

Article III.—INSECTS OF FLORIDA.

I. DIPTERA.

BY CHARLES W. JOHNSON.

In 1895 the writer prepared a list of the Diptera of Florida,¹ based chiefly on material collected while living in St. Augustine, 1880–88, a collecting trip in March, 1891, and again in 1894, a collection made by Mrs. Annie Trumbull Slosson, the collection of Mr. Charles Robertson, and the collection of the U. S. National Museum. The list contained about 450 determined species.

Since that time Mrs. Slosson has continued collecting during her winter visits, thus securing a number of new and interesting species, many of which were determined by the late D. W. Coquillett. The American Museum of Natural History has sent several expeditions to the State and much valuable material was obtained by Dr. Frank E. Lutz and Mr. John A. Grossbeck. Mr. Millard C. Van Duzee in the Spring of 1908 added many interesting species and data. To Messrs. Wm. T. Davis, C. H. T. Townsend, J. Chester Bradley, C. P. Whitney and Philip Laurent I am also indebted for a number of additional species and data.

In this list I have tried to give sufficient synonymy and notes so that where I have corrected the previous list the names of the two can always be correlated notwithstanding the great changes that have taken place in the nomenclature. To keep abreast of the changes which are constantly being made, I have been obliged to discard many of the genera used in Aldrich's catalogue. While I do not favor radical changes in a faunal list, it does not seem desirable to longer perpetuate names that we know will have to be changed, and the sooner these older names are adopted, the better it will be for dipterology. There are also many other names (barring those in Meigen's first paper), that probably should have been changed, viz. *Rhagio* for *Leptis*, *Anthrax* for *Spogostylum*, *Villa* for *Anthrax* of authors, *Eicherax* for *Erax*, etc., but many of these changes are too radical for a paper of this kind, and further discussion seems necessary before they are finally adopted.

The author has endeavored wherever possible, to verify doubtful determinations and records, but in some families it has been impossible to do so, owing to the difficulty in obtaining sufficient material.

The present list contains 845 species. As many of the species in the

¹ Proc. Acad. Nat. Sci., Philadelphia, 1895, pp. 303–340.

previous list were determined only generically it represents about double the number of named species. It may be of interest here to make some comparisons as to the relative abundance of species in a given area and also an approximate idea as to their geographical distribution according to life zones.

Considering the area of Florida (58,680 sq. m.), compared with that of New Jersey (7,576 sq. m.) where the insect fauna has been carefully studied, and where over 1600 species of Diptera¹ have been recorded, the 840 species of Florida seem somewhat meager. The natural inference would be that there has been less collecting in Florida, and while this is true to some extent, there has been, nevertheless a great deal of very careful collecting done there. We must therefore consider what other reasons there may be for this great discrepancy in the relative number of species.

It is well known that the species of certain families, while predominating in more northern latitudes, become less plentiful as we approach the tropics. This is true of the families Tipulidæ, Mycetophilidæ, Cecidomyidæ, Empididæ, Anthomyidæ, Scatophagidæ, Sciomyzidæ, etc., while other families, including the Culicidæ, Stratiomyidæ, Tabanidæ, Bombylidæ, Asilidæ, Ortalidæ, etc., are about equally abundant in the warmer, and in the more temperate regions. Other families like the Syrphidæ and Tachinidæ that are conspicuous and abundant in both regions are, however, more numerous in the upper austral and transition zones. Species of the family Nemestrinidæ have not been recorded in the Atlantic coast States outside of Florida, while five families, represented by numerous species in the more northern States, have not as yet been found in Florida.

The following table comparing the number of species known at present in a given family in the two States, shows the above facts more clearly:—

	<i>Florida</i>	<i>New Jersey</i>
Tipulidæ.....	36	135
Dixidæ.....	—	2
Psychodidæ.....	4	6
Chironomidæ.....	37	83
Culicidæ.....	31	40
Corethridæ.....	1	5
Mycetophilidæ.....	5	53
Cecidomyidæ.....	7	105
Bibionidæ.....	5	14
Simuliidæ.....	1	5
Rhyphidæ.....	1	3
Stratiomyidæ.....	27	30

¹ Insects of New Jersey, By John B. Smith, Annual Report New Jersey State Museum, 1909 (1910), pp. 703-814.

	<i>Florida</i>	<i>New Jersey</i>
Tabanidæ.....	50	75
Leptidæ.....	10	21
Cyrtidæ.....	—	5
Nemestrinidæ.....	3	—
Bombyliidæ.....	49	43
Therevidæ.....	13	10
Scenopinidæ.....	1	2
Mydaidæ.....	5	2
Asilidæ.....	52	69
Dolichopodidæ.....	52	95
Empididæ.....	14	80
Lonchopteridæ.....	—	2
Phoridæ.....	8	16
Platypezidæ.....	—	4
Pipunculidæ.....	7	13
Syrphidæ.....	56	132
Conopidæ.....	10	19
Æstridæ.....	3	7
Tachinidæ.....	86	144
Dexidæ.....	11	12
Sarcophagidæ.....	14	6
Muscidæ.....	12	21
Anthomyidæ.....	27	90
Scatophagidæ.....	1	16
Clusioidæ.....	1	6
Helomyzidæ.....	11	11
Borboridæ.....	5	4
Sciomyzidæ.....	4	23
Sapromyzidæ.....	23	24
Ortalidæ.....	29	30
Trypetidæ.....	19	32
Micropezidæ.....	6	4
Sepsidæ.....	5	6
Psilidæ.....	1	8
Diopsidæ.....	—	1
Ephydridæ.....	35	43
Oscinidæ.....	31	39
Drosophilidæ.....	13	23
Geomyzidæ.....	2	6
Agromyzidæ.....	19	27
Hippoboscidæ, etc.....	8	5

Considering again the distribution of species by life zones, we find that the greater portion of Florida is included in what is known as the "Gulf Strip of the Lower Austral," only that portion of the State south of Lake Okeechobee and along the Indian River being considered "Tropical." The great extent of dry, sandy soil, covered with either a growth of pine or scrub

oak, does not offer the most favorable conditions for a rich and varied insect fauna. On the other hand the number of species found in the "hammocks" (lower woodlands) and swamps, with their varied flora, counterbalance to a great extent the smaller number found in the drier sections.

This great sandy area and immediate coast line, forming a part of the coastal plain and presenting similar conditions, account for the great number of species of the lower austral that are also found in the upper austral and even in the transition zones.

On the other hand the tropical forms are derived chiefly from the neighboring islands, where species are probably much less numerous than in the tropical regions of northern South America. Southern Florida has only a narrow coastal strip presenting similar conditions to those of the West Indies, and as this area is rapidly losing many of its natural features, its tropical fauna is probably decreasing rather than increasing.

The following table based on about 800 species, shows their approximate distribution by life zones:—

Recorded only from Florida.	120
Extending only into the Lower Austral.	95
Extending into the Upper Austral.	285
Extending into the Transition.	160
Tropical (West Indies and South America).	125
Mexican and Southern California species.	25

In preparing the following list I am under great obligations to Mrs. Annie Trumbull Slosson and Mr. Wm. T. Davis for their generous aid in furnishing data and material; to the American Museum of Natural History for the loan of material; to Mr. Frederick Knab of the National Museum who revised the list of Culicidæ and aided further by the loan of specimens for study; to Mr. E. T. Cresson, Jr., for assistance on the Ephyridæ and Pipunculidæ; to Professors J. M. Aldrich and J. S. Hine and to Dr. E. P. Felt who have also aided in the work. Where not otherwise noted the specimens are in the American Museum.

LIST OF SPECIES.

TIPULÆ.

- Geranomyia canadensis*** *Westw.* Biscayne Bay (Mrs. Slosson); Volusia, May 16 (C. W. J.).
- Geranomyia distincta*** *Doane.* Biscayne Bay (Mrs. Slosson).
- Geranomyia rostrata*** *Say.* Biscayne Bay (Mrs. Slosson).

Geranomyia virescens Loew, Miami (F. Knab).

Rhipidia domestica O. S. Jacksonville, Apr. 1; Ormond and Biscayne Bay (Mrs. Slosson); Drayton Isl., May 10 (C. W. J.).

Furcomyia distans O. S. (*Dicranomyia distans* O. S.). Biscayne Bay, and Lake Worth (Mrs. Slosson).

Furcomyia floridana O. S. (*Dicranomyia floridana* O. S.). "Florida, spring of 1858" (Osten Sacken); Jacksonville, Apr. (Mrs. Slosson).

Furcomyia moriodes O. S.? Titusville, Nov. 8.

Furcomyia pubipennis O. S. Sanford, May 7 (Van Duzee).

Limnobia immatura O. S. River Junction, Feb., in a spider web (C. W. J.).

Toxorhina magna O. S. Crescent City, Apr. 21 (Van Duzee).

Rhamphidia flavipes Macq. St. Augustine, Mar. 14 (C. W. J.).

Atarba picticornis O. S. Jacksonville, Nov. 3.

Erioptera caloptera Say. Atlantic Beach (Mrs. Slosson).

Erioptera parva O. S. Biscayne Bay, Lake Worth, and Bellaire (Mrs. Slosson).

Goniomyia sulphurella O. S. "Florida" (Mrs. Slosson).

Trimicra anomala O. S. Enterprise, Apr. 12 (Laurent).

Gonophomyia luctuosa O. S. Jacksonville, May 22 (C. W. J.); Biscayne Bay (Mrs. Slosson).

Limnophila adusta O. S. "Florida" (Mrs. Slosson).

Limnophila luteipennis O. S. St. Augustine Mar. 14 (C. W. J.); Apr. 20 (Van Duzee).

Limnophila macrocera Say. Jacksonville, Apr. (Mrs. Slosson).

Bittacomorpha clavipes Fabr. Jacksonville, Apr. (Mrs. Slosson).

Maekistocera longipennis Macq. Lake Okeechobee (Mus. Comp. Zool.).

Brachypremna dispellans Walk. Jacksonville, May 22 and Tick Island, May 12 (C. W. J.); Biscayne Bay and Atlantic Beach (Mrs. Slosson).

Pachyrhina ferruginea Fabr. Charlotte Harbor (Mrs. Slosson).

Pachyrhina macrocera Say. "West Florida" (Macquart).

Pachyrhina suturalis Loew. St. Augustine, Mar. 14, and Volusia, May 16 (C. W. J.); Jacksonville, Apr. (Mrs. Slosson).

Pachyrhina virescens Loew. Jacksonville, May 22 (C. W. J.). An imperfect specimen of this species was referred in error to *P. nobilis* in my previous list.

Pachyrhina gracilicornis Loew. Jacksonville (Mrs. Slosson).

Pachyrhina pruinosa sp. n.

Male: Vertex and rostrum dark yellow, shining, around the base of the antennæ and along the orbits light yellow; palpi brownish with black hairs, antennæ yellow, flagellum dark brown. Thorax red, shining, translucent, with five light, pollinose stripes, the middle one narrowly attenuated posteriorly, and ending with the two adjoining stripes at the transverse suture; pleura entirely light pollinose; suture and disc of the scutellum dark brown. Abdomen dark yellow, shining, with a very narrow brown band on the posterior margin of the segments; venter and ovipositor dark brown, the upper valves of the ovipositor much longer than the lower. Legs dark yellow, tips of the femora and tibiæ, and the greater portion of the tarsi, dark brownish black. Halteres yellow, margins of the knobs infuscate. Wings hyaline, veins dark brown, costal and subcostal cells and the stigma yellow. Length 18 mm.

One specimen, Jacksonville (Mrs. A. T. Slosson).

Readily separated from the other species by the pollinose stripes and dark colored wing veins.

Tipula costalis Say. Biscayne Bay and Charlotte Harbor, Jan. (Mrs. Slosson).

Tipula cunctans Say. Jacksonville, Apr. (Mrs. Slosson).

Tipula eluta Loew. "Florida" (Mrs. Slosson).

Tipula fraterna Loew. Lake Worth (Mrs. Slosson).

Tipula perlongipes Johnson.

T. filipes Walk., I, 65, 1848, not Fabr. 1805.

T. perlongipes Johns., Proc. Boston Soc. Nat. Hist., vol. 34, p. 131, 1909.

St. Johns Bluff (Walker); Jacksonville, May 22, and Tick Isl., May 12 (C. W. J.); Charlotte Harbor (Mrs. Slosson).

Tipula subeluta sp. n.

Male: Vertex brown; rostrum yellow, sides brown, palpi and antennæ yellow, base of the joints of flagellum black. Thorax yellowish, with five brown lines extending to the suture, the two subdorsal lines obsolete except near the anterior margin; a dark brown stripe extends obliquely from the humeri to the base of the middle coxæ, the remainder of the pleura and the matanotum light yellow. Abdomen dark yellow, each segment with a whitish, pruinose posterior border which is very narrowly margined on the basal side with brown. Legs yellow, tips of the femora, tibiæ, and tarsi brown. Halteres brown. Wings brownish, costal and subcostal cells, fifth longitudinal with its margins, the stigma, and the base of the first submarginal cell, dark brown, a whitish, subhyaline spot extending from the basal side of the stigma to the base of the discal cell, petiole of the second posterior cell about one fourth the length of the discal cell, the latter subovate in form. Length 13 mm.

Three specimens, Everglade, Apr. 7, 1912 (J. A. Crossbeck). Holotype and one paratype in the American Museum of Natural History, the second paratype in the author's collection.

The species resembles *T. eluta* Loew, but the pleural stripe, broader wings, in which the subhyaline stripe is wanting in the first posterior cell, and the subovate form of the discal cell readily distinguish the species.

PSYCHODIDÆ.

***Psychoda floridica* Haseman.** Lake City, Feb. (Haseman).¹

***Psychoda longifringa* Haseman.** Lake City, Feb. (Haseman).

***Psychoda annulipes* sp. n.**

Male and female: Body black, with grayish black hair which is long and black at the base of the wings; antennæ of the male black with long dense black hairs, giving them a wide appearance. Wings grayish with numerous small tufts of erect black hairs along the veins on the center of the wing and at the tips of all the veins; two more conspicuous tufts near the costa and one on the posterior margin near the middle of the wing; the tufts are more prominent in the female than in the male, the fringe alternated with tufts of black and white. Femora yellowish tipped with black; tibiæ black with two white bands, basal half of the other tarsal joints white. Length, male 1 mm., wing ? mm.; female 1.5 mm., wing 2.5 mm.

Two specimens, Ormond (Mrs. Slosson).

Holotype in the author's collection; allotype in Mrs. Slosson's collection.

This species is readily distinguished by its conspicuously annulated tibiæ and tarsi, and alternating fringe.

***Psychoda squamosa* sp. n.**

Body black, with grayish hairs; the posterior half of the abdomen with whitish tomentum. Antennæ yellowish, hairs black. Wings grayish and quite thickly covered with blackish scales, fringe grayish black. Legs black, posterior femora brownish, front tibiæ ciliated with thickened hairs; middle tibiæ with a tuft of thickened hairs at the apex, metatarsi ciliated; posterior tibiæ thickly covered with long hairs on the inner side; all the tarsi with a wide silvery band occupying the middle third. Length 1.5 mm., wing 2 mm.

One specimen, "Florida," (Mrs. Slosson).

Type in the author's collection.

An interesting species, differing from any known to me in having the profusion of scales on the wings, also the ciliated tibia. The wing venation however, is that of the genus *Psychoda*.

¹See "An Aquatic Psychodid from Florida," Trans. Amer. Ent. Soc., XXXIII, 324, 1907.

CHIRONOMIDÆ.

- Ceratopogon eriophorus** Will. Biscayne Bay (Mrs. Slosson).
Ceratopogon fuscus Coq. Atlantic Beach (Mrs. Slosson). Punta Gorda, Nov. 11.
Ceratopogon genualis Loew. Lake Worth (Mrs. Slosson).
Ceratopogon pergandei Coq. Biscayne Bay (Mrs. Slosson).
Ceratopogon maculipennis Coq. Jacksonville (Mrs. Slosson).
Ceratopogon cinctipes Coq. Biscayne Bay (Mrs. Slosson).
Ceratopogon fusicornis Coq. Biscayne Bay (Mrs. Slosson).
Culicoides ancorus Coq. Biscayne Bay (Mrs. Slosson).
Culicoides cinctus Coq. Lake Worth and Biscayne Bay (Mrs. Slosson); St. Augustine. This is popularly known as the "sand fly" and is often very annoying in the mornings and early evenings especially when there is no breeze.
Culicoides griseus Coq. Lake Worth and Biscayne Bay (Mrs. Slosson).
Culicoides melleus Coq. Lake Worth (Mrs. Slosson).
Culicoides mutabilis Coq. Jacksonville (Mrs. Slosson).
Bezzia glaber Coq. Biscayne Bay (Mrs. Slosson).
Johannseniella albaria Coq. (*Ceratopogon albiaria*.) Drayton Island, Lake George, May 9.
Johannseniella argentata Loew. (*Ceratopogon argentata*.) Welaka, May 9.
Johannseniella gilva Coq. Biscayne Bay (Mrs. Slosson).
Palpomyia nubifer Coq. Jacksonville (Mrs. Slosson).
Palpomyia subasper Coq. Biscayne Bay (Mrs. Slosson).
Palpomyia trivialis Loew. Jacksonville (Mrs. Slosson); Lakeland, May 7 (Davis).
Heteromyia prattii Coq. Jacksonville, April (Mrs. Slosson).
Chironomus anonymus Will. Biscayne Bay. Flying by thousands to the light in March, in hammock land.
Chironomus connexus Kieffer. (*C. confinus* Walk., 1848, non Meig., 1830). Miami, Feb. (Mrs. Slosson) Coquillett.
Chironomus cristatus Fabr. Jacksonville, Biscayne Bay, and Charlotte Harbor (Mrs. Slosson).
Chironomus modestus Say. Charlotte Harbor and Lake Worth (Mrs. Slosson).
Chironomus niveipennis Fabr. Charlotte Harbor (Mrs. Slosson).
Chironomus plumosus Linné. Biscayne Bay (Mrs. Slosson).

- Chironomus redeuns** *Walk.* "Florida" (Mrs. Slosson).
Chironomus riparius *Macq.* Charlotte Harbor (Mrs. Slosson).
Chironomus viridis *Macq.* Charlotte Harbor. (Mrs. Slosson).
Tanypus monilis *Linné.* Biscayne Bay (Mrs. Slosson).
Proteuthes choreus *Meig.* Biscayne Bay (Mrs. Slosson).
Proteuthes baltimoreus *Macq.* Biscayne Bay (Mrs. Slosson).
Proteuthes stellatus *Coq.* Atlantic Beach (Mrs. Slosson).
Procladius concinnus *Coq.* (*Tanypus concinnus.*) Tick Island, May 12 (C. W. J.).
Procladius scapularis *Loew.* Tick Island, May 12th (C. W. J.); Fort Myers, Nov. 16.
Procladius thoracicus *Loew.* Tick Island, May 12th (C. W. J.); Biscayne Bay (Mrs. Slosson).
Procladius tricolor *Loew.* Biscayne Bay (Mrs. Slosson).

CULICIDÆ.

- Anopheles quadrimaculatus** *Say.* Tick Island, May 12 (C. W. J.); Warner's Camp and Sugarloaf Beach, Lake Okeechobee (J. H. Egbert). This was in error referred to *A. crucians* Wied in my previous list.
Anopheles crucians *Wied.* Warner's Camp, Lake Okeechobee (Egbert); Estero, June (Van Duzee); West Palm Beach, March (Dyer and Caudell); Biscayne Bay (Mrs. Slosson).
Anopheles albimanus *Wied.* Key West (Dr. C. H. Gardner).
Anopheles atropos *Dyer and Knab.* Florida Keys (Dr. Bird); Everglade, Apr. 6.
Megarhinus rutilus *Coq.* Geogiana (Whitfeld).
Psorophora ciliatus *Fabr.* (*Culex ciliatus.*) St. Augustine (C. W. J.); Jacksonville, April (Mrs. Slosson); Punta Gorda, Nov. 11; Grasmere, May 27 (C. E. Brooker); Ormond, Tampa, Kissimmee, Arcadia, April (Dyer and Caudell); Key West, Aug. (A. Busck); Ft. Myers, Mar. 31 (Davis).
Janthinosoma pygmæa *Theob.* (*Culex nanus* Coq.) Key West, Aug. (Busck); April 1-3 (Schwarz).
Janthinosoma sayi *Dyar and Knab.* (*C. musica* Say.) West Tampa, March 18 (Dyar); Jacksonville, (Mrs. Slosson).
Janthinosoma floridense *Dyar and Knab.* (*A. jamaicensis* of authors, not Theobald.) Tampa, Sanford, Kissimmee, Acadia, Bartow, Pakatee and Alligator Creek (Dyar and Caudell). Long Boat Key, Sarasota, Aug. 14 (J. C. Bradley).

Stegomyia calopus Meig. (*Culex fasciatus*.) Charlotte Harbor (Mrs. Slosson), St. Petersburg, Aug. 12 (J. C. Bradley); Miami, Mar. 9, and Key West, Mar. 10 (Dyar and Caudell); Punta Gorda, Mar. 19, and Bartow, Mar. 30 (Caudell); Barrancas, June 28 (G. H. Gale).

Aedes niger Giles. (*A. tæniorhynchus* of authors, not Wied.) Charlotte Harbor (Mrs. Slosson); Sarasota, Aug. 14 (J. C. Bradley); Miami, Mar. 12 (Dyar); Estero, May 7 (Van Duzee); Knights Key, Dec. 2 (W. H. Sligh); Key West, June 27 (C. N. Barney).

Aedes atlanticus Dyar and Knab. Sanford, Mar. 17 (Dyar and Caudell).

Aedes canadensis Theob. Jacksonville, Mar. 2, Magnolia Springs, Mar. 3, Green Cove Springs, Mar., and Orange City Junction, Mar. 2 (Dyar and Caudell).

Aedes infirmatus Dyar and Knab. Tampa (Dyar).

Aedes mitchellæ Dyar. Jacksonville, Green Cove Springs, Magnolia, Kissimmee, and Pokatee (Dyar).

Aedes sylvestris Theob. Miami, Mar. 12 (Dyar).

Aedes tormentor Dyar and Knab. Jacksonville (H. Byrd).

Aedes triseriatus Say. Ormond, Mar. 16, and New Smyrna, Mar. 21 (Dyar and Caudell).

Culiseta inornatus Will. Jacksonville, Mar. 4 (Dyar); June 20 (Byrd).

Culex quinquifasciatus Say. (*C. cubensis* Bigot.) Orlando, Nov. 25 (E. A. Back); Key West, June 7 (Schwarz); Jacksonville, June 20 (Byrd); New Smyrna and Tampa (Dyar and Caudell); Magnolia Springs, Apr. 2 (F. J. Mattheson); Hastings, July 19.

Culex salinarius Coq. Jacksonville, Mar. 4 (Dyar); Green Cove Springs and Pokatee, Mar. 19 (Caudell).

Culex corniger Theob. Knights Key, Dec. 2 (W. H. Sligh).

Culex egberti Dyar and Knab. Warner's Camp, North shore of Lake Okeechobee (J. H. Egbert).

Culex floridensis Dyar and Knab. Larvæ from Estero (J. B. Van Duzee).

Culex restuans Theob. Jacksonville, Mar. 4 (Dyar).

Culex similis Theob. Jacksonville, Oct. 12 (H. Byrd).

Mansonia perturbans Walk. Tick Island, May 12 (C. W. J.); Warner's Camp, Lake Okeechobee, Mar. (J. H. Egbert).

Mansonia titillans Walk. Warner's Camp, Lake Okeechobee, Mar. (Egbert).

Uranotænia sapphirina O. S. Jacksonville, July 2 (H. Byrd).

Deinocerites cancer Theob. "Southern Florida" (Dyar).

Wyeomyia vanduzeei Dyar and Knab. Bred from larvæ in leaves of Bromelias, Estero (Van Duzee); Osprey, July, August (J. G. Webb); Biscayne Bay (Mrs. Slosson).

CORETHRIDÆ.

Chaoborus punctipennis Say. (*Sayomyia punctipennis*). Lake Okeechobee, Mar. (Egbert); Jacksonville, Atlantic Beach (Mrs. Slosson).

MYCETOPHILIDÆ.

Platyura elegans Coq. Georgetown, May 9, and Tick Island, May 12 (C. W. J.).

Leia cincta Coq. (*Neoglaphyoptera cincta*.) Tick Island, May 12 (C. W. J.).

Phorodonta nigra Wied. Biscayne Bay (Mrs. Slosson).

Sciara picea Rübs. St. Augustine and Drayton Island, May 10 (C. W. J.); Crescent City, Apr. 20 (Van Duzee).

This is probably the "yellow fever fly" referred to by Riley (Amer. Nat., 1881, p. 150), and placed by Aldrich under *S. americana* Wied.

Sciara fuliginosa Fitch. Biscayne Bay (Mrs. Slosson).

CECIDOMYIDÆ.

Lasioptera sp. Biscayne Bay (Mrs. Slosson).

Dasyneura eugenixæ Felt. Reared from deformed fruit of *Eugenia buxifolia*, collected at Key West, Mar. 15, 1912 (A. E. Schwarz).

Asphondylia sp. Biscayne Bay (Mrs. Slosson).

Cecidomyia taxodii Felt. (*Itonida toxodii*), "Florida." Reared from leaves of bald cypress (Hubbard).

Cecidomyia sp. (*Diplosis* sp.) Charlotte Harbor (Mrs. Slosson).

Cecidomyia sp. (*Diplosis* sp.) On oak, Georgiana, Jan. 24.

Cecidomyia sp. Ormond (Mrs. Slosson).

BIBIONIDÆ.

Plecia ruficollis Fabr. St. Augustine (C. W. J.); Charlotte Harbor, Mar. (Mrs. Slosson); Lake Harney (Hubbard and Schwarz).

Biblio rufithorax Wied. St. Augustine. Common; the male is much smaller than the female and has a black thorax. Jacksonville (Mrs. Slosson).

Bibio thoracicus Say. "East Florida" (Say); Jacksonville, Apr. 18 (Van Duzee).

Dilophus orbatus Say. St. Augustine and Juniper Creek, May 13 (C. W. J.); Inverness, Mar. 27 (Robertson); Biscayne Bay and Charlotte Harbor exceedingly common from February to the end of March (Mrs. Slosson); Punta Gorda, Nov. 14.

Dilophus thoracicus Say. Jacksonville (Mrs. Slosson).

SIMULIDÆ.

Simulium venustum Say. Biscayne Bay (Mrs. Slosson).

RHYPHIDÆ.

Olbiogaster scalaris Wied. (*Rhyphus scalaris*.) Belleair (Mrs. Slosson). A very poor specimen taken from a spider web, at Tick Island, Volusia County, was inadvertently referred to *Rhachicerus fulvicollis* in my previous list.

STRATIOMYIDÆ.

Hermetia illucens Linné. St. Augustine (C. W. J.); Fernandina, Lake Worth, and Biscayne Bay (Mrs. Slosson); Lake Mary, Mar. (Griffith); Punta Gorda, Nov. 13, and St. Petersburg, Apr. 28 (Van Duzee); Lakeland, Mar. 28, and La Belle, Apr. 27 (Davis).

Hermetia sexmaculata. "Florida" (Mus. Comp. Zoöl.).

Hermetia concinna Will. "Florida" (U. S. N. M.).

Ptecticus sackeni Will. "Florida" (Pergande).

Ptecticus testaceus Fabr. Crescent City, Apr. 20 (Van Duzee).

Macrosargus decorus Say. (*Sargus decorus*.) St. Augustine, Mar. 15.

Macrosargus elegans Loew. (*Sargus elegans*.) "Florida" (Loew); Bellaire (Mrs. Slosson).

Macrosargus tricolor Loew. (*Sargus tricolor*.) St. Augustine and Tick Isl., May 15 (C. W. J.); Biscayne Bay (Mrs. Slosson).

Macrosargus clavis Will. Jacksonville (Mrs. Slosson).

As Dr. Williston has stated (Manual N. Amer. Dipt., 3d ed., p. 169), "The genus *Macrosargus* is so feebly differentiated that I do not think both names can be maintained. If not, the name *Macrosargus* must take preference over *Geosargus* Bezzi, substituted for *Sargus* preoccupied."

The contraction of the abdomen which is noticeable in the males of several species, is more pronounced in *M. tricolor* and *M. clavis*. It is really a secondary sexual character and as such has no generic standing. *Pedicella* Bigot, 1856 (Coquillett, Type-species N. Amer. Genera), cannot be used, as no species were mentioned until Bigot substituted the name *Macrosargus* in 1879.

Cyphomyia marginata Loew. Lake Worth and Biscayne Bay, Mar. (Mrs. Slosson).

Stratiomyia meigenii Wied. Biscayne Bay (Mrs. Slosson).

Stratiomyia senaria Loew. St. Augustine (C. W. J.); Jacksonville (Mrs. Slosson).

Stratiomyia unilimbata Loew. Biscayne Bay (Mrs. Slosson).

Odontomyia cincta Oliv. St. Augustine, Mar. 15 (C. W. J.); Rockledge (Mrs. Slosson).

Odontomyia interrupta Wied. Jacksonville, Apr. 19 (Mrs. Slosson).

Odontomyia obscura Oliv. St. Augustine (C. W. J.); Charlotte Harbor, and Jacksonville (Mrs. Slosson); Crescent City, Apr. 21 (Van Duzee).

Odontomyia trivittata Say. St. Augustine (F. H. Genung); Astor, May 11 (C. W. J.); Ormond, Apr. (Mrs. Slosson); Ft. Myers, Nov. 15, and Punta Gorda, Nov. 13 (Davis).

Odontomyia flavicornis Oliv. "Florida" (U. S. N. M.); Jacksonville (Mrs. Slosson).

Nemotelus carbonarius Loew. St. Augustine, Charlotte Harbor, and Biscayne Bay (Mrs. Slosson).

Nemotelus crassus Loew. Biscayne Bay (Mrs. Slosson).

Nemotelus glaber Loew. Biscayne Bay (Mrs. Slosson).

Nemotelus unicolor Loew. Pebbly Beach, Jacksonville, May 9; St. Augustine; Sanford, May 6.

Nemotelus slossonæ Johnson. Proceedings Acad. Nat. Sci. Phila., 1895, p. 304 (male).

Female.—Front black, shining, with a white spot on each side above the base of the antennæ; rostrum short, about one half the width of the eye. Thorax shining blue-black, humeri with a narrow line extending to the base of the wing, light yellow. Abdomen shining, dark bronze-black, with a very narrow lateral margin of yellow. Legs black, the tips of the femora and tibiæ and all of the tarsi light yellow; halteres white, wings hyaline, third vein simple. Length, 3 mm.

A series of males and females taken at practically the same locality as the type, Punta Gorda (Charlotte Harbor), Nov. 11-17, leave no doubt as to the identity of the two forms. Allotype in the American Museum of Natural History.

Nemotelus immaculatus Johnson. Proceedings Acad. Nat. Sci. Phila., 1895, p. 304 (male).

Female.—Front black, covered with a sparse yellowish tomentum; rostrum acute, about as long as the width of the eye, upper side whitish, with small white orbital spots above the base of the antennæ, the latter reddish, becoming brown towards the tips. Thorax black, with yellowish tomentum; abdomen reddish-brown; the posterior margins of the second, third, and fourth segments narrowly bordered with yellow, expanding in the middle and towards the lateral margin, forming a dorsal row of somewhat obsolete triangles with one also on the first segment below the scutellum; the sides of the abdomen and posterior edge of the fifth segment narrowly margined with yellow; venter uniform reddish-brown. Legs yellow; halteres white; wings hyaline, third vein forked. Length, 5 mm. St. Augustine (F. H. Genung).

The females taken with the male of this species were referred to *N. acutirostris* in my previous paper. It differs from the latter by the more tomentose head and thorax, the different abdominal markings and color and the unicolored femora.

Nemotelus albirostris Macq.

N. albirostris Macq., Dipt. Exot. Suppl., 4, p. 359 (55) tab. 3, f. 8, 1850.

N. acutirostris Loew, Cent., III, 13, 1863.

N. wheeleri Melander, Psyche, X, 182, pl. 4, 1903.

In the large series before me I am unable to separate the above species and have therefore adopted the oldest name. Twenty-one specimens were collected by Dr. Lutz at Punta Gorda, Nov. 11–17, 1911.

Nemotelus quadrinotatus n. sp.

Female.—Head and thorax black, shining, sparsely covered with very short whitish hairs; antennæ black, and in length about double those of *N. trinotatus* Mel. The second joint is unusually long and the style is less attenuated and is erect. Abdomen black, shining, with large yellow dorsal triangles on the first, second, third, and fourth segments, the one on the first segment being broadest at the base; the posterior margin of the fifth and the lateral margins of all the segments narrowly bordered with yellow; venter black. Legs yellow, basal two-thirds of all the femora and a band on the middle of the posterior tibiæ black, halteres white. Wings hyaline, the anterior veins yellow, the third vein forked at the tip. Length, 4.5 mm.

Three specimens, Punta Gorda, Nov. 16 and 17, 1911 (Dr. Lutz). Holotype in the Amer. Mus. Nat. History. Two specimens from the same locality were collected by Mr. Davis, Nov. 13.

This species closely resembles *N. trinotatus* Mel. and would have been referred to as a variety of that species were it not for the great length of the antennæ.

Oxycera unifasciata Loew. Jacksonville, Apr. 26 (Mrs. Slosson).

Euryneurasoma n. gen.

This resembles the genus *Euryneura* in form. The scutellum however is without spines and the antennæ are situated near the middle of the head in profile. The third joint of the antennæ is moderately elongated, with five deeply segmented annuli, the terminal one being more stylate, with a small arista-like bristle at the tip. Type, the following species.

Euryneurasoma slossonæ n. sp.

Male.—Face and cheeks black, covered with short white hairs; eyes contiguous; frontal triangle black, with two white spots above the base of the antennæ; ocelligerous tubercle projecting considerably above the eyes, ocelli white; antennæ yellow, the two terminal annuli black, with a few short hairs. Thorax, pleura and scutellum black, covered with short, yellow, somewhat procumbent hairs; a narrow, light yellow line extends from the humeri to the base of the wings; post-alar callus reddish. Abdomen reddish, base of lateral margins and middle of the last two segments infuscate. Legs reddish, the basal two-thirds of the posterior femora, the outer two-thirds of the posterior tibiæ and anterior and posterior tarsi, dark brown. Halteres light yellow. Wings hyaline; anterior veins and the large stigma dull yellow. The forking of the third longitudinal vein near the tip is a variable character, being present in the male and absent in the female. Length, 5 mm.

The female differs little from the male, except the head. The front is about one third the width of the head and the white spots of the male here form a transverse band very narrowly interrupted in the middle. Length, 4.5 mm.

Biscayne Bay (Mrs. Slosson). Holotype and allotype in the U. S. National Museum. Paratypes in Mrs. Slosson's and the author's collections.

TABANIDÆ.

Chrysops divisus Walk. (*C. atropos* O. S.) St. Augustine (C. W. J.); Jacksonville (Mrs. Slosson); Crescent City (Hubbard); Eagle Lake (U. S. N. M.); Lake Mary, March (Griffith).

Chrysops callidus O. S. St. Augustine (C. W. J.).

Chrysops sackeni Hine. Volusia, May 11, and Drayton Isl., May 10 (C. W. J.).

Chrysops hinei Daecke. Sand Point, Feb. 18 (Hubbard and Schwarz).

Chrysops flavidus Wied. St. Augustine and Horse Landing, St. Johns River, May 17 (C. W. J.) Georgiana (Whitfield); Jacksonville, and Ormond (Mrs. Slosson); Marco, Apr. 20; Everglade, Apr. 11 (Davis).

Chrysops parvulus Daecke. St. Augustine, Mar. 15 (C. W. J.) *C. morosus* of my previous list.

Chrysops fuliginosus Wied. (*C. plangens* Wied.) "Florida" (Osten Sacken).

Chrysops dorsovittatus Hine. Jacksonville (Mrs. Slosson).

Chrysops lugens Wied. Volusia, May 11 (C. W. J.).

Chrysops pudicus O. S. Biscayne Bay (Mrs. Slosson).

Chrysops univittatus Macq. "Florida" (U. S. N. M.).

Chrysops vittatus var. **floridanus** n. var.

This is readily distinguished from the typical form by the absence of the brownish-black markings; all of the stripes are light brown, those on the abdomen being somewhat obsolete; the ocelligerous tubercle and the antennæ (except the extreme tip) are also light brown. The outer portion of the anal cell is entirely clouded and a wide clouded stripe extends through the center of the outer portion of the first posterior cell.

A large number of specimens were taken by the writer at Horse Landing, St. John's River, May 17, and at Palatka May 19, 1894. There is also a specimen in the Museum of Comparative Zoölogy, labeled Enterprise, May 11 (Hubbard and Schwarz). The form is so readily separated from the typical *vittatus*, it seems worthy of at least a varietal name.

Hæmatopota punctulata Macq. (*H. americana* O. S.? of my previous list.) Crescent City, June (Hubbard); Jacksonville (Mrs. Slosson).

Diachlorus ferrugatus Fabr. St. Augustine and Horse Landing, St. Johns Riv., May 17 (C. W. J.); Biscayne Bay and Enterprise, May 25 (Schwarz); Everglade, Apr. 6 (Davis); Big Cypress Swamp, Apr. 14.

Tabanus abdominalis Fabr. St. Augustine (C. W. J.).

Tabanus americanus Forst. St. Augustine; Astor, May 11; Tick Isl., May 13 (C. W. J.); Ormond, Apr., and Biscayne Bay (Mrs. Slosson); Clearwater, May 1 (Van Duzee); Miami, Apr. 2 (Laurent); Ft. Myers, Apr. 1, and Everglade, Apr. 7; Marco, Apr. 17 (Davis).

Tabanus atratus Fabr. St. Augustine (C. W. J.); Kew West, Feb. 7; Ft. Capron, July 9 (U. S. N. M.); Titusville, Nov. 8 (Am. Mus. Nat. Hist.); Ft. Myers, Apr. 1; Everglade, Apr. 7.

Tabanus coffeatus Macq. Waldo, June 2 (Schwarz and Hubbard); Jacksonville (Mrs. Slosson).

Tabanus costalis Wied. Lake Harney, May 5 (Schwarz and Hubbard); St. Augustine (C. W. J.); Crescent City, Apr. 22 (Van Duzee).

Tabanus nigrovittatus Macq. St. Augustine (C. W. J.).

Tabanus conterminus Walk. Fernandina (Hine); Miami.

Tabanus lineola Fabr. St. Augustine; Tick Isl. May 12 (C. W. J.); Ormond (Mrs. Slosson); Crescent City, Apr. 21 (Van Duzee); Everglade, Apr. 6; Labelle, Apr. 27; Ft. Myers, Apr. 23 (Davis).

Tabanus longus *O. S.* Georgiana (Whitfeld); Ft. Capron, Mar. 26 (Schwarz and Hubbard).

Tabanus cymatophorus *O. S.* Biscayne Bay (Mrs. Slosson); W. Palm Beach, Mar. 27 (C. P. Whitney).

Tabanus fronto *O. S.* St. Augustine (C. W. J.); Charlotte Harbor, Mar. (Mrs. Slosson).

Tabanus fur *Will.* "Florida" (Williston).

Tabanus fuscopunctatus *Macq.* St. Augustine, Mar. 15, and Tick Isl., May 12 (C. W. J.); Georgiana; Sand Point, Mar. 21 (U. S. N. M.); Crescent City, Apr. 22 (Van Duzee); Chokoloskee; Ft. Myers, Mar. 31 (Davis).

Tabanus johnsoni *Hine.* St. Augustine (F. H. Genung).

Tabanus giganteus *De Geer.* "Florida" (Williston).

Tabanus gracilis *Wied.* "Florida" (Williston).

Tabanus megerlei *Wied.* St. Augustine (C. W. J.); Lake Mary, Mar. (Griffith); Eagle Lake (U. S. N. M.); Palatka (Mrs. Slosson).

Tabanus melanocerus *Wied.* St. Augustine (C. W. J.); Miami.

Tabanus mexicanus *Linné.* St. Augustine; Georgetown, May 16; Tick Isl., May 13 (C. W. J.); Ormond (Mrs. Slosson); Sanibel Isl., May; Crescent City, Apr. 24, and Estero (Van Duzee); Ft. Myers, Apr. 25 (Grossbeck); Everglade, Apr. 15 (Davis).

Tabanus molestus *Say.* Tick Isl., May 12; Juniper Creek, May 15 (C. W. J.).

Tabanus psammophilus *O. S.* Lake Worth (Mrs. Slosson); Ft. Capron, Apr. 10 (Schwarz and Hubbard).

Tabanus pumilis *Macq.* St. Augustine (C. W. J.); Ormond and Jacksonville (Mrs. Slosson); Enterprise, May 11-13 (Schwarz and Hubbard).

Tabanus sparus *Whitney.* Inverness, Mar. 18-24 (Robertson); St. Augustine (C. W. J.); Atlantic Beach (Mrs. Slosson).

Tabanus pygmæus *Will.* "Florida" (Williston); Jacksonville (Mrs. Slosson).

Tabanus recedens *Walk.* "Florida" (Walker).

Tabanus rufus *Palisot de Beau.* St. Augustine and Tick Isl., May 12 (C. W. J.); Lake Harney, May 4 (Schwarz and Hubbard).

Tabanus stygius *Say.* Georgiana, July (Whitfeld).

Tabanus sulcifrons *Macq.* Biscayne Bay (Mrs. Slosson).

Tabanus tener *O. S.* Ormond (Mrs. Slosson); Indian River (E. Palmer); Lake Mary, Mar. (Griffith); Clearwater, Apr. 29 (Van Duzee); Palm Beach, Mar. 16 (Whitney).

Tabanus trijunctus *Walk.* St. Augustine, May 20, and Juniper

Creek, May 14 (C. W. J.); Ft. Capron, Apr. 24; Georgiana (Whitfeld); Biscayne Bay (Mrs. Slosson); Marco, Apr. 19; Everglade, Apr. (Davis).

Tabanus turbidus *Wied.* = ? *T. fusconervosus* *Macq.* Walker records the latter from Florida.

Tabanus variegatus *Fabr.* St. Augustine (C. W. J.).

Tabanus wiedemannii *O. S.* St. Augustine, May 19 (C. W. J.); Ormond (Mrs. Slosson); Enterprise, May 17 (Schwarz and Hubbard).

Tabanus proximus *Walk.* "Florida" (Walker).

Tabanus floridensis *Hine.* Fort Meade, Apr. 4.

Tabanus fulvulus *Wied.* Fort Myers, Apr. 14 (Davis).

LEPTIDIDÆ.

Leptis albicornis *Say.* St. Augustine, Mar. 15 (C. W. J.); Atlantic Beach (Mrs. Slosson).

Leptis mystacea *Macq.* Jacksonville, Apr. 10 (Laurent).

Leptis vertebrata *Say.* Ormond.

Chrysopilus basilaris *Say.* St. Augustine, Mar. 15 (C. W. J.); Charlotte Harbor and Lake Worth (Mrs. Slosson); Pebbly Beach, Jacksonville, May 9.

Chrysopilus griffithi *Johns.* Punta Gorda, Nov. 11 (Davis).

Chrysopilus quadratus *Say.* Atlantic Beach (Mrs. Slosson).

Chrysopilus propinqua *Walk.* Jacksonville (Mrs. Slosson).

Chrysopilus rotundipennis *Loew.* Jacksonville (Mrs. Slosson).

Chrysopilus velutinus *Loew.* St. Augustine, Mar. 15 (C. W. J.).

Chrysopilus connexus *Johns.* "Florida" (U. S. N. M.).

NEMESTRINIDÆ.

Hirmoneura flavipes *Will.* "Florida."

Parasymmictus clausa *O. S.* Beresford (Whitney).

Neorhynchocephalus volaticus *Will.* St. Augustine (C. W. J.), Georgiana (Whitfeld).

BOMBYLIIDÆ.

Spogostylum albofasciata *Macq.* (*Argyramæba albofasciata.*) Jacksonville and Lake Worth (Mrs. Slosson).

Spogostylum argyropyga *Wied.* (*Argyramæba argyropyga.*) "Florida" (U. S. Nat. Mus.).

Spogostylum limatulus Say. (*Argyramæba limatula.*) Jacksonville, Lake Worth, and Biscayne Bay (Mrs. Slosson); Cedar Keys, June 6 (Hubbard); Marco, Apr. 21 (Davis).

Spogostylum œdipus Fabr. (*Argyramæba œdipus.*) Orlando, Mar. 20 (Robertson); Cedar Keys, June 7 (Hubbard); Marco, Apr. 21 (Davis).

Spogostylum pluto Wied. "Florida" (U. S. Nat. Mus.).

Spogostylum simson Fabr. (*Argyramæba simson.*) St. Augustine (Genung).

Spogostylum analis Say. (*Argyramæba analis.*) St. Augustine, May 21 (C. W. J.); Enterprise, May 12; Lake Mary, Mar. (Griffith); Lakeland, May 7.

Spogostylum cephus Fabr. Jacksonville (Mrs. Slosson); Cedar Keys, June 7, and Tampa, Sept. 19 (Hubbard).

There is considerable confusion among the species of this genus that have entirely black wings or have a large portion of the wing solid black. The description of Fabricius can only apply to the entirely black species, "corpus totum hirtum, atrum, immaculatum. Alae nigrae immaculatae." Wiedemann in 1821 (Dipt. Exot., p. 141), followed by Macquart in 1840 (Dipt. Exot., II. p. 59), amended this, making it cover a number of species having white pile on the sides of the first and last two segments of the abdomen and these descriptions have been followed by subsequent authors.

My attention was first called to this discrepancy in trying to identify specimens of the true *cephus*, collected by Mrs. Slosson at Jacksonville. The other species which has thus remained unnamed, I therefore dedicate to her in recognition of her valuable work on the insect fauna of Florida.

Spogostylum slossonæ sp. n.

Anthrax cephus Wiedemann, 1821, not Fabricius, 1805.

Male.—Face and front black, with black hairs, occiput with whitish hairs; antennæ black. Thorax and scutellum black. There is a distinct collar of whitish hairs and the hairs on the pleura are also whitish. Abdomen black, with black hairs, except on the sides of the first segment, and dense silvery white tomentum on the last two segments, and a patch on the sides of the preceding segment. Legs brownish black. Halteres dark brown. Wings smoky black, becoming brownish towards the posterior margins. Length 12 mm., length of wing 15 mm.

Female.—Similar to the male except that the front is slightly wider, wings a more uniform black and the white tomentum of the terminal segments is confined to the sides. A specimen from St. Augustine measures the same as the male, but specimens from Chokoloskee, Fla., and Opelousa, La., are smaller. Length, 10 mm., wing 13 mm. Holotype, Cumberland Gap, Ky., July, 1876 (Dr. Geo. Dimmock), and allotype, Chokoloskee, Fla., received from Mr. Geo. Franck, are in the author's collection. Other records are Enterprise, May 7, and Cedar Keys (Hubbard); Biscayne Bay (Mrs. Slosson).

Spogostylum latelimbata Bigot.

Hemipenthes latelimbata Bigot, Ann. Soc. Ent. France, 351, 1892.

? *Anthrax cedens* Walk., Dipt. Saund., 190, 1856.

St. Augustine (C. W. J.); Lake Mary, March (Griffith).

This species has a bisected, pencil-bearing antennal style, and belongs to the group tabulated below. Walker's species is probably the same and would have priority, but a study of the type is necessary.

Spogostylum grossbecki sp. n.

Male.—Head, thorax and abdomen black, subshining and covered with black pile, except on the last abdominal segment where the pile is silvery white. Legs and halteres black. Wings black except for a very narrow hyaline border extending from the apex to the middle of the posterior margin; the first submarginal, discal, and fourth posterior cells, are entirely clouded, leaving only the outer portions of the second submarginal, and the first, second, and third posterior cells hyaline. Length 6 mm.

One specimen, Lakeland, Fla., May 3, 1912, collected by Mr. J. A. Grossbeck. Type in the American Museum of Natural History.

The species of this group may be distinguished as follows:—

1. Wings entirely black.....2.
Wings more or less hyaline along the outer and posterior portion.....3.
2. Abdomen with pile entirely black.....*cephus* Fabr.
Abdomen with white pile on the sides of the first and the last two segments
slossonæ sp. n.
3. Wings with less than one third hyaline.....6.
Wings with about one half to one third hyaline.....4.
4. Pile on the anterior of the thorax and on the sternum, white (South America)
gideon Fabr.
Pile on the anterior of the thorax and on the sternum, black.....5.
5. Abdomen of the female entirely black; male with silvery white tomentum on the last two segments.....*analisis* Say.
Abdomen of the female entirely black; male with tufts of white pile on the sides of the first and silvery tomentum on the sides of the penultimate segment South (America).....*acroleuca* Wied.
Abdomen of the female entirely black; male with only a small tuft of silvery tomentum on the sides of the penultimate segment (Colorado; Washington)
occidentalis sp. n.
6. Discal, outer end of the first submarginal, and fourth posterior cells, not entirely clouded with black.....*latelimbata* Bigot.
Discal, first submarginal, and fourth posterior cells entirely clouded with black
grossbecki sp. n.

The species *S. gideon*, *S. acroleuca* and *S. occidentalis* are not found in Florida, but have been inserted to avoid possible confusion.

Exoprosopa cubana Loew. "Florida."

Exoprosopa emarginata Macq. Lake Worth (Mrs. Slosson).

Exoprosopa fascipennis Say. St. Augustine, and Mt. Royal, May 17 (C. W. J.); Lake Worth (Mrs. Slosson); Cedar Keys, June 4 (Hubbard); Lakeland, Nov. 9 (Davis); Marco, Apr. 18, and Ft. Myers, Apr. 23.

Exoprosopa fasciata Macq. St. Augustine (C. W. J.); Ormond (Mrs. Slosson).

Exoprosopa pueblensis Jaenicke. (*E. eremita* O. S.) St. Augustine (Genung); Lake Worth (Mrs. Slosson); Capron, Apr. 12 (Hubbard); Lakeland, May 5, Marco, Apr. 19 (Davis).

Dipalta serpentina O. S. St. Augustine.

Anthrax agrippina O. S. Suwannee (Mrs. Slosson).

Anthrax alternata Say. "Florida" (Mrs. Slosson).

Anthrax celer Wied. (*A. floridana* Macq.) St. Augustine (C. W. J.); Capron, Apr. 17 (Hubbard).

Anthrax ceyx Loew. (? *A. demogorgon* Walk.) Chokoloskee.

Anthrax dispar Coq. St. Augustine (Genung); Biscayne Bay (Mrs. Slosson).

Anthrax nemakagonensis Graenicher. Marco, Apr. 20 (Davis).

Anthrax faunus Fabr. St. Augustine (C. W. J.).

Anthrax fulvohirta Wied. St. Augustine, May 20 (C. W. J.). Jacksonville and Lake Worth (Mrs. Slosson); Lakeland, May 5.

Anthrax lateralis Say. St. Augustine (C. W. J.); Inverness, Feb. 11, Mar. 31 (Robertson); Biscayne Bay (Mrs. Slosson); Marco, Apr. 17 Key Largo, Nov. 8; Clearwater, May 1; Sanford, May 7 (Van Duzee).

Anthrax lateralis var. **gracilis** Macq. Biscayne Bay, Mar. (Mrs. Slosson).

Anthrax lucifer Fabr. Jacksonville; Suwannee (Mrs. Slosson); Inverness, Mar. 2, Apr. 4 (Robertson); Key West; Lakeland, Nov. 10; Sanford, May 6 (Van Duzee); Ft. Myers, Mar. 30; Lakeland, Nov. 9 (Davis).

Anthrax mira Coq. St. Augustine (Genung); Biscayne Bay (Mrs. Slosson).

Anthrax morio Linné. Suwannee (Mrs. Slosson); Lakeland, Mar. 28.

Anthrax sinuosa Wied. St. Augustine (C. W. J.); Punta Gorda, Nov. 16; Ft. Myers, Apr. 1 (Davis).

Anthrax tegminipennis Say. Jacksonville, Apr.; Ormond (Mrs. Slosson).

Bombylius major Linné. (*B. fratellus* Wied.) "Florida" (U. S. Nat. Mus.).

Bombylius mexicanus Wied. Lake Worth and Biscayne Bay (Mrs. Slosson).

Bombylius fulvibasis Macq. (*B. atriceps* Loew.) Charlotte Harbor; Biscayne Bay (Mrs. Slosson); Inverness, Mar. 10-27 (Robertson).

Bombylius fraudulentus Johns. (*B. lancifer* of my previous list.) Crescent City, Apr. 25 (Van Duzee).

Bombylius pygmæus Fabr. "Florida" (Morrison) U. S. Nat. Mus.

Bombylius varius Fabr. "Florida" (Morrison) U. S. Nat. Mus.

Systoechus solitus Walk. St. Augustine, May 21; Suwannee, Apr.; Lake Worth and Biscayne Bay, Mar. (Mrs. Slosson); Enterprise, Apr. 15 (Laurent); Ft. Myer, Apr. 1, Lakeland, May 4, Crescent City, Apr. 20, and Sanford, May 6 (Van Duzee); La Belle, Apr. 28 (Davis).

Oncodocera leucoprocta Wied. Suwannee; Biscayne Bay (Mrs. Slosson).

Phthiria punctipennis Walk. St. Augustine.

Phthiria sulphurea Loew. St. Augustine (Genung); Georgetown, May 16 (C. W. J.); Crescent City (Hubbard).

Lepidophora ægeriiformis Westw. Georgiana (Whitfeld).

Eclimus niger Macq. Jacksonville (Mrs. Slosson).

Systopus macer Loew. Georgiana (Whitfeld).

Geron senilis Fabr. Miami, Nov. 3.

Toxophora americana Guérin. (*T. amphitea* Walk.) St. Augustine (C. W. J.); Ormond; Jacksonville and Biscayne Bay (Mrs. Slosson); St. Johns Bluff (Walker); Capron, July 4 (Hubbard); Miami, Oct. 25 (Townsend); Crescent City, Apr. 2 (Van Duzee).

Toxophora leucopyga Wied. (*T. fulva* Gray.) "Florida" (U. S. Nat. Mus.)

Toxophora virgata O. S. Inverness, Mar. 22 (Robertson).

THEREVIDÆ.

Psilocephala festina Coq. St. Augustine, Mar. 15, and Drayton Isl., May 9 (C. W. J.); Ormond and Bay Biscayne, Mar. (Mrs. Slosson); Georgiana, July (Whitfeld).

Psilocephala hæmorrhoidalis Macq. Ormond, Apr.; Atlantic Beach and Jacksonville, Apr. (Mrs. Slosson).

Psilocephala johnsoni Coq. St. Augustine, Mar. 15 (C. W. J.); Ormond, Apr. (Mrs. Slosson).

Psilocephala morata Coq. St. Augustine.

Psilocephala notata Wied. St. Augustine, Mar. 4 (C. W. J.); Ormond, Apr., and Jacksonville (Mrs. Slosson).

Psilocephala obscura Coq. Key West, Feb. 5 (U. S. N. M.).

Psilocephala pictipennis *Wied.* St. Augustine, Drayton Isl., and Welaka, May 9 (C. W. J.); Biscayne Bay and Jacksonville (Mrs. Slosson); Crescent City (Hubbard); Ft. Myers, Mar. 31.

Psilocephala placida *Coq.* "Florida" (U. S. N. M.).

Psilocephala tergissa *Say.* St. Augustine, Mar. 15 (C. W. J.); Ormond, Apr.; Lake Worth; Atlantic Beach and Biscayne Bay, Jan. and Mar. (Mrs. Slosson); Lakeland, May 5 (Davis).

Psilocephala marcida *Coq.* "Florida" (U. S. N. M.).

Thereva diversa *Coq.* "Florida" (U. S. N. M.).

Thereva germana *Walk.* "Florida" (Walker).

Thereva varia *Walk.* "Florida" (Walker).

SCENOPINIDÆ.

Scenopinus nubilipes *Say.* Jacksonville and Biscayne Bay (Mrs. Slosson).

MYDAIDÆ.

Mydas clavatus *Drury.* St. Augustine; Aster, May 11, and Juniper Creek, May 15 (C. W. J.).

Mydas fulvifrons *Illiger.* "Florida" (U. S. Nat. Mus.).

Mydas incisus *Macq.* (*M. pachygaster* Westw.) St. Augustine (C. W. J.); Crescent City (Hubbard); Enterprise, May 29.

Mydas parvulus *Westw.* "Florida" (Walker).

In the U. S. National Museum, there are several undetermined species marked "Fla." that were there when I made my previous list. These closely resemble species that have been recorded only from Arizona and New Mexico, and their occurrence in Florida needs verification.

Dolichogaster brevicornis *Wied.* (*M. iopterus* Wied.) "St. Johns Bluff, Doubleday" (Walker).

Over sixty years have elapsed since Walker recorded this species from Florida. It seems therefore surprising that with all the collecting that has been done since then, something bearing on this species should not have been found. In recently describing a species from Georgia (*Leptomydas desideratus*, Psyche, XIX, 151, fig. 1, 1912), my attention was called to the similarity in venation and color of the two species which, minus the antennæ, could readily be confounded. Can this have been the case?

ASILIDÆ.

Leptogaster obscuripennis Johns. St. Augustine (C. W. J.); Capron; Tampa, Apr. 8 (Hubbard); Orlando, May 18; Gotha, Mar. (Wheeler); Clearwater, Apr. 30 (Van Duzee).

Leptogaster pictipes Loew. Biscayne Bay (Mrs. Slosson).

Leptogaster floridensis sp. n.

Female.—Face, front and occiput black, grayish pollinose, vertex and proboscis black. Antennæ, first and second joint, brown; third joint and style black. Thorax light brown, with wide, subshining, dark brown stripes; pleura and scutellum brown covered with a gray pollen. Abdomen black, shining, a band on the middle of the second segment and the posterior margin of the second to the fifth segments, brown. Genitalia red. Legs variable in color, anterior femora and base of the middle and basal half of the posterior femora, light yellow, the middle and posterior femora with a broad middle and apical band of black, with a broad red band between, the clavate portion of the posterior femora abruptly thickened, the basal half being very slender; anterior and middle tibiæ yellow, the latter obscurely banded with brown, the posterior tibiæ red with a broad basal and apical band of black; metatarsi whitish, tip of the latter and all other joints of the tarsi reddish brown. Halteres dark brown, stalks light yellow. Wings hyaline, veins dark brown. Length, 9 mm.

Three specimens, Miami, Nov. 5, 1911; two specimens, Estero (Van Duzee). Holotype (Miami), and three paratypes in the American Museum of Natural History, one paratype (Miami), in the author's collection.

This species resembles *L. pictipes* Loew, but the broad apical band on the posterior femora and broad sub-basal band on the posterior tibiæ readily separate the two species.

Dizonia tristis Walk. (*D. bicincta* Loew, *Ospriocerus albifasciatus* Back.) St. Augustine (C. W. J.); Georgiana (Whitfeld); Enterprise, May 15; Turkey Lake, Orange Co., Aug. 29 (Back); Biscayne Bay (Mrs. Slosson); La Belle, Apr. 28.

Laphystia sexfasciata Say. St. Augustine, common along the sea-shore, June, July; Capron, Apr. 19; Miami (Laurent).

Ceraturgus nigripes Will. "Florida" (U. S. N. M.).

Ceraturgopsis cornutus Wied. (*Ceraturgus cruciatus* of my former list.) Ormond, Apr. (Mrs. Slosson).

Dioctria albius Walk. "Florida" (Back).

Cyrtopogon falso Walk. (*C. chrysopogon* Loew.) "Florida" (Morrison).

Holcocephala abdominalis Say. St. Augustine and Juniper Creek, May 15 (C. W. J.); Sanford, May 6, and Crescent City, Apr. 21 (Van Duzee).

Holcocephala calva Loew. Juniper Creek, May 15.

Holopogon guttula Wied. (*H. philadelphicus* Schiner.) Jacksonville and Ormond, Apr. (Mrs. Slosson).

Heteropogon senilis Bigot. (*Anisopogon senilis* Bigot.) *A. ludius* Coq. is probably a synonym. "Florida" (Morrison), U. S. N. M.

Neopogon abdominalis Back. (*Stichopogon abdominalis* Back.) Gotha, Mar. (Wheeler); Winter Park and Orlando, Apr., July (Back).

Deromyia bilineata Loew. "Florida" (Back); St. Augustine (C. W. J.).

Deromyia bigetii Bell. St. Augustine (C. W. J.); Ormond, June (Mrs. Slosson).

Deromyia ternata Loew. St. Augustine (C. W. J.); Ft. Myer, Apr. 25, and Lakeland, Nov. 8 (Davis).

Deromyia winthemi Wied. "Florida" (U. S. N. M.).

Taracticus octopunctatus Say. "Florida" (Morrison).

Nicocles pictus Loew. St. Augustine (C. W. J.).

Nicocles politus Say. White Spring, Oct. 19 (Townsend).

Cerotainia macrocera Say. Lake Worth (Mrs. Slosson).

Atomosia puella Wied. Palatka, May 19 (C. W. J.).

Pogonosoma melanoptera Wied. "Florida" (Williston).

Nusa fulvicauda Say. (*Andrenosoma pyrrhacra* Wied.) Georgiana (Whitfeld); Ormond, June (Mrs. Slosson)

Lampria bicolor Wied. Ormond (Mrs. Slosson).

Dasyllis grossa Fabr. (*D. tergissa* Say.) Tampa, Mar. (Mrs. Slosson).

Dasyllis lata Macq. Crescent City, Apr. 24 (Van Duzee).

Dasyllis posticata Say. Jacksonville, Apr. (Mrs. Slosson); Lakeland, May 6 (Davis).

Laphria saffrana Fabr. St. Augustine (C. W. J.); Sand Point, May 3, Charlotte Harbor, Mar., Pensacola, Apr., and Biscayne Bay, Mar. (Mrs. Slosson); Lakeland, May 6 (Davis).

Ommatius marginellus Fabr. (*O. tibialis* Say.) St. Augustine, May 21, and Georgetown, May 19 (C. W. J.); Georgiana, July 15 (Whitfeld); Biscayne Bay (Mrs. Slosson); Sanford, May 7 (Van Duzee).

Proctacanthus brevipennis Wied. St. Augustine (C. W. J.); Ormond, Charlotte Harbor and Pensacola (Mrs. Slosson); Miami, Apr. 4 (Laurent); Key West, June 7; Clearwater, May 1 (Van Duzee); Lakeland Mar. 28, and Ft. Myers, Apr. 2; Marco, Apr. 18 (Davis).

Proctacanthus heros Wied. St. Augustine (C. W. J.); Georgiana (Whitfeld).

Proctacanthus fulviventris Macq. Georgiana; St. Petersburg, Apr. 28 (Van Duzee); Ft. Myers, Apr. 24 (Davis).

Proctocanthus longulus Wied. "Florida" (Hine).

Proctocanthus nigriventris Hine. Marco, Apr. 18.

Proctocanthus philadelphicus Macq. Georgiana (U. S. Nat. Mus.).

Erax æstuans Linné. (*E. bastardi* Macq.) Jacksonville, and Lake Worth, Mar. (Mrs. Slosson); St. Petersburg, Apr. 28; Clearwater, Apr. 30; Tampa, May 2 (Van Duzee).

Erax albibarbis Macq. (*E. cinerescens* Bell.) St. Augustine (C. W. J.); Lake Worth, on the white sand of the open beach (Mrs. Slosson).

Erax interruptus Macq. (*E. lateralis* Macq. + *maculatus* Macq.) St. Augustine, May 20, and Volusia, May 11-14 (C. W. J.); Biscayne Bay, Mar. (Mrs. Slosson); Everglade, Apr. 6, Marco, Apr. 17, and Lakeland, May 7 (Davis).

Erax femorata Macq. St. Augustine (C. W. J.); Clearwater, Apr. (Van Duzee).

Erax sp. Chokoloskee.

Mallophora bomboides Wied. St. Augustine (C. W. J.); Ormond, June (Mrs. Slosson); Miami, Nov. 5.

Mallophora laphroides Wied. St. Augustine (F. H. Genung); St. Petersburg, Apr. 28, and Clearwater, May 1 (Van Duzee); Lakeland, May 7.

Mallophora nigra Will. St. Augustine.

Mallophora orcina Wied. St. Augustine, May 20, and Palatka, May 19 (C. W. J.); Crescent City (Hubbard).

Promachus bastardii Macq. Clearwater, Apr. (Van Duzee); Lakeland, May 6 (Davis).

Coquillett adopts the generic name *Bactria* Meigen (Syst. Besch. Zweifl. Ins., Vol. 2, p. 307, 1820), based on the following note under *Asilus pictus* Meig.: "Herr Megerle von Muhlfeld schikte sie unter dem Namen *Bactria rufipes*." Whether *Bactria* with *A. pictus* as the type, should be used in place of the genus *Promachus* Loew, 1840, needs further consideration. Meigen evidently had no idea of adopting it.

Promachus fitchii O. S. St. Augustine.

Asilus gracilis Wied. (*A. auratus* Johnson.) St. Augustine, May 21; Palatka, May 19 (C. W. J.); Georgiana, July 15 (Whitfeld); Sanford, May 7; Clearwater, Apr. 30; St. Petersburg, Apr. 29; Estero (Van Duzee); Ft. Myers, Apr. 25.

Asilus novæ scotiæ Macq. Charlotte Harbor (Mrs. Slosson).

Asilus erythrocnemius Hine. Punta Gorda, Nov. 16 (Davis).

Asilus snowii Hine. "Florida" (Mrs. Slosson).

DOLICHOPODIDÆ.

Sciapus caudatus *Wied.* (*Psilopus caudatulus* Loew.) Volusia, May 11, Palatka, May 15 (C. W. J.); Charlotte Harbor (Mrs. Slosson); Ft. Myers, Mar. 31.

Sciapus chrysoprasius *Walk.* Charlotte Harbor and Biscayne Bay (Mrs. Slosson); Ft. Myers, Nov. 13.

Sciapus ciliipes *Aldr.* Jacksonville, Lake Worth, Biscayne Bay, and Charlotte Harbor (Mrs. Slosson). Enterprise, Apr. 15 (Laurent).

Sciapus comatus *Loew.* Volusia, May 11 (C. W. J.); Lake Worth (Mrs. Slosson).

Sciapus pruinus *Coq.* Miami (Mrs. Slosson).

Sciapus mundus *Wied.* (*Psilopus ciliatus* Loew.) St. Augustine; Drayton Isl., May 10 (C. W. J.); Lake Worth and Charlotte Harbor (Mrs. Slosson); Enterprise (Castle and Laurent).

Sciapus patibulatus *Say.* Jacksonville (Mrs. Slosson).

Sciapus portoricensis *Macq.* Biscayne Bay (Mrs. Slosson).

Sciapus siphon *Say.* Volusia, May, and Palatka, May 19 (C. W. J.); Jacksonville (Mrs. Slosson).

The above species are placed under *Psilodinus* and the following species under *Agonosoma* in Aldrich's catalogue. The two genera do not seem to be generically distinct and are now united by most authors under *Sciapus* Zeller.

Sciapus psittacinus *Loew.* (*Gnamptopsilopus psittacinus.*) St. Augustine (C. W. J.); Lake Worth, Jan. and Biscayne Bay (Mrs. Slosson).

Sciapus tener *Loew.* Jacksonville (Mrs. Slosson).

Sciapus unifasciatus *Say.* Jacksonville, and Biscayne Bay (Mrs. Slosson).

Sciapus variegatus *Loew.* St. Augustine; Welaka, May 9, and Palatka, May 19 (C. W. J.); Biscayne Bay (Mrs. Slosson).

Diaphorus leucostoma *Loew.* Charlotte Harbor, Feb., and Lake Worth, Biscayne Bay (Mrs. Slosson).

Diaphorus mundus *Loew.* Drayton Isl., May 10 (C. W. J.); Charlotte Harbor (Mrs. Slosson).

Diaphorus opacus *Loew.* Biscayne Bay (Mrs. Slosson).

Diaphorus subsejunctus *Loew.* Lake Worth (Mrs. Slosson).

Asyndetus interruptus *Loew.* Lake Worth (Mrs. Slosson).

Asyndetus syntormoides *Wheeler.* Jacksonville (Mrs. Slosson).

Chrysotus barbatus *Loew.* "Florida."

Chrysotus costalis *Loew.* "Florida" (Loew).

- Chrysotus picticornis** Loew. Biscayne Bay (Mrs. Slosson).
Chrysotus vividus Loew. Biscayne Bay (Mrs. Slosson).
Campsicnemus hirtipes Loew. St. Augustine (C. W. J.).
Argyra sp. "Florida" (Aldrich).
Porphyrops fumipennis Loew. De Funiak Springs, Mar. 1 (C. W. J.).
Neurigona lateralis Say. (*Saucropus superbiens* Loew and *Dactylomyia gracilipes* Aldr.) Belleair (Mrs. Slosson).
Neurigona dimidiata Loew. "Florida" (Loew).
Thinophilus neglectus Wheeler. Biscayne Bay (Mrs. Slosson); Punta Gorda, Nov. 15.
Hypocharassus gladiator Mik. (*Drepanomyia johnsoni* Wheeler.) St. Augustine, May 21 (C. W. J.).
Hypocharassus pruinosis Wheeler. St. Augustine, May 21 (C. W. J.); Biscayne Bay (Mrs. Slosson); Punta Rassa, Apr. 22 (Davis).
Medeterus nigripes Loew. Charlotte Harbor (Mrs. Slosson).
Medeterus veles Loew. Jacksonville (Mrs. Slosson).
Hydrophorus æstum Loew. (*H. eldoradensis* Wheeler.) De Funiak Springs, Mar. 1 (C. W. J.).
Plagioneurus univittatus Loew. Biscayne Bay and Ormond (Mrs. Slosson).
Dolichopus laticornis Loew. Lake Worth (Mrs. Slosson).
Dolichopus longipennis Loew. "Florida."
Gymnopternus albiceps Loew. "Florida" (Mrs. Slosson).
Gymnopternus debilis Loew. Jacksonville (Mrs. Slosson).
Gymnopternus difficilis Loew. St. Augustine.
Paraclius filiferus Aldr. Charlotte Harbor, Lake Worth, and Biscayne Bay (Mrs. Slosson).
Paraclius propinquus Wheeler. Charlotte Harbor and Ormond (Mrs. Slosson).
Paraclius quadrinotatus Aldr. "Florida" (Mrs. Slosson).
Tachytrechus floridensis Aldr. Biscayne Bay (Mrs. Slosson); Crescent City, Apr. 20 (Van Duzee).
Pelastoneurus abbreviatus Loew. St. Augustine, Mar. 14.
Pelastoneurus cognatus Loew. St. Augustine, Mar. 14.
Pelastoneurus floridanus Wheeler. St. Augustine, Mar. 15 (C. W. J.); Ormond (Mrs. Slosson).
Pelastoneurus lætus Loew. (= ? *Dolichopus irrasus* Walk. Aldrich.) Belleair (Mrs. Slosson).
Pelastoneurus lamellatus Loew. "Florida" (Mrs. Slosson).
Pelastoneurus longicauda Loew. Biscayne Bay (Mrs. Slosson); Crescent City, Apr. 19.

Pelastoneurus lugubris Loew. Lake Worth and Biscayne Bay (Mrs. Slosson).

Pelastoneurus pictipennis Wheeler. St. Augustine, Mar. 15 (C. W. J.); Gotha (Wheeler); Lake Worth, and Belleair (Mrs. Slosson); Miami, Nov. 5.

EMPIDIDÆ.

Drapetis sp. Jacksonville, Apr. (Mrs. Slosson).

Platypalpus crassifemoris Fitch. Biscayne Bay (Mrs. Slosson).

Tachydromia lata Coq. Biscayne Bay (Mrs. Slosson).

Coloboneura inusitata Melander. Lake Worth (Mrs. Slosson).

Coloboneura nana Coq. Lake Worth (Mrs. Slosson).

Hemerodromia empiformis Say. (*H. superstitionosa* of my previous list, not of Say.) Drayton Isl., May 9.

Hemerodromia obsoleta Loew. Jacksonville, Nov. 3.

Syneches pusillus Loew. Charlotte Harbor (Mrs. Slosson).

Syneches simplex Walk. Jacksonville, Apr., and Charlotte Harbor (Mrs. Slosson).

Syndyas polita Loew. "Florida."

Hybos triplex Walk. Charlotte Harbor, Mar., and Jacksonville, Apr. (Mrs. Slosson); Lakeland, Nov. 10.

Hybos subjectus Walk. (*Eukhybus subjectus*.) St. Augustine (C. W. J.); Charlotte Harbor; Jacksonville, Apr., and Lake Worth (Mrs. Slosson).

Hilara atra Loew. Atlantic Beach (Mrs. Slosson).

Hilara leucoptera Loew. Charlotte Harbor (Mrs. Slosson).

PHORIDÆ.

Dohniphora venusta Coq. (*Phora divaricata* Aldr.) Biscayne Bay, Mar., and Jacksonville, Apr. (Mrs. Slosson).

Dohniphora venusta var. **perplexa** Brues. Tick Island, May 12 (C. W. J.).

Dohniphora incisuralis Loew. Charlotte Harbor (Mrs. Slosson).

Aphiochæta fasciata Fall. Charlotte Harbor (Mrs. Slosson).

Aphiochæta epieræ Brues. Biscayne Bay (Mrs. Slosson); Rockledge (Malloch).

Aphiochæta nigriceps Loew. Biscayne Bay and Jacksonville (Mrs. Slosson).

- Aphiochæta rufipes** Meig. Jacksonville (Mrs. Slosson).
Aphiochæta scalaris Loew. Biscayne Bay, Feb. (Mrs. Slosson);
 Orlando (Chittenden).
Aphiochæta subpicta Malloch. Biscayne Bay (Mrs. Slosson).
Aphiochæta minor Zett. (*A. minuta* Aldr.) Biscayne Bay (Mrs. Slosson).

PIPUNCULIDÆ.

- Pipunculus albiseta** Cress. Belleaire (Mrs. Slosson).
Pipunculus constrictus Banks. St. Augustine (C. W. J.); Biscayne Bay (Mrs. Slosson).
Pipunculus houghi Kertz. (*P. lateralis* Walk. (not Macq.) + *P. femorata* Cress.) St. Augustine (*Prothecus lateralis* of my previous list.)
Pipunculus insularis Cress. Jacksonville.
Pipunculus biscaynei Cress. Biscayne Bay (Mrs. Slosson).
Pipunculus nigripes Loew. Biscayne Bay and Jacksonville (Mrs. Slosson).
Pipunculus subvirescens Loew. Lake Worth and Biscayne Bay (Mrs. Slosson).
Pipunculus subnitens ? Cress. Jacksonville.

SYRPHIDÆ.

- Microdon fulgens** Wied. St. Augustine, pupæ found in decayed pine logs (C. W. J.); Suwannee, and Biscayne Bay (Mrs. Slosson); Marco, Apr. 20, and Deep Lake, Apr. 15.
Microdon fuscipennis Macq. Georgiana, July 17 (Whitfeld).
Microdon globosus Fabr. Crescent city, Apr. 21; Titusville, Nov. 8.
Microdon limbus Will. Jacksonville, Apr. (Mrs. Slosson).
Microdon pachystylum Will. St. Augustine (C. W. J.).
Microdon scitulus Will. Biscayne Bay (Mrs. Slosson).
Microdon tristis Loew. Biscayne Bay, Mar. (Mrs. Slosson).
Microdon baliopterus Loew. (*Omegasyrphus baliopterus*.) Charlotte Harbor (Mrs. Slosson).
Microdon coarctatus Loew. (*Omegasyrphus coarctatus*.) Orlando, Mar. 16 (Robertson).
Chrysogaster nitida Wied. St. Augustine Mar. 15, and Tick Isl., May 12 (C. W. J.); Orlando, May 16 (Mrs. Slosson); Inverness, Feb. 14 (Robertson).

- Psilota buccata** *Macq.* Inverness, Feb. 8-12 (Robertson).
- Pipiza australis** *Johns.* St. Augustine, Mar. 15. Included under *P. pulchella* in my previous list.
- Pipiza pulchella** *Will.* Lake Worth and Biscayne Bay, Feb. (Mrs. Slosson).
- Paragus tibialis** *Fall.* St. Augustine, May 21, and Palatka, May 19 (C. W. J.).
- Baccha clavata** *Fabr.* St. Augustine, May 21 (C. W. J.); Lake Worth and Biscayne Bay (Mrs. Slosson); Crescent City (Hubbard); Orlando, Feb. 17; Lakeland, Nov. 7 (Davis); Jacksonville, Nov. 3; Ft. Myers, Nov. 15.
- Baccha lugens** *Loew.* Crescent City (Hubbard); Jacksonville (Mrs. Slosson).
- Baccha notata** *Loew.* Charlotte Harbor (Mrs. Slosson).
- Baccha tarchetius** *Walk.* Jacksonville (Mrs. Slosson); Orlando, Mar. 16, and Inverness, Mar. 26 (Robertson).
- Ocyptamus fuscipennis** *Say.* St. Augustine, Mar. 15, May 20 (C. W. J.); Palatka; Crescent City (U. S. N. M.); Lake Worth and Biscayne Bay (Mrs. Slosson); Labelle, Apr. 27.
- Ocyptamus trigonus** *Wied.* (*Baccha torva* Will.) Biscayne Bay, Mar. (Mrs. Slosson).
- Ocyptamus scutellatus** *Loew.* Lake Worth (Mrs. Slosson).
- Syrphus americanus** *Wied.* Jacksonville, Apr. 15, Biscayne Bay, Atlantic Beach, and Lake Worth (Mrs. Slosson); Orlando, Feb. 21, and Inverness, Feb. 12 (Robertson).
- Allograpta obliqua** *Say.* Inverness, Feb. 12, Mar. 21 (Robertson); Biscayne Bay, Feb. (Mrs. Slosson); Punta Gorda, Nov. 11; Pablo Beach, Nov. 4.
- Philhelius emarginatus** *Say.* (*Xanthogramma emarginata.*) "Florida, Apr. 20" (Riley).
- Toxomerus bosci** *Macq.* (*Mesogramma bosci.*) St. Augustine, May 20 (C. W. J.); Orlando, Mar. 15, and Inverness, Feb. 29 (Robertson); Lakeland, Nov. 10; Crescent City, Apr. 25; Clearwater, Apr. 29; Jacksonville, May 9.
- Toxomerus parvulus** *Loew.* (*Mesogramma parvula.*) St. Augustine, May 20 (C. W. J.); Lake Mary, Mar. (Griffith); Biscayne Bay (Mrs. Slosson).
- Toxomerus marginatus** *Say.* (*Mesogramma marginata.*) St. Augustine, May 20, and De Funia Spk., Mar. 1 (C. W. J.); Lake Worth, Mar. (Mrs. Slosson); Orlando, Feb. 21, and Inverness, Mar. 9 (Robertson); Jacksonville, Nov. 3.

Toxomerus planiventris Loew. (*Mesogramma planiventris*.) Crescent City, Apr., and Clearwater, May 1; Titusville, Nov. 8; Lakeland, Nov. 10; Punta Gorda, Nov. 11; La Belle, Nov. 14.

Toxomerus politus Say. (*Mesogramma polita*.) St. Augustine, and Georgetown, May 9 (C. W. J.); Jacksonville, Nov. 3 (Davis); Titusville, Nov. 8.

Toxomerus subannulatus Loew. Biscayne Bay (Mrs. Slosson).

Toxomerus duplicatus Wied. Biscayne Bay (Mrs. Slosson).

Volucella abdominalis Wied. Chokoloskee.

Volucella esuriens Fabr. St. Augustine (C. W. J.); Georgiana (Whitfeld); Biscayne Bay, Jan., Apr., and Charlotte Harbor (Mrs. Slosson); Key West (U. S. N. M.); Sanibel Isl.; Marco, Apr. 17 (Davis); Tortugas Islands, June 23 (R. C. Osburn).

Volucella eugenia Will. "Florida" (Williston).

Volucella fasciata Macq. Inverness, Feb. 3, Mar. 24 (Robertson); Lakeland, Mar. 29 (Davis).

Volucella pusilla Macq. St. Augustine, Mar. 15, May 21 (C. W. J.); Ft. Myers, Mar. 31 (Davis); Newberry, Nov. 18.

Volucella obesa Fabr. Chokoloskee.

Volucella pallens Wied. St. Augustine, Mar. 15, Georgiana; Lake Worth, and Charlotte Harbor (Mrs. Slosson); Inverness, Feb. 12 (Robertson); South Bay, Lake Okeechobee, May 2 (Davis).

Volucella vesiculosa Fabr. Inverness, Mar. 19 (Robertson).

Eristalis albifrons Wied. St. Augustine (F. H. Genung); Orlando, Feb. 21 (Robertson); Lake Worth; Charlotte Harbor, and Biscayne Bay (Mrs. Slosson); Georgiana (Whitfeld); Miami, Feb. 18 (P. Laurent); Chokoloskee; Everglade, Apr. 7; Lakeland, May 6 (Davis).

Eristalis dimidiatus Wied. St. Augustine (C. W. J.); Punta Gorda, Nov. 16 (Davis); Newberry, Nov. 18.

Eristalis transversus Wied. St. Augustine, Mar. 15 (C. W. J.); Inverness, Mar. 14 (Robertson).

Eristalis vinetorum Fabr. St. Augustine (C. W. J.); Lake Worth (Mrs. Slosson); Punta Gorda, Nov. 16 (Davis).

Meromacrus acutus Fabr. (*M. crucigerus* Wied.) St. Augustine, and Juniper Creek, May 15 (C. W. J.); Charlotte Harbor, and Biscayne Bay (Mrs. Slosson); Chokoloskee, May; Lakeland, May 6 (Davis).

Meromacrus ruficrus Wied. Chokoloskee; Biscayne Bay (Mrs. Slosson).

Tropidia albistylum Macq. Lake Worth, and Charlotte Harbor (Mrs. Slosson); Inverness, Feb. 5 (Robertson).

Helophilus divisus Loew. Orlando, Feb. 22 (Robertson).

Helophilus similis *Macq.* St. Augustine (C. W. J.); Inverness, Feb. 12 (Robertson); Lake Worth, Mar. (Mrs. Slosson); Titusville, Nov. 8.

Mallota cimbiciformis *Fall.* Inverness, Feb. 12 (Robertson).

Xylota analis *Will.* St. Augustine (C. W. J.); Charlotte Harbor, Mar. (Mrs. Slosson). Referred in error to *X. ejuncida* in my previous list.

Xylota pigra *Fabr.* "Florida" (Mrs. Slosson); Inverness Feb. 8, Mar. 25 (Robertson).

Milesia virginiensis *Drury.* (*M. ornata* *Fabr.*) St. Augustine, Jacksonville, May 22, and Juniper Creek, May 15 (C. W. J.); Inverness Mar. 12, Apr. 5 (Robertson); Ormond and Biscayne Bay (Mrs. Slosson); Georgiana (Whitfeld); Everglade, Apr. 7, Lakeland, May 6 (Davis).

Spilomyia hamifera *Loew.* St. Augustine (C. W. J.); Inverness, Mar. 6 (Robertson).

Ceriodes abbreviata *Loew.* (*Ceria abbreviata.*) "Florida" (Williston).

Ceriodes signifera *Loew.* (*Ceria signifera.*) Inverness, Feb. 12, 14 (Robertson).

Ceriodes willistonii *Kahl.* "Florida."

CONOPIDÆ.

Conops brachyrhyncus *Macq.* St. Augustine.

Conops bulbirostris *Loew.* St. Augustine.

Conops excisus *Wied.* St. Augustine (C. W. J.); Crescent City, July 2 (Hubbard); Inverness, Mar. 18 (Robertson); Charlotte Harbor and Pensacola, Mar. and April (Mrs. Slosson); Marco, Apr. 21 (Davis).

Physocephala castanoptera *Loew.* St. Augustine.

Physocephala sagittaria *Say.* Inverness, Feb. 8 (Robertson); Biscayne Bay (Mrs. Slosson).

Physocephala tibialis *Say.* Biscayne Bay, Mar. (Mrs. Slosson).

Zodion fulvifrons *Say.* Lake Worth and Ormond, Mar. (Mrs. Slosson).

Zodion nanellum *Loew.* Inverness, Feb. 9 (Robertson).

Stylogaster biannulata *Say.* Tallahassee, Aug. 8 (A. P. Morse).

Dalmannia vitiosa *Coq.* Inverness, Mar. 25 (Robertson).

OESTRIDÆ.

Cuterebra americana *Fabr.* "Florida," April 5, 1895 (J. Akhurst).

Cuterebra buccata *Fabr.* St. Augustine (C. W. J.); Chokoloskee (E. G. Cove).

Cuterebra fontinella Clark. (*C. cuniculi?* of my previous list.)
St. Augustine.

TACHINIDÆ.

Trichopoda lanipes Fabr. (♀) (*T. formosa* Wied, ♂.) St. Augustine (C. W. J.); Miami, May 26 (Laurent); Biscayne Bay, and Jacksonville (Mrs. Slosson); Punta Rossa, Apr. 3.

Trichopoda cilipes Wied. Biscayne Bay (Mrs. Slosson); Enterprise Apr. 16 (Laurent).

Trichopoda pennipes Fabr. (*T. ciliata* and *pyrrhogaster* Wied.) St. Augustine (C. W. J.); Charlotte Harbor, and Jacksonville, Apr. (Mrs. Slosson); Georgiana, July (Whitfeld); Lakeland, May 6 (Davis).

Trichopoda plumipes Fabr. (*T. histrio* Walk. and *T. trifasciata* Loew.) Biscayne Bay (Mrs. Slosson); Inverness, Mar. 18 (Robertson).

The genera *Galactomyia* and *Polistomyia* Towns. seem to be based on characters too slight for permanency.

Myophasia atra Desv.

Clytia atra Desv. Myodaires, 288, 1830.

Tachina aenea Meigen Auss. Zweifl., II, 298, 1830, not Meigen 1824.

Orlando; Jacksonville, Nov. 3; Crescent City, Apr. 21; Charlotte Harbor (Mrs. Slosson).

Myophasia metallica Towns. (*Phasioclista metallica* and *Clista americana* Towns.) St. Augustine, May 21 (C. W. J.); Orlando and Inverness, Mar. 15-22 (Robertson); Ft. Myers, Nov. 19.

Myophasia globosa Towns. (*Loewia globosa*.) Inverness, Mar. 3-20 (Robertson); Jacksonville, May 9.

The synonymy given by authors under *Myophasia aenea* Wied (1830), is a very good example of the evils of the genus making craze, in which species and the rules of nomenclature are ignored, while in attempting to unravel intricacies, characters of specific value have gone down with the genera. A large series shows apparently three or four good species, but the genera are hopeless, as they are based on variable or secondary sexual characters.

Hyperecteina demylus Walk. (*Masicera demylus*.) "Florida"
(Mrs. Slosson).

Hyperecteina polita Coq. Jacksonville (Mrs. Slosson).

Paradmontia brevis Coq. Biscayne Bay (Mrs. Slosson).

Chætophleps rostrata Coq. Biscayne Bay (Mrs. Slosson).

Hypostena floridensis Towns. (*Tachinophyto floridensis* and *De-*

geeria leucocycla of my previous list.) St. Augustine, Mar. 21, Tick Isl., May 12 (C. W. J.); Jacksonville, bred from *Schizocerus* (Mrs. Slosson); Inverness, Mar. 27 (Robertson); LaBelle, Nov. 14.

***Hypostena indecisa* Towns.** (*Pseudomythyria indecisa*.) Inverness, Mar. 3-5 (Robertson).

***Hypostena maculosa* Coq.** St. Augustine.

***Hypostena nitens* Coq.** Biscayne Bay (Mrs. Slosson).

***Hypostena setinervis* Coq.** Biscayne Bay (Mrs. Slosson).

***Hypostena vanderwulpi* Towns.** (*Mythyria vanderwulpi*.) Inverness, Feb. 12 (Robertson).

***Phasmophaga meridionalis* Towns.** (Ann. Entom. Soc. Amer., II, 244, 1909). "Reared at Cutler, Florida, from *Anisomorpha buprestoides*, May 29, 1908." (Townsend.)

***Leskia analis* Say.** (*Myobia depile* Coq.) Juniper Creek, May 15 (C. W. J.); Jacksonville (Ashmead).

***Leskia thecata* Coq.** Jacksonville, Nov. 3; Clearwater, Apr. 30.

***Leskiomima tenera* Wied.** Lake Worth (Mrs. Slosson).

***Æstrophasia bilimekii* B. & B.** (*Phasiopteryx bilimekii*.) Georgiana (U. S. Nat. Mus.).

***Æstrophasia clausa* B. & B.** St. Augustine (C. W. J.); Ormond (Mrs. Slosson); Lake Mary, Mar. (Griffith).

***Æstrophasia punctata* Coq.** (*Clytomyia punctata*.) Charlotte Harbor; Jacksonville, and Biscayne Bay (Mrs. Slosson).

***Æstrophasia signifera* V. d. Wulp.** Biscayne Bay (Mrs. Slosson).

***Xanthomelanodes atripennis* Say.** (*Xanthomelana atripennis*.) St. Augustine (C. W. J.); Inverness, Feb. 11 (Robertson).

***Beskia ælops* Walk.** St. Petersburg, Aug. 12 (J. C. Bradley).

This is placed in the genus *Ocypterosipha* by Townsend. While the third antennal joint in *B. cornuta* B. & B. is somewhat narrower than in this species, the making or retaining of genera on such slight characters seems deplorable.

***Epigrymyia floridensis* Towns.** (*Siphophyto floridensis*.) Inverness, Mar. 1-29 (Robertson).

***Epigrymyia robertsonii* Towns.** (*Siphoclytia robertsonii*.) Inverness, Mar. 13-27 (Robertson).

***Siphona geniculata* DeGeer.** (*Siphona illinoisensis* Towns.) Inverness, Feb. 12, Mar. 22 (Robertson).

***Plagiprospherysa floridensis* Towns.** Inverness, Feb. 12, Mar. 21 (Robertson).

***Chætoglossa picticornis* Towns.** Inverness, Feb. 16-Apr. 4 (Robertson).

Chætoglossa violæ Towns. (*C. nigripalpis* Towns.) Inverness, Feb. 16–Mar. 26 (Robertson).

Pachyophthalmus floridensis Towns. (*P. tryoxylonis* Towns., *Sarcomacronychia floridensis* Towns.) Inverness, Mar. 1–19 (Robertson); Ormond (Mrs. Slosson).

Pachyophthalmus signatus Meig. "Florida" (Coquillett).

Senotainia rubriventris Macq. (*Miltogramma decisa* Towns.) Jacksonville; Inverness, Mar. 10–16 (Robertson); Everglade, Apr. 5.

Senotainia trilineata V. d. Wulp. (*Miltogramma argentifrons* Towns., *M. cinerescens* Towns.) Orlando, Mar. 16, and Inverness, Feb. 16–Mar. 20 (Robertson); Punta Gorda, Nov. 16; Ft. Meyer, Nov. 15.

Biomyia aurigera Coq. (*Masiphya aurigera*.) "Florida" (Mrs. Slosson).

Biomyia brasiliiana B. & B. (*Tachinomyia floridensis* Towns.) St. Augustine (C. W. J.); Biscayne Bay (Mrs. Slosson).

Siphosturmia rostrata Coq. "Florida" (Coquillett).

Belvosia bifasciata Fabr. St. Augustine (C. W. J.); Biscayne Bay (Mrs. Slosson).

Belvosia slossonæ Coq. Charlotte Harbor (Mrs. Slosson).

Aphria ocypterata Towns. "Florida" (Mrs. Slosson).

Ocyptera carolinæ Desv. (*O. euchenor* Walk.) Inverness, Mar. 18 (Robertson).

Nemoræa smithi V. d. Wulp. (*Arthrochaeta smithi*.) Biscayne Bay (Mrs. Slosson).

Carcelia dorsalis Coq. (*Exorista dorsalis*.) Biscayne Bay (Mrs. Slosson).

Carcelia flavirostris V. d. Wulp. (*Exorista flavirostris*.) Ft. George (Coquillett).

Carcelia pyste Walk. (*Exorista pyste*.) Biscayne Bay (Mrs. Slosson).

Phorocera claripennis Macq. (*Phorocera edwardsii* Will.) Inverness, Mar. 13 (Robertson); Crescent City.

Phorocera tachinomoides Towns. Miami (Townsend); Lake Mary, Mar. (Griffith).

Phorocera melobosis Walk. (*Tachina melobosis*.) "Florida" (Walker).

Oxynops serratus Towns. (Jour. N. Y. Entom. Soc., XX, 110, 1912.) Biscayne Bay, Miami, Nov. 30 (Mrs. Townsend). The adult has not been described.

Frontina aletisæ Riley. Charlotte Harbor (Mrs. Slosson).

Frontina armigera Coq. (*Achætoneura armigera*.) Ormond (Mrs. Slosson).

Frontina rubentis Coq. (*Achætoneura rubentis*.) Jacksonville (Ashmead); Lake Worth, and Biscayne Bay (Mrs. Slosson); Miami, Oct. 25 (Townsend).

Frontina irrequieta Walk. Jacksonville (Coquillett).

Phasiopsis floridana Towns. (Jour. N. Y. Entom. Soc., XX, 108, 1912.) Biscayne Bay, Miami, Nov. 4-29 (Townsend). The adult has not been described.

Sturmia albifrons Walk. Centerville (Coquillett).

Sturmia australis Coq. Jacksonville (Mrs. Slosson).

Sturmia distincta Wied. (*Masicera protoparcis* Towns.) Inverness, Mar. 20 (Robertson).

Sturmia fraudulenta V. d. Wulp. "Florida" (Coquillett).

Sturmia strigata V. d. Wulp. Jacksonville (Coquillett).

Masicera pulverea Coq. "Florida" (Coquillett).

Masicera sodalis V. d. Wulp. Ormond (Mrs. Slosson).

Acemyla dentata Coq. Georgetown, May 10 (C. W. J.); Biscayne Bay (Mrs. Slosson).

Pseudochæta argentifrons Coq. Charlotte Harbor (Mrs. Slosson).

Exorista mella Walk. (*Tachina mella* Walk.; *T. orgyia* Towns.; *T. orgyiarum* Towns.) "Florida" (Mrs. Slosson).

Plagiops littoralis Towns. (Ann. Entom. Soc. Amer., IV, 140, 1911, and Jour. N. Y. Entom. soc., XX, 107, 1912.) Ocean Beach, Miami, Nov. 9 to 22 (Townsend). The adult has not been described. We earnestly hope that Mr. Townsend will live long enough and will be able to straighten out his genera and species based on "eggs and dissection of uterus." The making of genera and species in this manner cannot be too strongly condemned.

Blepharipeza leucophrys Wied. (*Thysanomyia inermis* of the former list.) Charlotte Harbor (Mrs. Slosson).

Winthemia quadripustulata Fabr. (*Carcelia lucania* Kirk.) St. Augustine and Georgetown, May 10 (C. W. J.); Lakeland, Mar. 28.

Paradidyma singularis Towns. (*Atrophopoda singularis*.) Inverness, Mar. 1 (Robertson); Jacksonville (Mrs. Slosson).

Atrophopodus angusticornis Towns. Inverness, Mar. 3-19 (Robertson); Lake Worth (Mrs. Slosson).

Hilarella polita Towns. (*Gymnoprosope polita* and *G. argentifrons* Towns.) Inverness, Mar. 1-22 (Robertson); Enterprise, Apr. 15 (Castle and Laurent).

Brachycoma intermedia Towns. (*Sarcotachinella intermedia*.) Charlotte Harbor (Mrs. Slosson); St. Petersburg, Apr. 10.

Cnephalomyia floridana Towns. (Ann. Entom. Soc. Amer. IV,

144, 1911 and Jour. N. Y. Entom. Soc., XX, 113, 1912.) Miami, and White Springs, Oct., Nov. (Townsend). The adult has not been described.

Gonia crassicornis Fabr. Punta Gorda, Nov. 17.

Gonia pallens Wied. (*G. angusta* Macq.) "So. Florida" (Townsend).

Gonia senilis Will. Biscayne Bay (Mrs. Slosson).

Spallanzania bucephala Meig. (*S. hebes* Rond., not Fallen; *S. panza* Snow.) St. Augustine.

Spallanzania hesperidarum Will. (*Acroglossa hesperidarum*.) Inverness, Mar. 10-22 (Robertson).

Trichophora ruficauda V. d. Wulp. Lake Worth (Mrs. Slosson).

Cuphocera californiensis Macq. Lake Worth (Coquillett).

Archytas aterrima Desv. (*Jurinia smaragdina* Macq.) St. Augustine (C. W. J.); Lake Worth and Biscayne Bay (Mrs. Slosson); Inverness, Feb. 8, Mar. 22 (Robertson); Sanford, May 7.

Archytas hystrix Fabr. (*Jurinia hystrix* and *Archytas boscii* Desv.) St. Augustine (C. W. J.); Lake Worth, and Biscayne Bay (Mrs. Slosson); Ft. Myers, Apr. 1 (Davis).

Archytas lateralis Macq. St. Augustine (C. W. J.); South Bay, Lake Okeechobee, Apr. 29.

Jurinia adjusta V. d. Wulp. (*J. metallica* Coq. non Desv.), Lake Worth (Mrs. Slosson); Jacksonville, Apr. 22, and Miami, Mar. 3 (Laurent).

DEXIIDÆ.

Prosenoides flavipes Coq. Lake Worth, Charlotte Harbor, and Biscayne Bay (Mrs. Slosson); La Belle, Nov. 14.

Gymnodexia zonata Coq. Jacksonville, May 22 (C. W. J.).

Megaparia opaca Coq. Jacksonville (Mrs. Slosson).

Dexia triangularis V. d. Wulp. (*Gymnodexia triangularis*.) Juniper Creek, May 15, and Blountstown, pupa collected under decaying bark, Mar. 6, imago emerged Apr. 21 (C. W. J.).

Dexia vertebrata Say. (*Leptoda vertebrata*.) Ormond, and Tampa (Mrs. Slosson).

Dexia abzoe Walk. Enterprise (U. S. Nat. Mus.).

Dexia genuina V. d. Wulp. Jacksonville (U. S. Nat. Mus.).

Ptilodexia tibialis Desv. Crescent City, Apr. 21.

Euantha liturata Olive. (*E. dives* Wied.) St. Augustine (C. W. J.); Crescent City, Apr. 21.

Theresia tandrec Desv. Jacksonville, May 22 (C. W. J.).

Epidexia filamentosa Towns. (Jour. N. Y. Entom. Soc., XX, 112,

1912). On flowers and leaves of the dwarf *Emodea littoralis* at Ocean Beach, across Biscayne Bay from Miami, Nov. 9 to 15, 1908 (Townsend). The adult has not been described.

SARCOPHAGIDÆ.

Microchætina cinerea *V. d. Wulp.* Ormond (Mrs. Slosson).

Sarcophaga ægra *Walk.* Lake Worth (Mrs. Slosson).

Sarcophaga assidus *Walk.* St. Augustine, Mar. and Palatka, May 19 (C. W. J.); Jacksonville and Biscayne Bay (Mrs. Slosson); Titusville, Nov. 8; Jacksonville, Nov. 3.

Sarcophaga anxia *Walk.* "Florida" (Mrs. Slosson).

Sarcophaga cimbicis *Towns.* Lake Worth (Mrs. Slosson).

Sarcophaga fulvipes *Macq.* St. Augustine (C. W. J.); Biscayne Bay (Mrs. Slosson).

From the inadequate descriptions there seems to be no definite character to separate the *S. fulvipes* *Macq.*, 1843, from the *S. fulvipes* *Walk.*, 1856. The specimens, which are males, agree best with Macquart's description.

Sarcophaga incerta *Walk.* Miami, Oct. 22–Nov. 14 (Townsend).

Sarcophaga plinthopyga *Wied.* Miami, Dec. 2 (Townsend).

Sarcophaga sarraceniz *Riley.* Ormond and Charlotte Harbor (Mrs. Slosson).

Helicobia helicis *Towns.* Jacksonville, Charlotte Harbor, and Lake Worth (Mrs. Slosson); Crescent City, Apr. 21; Everglade, Apr. 15; Lakeland, Nov. 10; Ft. Myers, Nov. 13.

Helicobia quadrisetosa *Coq.* Jacksonville.

Sarcophagula imbecilla *V. d. Wulp.* Biscayne Bay (Mrs. Slosson); Miami, Nov. 5, Titusville, Nov. 8, Lakeland, Nov. 10, and Punta Gorda, Nov. 15.

Sarothromyia femoralis *Schiner.* Lake Worth (Mrs. Slosson); Miami, Nov. 8 (Townsend); St. Augustine (C. W. J.).

Johnsonia elegans *Coq.* St. Augustine.

MUSCIDÆ.

Chrysomya macellaria *Fabr.* (*Compsomyia macellaria*.) The Screw-worm. Common. St. Augustine; Orlando; Inverness, Mar. 10–16; Punta Gorda; Ft. Myers, Nov. 16; Lakeland; Pablo Beach, Nov. 4; Sanford, Apr. 27; Clearwater, May 5.

Chrysomya certina Walk. "Probably the same as *Orthellia cornicina*" (Aldrich).

Calliphora erythrocephala Meig. St. Augustine.

Calliphora viridescens Desv. St. Augustine (C. W. J.).

Lucilia cæsar Linné. St. Augustine.

Lucilia pilatei Hough. St. Augustine (C. W. J.); Jacksonville, Nov. 3, Punta Gorda, Nov. 16.

Lucilla sericata Meig. Orlando, Mar. 16 (Robertson); Jacksonville Apr. (Mrs. Slosson).

Orthellia cornicina Fabr. (*Pseudopyrellia cornicina*.) St. Augustine (C. W. J.); Ormond, Apr., and Orlando, Mar. 16 (Robertson).

Musca domestica Linné. Common house fly, St. Augustine and Volusia, May 16 (C. W. J.); Inverness (Robertson).

Synthesiomia brasilliana B. & B. In a cave, Citrus Co. (Hubbard); Charlotte Harbor, Lake Worth, and Biscayne Bay (Mrs. Slosson).

Stomoxys calcitrans Linné. Stable fly. St. Augustine (C. W. J.); Lake Worth (Mrs. Slosson).

Hæmatobia irritans Linné. (*H. serrata* Desv.) Horn fly, "On cow, Everglade Apr. 10, 1912" (Davis).

ANTHOMYIDÆ.

Ophyra ænescens Wied. St. Augustine, Mar. and Volusia, May 14, Juniper Creek, May 15 (C. W. J.); Charlotte Harbor and Lake Worth (Mrs. Slosson).

Ophyra argentina Bigot. Biscayne Bay (Mrs. Slosson).

Ophyra leucostoma Wied. Jacksonville, Apr.

Fannia leucosticta Meig. (*Homalomyia brevis* Rond.) Biscayne Bay (Mrs. Slosson).

Fannia canicularis Linné. (*Homalomyia canicularis*.) Biscayne Bay (Mrs. Slosson).

Fannia femorata Loew. (*Homalomyia femorata*.) St. Johns River, May. These were bred in large numbers from dead fresh water mollusca. Biscayne Bay, Feb. and Lake Worth, Jan. (Mrs. Slosson); Newberry, Nov. 19; Punta Gorda, Nov. 15 (Davis).

Hyetodesia sp. Jacksonville, May 9.

Limnophora arcuata Stein. De Funiak Springs, Mar. 1 (C. W. J.).

Limnophora discreta Stein. Biscayne Bay (Mrs. Slosson).

Limnophora narona Walker. (*Anthomyia narona* Walk.; *Leucomelina garrula* Giglio Tos.) St. Augustine, May 20 (C. W. J.); Char-

lotte Harbor (Mrs. Slosson); Inverness, Feb. 29 (Robertson); Crescent City, Apr. 21; Everglade, Apr. 6.

***Pegomyia gopheri* sp. n.**

Female: Face and sides of the front white, frontal vitta wide, bright orange yellow, vertical triangle blackish; upper half of the occiput black, grayish pollinose, lower half and cheeks white, a row of bristles extending from the vertex along the occipital orbits and angle of the cheeks to the vibrissæ; frontal orbital bristles five, the two upper ones slightly recurved, the middle one deflected and the two lower ones inflected; antennæ, palpi and proboscis reddish. Thorax black, grayish pollinose; humeri, post-alar callosities, propleura, prostigma, and the sutures between the mesopleura, pteropleura and sternopleura, yellow, the remainder of the pleura and the metanotum black, grayish pollinose; two humeral, one post-humeral, one pre-sutural, two noto-pleural, one supra-alar, two intro-alar, two post-alar, two anterior, and three posterior dorsocentrals; a row of four smaller prescutellar bristles are present, also two rows of hairs on each side of an obsolete blackish dorsal line; mesopleural row with four or five bristles; sternopleural three; four small bristles above the fore coxæ, two on the propleura and two on the mesopleura. Scutellum yellow, with two large apical and two large submarginal bristles near the base; two smaller discal bristles and numerous black hairs are also present. Abdomen brownish, with an obsolete, blackish, dorsal line, narrowly interrupted by the yellowish posterior margin of the segments; the entire abdomen covered with fine black hairs, larger and more bristle-like on the sides and posterior margins of the second and third segments; fourth segment with six marginal macrochætæ and the fifth segment with four apical and two subapical macrochætæ. Legs yellow, with black hair; anterior femora with the extensor and flexor rows of bristles even, and from eight to nine in number; on the middle and posterior femora the bristles are irregular, the middle femora with a row near the base, one bristle near the apex in front, two near the apex behind, and two on the under side near the middle; posterior femora with a row of about ten extensor bristles, the underside with about two bristles near the apex, three near the middle (the two lower ones diverging) and one near the base; anterior tibia with three spurs and two bristles, the lower one near the middle; the middle tibia with six spurs, two bristles at about one third the length of the tibia from the apex and one about one third from the base; posterior tibia with six spurs and five bristles arranged similar to those on the middle tibia; metatarsi with a prominent bristle below near the base. Halteres and alulæ yellow. Wings yellowish hyaline, cross veins slightly clouded, costal bristles and spur prominent. Length 6.5 mm.

Holotype, De Funiak Springs, Apr. 7, in the U. S. National Museum. Paratypes from Crescent City, Mar. 23, Clearwater, June 27, 1894, and De Funiak Springs Apr. 7 (Hubbard), and Keene (Coquillet), are in the U. S. National Museum and the author's collection.

During a visit to Washington in 1894, Mr. H. G. Hubbard gave me a specimen of an Anthomyid from Crescent City, Fla., bred from the excrement taken from the burrow of a large land tortoise (*Gopherus polyphemus*), popularly known in Florida as the "Gopher." The other insects asso-

ciated with this fly were described by Mr. Hubbard in 'Insect Life,' Vol. VI, p. 302, 1894, with additional notes in 1895 (Proc. Ent. Soc. Wash., Vol. III, p. 299). In the latter paper he refers to the above species as follows: "A new fly, a species of *Hylemyia*, family Anthomyidæ, will be described by Mr. Coquillett: Its larva lives upon the dung of the gopher and the imagos, which I had previously overlooked, prove to be quite abundant in each of the localities which I have investigated."

Later I sent the specimen to Mr. Coquillett who returned it under No. 14 as "*Hylemyia gopheri* Coq. ms. ♀ I have not seen a ♂." The fact that he had only the one sex for study probably deterred him from describing the species. I should also hesitate to describe it were it not for the fact that the species is practically lost as it stands, and will continue so unless described. This faunal paper also presents an appropriate place to again call attention to this interesting species.

Eremomyia cylindrica Stein. Jacksonville, Nov. 3.

Phorbia fusciceps Zett. St. Augustine, Mar. 15 (C. W. J.); Orlando, Mar. (Robertson); Lake Worth (Mrs. Slosson); Jacksonville, Nov. 3.

Phyllogaster cordyluroides Stein. Biscayne Bay (Mrs. Slosson); St. Petersburg, Apr. 28.

Caricea antica Walk. (*C. insignis* Stein.) St. Augustine, May 20, and Drayton Island, May 9 (C. W. J.); Inverness, Feb. (Robertson); Biscayne Bay (Mrs. Slosson); Crescent City, Apr. 19, Sanford, May 7, and Clearwater, May 1; Punta Gorda, Nov. 11, and Jacksonville, Nov. 3.

Cænoscia lata Walk. (*C. canescens* Stein.) Lake Worth (Mrs. Slosson); St. Augustine, Mar. 15 (C. W. J.); Jacksonville, May 18; Lakeland, Nov. 10, and Punta Gorda, Nov. 17.

Cænoscia antennalis Stein. Lake Worth (Mrs. Slosson).

Cænoscia nivea Loew. St. Augustine, Mar. 15 (C. W. J.); Inverness, Feb. (Robertson).

Cænoscia solita Walk. St. Augustine, Mar. 15 (C. W. J.); Ormond (Mrs. Slosson).

Cænoscia ovata Stein. St. Augustine, Mar. 15 (C. W. J.); Lake Worth (Mrs. Slosson); Jacksonville, Apr. 18. This is the *C. fuscopunctata* of my previous list, as determined by Coquillett. The *C. fuscopunctata* of Macquart is a more northern species with pale slender palpi and yellow antennæ.

Cænoscia steini n. n. This is the *C. flavipes* Stein, 1897, not Williston, 1896. St. Augustine, Mar. 15 (C. W. J.); Crescent City, Apr. 20, and Sandford, May 7; Jacksonville May 9, and Lakeland, Nov. 10.

Dexiopsis lacteipennis Zett. St. Augustine, Mar. 15.

Schœnomyza chrystoma Loew. Jacksonville (Mrs. Slosson).

Schœnomyza dorsalis Loew. De Funiak Springs, Mar. 1 (C. W. J.).

Lispa albitarsis Stein. St. Augustine, Mar. 15, and Georgetown May 11 (C. W. J.).

Lispa ulginosa Fall. St. Augustine, Mar. 15, and Georgetown, May 9 (C. W. J.); Ormond (Mrs. Slosson).

Fucellia marina Macq. (*F. fucorum* of authors, not Fallen.) St. Augustine, Mar. 15 (C. W. J.); Charlotte Harbor, Feb., and Lake Worth (Mrs. Slosson).

SCATOPHAGIDÆ.

Cordylura capillata Loew. (*Cleigastra capillata*.) St. Augustine.

CLUSIODIDÆ.

Clusiodes flavipes Will. (*Heteroneura flavipes*.) Lake Worth (Mrs. Slosson), Coquillett.

HELEOMYZIDÆ.

Leria pectinata Loew. Atlantic Beach and Jacksonville, Apr. (Mrs. Slosson).

According to Coquillett (Type-species of N. Amer. Genera, p. 550), *Leria* Desv., 1830, is a synonym of *Heleomyza* Fall., 1810. *Heleomyza* of authors equals *Suillia* Desv., 1830.

BORBORIDÆ.

Leptocera fontinalis Fallen. (*Limosina fontinalis*.) St. Augustine, Mar. (C. W. J.); Jacksonville (Mrs. Slosson); Lakeland, Nov. 10.

Leptocera crassimana Haliday. Lake Worth and Biscayne Bay (Mrs. Slosson).

Leptocera venalicia O. S. Biscayne Bay (Mrs. Slosson).

Leptocera sp. This fly is referred to by Mr. Hubbard in his paper on "Additional notes on the insect guests of the Florida land Tortoise" (Proc. Ent. Soc. Wash. III, 299, 1895) as follows: "There is also another much smaller fly, which Mr. Coquillett pronounces a *Limosina*, family *Borboridae*, the thread-like larva of which is always common in the dung at the end of the gopher holes, but the imagos have not hitherto been bred."

Borborus sp. Lake Worth (Mrs. Slosson).

SCIOMYZIDÆ.

Sciomyza nana Fall. St. Augustine, Mar. 15 (C. W. J.); Ormond, Jan., Jacksonville, Lake Worth and Biscayne Bay (Mrs. Slosson).

Sciomyza grisescens Meig. (*S. humilis* Loew). St. Augustine, Mar. 15, and Biscayne Bay (Mrs. Slosson). Placed in the genus *Ditania* by European authors.

Sciomyza pubera Loew. St. Augustine, Mar. 15.

Tetanocera umbrarum Linné. (*T. pictipes* Loew.) Jacksonville, Lake Worth and Biscayne Bay (Mrs. Slosson).

Tetanocera spinicornis Loew. St. Augustine, Mar. 15 (C. W. J.); Ormond, Jan. (Mrs. Slosson); Jacksonville.

SAPROMYZIDÆ.

Lonchæa glaberrina Wied. Lake Worth (Mrs. Slosson).

Lonchæa cærulea Walk. Jacksonville (Mrs. Slosson).

Lonchæa polita Say. Biscayne Bay (Mrs. Slosson).

Camptoprosopella verticalis Loew. (*Pachycerina verticalis* Loew. and *Pachycerina clavipennis* Coq.) St. Augustine, Mar. 15 (C. W. J.); Biscayne Bay; Fort Myers, Nov. 13; Newberry, Nov. 19; Tampa, May 2.

Lauxania cineræcea Coq. Biscayne Bay (Mrs. Slosson).

Lauxania cylindricornis Fabr. Ft. Myers, Nov. 13.

Lauxania facialis Coq. Lake Worth, and Jacksonville, Apr. (Mrs. Slosson).

Lauxania gracilipes Loew. Jacksonville, Nov. 3.

Lauxania latipennis Coq. Georgetown, May 16 (C. W. J.); Jacksonville (Mrs. Slosson).

Lauxania lutea Coq. Lake Worth and Biscayne Bay (Mrs. Slosson); Miami.

Lauxania muscaria Loew. La Belle, Nov. 14.

Lauxania flavida Wied. Biscayne Bay (Mrs. Slosson).

Lauxania opaca Loew. Juniper Creek, May 15.

Lauxania trivittata Loew. St. Augustine.

Sapromyza compedita Loew. Jacksonville (Mrs. Slosson).

Sapromyza connexa Say. (*S. bispinosa* Loew.) Biscayne Bay (Mrs. Slosson).

Sapromyza resinosa Wied. "Florida," collected by Mrs. Slosson (Coquillet).

Sapromyza slossonæ Coq. Lake Worth and Biscayne Bay (Mrs. Slosson).

Sapromyza sordida Wied. Lake Worth and Biscayne Bay (Mrs. Slosson.)

Sapromyza umbrosa Loew. Ormond (Mrs. Slosson).

Sapromyza valida Walker.

Drosophila valida Walk., Trans. Ent. Soc. London, N. Ser. IV, 232, 1857.

Sapromyza macula Loew, Cent., X, 82, 1872.

St. Augustine, Mar. 15 (C. W. J.); Biscayne Bay and Ft. Worth (Mrs. Slosson). From the descriptions there seems to be no doubt as to the identity of these two.

Trigonometopus vittatus Loew. Jacksonville; Lakeland, Nov. 10; Ft. Myers, Nov. 3 (Van Duzee).

Trigonometopus reticulatus sp. n.

Male: Head grayish pollinose, the lower part of the front near the base of the antennæ reddish; the first and second joint of the antennæ brown, the third joint black, about twice as long as broad, arista white. Thorax and scutellum grayish pollinose with rows of four dorso-central bristles; scutellum with four marginal bristles. Abdomen grayish pollinose and thickly covered with minute dots of black, hairs black. Legs brownish, posterior femora blackish, grayish pollinose, tarsi yellowish. Halteres yellow, knobs brownish. Wings a whitish hyaline, reticulated with numerous fine bars of black between the veins — the marginal cell with about eight narrow cross-bars, submarginal and first posterior with six each and the second posterior cell with two. Length 3 mm.

One specimen, Crescent City, Apr., 1908, received from Mr. M. C. Van Duzee.

The form of the antennæ might exclude it from this genus, but otherwise it would seem to belong here.

ORTALIDÆ.

Pyrgota fliola Loew. Ormond, Apr. (Mrs. Slosson).

Pyrgota undata Wied. Jacksonville; St. Marys, Apr.

Pyrgota valida Harris. Ft. Myers, Apr. 26 (Davis).

Amphicnephes pulla Wied. (*A. pertusus* Loew.) Georgetown, May 15 (C. W. J.); Ormond (Mrs. Slosson); St. Petersburg, Apr. 28; Marco, Apr. 20.

Rivellia metallica Van der Wulp. (*R. flavimanus* Loew.) Sanford, May 6.

- Rivellia floridana** Johns. Drayton Isl., Lake George, May 9 (C. W. J.).
- Rivellia pallida** Loew. St. Augustine, May 20 (C. W. J.); Georgiana (Whitfeld).
- Rivellia quadrifasciata** Macq. Volusia and Drayton Isl., May 9–11 (C. W. J.); Ormond, Mar. (Mrs. Slosson).
- Rivellia variabilis** Loew. Drayton Isl., Juniper Creek and Volusia, May 9–11 (C. W. J.); Ormond and Biscayne Bay (Mrs. Slosson); Clearwater, Apr. 24; St. Petersburg, Apr. 28; Everglade, Apr. 25.
- Senopterina varia** Coq. (*Stenopterina bicolor* Johns.) Biscayne Bay (Mrs. Slosson); St. Augustine (C. W. J.).
- Camptoneura picta** Fabr. St. Augustine, May 20 (C. W. J.); Cedar Keys, Feb. 14, Lake Worth, and Biscayne Bay (Mrs. Slosson); Crescent City, Apr. 23.
- Tephronota narytia** Walk. (*Trypeta narytia* Walk., 1849, *Hermia ruficeps* V. d. Wulp., 1867, and *Tephronota humilis* Loew, 1878). St. Augustine, Mar. 15, Georgetown, May 9, and Lake Worth, Mar. (Mrs. Slosson); Orlando, Mar. 16 (Robertson).
- Tetanops luridipennis** Loew. Jacksonville, May 9.
- Acrostica fulvipes** Coq. Charlotte Harbor (U. S. N. M.).
- Euxesta abdominalis** Loew. Atlantic Beach, and Biscayne Bay, Mar. (Mrs. Slosson).
- Euxesta annonæ** Fabr. St. Augustine, Mar. 15 (C. W. J.); Lake Worth, Mar. (Mrs. Slosson).
- Euxesta basalis** Walk. Lake Worth, Charlotte Harbor, and Biscayne Bay (Mrs. Slosson).
- Euxesta nitidiventris** Loew. Charlotte Harbor, Mar., Ormond, Lake Worth, and Biscayne Bay, Mar. (Mrs. Slosson).
- Euxesta notata** Wied. Jacksonville; Inverness, Feb. 10 (Robertson).
- Euxesta quaternaria** Loew. Lake Worth, on cocconut palm, and Biscayne Bay, Mar. (Mrs. Slosson).
- Euxesta scoriacea** Loew. Charlotte Harbor (Mrs. Slosson); Everglade, Apr. 9.
- Euxesta spoliata** Loew. Biscayne Bay (Mrs. Slosson).
- Euxesta tenuissima** Hend. Jacksonville, Apr. 18.
- Euxesta thomæ** Loew. Ft. Myer, Nov. 18; Lemon City, on pine apple, Apr. 26.
- Chætopsis ænea** Wied. St. Augustine (C. W. J.); Ormond (Mrs. Slosson).
- Chætopsis fulvifrons** Macq. St. Augustine, and Volusia, May 11 (C. W. J.); Jacksonville, Apr. 18.

Chætopsis apicalis Johns. St. Augustine, May 20 (C. W. J.); Ormond (Mrs. Slosson).

Chætopsis debilis Loew. Miami, Nov. 5; South Bay, Lake Okeechobee, May 2 (Davis).

Chætopsis tenuis Loew. (*Stenomyia tenuis.*) Jacksonville (Mrs. Slosson).

The following table, taken from the manuscript of a paper on the Ortalidæ in course of preparation, may aid in defining more clearly our species of the genus *Chætopsis*. Two of the species have not been recorded from Florida, although one of them will undoubtedly be found there.

- | | |
|--|--------------------------|
| 1. Wings with three black bands. | 2. |
| Wings with two black bands, the apical band occupying all of the wing beyond the posterior cross vein; body slender. | 5. |
| Wing with only the small apical band distinct. | <i>apicalis</i> Johnson. |
| 2. Femora and tibiæ black; marginal cell between the middle and apical bands entirely black. (Canada to New Jersey). | <i>massyla</i> Walk. |
| Femora and tibiæ yellow, the former sometimes brownish; marginal cell between the middle and apical bands more or less hyaline. | 3. |
| 3. Abdomen entirely greenish black. | 4. |
| Abdomen with the first and second segments yellowish. | <i>debilis</i> Loew. |
| 4. Frontal orbital bristles 5 to 6 in number, two pairs of small frontal bristles present; dark basal band of the wing extending beyond the fifth longitudinal vein | |
| | <i>ænea</i> Wied. |
| Frontal orbital bristles 3 to 4 in number, the small frontal bristles wanting; dark basal band of the wing usually obsolete before reaching the fifth longitudinal vein. | <i>fulvifrons</i> Macq. |
| 5. Front brownish black; the middle hyaline band of the wing indistinct, and wanting behind the fifth longitudinal vein. | <i>tenuis</i> Loew. |
| Front red, with small orbital and frontal bristles; the middle, whitish, hyaline band of the wing distinct, broad, and extending to the posterior margin; length 5.5 mm. (Tifton, Ga., Sept. 1; Dacosta, N. J., July 3). | <i>hendeli</i> sp. n. |

Eumetopiella varipes Loew. (*Eumetopia varipes.*) Biscayne Bay, Feb. and Mar. (Mrs. Slosson); Titusville, Nov. 8.

Cyrtometopa ferruginea Macq. Crescent City, Apr.

TRYPETIDÆ.

Toxotrypana curvicauda Gerst. Miami (U. S. Nat. Mus.).

Anastrepha acidusa Walk. (*Acrotaxa? acidusa.*) "Florida," in Osten Sacken's Catalogue, 1878.

Spilographa electa Say. "Florida" (Osten Sacken).

Ædaspis polita Loew. Jacksonville, Apr.

Ædaspis setigera Coq. Atlantic Beach (Mrs. Slosson).

Aciura insecta Loew. Lake Worth, Jan., and Biscayne Bay (Mrs. Slosson); Key Largo, Nov. 6; Miami, Nov. 5; Estero; Everglade, Apr. 15.

Carpotricha culta Wied. St. Augustine, May, on thistle (C. W. J.); Ormond, Apr. (Mrs. Slosson); Jacksonville, Apr.

Eurosta solidaginis Fitch. Charlotte Harbor, and Biscayne Bay (Mrs. Slosson).

Eurosta fenestrata Snow. St. Augustine (C. W. J.).

Neaspilota achilleæ Johns. Pebbly Beach, Jacksonville, May 9.

Neaspilota signifer Coq. Pebbly Beach, Jacksonville, May 9.

Neaspilota vernoniæ Loew. Inverness, Mar. 19 (Robertson).

Ensina picciola Bigot. (*E. humilis* Loew.) Jacksonville, Nov. 3; Lake Worth; Miami, Nov. 5; Key Largo, Nov. 6; Key West, Nov. 6, Everglade, Apr. 6 (Davis).

Tephritis fucata Fabr. St. Augustine (C. W. J.); Jacksonville; Newberry, Nov. 19; Estero.

Tephritis picturata Snow. "Florida" (Snow).

Euaresta bella Loew. Drayton Isl., May 9, and Tick Isl., May 12 (C. W. J.); Pebbly Beach, Jacksonville, May 9, and Estero.

Euaresta mexicana Wied. Biscayne Bay, Mar., and Lake Worth (Mrs. Slosson).

Urellia abstersa Loew. Key West, Feb. 3; Newberry, Nov. 19.

Urellia mevarna Walk. Biscayne Bay, and Lake Worth, Mar. (Mrs. Slosson); Inverness, Mar. 9-22 (Robertson); Jacksonville, Nov. 3.

MICROPEZIDÆ.

Micropeza producta Walk. Jacksonville, Apr.

Colobata antennipes Say. Jacksonville (Mrs. Slosson).

Colobata fasciata Fabr. Lake Worth and Biscayne Bay (Mrs. Slosson); Everglade, Apr., "In sugar trap" (Davis).

Colobata lasciva Fabr. St. Augustine, Mar. 15 and Juniper Creek, May 15 (C. W. J.); Jacksonville, Apr.; Atlantic Beach, Lake Worth and Biscayne Bay (Mrs. Slosson); Crescent City (Hubbard); Ft. Myers, Nov. 13; Sanford, May 7.

Colobata nebulosa Loew. St. Augustine, and Juniper Creek, May 15 (C. W. J.); Charlotte Harbor, Feb., and Atlantic Beach (Mrs. Slosson).

Colobata varipes Johnson. Jacksonville, May 22.

SEPSIDÆ.

Sepsis insularis Will. Lake Worth (Mrs. Slosson).

Sepsis vicaria Walker. St. Augustine and Inverness, Feb. 10 (Robertson).

Sepsis violacea Meig. Jacksonville (Mrs. Slosson).

Nemopoda minuta Wied. Biscayne Bay (Mrs. Slosson); Tampa, May 2, Lakeland, Nov. 10, and Fort Myers, Nov. 15.

Piophila casei Linné. Charlotte Harbor (Mrs. Slosson).

PSILIDÆ.

Chiliza similis sp. n.

Female: Head reddish, face and cheeks light yellow; ocelli, two small spots below the antennæ and two larger spots in the oral opening, black; antennæ yellowish the second joint dark brown. Thorax reddish, shining, thinly covered with whitish hairs and finely punctate. Abdomen reddish, with a black lateral margin; covered with fine whitish hairs and minute punctures. Legs yellow, base of the femora and coxæ whitish. Halteres white. Wings hyaline. Length, 6 mm.

One specimen, Belleair, Mrs. Slosson.

This species resembles *Chiliza apicalis* Loew, but lacks the conspicuous apical clouding on the wings and the broad black stripe on the pleura.

EPHYDRIDÆ.

Dichæta brevicauda Loew. St. Augustine.

Dichæta furcata Coq. Biscayne Bay, and Lake Worth (Mrs. Slosson).

Notiphila carinata Loew. St. Augustine, Mar. 15 (C. W. J.); Ormond (Mrs. Slosson).

Notiphila scalaris Loew. Biscayne Bay (Mrs. Slosson).

Notiphila erythroceræ Loew. Lake Worth (Mrs. Slosson); St. Augustine (C. W. J.).

Paralimna appendiculata Loew. St. Augustine (C. W. J.); Crescent City (Van Duzee); Jacksonville (Mrs. Slosson).

Paralimna decipiens Loew. Crescent City, Titusville; Biscayne Bay (Mrs. Slosson).

Mossillus nana Walk.? (*Ephydra nana* Walk.) Punta Gordon (Davis); Ormond, and Biscayne Bay (Mrs. Slosson).

- Gastrops nebulosus** *Coq.* Atlantic Beach, Biscayne Bay, and Belleair (Mrs. Slosson).
- Psilopa aciculata** *Loew.* Jacksonville (Mrs. Slosson).
- Psilopa flavida** *Coq.* Ormond (Mrs. Slosson).
- Psilopa similis** *Coq.* Biscayne Bay.
- Psilopa atrimanus** *Loew.* Miami, Nov. 5.
- Psilopa pulchripes** *Loew.* Lakeland.
- Discocerina leucoprocta** *Loew.* Atlantic Beach, and Jacksonville (Mrs. Slosson).
- Discocerina parva** *Loew.* Atlantic Beach, Biscayne Bay, and Lake Worth (Mrs. Slosson).
- Hydrella atroglauca** *Coq.* Lake Worth and Biscayne Bay (Mrs. Slosson).
- Hydrella hypoleuca** *Loew.* Jacksonville, Lake Worth, and Biscayne Bay (Mrs. Slosson).
- Hydrella scapularis** *Loew.* Lake Worth (Mrs. Slosson).
- Nostima slossonæ** *Coq.* Biscayne Bay (Mrs. Slosson).
- Philygria picta** *Fall.* Lake Worth (Mrs. Slosson).
- Ochthera cuprilineata** *Will.* Biscayne Bay (Mrs. Slosson).
- Ochthera exsculpta** *Loew.* St. Augustine, Mar. 15 (C. W. J.); Biscayne Bay (Mrs. Slosson); Inverness, Mar. (Robertson).
- Ochthera rapax** *Loew.* Jacksonville (Mrs. Slosson).
- Ochthera tuberculata** *Loew.* St. Augustine, Mar. 15 (C. W. J.).
- Brachydeutera argentata** *Walk.* (*B. dimidiata* *Loew.*) Lake Worth and Charlotte Harbor (Mrs. Slosson).
- Paerydra quadrituberculata** *Loew.* Ormond (Mrs. Slosson).
- Paerydra pinguis**, *Walk.* St. Augustine.
- Ephydra austrina** *Coq.* Georgiana (Coquille); Lake Worth (Mrs. Slosson).
- Ephydra pilicornis** *Coq.* Biscayne Bay (Mrs. Slosson).
- Ephydra subopaca** *Loew.* Charlotte Harbor, Feb. (Mrs. Slosson).
- Scatella lugens** *Loew.* Ormond, Biscayne Bay, and Jacksonville (Mrs. Slosson).
- Caenia spinosa** *Loew.* St. Augustine (C. W. J.); Ormond (Mrs. Slosson).
- Caenia virida** *Hine.* Everglade (Van Duzee).
- Lepochæta slossonæ** *Coq.* Punta Gorda, and Charlotte Harbor (Mrs. Slosson).

OSCINIDÆ.

- Meromyza americana** *Fitch.* St. Augustine.
- Chlorops abdominalis** *Coq.* Charlotte Harbor (Mrs. Slosson).
- Chlorops assimilis** *Macq.* (*C. trivialis* Loew.) St. Augustine (C. W. J.); Biscayne Bay (Mrs. Slosson); Newberry, Nov. 10.
- Chlorops grata** *Loew.* St. Augustine.
- Chlorops melanocera** *Loew.* Jacksonville.
- Chlorops pubescens** *Loew.* St. Augustine (C. W. J.); Orlando, Mar. 16 (Robertson); Jacksonville (Mrs. Slosson).
- Chlorops unicolor** *Loew.* Jacksonville, Apr. (Mrs. Slosson).
- Chlorops (Anthracophaga) sanguinolenta** *Loew.* Lake Worth (Mrs. Slosson).
- Chlorops (Diplotoxa) versicolor** *Loew.* Lakeland, Nov. 10.
- Hippelates bicolor** *Coq.* Lake Worth, Atlantic Beach, and Biscayne Bay (Mrs. Slosson).
- Hippelates capax** *Coq.* "Florida" (U. S. Nat. Mus.).
- Hippelates convexus** *Loew.* St. Augustine, Mar. (C. W. J.); Biscayne Bay (Mrs. Slosson); Runnymede. Larvæ in burrows in sugar cane (Coquillett).
- Hippelates dorsalis** *Loew.* Biscayne Bay (Mrs. Slosson).
- Hippelates flavipes** *Loew.* Crescent City. (See Schwarz, *Ins. Life*, VII, 374. "The Hippelates Plague in Florida.") The adult annoys people, dogs, etc.
- Hippelates plebeius** *Loew.* Florida (Schwarz). Habits the same as *H. flavipes*.
- Hippelates pusio** *Loew.* Biscayne Bay (Mrs. Slosson); Bartow (Schwarz).
- Hippelates stramineus** *Loew.* Belleair (Mrs. Slosson).
- Crassiseta costata** *Loew.* St. Augustine, Mar.
- The genus *Elachiptera* is now restricted to *E. brevipennis* Meig. of Europe.
- Crassiseta flavida** *Will.* Lake Worth and Biscayne Bay (Mrs. Slosson); Runnymede, June 27 (Coquillett).
- Crassiseta attenuata** *Ads.* Ormond (Mrs. Slosson).
- Crassiseta formosa** *Loew.* Ormond (Mrs. Slosson).
- Crassiseta frontalis** *Coq.* Lake Worth (Mrs. Slosson).
- Crassiseta nigricornis** *Loew.* Lake Worth (Mrs. Slosson).
- Gaurax anchora** *Loew.* Rockledge, Feb. 6.
- Gaurax ephippium** *Zett.* Biscayne Bay (Mrs. Slosson).
- Siphonella cinerea** *Loew.* Charlotte Harbor, Jacksonville, and Biscayne Bay (Mrs. Slosson).

- Oscinis carbonaria** Loew. Biscayne Bay (Mrs. Slosson).
Oscinis coxendix Fitch. Jacksonville (Mrs. Slosson).
Oscinis dorsata Loew. Biscayne Bay (Mrs. Slosson).
Oscinis pallipes Loew. Jacksonville, bred from a plant of artichoke (Ashmead).
Oscinis soror Macq. Biscayne Bay (Mrs. Slosson).

DROSOPHILIDÆ.

- Sigaloëssa flaveola** Coq. Biscayne Bay, Feb. (Mrs. Slosson).
Leucophenga quadrimaculata Walk. (*Drosophila quadrimaculata* Walk.) Charlotte Harbor, and Biscayne Bay (Mrs. Slosson).
Leucophenga vittata Coq. (*Drosophila vittata* Coq.) Charlotte Harbor, and Biscayne Bay (Mrs. Slosson).
Drosophila adusta Loew. Biscayne Bay (Mrs. Slosson).
Drosophila ampelophila Loew. St. Augustine (C. W. J.); Ormond, Jacksonville, Charlotte Harbor, and Biscayne Bay (Mrs. Slosson).
Drosophila busckii Coq. Jacksonville, Apr. (Mrs. Slosson).
Drosophila guttifera Walk. "Florida" (Walker).
Drosophila maculosa Coq. Charlotte Harbor (Mrs. Slosson).
Drosophila pronemis Will. Atlantic Beach (Mrs. Slosson).
Drosophila repleta Wollaston. (*D. punctulata* Loew, *D. adspersa* Mik.) St. Augustine, Mar. (C. W. J.); Ormond, Jacksonville and Lake Worth (Mrs. Slosson); Key West.
Drosophila slossonæ Coq. Biscayne Bay (Mrs. Slosson).

Phortica hirtifrons sp. n.

Female: Head dull yellow, front quite thickly and evenly covered with short black hairs; two fronto-orbital bristles on the extreme upper part of the front, the lower one deflected and the upper one reflected; three vertical bristles on each side, the two outer ones reflected, the inner one slightly inflected, the two ocellar bristles slightly deflected; antennæ yellow, margins of the third joint and the arista brown. Thorax dull yellow, quite thickly and evenly covered with short black hairs; two humeral, one notopleural, one supraalar, two interalar, one dorsocentral, one post-acrostical, one postalar and two sternopleural bristles. Scutellum yellow glabrous, with four marginal bristles. Abdomen brown (the basal third yellowish) and evenly covered with short black hairs. Legs yellow, with fine blackish hairs. Halteres yellow. Wings brownish hyaline. Length, 4 mm.

Two specimens, Crescent City, Apr. 21, 1908 (M. C. Van Duzee). Holotype in the American Museum of Natural History.

Paratissa pollinosa Will. Biscayne Bay and Lake Worth (Mrs. Slosson); Punta Gorda, Nov. 11.

GEOMYZIDÆ.

Spilochroa ornata Johnson. (*Heterochroa ornata.*) Drayton Island, May 9 (C. W. J.); Biscayne Bay, Mar. (Mrs. Slosson); Crescent City, Apr. 24 (Van Duzee).

Anthomyza nigrimana Coq. Biscayne Bay, Mar. (Mrs. Slosson). Does not belong to this genus (Hendel).

AGROMYZIDÆ.

Agromyza œneiventris Fall. Biscayne Bay and Lake Worth (Mrs. Slosson); Titusville, Nov. 8; Miami, Nov. 5; Key Largo, Nov. 6.

Agromyza jucunda v. d. Wulp. Georgetown, May 9 (C. W. J.); Biscayne Bay (Mrs. Slosson).

Agromyza melampyga Loew. Biscayne Bay (Mrs. Slosson).

Agromyza neptis Loew. "Fla." (Coquillett).

Agromyza setosa Loew. Palatka, May 19.

Agromyza terminalis Coq. Welaka, May 9.

Agromyza trifolii Burgess. Biscayne Bay (Mrs. Slosson).

Agromyza viridula Coq. Titusville, Nov. 6.

Desmometopa m-nigrum Zett. Biscayne Bay and Fort Worth (Mrs. Slosson).

Desmometopa tarsalis Loew. Biscayne Bay (Mrs. Slosson).

Madiza halteralis Coq. Lake Worth (Mrs. Slosson).

Rhinoëssa albula Loew. Lake Worth and Atlantic Beach (Mrs. Slosson).

Milichiella arcuata Loew. (*Lobioptera arcuata.*) Ormond and Biscayne Bay (Mrs. Slosson).

Milichiella lacteipennis Loew. (*Lobioptera lacteipennis.*) Charlotte Harbor and Jacksonville (Mrs. Slosson).

Phleomyia indecora Loew. (*Lobioptera indecora.*) Jacksonville and Biscayne Bay (Mrs. Slosson).

Phleomyia robertsoni Coq. Inverness (Robertson).

Leucopis bella Loew. Horse Landing, St. Johns River, May 17 (C. W. J.); Crescent City (Hubbard); Biscayne Bay (Mrs. Slosson).

Leucopis nigricornis Egger. "Florida" (Coquillett).

Acrometopa punctata Coq. Jacksonville (Mrs. Slosson).

HIPPOBOSCIDÆ.

Ornithomyia anchineuria *Speiser*. (*O. pallida* Say, 1823, not Latreille 1811.) This species is found on reed birds and red-winged black-birds.

Ornithoctona erythrocephala *Leach*. St. Augustine.

Olfersia americana *Leach*. St. Augustine on screech owl (C. W. J.); Miami, Mar. 23 (Laurent).

Olfersia albipennis *Say*. St. Augustine, Nov. 8, 1887, on the white heron (C. W. J.); Biscayne Bay (Mrs. Slosson).

Olfersia sp. St. Augustine, on the chuck-will's-widow.

Pseudolfersia maculata *Coq.* St. Augustine, on the fish hawk.

STREBLIDÆ.

Trichobius major *Coq.* Gum cave, Citrus Co., on bats (H. G. Hubbard).

NYCTERIBIIDÆ.

Nycteribia bellardi *Rond.* Crescent City (Hubbard). Found on bats.