#### PROCEEDINGS

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# PAPERS FROM THE HOPKINS STANFORD GALA-PAGOS EXPEDITION, 1898–1899.

II.

#### ENTOMOLOGICAL RESULTS (2):

#### DIPTERA.

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The earliest recorded capture of Diptera on the Galapagos Islands occurred during the cruise of the British Frigates Adventure and Beagle in the years 1826 to 1836, made famous by Darwin's celebrated Narrative, published in 1839. The few Diptera then collected were described by Walker in the well-known British Museum Lists.

During the years 1851 to 1853 the Swedish frigate *Eugenics* also visited these islands, and collected Diptera; these were described by C. G. Thomson in 1868.

The British steamship *Petrel* visited them in 1875, and obtained two species of Diptera; these were reported upon by F. Smith in the Proceedings of the Zoological Society of London for 1877, page 84.

Finally, the U. S. steamer *Albatross*, during her cruise in 1887 and 1888 also visited these islands and collected several specimens of an undetermined species of *Culex*, reported upon by Dr. S. W. Williston in the report published by Dr. L. O. Howard in the Proceedings of the U. S. National Museum, Vol. XII, 1889.

During the autumn of 1899 Dr. Howard received, in addition to insects belonging to nearly all other orders, a series of Diptera collected in the Galapagos Islands by Mr. Snodgrass, of the Hopkins Stanford Galapagos Expedition in the early part of that year. This collection, submitted to the National Museum through Professor Vernon L. Kellogg, contains 413 specimens, representing 35 species, distributed in 26 genera and 17 families. One genus and nine species are believed to be new to science; eleven species were originally described from specimens collected on these islands, while the remaining fifteen species have hitherto been reported from South or Central America, the West Indies, or the warmer portion of North America.

## Family CHIRONOMIDÆ.

CERATOPOGON GALAPAGENSIS sp. nov.

Head black, antennæ yellow, the first joint and apical half dark brown, its hairs dark brown, many towards the apex tipped with yellowish white, proboscis and palpi yellowish brown, the latter slender and almost linear; body dark brown, its hairs yellow, the humeri and a vitta on upper part of pleura yellow, mesonotum opaque; legs, including the coxæ, wholly light yellow, femora not swollen, destitute of spinous bristles, first joint of hind tarsi slightly over one-half as long as the second, last joint subequal to the fourth, not spinose below, the claws small and of an equal size; wings hyaline, thickly covered with hairs, third vein ending in the costa near middle of the latter, united to the first vein except at each end, second posterior cell rather long petiolate; halteres yellowish white; length 1.25 mm. Tagus Cove, Albemarle. Three males, collected January 22, 1899.

Type.—Cat. No. 4714, U. S. National Museum.

## Family CULICIDÆ.

### CULEX TÆNIORHYNCHUS Wied.

Culex tæniorhynchus Wiedemann, Diptera Exot., p. 43, 1821.

Albemarle, January 28 and February 1 and 4. Eight specimens. Occurs over the warmer portion of this continent. The female has dentate front tarsal claws, and Arribalzaga's *Tæniorhynchus tæniorhynchus* Wied., with simple claws, must therefore belong to some other species.

### Family TIPULIDÆ.

### GERANOMYIA STIGMATICA Philippi.

Plettusa stigmatica Philippi, Verhand. Kais. Kön. Zool.-bot. Gesell. Wien, xv, p. 598, 1865.

Albemarle, June 9. One specimen. Described from Chile.

## Family STRATIOMYIDÆ.

#### PELAGOMYIA ALBITALUS Williston.

Pelagomyia albitalus WILLISTON, Trans. Ent. Soc. London, p. 299, Sept., 1896.

Albemarle, January 1. One specimen. Type locality, St. Vincent, W. Ind.

### NEMOTELUS ALBIVENTRIS Thomson.

Nemotelus albiventris Thomson, Fregatt. Eugen. Resa, p. 462, 1868.

Albemarle, January 1. A single specimen. The locality, "Manilla," given by Thomson, is probably erroneous. The frigate Eugenies also made collections at the Galapagos Islands.

### NEMOTELUS ACUTIROSTRIS Loew.

Nemotelus acutirostris Loew, Berl. Ent. Zeitsch., VII, p. 8, 1863.

Albemarle, January 1. A single specimen. This species was originally described from Cuba.

## Family TABANIDÆ.

## TABANUS VITTIGER Thomson.

Tabanus vittiger Thomson, Fregatt. Eugen. Resa, p. 451, 1868.

James, April 21 and 22; Indefatigable, April 28, and Albemarle, January 23. Six specimens. Originally described from the Galapagos Islands.

## Family BOMBYLIDÆ.

### ANTHRAX NUDIUSCULA? Thomson.

Anthrax lateralis Thomson, Fregatt. Eugen. Resa, p. 482, 1868. Nec SAV, 1823.

Anthrax nudiuscula? THOMSON, 1. c.

Albemarle, January 1, 17, 18 and 23, and March 21; Charles, May 10. Ten specimens. A. lateralis was described from the Galapagos Islands; A. nudiuscula from Panama.

#### ANTHRAX BRACHIALIS Thomson.

Anthrax brachialis THOMSON, loc. cit., p. 484.

Albemarle, January 1. A single specimen. Described from the Galapagos Islands.

### Family ASILIDÆ.

### OMMATIUS MARGINELLUS Fabr.

Asilus marginellus Fabricius, Spec. Ins., 11, p. 464, 1781.

James, April 21. A single specimen. Originally described from the West Indies, it has also been reported from Brazil.

### Family DOLICHOPODIDÆ.

#### ANCHINEURA TIBIALIS Thomson.

Anchineura tibialis Thomson, loc. cit., p. 507.

Albemarle, January 18 and 23; Narboro, January 13. Five specimens. Originally described from the Galapagos Islands.

### PARACLIUS PUSILLUS? Macq.

Dolichopus pusillus? MACQUART, Dipt. Exot., Sup. 1, p. 121, 1844.

Albemarle, January 23; Narboro, January 13. Fourteen specimens. Macquart's specimens of pusillus came from Brazil.

## Family SYRPHIDÆ.

### BACCHA CLAVATA Fabr.

Syrphus clavatus Fabricius, Ent. Syst., IV, p. 298, 1794. Baccha facialis Thomson, Fregatt. Eug. Resa, p. 504, 1868.

James, April 22; Charles, May 10. Two specimens. Thomson described it from the Galapagos Islands. The synonymy is by Dr. Williston.

### SPHÆROPHORIA SPLENDENS Thomson.

Syrphus splendens Thomson, Fregatt. Eug. Resa, p. 501, 1868.

James, April 21; Charles, May 10. Three specimens. Thomson's specimens also came from the Galapagos Islands.

#### MESOGRAMMA DUPLICATA Wied.

Syrphus duplicatus Wiedemann, Ausser. Zweif. Ins., 11, p. 142, 1830.

James, April 22. Two specimens. This species has been reported from nearly all parts of South America.

## Family SARCOPHAGIDÆ.

## SARCOPHAGA OBTUSIFRONS Thomson.

Sarcophaga obtusifrons Thomson, Fregatt. Eugen. Resa, p. 536, 1868.

Albemarle, January 1, and Charles, May 10. 103 specimens. This

and the two following species were originally described from the Galapagos Islands.

#### SARCOPHAGA INOA Walker.

Sarcophaga inoa Walker, List Dipt. Ins. Brit. Mus., IV, p. 832, 1849.

Albemarle, January 1 and 16; Narboro, January 13 and 26; Hood, May 15, and Culpepper, December 10. 48 specimens.

#### SARCOPHAGA VIOLENTA Walker.

Sarcophaga violenta WALKER, loc. cit., p. 826.

Albemarle, January 18. Seven specimens.

## CHRYSOMYIA QUADRISIGNATA Thomson.

Lucilia quadrisignata Thomson, Fregatt. Eug. Resa, p. 544, 1868.

Albemarle, January 1, and Charles, May 10. Eight specimens. Originally described from the Galapagos Islands.

### Family MUSCIDÆ.

SYNTHESIOMYIA BRASILIANA Br. and Bergen.

Synthesiomyia brasiliana Brauer and Bergenstamm, Denks. Math. Nat. Kais. Akad. Wiss., Lx, p. 96, 1893.

Albemarle, January 1 and 16. Two specimens. Originally described from Brazil; the U. S. National Museum contains specimens collected in Georgia and Florida.

## Family ANTHOMYIDÆ.

## LEUCOMELINA PICA Macquart.

Leucomelina pica MACQUART, Dipt. Exot., Sup. IV, p. 235, 1849.

Cocos Island, in July. Twenty-five specimens. Described from Brazil, and also reported from Mexico.

### OPHYRA SETIA Walker.

Anthomyia setia Walker, List Dipt. Ins. Brit. Mus., IV, p. 956, 1849.

Albemarle, January 1 and 16; Narboro, January 13. Twelve specimens. Originally described from the Galapagos Islands.

#### HOMALOMYIA CANICULARIS Linné.

Musca canicularis LINNÉ, Fauna Suec., p. 1841, 1761.

Albemarle, January 1. Three specimens. A nearly cosmopolitan species.

## Family ORTALIDÆ.

#### EUXESTA NOTATA Wied.

Ortalis notata Wiedemann, Ausser. Zweif. Ins., 11, p. 462, 1830.

Charles, May 10. A single specimen. A common species over the greater part of the United States.

### EUXESTA NITIDIVENTRIS Loew.

Euxesta nitidiventris LOEW, Mon. Dipt. N. Amer., III, p. 157, 1873.

Albemarle, January 1, and Charles, May 10. Thirteen specimens. Originally described from Texas; it also occurs in Georgia and Florida.

### PAREUXESTA gen. nov.

Near Euxesta, but the first vein covered with bristles on its apical third. Front not punctured, sparsely covered with bristly hairs except around the ocelli, slightly tapering to the lower end, where it is almost as wide as either eye, antennæ two-thirds as long as the face, the third joint ellipsoidal, one-half longer than wide, twice as long as the second, which is scarcely longer than wide, arista bare, face in profile concave, not carinate nor foveolate, projecting slightly further forward at oral margin than at base of antennæ, clypeus prominent, proboscis short and swollen, palpi well developed, of nearly an equal width, cheeks less than one-fourth as wide as the eye-height, occiput slightly concave on its upper part, thorax bearing one pair of acrostichal bristles, two dorsocentral, three supra-alar, one humeral, two posthumeral, one mesopleural and one sternopleural, scutellum bearing four bristles, abdomen ovate, legs short and robust, calypteres small, wings slightly tapering to their apices, fourth vein distinctly converging toward the third, lower outer angle of anal cell drawn out in a long lobe, small crossvein perpendicular, the hind one nearly so, stigma short, distance between apices of auxiliary and first veins much less than length of hind crossvein.

Type, the following species:

## PAREUXESTA LATIFASCIATA sp. nov.

Head reddish brown, opaque, the occiput (extending as ocellar and orbital triangles upon the front), also usually the face, clypeus and lower edge of cheeks, bluish; narrow frontal orbits, face, upper and lower border of cheeks and occiput, whitish pruinose; antennæ and palpi yellowish brown; proboscis and apices of aristæ black; body bluish, subopaque, the abdomen somewhat polished; an opaque blackish streak in front of each wing, extending along the posterior side of

the mesonotal suture; last two abdominal segments of female yellow, her ovipositor broad, flattened, scarcely tapering at the apex, bluish, the base yellow; legs blackish brown, apices of femora yellow; wings whitish hyaline, marked with four rather broad black crossbands, the first just beyond humeral crossvein, second filling stigma and extending in a curve to slightly below fifth vein beyond apex of anal cell; small crossvein situated beyond this band, third band extends from beyond apex of first vein to lower end of hind crossvein, the fourth borders apex of wing from nearly midway between apices of first and second veins to slightly below apex of the fourth, and is sometimes narrowly connected with the third band along the costa; at the third vein the apical brown band is from two-thirds as wide to as wide as the preceding hyaline interval; length, 3 to 4 mm. Fifty-nine males and eleven females. Tower, June 23.

Type.—Cat. No. 5557, U. S. National Museum.

### PAREUXESTA OBSCURA sp. nov.

Same as *latifasciata* except that the entire abdomen and ovipositor of the female are bluish, and the black bands of the wings, especially the last two, are narrower, the apical band at the third vein less than one-fourth as wide as the preceding hyaline interval; length 3 to 3.5 mm. Seventeen males and four females. Albemarle, January 1.

Type.—Cat. No. 5558, U. S. National Museum.

# PAREUXESTA INTERMEDIA sp. nov.

Equal to *latifasciata* except that the penultimate segment of abdomen of the female is bluish, like the preceding segments, and the black bands of the wings are noticeably narrower, the apical band at the third vein being from one-half to three-fifths as wide as the preceding hyaline interval; length, 3 to 4 mm. Two males and a female. Albemarle, January 1.

Type.—Cat. No. 5559, U. S. National Museum.

## PAREUXESTA HYALINATA sp. nov.

Like *latifasciata* except that the penultimate abdominal segment of the female is bluish, and the wings are hyaline, unmarked; length, 3.5 mm. Two females. Albemarle, January 1.

Type.—Cat. No. 5560, U. S. National Museum.

## Family EPHYDRIDÆ.

## EPHYDRA GILVIPES sp. nov.

Green, tinged in places with blue; halteres, femora and tibiæ yellow; tarsi brown; antennæ and proboscis black; middle of front

polished, the narrow sides, occiput, cheeks and face, except middle of the upper part of the latter, opaque, gray pruinose; two pairs of fronto-orbital bristles, no medio-frontal macrochæta below the ocelli; antennal arista bearing a short pubescence on the upper side; body polished, thorax bearing five pairs of dorsocentral bristles, scutellum bearing four bristles; wings hyaline, spines of costa only slightly longer than the diameter of the costal vein; front tarsi of male not swollen; length, 4 to 5 mm. Albemarle, February 13. One male and five females.

Type.—Cat. No. 4429, U. S. National Museum.

## CANACE SNODGRASSII sp. nov.

Black; the palpi, halteres and tarsi yellow; front polished; four pairs of fronto-orbital bristles, and a short distance toward middle of front from these a row of three or four bristles; occiput, cheeks, face and clypeus opaque, light gray pruinose; two stout bristles in the vibrissal region and one slightly above and behind the center of each cheek; antennal arista almost bare; eyes slightly longer than high; cheeks posteriorly as wide as the eye-height; body subopaque, thinly grayish pruinose, the pleura densely light gray pruinose; five pairs of dorsocentral bristles; scutcllum bearing four marginal bristles and a smaller discal pair; wings grayish hyaline; length, 3 mm. Albemarle, January 23; and Narboro, January 13 and 26. Many specimens.

Type.—Cat. No. 4430, U. S. National Museum.

# Family OSCINIDÆ.

### HIPPELATES PUSIO Loew.

Hippelates pusio Loew, Berl. Ent. Zeitsch., p. 279, 1872.

Tagus Cove, Albemarle, March 23. Three specimens. Also occurs in this country, ranging from Massachusetts southward to Florida and Texas.

## Family AGROMYZIDÆ.

## RHICNŒSSA COSTALIS sp. nov.

Head black, opaque, gray pruinose; lower half of front yellowish brown; face and cheeks yellow; antennæ brown; pubescence of arista very short; proboscis brown; palpi yellow; body black, opaque, gray pruinose, mesonotum marked with two indistinct brown pruinose vitæ; four pairs of dorsocentral bristles; legs yellow, the coxæ and front legs dark brown; wings grayish-hyaline, the costal margin between apices of first and second veins brown, sometimes encroaching

considerably on the submarginal cell; halteres whitish; length, 1.5 mm. Tagus Cove, Albemarle, March 23. Two specimens.

Type.—Cat. No. 4715, U. S. National Museum.

## Family HIPPOBOSCIDÆ.

PSEUDOLFERSIA DIOMEDEÆ sp. nov.

Head brown; a transversely-oval, elevated, polished, frontal spot reaching slightly below the middle of the front; a transverse parallelogrammatic one occupying the lowest median fourth of the front; orbits elevated and polished; remainder of the front depressed, opaque, gray pruinose; shorter hairs of antennæ yellow, the stronger ones dark brown, changing into yellow at their apices; thorax polished brown, the angles yellow, the sides, transverse suture, a spot towards the middle of the thorax from each humerus and a second spot a short distance behind each of these, also two spots in front of the scutellum, opaque, gray pruinose; middle of sternum yellow; scutellum polished dark brown, destitute of bristles, posteriorly truncate and ciliate with very short hairs; abdomen dark brown, opaque, gray pruinose; wings hyaline, veins brown, the first vein, except its base, usually yellow, last section of the fifth vein and the whole of the sixth except its base, whitish; apex of first vein noticeably before the small crossvein, apex of second vein about twice as far from the apex of the first vein as from tip of the third; legs brown, the lower side of the femora and the tibiæ except their outer and inner edges, yellow; length 7 mm. Albemarle, March 1. Four specimens, taken on an albatross (Diomedea irrorata Salvin).

Type.—Cat. No. 4431, U. S. National Museum.

## PSEUDOLFERSIA FOSSULATA Macquart.

Olfersia fossulata MACQUART, Dipt. Exot., II, p. 434, 1842.

Wenman, December 13. A single specimen. Originally described from Brazil.