRM,
2 mi. N., VII-4 '56 (G. I. Stage) CIS, 5 mi. N., VI-21, VII-4, 17 '62
(J. Wilcox) JW.

Genus *Wilcoxia* James

Wilcoxia James, 1941: 38.

Type-species, cinerea James.

(4) martinorum Wilcox, 1972: 43.

Types 89, White Water, Cal., CAS.

Geographic range: USA (Arizona, California and Nevada); Mexico (Sonora).

California records:

Imperial Co.: Painted Gorge, Coyote Mts., VIII-22 '34 (C. D. Michener) CIS.

Inyo Co.: Death Vly. N. M., 1.5 mi. S. W. Wildrose Sta., 3100', XI-6 '68 (P. H. Arnaud, Jr.) at flowers of Chrysothamnus peniculatus (Gray) Hall, CAS.

Riverside Co.: Coyote Crk., XI-6 '63 (E. I. Schlinger) UCR; Deep Cyn., #57, XI-6 to XII-22 '63, '69, I-31 to II-10 '70 (S. Frommer, M. E. Irwin, L. La Pre, E. I. Schlinger, R. Worley) at light and malaise trap, UCR; Desert Hot Spgs., L. A. Aqueduct, I-25 '47 (G. H. Sperry and John L. Sperry) USNM; Joshua Tree N. M., Pleasant Vly., Fried Liver Wash, X-22 '67, X-29 '65 (E. L. Sleeper) part blacklight, CSULB; 10 mi. S. Oasis, XI-17 '47, XII-10 '62 (A. F. Howland, Itol J. and J. Wilcox) JW; Palm Desert, X-10 '64 (Eric Fisher) EMF; Palm Springs, XI-12 '44, XI-19 '43 (A. L. Melander) USNM, XII-23 to I-21 '50 to '53 (P. H. Arnaud, Jr.) JW, XII-16, I-21 '53, '64 (M. W. Stone, J. Wilcox) JW, Chino Cyn., x22x22x XII-22-26 '50 (P. H. Arnaud, Jr.) JW, Tahquitz Cyn., XI-24 '44 (A. L. Melander) USNM; White Water, XI-23 to XII-27 '47, I-6 '48 (A. F. Howland, C. H. and D. Martin, I. J. and J. Wilcox) CHM, CIS, JW, XI-11 '66, XI-13, 16x XII-16 '62 (Eric Fisher, E. J. Hamton) EMF.

Genus Willistonina Back

Willistonina Back, 1908: 389.

Typespecies, Habropogon bilineatus Williston

bilineatus (Williston), 1884: 11 (?Habropogon).

Type ♀, Northern California (O. T. Baron), UK.

Geographic range: USA (California, Oregon and Washington).

California records: Marin and Trinity Counties. No desert records.

bilineata nigrofemorata Wilcox, 1935: 33.

Types ♂♀, Idlewild, Cal., CAS.

Geographic range: Canada (British Columbia); USA (California, Idaho, Montana, Nevada, Oregon and Utah); Mexico (Baja California N.).

California records: Alpine, Eldorado, Inyo, Lassen, Los Angeles, Mariposa, Modoc, Mono, Plumas, Riverside, San Bernardino, San Diego, Sierra and Tuolumne Counties. Mainly a mountain species but found in and near the desert.

Inyo Co.: Big Pine, 7000-8000', VII-7 to VIII-22 '57, '63, '66 (C. H. and D. Martin, Itol J. and J. Wilcox) CHM, JW; Panamint, Panamint Mts., VII-10 '65 (Ball^{er} & Bath) UCR.

Los Angeles Co.: Big Pines, VII-26 '65 (J. Wilcox) JW; Wrightwood, VII-20 '54 (C. H. Martin) UCD.

Mono Co.: Tom's Place and 1 mi. S., VII-17, 18 '64 (J. Wilcox) JW, 1 mi. W., VIII-13 '57 (D. D. Linsdale) CIS.

Riverside Co.: Tahquitz Cyn., VI-20 (28 (E. C. Van Dyke) CAS.

San Diego Co.: Mt. Laguna, V-23 '59, VI-21 to VII-6 '63 (P. D. Hurd, J. Powell) Eriodycton trichocalyx v. lanatum, CIS (I. H. Pogojeff) UCD; Palomar Mt., VI-21 '66, VII-13 '41 (M. W. Stone, J. Wilcox) JW.

Subfamily Trigonimiminae Enderlein (1914b)

Genus Haplopogon Engel

Haplopogon Engel, 1930b: 409.

Type-species, nudus Engel.

(5) dicksoni Wilcox, 1966: 103.

Type ♂, 10 mi. E. Aztec, Arizona, IV-8 '63 (R. C. Dickson)

swept from Sphaeralcea, UCR-CAS, ♀, 18 mi. S. Gila Bend,

Arizona, IV-18 '65 (Mont A. Cazier) ASU-CAS.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: 7 mi. N. Ogilby, Indian Wash, V-28 '74

(J. D. Pinto) on Acacia, UCR.

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Appendix with a list of Species by County and Locality

The list of species by Counties and localities includes the endangered species plus the rare and new species. Some of the species listed may be rather common in California west of the mountains or in Arizona but are rare or rarely found in the deserts. Their chance of ultimate survival is probably best in the deserts because of the destruction of the native plants, cultivation of the soil and urban developement west of the deserts. Forest and brush fire are more numerous in and west of the mountains. Efferia peralta was quite numerous in east Anaheim prior to 1968 when a brush fire swept over thousands of acres, none of these flies have been found since the fire.

The records below indicate that most of the flies in the deserts are found on the slopes of the mountains, at or near their base, and especially in the canyons and washes that carry water all or part of the year. In the open part of the desert emergence in the winter depends on the occasional rains and in the summer on the thunder storms that come in quite frequently from the Gulf of California. Arizona gets most of it's summer rain from the Gulf of Mexico and at times these storms reach the California Desert. If the rains are general the species may be found in several localities but if spotted they will be found only ⁱⁿ small areas and you must be there at the right time after the storm to be successful. Several examples are given below.

On August 19, 1947 we took a small series of Itolia timberlakei at White Water, Cal. so we came back the next week-end expecting to get a better series but found none. On November 11, 1941 we took a good series of Cophura timberlakei at Palm Springs, Cal. and only one or two specimens have been taken in this locality in the following years. In 1942 we crossed the California Desert from Indio to Blythe and back from Yuma to El Centro and took Ospriocerus brevis in four or more locations and in the Borrego Valley, we have not collected a specimen since then. We took a single specimen of Nannocyrtopogon timberlakei at Little Rock in 1941 but repeated trips produced no more specimens, on a lead from Mr. P. H. Timberlake we found the species numerous 11 mi. S. of Adelanto. In 1949 we took a single specimen of Nannocyrtopogon inyo at Lone Pine, later trips produced no more specimens but at Independence in 1956 we found ^{them} sitting on almost every rock.

Time of day may also be important. In Arizona in trying to collect Metapogon and Sintoria we concluded that they did not make their appearance until 3:30 in the afternoon and later. This proved to be generally true and we took some of our best catches of Metapogon and Eucyrtopogon at White Water, Cal. after 4:00 P. M. after the sun had gone down behind Mt. San Jacinto. We took our best series of Efferia caliente in both California and Arizona from 5:00 P. M. until it was too dark to see them.

Desert insects might be called ephemeral. Under favorable conditions they emerge, feed, mate and lay their eggs in a very short period of time and then are gone. Even in the mountains where weather conditions are more stable from year to year their emergence may vary so much that you may never find them again. However, Hespenheide (1978) found Nannocyrtopogon neoculatus as numerous at the type locality in 1977 as we did in 1948 and 1953. In the deserts in the heat of the summer the flies are very scarce unless you happen on a locality that has recently been drenched by a thunder storm. The best time to find these flies is in the fall, winter and spring. In recent years California entomologists have collected in the off seasons in the desert areas and have taken many new species. Several Universities send out collecting expeditions nearly every year and have covered the United States over a period of years. They have been very successful except in the arid areas with little or no rain and are usually limited to the months June to August. The eastern half of Arizona is an exception as they receive up to 30 inches of rain during July and August making it a collectors paradise. Our trips in the California deserts ^{were} ~~was~~ usually one day so at most we penetrated 100 miles from the western edge. There were also some overnight trips in which we went farther north and also east but in general we think that at least the 50 miles west of the Colorado River is largely unexplored.

In the following list some species will be recorded from several localities. This probably does not indicate they are numerous as maybe only one or two specimens were found at each locality.

Insects found in Various Localities in the Counties

Imperial County

Calipatria	<u>Atomosiella antennata</u> (Banks)
Glamis	<u>Efferia yuma</u> Wilcox <u>Lestomyia</u> sp. 1
Gordon's Well	<u>Itolia timberlakei</u> Wilcox
Kane Springs	<u>Efferia yuma</u> Wilcox <u>Saropogon hyalinus</u> Coquillett
Laguna Dam	<u>Cophura dammersi</u> Wilcox
Niland	<u>Atomosiella antennata</u> (Banks)
Oasis (20-25 mi. S.)	<u>Cophura dammersi</u> Wilcox <u>Efferia yuma</u> Wilcox
Ocotillo	<u>Ommiablautus</u> n. sp. <u>Ospricerus brevis</u> Martin
Ogilby (Indian Wash)	<u>Haplopogon dicksoni</u> Wilcox <u>Lestomyia</u> sp. 4
Palo Verde	<u>Atomosiella antennata</u> (Banks) <u>Itolia atripes</u> Wilcox <u>Ospricerus brevis</u> Martin
Potholes	<u>Lophystia duncani</u> Wilcox

Inyo County

Alabama Hills	<u>Neomochtherus</u> sp. 3
Antelope Springs	<u>Asilus formosus</u> Hine
Balarat	<u>Lestomyia</u> sp. 1
Bigpine	<u>Cophura b. rubidus</u> Wilcox <u>Dicolonus medium</u> A. & W.
Bishop	<u>Cophura b. rubidus</u> Wilcox
Death Valley	<u>Ablautus coachellus</u> Wilcox <u>Eucyrtopogon</u> n. sp. <u>Furcilla</u> n. sp.
El Paso Mts.	<u>Lestomyia</u> sp. 1

Inyo County Cont'd.

Little Lake	<u>Bohartia isabella</u> A. & W.
Independence	<u>Bohartia isabella</u> A. & W. <u>Comantella cristata</u> (Coquillett) <u>Metapogon tricellus</u> Wilcox <u>Neomochtherus</u> sp. 3
Lone Pine	<u>Dicolonus medium</u> A. & W.
Mono Pass	<u>Laphria vivax</u> Williston
Onion Valley	<u>Cyrtopogon rainieri</u> W. & M.
Panamint Mountains	<u>Atomosiella antennata</u> (Banks) <u>Cophura dora</u> Pritchard <u>Cophura hesperia</u> Pritchard <u>Metadioctria resplendens</u> Loew
Trona	<u>Bohartia isabella</u> A. & W.
Westgård Pass	<u>Backomyia</u> n. sp. <u>Leptogaster</u> n. sp. <u>Prolatiforceps</u> sp.
White Mountains	<u>Leptogaster arborcola</u> Martin <u>Ospriocerus vallensis</u> Martin

Los Angeles County

Big Pines	<u>Dioctria vera</u> Back
Bouquet Canyon	<u>Lasipogon zonatus</u> C. & W. <u>Polacantha composita</u> (Hine)
Desert Springs	<u>Lestomyia</u> sp. 4
Lancaster	<u>Cerotainiops lucyae</u> Martin <u>Efferia tolandi</u> Wilcox
Little Rock	<u>Cophura tolandi</u> Wilcox <u>Cophura fisheri</u> Wilcox <u>Efferia arida</u> (Williston) <u>Eucyrtopogon</u> n. sp. <u>Nannocyrtopogon deserti</u> W. & M. <u>Nannocyrtopogon oculatus</u> W. & M.
Llano	<u>Bohartia isabella</u> A. & W.
Los Angeles County	<u>Heteropogon rubidus</u> (Coquillett)

Los Angeles County Contd.

Palmdale	<u>Nannocyrtopogon deserti</u> Wil & M. <u>Nannocyrtopogon oculatus</u> W. & M.
Piute Butte	<u>Bohartia isabella</u> A. & W. <u>Callinicus pollenius</u> (Cole)
Valyermo	<u>Lasiopogon drabicola</u> Cole <u>Neomochtherus californicus</u> (Hine)
Vincent	<u>Cerotainiops wilcoxi</u> Pritchard
Wrightwood	<u>Laphria trux</u> McAtee <u>Parataracticus wyliei</u> Martin

Kern County

Dove Springs	<u>Nannocyrtopogon deserti</u> W. & M.
El Paso Mountains	<u>Lestomyia</u> sp. 1
Randsburg	<u>Metapogon tricellus</u> Wilcox
Rosamond	<u>Bohartia isabella</u> A. & W. <u>Callinicus pollenius</u> (Cole) <u>Leptogaster fornicata</u> Martin
Short Canyon	<u>Ablautus linsleyi</u> Wilcox
Walker Pass	<u>Hodochylax halli</u> Wilcox <u>Leptogaster californica</u> Martin

Mono County

Benton	<u>Neomochtherus</u> sp. 3
White Mts.	<u>Omniablautus nigrinotum</u> (Wilcox)

Riverside County

Andreas Canyon	<u>Cophura fur</u> Williston
Anza	<u>Beameromyia lacinia</u> Martin
Banning	<u>Stenopogon macswaini</u> Wilcox
Blythe	<u>Cophura vandykei</u> Wilcox <u>Laphystia duncani</u> Wilcox <u>Metapogon amargosae</u> Wilcox
Box Canyon	<u>Cophura rozeni</u> Wilcox

Riverside County Cont'd.

Deep Canyon	<u>Atomosia mucida</u> Osten Sacken <u>Bohartia munda</u> A. & W. <u>Cerotainios omus</u> Pritchard <u>Cophura fur</u> Williston <u>Cophura painteri</u> Pritchard <u>Omniablaustus nigripes</u> Wilcox
Cabazon	<u>Stenopogon macswaini</u> Wilcox
Console Springs	<u>Nicocles lomae</u> Cole
Desert Center	<u>Ospricerus brevis</u> Martin
Devil's Canyon	<u>Cophura fur</u> Williston
Indio	<u>Ablautus coachellus</u> Wilcox <u>Itolia timberlakei</u> Wilcox
Joshua Tree N. M.	<u>Apachekolos crinitus</u> Martin <u>Efferia</u> n. sp. <u>Lestomyia</u> sp. 1 <u>Metapogon tricellus</u> Wilcox <u>Nannocyrtopogon</u> n. sp.
Hopkin's Well	<u>Stichopogon fragilis</u> Back ?
McCoy Springs	<u>Cophura powersi</u> Wilcox
Oasis	<u>Ablautus coachellus</u> Wilcox
Palm Springs	<u>Backomyia anomala</u> W. & M. <u>Cophura timberlakei</u> Wilcox <u>Cophura vandykei</u> Wilcox <u>Eucyrtopogon</u> n. sp. <u>Metapogon carinatus</u> Wilcox <u>Metapogon tricellus</u> Wilcox <u>Omniablaustus tolandi</u> Wilcox
Pinyon Flat	<u>Cophura pollinosa</u> Ritzmann Curran <u>Eudioctria dissimilis</u> A. & W. <u>Machinus nr. callidus</u> Williston <u>Promachus</u> sp. <u>Stenopogon pinyonae</u> Wilcox
Santa Rosa Mts.	<u>Stenopogon pinyonae</u> Wilcox
Tahquitz Canyon	<u>Holopogon crinatus</u> Martin <u>Metadioctria rubida</u> (Coquillett)

Riverside County Cont'd.

White Water

Backomyia anomala W. & M.
Cophura timberlakei Wilcox
Eucyrtopogon n. sp.
Itolia timberlakei Wilcox
Metapogon carinatus Wilcox
Metapogon tricellus Wilcox
Stichopogon fragilis Back ?

San Bernardino County

Adelanto

Hodophylax halli Wilcox
Saropogon hvalinus Coquillett

Amboy

Cophura powersi Wilcox
Ospricerus brevis Martin

Baker

Efferia yermo Wilcox

Baldwin Lake

Bohartia munda A. & W.

Barton Flat

Coleomyia crumborum Martin
Nannodictoria albicornis W. & M.

Big Bear Lake

Lasiopogon n. sp.
Neomochtherus sp. 2

Cajon Pass and Junction

Metadiotria rubida (Coquillett)
Nannocyrtopogon monrovia W. & M.
Stenopogon antoniae Wilcox

Carson's Well

Cophura fur Williston

Cronise

Efferia yermo Wilcox

Cushenbury Springs (Box S Spg.)

Comantella cristata (Coquillett)
Efferia tolandi Wilcox
Sintoria mojaviae Wilcox

Hanna Flats

Backomyia hanna W. & M.
Bohartia munda A. & W.
Holopogon crinitus Martin
Lestomyia montis Cole

Harper Dry Lake

Comantella cristata (Coquillett)

Joshua Tree N. M.

Nannocyrtopogon n. sp.

Kramer Hills

Lestomyia sp. 1

Kelso Dunes

Efferia n. sp.

Lucerne Valley

Eucyrtopogon n. sp.

San Bernardino County Cont'd.

Ludlow	<u>Efferia yermo</u> Wilcox
Morongo Valley	<u>Cophura timberlakei</u> Wilcox
Needles	<u>Metapogon amargosae</u> Wilcox <u>Stichopogon fragilis</u> Back ?
New York Mts.	<u>Ospricerus abdominalis</u> (Say)
Twentynine Palms	<u>Cophura vandykei</u> Wilcox <u>Metapogon amargosae</u> Wilcox <u>Omiablautus</u> n. sp.
Victorville	<u>Myelaphus lobicornis</u> (Osten Sacken) <u>Saropogon hyalinus</u> Coquillett <u>Stichopogon fragilis</u> Back ?
Yermo	<u>Efferia yermo</u> Wilcox <u>Machimus longipennis</u> Martin <u>Ospricerus brevis</u> Martin <u>Stenopogon mojaviae</u> Wilcox
Yucca Valley	<u>Hodophylax halli</u> Wilcox

San Diego County

Agua Caliente Springs	<u>Efferia caliente</u> Wilcox <u>Lestomyia</u> sp. 1
Borrego Valley	<u>Cerotainios orius</u> Pritchard <u>Cophura timberlakei</u> Wilcox <u>Ablautus arnaudi</u> Wilcox
Boulder Oaks	<u>Cerotainios mcclayi</u> Martin
Campo	<u>Lestomyia</u> sp. 1 5 <u>Neomochtherus</u> sp. 1
Jacumba	<u>Lestomyia</u> sp. 2
Julian	<u>Metadioctria resplendens</u> (Loew) <u>Pogonosoma hesperium</u> Martin
Laguna Mountains	<u>Dioctria pleuralis</u> Banks <u>Laphria trux ludax</u> McAtee <u>Machimus johnsoni</u> Hine ?
Oak Grove	<u>Lestomyia</u> sp. 5 <u>Metadioctria rubida</u> (Coquillett) <u>Stichopogon fragilis</u> Back ?

San Diego County Cont'd.

Scissors Crossing

Blepharepium sonorensis P. & B.

Sentenec Canyon

Efferia setigera Wilcox

Warner Springs

Ablautus vanduzeei Wilcox

Cerotainiops mcclayi Martin

Efferia setigera Wilcox

Neomochtherus sp. 1

Stenopogon blaisdelli Wilcox

Stichopogon fragilis Back ?

Palomar Mt.

Dioctria pleuralis Banks

Neomochtherus montanus (Hine)

Pogonosoma hesperium Martin

Stenopogon englandi Wilcox

II. List of Species by Counties and Localities

The preceeding list included rare and unusual species a number of which were from localities near to but not found in the California Desert Area entirely. The following lists includes the species found in the various localities (some may be questioned) in the desert arranged in alphabetical order by Counties and Localities. The localities are numbered 1 etc. in each county and these numbers are shown on the map, they are listed below.

Imperial County

1. Bard, Winterhaven, Laguna Dam.
2. Calexico, Calipatria, El Centro, Heber, Holtville, Niland, Seeley, Brawley and Westmoreland.
3. Glamis.
4. Gordons Well, Gray's Well (between Holtville and Winterhaven).
5. Mt. Signal.
6. Ocotillo (Coyote Wells, Coyote Mts., Mt. Springs).
7. Ogilby.
8. Palo Verde.
9. Salton Sea (East side).
10. Salton Sea (West side).

Inyo County

1. Antelope Springs (Deep Springs).
2. Argus Mts. (Darwin, Falls).
3. Death Valley (Death Valley Jct., *and other localities marked with X* Saratoga Spgs., Salsberry Pass).
4. Inyo Mts.
5. Little Lake (Pine Cyn.).
6. Olancho (Cartago).
7. Panamint Mts. (Ballarat, Panamint Vly.).

Inyo County, cont'd.

8. Short Canyon.
9. *Slate Range*
- 10 ~~8~~. Westgard Pass.
- 11 ~~9~~. White Mountains (including Mono County).

Kern County

1. Boron.
2. El Paso Mountains.
3. Indian Wells (Dove Springs, Willow Springs).
4. Mojave and vicinity.
5. Randsburg.
6. Ricardo (Red Rock Canyon).
7. Rogers Dry Lake.
8. Rosamond.
9. Saltdale.
10. San^d₁ Canyon (Short Canyon, Inyo Kern).
11. Walker Pass (Freeman Canyon).

Los Angeles County

1. Desert Springs.
2. Lancaster.
3. Littlerock (Pearblossom).
4. Llano (Pinon Hills, Juniper Hills).
5. Lovejoy (Buttes, Lake).
6. Mint Canyon.
7. Palmdale.
8. Piute Butte.
9. Red Rock Canyon.
10. Three Points
11. Valyermo (Big Rock Creek).
12. Wrightwood.

Riverside County

1. Blythe (Ripley).
2. Box Canyon.
3. Deep Creek (Carrizo Crk., Coyote Crk., Horsethief Crk.).
4. Desert Center (Hayfield Road).
5. Desert Hot Springs.
6. Hopkins Well (20-30 mi. S. Desert Center, 20-30 mi. W. Blythe).
7. Indio (Coachella, Mecca, Thermal).
8. Joshua Tree N. M. (top Berdoo Canyon).
9. Magnesia Canyon.
10. McCoy Springs.
11. Morongo Valley.
12. Oasis (Devil's Canyon, Salton Sea W.).
13. Palm Desert (Cathedral City, Indian Wells, La Quinta).
14. Palm Springs (Andreas Canyon, Chino Canyon, Tahquitz Canyon).
15. Pinyon Flat.
16. Rice.
17. Thousand Palms (Dos Palmas, Edom).
18. Vidal (S. of.).
19. White Water (Palm Springs R.R. Station, Snow Wash, Windy Point).

San Bernardino County

1. Adelanto (and 11 miles S.)
2. Amboy.
3. Apple Valley (Hesperia).
4. Atolia.
5. Baker.
6. Barstow (Daggett).
7. Cajon Pass (Cajon Junction, Cajon Station).
8. Carson's Well.

San Bernardino County, cont'd.

9. Clark Mountains.
10. Cronise (Dry Lakes).
11. Cushenbury Springs (Box S Springs).
12. Dale Dry Lake.
13. Earp.
14. Essex.
15. Goffs.
16. Granite Mountains (Granite Pass).
17. Harper Dry Lake.
18. Havasu (Lake).
19. Ivanpah.
20. Joshua Tree N. M.
21. Kelso.
22. Kramer Hills (Kramer Jct.).
23. Landers (Big Rock).
24. Lucerne Valley (Midway).
25. Ludlow.
26. Manix.
27. Mojave River & Deep Creek.
28. Morongo Valley.
29. Needles.
30. Newberry (Park).
31. New York Mountains.
32. Oro Grande.
33. Phelan (Desert Springs, Sheep Creek Canyon).
34. Providence Mountains.
35. Saddleback Butte (Los Angeles Co.?).
36. Salt Wells.

San Bernardino County, cont'd.

37. Rice.
38. Twentynine Palms.
39. Victorville.
40. Vidal Junction.
41. Wheaton Wash (Springs?).
42. Windmill.
43. Yermo.
44. Yucca Valley.

San Diego County

1. Agua Caliente Springs.
2. Borrego (Anza State Park, Clark Valley, Culp Canyon, Palm Canyon).
3. Dos Cabezas.
4. In-Ko-Pah Mountains.
5. Jacumba.
6. Manzanita.
7. Mountain Springs.
8. Ocotillo.
9. Ocotillo Wells.
10. San Felipe Creek (Sentenec Canyon).
11. Scissors Crossing (Earthquake Vly., San Felipe Vly., Vallecito Spgs.).

Note: Efferia albibarbis (Macquart) is not listed on most of the following pages. It occurs at more than half of the localities, see page 7a.

Map #1

Location Bard, Laguna Dam, Winterhaven

Seasonal Distribution of Collecting

[illegible]

Species .

Atomosia melanogon Hermann, VIII

Cophura dammersi Wilcox, IX

Diognites contortus Bromley, VIII

Efferia pernicious Coquillett. IV

Laphystia howlandi Wilcox, VI

County Imperial #2

Location Calexico, Calipatria, El Centro, Heber, Holtville, Niland, Seeley, Westmoreland

Seasonal Distribution of Collecting The farming area and fringes.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2	2	7		1	1				

Species

Ablautus flavipes Coquillett, III

Atomosiella antennata (Banks), V

Cerotainiops wilcoxi Pritchard, V

Efferia candida Coquillett, IV, V

Efferia pernicious Coquillett, V, VIII

Laphystia duncani Wilcox, IV

Laphystia martini Wilcox, V

Laphystia howlandi Wilcox, V

Saropogon semiustus Coquillett, III, V

Triorla interrupta (Macquart), VII

County Imperial #3

Location ~~Rainxxxxx~~ Glamis

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		3	8	2	3	1		2		1	1

Species

Ablautus flavipes Coquillett, III

Ablautus minus Osten Sacken, IV

Cophura getzendaneri Wilcox, III, XI, XII

Efferia albibarbis (Macquart), IV, V, VI

Efferia benedicti (Bromley), VI

Efferia candida Coquillett, IV, V, VI

Efferia deserti Wilcox, IV

Efferia pernicious Coquillett, IV

Efferia tricellus (Bromley), IX

Efferia yuma Wilcox, III

Lestomyia sp. 1, IV

Proctacanthella leucopogon (Williston), IX

Proctacanthus coquilletti Hine, IV

Saropogon mohawki Wilcox, VII

Saropogon semiustus Coquillett, IV

Imperial #4

Gordons Well (between Holtville and Winterhaven) Gray's Well

Seasonal Distribution of Collecting

[illegible]

Species

Cophura fisheri Wilcox, X

Itolia timberlakei Wilcox, VI

Proctacanthus coquillettii Hine, IV, VI

Triorla interrupta (Macquart), VII

County Imperial #5

Location Mt. Signal

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2	2						1	1	

Species

Ablautus flavipes Coquillett, III

Cophura getzendaneri Wilcox, XI

Efferia albibarbis (Macquart), III

Efferia azteci Wilcox, X

Efferia candida Coquillett, IV

Ospriocerus brevis Martin, IV

County Imperial #6

Location Ocotillo (Coyote Wells, Coyote Mts., Mt. Springs)

Seasonal Distribution of Collecting

[illegible]

Species .

Efferia caliente Wilcox, IV

Efferia producta (Hine), VI

Lestomyia sp. 3, III

Ospriocerus brevis Martin, IV

Saropogon semiustus Coquillett, IV

Wilcoxia martinorum Wilcox, VIII

County Imperial #7

Location Ogilby

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	3				3			

Species

Efferia ehrenbergi Wilcox, V, IV

Haplopogon dicksoni Wilcox, V

Omiablautus tolandi Wilcox, V

Saropogon mohawki Wilcox, IX

Scleropogon duncani (Bromley), IX

Stenopogon boharti Bromley, IX

County Imperial #8

Location Palo Verde

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			7	1		7	4	2	2		

Species

Ablautus flavipes Coquillett, IV

Atomosia melanopogon Hermann, VII

Atomosiella antennata (Banks), VII

Cerotainiops wilcoxi Pritchard, VII

Efferia davisi Wilcox, X

Efferia candida Coquillett, IX

Efferia deserti Wilcox, IV

Efferia ehrenbergi Wilcox, IV

Efferia perniciosus Coquillett, VIII, IX

Hodophylax basingeri Pritchard, X

Itolia atripes Wilcox, VIII

Laphystia howlandi Wilcox, VII

Mallophora fautricoides Curran, VII

Ospricerus brevis Martin, IV, V

Prolepsis tristis (Walker), VIII

Saropogon mohawki Wilcox, VII, VIII

Saropogon semiustus Coquillett, IV

Scleropogon duncani (Bramley), IV

Stenopogon boharti Bramley, IV

Triorla interrupta (Macquart), VII

County Imperial #9

Location Salton Sea (East side, Hot Mineral Spa, Pot Holes

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1	1	1								

Species

Efferia coquilletti (Hine), III

Laphystia duncani Wilcox, IV

Cophura getzendaneri Wilcox, II

County Inyo #1

Location Antelope Springs (Deep Springs)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				1	6	10 ¹¹	3 ⁴	1			

Species

Asilus astutus Williston, VI, VII

Asilus formosus Hine, VII

Cerotainiops wilcoxi Pritchard, VII, VIII

Dioctria vera Back, VI, VII

Efferia basingeri Wilcox, VIII, IX

Efferia pernicious Coquillett, VII

Heteropogon martini Wilcox, V

Efferia tucsoni Wilcox, VIII, VIII

Holopogon seniculus Loew, VI

Machimus paropus (Walker), VII

Megaphorus frustraflavida (Cole), VII

Polacantha composita (Hine), VII

Promachus aldrichii Hine, VI, VII, VIII

Promachus princeps Williston, VI

Stenopogon nigrifrons Coquillett, VII

Stenopogon tolanti Wilcox, VI, VII

Iny o #4

Inyo Mountains

Seasonal Distribution of Collecting

[illegible]

Species

Ablautus basini Wilcox, V

Ablautus californicus Wilcox, V

untly Iny o ^{#5}

Location Little Lake (Pine Cyn.) Salisbury Park

Seasonal Distribution of Collecting

[illegible]

species

Ablautus californicus Wilcox, IV

Bohartia isabella Adisoemarto & Wood, V

Cerotainiops omus Pritchard, V

Efferia candida Coquillett, VII

Megaphorus frustra flavida (Cole), VII .

Metapogon carinatus Wilcox, IV

~~Handwritten musical notation on a staff.~~

~~Handwritten musical notation on a staff.~~

Location Olancha (Cartago)

[illegible]

Species

Stenopogon tolandi Wilcox, V

County Inyo #7
Location Panamint Mts., Vly. (Ballarat)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3	4	1	4					

Species

Atomosiella antennata (Banks), VII

Cophura dora Pritchard, V

Cophura hesperis Pritchard, V

Efferia coquillettii (Hine), V

Efferia deserti Wilcox, IV

Lestomyia sp. 1, IV

Metadioctria resplendens (Loew), V

Nannocyrtopogon tolandi Wilcox & Martin, VII

Polacantha composita (Hine), VII

Proctacanthus coquillettii Hine, IV

Promachus aldrichii Hine, VI

Willistonina bilineata nigrofemorata Wilcox, VII

County Inyo # 8

Location Short Canyon

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3								

Species

Lestomyia fraudigera Williston, IV

Lestomyia sp. 4, IV

Nannocyrtopogon inyoii Wilcox & Martin, IV

Iny o \$9

Slate Range (13.8 mi. N. E. Tona)

Personal Distribution of Collecting

[illegible]

pecies

Bohartia isabella Adiscoemarto & Wood, IV

Stenopogon martini Bromley, IV

County Inyo #10

Location Westgard Pass

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				1	4	4	5	2			

Species

Backomyia sp., IX

Bohartia isabella Adisoemarto & Wood, VI

Cyrtopogon sudator Osten Sacken, VII

Dioctria pusio Osten Sacken, VI

Efferia candida Coquillett, VII

Efferia deserti Wilcox, V

Holopogon seniculus Loew, VI

~~*Leptogaster arborea* Martin, VII?~~

Leptogaster n. sp., VIII

Megaphorus frustra (Pritchard), VIII

Megaphorus frustra brunnea (Cole), VIII

Ospricerus vallensis Martin, VIII

Promachus aldrichii Hine, VIII, IX

Stenopogon inquinatus Loew, VI

County Inyo # 11

Location White Mountains

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					2	6	2				

Species

Cyrtopogon curtistylus Curran, VI

Cyrtopogon montanus Loew, VII

Dioctria henshawi Johnson, VII

Leptogaster arborcola Martin, VII

Neomovthetherus californicus (Hine), VII

Prolatforceps n. sp., VIII

Scleropogon neglectus (Bromley), VIII

Stenopogon engelhardti Bromley, VI, VII

Stenopogon utahensis Bromley, VII

Stenopogon inquinatus Loew, VI

County Mono #11Location White Mountains

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					11	10	3		1		

Species

Cyrtopogon curtistylus Curran, VI, VII, VIIICyrtopogon dasyllis Williston, VIICyrtopogon evidens Osten Sacken, VICyrtopogon montanus Loew, VI, VIICyrtopogon sudator Osten Sacken, VI, VIIEucyrtopogon incompletus Adiscoemarto, VI, VII, VIIIHolopogon stellatus Martin, VILaphria felis Osten Sacken, VIMallophora fautricoides CurranNicocles utahensis Banks, VI, XOmniablautus nigronotum (Wilcox), VIIIOspriocerus vallensis Martin, VIIScleropogon neglectus Martin Bromley, VIIStenopogon engelhardti Bromley, VI, VIIStenopogon inquinatus Loew, VI, VIIStenopogon obscuriventris Loew, VII

County Kern #1

Location Boron

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2								

Species

Lestomyia fraudigera Williston, IV

Lestomyia sp. 4, IV

Lestomyia sp. 1, IV

County Kern #3

Location Indian Wells (Dove Springs, Willow Springs)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2	2 1	2							

Species

Ablautus californicus Wilcox, V

Ablautus mimus Osten Sacken, III, V

Ablautus vanduzeei Wilcox, III

Stenopogon martini Bromley, IV

County Kern #4

Location Mojave and vicinity

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			5 5		1				1		

Species

Ablautus basini Wilcox, IV

Ablautus californicus Wilcox, IV

Cophura fisheri Wilcox, X

Efferia deserti Wilcox, IV

Efferia producta (Hine), VI

Lestomyia fraudigera Williston, IV

Lestomyia sp. 4, IV

County Kern #5

Location Randenburg

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				2							

Species

Efferia deserti Wilcox, V

Metapogon tricellus Wilcox, ?

Ospricerus brevis Martin, V

Kern #6

Location Ricardo (Red Rock Canyon)

Seasonal Distribution of Collecting

[illegible]

Species

Leatomyia sp. 4, IV

Lestomyia fraudigera Williston, V

Ablautus californicus Wilcox, IV

Ablautus coquilletti Wilcox, IV

County Kern #7

Station Rogers Dry Lake

Seasonal Distribution of Collecting

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1									

Species

Efferia arida (Williston), III

County Kern 18

Location Rosamond

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	4	23		1					

Species

Ablautus californicus Wilcox, III

Ablautus coquilletti Wilcox, IV

Bohartia isabella Adisoemarto & Wood, IV, V

Leptogaster fornicata Martin, V

Lestomyia fraudigera Williston, IV, V

Lestomyia sp. 4, IV

Megaphorus frustra flavida (Cole), VII

Kern # 90

Saltdale

Regional Distribution of Collecting

[illegible]

ies

Proctacanthus nearno Martin, VI

County Kern 11/10

Location Sand Canyon (Short Canyon, Inyokern)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	5	10	1						

Species

Ablautus basini Wilcox, III, IV

Ablautus californicus Wilcox, III, IV

Ablautus flavipes Coquillett, IV

Ablautus linsleyi Wilcox, II, III, IV

Ablautus minus Osten Sacken, IV

Efferia producta (Hine), VI

Lestomyia fraudigera Williston, III, IV

Lestomyia sp. 4, III, IV

Nannocyrtopogon deserti Wilcox & Martin, IV

Nannocyrtopogon inyo Wilcox & Martin, IV

Stenopogon martini Bromley, IV

County Kern #11

Location Walker Pass (Freeman Canyon)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			4	1	2	3	2	3			

Species

Ablautus californicus Wilcox, IV, V

Ablautus minus Osten Sacken, IV

Ablautus vanduzeei Wilcox, IV

Heteropogon davisii Wilcox, IX

Hodophylax halli Wilcox, IX

Leptogaster californicus Martin, VII

Lestomyia fraudigera Williston, IV

Machimus callidus (Williston), VII

Parataracticus wyliei Martin, VII

Polacantha composita (Hine), VIII

Saropogon luteus Coquillett, VII

Stenopogon bartonae Wilcox, VIII

Stenopogon bromleyi Wilcox, VI

Stenopogon obscuriventris Loew, VI

Desert Springs

Seasonal Distribution of Collecting

[illegible]

Species

• Efferia tana (Hine), V, VI

Lestomyia fraudigera Williston, IV, V

County Los Angeles #2

Location Lancaster

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2	4							

Species

Ablautus basini Wilcox, IV

Ablautus coquilletti Wilcox, V

Cerotainiops lucyae Martin, IV

Efferia candida Coquillett, V

Megaphorus frustra flavida (Cole), V

Stenopogon adelantae Wilcox, V

County Los AngelesLocation Littlerock (Pearblossom)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	2	3	3	10	1		1		1		1

Species

Ablautus californicus Wilcox, II, IIIAblautus coquilletti Wilcox, VAblautus minus Osten Sacken, II, III, VCophura fisheri Wilcox, XEucyrtopogon n. sp., XIILestomyia fraudigera Williston, IV, VLestomyia sp. 4, III, IV, VMachimus notialis Martin, VMegaphorus frustra flavida (Cole), VI, VIIINannocyrtopogon deserti Wilcox & Martin, VNannocyrtopogon oculatus Wilcox & Martin, VNannocyrtopogon timberlakei Wilcox & Martin, IV, VStenopogon adelantae Wilcox, VStenopogon martini Bromley, V

County Los Angeles #4
Location Llano (Pinon Hills (Juniper Hills))

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2		3 1	3	1	1					

Species

Ablautus californicus Wilcox, I, II

Ablautus minus Osten Sacken, II

Lestomyia fraudigera Williston, IV

Ablautus basini Wilcox, IV

Ablautus coquilletti Wilcox, IV

Bohartia isabella Adiscoemarto & Wood, V

Nannocyrtopogon timberlakei Wilcox & Martin, V

Polacantha composita (Hine), VII

Efferia cana (Hine), V, VI

Location Lovejoy (Buttes, Lake)

Seasonal Distribution of Collecting

S	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
J	1			1		1	1				

Species

Efferia arida
Efferia ~~xxxx~~ (Williston), II
Efferia cana (Hine), V
Proctacanthus nearno Martin, VII
Promachus aldrichii Hine, VIII

County Los Angeles #6

Location Mint Canyon

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	2			1	1	4		1			

Species

Ablautus minus Osten Sacken, II

Efferia candida Coquillett, VII

Metadioctria parvula (Coquillett), VI, VII

Nicocles argentatus Coquillett, II

Saropogon luteus Coquillett, VII

Stenopogon californiae Walker, VII

Stenopogon martini Bromley, V

Stenopogon brevisculus Loew, IX

County Los Angeles # 7

Location Palmdale

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		3	4	9	2		2				

Species

Ablautus californicus Wilcox, III

Ablautus minus Osten Sacken, III, IV, V

Apachekolos scapularis (Bigot), V

Asilus astutus Williston, V

Bohartia isabella Adisoemarto & Wood

Cerotainiops lucyae Martin, IV

Cerotainiops wilcoxi Pritchard, VIII

Efferia candida Coquillett, VIII

Lestomyia fraudigera Williston, V

Lestomyia sp. 4, III, IV, V

Machimus latapex Martin, V

Saropogon luteus Coquillett, V

Stenopogon adelante Wilcox, V, VI

Stenopogon martini Bramley, IV

Stenopogon rufibarbis Bramley, V

County Los Angeles #8

Location Plute Butte

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3	2							

Species

Ablautus basini Wilcox, IV, V

Bohartia isabella Adiscoemarto & Wood, IV

Nannocyrtopogon deserti Wilcox & Martin, IV

Zabrops tagax tagax Williston, V

County Los Angeles #9

Location Red Rock Canyon

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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[illegible]

Species

Lestomyia fraudigera Williston, ~~Saxtillett~~, V

Берияхаридах(Хиллхистон)хх

Efferia cana (Hine), V

County Los Angeles #10

Location Three Points

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1								

Species

Ablautus mimus Osten Sacken, IV

County Los Angeles # 11

Location Valyermo (Big Rock Creek)

Seasonal Distribution of Collecting

[illegible]

Species

Megaphorus frustra flavida (Cole), VIII. VII

Neomachtherus californicus (Hine), VI

Saropogon luteus Coquillett, IV

Stenopogon californiae Walker, VII

Stenopogon engelhardti Bramley, IV

. *Efferia inflata* (Hine), V

County Los Angeles #12

Station Wrightwood

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						6					

Species

Parataracticus niger Martin, VII

Holopogon atrifrons Cole, VII

Parataracticus wyliei Martin, VII

Saropogon luteus Coquillett, VII

Willistonina bilineata nigrofemorata Wilcox, VII

Laphria trux McAtee, VII

County Riverside #1Location Blythe (Ripley)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			7	2	6	5	4	2	2		
				Ripley		1	3		2	1	

Species

Ablautus flavipes Coquillett, IVAtomosia melanopogon Hermann, VI, VII, VIIICerotainiops wilcoxi Pritchard, V, VIICophura fisheri Wilcox, XCophura vandykei Wilcox, IV

(Ripley)

Diognites contortus Bromley, VI, VII, VIII, IXDiognites grossus Bromley, VIIEfferia azteci Wilcox, XEfferia pernicio Coquillett, V, VI, VIII, IXHedophylax basingeri Pritchard,Ospriocerus brevis Martin, IV

X, XI

Proctacabthella leucopogon (Williston), XMegaphorus pulchrus Pritchard,Proctacanthus nearno Martin, VI, VII

VIII

Saropogon albifrons Back, IVProctacanthella tolandi Wlx.,Saropogon mohawki Wilcox, VI

X

Saropogon semiustus Coquillett, IVProlepsis tristis (Walker),Scleropogon duncani (Bromley), IV

VIII

Stenopogon obscuriventris Loew, VIZabrops tagax tagax (Williston), VII, VIII

County Riverside #2

Location Box Canyon

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2								

Species

Cophura rozeni Wilcox, IV

Saropogon albifrons Back, IV

County Riverside #3Location Deep Canyon (Carrizo Crk., Coyote Crk., Horsethief Crk.)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	2	4	8	22	16	9	13	5	2	2	1

Species	<i>Ablautus californicus</i> Wilcox, I, II, III, XII
	<i>Ablautus coquillettii</i> Wilcox, IV, V
	<i>Ablautus mimus</i> Osten Sacken, III
	<i>Apachekolos scapularis</i> (Bigot), VI, VII
	<i>Atomosia mucida</i> Osten Sacken, V, VI, VII
	<i>Bohartia munda</i> Adisoemarto & Wood, V, VI, VII
	<i>Cerotainiops abdominalis</i> (Brown), VII
	<i>Cerotainiops omus</i> Pritchard, IV, V, VI
	<i>Cerotainiops wilcoxi</i> Pritchard, VIII
	<i>Cophura fur</i> ex Williston, IV, V
	<i>Cophura painteri</i> Pritchard, VIII
	<i>Dioctria pusio</i> Osten Sacken, V
	<i>Efferia albibarbis</i> (Macquart), IV, V, VI, VII, CIII
	<i>Efferia benedicti</i> (Bromley), V, VIII
	<i>Efferia bicolor</i> (Bellardi), VIII
	<i>Efferia candida</i> Coquillett, V, VI, VIII
	<i>Efferia peralta</i> Wilcox, VI, VIII
	<i>Efferia producta</i> (Hine), VI, VII, IX
	<i>Eudioctria monrovia</i> Wilcox & Martin, III
	<i>Hodophylax basingeri</i> Pritchard, X
	<i>Itolia atripes</i> Wilcox, VIII, IX
	<i>Leptogaster arida</i> Cole, IX, XI
	<i>Lestomyia fraudigera</i> Williston, IV, V

County Riverside #3

Location Deep Canyon, continued

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Nannocyrtopogon irvinei Wilcox & Martin, V

Species *Nannocyrtopogon lestomyiformis* Wilcox & Martin, IV, V

Nannocyrtopogon neoculatus Wilcox & Martin, V

Omniablautus nigripes Wilcox, VI

OsPriocerus brevis Martin, IV

Parataracticus niger Martin, V

Polacantha composita (Hine), VI, VII, IX

Proctacanthella leucopogon (Williston), VI, VIII

Promachus aldrichii Hine, VIII

Saropogon albifrons Back, V

Saropogon mohawki Wilcox, VI, VII, VIII, IX

Stenopogon arnaudi Martin, V

Stenopogon boharti Bromley, V, VI, VII

Stenopogon jubatus Coquillett, V

Stenopogon pinyonae Wilcox, VI

Stenopogon utahensis Bromley, V, VI

Stichopogon fragilis Back, V, VIII

Wilcoxia martinorum Wilcox, I, II, X, XI

County Riverside #4

Location Desert Center (Hayfield Road)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1		1					1	

Species

Ospriocerus brevis Martin, IV

Saropogon mohawki Wilcox, IX

Stenopogon boharti Bromley, VI

County Riverside #6

Location Hopkins Well (20-30 miles E. Desert Center, 20-30 mi. W. Blythe)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1	2	5	2			1		6		

Species

Ablautus flavipes Coquillett, IV

Cophura fisheri Wilcox, X

Cophura x fur Williston, V

Cophura getzendaneri Wilcox, II

Efferia azteci Wilcox, X

Efferia coquilletti (Hine), III, IV

Hodophylax basingeri Pritchard, X

Metapogon punctipennis Coquillett, VIII

OsPriocerus brevis Martin, III, IV

Proctacanthella leucopogon (Williston), X

Proctacanthella tolandi Wilcox, X

Saropogon semiustus Coquillett, IV

Scleropogon duncani (Bromley), IV, X

Stichopogon fragilis Back, V

Location Indio (Coachella, Mecca, Thermal)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	3	9	6	4	8	4	2	6	2	1

Ablautus arnaudi Wilcox, II

Saropogon albifrons Back, IV

Species *Ablautus coachellus* Wilcox, X, XI

Saropogon semiustus Coquillett, III, IV

Asilus astutus Williston, III, IV

Stanopogon nigrifrons Coquillett, IV, V

Atomosia melanopogon Hermann, VIII

Triorla interrupta (Macquart), VII

Cerotainiops wilcoxi Pritchard, V, VII, X

Zabrops tagax tagax Williston, IV

Cophura fisheri Wilcox, X

Cophura getzebdaneri Wilcox, I, XI, XII

Cophura vandykei Wilcox, V

Diogmites contartus Bromley, VI, VII, VIII

Efferia azteci Wilcox, X

Efferia deserti Wilcox, III, IV

Efferia candida Coquillett, IV, V, VI, VIII, IX

Efferia pernicios Coquillett, V, VI, VII

Itolia timberlakei Wilcox, VIII

Laphystia howlandi Wilcox, IV, V

Megaphorus prudens Pritchard, VII

Megaphorus pulchrus Pritchard, X

Ospriocerus brevis Martin, IV

Proctacanthella tolanti Wilcox, X

Proctacanthus coquilletti Hine, VII

Proctacanthus nearno Martin, VI, VII

Proctacanthus occidentalis Hine, VII

Promachus aldrichii Hine, IX

Seasonal Distribution of Collecting

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	2	1	6	3	8	5	4	3	6	3	1

Species

<i>Ablautus californicus</i> Wilcox, I, II, III, IV	
<i>Apachekolos crinita</i> Martin, IX	
<i>Cophura fisheri</i> Wilcox, X	
<i>Cophura getzendaneri</i> Wilcox, XI	
<i>Cophura vanduzeei</i> Wilcox, X, XI	
<i>Efferia benedicti</i> (Bromley), VI, VII, VIII	
<i>Efferia cana</i> (Hine), V, VI	
<i>Efferia producta</i> (Hine), VI, VII, VIII	
<i>Efferia candida</i> Coquillett, VIII	
<i>Hodophylax basingeri</i> Pritchard, IX, X	
<i>Hodophylax halli</i> Wilcox, X	
<i>Lestomyia</i> sp. 1, IV	
<i>Lestomyia fraudigera</i> Williston, IV	
<i>Megaphorus frustra flavida</i> (Cole), VI, VII, VIII, IX	
<i>Metapogon tricellus</i> Wilcox, X, XI, XII, I, II	
<i>Nannocyrtopogon</i> n. sp., IV, V	
<i>Parataracticus niger</i> Martin, IV, VI	
<i>Stenopogon adelantae</i> Wilcox, VI	
<i>Stenopogon nigrifolius</i> Coquillett, IV, V, VI, VII	
<i>Wilcoxia martinorum</i> Wilcox, X	

County Riverside #9

Location Magnesia Canyon

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1				2	2				

Species

Cerotainiops wilcoxi Pritchard, VII

Lasiopogon zonatus Cole & Wilcox, III

Efferia producta (Hine), VII

Riverside #10

McCoy Springs

Seasonal Distribution of Collecting

[illegible]

Species

Cophura powersi Wilcox, IV

Efferia coquilletti (Hine), IV

County Riverside #11

Location Morongo Valley

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				1							

Species

Efferia inflata (Hine), V

County Riverside #12

Location Oasis (Devil's Canyon, Salton Sea West)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	2						3	2

Species

- Ablautus coachellus Wilcox, XI, XII
- Asilus astutus Williston, IV
- Efferia candida Coquillett, V
- Cophura fur Williston, V
- Cophura getzendaneri Wilcox, XI
- Wilcoxia martinorum Wilcox, XI, XII

County Riverside #13

Location Palm Desert (Cathedral City, Indian Wells, La Quinta)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1	1	1	3	1	6		1	1	1	

Species

Cerotainiops wilcoxi Pritchard, V, VII, IX

Cophura getzendaneri Wilcox, XI

Efferia coquilletti (Hine), II

Efferia deserti Wilcox, IV

Efferia inflata(Hine), V

Efferia producta (Hine), VII

Lasiopogon zonatus Cole & Wilcox, III

Proctacanthella leucopogon (Williston), VII

Proctacanthus coquilletti Hine, V

Proctacanthus nearno Martin, VII

Saropogon mohawki Wilcox, VII

Stenopogon boharti Branley, VI

Stenopogon lamae Wilcox, VII

Wilcoxia martinorum Wilcox, X

County Riverside #14Location Palm Springs (Andreas Canyon, Chino Canyon, Tahquitz Canyon)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	3	5	9	10	10	5	4	2		6	3

Species

<u>Ablautus arnaudi Wilcox, II</u>	
<u>Ablautus californicus Wilcox, I</u>	
<u>Ablautus coquilletti Wilcox, II, III, IV</u>	
<u>Ablautus flavipes Coquillett, IV</u>	
<u>Backomyia anomalus Wilcox & Martin, I</u>	
<u>Cerotainiops wilcoxi Pritchard, VII, VIII, IX</u>	
<u>Cophura fur Williston, IV</u>	
<u>Cophura getzendaneri Wilcox, I, III, XI, XII</u>	
<u>Cophura tanbarki Wilcox, IV, V, VIII</u>	
<u>Cophura timberlakei Wilcox, XI</u>	
<u>Cophura vandykei Wilcox, IV</u>	
<u>Efferia albibarbis (Macquart), VII</u>	
<u>Efferia bicolor (Bellardi), VII</u>	
<u>Efferia candida Coquillett, V, VII, VIII, IX</u>	
<u>Efferia coquilletti (Hine), III, IV</u>	
<u>Efferia pernicious Coquillett, VII</u>	<u>Efferia producta (Hine), VI</u>
<u>Eucyrtopogon n. sp., XI</u>	
<u>Hodophylax basingeri Oritchard, XI, XII</u>	
<u>Lestomyia fraudigera Williston, I, III, IV</u>	
<u>Machimus notialis Martin, VI</u>	
<u>Megaphorus frustra flavida (Cole), V, VI</u>	

County Riverside #14

Location Palm Springs, continued

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Species

Metadioctria rubida (Coquillett), VI

Metapogon carinatus Wilcox, I

Metapogon tricellus Wilcox, I

Nannocyrtopogon lestomyiformis Wilcox & Martin, IV

Neomochtherus californicus (Hine), VI

Ospriocerus brevis Martin, IV

Omniablautus tolandi Wilcox, V

Proctacanthella leucopogon (Williston), VI

Proctacanthella tolandi Wilcox, XI

Proctacanthus nearno Martin, V

Saropogon albifrons Back, V

Saropogon mohawki Wilcox, V, VII

Saropogon semiustus Coquillett, VI

Scleropogon duncani (Bromley), V

Stenopogon boharti Bromley, V, VI

Stenopogon obscuriventris Loew, VI

Stenopogon utahensis Bromley, V, VIII

Wilcoxia martinorum Wilcox, I, XI, XII

Willistonina bilineata nigrofemorata Wilcox, VI

Zabrops tagax tagax Williston, II, III

County Riverside #5

Location Pinyon Flat

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	7	13	3	2	1	3	1		

Species

<u>Ablautus californicus Wilcox, IV</u>	
<u>Ablautus coquilletti Wilcox, III</u>	
<u>Ablautus minus Osten Sacken, IV, V</u>	
<u>Andrenosoma fulvicauda (Say), VII</u>	
<u>Callinicus pictitarsis (Bigot), V, VI</u>	
<u>Cerotainiops lucyae Martin, IV, V</u>	
<u>Cophura pollinosa Curran, VII, VIII, IX</u>	
<u>Dioctria pusio Osten Sacken, V, VI</u>	<u>Efferia producta (Hine), V</u>
<u>Heteropogon tolandi Wilcox, IX</u>	
<u>Hodophylax halli Wilcox, X</u>	
<u>Lestomyia sp. 5, IV</u>	
<u>Lestomyia fraudigera Williston, IV, V</u>	
<u>Lestomyia sabulona Osten Sacken, V</u>	
<u>Megaphorus frustra flavida (Cole), VI</u>	
<u>Nannocyrtopogon irvinei Wilcox & Martin, IV, V</u>	
<u>Nannocyrtopogon lestomyiformis Wilcox & Martin</u>	
<u>Nannocyrtopogon monrovia Wilcox & Martin, V</u>	
<u>Nannocyrtopogon neoculatus Wilcox & Martin, IV, V</u>	
<u>Promachus sp., IX</u>	
<u>Stenopogon jubatus Coquillett, V</u>	
<u>Stenopogon pinyonae Wilcox, V</u>	
<u>Stenopogon wilcoxi Bromley, V</u>	

Proctacanthus coquilletti Hine, V

Location Thousand Palms (Dos Palmas, Edom)

[illegible]Species

Zabrops tagax tagax (Williston), III, IV

County Riverside #18

Location Vidal (Rice) (South of)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	1		3					

Species

~~Efferia pernicious~~ ~~Coquillett~~ ~~(Hines)~~ ~~xx~~ ~~xx~~

Efferia pernicious Coquillett, VII

Saropogon mohawki Wilcox, VII

Proctacanthus nearno Martin, VII

~~Proctacanthus~~ ~~nearno~~ ~~Coquillett~~ ~~(Hines)~~ ~~xx~~

County Riverside #19

Location White Water (Balm Springs R. R. Sta., Snow Wash, Windy Point)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5	3	5	2	1	5	3	2	5	4	8	5

Species

<u>Ablautus arnaudi Wilcox, III</u>	<u>Proctacanthus nearno Martin, IX</u>
<u>Ablautus californicus Wilcox, III</u>	<u>Stenopogon lomaie Wilcox, VI</u>
<u>Ablautus coquillettii Wilcox, II, IV, V</u>	<u>Stenopogon californiae Walker, IX</u>
<u>Ablautus flavipes Coquillett, III</u>	<u>Stichopogon fragilis Back, VI</u>
<u>Backomyia anomalus Wilcox & Martin, XI</u>	<u>Wilcoxia martinorum Wilcox, I, XI, XII</u>
<u>Cerotainiops omus Pritchard, VI</u>	<u>Zabrops triclisis triclisis Williston, II, VII</u>
<u>Cerotainiops wilcoxi Pritchard, VIII, IX</u>	<u>III</u>
<u>Cophura getzendaneri Wilcox, I, XI, XII</u>	
<u>Cophura timberlakei Wilcox, XI</u>	
<u>Efferia albibarbis (Macquart), VI, VII</u>	
<u>Efferia candida Coquillett, VI, VII, X</u>	
<u>Efferia coquillettii (Hine), III, IV</u>	
<u>Efferia pernicious Coquillett, IX</u>	
<u>Eucyrtopogon n. sp., XI, XII</u>	
<u>Itolia timberlakei Wilcox, VIII</u>	
<u>Hodophylax basingeri Pritchard, IX, X, XI</u>	
<u>Leptogaster californicus Martin, X</u>	
<u>Metapogon carinatus Wilcox, I, II, XI, XII</u>	
<u>Metapogon tricellus Wilcox, I, XI, XII</u>	
<u>Proctacanthella tolandi Wilcox, VIII, IX, X</u>	

County San Bernardino #1

Location Adelanto (and 11 miles south)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		3	9	8		1	2	2	1		

Species

Ablautus californicus Wilcox, III, IV

Ablautus coquillettii Wilcox, V

Ablautus minus Osten Sacken, IV, V

Ablautus vanduzeei Wilcox, IV

Cerotainiops lucyae Martin, IV, V

Cerotainiops wilcoxi Pritchard, VIII

Efferia candida Coquillett, VIII

Efferia deserti Wilcox, V

Hodophylax basingeri Pritchard, IX

Hodophylax halli Wilcox, IX, X

Leptogaster arida Cole, IV

Lestomyia fraudigera Williston, IV, V

Lestomyia sp. 4, III, IV, V

Machimus notialis Martin, V

Nannocyrtopogon timberlakei Wilcox & Martin, IV, V

Saropogon hyalinus Coquillett, VII

Stenopogon adelantae Wilcox, V

Zabrops tagax tagax Williston, III, IV

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Amb oy

Seasonal Distribution of Collecting

[illegible]

Species

Efferia coquilletti (Hine), IV

Efferia deserti Wilcox, IV

Cophura powersi Wilcox, IV

Megaphorus frustra flavida (Cole), VI

Ospriocerus brevis Martin, IV

County San Bernardino #3

Location Apple Valley (Hesperia)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3	4						1	

Species

Ablautus californicus Wilcox, IV

Lestomyia fraudigera Williston, IV, V

Lestomyia sp. 4, IV, V

Stenopogon adelantae Wilcox, V

Stenopogon martini Bromley, V

Cyrtopogon basingeri Wilcox & Martin, XI

County San Bernardino #4

Location Atolia

Seasonal Distribution of Collecting

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Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						2					

Species

Megaphorus frustra flavida (Cole), VII

Saropogon luteus Coquillett, VII

County San Bernardino #5

Location Baker

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2	2	1	1					

Species

Efferia coquilletti (Hine), IV

Efferia deserti Wilcox, V

Lestomyia sp. 4, IV

Neomochtherus californicus (Hine), VII

Saropogon mohawki Wilcox, VI

Scleropogon duncani (Bromley), V

County San Bernardino #6

Location Barstow (Daggett)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	2	1	3	1					

Species

Cerotainiops wilcoxi Pritchard, VI

Efferia deserti Wilcox, V

Megaphorus frustra flavida (Cole), VI

?Ospricerus longulus (Loew), VII

Saropogon albifrons Back, VI

Stenopogon martini Bromley, IV

Zabrops tagax tagax (Williston), III, IV

County San Bernardino #7

Location Cajon Pass (Cajon Junction, Cajon Station)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	6	2	7	89	34				

Species	<u>Ablautus californicus Wilcox, IV</u>	
	<u>Ablautus minus Osten Sacken, IV, V</u>	
	<u>Andrenosoma fulvicauda (Say), VII</u>	
	<u>Callinicus pictitarsis (Bigot), IV, VI</u>	
	<u>Cerotainiops lucyae Martin, IV</u>	
	<u>Efferia candida Coquillett, VI, VII</u>	<u>Efferia inflata (Hine), VII, VIII</u>
	<u>Heteropogon ludius Coquillett, VI</u>	
	<u>Laphria trux McAtee, VII</u>	
	<u>Lestomyia fraudigera Williston, IV</u>	
	<u>Lestomyia sabulonum (Osten Sacken) III</u>	
	<u>Metadioctria rubida (Coquillett), VIII</u>	
	<u>Nannocyrtopogon monrovia Wilcox & Martin, VI</u>	
	<u>Nannocyrtopogon timberlakei Wilcox & Martin, IV, V</u>	
	<u>Polacantha composita (Hine), VII</u>	
	<u>Saropogon luteus Coquillett, VII</u>	
	<u>Stenopogon antoniae Wilcox, VII</u>	
	<u>Stenopogon californiae Walker, VIII</u>	
	<u>Stenopogon jubatus Coquillett,</u>	
	<u>Stenopogon macswaini Wilcox, VI</u>	
	<u>Stenopogon obscuriventris Loew, VI, VII</u>	
	<u>Stenopogon wilcoxi Bromley, VIII</u>	

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Seasonal Distribution of Collecting

[illegible]

Cophura fur Williston, IV

Efferia coquilletti (Hine), IV

Clark Mountains

onal Distribution of Collecting

ies

Promachus aldrichii Hine, VII, IX

County San Bernardino #10

Location Cronise (Dry Lake)

Seasonal Distribution of Collecting

[illegible]

Species

Ablautus californicus Wilcox, II, IV

~~Ablautus eximilis~~ *flavipes* Coquillett, IV

Efferia candida Coquillett, V

Efferia deserti Wilcox, IV

Saropogon albifrons Back, VII

Saropogon luteus Coquillett, V

County San Bernardino #11

Location Cushenbury Springs (Box S Spring)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2					3			

Species

Ablautus californicus Wilcox, IV

Comantella cristata (Coquillett), IV

Efferia tolandi Wilcox, ~~IX~~ IX

Hodophylax basingeri Pritchard, IX

Sintoria mojavae Wilcox, IX

San Bernardino #12

ation Dale Dry Lake

Personal Distribution of Collecting

[illegible]

cies

Ablautus

~~Epieris~~ basini Wilcox, ?

208
ty San Bernardino #13

tion Earp

onal Distribution of Collecting

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dec			1	1					1		

cies

Efferia Mortensoni Wilcox, X

Efferia coquilletti (Hine); IV

Saropogon albifrons Back, V

County San Bernardino 14

Location Essex

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1								

Species

Ospricocerus brevis Martin, IV

Personal Distribution of Collecting

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Zabrops tagax tagax (Williston), II, III

Location Granite Mountains (Granite Pass)

Seasonal Distribution of Collecting

[illegible]

Species

Ablautus californicus Wilcox, IV

Lestomyia fraudigera Williston, V

Parataracticus niger Martin, V

Efferia producta (Hine), VII

City San Bernardino #17

-292-

Station Harper Dry Lake

Seasonal Distribution of Collecting

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Species

Comantella cristata (Coquillett), III

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[illegible]

ecies

Efferia coquilletti (Hine), IV

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County San Bernardino #19

Location Ivanpah

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				2					X 3		

Species

Ablautus flavipes Coquillett, V

Ablautus mimus Osten Sacken, V

Metapogon punctipennis Coquillett, X

Sintoria cyanea Wilcox, X

Efferia tacsoni Wilcox, X

Station xxxxx Joshua Tree National Monument (see p. 263, Riverside Co.)

Seasonal Distribution of Collecting

Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1		4	3	2	2	1	1		1	

Species

~~Chalcidius brevicaudatus~~

Efferia inflata (Hine), V

Efferia producta (Hine), VII

Eudioctria monrovia Wilcox & Martin, V

Hodophylax basingeri Pritchard, IX, XI

Megaphorus frustra flavida (Cole), VI

Metapogon tricellus Wilcox, II

Polacantha composita (Hine), VI, VII, VIII

Stenopogon nigrifolius Coquillett, V

nty San Bernardino #21

ation Kelso

sonal Distribution of Collecting

Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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cies

Efferia candida Coquillett, VII

County San Bernardino #22

Location Kramer Hills (Kramer Junction)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	4	3		1					

Species

Ablautus basini Wilcox, III, IV

Ablautus coquilletti Wilcox, IV, V

Cerotainiops wilcoxi Pritchard, VII

Efferia deserti Wilcox, V

Lestomyia fraudigera Williston, IV, V

Lestomyia sp. 1, IV

County San Bernardino #23

Location	Landers
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Seasonal Distribution of Collecting

[illegible]

Species

Cophura fisheri Wilcox, X

County San Bernardino #24

Location Lucerne Valley (Midway)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1			1			1	2	

Species

Efferia candida Coquillett, VII

Eucyrtopogon n. sp., XI

Hodophylax basingeri Pritchard, X, XI

Lestomyia sp. 4, IV

San Bernardino #25

ation Ludlow

sonal Distribution of Collecting

[illegible]

acies

Efferia deserti Wilcox, IV, V

Ospriocerus brevis Martin; IV

tion Manix

onal Distribution of Collecting

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Efferia deserti Wilcox, IV

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County San Bernardino #27

Location Mojave River at Deep Creek

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	6	2	1	1	3		1	1	

Species

Ablautus californicus Wilcox, IV

Ablautus minus Osten Sacken, III, IV

Efferia candida Coquillett, VIII

Cyrtopogon basingeri Wilcox & Martin, XI

Lasiopogon drabicola Cole, IV

Lasiopogon zonatus Cole & Wilcox, IV

Lestomyia fraudigera Williston, IV

Lestomyia sp. 4, IV

Megaphorus frustra flavida (Cole), VIII

Nannocyrtopogon timberlakei Wilcox & Martin, V

Saropogon luteus Coquillett, VII

Stenopogon adelantae Wilcox, V

Stenopogon californiae Walker, X

Stenopogon obscuriventris Loew, VI

Stichopogon trifasciatus (Say), VIII

County San Bernardino #28

Location Morongo Valley

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1			1	1			2 1	2	1	

Species

Ablautus californicus Wilcox, II

Backonyia hannah Wilcox & Martin, XI

Cophura timberlakei Wilcox, & Martin X

Efferia pernicios Coquillett, IX

Efferia inflata (Hine), V

Hodophylax basingeri Pritchard, X

Megaphorus frustra flavida (Cole), VI

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[illegible]

Ablautus flavipes Coquillett, III, IV

Efferia coquilletti (Hine), III, IV

Efferia deserti Wilcox, III, IV

Efferia pernicious Coquillett, VI

Metapogon amargosae Wilcox, III

Saropogon mohawki Wilcox, VII

Stichopogon fragilis Back, VI

County San Bernardino Co. 50

Station Newberry (Park)

Seasonal Distribution of Collecting

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				1.		1					

Species

• Proctacanthus coquilletti Hine, V

• Triorla interrupta (Macquart), VII

County San Bernardino #31

Location New York Mountains

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1					1			

Species

Ablautus californicus Wilcox, IV

Osprionotus abdominalis (Say), IX

Location Oro Grande

[illegible]

Ablautus coquilletti Wilcox, V

Efferia arida (Williston), IV

Efferia coquilletti (Hine), IV

County San Bernardino 55

Location Phelan (Desert Springs, Sheep Creek Canyon)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			4	5	54	1		1			

Species

Ablautus californicus Wilcox, IV, V

Ablautus mimus Osten Sacken, IV, V

Callinicus pictitarsis (Bigot), V

Cerotainiops lucyae Martin, V

Efferia inflata (Hine), VI

Cerotainiops wilcoxi Pritchard, VII

Hedophylax halli Wilcox, IX

Lasiopogon zonatus Cole & Wilcox, V

Lestomyia sp. 4, IV

Lestomyia fraudigera Williston, IV

Polacantha composita (Hine), VI

Saropogon luteus Coquillett, VI

Stenopogon martini Bromley, VI

Location Providence Mountains

Seasonal Distribution of Collecting

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				1	1							

Species

Efferia arida (Williston), IV

Promachus princeps Williston, V

County San Bernardino #35

Location Saddleback Butte (Los Angeles Co.?).

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					1						

Species

Ablautus basini Wilcox, VI

Seasonal Distribution of Collecting

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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ries

Efferia arida (Williston), III, IV

County San Bernardino #37

Location Rice

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
									2		

Species

Cophura fisheri Wilcox, X

Cophura getzendaneri Wilcox, X

County San Bernardino #38

Location Twentynine Palms

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		0	1	4				2	6	5	

Species

Ablautus californicus Wilcox, III

Ablautus coachellus Wilcox, X, XI

Cophura fisheri Wilcox, X

Cophura getzendaneri Wilcox, X, XI

Cophura tolandi Wilcox, XI

Cophura vandykei Wilcox, X

Efferia candida Coquillett, V

Hodophylax basingeri Pritchard, IX, X

Megaphorus frustra flavida (Cole), IX

Metapogon amargosae Wilcox, X, XI

Omniablautus n. sp., XI

Saropogon albifrons Back, V

Scleropogon duncani (Bromley), V

Stenopogon jubatus Coquillett, V

County San Bernardino #39

Location Victorville

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2	4	1	3	1		1		

Species

Ablautus mimus Osten Sacken, IV

Asilus astutus Williston, V

Lestomyia fraudigera Williston, V

Megaphorus frustra flavida Cole, VII, VIII

Metapogon pictus Cole, X

Myelaphus lobicornis (Osten Sacken), V

Polacantha composita (Hine), VI

Stenopogon martini Bromley, IV

Stichopogon fragilis Back, VII

Stichopogon trifasciatus (Say), V, VII

County San Bernardino ¹⁴⁰

Location Vidal Junction.

Seasonal Distribution of Collecting

[illegible]

Species .

Ablautus basini Wilcox, II

Ablautus flavipes Coquillett, IV

County San Bernardino #41

Location Wheaton Wash

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				1							

Species

Saropogon albifrons Back, V

County San Bernardino 42

Location Windmill

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1								

Species

Efferia coquilletti (Hine), IV

County San Bernardino #43

Location Yermo

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	2	7	1						

Species

Ablautus flavipes Coquillett, IV

Efferia candida Coquillett, V

Efferia deserti Wilcox, IV

Efferia pernicious Coquillett, V

Efferia yermo Wilcox, IV

Cyrtopogon evidens Osten Sacken, V

Lestomyia fraudigera Williston, IV

Machimus longipennis Martin, V

Ospriocerus brevis Martin, IV

Saropogon semiustus Coquillett, VI

Scleropogon duncani (Bromley), V

Stenopogon martini Bromley, IV, V

Stenopogon mojaviae Wilcox, IV, V

Zabrops tagax tagax (Williston), III, IV

County San Bernardino #44

Location Yucca Valley (Pioneertown)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	1			1	1		2		

Species

Ablautus californicus Wilcox, III, IV

Hodophylax basingeri Pritchard, X

Hodophylax halli Wilcox, X

Megaphorus frustra flavida (Cole), VIII

Saropogon luteus Coquillett, VII

County San Diego #1

Location Agua caliente Springs

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2	2				2				

Species

Ablautus flavipes Coquillett, III

Efferia caliente Wilcox, IV

Efferia canada Coquillett, VIII

Lestomyia fraudigera Williston, III

Lestomyia sp. 1, IV

Megaphorus frustra flavida (Cole), VIII

County San Diego #2Location Borrego (Anza State Park, Clark Valley, Culp Canyon, Palm Canyon)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1	7	20	9	2	1		1	6	3	

	<i>Ablautus californicus</i> Wilcox, II, III, IV	<i>Scleropogon duncani</i> (Bromley), IV, V
Species	<i>Ablautus coquillettii</i> Wilcox, III, IV	<i>Stenopogon adelantae</i> Wilcox, IV
	<i>Ablautus flavipes</i> Coquillett, III, IV	<i>Stenopogon boharti</i> Bromley, X
	<i>Cerotainiops omus</i> Pritchard, IV, V	<i>Stenopogon engelhardti</i> Bromley, IV, V
	<i>Cophura fisheri</i> Wilcox, X	<i>Stenopogon martini</i> Bromley, III, IV
	<i>Cophura fur</i> Williston, IV	<i>Stenopogon obscuriventris</i> Loew, V
	<i>Cophura timberlakei</i> Wilcox, X, XI	<i>Stenopogon utahensis</i> Bromley, IV, V
	<i>Cophura tolandi</i> Wilcox, XI	<i>Zabrops tagax tagax</i> (Williston), III, IV
	<i>Efferia candida</i> Coquillett, IV, V, IX	
	<i>Efferia coquillettii</i> (Hine), IV	
	<i>Efferia davisii</i> Wilcox, X	
	<i>Efferia deserti</i> Wilcox, IV	
	<i>Efferia pernicious</i> Coquillett, IV, V	
	<i>Hodophylax basingeri</i> Pritchard, X	
	<i>Lestomyia fraudigera</i> Williston, III	
	<i>Megaphorus frustra flavida</i> (Cole), VI, VII	
	<i>Nannocyrtopogon lestomyiformis</i> Wilcox & Martin, IV	
	<i>Ospricerus brevis</i> Martin, III, IV	
	<i>Parataracticus niger</i> Martin, IV	
	<i>Proctacanthella tolandi</i> Wilcox, X, XI	
	<i>Saropogon luteus</i> Coquillett, VI	
	<i>Saropogon mohawki</i> Wilcox, V	
	<i>Saropogon semiustus</i> Coquillett, IV, V	

County San Diego #3

Location Dos Cabezas

Seasonal Distribution of Collecting

[illegible]

Species

Ablautus californicus Wilcox, III

Location In-Ko-Pah Mountains

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Machimus johnsoni (Hine), IX

County San Diego #5

Location Jacumba

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			8	3		1	2				

Species

Ablautus californicus Wilcox, IV

Ablautus minus Osten Sacken, IV

Apachekolos scapularis (Bigot), IV, V

Cerotainiops lucyae Martin, IV

Lestomyia sp. 2, IV

Lestomyia fraudigera Williston, IV

Megaphorus frustra flavida (Cole), VIII

Nannocyrtopogon nigricolor (Coquillett), V

Parataracticus niger Martin, IV

Stenopogon engelhardtii Bromley, IV, V

Stenopogon wilcoxi Bromley, VII, VIII

County San Diego #6

Location Manzanita

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
									1		

Species

Hodophylax halli Wilcox, X

County San Diego #7

Location Mountain Springs

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					1	1					

Species

Megaphorus frustra flavida (Cole), VII

Efferia producta (Hine), VI

County San Diego #8

Location Ocotillo

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	2								

Species

~~Stenopogon flavipes~~ ~~Stenopogon~~

Stenopogon williamsi Wilcox, IV

Zabrops tagax Tagax (Williston), III, IV

County San Diego #9

Location Ocotillo Wells

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3								

Species

Ablautus flavipes Coquillett, IV

Efferia deserti Wilcox, IV

Efferia caliente Wilcox, IV

County San Diego #10Location San Felipe Creek (Sentenac Canyon)

Seasonal Distribution of Collecting

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
J					2	5		2	2			

Species

Cerotainiops abdominalis (Brown), VDiogmites contortus Bromley, VIMegaphorus frustra flavida (Cole), VIII, IXMegaphorus pulchrus (Pritchard), V, VIII, IXScleropogon duncani (Bromley), V, VIEfferia producta (Hine), VIEfferia setigera Wilcox, VII

County San Diego # //

Location Scissors Crossing (Earthquake Valley, San Felipe Valley, Vallecito Springs)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2	3	5	2	4		1	1		

Species

Ablautus californicus Wilcox, III, IV

Ablautus coquillettii Wilcox, IV

Belpharepium sonorensis Papaverio & Bernardi, VII

Efferia candida Coquillett, IX

Efferia coquillettii (Hine), III

Eudioctria monrovia Wilcox & Martin, V

Hodophylax basingeri Pritchard, X

Lestomyia fraudigera Williston, V

Megaphorus frustra flavida (Cole), VI, VII

Nannocyrtopogon lestomyiformis Wilcox & Martin, V

Saropogon luteus Coquillett, VII

Stenopogon californiae Walker, X

Stenopogon engelhardti Bromley, V

Stenopogon jubatus Coquillett, VII

Stenopogon nigrutilus Coquillett, V

Stenopogon obscuriventris Loew, VI

APPENDIX ?

Genera and Species of Asilidae found in the California Desert

Abbreviations: Cal. = Coastal Mts. and Vlys.; C.D. = Colorado

(Sonora) Desert; G.B. = Great Basin; M.D. = Mojave Desert;

S.M. = Sierra Montaine; W.S. = Wide Spread.

Ablautus Loew	Page	Area	Imp.	Inyo	Kern	L.A.	Riv.	S.	B.	S.	D.
arnaudi Wilcox	107	C.D.					X				
basini Wilcox	107	M.D.		X	X	X		X			
californicus Wilcox	108	Cal.		X	X	X	X	X	X		X
coachellus Wilcox	108	C.D.		X			X	X			
coquilletti Wilcox	108	Cal.		X	X	X	X	X	X		X
flavipes Coquillett	109	Cal.	X		X		X	X	X		X
linsleyi Wilcox	109	M.D.			X						
mimus Osten Sacken	109	Cal.	X		X	X	X	X	X		X
mimus squamipes Cole	109	M.D.							X		
vanduzeei Wilcox	110	Cal.			X			X	X		X
Andrenosoma Rondani											
fulvicauda (Say)	84	W.S.					X	X			
Apachekolos Martin											
crinita Martin	101	C.D.					X				
scapularis (Bigot)	101	Cal.				X	X				X
Asilus Linnaeus											
astutus Williston	35	Cal.		X	X	X	X	X	X		X
formosus Hine ?	36	G.B.		X							
vescus Hine	37	W.S.									
Atomosia Macquart											
melanopogon Hermann	85	W.S.	X				X				
mucida Osten Sacken	86	W.S.					X				
Atomosiella Wilcox											
antennata (Banks)	87	W.S.	X	X							
Backomyia Wilcox & Martin											
anomalus Wilcox & Martin	111	C.D.					X				
hannai Wilcox & Martin	111	M.D.							X		
new species	111	M.D.		X							
new species	111	C.D.					X		X		
Beameromyia Martin	102	Cal.					X		X		
Bohartia Hull											
isabella Adisoemarto & Wood	112	M.D.		X	X	X					
martini Adisoemarto & Wood	112	G.B.									
munda Adisoemarto & Wood	113	Cal.					X		X		

	Page	Area	Imp.	Inyo	Kern	L.A.	Riv.	S.B.	S.D.
<i>Belpharepium</i> Ron ^d ani									
sonorensis Papavero & Bernardi	102	W.S.	Ø						X
<i>Callinicus</i> Loew									
pictitarsis (Bigot)	114	Cal.					X	X	
pollenius (Cole)	115	S.M.	X						
<i>Cerotainiops</i> Curran									
abdominalis (Brown)	87	W.S.					X		X
lucyae Martin	88	W.S.				X	X	X	X
mcclayi Martin	88	C.D.							X
wilcoxi Pritchard	90	W.S.	X	X		X	X	X	
omus Pritchard	89	W.S.	X	X			X		X
<i>Coleomyia</i> Wilcox & Martin									
crumorum Martin	116	Cal.						X	
<i>Comantella</i> Curran									
cristata (Coquillett)	53	Cal.						X	
<i>Cophura</i> Osten Sacken									
dammersi Wilcox	55	C.D.	X						
dora Pritchard	55	W.S.		X					
fisheri Wilcox	56	M.D.	X		X	X	X	X	X
fur Williston	57	C.D.		X			X	X	X
getzendaneri Wilcox	58	C.D.	X				X	X	
hesperia (Pritchard)	59	W.S.		X					
painteri Pritchard	59	C.D.					X		
pollinosa Curran	60	W.S.					X		
powersi Wilcox	C.D. 59						X	X	
rozeni Wilcox	59	C.D.					X		
tanbarki Wilcox	61	Cal.				X	X		
timberlakei Wilcox	61	C.D.					X	X	X
tolandi Wilcox	62	M.D.				X	X	X	X
vanduzeei Wilcox	63	Cal.					X		
vandykei Wilcox	63	C.D.					X	X	X
<i>Cyrtopogon</i> Loew									
aldrichi Wilcox & Martin	117	Cal.					X	X	X
basingeri Wilcox & Martin	117	Cal.						X	
callipedilus nigritarsus H. & M.	118	Cal.					X		
cymbalista Osten Sacken	119	S.M.	X						
curtistylus Curran	119	S.M.	X						
dasyllis Williston	120	S.M.	X						
infuscatus Cole	120	S.M.							
vandykei Wilcox & Martin	120	Cal.					X		
evidens Osten Sacken	121	W.S.	X				X	X	
montanus (w	122	S.M.	Ø	X					

Page Area Imp. Inyo Kern L.A. Riv. S.B.S.D.

Cyrtopogon Loew cont'd.

nugator Osten Sacken	122 S.M.	X						
sudator Osten Sacken	123 S.M.	X						
rainieri Wilcox & Martin	123 S.M.	X						

Dicolonus Loew

medium Adiscoemarto & Wood	124 Cal.	X						
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Dioctria Meigen

henshawii Johnson	125 G.B.	X						
pleuralis Banks	125 Cal.				X			X
pusio Osten Sacken	126 Cal.	X			X			
vera Back	127 W.S.	X		X	X			

Dioctria Nannodioctria W. & M.

albicornis Wilcox & Martin	128 Cal.						X	
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Diognites Loew

contortus (Bromley)	64 C.D.	X			X			X
grossus (Bromley)	65 W.S.				X			
pulcher (Back)	66 Cal.				X			

Efferia Coquillett

albiba ^{rb} ia (Macquart)	7 W.S.	X	X	X	X	X	X	X
arida (Williston)	11 M.D.		X	X	X		X	
azteci Wilcox	9 C.D.	X				X		
basingeri Wilcox	12 G.B.		X					
benedicti (Bromley)	16 W.S.	X	X			X		
bicolor (Bellardi)	7 W.S.	X		X	X	X	X	X
caliente Wilcox	14 C.D.	X				X	X	X
cana (Hine)	16 W.S.			X	X	X	X	
candida Coquillett	9 C.D.	X	X		X	X	X	X
coquilletti (Hine)	18 C.D.	X	X	X	X	X	X	X
davisi Wilcox	9 C.D.	X						X
deserti Wilcox	18 C.D.	X		X		X	X	X
ehrenbergi Wilcox	18 C.D.	X						
halli Wilcox	10 Cal.						X	X
inflata (Hine)	18 Cal.				X	X	X	
mortensoni Wilcox	C.D. 15					X	X	
new species	6 M.D.					X	X	
peralta Wilcox	8 Cal.	X				X	X	X
pernicis Coquillett	10 C.D.	X	X			X	X	X
producta (Hine)	20 Cal.	X		X	X	X	X	X
setigera Wilcox	21 Cal.							X
tolandi Wilcox	12 M.D.		X	X			X	
tucsoni Wilcox	21 W.S.		X				X	
tricellus (Bromley)	10 C.D.	X					X	
vertebrata (Bromley)	Cal. 8		X				X	
yermo Wilcox	19 M.D.						X	
yuma Wilcox	20 C.D.	X						

Eucyrtopogon Curran	Page	Area	Imp.	Inyo	Kern	L.A.	Riv.	S.	B.	S.	D.
incompletus Adisoemarto	131	S.M.		X							
nebulo (Osten Sacken)	131	S.M.		X						X	
new species	132	M.D.		X		X	X	X	X		
Eudioctria Wilcox & Martin											
dissimilis Adisoemarto & Wood	129	Cal.					X				
doanei (Melander)	129	Cal.				X					
monrovia Wilcox & Martin	130	Cal.				X	X	X	X	X	
Furcilla Martin											
new species	22	G.B.								X	
Haplopogon Engel											
dicksoni Wilcox	125	C.D.	X								
Heteropogon Loew											
cirrhatu (Osten Sacken)	133	W.S.				X			X		
davisi Wilcox	133	M.D.		X	X						
fisheri Wilcox	134	Cal.				X				X	
ludius (Coquillett)	134	Cal.					X	X	X	X	
martini Wilcox	134	G.B.		X							
rubidus (Coquillett)	135	?				X					
senilis (Bigot)	135	Cal.					X	X			
tolandi Wilcox	135	Cal.					X	X			
Hodophylax James											
basingeri Pritchard	67	W.S.	X				X	X	X	X	
halli Wilcox	68	M.D.			X		X	X	X	X	
Holopogon Loew											
atrifrons Cole	136	Cal.				X		X	X	X	
crinitus Martin	136	Cal.					X	X			
seniculus Loew	137	G.B.		X							
stellatus Martin	137	W.S.		X			X			X	
Itolia Wilcox											
atripes Wilcox	138	C.D.	X				X				
timberlakei Wilcox	139	C.D.	X				X				
Laphria mixata Meigen											
aimatis McAtee	91	Cal.					X				
felis Osten Sacken	92	Cal.		X							
sackeni (Banks)	93	Cal.	X								
trux McAtee	95	Cal.				X			X		

Laphystia Loew

Page Area Imp. Inyo Kern L.A. Riv. S.B. S.D.

<i>duncani</i> Wilcox	98	C.D.	X				X		
<i>howlandi</i> Wilcox	98	C.D.	X				X		
<i>martini</i> Wilcox	98	C.D.	X				X		X
<i>tolandi</i> Wilcox	99	G.B.		X					
<i>utahensis</i> Wilcox	99	G.B.					X		

Lasiopogon Loew

<i>drabicola</i> Cole	139	Cal.				X	D	X	X
<i>new species</i>	139	Cal.						X	
<i>zonatus</i> Cole & Wilcox	139	Cal.				X	X	X	

Leptogaster Meigen

<i>arborcola</i> Martin	103	W.S.		X					
<i>arida</i> Cole	103	W.S.						X	
<i>californica</i> Martin	104	Cal.			X		X		
<i>fornicata</i> Martin	105	W.S.			X				
<i>new species</i>	105	G.B.		X					

Lestomyia Williston

<i>fraudigera</i> Williston	73	Cal.		X	X	X	X	X	X
<i>sabulona</i> (Osten Sacken)	72	Cal.					X	X	
<i>species 1</i>	69	C.D.	X	X	X		X	X	X
<i>species 2</i>	69	Cal.							X
<i>species 3</i>	69	C.D.	X						
<i>species 4</i>	70	M.D.		X	X	X		X	
<i>species 5</i>	71	Cal.					X		X

Machimus Loew

<i>callidus</i> (Williston)	38	W.S.			X				
<i>coleus</i> Martin	39	Cal.						?	?
<i>johnsoni</i> (Hine)	39	W.S.							X
<i>latapex</i> Martin	40	Cal.				X			
<i>latapex alticolus</i> Martin	41	Cal.				X		X	
<i>longipennis</i> Martin	42	Cal.						X	
<i>new species</i>	38	Cal.					?		
<i>notialis</i> Martin	43	W.S.		X		X	X	X	X
<i>paropus</i> (Walker)	45	W.S.		X	X				
<i>occidentalis</i> (Hine)	44	W.S.		X		X	X		

Mallophora Macquart

<i>fautricoides</i> Curran	22	Cal.	X	D	X				X
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Megaphorus Bigot

Page Area Imp. Inyo Kern L.A. Riv. S.B.S.D.

Frustra (Pritchard)	23	W.S.		X					
frustra flavida (Cole)	23	Cal.	X	X	X	X	X	X	X
frustra brunnea (Cole)	23	W.S.		X					
prudens (Pritchard)	24	W.S.					X		
pulchrus (Pritchard)	24	W.S.					X	X	X

Metadioctria Wilcox & Martin

parvula (Coquillett)	141	Cal.				X			
resplendens (Loew)	141	Cal.		X					
rubida (Coquillett)	142	Cal.					X	X	X

Metapogon Coquillett

amargosae Wilcox	143	G.B.					X	X	
carinatus Wilcox	143	M.D.		X			X		
gilvipes Coquillett	144	Cal.				X	X		X
pictus Cole	144	Cal.					X	X	X
punctipennis Coquillett	145	W.S.					X	X	
tricellus Wilcox	145	M.D.		X	X		X	X	

Myelaphus Bigot

lobicornis (Osten Sacken)	146	W.S.							X
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Nannocyrtopogon Wilcox & Martin

deserti W. & M.	147	M.D.			X	X			
inyoi W. & M.	147	M.D.			X	X			
irvinei W. & M.	148	Cal.				X	X		
lestomyiformis W. & M.	148	Cal.	X				X		X
mingusi W. & M.	151a	G.B.						X	
monrovia W. & M.	149	Cal.				X	X	X	
neoculatus W. & M.	149	Cal.					X		
new species	151	M.D.					X	X	
nigrocolor (Coquillett)	150	Cal.				X	X		X
oculatus W. & M.	150	M.D.			X	X			
tolandi W. & M.	151	M.D.		X					
timberlakei W. & M.	151	M.D.				X		X	
Neoitamus Osten Sacken terminalis (Hine)	50.	Cal.					X	X	X
Neomochtherus Osten Sacken									

californicus (Hine)	46	Cal.		X		X	X	X	
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Nicocles Jaennicke

argentatus Coquillett	74	Cal.					X		
utahensis Banks	76	G.B.		X					

	Page	Area	Imp.	Inyo	Kern	L.A.	Riv.	S.B.	S.D.
<i>Ommatius</i> Wiedemann									
<i>maculatus</i> Banks	106	G.B.						?	
<i>Omninablautus</i> Pritchard									
<i>nigripes</i> Wilcox	77	C.D.					X		
new species	77	C.D.	X					X	
<i>tolandi</i> Wilcox	77	C.D.					X		
<i>Ospriocerus</i> Loew									
<i>abdominalis</i> (Say)	152	W.S.	X					X	
<i>brevis</i> Martin	152	C.D.	X		X		X	X	X
<i>longulus</i> (Loew)	153	W.S.						X	
<i>vallensis</i> Martin	152	G.B.		X					
<i>Parataracticus</i> Cole									
<i>niger</i> Martin	78	Cal.					X	X	X
<i>wyliei</i> Martin	79	Cal.			X	X		X	
<i>Pogonosoma</i> Rondani									
<i>hesperium</i> Martin	97	Cal.							X
<i>Polacantha</i> Martin									
<i>composita</i> (Hine)	51	Cal.		X	X	X	X	X	X
<i>Pritchardomyia</i> Wilcox	153a	Cal.			X		X		
<i>Proctacanthella</i> Bromley									
<i>leucopogon</i> (Williston)	25	W.S.	X				X	X	X
<i>tolandi</i> Wilcox	26	C.D.				X	X	X	X
<i>Proctacanthus</i> Macquart									
<i>coquilletti</i> Hine	27	Cal.	X	X			X	X	
<i>milbertii</i> Macquart ?	27	W.S.							
<i>nearno</i> Martin	28	W.S.		X	X	X	X	X	X
<i>occidentalis</i> Hine	29	Cal.			X		X		
<i>Prolatforceps</i> Martin									
new species	52	S.M.		X					
<i>Prolepsis</i> Walker									
<i>tristis</i> (Walker)	154	W.S.	X				X		
<i>Promachus</i> Loew									
<i>aldrichii</i> Hine	30	G.B.		X	X	X	X	X	X
new species	32	Cal.					X		X
<i>princeps</i> Williston	31	Cal.		X				X	

Regasilus Curran

Page Area Imp. Inyo Kern L.A. Riv. S.B. S.D.

blantoni Bromley

33 G.B.

Saropogon Loew

albifrons Back

80 C.D.

X X

hyalinus Coquillett

81 Cal. X

X

luteus Coquillett

81 Cal.

X X X X X

mohawki Wilcox

82 C.D. X

X X X

semiustus Coquillett

83 C.D. X

X X X

Scleropogon Loew

duncani (Bromley)

155 W.S. X

X X X

neglectus (Bromley)

155 G.B. X

picticornis Loew

155 W.S.

?

Sintoria Hull

cyanea Wilcox

156 W.S.

X

mojavae Wilcox

156 M.D.

X

Stenopogon Loew

adelantae Wilcox

157 M.D.

X X X

albibasis Bigot

157 Cal.

?

antoniae Wilcox

158 Cal.

X

arnaudi Martin

158 Cal.

X

bartonae Wilcox

158 Cal.

X X

blaisdelli Wilcox

159 Cal.

?

boharti Bromley

159 C.D. X X

X X

breviusculus Loew

160 Cal.

? ? ?

bromleyi Wilcox

160 Cal.

X

californiae (Walker)

160 Cal.

X X X X

engelhardti Bromley

161 Cal.

X X X X X

inquinatus Loew

162 W.S.

X

jubatus (Coquillett)

162 Cal.

X X X

lomaе Wilcox

163 Cal.

X X

macswaini Wilcox

163 Cal.

X X

martini Bromley

164 W.S.

D X X X X X

mojavae Wilcox

165 M.D.

X

nigritulus Coquillett

165 Cal.

X X X X X

obscuriventris Loew

166 Cal.

X X X X X

pinyonae Wilcox

167 C.D.

X

rufibarbis Bromley

167 W.S.

X X X X X

tolandi Wilcox

168 M.D.

X

utahensis Bromley

169 C.D.

X X X

wilcoxi Bromley

170 Cal.

X X X

williamsi Wilcox

170 Cal.

X X

Stichopogon Loew

fragilis Back ?

171 W.S.

X X X

trifasciatus (Say)

171 W.S.

X X X

	Page	Area	Imp.	Inyo	Kern	L.A.	Riv.	S.	B.	S.	D.
Triorla Parks											
interrupta (Macquart)	33	W.S.	X				X	X	X		
Wilcoxia James											
martinorum Wilcox	173	C.D.	X	X			X				
Willistonina Back											
bilineata nigrofemorata Wilcox	174	Cal.		X		X		X	X		
Zabrops Hull											
tagax tagax (Williston)	100	C.D.	X			X	X	X	X	X	

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