

spot beyond cell. Hind wing below isabella color with black irrorations; a black point on discocellular; inner margin buff white. Expanse 44 mm.

Habitat: Incachaba, Cochabamba.

Type Cat. No. 26571, U. S. N. M.

Allied to *B. amethystata* Walker.

***Bassania schreiteri*, new species.**

Female.—Shaft of antennae white; head, thorax and fore wing walnut brown; abdomen deep purplish gray with transverse cameo brown lines dorsally. Fore wing: a fine, cameo brown, outcurved antemedial line; a black point on discocellular finely edged with whitish gray; postmedial line vandyke brown from costa at four-fifths very faintly outcurved on costa and straight to inner margin beyond middle; a faint subterminal narrow black shade almost obsolescent from below vein 5. Hind wing: costa broadly silky whitish, from middle of cell and vein 6 avellaneous with a few black striae; a drab postmedial line more distinct towards inner margin; a faint dark terminal line; cilia walnut brown. Fore wing below with the anterior half light drab suffused with walnut brown apically; a diffuse white shade beyond cell; inner half white. Hind wing below drab, terminally suffused with cinnamon drab, irrorated with black; a black discal point and very faint postmedial line. Expanse 41 mm.

Habitat: Tucuman, Argentina.

Type Cat. No. 26572, U. S. N. M.

THE MOSQUITOES OF PANAMA

(*Diptera. Culicidae*)

By HARRISON G DYAR

The mosquitoes of Panama were first systematically investigated by Mr. August Busck, who visited the Canal Zone and adjoining portions of Panama in 1907. Subsequently extensive collections were made by the late Allan H. Jennings. Mr. James

Zetek and Major L. H. Dunn made still later collections, while in the last few years Mr. J. B. Shropshire has sent in extensive material secured in the now completely sanitated areas. Considerable changes in the mosquito fauna have been wrought by the construction of the canal, with the flooding of the Chagres valley, the destruction of the forest and the extensive sanitation. This latter has been undertaken as a permanent work, the swamps being filled, ponds eliminated and surface water carried in concrete drains. In many areas, therefore, no mosquitoes can now be found where formerly many species were recorded. Moreover, all the bamboo formerly growing along the Chagres River has been destroyed, not a clump remaining, and the mosquitoes addicted to this plant, some fifteen species, have almost completely disappeared from the Zone, and must be sought in less disturbed regions. The present list is offered, based on species recorded up to the year 1922, as a basis for further work. New synonymy, here first recorded, is briefly explained.

Sabethes cyaneus Fabricius.

Culex cyaneus Fabricius, Syst. Antliat., 35, 1805.

Sabethes locuples Robineau-Desvoidy, Mem. Soc. Nat. Hist. Paris, iii, 412, 1827.

Culex remipes Wiedemann, Aus. Zweifl. Ins., i, 573, 1828.

Sabethes bipartipes Dyar & Knab.

Sabethes bipartipes Dyar & Knab, Proc. Biol. Soc. Wash., xix, 136, 1906.

Sabethes chroioptus Dyar & Knab, Ins. Ins. Mens., i, 76, 1913.

Not recorded from Panama, but its occurrence may be expected.

Sabethes tarsopus Dyar & Knab.

Sabethes tarsopus Dyar & Knab, Pros. U. S. Nat. Mus., xxxv, 62, 1908.

Sabethoides chloropterus Humboldt.

Culex chloropterus von Humboldt, Voy. Reg. Equin., (Hist), vii, 119, 1820.

Sabethes nitidus Theobald, Mon. Culic., ii, 347, 1901.

Sabethoides confusus Theobald, Mon. Culic., iii, 328, 1903.

Sabethinus aurescens Theobald.

Sabethinus aurescens Theobald, Mon. Culic., iv., 622, 1907.

Sabethes identicus Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 207, 1907.

Sabethinus undosus Coquillett.

Sabethoides undosus Coquillett, Proc. Ent. Soc. Wash., vii, 186, 1906.

?*Sabethinus intermedius* Theobald, Mon. Culic., iv, 619, 1907.

Wyeomyia (————) **agnostips** Dyar & Knab.

Wyeomyia agnostips Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 211, 1907.

Wyeomyia modalma Dyar, Ins. Ins. Mens., x, 97, 1922.

The synonymy of *modalma* is here first recorded.

Wyeomyia (**Shropshirea**) **ypsipola** Dyar.

Wyeomyia (Shropshirea) ypsipola Dyar, Ins. Ins. Mens., x, 97, 1922.

This may be the male of *agnostips*. In the single male at hand the prothoracic lobes are dark with violaceous reflection, not coppery, and there is no white on hind tarsi. Otherwise the coloration agrees.

Wyeomyia (**Triamyia**) **aporonoma** Dyar & Knab.

Wyeomyia aporonoma Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 230, 1906.

Wyeomyia (**Calladimyia**) **melanocephala** Dyar & Knab.

Wyeomyia melanocephala Dyar & Knab, Proc. Biol. Soc. Wash., xix, 140, 1906.

Wyeomyia canfieldi Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 207, 1907.

Wyeomyia pandora Dyar & Knab, Smith. Misc. Coll., Quart. Iss., lii, 261, 1909.

Wyeomyia fauna Dyar & Knab, Ins. Ins. Mens., vii, 137, 1919.

Wyeomyia (**Dinomyia**) **phroso** Howard, Dyar & Knab.

Wyeomyia phroso Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., iii, 149, 1915.

Dinomyia proviolans Dyar, Ins. Ins. Mens., vii, 117, 1919.

Wyeomyia (Dodecamyia) clasoleuca Dyar & Knab.

Wyeomyia clasoleuca Dyar & Knab, Proc. U. S. Nat. Mus., xxxv, 68, 1908.

Wyeomyia (Hystatomyia) intonca Dyar & Knab.

Wyeomyia intonca Dyar & Knab, Proc. Ent. Soc. Wash., xi, 173, 1910.

Wyeomyia (Hystatomyia) circumcincta Dyar & Knab.

Wyeomyia circumcincta Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 210, 1907.

Wyeomyia macrotus Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 212, 1907.

Wyeomyia andropus Dyar & Knab, Proc. U. S. Nat. Mus., xxxv, 68, 1908.

Wyeomyia agyrtes Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 265, 1909.

The synonymy of *agyrtes* is here first recorded.

Wyeomyia (Hystatomyia) coenonus Howard, Dyar & Knab.

Wyeomyia coenonus Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., ii, Plate 6, fig. 38, 1912.

Wyeomyia (Decamyia) pseudoptecten Dyar & Knab.

Wyeomyia pseudoptecten Dyar & Knab, Proc. Biol. Soc. Wash., xix, 139, 1906.

Wyeomyia cara Dyar & Knab, Smith. Misc. Coll., Quart. Iss., lii, 264, 1909.

The synonymy of *cara* is here first made.

Wyeomyia (Decamyia) onidus Dyar & Knab.

Wyeomyia onidus Dyar & Knab, Smith. Misc. Coll., Quart. Iss., lii, 261, 1909.

Wyeomyia pantoia Dyar & Knab, Smith. Misc. Coll., Quart. Iss., lii, 262, 1909.

Wyeomyia cacodela Dyar & Knab, Smith. Misc. Coll., Quart. Iss., lii, 265, 1909.

Wyeomyia (Decamyia) eloisa Howard, Dyar & Knab.

Wyeomyia eloisa Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., ii, Plate 6, fig. 36, 1912.

Wyeomyia (Miamiya) codiocampa Dyar & Knab.

?*Dendromyia serrata* Theobald, Mon. Culic., iv, 615, 1907.

Wyeomyia codiocampa Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 209, 1907.

Wyeomyia (Miamiya) hosautus Dyar & Knab.

Wyeomyia hosautus Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 211, 1907.

Wyeomyia symmachus Dyar & Knab, Smith. Misc. Coll., Quart. Iss., lii, 262, 1909.

Wyeomyia eucthes Dyar & Knab, Smith. Misc. Coll., Quart. Iss., lii, 263, 1909.

Wyeomyia (Prosopolepis) jocosa Dyar & Knab.

Prosopolepis jocosa Dyar & Knab, Proc. U. S. Nat. Mus., xxxv, 64, 1908.

Wyeomyia (Prosopolepis) prolepidis Dyar & Knab.

Wyeomyia prolepidis Dyar & Knab, Ins. Ins. Mens., vii, 1, 1919.

Wyeomyia (Limatus) durhami Theobald.

Limatus durhami Theobald, Mon. Culic., ii, 350, 1901.

Simondella currurostris Laveran, C. R. Heb. Soc. Biol., liv, 1160, 1902.

Wyeomyia (Limatus) paraensis Theobald.

Dendromyia paraensis Theobald, Mon. Culic., iii, 316, 1903.

Limatus cacophrades Dyar & Knab, Smith. Misc. Coll., Quart. Iss., lii, 266, 1909.

Probably not specifically distinct from *durhami*. No differences in larvae or in male genitalia have been shown to exist. The different number of comb-teeth mentioned in the monograph is insufficient.

Wyeomyia (Lemmamyia) asullepta Theobald.

Dendromyia asullepta Theobald, Mon. Culic., iii, 315, 1903.

Limatus methysticus Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 266, 1909.

Wyeomyia (Lemmamyia) pseudomethysticus Bonne-Wepster & Bonne.

Lemmamyia pseudomethysticus Bonne-Wepster & Bonne, Ins. Ins. Mens., vii, 166, 1920.

Probably not specifically distinct from *asullepta*.

Wyeomyia (Phoniomyia) chrysomus Dyar & Knab.

?*Wyeomyia longirostris* Theobald, Mon. Culic., ii, 275, 1901.

Phomiomyia chrysomus Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 208, 1907.

The type of *Phoniomyia*, as shown by Bonne-Wepster & Bonne (Ins. Ins. Mens., ix, 6, 1921) is *longirostris* from Brazil, restricted to a female type. This, according to Theobald's original description and emendations, has the proboscis long, wing scales narrow, prothoracic lobes with metallic (coppery?) reflection; abdominal colors separated in a straight line; legs without white mentioned, but the legs of the type are now broken. The present species, *chrysomus*, differs only in having white on the mid tarsi. It may be the same as *longirostris* from Brazil, but I have no specimens from outside of Panama. Certainly the subgeneric characters seem to correspond, and I am therefore using *Phoniomyia* instead of *Dendromyia* of my former paper (Ins. Ins. Mens., vii, 124-126, 1919). In regard to the latter, Theobald says that the wing scales are "rather broad," which would exclude it from present consideration.

Wyeomyia (————) celaenocephala Dyar & Knab.

Wyeomyia celaenocephala Dyar & Knab, Proc. Biol. Soc. Wash., xix, 140, 1906.

Phomiomyia philophone Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 209, 1907

Wyeomyia megalodora Dyar & Knab, Proc. U. S. Nat. Mus., xxxv, 69, 1908.

Wyeomyia mataea Dyar & Knab, Proc. U. S. Nat. Mus., xxxv, 70, 1908.

This synonymy is new. The prothoracic lobes are distinctly blue in this species, the proboscis long. In the type of *celaenocephala*, the lobes are rubbed, but it agrees otherwise.

Wyeomyia (Wyeomyia) melanopus Dyar.

Wyeomyia melanopus Dyar, Ins. Ins. Mens., vii, 130, 1919.

This may be the male of *celaenocephala*. The mid tarsi are without white, which may be sexual.

Wyeomyia (Wyeomyia) leucopisthepus Dyar & Knab.

Wyeomyia leucopisthepus Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 212, 1907.

Wyeomyia abrachys Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 262, 1909.

Wyeomyia chresta Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 263, 1909.

Wyeomyia hapla Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 265, 1909.

Wyeomyia labesba Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., iii, 106, 1915.

Wyeomyia incana Dyar, Ins. Ins. Mens., x, 189, 1922.

Wyeomyia (Wyeomyia) scotinomus Dyar & Knab.

Phoniomyia scotinomus Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 209, 1907.

Wyeomyia dymodora Dyar & Knab, Proc. U. S. Nat. Mus., xxxv, 68, 1908.

Wyeomyia (———) homothe Dyar & Knab.

Wyeomyia homothe Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 211, 1907.

The male is unknown.

Wyeomyia (Wyeomyia) rolonca Dyar & Knab.

Wyeomyia rolonca Dyar & Knab, Proc. Ent. Soc. Wash., xi, 173, 1910.

The female is unknown. This may be the male of *homothe*.

Wyeomyia (———) simmsi Dyar & Knab.

Phoniomyia simmsi Dyar & Knab, Proc. U. S. Nat. Mus., xxxv, 65, 1908.

The male is unknown.

Wyeomyia (Wyeomyia) roloncetta Dyar.

Wyeomyia roloncetta Dyar, Ins. Ins. Mens., vii, 131, 1919.

The female is unknown. This may be the male of *simmsi*.

Wyeomyia (Pentemyia) bromeliarum Dyar & Knab.

Wyeomyia bromeliarum Dyar & Knab, Proc. Biol. Soc. Wash.,
xix, 138, 1906.

Wyeomyia espartana Dyar & Knab, Proc. Biol. Soc. Wash.,
xix, 140, 1906.

Wyeomyia panamena Dyar & Knab, Journ. N. Y. Ent. Soc.,
xv, 210, 1907.

Wyeomyia drapetes Dyar & Knab, Smiths. Misc. Colls., Quart.
Iss., lii, 264, 1909.

Wyeomyia (Menolepis) culebrae Dyar.

Wyeomyia (Menolepis) culebrae Dyar, Ins. Ins. Mens., xi, 65,
1923.

Goeldia (Isostomyia) homotina Dyar & Knab.

Phoniomyia homotina Dyar & Knab, Proc. Biol. Soc. Wash.,
xix, 141, 1906.

Lesticocampa ducellaphora Howard, Dyar & Knab, Mosq. No.
& Cent. Am. & W. I., iii, 166, 1915.

Goeldia (Isostomyia) espini Martini.

Lesticocampa espini Martini, Ins. Ins. Mens., ii, 65, 1914.

Trichoprosopon (Joblotia) shropshirei Ludlow, Psyche, xxvi,
168, 1920.

Goeldia (Goeldia) lampropus Howard, Dyar & Knab.

Lesticocampa lampropus Howard, Dyar & Knab, Mosq. No. &
Cent. Am. & W. I., iii, 167, 1915.

Goeldia (Goeldia) leucopus Dyar & Knab.

Lesticocampa leucopus Dyar & Knab, Proc. Biol. Soc. Wash.,
xix, 137, 1906.

Goeldia (Goeldia) longipes Fabricius.

Culex longipes Fabricius, Syst. Antliat., 34, 1805.

Lesticocampa ulopus Dyar & Knab, Proc. Biol. Soc. Wash.,
xix, 137, 1906.

Lesticocampa culicivora Dyar & Knab, Journ. N. Y. Ent. Soc.,
xv, 207, 1907.

Doctor Bonne says that two species are represented, having larval differences. Reëxamination of the material before me shows that the published figure of *culicivora* is in error, the comb being really a patch of scales as described by Doctor Bonne and not of a few scales as figured.

Joblotia digitatus Rondani.

Culex digitatus Rondani, Baudi e Truqui, Stud. Ent., 109, 1848.

Trichoprosopon nivipes Theobald, Mon. Culic., ii, 285, 1901.

Trichoprosopon wilsoni Ludlow, Psyche, xxv, 66, 1918.

Joblotia trichorryes Dyar & Knab.

?*Trichoprosopon compressum* Theobald, Mon. Culic., iv, 590, 1907.

Joblotia trichorryes Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 206, 1907.

Joblotia mogilasia Dyar & Knab.

Joblotia mogilasia Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 206, 1907.

This differs from *trichorryes* only in the different vestiture of the clypeus. Mr. Busck found three pupae in bamboo-joints at Tabernilla in 1907, and no other occurrence is of record. Tabernilla is now sixty feet under water and all the bamboo is destroyed.

Lutzia allostigma Howard, Dyar & Knab.

Lutzia allostigma Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., iii, 471, 1915.

Culex (Culex) corniger Theobald.

Culex corniger Theobald, Mon. Culic., iii, 173, 1903.

Culex lactator Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 209, 1906.

Culex hassardii Grabham, Can. Ent., xxxviii, 167, 1906.

Culex basiliicus Dyar & Knab, Proc. Biol. Soc. Wash., xix, 169, 1906.

Culex subfuscus Theobald, Mon. Culic., iv, 403, 1907.

Culex lactator loquaculus Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 254, 1909.

Culex leucotelus McCormack, Pan. Health Rep., 1918, 29, 1919.

Culex (Culex) coronator Dyar & Knab.

Culex coronator Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 215, 1906.

Culex ousqua Dyar, Ins. Ins. Mens., vi., 99, 1918.

Culex usquatus Dyar, Ins. Ins. Mens., vi, 122, 1918.

Culex usquatissimus Dyar, Ins. Ins. Mens., x, 19, 1922.

Culex (Culex) declarator Dyar & Knab.

Culex declarator Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 211, 1906.

(Six synonyms of this species will be found listed in Ins. Ins. Mens., vi, 97, 1918.)

Culex (Culex) lepostenis Dyar.

Culex (Culex) lepostenis Dyar, Ins. Ins. Mens., xi, 70, 1923.

Culex (Culex) interrogator Dyar & Knab.

Culex interrogator Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 209, 1906.

Culex reflector Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 256, 1909.

The single slide of *reflector* shows an extra filament on the lobe of the side piece, which I now think is simply a variation.

Culex (Culex) chidesteri Dyar.

Culex chidesteri Dyar, Ins. Ins. Mens., ix, 117, 1921.

Culex (Culex) quinquefasciatus Say.

Culex quinquefasciatus Say, Journ. Acad. Nat. Sic. Phil., iii, 10, 1823.

Culex fatigans Wiedemann, Auss. Zweifl. Ins., i, 10, 1828.

Culex cubensis Bigot, Hist. Fisc. Ins. Cuba, vii, 329, 1856.

Culex penafeli Williston, La Nat., vii, 326, 1887.

Culex aikenii Dyar & Knab (not Aiken), Proc. U. S. Nat. Mus., xxxv, 61, 1908.

Culex revocator Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 256, 1909.

Culex lachrimans Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 259, 1909.

Culex aseyehae Dyar & Knab, Ins. Ins. Mens., iii, 112, 1915.

Culex (Culex) nigripalpus Theobald.

Culex nigripalpus Theobald, Mon. Culic., ii, 322, 1901.

Culex palus Theobald, Mon. Culic., iii, 194, 1903.

Culex factor Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 212, 1906.

Trichopronomyia microannulata Theobald, Mon. Culic., iv, 481, 1907.

Culex proximus Dyar & Knab, Proc. Ent. Soc. Wash., xi, 38, 1909.

Culex carabeus Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., iii, 257, 1915.

Culex (Culex) mollis Dyar & Knab.

Culex carmodyæ mollis Dyar & Knab, Proc. Biol. Soc. Wash.,
xix, 171, 1906.

(Four synonyms of this species will be found listed in Ins. Ins.
Mens., ix, 29, 1921.)

Culex (Culex) infictus Theobald.

Culex infictus Theobald, Mon. Culic., ii, 115, 1901.

Culex scholasticus Theobald, Mon. Culic., ii, 120, 1901.

Culex extricator Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 211,
1906.

Culex (Micraedes) corrigani Dyar & Knab.

Culex corrigani Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 203,
1907.

Culex chalcocorystes Martini, Ins. Ins. Mens., ii, 70, 1914.

Culex (Anoedioparpa) bifolius Dyar.

Culex (Isostomyia) bifolius Dyar, Ins. Ins. Mens., x, 94, 1922.

Culex (Tinolestes) latisquama Coquillett.

Tinolestes latisquama Coquillett, Proc. Ent. Soc. Wash., vii, 185,
1906.

Culex (Helcoporpa) menytes Dyar.

Culex (Helcoporpa) menytes Dyar, Ins. Ins. Mens., vi, 125, 1918.

Culex (Melanoconion) spissipes Theobald.

Melanoconion spissipes Theobald, Mon. Culic., iii, 242, 1903.

Culex fur Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 13, 1907.

Culex (Melanoconion) dunni Dyar.

Culex (Melanoconion) dunni Dyar, Ins. Ins. Mens., vi, 123, 1918.

Culex (Melanoconion) zeteci Dyar.

Culex (Melanoconion) zeteci Dyar, Ins. Ins. Mens., vi, 123, 1918.

Culex (Gnophodeomyia) panocossa Dyar.

Culex (Melanoconion) panocossa Dyar, Ins. Ins. Mens., xi, 120,
1923.

Culex (Choeroporpa) egcymon Dyar.

Culex (Choeroporpa) egcymon Dyar, Ins. Ins. Mens., xi, 67, 1923.

Culex (Choeroporpa) taeniopus Dyar & Knab.

Culex taeniopus Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 100, 1907.

Melanoconion chrysothorax Peryassú, Os Culic. do Brazil, 244, 1908.

Culex (Choeroporpa) psatharus Dyar.

Culex (Choeroporpa) psatharus Dyar, Ins. Ins. Mens., viii, 173, 1920.

Culex (Choeroporpa) epanastasis Dyar.

Culex (Choeroporpa) epanastasis Dyar, Ins. Ins. Mens., x, 191, 1922.

Culex (Choeroporpa) conspirator Dyar & Knab.

Culex conspirator Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 207, 1906.

Culex (Choeroporpa) dysmathes Dyar & Ludlow, Ins. Ins. Mens., ix, 47, 1921.

Culex (Choeroporpa) pasadaemon Dyar, Ins. Ins. Mens., ix, 100, 1921.

Culex (Choeroporpa) elevator Dyar & Knab.

Culex elevator Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 217, 1906.

Culex apateticus Howard, Dyar & Knab (in part), Mosq. No. & Cent. Am. & W. I., iii, 321, 1915.

Culex (Choeroporpa) tecmarsis Dyar.

Culex (Choeroporpa) tecmarsis Dyar, Ins. Ins. Mens., vi, 124, 1918.

Culex (Choeroporpa) leprincei Dyar & Knab.

Culex leprincei Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 202, 1907.

(Seven synonyms of this species will be found listed in Ins. Ins. Mens., xi, 119, 1923.)

Culex (Choeroporpa) mutator Dyar & Knab.

Culex mutator Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 216, 1906.

Culex (Choeroporpa) alfaroi Dyar, Ins. Ins. Mens., ix, 34, 1921.

Culex (Choeroporpa) aneles Dyar & Ludlow.

Culex (Choeroporpa) aneles Dyar & Ludlow, The Mil. Surg., 1, 63, 1922.

Culex (Choeroporpa) educator Dyar & Knab.

Culex educator Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 217, 1906.

Culex apateticus Howard, Dyar & Knab (in part), Mosq. No. & Cent. Am. & W. I., iii, 321, 1915.

Culex (Choeroporpa) vaxus Dyar, Ins. Ins. Mens., viii, 73, 1920.

Culex (Choeroporpa) iolambdis Dyar.

Culex (Choeroporpa) iolambdis Dyar, Ins. Ins. Mens., vi, 106, 1918.

Culex (Choeroporpa) chrysonotum Dyar & Knab.

Culex chrysonotum Dyar & Knab, Proc. U. S. Nat. Mus., xxxv, 57, 1908.

Culex (Mochlostyrax) pilosus Dyar & Knab.

Mochlostyrax pilosus Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 224, 1906.

Culex (Mochlostyrax) hesitator Dyar & Knab.

Culex hesitator Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 205, 1907.

Culex (Carrollia) secunda Bonne-Wepster & Bonne.

Culex (Carrollia) secunda Bonne-Wepster & Bonne, Ins. Ins. Mens., vii, 170, 1920.

Culex (Microculex) jenningsi Dyar & Knab.

Culex jenningsi Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 204, 1907.

Culex jenningsi var. *gaudeator* Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 204, 1907.

Culex (Microculex) daumastocampa Dyar & Knab.

Culex daumastocampa Dyar & Knab, Proc. U. S. Nat. Mus., xxxv, 58, 1908.

Deinocerites spanius Dyar & Knab.

Dinanamesus spanius Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 259, 1909.

Deinocerites melanophylum Dyar & Knab.

Deinocerites melanophylum Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 200, 1907.

Deinocerites pseudus Dyar & Knab.

Deinocerites pseudus Dyar & Knab, Smith, Misc. Colls., Quart. Iss., lii, 260, 1909.

Deinocerites epitedeus Knab.

Dinomimetes epitedeus Knab, Journ. N. Y. Ent. Soc., xv, 120, 1907.

Mansonia titillans Walker.

Culex titillans Walker, Cat. Brit. Mus., Dipt. i, 5, 1848.

Taeniorhynchus flavæolus Coquillett, Proc. Ent. Soc. Wash., vii, 182, 1906.

Mansonia nigricans Coquillett.

Taeniorhynchus nigricans Coquillett, Proc. Ent. Soc. Wash., vi, 166, 1904.

Bancroftia persephassa Dyar & Knab, Smith, Misc. Colls., Quart. Iss., lii, 254, 1909.

Mansonia arribalzagae Theobald.

Taeniorhynchus arribalzagae Theobald, Mon. Culic., iii, 261, 1903.

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Taeniorhynchus fasciolatus Lynch Arribalzaga, Rev. Mus. de La Plata, ii, 150, 1891.

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Psorophora genumaculatus Peryassú, Os Culic. do Brazil, 161, 1908.

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Culex posticatus Wiedemann, Dipt. Exot., i, 43, 1821.

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Culex fulvus Wiedemann, Auss. Zweifl. Ins., i, 546, 1828

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Aedes meridionalis Dyar & Knab, Journ. N. Y., Ent. Soc., xiv, 195, 1906.

Aedes (Ochlerotatus) nubilus Theobald.

Culex nubilus Theobald, Mon. Culic., iii, 208, 1903.

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Aedes (Ochlerotatus) hastatus Dyar, Ins. Ins. Mens., x, 160, 1922.

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Aedes zoösofhus Dyar & Knab, Ins. Ins. Mens., v, 165, 1918.

Aedes (Finlaya) terreus Walker.

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Hæmagogus oswaldi Lutz in Bourroul, Mosq. do Brasil, 66, 1904.

Verrallina insolita Coquillett, Can. Ent., xxxviii, 62, 1906.

Verrallina laternaria Coquillett, Proc. Ent. Soc. Wash., vii, 184, 1906.

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Aedes thornntoni Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 10, 1907.

Aedes (Stegomyia) aegypti Linnaeus.

Culex aegypti Linnaeus, Hass. Pal. Reise, 470, 1762.

(Twenty-five synonyms of this species will be found listed in Ins. Ins. Mens., viii, 182, 1920.)

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Haemagogus leucomelas Lutz in Bourroul, Mosq. do Brasil, 66, 1904.

Haemagogus (Stegoconops) equinus Theobald.

Haemagogus equinus Theobald, Entom., 282, 1903.

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Haemagogus spegazzinii Brethes, Bol. Inst. Ent. y. Pat. Veg., i, 39, 1912.

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Haemagogus chalcospilans Dyar, Ins. Ins. Mens., ix, 110, 1921.

Orthopodomyia fascipes Coquillett.

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Orthopodomyia phyllozoa Dyar & Knab.

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Megarhinus superbus Dyar & Knab.

Megarhinus superbus Dyar & Knab, Smith, Mis. Colls., Quart. Iss., xlviii, 255, 1906.

Megarhinus hypoptes Knab.

Megarhinus hypoptes Knab, Can. Ent., xxxix, 50, 1907.

Allied to *trinidadensis* D. & K. of South America, and like it in male genital structure, but differing in the coloration of the male hind tarsi.

Megarhinus moctezuma Dyar & Knab.

Megarhinus moctezuma Dyar & Knab, Smith, Mis. Colls., Quart. Iss., xlviii, 251, 1906.

Uranotaenia geometrica Theobald.

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Anopheles albimanus Wiedemann, Dipt. Exot., 10, 1821.

Anopheles cubensis Agramonte, El Prog. Med., x, 460, 1900.

Anopheles argyrotarsis albipes Theobald, Mon. Culic., i, 125, 1901.

Anopheles dubius Blanchard, Les Moust., 205, 1905.

Anopheles tarsimaculata Goeldi.

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Anopheles gorgasi Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 198, 1907.

Cellia oswaldoi Peryassú, Pinto, Anoph. de Angra dos Reis, 14, note (pasted), 1923.

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Anopheles neivai Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., iv, 986, 1917.

This is probably only a local form of *bellator* D. & K.

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Anopheles punctimacula Dyar & Knab, Proc. Biol. Soc. Wash., xix, 136, 1906.

Anopheles malefactor Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 198, 1907.

Anopheles apicimacula Dyar & Knab.

Anopheles apicimacula Dyar & Knab, Proc. Biol. Soc. Wash., xix, 136, 1906.

Anopheles eiseni Coquillett.

Anopheles eiseni Coquillett, Journ. N. Y. Ent. Soc., x, 192, 1902.

Myzomyia tibiamaculata Neiva, Brazil-Med., xx, 288, 1906.

Anopheles (Stethomyia?) niveopalpis Ludlow, Psyche, xxvi, 166, 1920.

Anopheles pseudopunctipennis Theobald.

Anopheles pseudopunctipennis Theobald, Mon. Culic., ii, 305, 1901.

Anopheles franciscanus McCracken, Ent. News, xv, 12, 1904.

Anopheles peruvianus Tamayo, Mem. Munic. Lima, xxxv, 1907.

Proterorhynchus argentinus Brethes, Bol. Inst. Ent. y Pat. Veg., i, 15, 1912.

Anopheles tucumanus Lahille, An. Mus. Nac. B. A., xxiii, 253, 1912.

Anopheles nimba Theobald.

Stethomyia nimba Theobald, Mon. Culic., iii, 62, 1903.

Omitting the names of those forms which are doubtfully the sexes of others, this list contains 128 species. Doctor and Mrs. Bonne give 135 species found by them in Surinam (Ins. Ins. Mens., xi, 123-127, 1923), and it thus seems probable

that 130 species is about the number of mosquitoes that may be expected to occur in one tropical American region. In the case of Panama, it is possible that the list will be extended by further collecting, but I think not to any great extent. Superfluous synonymy has been already pretty thoroughly eliminated. Mr. Busck published a list of Panama mosquitoes, including those taken by himself and otherwise recorded (Smith. Misc. Colls., Quart. Iss., lii, 49-77, 1908), in which he records 89 species. Some of these were not taken by Mr. Busck himself, and others in the list have since been reduced to synonymy, so that the actual number of species collected by Mr. Busck at that time amounts to 76 species, from the records in the National Museum collection. This excellent start has been built upon for fifteen years, until the present record has been established.

A NEW CULEX FROM MEXICO

(*Diptera, Culicidae*)

By HARRISON G. DYAR

A species of *Culex* of the *salinarius* group occurs in the Federal District about Mexico City. The specimens have been received from time to time through Sr. A. L. Herrera, but always in such poor condition that it has seemed undesirable to attempt description. Recently, however, a long series has come from Sr. Regino Balanzario, a medical student, who desires a determination for use in his thesis. These specimens are in no better shape—they are completely denuded—but some males are included which are distinct on genitalic characters. The following description is offered, based on the male genitalia:

Culex federalis, new species.

Lobe of side piece with three rods, a hooked filament, a leaf and a seta. Tenth sternites with the outer spines thick and tooth-like, the basal arm long and completely recurved. Mesosome with two arms and denticles between, the tooth from the base wide and shortly projecting, indistinct, its origin not