

DESCRIPTIONS OF TWENTY-TWO NEW SPECIES OF BIRDS FROM THE GALAPAGOS ISLANDS.

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THE VERY large and valuable collection of Galapagos birds made by Dr. G. Baur and Mr. C. F. Adams, in 1891, was referred to me for determination of the species soon after the return of those gentlemen from their highly successful exploration of that remarkable island group, but various circumstances have prevented an earlier publication of the results of my study of the collection. Many of the specimens having been obtained on islands never before visited by a collector, it is to be expected that novelties would be found among the rich material which it has been my privilege to study. One box containing more than one hundred specimens of small birds collected on Charles, Hood, Barrington, and South Albemarle islands was unfortunately stolen at Guayaquil. Had these specimens been received, there can be no doubt that the number of new forms to be here characterized would be still greater.

Perhaps the most interesting result of Messrs. Baur and Adams' explorations is the discovery of species which absolutely bridge the previously existing gap between the so-called genera *Geospiza* and *Cactornis*, thus necessitating the suppression of one of these names (the latter, according to the rule of priority). This matter will be fully discussed and illustrated in a much more detailed paper which will be published as soon as practicable.

1. NESOMIMUS BAURI, new species.

Specific characters.—Similar to *N. personatus*, Ridgway* of Abingdon Island, but much lighter colored above. Dimensions averaging less, and flanks more narrowly streaked with dusky; wing, 4.30–4.45; tail, 3.95–4.30; exposed culmen, 0.95–1; bill from rictus, 1.25–1.27; tarsus, 1.25–1.35; middle toe, 0.78–0.85.

Habitat.—Tower Island (type in Dr. Baur's collection, Sept. 2, 1891).

* Proc. U. S. Nat. Mus. XII, No. 767, p. 104, February 5, 1890 (Abingdon Island, Galapagos).

In coloration of the upper parts this form resembles *N. melanotis* much more than *N. personatus*; otherwise, however, it is easily distinguished, the bill being much larger (sometimes quite as large as in smaller-billed examples of *N. personatus*), the light-colored tips to middle wing-coverts much wider, white terminal spots of rectrices smaller and differently shaped, and dusky streaks much narrower.

Three specimens are in Dr. Baur's collection.

2. NESOMIMUS BINDLOEI, new species.

Specific characters.—Similar to *N. bauri*, Ridgway, but smaller and with proportionally longer tarsus; ear-coverts solidly black, tips to lesser wing-coverts paler (usually nearly white on posterior row), and white on rectrices more extended. Wing 3.85–4.20; tail, 3.50–3.90; exposed culmen, 0.83–0.91; bill from rictus, 1.15–1.20; tarsus, 1.32–1.39; middle toe, 0.75–0.81.

Habitat.—Bindloe Island (type in Dr. Baur's collection).

Five specimens, all separable from *N. bauri* by the above-mentioned characters.

3. NESOMIMUS ADAMSI, new species.

Specific characters.—Similar to *N. macdonaldi*, Ridgway,* in color, but very much smaller, and differing in some respects as to coloration.

Habitat.—Chatham Island. (Type in Dr. Baur's collection; ♂ ad., Chatham Island. June 13, 1891.)

This very distinct species, while about the size of *N. melanotis*, clearly belongs to the same group as *N. macdonaldi*, having the same brownish gray band across the chest and broken belt of dusky spots across the lower breast. The ear coverts are more extensively and solidly black than in that species, nearly as much so as in *N. melanotis*, which perhaps has caused it to be referred to that species. The white tips to the outer rectrices are much more extensive and more abruptly defined than in *N. macdonaldi*, being very much as in *N. melanotis*.

Compared with 16 specimens of *N. melanotis* from James Island, the 11 adults of the present species from Chatham Island differ in the much lighter color of the pileum, the ground color of which is brownish gray relieved by mesial streaks of blackish, which never, at any season, equal the gray in extent; the feathers of the dorsal region are much more broadly edged with gray, and the lower parts are markedly different, as described above.

4. CERTHIDEA SALVINI, new species.

Specific characters.—Similar to *C. olivacea*, Gould, but much yellower below, the upper parts more decidedly and uniformly olivaceous, under parts much more yellowish, and the bill larger; adult male with throat, etc., ochraceous-buff instead of tawny.

* Proc. U. S. Nat. Mus. XII, No. 767, p. 103 February 5, 1890 (Hood Island, Galapagos).

Habitat.—Indefatigable Island, Galapagos Archipelago.

Adult male (Type, No. 438, coll. Dr. G. Baur, Indefatigable Island, August 6, 1891).—Above brownish olive (decidedly browner than *C. olivacea*), the pileum and hind-neck quite uniform with the back, etc., but the rump and upper tail-coverts brighter, more tinged with tawny-olive; wings and tail dusky, the feathers edged broadly with the color of the back, inclining on greater wing-coverts to wood-brown. Supraloral streak, orbits, chin, and throat, soft ochraceous-buff, the latter slightly mottled with buffy whitish; rest of under parts pale buff-yellow, deepening on sides and flanks into a more brownish tint. Upper mandible, dark brown; lower, brownish white; "iris, dark brown;" legs, dark horn-brown; feet, dusky; length (skin), 3.60; wing, 2.10; tail, 1.38; exposed culmen, 0.40; tarsus, 0.81; middle toe, 0.48.

Females and immature males are much more olivaceous above than those of *C. olivacea*, and the under parts are conspicuously more yellowish.

All of the seven examples, two of which are in the National Museum collection, have the under mandible pale brown or whitish.

5. CERTHIDEA BIFASCIATA, new species.

Specific characters.—Most like *C. cinerascens*, Ridgway,* of Hood Island, but still whiter (entirely almost pure white) beneath, and wing with two broad, whitish bands across tips of greater and middle coverts.

Habitat.—Barrington Island, Galapagos.

Adult (type, No. 593, coll. Dr. G. Baur, Barrington Island, July 9, 1891).—Above brownish gray, becoming very much paler on the rump; wings and tail dusky, the feathers broadly edged with grayish brown; middle wing-coverts broadly tipped with pale, dull buffy, and greater coverts with dull white, producing two conspicuous bands across the wing. Lores, orbits, cheeks, and entire under parts uniform dull white. Upper mandible dark brown, edged with whitish; under mandible whitish; legs and feet brownish black. Length (skin), 3.40; wing, 2; tail, 1.40; exposed culmen, 0.40; tarsus, 0.78; middle toe, 0.48.

Three specimens from Barrington Island agree in the above characters.

6. CERTHIDEA MENTALIS, new species.

Specific characters.—Similar to *C. fusca*, Selater and Salvin, of Abingdon Island, but rather smaller, color darker and less olivaceous, the under parts dull light olive-grayish, becoming pale buffy on chin and under wing-coverts.

Habitat.—Tower Island, Galapagos.

Adult (type, No. 594, coll. Dr. G. Baur, Tower Island, Sept. 2, 1891).—Above uniform deep grayish olive; chin, throat, and under wing-coverts pale buff, deepest on chin, that of throat changing gradually on chest

* Proc. U. S. Nat. Mus., XII, No. 767, p. 105, Feb. 4, 1890.

to buffy gray, which covers whole chest, upper breast, sides, and flanks; belly dull whitish; under tail-coverts buffy white. An indistinct whitish supraloral streak. Wing, 2.05; tail, 1.58; exposed culmen, 0.40; tarsus, 0.80.

There are five specimens in Dr. Baur's collection, one of which has the under mandible apparently black, one dark brown, the other three brownish white.

7. *CERTHIDEA ALBEMARLEI*, new species.

Specific characters.—Similar to *C. olivacea*, Gould, of James and Jervis islands, but under parts nearly clear pale buff, and tips of middle and greater wing-coverts deeper rusty.

Habitat.—Albemarle Island, Galapagos.

Adult? (type, No. 595, coll. Dr. G. Baur, Albemarle Island, July 21, 1891).—Above uniform dull grayish brown, slightly tinged with olive; wings and tail dusky, the feathers broadly edged with the color of the back; middle and greater wing-coverts rather broadly tipped with cinnamon; under parts cream-buff, paler on belly, more brownish on sides and flanks. Upper mandible light brown, darker on culmen; lower mandible brownish white; tarsi pale horn-color, toes somewhat darker. Wing, 2.05; tail, 1.45; exposed culmen, 0.40; tarsus, 0.83.

Another specimen from Cowly Bay, East Albemarle (August 10), is quite like the one described above.

8. *CERTHIDEA LUTEOLA*, new species.

Specific characters.—Most like *C. olivacea*, Gould, of James and Jervis islands, but much brighter olivaceous above and (except in very abraded plumage) distinctly buff-yellowish beneath.

Habitat.—Chatham Island, Galapagos.

Adult male (type No. 56, coll. Dr. G. Baur, Chatham Island, June 17, 1891).—Above uniform bright olive or buffy-olive; wings and tail dusky, feathers broadly edged with the color of the back, the tips of the middle and greater wing-coverts (rather broadly) pale olive-buff, producing two indistinct bands across the wing. Superciliary streak extending from nostrils to above posterior angle of eye, eyelids, and entire under parts light buff-yellowish, deepest on throat, elsewhere tinged with olive, especially on sides and flanks; under wing-coverts and under tail-coverts, pale yellowish buff. Bill wholly deep black; "iris brown"; legs and feet dark brown. Wing, 2.13; tail, 1.52; exposed culmen, 0.40; tarsus, 0.82; middle toe, 0.45.

There are seven specimens of this very distinct form in Dr. Baur's collection, and six in the National Museum collection. None of the latter are in perfect plumage, however, and I have accordingly been obliged to select one of Dr. Baur's specimens as the type.

Two of Dr. Baur's specimens (both adult males, obtained June 17 and 18, while "in full song") and one of the National Museum specimens (obtained March 30, and in greatly worn plumage) have the bill entirely

deep black. All the rest have the under mandible pale brownish, the upper, deep brown or dusky. Among the latter are apparently adult birds of both sexes, obtained April 5, and June 16-18; but they may be young birds which have just assumed the adult plumage.

GEOSPIZA ASSIMILIS (Gould?).

Indefatigable Island (7 specimens); Albemarle (1?);* Cowly Bay, East Albemarle (1?);* Jervis (5).

Without a specimen of true *G. assimilis*, from Bindloe Island, for comparison, I am not sure as to the correctness of this identification. Whether *G. assimilis* or not, however, it certainly can not be referred either to *G. scandens* or *G. abingdoni*, being much larger-billed than the former and smaller-billed than the latter; in fact, it is about intermediate between the two, without, however, grading into either, so far as is indicated by a series of thirty-two specimens.†

It may be remarked that the color of the bill is the same in the three forms, when specimens of corresponding sex, age, and season are compared. Thus, although the adult male of *C. scandens* is described as having the bill varied with yellow, all of the six adult males in Dr. Baur's collection from James Island (the type locality) have the bill wholly black, as do also two males in striped plumage and an adult female. The plumage appears to be quite the same in the three forms.

Should this form prove to be different from *G. assimilis*, I propose for it the name *G. intermedia* (type No. 115916, U. S. N. M., Charles Island, April 8; C. H. Townsend).

9. GEOSPIZA BARRINGTONI, new species.

Specific characters.—Similar to *G. abingdoni*, Salvin, but bill much stouter, with tip less compressed and less acute. Wing, 2.70-2.80; tail, 1.58-1.62; culmen, 0.79-0.80; tarsus, 0.90; middle toe, 0.70.

Habitat.—Barrington Island. (Type, No. 596, in Dr. Baur's collection, obtained July 9, 1891.)

Dr. Baur's collection contains three specimens of this form, two adult males and a specimen in the streaked plumage.

10. GEOSPIZA PROPINQUA, new species.

Specific characters.—Very similar to *G. conirostris*, Ridgway,‡ of Hood Island, but bill still narrower, with the under mandible no broader than the upper; wing slightly shorter.

Measurements of type (No. 597, coll. Dr. G. Baur, Sept. 2, 1891).—Wing,

* The specimens from Albemarle and Cowly Bay, East Albemarle, being young birds, are very doubtfully placed here.

† The National Museum collection contains the following specimens of this form: Charles Island (10 specimens); Indefatigable (6); Chatham (1?)—the last doubtfully referred here.

‡ Proc. U. S. Nat. Mus. XII, No. 767, p. 106, Feb. 5, 1890 (Hood Island, Galapagos).

3.10; tail, 1.90; culmen, 0.85; width of lower mandible at angle, 0.23; of upper at notch, 0.23; tarsus, 0.95; middle toe, 0.68.*

Habitat.—Tower Island, Galapagos.

11. GEOSPIZA BAURI, new species.

Specific characters.—Similar to *G. media*, Ridgway., † of Hood Island, but slightly larger, with bill much higher at base. Wing, 3.20; tail, 2; culmen, 0.80; depth of bill at base, 0.68; tarsus, 0.93.

Habitat.—James Island, Galapagos. (Type, No. 562, ♂ ad., coll. Dr. G. Baur, James Island, August 7, 1891.)

One adult male, an immature male, and an immature female are in Dr. Baur's collection.

This form approaches *G. strenua* in the size and form of the beak, but the gap between them is very considerable. The bill is also proportionally much more compressed than in *G. strenua*.

12. GEOSPIZA ALBEMARLEI, new species.

Specific characters.—Intermediate between *G. media*, of Hood Island, and *G. dubia*, Gould, of Chatham.

Habitat.—Albemarle Island, Galapagos.

Measurements of type.—(No. 115977, U.S.N.M., immature ♂, Tagus Cove, Albemarle Island, April 10, C. H. Townsend). Length (skin), 5; wing, 2.80; tail, 1.85; culmen, 0.70; gonys, 0.35; width of lower mandible at base, 0.41; depth of bill at base, 0.52; tarsus, 0.85; middle toe, 0.60.

The plumage of the type specimen is about half-way between that of the young male and the perfectly adult bird, the head and neck being nearly uniform dull blackish, the feathers of the dorsal region black, broadly margined with olive, the under parts (except throat) dull buffy whitish (marked with buffy olive laterally); the entire breast and fore part of sides heavily spotted (longitudinally) with blackish.

An adult female (No. 115978, U.S.N.M., same locality, etc.), is exactly like the immature male in coloration; its measurement being as follows: Length (skin), 5; wing, 2.82; tail, 1.70; culmen, 0.75; gonys, 0.40; width of under mandible at base, 0.42; depth of bill at base, 0.55; tarsus, 0.90; middle toe, 0.65.

Another female (No. 115975, U.S.N.M., same locality, etc.), evidently not a very young bird, since its bill, like that of the two above-mentioned specimens, is very hard and chiefly black in color, has the top of the head grayish olive, broadly streaked with dusky, the cheeks, chin, throat, etc., very pale grayish buffy, obsoletely streaked with darker,

* The extreme measurements of a series of 5 adult males are as follows: Wing, 2.95–3.15; tail, 1.85–1.95; culmen, 0.82–0.90; width of under mandible at angle, 0.23–0.26; of upper at notch, 0.22–0.26; tarsus, 0.90–0.95; middle toe, 0.68–0.75.

† Proc. U. S. Nat. Mus., XII. No. 767, p. 107, Feb. 4, 1890.

and the breast rather indistinctly marked with dusky. Length (skin), 4.70; wing, 2.78; tail, 1.70; culmen, 0.70; gonyes, 0.38; width of under mandible at base, 0.40; depth of bill at base, 0.52; tarsus, 0.90; middle toe, 0.62.

13. *GEOSPIZA FRATERCULA*, new species.

Specific characters.—Similar to *G. fortis*, Gould, of Charles Island, but smaller, the bill narrower and with culmen more convex. Adult males: Wing, 2.50–2.65; tail, 1.60–1.65; culmen, 0.65–0.67; depth of bill at base, 0.43–0.49; tarsus, 0.78–0.80.

Habitat.—Abingdon Island, Galapagos. (Type, No. 116110, U.S.N.M., Abingdon Island, April 16; C. H. Townsend.)

Five adult males in the National Museum collection from Abingdon Island agree in the above character, by which they may readily be distinguished from *G. fortis*, of Charles Island. There are four young birds in the collection, but no adult females. Mr. Salvin says that "the females from Abingdon Island are darker than those from the other two islands" (Indefatigable and Bindloe).

14. *GEOSPIZA DEBILIROSTRIS*, new species.

Specific characters.—Similar to *G. fortis*, Gould, in size, but feet larger and stouter, and bill conspicuously smaller. Wing, 2.93; tail, 1.75; culmen, 0.60; depth of bill at base, 0.35; tarsus, 0.95; middle toe, 0.67.

Habitat.—James Island, Galapagos. (Type, No. 116003, U.S.N.M., ♂ ad., James Island, April 11; C. H. Townsend.)

Of this very distinct species I have seen but one specimen. The plumage is "solid" black, varied by a slight admixture of buffy whitish on the middle of the abdomen, and broad terminal margins of the same to the longer under tail-coverts, becoming tinged with bright rusty anteriorly. The bill is wholly deep black, the legs and feet brownish black.

The bill is shaped exactly as in *G. fuliginosa*, but is slightly larger.

15. *GEOSPIZA ACUTIROSTRIS*, new species.

Specific characters.—Similar to *G. parvula*, Gould, but bill longer, with straighter outlines, and extremely acute at tip.

Measurements of type.—Wing, 2.45; tail, 1.58; culmen, 0.55; depth of bill at base, 0.30; tarsus, 0.75; middle toe, 0.53.

Habitat.—Tower Island, Galapagos. (Type in Dr. Baur's collection.)

The form of the bill in this species is conspicuously unlike that of any other, being almost exactly that of *Carduelis*.

There are 7 specimens in Dr. Baur's collection, 4 of which are in the black plumage.

16. *CAMARHYNCHUS ROSTRATUS*, new species.

Specific characters.—Similar to *C. habeli*, Selater and Salvin, of Abingdon Island, but larger, with the bill much deeper and broader with much more strongly arched culmen.

Habitat.—James Island, Galapagos; Indefatigable Island (?).

Adult male (type, No. 116006, U.S.N.M., James Island, April 11; C. H. Townsend).—Head, neck, and chest dull black, passing into dusky sooty brown on forehead; rest of upper parts dull grayish olive, much lighter on rump and upper tail-coverts; lower parts from breast backward dull white, tinged with buff posteriorly, especially on under tail-coverts; breast, particularly on sides, indistinctly but rather broadly streaked with dusky. Bill black, brownish on gonys; tarsi deep horn-brown; toes dusky. Length (skin), 5.30; wing, 3; tail, 1.80; culmen, 0.62, very strongly arched; depth of bill at base, 0.48, from base of culmen to angle of gonys, 0.50; width of under mandible at base, 0.37; tarsus, 1; middle toe, 0.70.

Immature male (No. 116039, U.S.N.M., Indefatigable Island, April 12; C. H. Townsend).—Above light grayish olive, the top of the head rather grayer, broadly but rather indistinctly streaked with dusky, the feathers of the back still more broadly but much less distinctly darker medially. Supraloral region, malar and suborbital regions and entire under parts dull grayish white, faintly tinged with yellowish buff, especially on chest and breast; the former and sides of the latter broadly but very indistinctly streaked with grayish dusky. Bill dusky horn-color, light brown on edge of upper and terminal two-thirds of under mandible; tarsi and toes brownish black. Length (skin), 5.30; wing, 2.90; tail, 1.80; culmen, 0.60, very strongly arched; depth of bill at base, 0.45; from base of culmen to angle of gonys, 0.47; tarsus, 0.90; middle toe, 0.62.

This bird, although from James Island, can not be the same as *C. psittaculus*, for, although I have not been able to compare it with an adult male of the latter, the dimensions are much too great and the form of the bill far too different.

17. CAMARHYNCHUS PRODUCTUS, new species.

Specific characters.—Similar to *C. pauper*, Ridgway, of Charles Island, but bill longer, with culmen more arched, and gonys less convex, the sides of the under mandible with several oblique ridges; wing and tail decidedly and tarsus slightly longer. Wing, 2.90; tail, 1.80; culmen, 0.70, exposed portion, 0.55; depth of bill at nostril, 0.32; tarsus, 0.90; middle toe, 0.60.

Habitat.—Albemarle Island, Galapagos. (Type, No. 404, ♂, coll. Dr. G. Baur, Albemarle Island, July 31, 1891.)

The form of the bill in this species is so exactly intermediate between that of the thin-billed *Camarhynchi* and the *Cactorni* of the *C. pallida* group that it may almost be as well placed in one "genus" as the other!

18. CAMARHYNCHUS SALVINI, new species.

Specific characters.—Most like *C. prothemelas*, Sclater and Salvin, but adult male without black on head, neck, or chest, the latter, together

with sides and flanks, being broadly streaked with dusky. Immature birds, of both sexes (and adult females?), much more yellowish beneath (usually strongly buff-yellow), always distinctly streaked with dusky on chest, sides, and flanks.

Habitat.—Chatham Island, Galapagos. (Type, No. 125977, U.S.N.M., Chatham Island, March 30, 1891; C. H. Townsend.)

In addition to the 11 specimens in the National Museum collection, collected by Mr. C. H. Townsend, naturalist of the U. S. Fish Commission steamer *Albatross*, Dr. Baur's collection contains 7 examples of this very distinct species from the same island.

19. CAMARHYNCHUS AFFINIS, new species.

Specific characters.—Similar to *C. psittaculus*, Gould, from James and Jervis islands, but smaller and with the chest rather broadly and distinctly streaked with dusky.

Habitat.—Albemarle Island, Galapagos.

Adult? (type, No. 598, Dr. Baur's collection, Cowly Bay, on mountains, August 10, 1891).—Above light brownish olive, lighter on rump, rather grayer on top of head, where indistinctly streaked with dusky; superciliary stripe (passing to a little behind eye), malar region, and under parts light grayish buff, tinged with brownish on sides (almost Isabella-color on flanks), and nearly white on abdomen, the chest and sides of breast broadly and rather distinctly streaked with dusky. Bill light brown, paler and yellower on under mandible; legs and feet dusky horn-color. Length (skin), 4.15; wing, 2.75; tail, 1.70; culmen, 0.55; depth of bill at base, 0.40; width of under mandible at base, 0.35; tarsus, 0.90; middle toe, 0.55.

Two other specimens in Dr. Baur's collection measure as follows: Wing, 2.50–2.60; tail, 1.50–1.70; culmen, 0.50–0.55; depth of bill at base, 0.40; width of under mandible at base, 0.30; tarsus, 0.82–0.85.

20. PYROCEPHALUS CAROLENSIS, new species.

Specific characters.—Similar to *P. nanus*, Gould (from James Island), but female deep buff beneath, instead of clear, light Naples yellow, and upper parts browner.

Habitat.—Charles Island, Galapagos.

Adult male (No. 115926, U.S.N.M., Charles Island, April 8; C. H. Townsend).—Lores, ear-coverts, occiput, hind neck, and remaining upper parts uniform blackish brown,* becoming lighter, more grayish, brown on lower rump, upper tail-coverts, and tips of wing-coverts, the edges of the secondaries still paler, and tips of secondaries, inner primaries and tail-feathers pale grayish brown, passing on terminal margins into brownish white; outermost tail-feathers pale grayish brown, its outer web slightly paler and faintly tinged with pink. Entire pileum glossy dark vermilion; lower parts scarlet-vermilion,

* A little darker and warmer than "clove-brown."

paler posteriorly (flesh-color on under tail-coverts), deepest on breast, and on throat somewhat broken by exposure of white bases of the feathers; under wing-coverts and axillars flesh-color, the former mixed with dusky. Bill black, under mandible somewhat brownish basally; legs and feet black. Length (skin), 4.85; wing, 2.50; tail, 2; exposed culmen, 0.42; tarsus, 0.72; middle toe, 0.40.

Immature male (No. 115927, U.S.N.M., Charles Island, April 8; C. H. Townsend).—Above dusky brown* (very much paler than in adult), paler and grayer on rump and upper tail-coverts, many of the feathers of lower back and scapulars showing very indistinct and narrow paler tips; wings and tail as in the adult, but the former rather paler; forehead and fore part of crown whitish, tinged with flesh-pink (especially near nostrils), each feather marked with a rather broad mesial streak of dusky brown, the hinder part of crown nearly uniform dusky, but the feathers light vermilion or flesh-red beneath the surface. Loes and orbits dusky, the ear-coverts paler and faintly tinged with flesh-pink; chin, throat, and malar region white, very faintly tinged with flesh-pink, especially on chin; rest of under parts flesh-color, deepest on flanks, paler on chest and breast, where narrowly streaked with dusky. Bill and feet as in adult. Length (skin), 5; wing, 2.60; tail, 2.03; exposed culmen, 0.45; tarsus, 0.71.

Adult female (No. 115928, U.S.N.M., same date, etc.).—Above grayish olive, becoming gradually paler and more grayish (nearly "harr brown") on rump and upper tail-coverts; crown somewhat streaked with paler; forehead, superciliary region, and malar region, whitish, tinged with buffy yellowish. Chin and throat buffy white; rest of under parts, deep buff-yellow, the chest marked with a few very indistinct dusky streaks. Bill and feet as in the male. Length (skin), 4.80; wing, 2.50; tail, 2.05; exposed culmen, 0.48; tarsus, 0.70; middle toe, 0.40.

An adult male in more worn plumage (No. 125988, U.S.N.M., Charles Island, April 1; C. H. Townsend) is, through fading, a more pronounced brown color above than the example described above. The two other adult females show no trace of streaks on the chest.

21. PYROCEPHALUS INTERCEDENS, new species.

Specific characters.—Similar to *P. nanus*, Gould, (from James Island), but female much brighter yellow beneath, browner above, and top of head more tinged with yellow.

Habitat.—Indefatigable Island, Galapagos.

Adult male (No. 418, coll. Dr. G. Baur, Indefatigable Island, August 5, 1891).—Similar above to males from Charles Island (*P. carolensis*) but still darker (brownish black rather than blackish brown); beneath similar on chin, throat, and chest, but from breast back the color of a

* Much "warmer" than *sepia*.

decided orange-red or flame-scarlet hue. Wing, 2.58; tail, 2.18; exposed culmen, 0.47; tarsus, 0.75; middle toe, 0.38.

Adult female (No. 439, coll. Dr. G. Baur, Indefatigable Island, August 6).—Color above quite the same as that of females from Charles Island, but top of head with a decided yellowish tinge; superciliary stripe, extending from nostrils to posterior angle of eye (broadest anteriorly), light buff-yellowish; malar region, chin, and throat very pale maize-yellow; rest of under parts light chrome, or deep Naples-yellow—very different from the buff-yellow of Charles Island specimens. Wing, 2.38; tail, 2; exposed culmen, 0.40; tarsus, 0.70.

Immature male (No. 463, same collection, Indefatigable Island, August 7).—Very similar to the adult female, but rather darker above; chin and throat white, faintly tinged with maize-yellow; rest of lower parts rather deeper and decidedly “warmer” yellow than in the adult female (a very pale tint of “deep chrome”), rather paler on the chest, where marked with very narrow shaft-streaks of dusky. Wing, 2.52; tail, 2.05; exposed culmen, 0.45; tarsus, 0.71; middle toe, 0.40.

An immature male (No. 77764, U.S.N.M., Indefatigable Island, August 25–Oct. 16, Dr. A. Habel) is similar to that described above, but has the yellow of the chest equally deep with that of more posterior under parts (the whitish throat being thereby more abruptly defined) and the fine dusky streaks nearly obsolete. Wing, 2.40; tail, 2.02; exposed culmen, 0.45; tarsus, 0.70; middle toe, 0.39.

Young (No. 116053, U.S.N.M., Indefatigable Island, April 12; C. H. Townsend).—Above dark grayish brown, the feathers of the back, the scapulars, and the lesser wing-coverts narrowly and rather indistinctly margined with paler; those of the rump and upper tail-coverts much more broadly margined with brownish buff, which constitutes the prevailing color; top of head broadly streaked with dusky on a whitish and pale buffy ground, the forehead chiefly pale buffy; middle and greater wing-coverts broadly tipped with pale brownish buffy, producing two wing-bands; tail feathers also broadly tipped with pale dull buffy; remiges rather broadly margined at tips with whitish. Supraloral region, malar region, chin, and throat whitish, tinged with dull yellowish; rest of under parts light Naples-yellow, the chest, sides, and flanks longitudinally flecked with grayish brown.

22. PYROCEPHALUS ABINGDONI, new species.

Specific characters.—Similar to *P. carolensis*, Ridgway, in color of back, etc., but red of under parts very different—flame scarlet or orange-chrome instead of vermilion. (Female and young unknown.)

Adult male (type, No. 116134, U.S.N.M., Abingdon Island, Galapagos, April 16, 1888; C. H. Townsend).—Pileum intense scarlet or scarlet-vermilion, paler, more orange-red, on forehead; entire under parts orange-red (“orange-chrome”), the under tail-coverts paler, inclining to salmon-color; ear-coverts, hind neck, back, etc., clove-

brown (very nearly same color as in *P. carolensis*). Length (skin), 4.95; wing, 2.55 (?)*; tail, 2.10 (?); exposed culmen, 0.48; width of bill at base, 0.23; tarsus, 0.75.

Another adult male (No. 116135, U.S.N.M., same date, etc.) is similar, but has the pileum deeper red (intense vermilion) and the fore neck and chest slightly tinged with vermilion. Exposed culmen, 0.45; width of bill at base, 0.25; tarsus, 0.73. (Wing and tail too imperfect for measurement.)

An adult male from Bindloe Island, in Dr. Baur's collection, is similar in color of back, etc., to these Abingdon examples, but the under parts are very different, the anterior half being pure scarlet and the posterior half, very abruptly pale saturn-red. The bill is also extremely narrow. Whether the differences are of an individual character or characteristic of the locality can not be determined from only one specimen.

Measurement.—Length (skin), 4.40; wing, 2.48; tail, 2.12; exposed culmen, 0.40; width of bill at base, 0.20; tarsus, 0.67.

PYROCEPHALUS DUBIUS, Gould.

Pyrocephalus dubius, GOULD, Zool. Voy. Beagle, Birds, 1841, 46.

Pyrocephalus nanus, AUCTORUM, part, not of GOULD.

Pyrocephalus minimus, RIDGWAY, Proc. U. S. Nat. Mus., XII, No. 767, p. 113, in text, Feb. 5, 1890 (Chatham Island, Galapagos).

This very distinct form was separated by me, provisionally, from *P. nanus*, as *P. minimus*, in the paper above cited, without being described in detail. The fourteen specimens subsequently received bring out very strongly its distinctive characters, and show it to be very different indeed from *P. nanus* and its nearer allies, from which, in any plumage, specimens may be distinguished at a glance. The different plumages represented in the series before me may be described as follows:

Specific characters.—Decidedly smaller than *P. nanus* Gould and other Galapagoan forms; adult male with lower parts conspicuously paler and duller red than pileum; back, etc., lighter and browner than in other forms; adult female with conspicuous superciliary stripe and under parts deep ochraceous-buff, the throat paler, but scarcely approaching white.

Habitat.—Chatham Island, Galapagos.

Adult male (No. 72, coll. Dr. G. Baur, Chatham Island, June 18, 1891).—Entire pileum glossy dark vermilion, exactly as in other forms; lower parts pale scarlet, deepest on breast, much paler on throat, and still more so on chin, which inclines to reddish white. Lores, ear-coverts, and upper parts in general deep brown (intermediate between "seal" and "clove"), decidedly lighter and browner than in other forms; tips of wing coverts, edges of secondaries, and whole of outer tail-feathers paler, more grayish, brown. Length (skin), 4.35; wing, 2.23; tail, 1.90; exposed culmen 0.38; tarsus, 0.65; middle toe, 0.35.

* The molt is nearly completed, but the longest primaries and rectrices may not be fully grown.

Nearly adult male (No. "B," coll. Dr. G. Baur, Chatham Island, June 16).—Much like the fully adult male, as described above, but red of pileum paler and mixed with many partly brown feathers, that of under parts very much paler (deep salmon-color, very much paler on chin and throat), and upper parts decidedly lighter warm grayish brown. Wing, 2.28; tail, 2.05; exposed culmen, 0.36; tarsus, 0.65; middle toe, 0.35.

Adult female (No. 63, coll. Dr. G. Baur, Chatham Island, June 17).—Forehead and broad superciliary stripe, extending from nostrils to occiput, ochraceous-buff; rest of pileum nearly same color, but broadly streaked with deep hair-brown, these streaks so broad on hind part of crown as to nearly conceal the buffy edgings. Ear-coverts, hind neck, back, scapulars, and lesser wing-coverts uniform hair-brown, the rump, upper tail-coverts, and broad tips of greater and middle wing-coverts paler and tinged with buffy; secondaries edged for terminal half with pale buffy grayish, and broadly margined at tips with buffy grayish white. Malar region, chin, and throat pale buff, deeper laterally; rest of under parts deep buff, becoming rather clearer and brighter posteriorly, and everywhere devoid of the least trace of streaks. Length (skin), 4.25; wing, 2.21; tail, 1.88; exposed culmen, 0.38; tarsus, 0.65; middle toe, 0.32.

Immature male (No. 123, coll. Dr. G. Baur, Chatham Island, June 25).—Much like the adult female, as described above, but top of head nearly uniform grayish brown, like back, though showing indistinctly defined broad streaks of darker and lighter, with a few concealed bright yellow spots on center of crown; anterior part of forehead and superciliary stripe, however, deep buffy, as in the female; buff of under parts deeper and yellower. Length (skin), 4.25; wing, 2.30; tail, 1.92; exposed culmen, 0.39; tarsus, 0.63; middle toe, 0.38.

The adult male described is the brightest colored one in a series of eight, the remainder being more or less paler scarlet beneath. This conspicuous difference of intensity between the red of the pileum (which is exactly as in other forms) and that of the lower parts is, next to the small size, the most striking character of the present species.

Two other females in Dr. Baur's collection differ from that described in having an appreciable (though in case of one very faint) yellow tinge to the posterior under parts.

Another immature male, also in Dr. Baur's collection, is quite decidedly yellowish on the posterior lower parts, the under tail-coverts and malar region being nearly maize-yellow.

There can be little doubt, I think, that Gould's *Pyrocephalus dubius* was based on a female or immature male of this form, but the question can be determined positively only by examination of the type, now in the British Museum. The original description certainly fits the female very well, and the measurements of the type, recently made for me by

Dr. Selater, indicate a very small bird—smaller, in fact, than the smallest in the series of sixteen specimens from Chatham Island.

Dr. Selater's measurements are materially different from those given by Gould, as the following will show. For convenience of comparison, the fractions of the latter are changed from duodecimals to decimals:

Measurements of Pyrocephalus dubius.

Authority.	Wing.	Tail.	Exposed culmen.	Tarsus.	Specimen.
Gould	2.26	1.77	0.60	} Type of <i>P. dubius</i> , Gould. No. 125989, U. S. N. M.
Selater.....	2.15	1.60	0.40	0.60	
Smallest female from Chatham Island.	2.20	1.80	0.45	0.62	