

SCIENTIFIC RESULTS OF EXPLORATIONS BY THE U. S. FISH COMMISSION STEAMER ALBATROSS.

[Published by permission of Hon. Marshall McDonald, U. S. Commissioner of Fisheries.]

No. I.—BIRDS COLLECTED ON THE GALAPAGOS ISLANDS IN 1888.

BY
ROBERT RIDGWAY,
Curator of the Department of Birds.

The collection of birds made by the Fish Commission Steamer *Albatross* having been placed by the Commissioner of Fisheries in my hands for identification and report, the following list of the species is here-with given, classified according to locality, and accompanied by such notes as seem necessary or desirable.

The collection was made by Prof. Leslie A. Lee, naturalist of the expedition, assisted by Mr. Charles H. Townsend and Mr. Thomas Lee, and would doubtless have been much more extensive had not other duties, more closely connected with the main objects of the cruise, prevented.

In compliance with instructions from Professor Baird, then Commissioner of Fisheries and Director of the National Museum, the writer prepared for the use of the naturalists of the *Albatross* memoranda of "suggestions as to what localities lying along or contiguous to the proposed route" of that vessel were "most worthy of special ornithological exploration," besides naming the more important and special desiderata; while Mr. Leonhard Stejneger, Assistant Curator of the Department of Birds, furnished memoranda of "suggestions for the exploration of the avifauna of the Galapagos Islands," which gave, besides recommendations regarding future explorations, a review of what had already been accomplished in that interesting group by previous explorers.

It is much to be regretted that so little attention was paid to the collecting of specimens of the *Procellariidae*, for obtaining which unusual opportunities must have been afforded, since numerous species of this pelagic family of birds are involved in great confusion, and it is equally unfortunate that no notes accompany the specimens; but doubtless this apparent oversight was caused by want of necessary time, or other circumstances over which the naturalists of the expedition had no control.

The collection of birds from the Galapagos archipelago is of special interest for the reason that two islands are represented upon which no collections have previously been made, several new species being thus

added not only to the archipelago, but to science, while other islands have been more carefully explored, thereby adding very materially to our knowledge of the remarkable endemic bird-fauna of these remote and highly interesting islands.*

The general character, relationships, and significance of the Galapagoan bird-fauna have been so thoroughly and ably discussed by Mr. Osbert Salvin, in his admirable monograph entitled "On the Avifauna of the Galapagos Archipelago" † that it would not be desirable to here enter into an elaborate discussion of the subject.

A complete list of the species collected on the Galapagos by the naturalists of the *Albatross* is given on the following pages, with such comments as seem necessary or desirable, and following this list is a tabular statement giving all the species which have been taken, to date, on or among these islands, and indicating those upon which each species has been found; also, a list of the species which have been taken on each island, together with other matter intended to further elucidate the subject, to properly understand which Mr. Salvin's very important monograph, before mentioned, should be at the same time consulted.

Family MIMIDÆ.

1. *Nesomimus*‡ *melanotis* (GOULD).

James Island, eleven specimens; Chatham Island, five specimens; Indefatigable Island, three specimens.

Owing to the circumstance that none of the specimens are in perfect plumage, I am unable to ascertain whether there are any constant differences of coloration according to locality. Examples from James Island, however, appear to have longer, slenderer, and more curved bills than those from Indefatigable Island, which have the bill more as in *N. parvulus*. All the specimens from Chatham Island are, unfortunately, young birds.

2. *Nesomimus parvulus* (GOULD).

Albemarle Island, three specimens.

Closely allied to *N. melanotis*, but readily distinguished by the distinctly ashy breast, even in the much worn plumage, when other ascribed characters fail. It is somewhat singular that this character has

* The ground is classic ground, and the natural products of the Galapagos Islands will ever be appealed to by those occupied in investigating the complicated problems involved in the doctrine of the derivative origin of species. OSBERT SALVIN.

† On the Avifauna of the Galapagos Archipelago. By Osbert Salvin, M. A., F. R. S., etc. <Transactions of the Zoological Society of London, vol. ix, pt. ix, May, 1876, pp. 447–510, pls. 84–89, with a map of the archipelago.

‡ *Nesomimus*, gen. nov.

CHAR.—Similar to *Mimus Boie*, but bill longer and much more compressed basally, and tarsus much longer (nearly twice as long as middle toe instead of only about one-third longer).

Type, *Orpheus melanotis* GOULD.

not before been mentioned. I am unable to distinguish the young in first plumage from that of *N. melanotis*. The specimen described by Mr. Sharpe in P. Z. S., 1877, p. 65, is undoubtedly a young bird, the adult having no spots on the breast.

3. *Nesomimus macdonaldi* sp. nov.

SP. CHAR.—Similar to *N. trifasciatus* (Gould), but much grayer above, much more black on side of head, the bill much longer, and the tarsi much shorter.

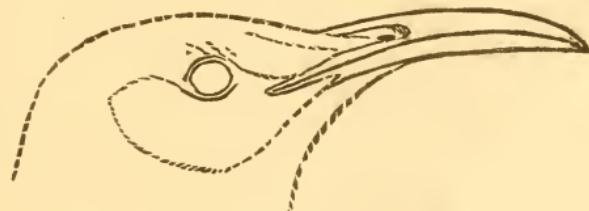


FIG. 1.—*Nesomimus macdonaldi*.

HAB.—Hood Island, Galapagos.

Adult male (type, No. 116066, Hood Island, Galapagos, April 7, 1888; U. S. S. Albatross): Above brownish gray, more ashy anteriorly and on lesser wing-coverts, becoming decidedly brown on rump, each feather with a central or mesial space of dusky, these markings largest on back and scapulars, nearly obsolete on lower back and hind-neck; wings (except lesser coverts) dull black, the posterior row of lesser coverts, middle coverts, and greater coverts, broadly margined at tips with white, forming three bands across the wing; greater coverts and tertials broadly edged with drab or grayish brown, the latter margined terminally with white; primaries and their coverts narrowly edged with pale brownish gray or dull whitish; tail blackish dusky, the outer feather with an ill-defined pale brownish-gray space near tip of inner web, next to edge, the second with a mere edging of the same color in corresponding position. A narrow and poorly defined superciliary stripe of white, bordered beneath by a blackish stripe covering lores, extending beneath eye, and thence along upper edge of auricular region, the rest of the latter dull light gray mixed with black, especially on lower posterior portion; a broad white malar stripe, bordered beneath by a narrow interrupted stripe of dusky along each side of throat. Under parts white, tinged with pale drab across chest, where sparsely spotted with brownish dusky; upper part of breast immaculate, forming a rather distinct broad band or belt, this succeeded by broad lateral patches (nearly or quite meeting on middle of breast) where the feathers are faintly tinged with brownish-gray and marked with large central, more or less U-shaped spots of dusky; sides and flanks broadly streaked with dusky. Bill black, slightly brownish on basal portion of lower mandible; legs and feet brownish-black. Length (skin), 10.50; wing, 4.90; tail, 4.80; (middle feathers not grown out); exposed culmen, 1.25; bill to rictus, 1.60; tarsus, 1.50; middle toe, .90.

Adult female (No. 116004, Hood Island, Galapagos, April 7, 1888): Similar to the male described above, but slightly smaller, bill straighter, and under parts more tinged with brown, as well as more distinctly spotted across chest. Length (skin), 10.00; wing, 4.55; tail, 4.25; exposed culmen, 1.23; bill to rictus, 1.58; tarsus, 1.45.

Four additional adult males agree essentially in coloration with the one described, and measure as follows: Length (skin), 10.00–10.50; wing, 4.60–5.05; tail, 4.40–4.60; exposed culmen, 1.27–1.35; bill to rictus, 1.55–1.65; tarsus, 1.50.

This fine new species is named after Col. Marshall McDonald, U. S. Commissioner of Fisheries.

4. *Nesomimus personatus* sp. nov.

SP. CHAR.—Similar to *N. melanotis* (Gould), but much larger and darker, with sides and flanks more tinged with brown.

HAB.—Abingdon Island, Galapagos.

Adult male (type, No. 116098, Abingdon Island, Galapagos, April 16, 1888; U. S. S. Albatross): Pileum, hind-neck, back, scapulars, wings, and tail* dull blackish, the feathers indistinctly margined or edged with dull grayish brown, these edgings much wider and more distinct on wing and tail feathers; feathers of hind-neck ash-gray beneath the surface; lower back, rump, and upper tail-coverts dull grayish brown, the feathers darker centrally, forming indistinct streaks; middle and greater wing-coverts broadly tipped with dull white, forming two distinct bands across wing; remiges rather broadly margined at tips with dull light brownish gray (more brownish on tertials); three outer tail-feathers broadly tipped with pale grayish brown (fading into dull white exteriorly), this color confined to the inner web on third feather; fourth feather with a more restricted and less definite lighter terminal space, and two middle pairs merely fading at tips into dull grayish brown edged with dull whitish. A superciliary stripe of dull grayish white, narrower, whiter, and more sharply defined over lores; lores, suborbital region, and auriculars dull black, forming a conspicuous patch along side of head; malar region, sides of neck, and lower parts white, the first speckled with dusky, the second spotted with same posteriorly, and the latter tinged with light brownish, except on chin and throat, the sides and flanks very distinctly washed or suffused with brown, the latter broadly streaked or striped with dusky. Bill black, inclining to horn-color at tip of upper and base of lower mandible; legs and feet brownish black. Length (skin), 9.30; wing, 4.50; tail, 4.15; exposed culmen, 1.00; bill from rictus, 1.35; tarsus, 1.43; middle toe, .87.

Adult female (No. 116099, same locality, etc.): Essentially like the

* The specimen was molting when shot, though the new plumage had been mostly assumed; consequently, in this description, the duller, faded, coloration of the old feathers is ignored.

male in coloration,* but smaller. Length (skin), 9.00; wing, 4.10; tail, (feathers much worn), 3.90; exposed culmen, 1.07; bill from rictus, 1.40; tarsus, 1.35; middle toe, .80.

Six additional adult males agree in all essential characters with the type.

Family MNIOTILTIDÆ.

5. *Dendroica aureola* (GOULD).

Indefatigable Island, one specimen; Charles Island, four specimens; James Island, two specimens; Chatham Island, four specimens.

Family HIRUNDINIDÆ.

6. *Progne concolor* (GOULD).

Indefatigable Island (Eden Rock); one adult female.

Family CEREBIDÆ.

7. *Certhidea olivacea* GOULD.

Chatham Island, two specimens; James Island, two specimens.

8. *Certhidea fusca* SCL. and SALV.

Abingdon Island, six specimens.

9. *Certhidea cinerascens* sp. nov.

SP. CHAR.—Similar to *C. fusca*, Scl. and Salv., but much less olivaceous above, whiter beneath, and bill smaller.

HAB.—Hood Island, Galapagos.

Adult male (type No. 116069, Hood Island, Galapagos, April 7, 1888; U. S. S. *Albatross*): Above plain dull brownish gray, beneath wholly dull grayish white, faintly tinged with buffy, especially along sides. Bill black, basal half of lower mandible horn-color; legs and feet deep black. Length (skin), 3.85; wing, 2.00; tail, 1.40; exposed culmen, .37; bill from rictus, .45; tarsus, .73; middle toe, .43.

Family FRINGILLIDÆ.

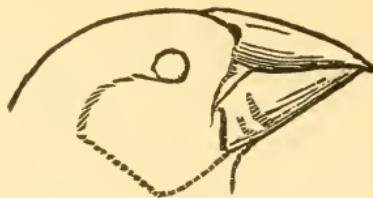
10. *Geospiza strenua* GOULD.

Abingdon Island, two specimens; Charles Island, one specimen.

The specimen from Charles Island is a male (in variegated plumage), and is quite undistinguishable from examples from Abingdon Island.

I am not satisfied as to the propriety of considering the specimens from Bindloe Island referred by Mr. Salvin to this species as really the same form, but believe that they represent a local race, all of the three examples in the U. S. National Museum collection having the bill decidedly broader and relatively shorter, as well as lighter colored. I have not seen specimens from James or Chatham Islands, the original localities.

* The plumage is in such bad condition, however, that a satisfactory comparison is impossible.

11. *Geospiza conirostris* sp. nov.FIG. 2.—*Geospiza conirostris*.

SP. CHAR.—Similar to *G. strenua* Gould, but bill much more elongated, much narrower, and culmen less arched.

HAB.—Hood Island, Galapagos.

Adult male (type, No. 116070, Hood Island, Galapagos, April 7, 1888; U. S. S. *Albatross*): Uniform black, the longer under-tail coverts margined (rather broadly) with white; bill, legs, and feet wholly black. Length (skin), 5.70; wing, 3.30; tail, 2.10; culmen, .95; gonys, .52; width of lower mandible at base, .51; depth of bill at base, .70; tarsus, .95; middle toe, .72.

Adult female (No. 116076, same locality, etc.): Much duller black than the male, or dull slate-dusky, broken on the belly, flanks, etc., by dull whitish streaks (edgings to feathers); all the under tail-coverts margined with dull whitish; under mandible dull brownish in middle portion; legs and feet dull black. Length (skin), 5.50; wing, 3.10 (quills worn at tip); tail, 1.75 (feathers very much worn at tip); culmen, .90; gonys, .50; width of under mandible at base, .48; depth of bill at base, .62; tarsus, .95; middle toe, .68.

Immature (?) male (No. 116075, same locality, etc.): Similar to the adult female as described above, but rather more sooty, and lower mandible pale brownish, with base and tip dusky. Length (skin), 5.75; wing, 3.15; tail, 2.00; culmen, .90; gonys, .50; width of under mandible at base, .48; depth of bill at base, .68; tarsus, .93; middle toe, .70.

Immature(?) female (No. 116077, same locality, etc.): Above dull sooty; anterior lower parts similar, but indistinctly streaked with pale grayish buffy, this gradually increasing posteriorly until it becomes the prevailing color and the sooty reduced to broad streaks. Length (skin), 5.70; wing, 3.10; tail, 2.00; culmen, .89; gonys, .50; width of lower mandible at base, .47; depth of bill at base, .62; tarsus, .92; middle toe, .67. Bill intermediate in color between that of adult female and immature male described above.

The additional adults (two of them males, the third with sex not determined) agree minutely in form and size of bill and other measurements with the adult specimens described, one of the males being like the type in coloration while the other corresponds in plumage with the adult female described.

12. *Geospiza media*, sp. nov.

SP. CHAR.—Similar to *G. conirostris*, but slightly smaller, with bill much smaller and less elongated.

HAB.—Hood Island, Galapagos.

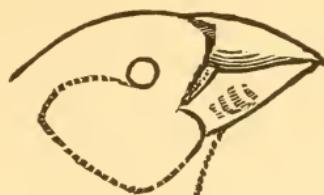


FIG. 3.—*Geospiza media*.

Adult male (type, No. 116072, Hood Island, Galapagos, April 7, 1888; U. S. S. *Albatross*): Uniform dull black, the under tail-coverts broadly margined with buffy white; bill, legs, and feet wholly black. Length (skin), .550; wing, .310; tail, .210; culmen, .80; gonyx, .42; width of lower mandible at base, .45; depth of bill at base, .62; tarsus, .90; middle toe, .65.

While loath to describe a new species from a single specimen, I am forced to do so for the reason that it can not be made to fit in with any of the recognized species represented by specimens now before me. It has the bill shaped exactly as in *G. fortis* (represented by 37 specimens, from seven islands), but the bird is in every way much larger.

13. *Geospiza fortis* GOULD.

Charles Island, two specimens; Chatham Island, six specimens; Indefatigable Island, two specimens; Abingdon Island, nine specimens; James Island, six specimens; Albemarle Island, four specimens.

The specimens from Albemarle Island appear to be clearly referable to this species, and agree most closely in form and size of the bill with those from James, Charles, Indefatigable, Abingdon, and Bindloe Islands; those from Chatham Island have the bill decidedly larger, and should be separated as a local race.

14. *Geospiza fuliginosa* GOULD.

Chatham Island, eight specimens; James Island, two specimens; Indefatigable Island, two specimens; Duncan Island, ten specimens; Charles Island, one specimen; Hood Island, one specimen; Albemarle Island, three specimens; Abingdon Island, one specimen.

15. *Geospiza parvula* GOULD.

Abingdon Island. seven specimens.

16. *Geospiza difficilis* SHARPE.

Geospiza difficilis SHARPE, Cat. B. Brit. Mus., XII, 1888, 12 (Abingdon and Charles Islands).

Abingdon Island, one specimen.

17. *Cactornis scandens* GOULD.

Charles Island, four specimens; Indefatigable Island, six specimens.

18. *Cactornis abingdoni* SALV.

Abingdon Island, four specimens.

I am very doubtful whether the distinctness of this bird from *C. scandens* can be maintained. The two adult males have the same uniform black plumage as those of *C. scandens*, while of the five adult males of the latter (three from Indefatigable and two from Charles Islands), three have the bill entirely black, the other two having merely a blotch of paler color on the under side of the lower mandible (barely perceptible in one of them). The specimens from Abingdon Island have the bill slightly larger than those from the other islands above mentioned, but the difference in this respect between them and the specimens from Indefatigable Island is not greater than between the latter and those from Charles Island. In short, if the uniform black specimens from Charles and Indefatigable Islands are true *C. scandens*, I should unhesitatingly consider *C. abingdoni* a synonym of that species. The U. S. National Museum does not, however, possess a specimen from James Island, the original locality of *C. scandens*, and I am therefore unable to form a more definite opinion on the subject.

19. *Cactornis brevirostris* sp. nov.

SP. CHAR.—Similar to *C. scandens* in color, but bill very different in form, being much shorter and deeper, and with decidedly arched culmen.

HAB.—Chatham Island.



FIG. 4.—*Cactornis brevirostris*.

Immature male (type, No. 115920, Charles Island, Galapagos, April 8, 1888; U. S. S. *Albatross*): Dull sooty blackish, uniform on head, neck, and chest, elsewhere broken by lighter margins to feathers; these edgings dull light grayish brown on upper parts, dull brownish white on lower parts; sides and flanks washed with pale brown; under tail-coverts dull buffy white, with concealed mesial streaks of dusky. Bill entirely black; tarsi deep brown; toes brownish black. Length (skin), 4.50; wing, 2.70; tail, 1.85; culmen, .70; gonyx, .40; width of lower mandible at base, .37; depth of bill at base, .45; tarsus, .82; middle toe, .62.

The form of the bill in this species is very nearly intermediate between that of *Cactornis* and *Geospiza*, though decidedly more like the former.

20. *Cactornis pallida* SCL. and SALV. ? (*C. hypoleuca*, sp. nov., if distinct.)

A single specimen from James Island seems to come very near to *C. pallida* Scl. and Salv., but it is apparently larger and lighter colored, *C. pallida* being described as having the upper parts olive-brown and the lower parts pale ochraceous, whereas the bird in hand is light grayish olive above and dull white beneath. M. Sharpe, however, in describing the type specimen says (Cat. B. Brit. Mus., XII, p. 20) that it is "pale olive-brown" above and the "cheeks, throat, and under surface of body white, slightly washed with olive yellow, with a few dusky streaks on the chest," which very nearly agrees with the James Island specimen. The difference in measurements is shown below:

	Total length.	Wing.	Tail.	Culmen.	Tarsus.
<i>C. pallida</i>	4.70-5.00	2.70-2.85	1.70	.65-.70	.85-.90
James Island specimen.....	5.70	3.00	1.90	.70	.90

21. *Camarhynchus psittaculus* GOULD ?

Indefatigable Island, one specimen; James Island, one specimen, an adult male, very doubtfully referred to this species. Its characters are as follows:

Adult male (No. 116006, James Island, Galapagos, April 11, 1888; U. S. S. *Albatross*): Head, neck, and chest uniform sooty blackish; rest of upper parts dull grayish olive, darker anteriorly, where gradually blending into blackish of hind-neck, paler and more olivaceous on rump and upper tail-coverts; wings and tail dull grayish brown or dusky, the feathers edged with paler grayish brown; under surface of body (except chest) dull buffy white, the breast mixed with blackish and sides indistinctly streaked with the same; under tail-coverts pale dull buffy. Bill black, more brownish on gonys; legs and feet dark brown. Length (skin), .525; wing, 3.00; tail, 1.90; culmen, .62; gonys, .32; bill from rictus, .55; depth at base, .47.

The specimen from Indefatigable Island is a male in light colored (immature ?) plumage, something like the example described and figured in the Zoölogy of the Beagle, but has the bill much darker, the upper parts grayer, and lower parts whiter. Length (skin) 5.30; wing, 2.90; tail, 1.90; culmen, .57; gonys, .28; bill from rictus, .50; depth at base,

* *Adult (?) male* (No. 115997, James Island, Galapagos, April 11, 1888; U. S. S. *Albatross*): Above plain light grayish olive, the pileum very indistinctly streaked with darker; wings dusky, with pale grayish olive edgings, the middle and greater coverts edged more broadly with dull buffy. A superciliary stripe (becoming obsolete above auriculars), suborbital and malar regions, and entire lower parts dull white tinged with pale buffy on under parts of the body, the under tail-coverts more decidedly so; sides of chest very indistinctly streaked with pale grayish. Bill pale yellowish brown (the lower mandible lighter and more yellowish), darker at tip; legs and feet blackish brown. Length (skin), 5.70; wing, 3.00; tail, 1.90; culmen, .70; gonys, .38; bill to rictus, .70; depth at base, .40; tarsus, .90; middle toe, .68.

.45. It will be observed that while these two specimens agree closely in measurements they are decidedly larger than *C. psittaculus*, as described by Messrs. Gould and Salvin.

22. *Camarhynchus crassirostris* GOULD.

Charles Island, two specimens; Indefatigable Island, two specimens; Chatham Island, one specimen.

In attempting to identify this species I am much puzzled by important discrepancies in the descriptions given by Messrs. Gould, Salvin, and Sharpe, all of which purport to be taken from the type specimen. Thus, Gould says of the under parts: "The throat and breast cinereous olive, with the middle of each feather darker; the abdomen, sides, and under tail-coverts cinereous tinged with straw color." Mr. Salvin's description of the same parts, translated, reads as follows: "Beneath whitish, each feather of the throat and upper breast black in the middle." Then comes Mr. Sharpe, who says that the species "differs from *C. variegatus* in its uniform *under surface** not being mottled with brown streaks." The measurements given by these three authors vary no less remarkably, as the following will show:

	Total length.	Wing.	Tail.	Bill.	Tarsus.	Remarks.
Gould	5.50	3.75	2.00	.50	1.13	(Tarsus, 1½; height of bill, ¾.)
Salvin	5.20	3.00	1.90	{ to rictus 0.50	{ 0.85	
Sharpe.....	5.30	3.05	1.90	{ culmen 0.60	{ 0.90	
Albatross specimens.	{ 5.50- 5.60	{ 3.40- 3.50	{ 2.40	{ to rictus 0.60- 0.65	{ 1.08- 1.12	Tail measured to extreme base.

Our specimens from Charles Island agree best as to coloration with Mr. Salvin's description, though they resemble fairly the colored figure in the Zoölogy of the Beagle (pl. 41); as to measurements, they correspond best with those given by Gould.

23. *Camarhynchus prosthemelas* SCL. and SALV.

Chatham Island, two specimens; Charles Island, two specimens; James Island, four specimens.

24. *Camarhynchus habeli* SCL. and SALV.

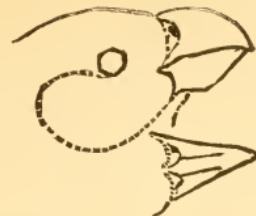
Abingdon Island, two specimens.

25. *Camarhynchus townsendi*, sp. nov.

SP. CHAR.—Similar to *C. psittaculus*, but paler and with a differently shaped bill, the culmen broader and less arched, and commissure straighter.

HAB.—Charles Island.

* Not italicized in original.

FIG. 5.—*Camarhynchus townsendi*.

Adult (?) male (No. 115915, Charles Island, Galapagos, April 8, 1888; U. S. S. *Albatross*): Above light brownish-gray, decidedly tinged with olive on hinder scapulars, lower back, and rump; middle and greater wing-coverts broadly but not very distinctly tipped with pale dull buffy; superciliary stripe and entire under parts dull buffy whitish, the breast and sides tinged with brownish gray, the sides of the former showing very indistinct broad streaks of the same; under wing-coverts and broad margins to inner webs of remiges nearly pure white. Upper mandible dark brown, lower mandible paler; legs and feet dark brown. Length (skin), 4.50; wing, 2.80; tail, 1.85; culmen, .58; gonys, .31; bill from rictus, .51; depth at base, .45; tarsus, .88; middle toe, .60.

Adult (?) female (No. 115914, same locality, etc.): Similar to the male as described above, but very slightly whiter beneath. Length (skin), 4.70; wing, 2.90; tail, 1.80; culmen, .55; gonys, .29; bill from rictus, .50; tarsus, .90; middle toe, .65.

It is not unlikely that the full-plumaged male of this species has the head and neck blackish, like *C. habeli* and the supposed *C. psittacula* described above.

I see no other way to dispose of these specimens from Charles Island than to describe them as a distinct species. Viewed laterally, the bill is shaped much like that of *C. habeli*, except that it is shorter; viewed vertically, it is seen to be less compressed, especially on the culmen, which does not present a well defined ridge as seen in *C. habeli*.

This new species is named for Mr. Charles H. Townsend, one of the naturalists of the *Albatross*, and an accomplished ornithologist.

26. *Camarhynchus pauper* sp. nov.

SP. CHAR.—Similar to *C. townsendi* but slightly smaller, with the bill very much smaller and with straighter culmen, the legs and feet much more slender, and the under parts more tinged with buffy.

HAB.—Charles Island.

FIG. 6.—*Camarhynchus pauper*.

Adult (?) female (type, No. 115913, Charles Island, Galapagos, April 8, 1888; U. S. S. *Albatross*): Above grayish olive, the feathers of the head

and back slightly darker centrally, the olive color paler on the rump; wings and tail dull grayish dusky with lighter olive-grayish edgings, these dull buffy on middle and greater wing-coverts; supraloral space and malar region pale dull grayish buffy; chin and throat similar but paler and more grayish; rest of under parts pale buffy fading into nearly white on belly; sides and flanks tinged with grayish olive, and chest very faintly flammulated with the same. Bill wholly grayish black; legs and feet dusky brown. Length (skin), 4.60; wing, 2.70; tail, 1.65; culmen, .50; gonys, .30; bill from rictus, .50; depth at base, .35; tarsus, .85; middle toe, .58.

Family TYRANNIDÆ.

27. *Pyrocephalus nanus* GOULD.

Indefatigable Island, one specimen; James Island, five specimens; Charles Island, six specimens; Chatham Island, two specimens; Abingdon Island, two specimens.

There are some very marked differences of coloration and measurements between specimens from different islands, which will probably necessitate the recognition of several forms; but most of the skins I have for examination are either in very worn or molting plumage, so that a satisfactory comparison is out of the question.

The two examples from Chatham Island, both adult males, are much the smallest, the wing measuring only 2.30, the tail 2.00, the exposed culmen .40, and the tarsus .65, while those from other islands measure, wing 2.50–2.65, tail 2.15–2.25, exposed culmen .45–.50, and tarsus .65–.75 (averaging more than .70). As to color, they are of a lighter brown above, and paler red beneath, although the crest is as intensely colored as in other specimens.

The two adult males from Abingdon Island differ conspicuously from all the others, those from James Island included, in the hue of the red, which on the under parts is of a decided orange cast, or intermediate between orange-chrome and flame-scarlet,* while on others the hue is a rich vermillion.

The adult female from James Island has the under parts, except chin and throat, which are white, clear naples yellow, deepest on the belly, the breast very narrowly and indistinctly streaked with grayish brown, while in the two from Charles Island the under parts are buff-yellow, a female from Indefatigable Island being very similar. These females (from last two localities) agree very well in color with the figure in the Zoölogy of the Beagle (plate 7), although the description in that work says the under parts of the female are “pale buff.”

The locality from which the types of *P. nanus* were obtained is unfortunately not known, and I am not able to ascertain from descriptions whether the ordinary or most widely distributed larger form or the diminutive Chatham Island race are to be considered the same as true *P. nanus*. It is probable, however, that the larger form may be properly

* Of my “Nomenclature of Colors.”

considered to be *P. nanus*, and if this proves to be correct, I would propose for the Chatham Island bird the provisional name of *Pyrocephalus minimus*.

28. *Myiarchus magnirostris* (GRAY).

Chatham Island, two specimens; James Island, five specimens; Indefatigable Island, one specimen; Abingdon Island, two specimens; Duncan Island, four specimens; Hood Island, two specimens; Charles Island, four specimens.

There are apparently some differences between specimens from different islands, but most of the skins being in poor plumage, I am not able to make a satisfactory comparison. The single adult from Abingdon Island, for example, has scarcely a trace of rufous on the inner webs of the tail feathers (very decided in all the others), the inner webs of these feathers being pale broccoli-brown, becoming dark hair-brown next the shaft.

Family CUCULIDÆ.

29. *Coccyzus melanocoryphus* VIEILL.

Chatham Island, one specimen; Charles Island, one specimen.

These specimens, both adults, I am unable to distinguish from mainland examples, though that from Charles Island has the bill considerably deeper, and broader at the base, than any I have seen.

Family BUTEONIDÆ.

30. *Buteo galapagoensis* (GOULD).

Indefatigable Island, two specimens; Abingdon Island, one specimen.

This bird is so closely related to *B. swainsoni* that there can be little doubt that it is merely a local form of that species, slightly differentiated by long isolation from the parent stock. It differs chiefly, if not entirely, in its heavier bill and feet.

Family PELECANIDÆ.

31. *Pelecanus californicus* RIDGW.

Pelecanus fuscus SUNDEV. P. Z. S., 1871, 125.—SALV. Trans. Zool. Soc. Lond., IX, pt. IX, 1876, 496.

Pelecanus californicus RIDGW. Water B. N. Am., II, Aug., 1884, 143.

Chatham Island, two specimens; also one specimen without label.

The single adult example (No. 11596!) is in the white-necked or post-nuptial plumage, and agrees exactly with Californian specimens, except that the lower parts are darker and more distinctly streaked with white, each feather having a very distinct though narrow mesial streak of this color. The pouch, in the dried skin, is light brown basally, and the bill is chiefly orange-reddish, the sides of the under mandible with only a slight blackish mottling toward the base.

No. 115965 is apparently a female, and is in transition immature plumage, the brownish chestnut of the neck being interspersed with white feathers.

The third example (No. 116297) is a young bird, probably a male, of the preceding year, and agrees exactly with a specimen from California. In this the sides of the under mandible are mainly blackish, becoming orange-reddish terminally and whitish basally; the pouch light brownish basally, as in the preceding.

The measurements of these specimens are as follows:

Catalogue number.	Locality.	Wing.	Tail.	Culmen.	Tarsus.	Middle toe.
115964.....	Chatham Island	22.75	7.80	14.00	3.30	4.50
115965.....	do	21.25	6.00	12.25	3.15	4.05
116297.....	22.00	6.25	14.00	3.35	4.25

Family SULIDÆ.

32. *Sula gossi* RIDGW.

? *Sula cyanops* SALV. Trans. Zool. Soc. London, IX, pt. IX, 1876, 496.

? *Dysporus cyanops* SUNDEV. P. Z. S., 1871, 125.

Chatham Island, one specimen. This example I am unable to distinguish from the types of *S. gossi*. Its measurements are as follows: Wing, 17.50; tail, 10.00 (graduated for 4.70); culmen, 4.55; depth of bill at base, 1.37; tarsus, 2.30; middle toe, 3.05.

Family ARDEIDÆ.

33. *Ardea herodias* (LINN.) ?

Duncan Island, one specimen.

I am not quite satisfied of the absolute identity of this bird with the true *A. herodias*, but the single specimen in the collection being not fully adult a satisfactory comparison can not be made.

34. *Butorides plumbeus* (SUNDEV.).

Hood Island, three specimens; James Island, two specimens; Duncan Island, one specimen; Abingdon Island, one specimen.

There is much variation in intensity of coloration among the adults in this series, but since the two specimens from James Island represent nearly the extremes, it is probable that the variation is of an individual character.

35. *Nycticorax pauper* SCL. and SALV.

Hood Island and Indefatigable Island; two specimens.

Family PHÆNICOPTERIDÆ.

36. *Phœnicopterus ruber* LINN.

James Island, two specimens; Charles Island, four specimens.

After very careful comparison, I am unable to find any constant difference between these birds and examples of *P. ruber* from Florida,

Yucatan, and the Bahamas. The series of the latter available for comparison is, however, very meager. A very young bird may be described as follows:

Dowry young: Grayish white, becoming nearly pure white on forehead, cheeks, median line of back, whole rump, and median under parts; bill pale brownish, dusky terminally; naked lores dusky; legs and feet brownish black. *Bill nearly straight.*

Family ANATIDÆ.

37. *Pœcilonetta galapagensis* sp. nov.

Pœcilonitta bahamensis GOULD and DARWIN, Zool. Beag., III, 1841, 135.

Anas bahamensis SUND., P. Z. S., 1871, 126.

Dafila bahamensis SCL. and SALV., Trans. Zool. Soc. Lond., IX, pt. IX, 1876, 499.

SP. CHAR.—Similar to *P. bahamensis* (Linn.), but white on sides of head thickly speckled with brown instead of being quite immaculate, and top of head grayer brown.

Adult male (type, No. 115931, Charles Island, Galapagos, April 8, 1888; U. S. S. *Albatross*): Pileum, sides of head down to below the eyes, and hind-neck, pale sepia-brown or hair-brown, speckled with dusky, these markings larger on pileum; back and anterior scapulars dusky grayish brown, the feathers with paler grayish brown margins; lower back and rump plain dusky grayish brown; posterior scapulars dusky grayish brown, margined with dull buffy; wing-coverts plain brownish slate, the greater sharply tipped with deep cinnamon-buff; secondaries metallic green, washed with copper-bronze, crossed about midway of the exposed portion by a narrow band (about .12-.15 wide) of velvety black, the succeeding portion deep cinnamon-buff; tertials broadly edged with paler cinnamon buff; primaries dusky brownish slate. Upper tail-coverts and tail pale pinkish buff (middle tail-feathers nearly white), the concealed portions of the feathers more grayish. Chin, throat, and fore-neck immaculate white, this separated from the brown of sides of head and neck by a speckled space about .40 of an inch wide; rest of under parts pale brown (intermediate between fawn-color and isabella-color), thickly spotted with dusky, the flanks pale fawn-color, with larger spots, and the under tail-coverts plain pale fawn-color, the longer ones with dusky mesial streaks; axillars white, the terminal portion, mesially, mottled with dusky; under wing-coverts plain brownish slate, the last row white. Bill blackish, with a large space on lower basal portion of upper mandible reddish; legs and feet dusky brownish. Length (skin), 16.75; wing, 8.10; tail, 3.70; culmen, 1.78; greatest width of bill, 72; tarsus, 1.48; middle toe, 1.62.

Adult female (No. 116143, same locality, etc.). Similar to the male but smaller, lower fore-neck speckled with dusky brown, tail-coverts spotted with dusky, and reddish space at lower base of upper mandible

much smaller. Length (skin), 16.00; wing (quills molting); tail, 3.15; culmen, 1.60; greatest width of bill, .65; tarsus, 1.42; middle toe, 1.55.

Specimens of *P. bahamensis* with which the above examples have been compared, and from all of which they differ in the characters mentioned in the diagnosis, are from the West Indies (Bahamas, 1; Guadeloupe, 3; Barbuda, 1); Buenos Ayres, 1; and Chili, 2.

Family COLUMBIDÆ.

38. *Zenaida galapagoensis* GOULD.

Indefatigable Island, four specimens; Duncan Island, two specimens; James Island, five specimens; Hood Island, four specimens.

Family HÆMATOPODIDÆ.

39. *Hæmatopus galapagensis* RIDGW.

? *Hæmatopus palliatus* SCL. and SALV. P. Z. S., 1870, 323 (Indefatigable Island).—SUNDEV. P. Z. S., 1871, 125.—SALV. Trans. Zool. Soc., IX, pt. IX, 1876, 502 (do.). *Hæmatopus galapagensis* RIDGW. Auk, III, July, 1886, 331 (Chatham Island); Proc. U. S. Nat. Mus., IX, Oct. 19, 1886, 325.

James Island, one specimen.

Family ARENARIIDÆ.

40. *Arenaria interpres* (LINN.).

Hood Island, one specimen.

Family RECURVIROSTRIDÆ.

41. *Himantopus mexicanus* (Müll.) ?

James Island, two specimens in immature plumage.

Family SCOLOPACIDÆ.

42. *Heteractitis incanus* (GM.).

Hood and James Islands, two specimens.

Family LARIDÆ.

43. *Anous stolidus* (LINN.).

Chatham Island (Dalrymple Rock), one specimen.

44. *Anous galapagensis* SHARPE.

Anous galapagensis SHARPE. Philos. Trans., CLXVIII, 1879, 469.

Hood and Chatham Islands, two specimens. (Certainly distinct from *A. stolidus*.)

45. *Larus fuliginosus* GOULD.

Indefatigable Island, two specimens; James Island, one specimen; Chatham Island, one specimen.

46. *Creagrus furcatus* (NÉB.).

Chatham Island (Dalrymple Rock), two specimens (adult male and female in perfect summer plumage).

This fine species, from its great rarity and the uncertain history of the type specimen, is worthy of somewhat extended discussion. Although a special genus, *Creagrus*, was instituted for it by Bonaparte, it has by most recent writers been referred to the genus *Xema*, Leach; but this is a view of its affinities in which I can not concur, since, beyond a similarity in the color of the bill and to a less extent in that of the plumage and in the shape of the tail, I see no particular resemblance. In fact, *Creagrus* seems to me to be one of the best, if not the very best, characterized of all the genera or subgenera of *Larina*, excepting only *Garia*, *Rissa*, and *Rhodostethia*.

From *Xema*, the points of difference are many and decided. The bill is very peculiar in shape, being much deeper at the base than elsewhere and strongly decurved at the tip; that of *Xema* being much smaller proportionally, much straighter, and much deeper through the angle than at the base. The tail is relatively much longer and much more deeply forked, being nearly half as long as the wing and forked for about one-third of its length, while that of *Xema* is much less than half as long as the wing and forked for not more than one-eighth of its length. As to coloration, there is even greater difference, *Creagrus* having the dark "hood" descending much farther down over the neck, and instead of being very abruptly terminated by a black border has no very definite outline except on the fore neck; while the white patch at the base of the upper mandible and the very conspicuous white stripe margining the exterior scapulars are entirely peculiar features. Moreover, the plumage of the young is quite distinct in its character from that of *Xema*.

Compared with *Xema sabini*, *Creagrus furcatus* is a large gull, about the size of *Larus delawarensis*, while the former is hardly so large as *L. philadelphia*, and with its dark colored head, deep red feet, and deeply forked tail ought to be very easily identified at a considerable distance.

The perfect summer plumage of the adult may be described as follows:

Adult male, breeding plumage (No. 115967, Dalrymple Rock, Chatham Island, Galapagos, April 6, 1888; U. S. S. *Albatross*): A white patch at base of upper mandible, crossing anterior portion of forehead, and averaging about .35 of an inch in width;* a very small white spot on the apex of the malar region; rest of head, with upper half of neck uniform slate-color,† this rather abruptly terminated on the fore-neck, but posteriorly fading gradually into the lighter gray of the hind neck;

* This white patch does not extend as far down as the edge of the mandible.

† Corresponding to the slate-color (No. 4, plate II,) of my "Nomenclature of Colors," but slightly browner.

lower neck, all round, pale gray,* below extending over the sides of the breast, and fading gradually into the pure white of the middle of the breast and other under parts, but above gradually deepening into the uniform medium gray† which covers the back, scapulars, wing-coverts (except the lower greater and those along the margin of the wing), tertials, and rump; upper tail-coverts and tail entirely pure white, this abruptly contrasted with the deep gray of the rump. Exterior scapulars broadly and abruptly margined with pure white, forming a continuous and conspicuous narrow stripe along each side of the dorsal region; marginal wing-coverts, alulae, lower greater coverts and upper secondaries, pure white; lower secondaries with outer webs very pale gray; four innermost primaries very pale gray, narrowly margined with white; sixth similar, but with a blackish blotch near the tip, extending quite across the inner web and for some distance along its edge; fifth quill mostly pale gray, with dusky shaft, the terminal portion (for about 1.30 inches along the shaft, black, this color much more extensive, however, along both edges), but with a small white apical spot; fourth quill with black much more extensive (extending nearly 5 inches from tip on outer web or 1.75 to nearest point on the inner), with still smaller white apical spot, the rest of the inner web white, becoming gray next to the shaft; third quill with black extending about 6.80 from the tip, or almost to the coverts on outer web, and 2.00 to nearest point on the inner, the white portion separated from the shaft by a dusky stripe; second quill similar but with the whole exposed portion of outer web black, but the black on inner web a little more restricted; first quill similar, but black near tip of inner web more restricted, though the stripe along the shaft is broader. (The three outermost quills have the white apical spots reduced to minute specks, which would entirely disappear with a very slight wearing of the feathers.) Bill, black, with a little less than the terminal third (or for about .70 of an inch from the tip) yellowish horn-white or pale olive-buff; rictus and broad, tumid eyelids, orange-red; iris, carmine; legs and feet, deep red; claws, deep black. Length (mounted specimen), about 20.00; wing, 16.25; tail, 7.40 (forked for 2.50); exposed culmen, 1.90; depth of bill at angle, .50; at base of culmen, .68; tarsus, 2.00; middle toe, 1.80.

Adult female in breeding plumage (No. 115968, same locality, etc.): Similar to the male, but with the slate-colored "hood" even less distinctly defined (approaching abrupt definition only on the fore neck), and white patch at base of upper mandible more restricted (averaging not more than .25 wide), the white spot on the malar apex also smaller (almost obsolete on one side). Length (mounted specimen), about 18.00; wing, 15.75; tail, 7.60; (forked for 2.60); exposed culmen, 1.90; depth of bill at angle, .47; at base of culmen, .65; tarsus, 1.98; middle toe, 1.70.

* Varying from tints 8-9, plate II, of my "Nomenclature of Colors."

† Much like tint 7, plate II, of my "Nomenclature of Colors."

Family SPHENISCIDÆ.

47. *Spheniscus mendiculus* SUNDEV.

Albemarle Island, one specimen.

The following list of species includes all that have hitherto been found in the Galapagos Archipelago, and shows upon which islands each has been taken. Genera and species printed in italics occur elsewhere than in the Galapagos, all the others being, so far as known, peculiar to those islands. The * in the spaces representing different islands indicates that the species was credited to those islands in Mr. Salvin's monograph. The letter S indicates an additional locality on the authority of Mr. R. Bowdler Sharpe (Cat. B. Brit. Mus., vol. XII, 1888, pp. 6-20); the J indicates that the species was obtained by Dr. William H. Jones, U. S. N., as verified by specimens in the U. S. National Museum, while the x represents *additional* localities resulting from the Albatross exploration:

		Clatham Island.	Charles Island.	Indefatigable Island.	James Island.	Bindloe Island.	Abingdon Island.	Albemarle Island.	Duncean Island.	Hood Island.	Tower Island.	Barrington Island.	Narborough Island.	Jervis Island.
1. <i>Nesomimus</i> :		*	*	*	*	*	*	*	*	*	*	*	*	
1. <i>trifasciatus</i> (Gould).....		*	*	*	*	*	*	*	*	*	*	*	*	
2. <i>melanotis</i> (Gould).....		*	*	*	*	*	*	*	*	*	*	*	*	
3. <i>parvulus</i> (Gould).....		*	*	*	*	*	*	*	*	*	*	*	*	
4. <i>macdonaldi</i> Ridgw.....		*	*	*	*	*	*	*	*	*	*	*	*	
5. <i>personatus</i> Ridgw.....		*	*	*	*	*	*	*	*	*	*	*	*	
2. <i>Dendroica</i> :		*	*	*	*	*	*	*	*	*	*	*	*	
6. <i>aureola</i> (Gould).....		*	*	*	*	*	*	*	*	*	*	*	*	
3. <i>Progne</i> :		*	*	*	*	*	*	*	*	*	*	*	*	
7. <i>concolor</i> (Gould).....		*	*	*	*	*	*	*	*	*	*	*	*	
4. <i>Certhidea</i> :		*	*	*	*	*	*	*	*	*	*	*	*	
8. <i>olivacea</i> Gould.....		*	*	*	*	*	*	*	*	*	*	*	*	
9. <i>fusca</i> ScL and Salv.....		*	*	*	*	*	*	*	*	*	*	*	*	
10. <i>cinerascens</i> Ridgw.....		*	*	*	*	*	*	*	*	*	*	*	*	
5. <i>Geospiza</i> :		*	*	*	*	*	*	*	*	*	*	*	*	
11. <i>magnirostris</i> Gould.....		*	*	*	*	*	*	*	*	*	*	*	*	
12. <i>strenua</i> Gould.....		*	*	*	*	*	*	*	*	*	*	*	*	
13. <i>dubia</i> Gould.....		*	*	*	*	*	*	*	*	*	*	*	*	
14. <i>comirostris</i> Ridgw.....		*	*	*	*	*	*	*	*	*	*	*	*	
15. <i>media</i> Ridgw.....		*	*	*	*	*	*	*	*	*	*	*	*	
16. <i>fortis</i> Gould.....		*	*	*	*	*	*	*	*	*	*	*	*	
17. <i>nebulosa</i> Gould.....		*	*	*	*	*	*	*	*	*	*	*	*	
18. <i>fuliginosa</i> Gould.....		*	*	*	*	*	*	*	*	*	*	*	*	
19. <i>parvula</i> Gould.....		*	*	*	*	*	*	*	*	*	*	*	*	
20. <i>dentirostris</i> Gould.....	S?	S?	S?	*	*	*	*	*	*	*	*	*	*	
21. <i>difficilis</i> Sharpe.....	S?	S?	S?	*	*	*	*	*	*	*	*	*	*	
6. <i>Cactornis</i> :		*	*	*	*	*	S	*	*	*	*	*	*	
22. <i>scandens</i> Gould.....		*	*	*	*	*	S	*	*	*	*	*	*	
23. <i>assimilis</i> Gould.....		*	*	*	*	*	*	*	*	*	*	*	*	
24. <i>abingdoni</i> Salv.....		*	*	*	*	*	*	*	*	*	*	*	*	
25. <i>brevirostris</i> Ridgw.....	x	x	x	x	x	x	x	x	x	x	x	x	x	
26. <i>pallida</i> ScL and Salv.....		*	*	*	*	*	*	*	*	*	*	*	*	
7. <i>Camarhynchus</i> :		*	*	*	*	*	?	*	*	*	*	*	*	
27. <i>psittacula</i> Gould.....		*	*	*	*	*	?	*	*	*	*	*	*	
28. <i>crassirostris</i> Gould.....		*	*	*	*	*	?	*	*	*	*	*	*	
29. <i>variegatus</i> ScL and Salv.....		*	*	*	*	*	?	*	*	*	*	*	*	
30. <i>prosthemelas</i> ScL and Salv.....		*	*	*	*	*	?	*	*	*	*	*	*	
31. <i>habelii</i> ScL and Salv.....		*	*	*	*	*	?	*	*	*	*	*	*	
32. <i>townsendi</i> Ridgw.....	x	x	x	x	x	x	?	*	*	*	*	*	*	
33. <i>pauper</i> Ridgw.....	x	x	x	x	x	x	?	*	*	*	*	*	*	

¹ Seen on Albemarle Island by Dr. Habel.

	Chatham Island.	Charles Island.	Indefatigable Island.	James Island.	Bindloe Island.	Abingdon Island.	Albemarle Island.	Duncau Island.	Hood Island.	Tower Island.	Barrington Island.	Narborough Island.	Jervis Island.
8. <i>Dolichonyx</i> :													
34. <i>oryzivorus</i> (Linna.)				*									
9. <i>Pyrocephalus</i> :													
35. <i>nauus</i> Gould.	x?	x	*	*	*	*							
10. <i>Myiarchus</i> :													
36. <i>magnirostris</i> (Gould).	x	x		*	*	*		x	x				
11. <i>Coccyzus</i> :													
37. <i>melanocoryphus</i> Vieill.	x	x											
12. <i>Asio</i> :													
38. <i>galapagoensis</i> (Gould).				*	*								
13. <i>Strix</i> :													
39. <i>punctatissima</i> Gray				*	*		*						
14. <i>Buteo</i> :													
40. <i>galapagoensis</i> (Gould).		J		*		*							
15. <i>Pelecanus</i> :													
41. <i>californicus</i> Ridgw.													
16. <i>Sula</i> :													
42. <i>leucogastra</i> (Boddl.).													
43. <i>cyanops</i> (Sundev.).													
44. <i>gossii</i> Ridgw.				x									
17. <i>Fregata</i> :													*
45. <i>aquila</i> (Linna.).													
18. <i>Phaethon</i> :													*
46. <i>athereus</i> Linn.													
19. <i>Ardea</i> :													
47. <i>herodias</i> Linn.?				*									
20. <i>Butorides</i> :													
48. <i>plumbeus</i> (Sundev.).		J		*	*		x		x	x			
21. <i>Nycticorax</i> :													
49. <i>pauper</i> Scl. and Salv.				*							x		
22. <i>Phoenicopterus</i> :													
50. <i>ruber</i> Linn.				x	*	x							
23. <i>Querquedula</i> :													
51. <i>versicolor</i> (Vieill.).													
24. <i>Pelecanetta</i> :													
52. <i>galapagensis</i> Ridgw.				x	*								
25. <i>Zenaida</i> :													
53. <i>galapagoensis</i> Gould.		J		*	*	*			x	x			
26. <i>Porzana</i> :													
54. <i>spilonota</i> (Gould).				*	*								
27. <i>Egretta</i> :													
55. <i>semipalmata</i> (Bp.).				*									
28. <i>Hæmatopus</i> :													
56. <i>galapagensis</i> Ridgw.		J		*	x								
29. <i>Himantopus</i> :													
57. <i>mexicanus</i> ? (Müll.)?				*	x								
30. <i>Arenaria</i> :													
58. <i>interpres</i> (Linn.).				*		*				x			
31. <i>Calidris</i> :													
59. <i>arenaria</i> (Linn.).							*						
32. <i>Heteractitis</i> :													
60. <i>incanus</i> (G.M.).				*	x		*			x			
33. <i>Tringa</i> :													
61. <i>minutilla</i> Vieill.				*									
34. <i>Numenius</i> :													
62. <i>hudsonicus</i> Lath.				*									
35. <i>Anous</i> :													
63. <i>stolidus</i> (Linn.).				x									
64. <i>galapagensis</i> Sharpe.				x						x			
36. <i>Larus</i> :													
65. <i>fuliginosus</i> Gould.				*	*	*	*						
37. <i>Creagrus</i> :													
66. <i>furcatus</i> (Néboux)				*									
38. <i>Procellaria</i> :													
67. <i>tethys</i> Bp.													
39. <i>Astrelata</i> :													
68. <i>phaopygia</i> Salv.				*									
40. <i>Spheniscus</i> :									*	x			
69. <i>mendiculus</i> Sundev.								*	x				

Following is a summary of the species found to date, on each island, with authorities for their occurrence. Species printed in heavy-faced type are peculiar, so far as known, to the island to which the list in which they occur pertains, while those preceded by a * were first found there by the naturalists of the *Albatross*.

In designating the authorities, the name of the collector is given instead of that of the person publishing the record, except in the case of the *Albatross* collection, which was made by several persons, thus rendering necessary the following explanation: The birds collected by Mr. Darwin were reported on by Mr. John Gould, in the "Zoology of the Voyage of the Beagle," pt. III; those collected by Dr. Kinberg (surgeon and naturalist of the Swedish frigate *Eugenie*), by Prof. C. J. Sundevall, in the "Proceedings of the Zoological Society of London," 1871, pp. 124-130; those obtained by Dr. Habel, by Mr. Salvin, in his monograph so often mentioned on the preceding pages, while nothing has hitherto been published concerning the small collection made by Dr. William H. Jones, U. S. N. (surgeon of the U. S. S. *Wachusett*), on Chatham Island, in 1884, except a description of the new oyster-catcher (*Hæmatopus galapagensis*) which he obtained there.¹

I. Species found on Chatham Island.

1. *Nesomimus melanotis*. Darwin; Kinberg; *Albatross*.
2. *Dendroica aureola*. Darwin?; Kinberg?; Joues; *Albatross*.
3. *Certhidea olivacea*. Darwin; *Albatross*.
4. *Geospiza magnirostris*. Darwin; *Albatross*.
5. *Geospiza strenua*. Darwin.
6. **Geospiza dubia**. Darwin.
7. *Geospiza fortis*. Darwin; *Albatross*.
8. *Geospiza nebulosa*. Kinberg;
9. *Geospiza fuliginosa*. Darwin; *Albatross*.
10. *Geospiza parvula*. Kinberg;
11. *Geospiza dentirostris*? (Fide Sharpe, Cat. B. Brit. Mus., vol. XII, p. 12.)
- *12. **Cactornis brevirostris**. *Albatross*.
- *13. *Camarhynchus crassirostris*. *Albatross*.
14. *Camarhynchus prosthemelas*. Kinberg; *Albatross*.
- ?15. *Pyrocephalus nanus*. Darwin?; *Albatross*?
16. *Myiarchus magnirostris*. Darwin; Kinberg; *Albatross*.
- *17. *Coccyzus melanocoryphus*. *Albatross*.
18. *Buteo galapagoensis*. Darwin?; Jones.
- *19. *Pelecanus californicus*. *Albatross*.
- *20. *Sula gossi*. *Albatross*.
21. *Butorides plumbeus*. Jones.
22. *Zenaida galapagoensis*. Jones.
23. *Hæmatopus galapagensis*. Jones.
24. *Anous stolidus*. Kellett and Wood; *Albatross*.
- *25. *Anous galapagensis*. *Albatross*.
- *26. *Larus fuliginosus*. *Albatross*.

¹ See "The Auk," vol. III, July, 1886, p. 331; and Proc. U. S. Nat. Mus., vol. IX, 1886, pp. 325-326.

² The Chatham Island bird possibly distinct. (See p. 113.)

27. *Creagrus fuscatus*. Kellett and Wood; ¹ *Albatross*.
 28. *Æstrelata phaeopygia*. Kellett and Wood.

II. Species found on Charles Island.

1. *Nesomimus trifasciatus*. Darwin.
2. *Nesomimus melanotis*. Darwin; Kinberg; *Albatross*.
3. *Dendroica aureola*. Darwin?; Kinberg; *Albatross*.
4. *Progne concolor*. Néboux.²
5. *Geospiza magnirostris*. Darwin.
- *6. *Geospiza strenua*. *Albatross*.
7. *Geospiza fortis*. Darwin; Kinberg; *Albatross*.
8. *Geospiza nebulosa*. Darwin; Kinberg.
9. *Geospiza fuliginosa*. Kinberg; *Albatross*.
10. *Geospiza dentirostris*. Markham. (*Fide Sharpe*, Cat. B. Brit. Mus., vol. XII, p. 12.)
11. *Geospiza difficilis*. Markham. (*Fide Sharpe*, Cat. B. Brit. Mus., vol. XII, p. 12.)
12. *Cactornis scandens*. Néboux;² Kinberg; *Albatross*.
- *13. *Camarhynchus crassirostris*. Darwin?; *Albatross*.
14. *Camarhynchus prosthemelas*. Kinberg; *Albatross*.
- *15. *Camarhynchus townsendi*. *Albatross*.
- *16. *Camarhynchus pauper*. *Albatross*.
- ?*17. *Pyrocephalus nanus*. Darwin?; *Albatross*.
18. *Myiarchus magnirostris*. Kinberg; *Albatross*.
- *19. *Coccyzus melanocoryphus*. *Albatross*.
- *20. *Phœnicopterus ruber*. *Albatross*.
- *21. *Pœcilonetta galapagensis*. *Albatross*.
22. *Larus fuliginosus*. Darwin?; Kinberg.
23. *Zenaida galapagoensis*. Néboux;² Jones.

III. Species found on Indefatigable Island.

1. *Mimus melanotis*. Kinberg; Habel; *Albatross*.
2. *Dendroica aureola*. Habel; *Albatross*.
- *3. *Progne concolor*. *Albatross*.
4. *Certhidia olivacea*. Habel.
5. *Geospiza strenua*. Habel.
6. *Geospiza fortis*. Habel; *Albatross*.
7. *Geospiza fuliginosa*. Habel; *Albatross*.
8. *Cactornis scandens*. Habel; *Albatross*.
9. *Cactornis pallida*. Habel.
10. *Camarhynchus psittacus*. Habel; *Albatross*.
- *11. *Camarhynchus crassirostris*. *Albatross*.
12. *Camarhynchus prosthemelas*. Habel.
13. *Pyrocephalus nanus*. Darwin?; Kinberg; Habel; *Albatross*.
14. *Myiarchus magnirostris*. Habel; *Albatross*.
15. *Asio galapagoensis*. Habel.
16. *Strix punctatissima*. Habel.
17. *Buteo galapagoensis*. Darwin?; Habel; *Albatross*.
18. *Ardea herodias*. Habel.
19. *Butorides plumbeus*. Habel.
20. *Nycticorax pauper*. Habel; *Albatross*.
21. *Phœnicopterus ruber*. Habel.
22. *Pœcilonetta galapagensis*.³ Habel.

¹ Cf. Salvin, Trans. Zool. Soc. Lond., vol. IX, pt. IX, 1879, p. 506.

² *Ibid.*, p. 476.

³ No specimen seen by me, and identification therefore doubtful.

23. Zenaida galapagoensis. Darwin?; Habel; *Albatross*.
24. Porzana spilonota. Habel.
25. Egialitis semiipalmata. Habel.
26. Haematopus galapagensis. Habel.
27. Himantopus mexicanus. Habel.
28. Arenaria interpres. Habel.
29. Heteractitis incanus. Habel.
30. Tringa minutilla. Habel.
31. Numenius hudsoniens. Habel.
32. Larus fuliginosus. Darwin?; Kinberg; Habel; *Albatross*.

IV. Species found on James Island.

1. Nesomimus melanotis. Darwin; Kinberg; *Albatross*.
2. Dendroica aureola. Darwin?; Kinberg; *Albatross*.
3. Progne concolor. Darwin; Kinberg.
4. Certhidea olivacea. Darwin; *Albatross*.
5. Geospiza strenua. Darwin; Kinberg.
6. Geospiza fortis. Kinberg; *Albatross*.
7. Geospiza fuliginosa. Darwin; Kinberg; *Albatross*.
8. Geospiza parvula. Darwin.
9. Cactorius scandens. Darwin; Kinberg.
- *10. Cactorius pallida? ¹; *Albatross*.
11. Camarhynchus psittaculus. Darwin; *Albatross*.
12. Camarhynchus prosthemelas. Kinberg; *Albatross*.
13. Dolichonyx oryzivorus. Darwin.
14. Pyrocephalus nanus. Darwin?; Kinberg; *Albatross*.
15. Myiarchus magnirostris. Kinberg; *Albatross*.
16. Asio galapagoensis. Darwin.
17. Strix punctatissima. Darwin.
18. Buteo galapagoensis. Darwin?.
19. Butorides plumbeus. Kinberg; *Albatross*.
- *20. Phoenicopterus ruber. *Albatross*.
21. Zenaida galapagoensis. Kinberg; *Albatross*.
22. Porzana spilonota. Darwin.
- *23. Haematopus galapagensis. *Albatross*.
- *24. Himantopus mexicanus. *Albatross*.
- *25. Heteractitis incanus. *Albatross*.
26. Larus fuliginosus. Darwin; *Albatross*.
27. Spheniscus mendiculus. Kinberg.

V. Species found on Bindloe Island.

1. Dendroica aureola. Darwin?; Habel.
2. Certhidea fusca. Habel.
3. Geospiza strenua. Habel.
4. Geospiza fortis. Habel.
5. Geospiza parvula. Habel.
6. Cactornis scandens. (*Fide Sharpe, Cat. B. Brit. Mus.*)
7. Cactornis assimilis. Habel.
8. Camarhynchus variegatus. Habel.
9. Camarhynchus habeli. Habel.
10. Pyrocephalus nanus. Habel.
11. Myiarchus magnirostris. Habel.

¹ Possibly distinct. (See p. 109.)

12. Zenaida galapagoensis. Habel.
13. Arenaria interpres. Habel.
14. Calidris arenaria. Habel.

VI. Species found on Abingdon Island.

- *1. **Nesomimuc personatus.** *Albatross.*
2. Dendroica aureola. Habel.
3. Certhidea fusca. Habel; *Albatross.*
4. Geospiza strenna. Habel; *Albatross.*
5. Geospiza fortis. Habel; *Albatross.*
6. Geospiza fuliginosa. Habel; *Albatross.*
7. Geospiza parvula. Habel; *Albatross.*
8. Geospiza difficilis. Habel; Sharpe; *Albatross.*
9. **Cactornis abingdoni.** Habel; *Albatross.*
10. Camarhynchus variegatus. Habel.
11. Camarhynchus habeli. Habel; *Albatross.*
- *12. Pyrocephalus nannus. *Albatross.*
13. Myiarchus magnirostris. Habel; *Albatross.*
14. Strix punctatissima. Habel.
15. Buteo galapagoensis. Habel; *Albatross.*
- *16. Butorides plumbeus. *Albatross.*
17. Heteractitis incanus. Habel.
18. Larns fuliginosus. Habel.

VII. Species found on Albemarle Island.

1. **Nesomimus parvulus.** Darwin; *Albatross.*
- *2. Geospiza fortis. *Albatross.*
- *3. Geospiza fuliginosa. *Albatross.*
- *4. Spheniscus mendiculus. *Albatross.*

VIII. Species found on Duncan Island.

- *1. Geospiza fuliginosa. *Albatross.*
- *2. Myiarchus magnirostris. *Albatross.*
- *3. Ardea herodias? *Albatross.*
- *4. Butorides plumbeus. *Albatross.*
- *5. Zenaida galapagoensis. *Albatross.*

IX. Species found on Hood Island.

- *1. **Nesomimus macdonaldi.** *Albatross.*
- *2. Certhidea olivascens. *Albatross.*
- *3. **Geospiza conirostris.** *Albatross.*
- *4. **Geospiza media.** *Albatross.*
- *5. Geospiza fuliginosa. *Albatross.*
- *6. Myiarchus magnirostris. *Albatross.*
- *7. Butorides plumbeus. *Albatross.*
- *8. Nycticorax pauper. *Albatross.*
- *9. Zenaida galapagoensis. *Albatross.*
- *10. Arenaria interpres. *Albatross.*
- *11. Heteractitis incanus. *Albatross.*
- *12. Anous galapagensis. *Albatross.*

X. Species found on Tower Island.

1. Fregata aquila. Habel.
2. Phaethon aethereus. Habel.

XI. *Island not specified.*

1. *Sula leueogastra.* Kinberg.
2. *Sula cyanops.* Kinberg.
3. *Querquedula versicolor.* Kinberg.
4. *Procellaria tethys.* Néboux.

Mr. Darwin collected the following species in the Galapagos Archipelago, but did not specify the particular islands upon or near which they were obtained :

1. *Pyrocephalus nanus.* Several of the islands.
2. *Dendroica aureola.* Not uncommon on these islands.
3. *Geospiza dentirostris.* Galapagos Archipelago.
4. *Cactornis assimilis.* Galapagos Archipelago.
5. *Zenaida galapagoensis.* Galapagos Archipelago.
6. *Aegialitis semipalmata.* Galapagos Archipelago.
7. *Ardea herodias.* Galapagos Archipelago.
8. *Nycticorax pauper.* Galapagos Archipelago.
9. *Heteractitis incanus.¹* Galapagos Archipelago.
10. *Tringa minnilla.* Galapagos Archipelago.
11. *Arenaria interpres.* Galapagos Archipelago.
12. *Porzana spilonota.* Galapagos Archipelago.
13. *Poecilonetta galapagensis.²* Galapagos Archipelago.
14. *Anous stolidus.* Galapagos Archipelago.
15. *Fregata aquila.* Several islands.

The following, obtained by Dr. Kinberg, zoologist and surgeon of the Swedish frigate *Eugenie*, are given in Prof. Sundevall's list (P.Z. S., 1871, pp. 124-130), without special locality :

1. *Buteo galapagoensis.*
2. *Nycticorax pauper.* (Given as *Ardea violacea*, L. var.?)
3. *Hæmatopus galapagensis?* (Given as *H. palliatus*.)
4. *Anous stolidus.*
5. *Pelecanus californicus?* (Given as *P. fuscus*.)
6. *Sula cyanops.* (Perhaps *S. gossi*.)
7. *Sula leucogastra.*
8. *Poecilonetta galapagensis?* (Given as *Anas bahamensis*.)
9. *Querquedula versicolor.* (Given as *Anas maculirostris*.)

The species common to two or more islands may be grouped, according to our present knowledge, as follows :

Common to Chatham and Charles Islands.

1. *Geospiza magnirostris.*
2. *Geospiza nebulosa.*
- ?3. *Geospiza dentirostris.*

Common to Chatham and Hood Islands.

1. *Anous galapagensis.*

Common to Chatham, Indefatigable, and James Islands.

1. *Certhidea olivacea.*
2. *Hæmatopus galapagensis.*

Common to Chatham, Charles, Indefatigable, and James Islands.

1. *Nesomimus melanotis.*
2. *Camarhynchus prosthemelas.*

¹*Totanus fuliginosus* GOULD, described as a new species.

²Given as *P. bahamensis* EYT.

Common to Chatham, Indefatigable, James, and Abingdon Islands.

1. *Buteo galapagoensis*.

Common to Chatham, James, Bindloe, and Abingdon Islands.

1. *Geospiza parvula*.

Common to Chatham, Charles, Indefatigable, James, and Abingdon Islands.

1. *Spheniscus mendiculus*.

Common to Chatham, Charles, Indefatigable, James, Bindloe, and Abingdon Islands.

1. *Dendroica aureola*.

2. *Geospiza strenua*.

- ? 3. *Pyrocephalus nanus*.

Common to Chatham, Indefatigable, James, Abingdon, Duncan, and Hood Islands.

1. *Butorides plumbea*.

Common to Chatham, Indefatigable, James, Bindloe, Duncan, and Hood Islands.

1. *Zenaida galapagoensis*.

Common to Chatham, Charles, Indefatigable, James, Bindloe, Abingdon, and Albemarle Islands.

1. *Geospiza fortis*.

Common to Chatham, Charles, Indefatigable, James, Bindloe, Abingdon, Duncan, and Hood Islands.

1. *Myiarchus magnirostris*.

Common to Chatham, Charles, Indefatigable, James, Abingdon, Albemarle, Duncan, and Hood Islands.

1. *Geospiza fuliginosa*.

Common to Charles and Abingdon Islands.

- ? 1. *Geospiza difficilis*.

Common to Charles and Indefatigable Islands.

1. *Poecilenaetta galapagensis*.

Common to Charles, Indefatigable, and James Islands.

1. *Progne concolor*.

Common to Charles, Indefatigable, James, and Bindloe Islands.

1. *Cactornis scandens*.

Common to Indefatigable and James Islands.

- ? 1. *Cactornis pallidac*

2. *Camarhynchus psittacus*.

3. *Asio galapagoensis*.

4. *Porzana spilonota*.

Common to Indefatigable, James, and Abingdon Islands.

1. *Strix punctatissima*.

Common to Indefatigable and Duncan Islands.

1. *Nycticorax panter*.

Common to Bindloe and Abingdon Islands.

1. *Certhidea fusca*.

2. *Camarhynchus variegatus*.

3. *Camarhynchus habeli*.

The following species of birds which have been collected in the Galapagoan Archipelago were not obtained by the naturalists of the *Albatross*:

1. *Nesomimus trifasciatus* (Gould). Charles.

2. *Geospiza magnirostris* Gould. Charles; Chatham.

3. *Geospiza dubia* Gould. Chatham.

4. *Geospiza nebulosa* Gould. Charles; Chatham.

5. *Geospiza dentirostris* Gould. Abingdon.

6. *Cactornis assimilis* Gould. Bindloe.

7. *Camarhynchus variegatus* ScL and Salv. Bindloe; Abingdon.

8. *Dolichonyx oryzivorus* (Linn.). James.
9. *Asio galapagoensis* (Gould). James; Indefatigable.
10. *Strix punctatissima* Gray. James; Indefatigable; Abingdon.
11. *Sula leucogastra* (Bodd.). ("Galapagos.")
12. *Sula cyanops* (Sundev.).¹ ("Galapagos.")
13. *Fregata aquila* (Linn.).² ("Galapagos.")
14. *Phaëthon aethereus* Linn. Tower Island.
15. *Querquedula versicolor* (Vieill.). ("Galapagos.")
16. *Porzana spilonota* (Gould). James; Indefatigable.
17. *Ægialitis semipalmata* (Bp.). Indefatigable.
18. *Calidris arenaria* (Linn.). Bindloe.
19. *Tringa minnilla* Vieill. Indefatigable.
20. *Numenius hudsonicus* Lath. Indefatigable.
21. *Procellaria tethys* Bp.(?).
22. *Æstrelata phœopygia* Salv. Chatham.

Species added to the Galapagoan avifauna by the naturalists of the *Albatross* are the following:

1. *Nesomimus maeonaldi*, sp. nov. Hood Island.
2. *Nesomimus personatus*, sp. nov. Abingdon Island.
3. *Certhidea cinerascens*, sp. nov. Hood Island.
4. *Geospiza conirostris*, sp. nov. Hood Island.
5. *Geospiza media*, sp. nov. Hood Island.
6. *Cactornis brevirostris*, sp. nov. Chatham Island.
7. *Camarhynchus townsendi*, sp. nov. Charles Island.
8. *Camarhynchus pauper*, sp. nov. Charles Island.
9. *Coccyzus melanocryphus* Vieill. Chatham and Charles Islands.
10. *Sula gossi* Ridgw.³ Chatham Island.

Additional localities for species previously taken on the Galapagos are as follows:

1. *Progne concolor* (Gould). Indefatigable Island.
2. *Geospiza strenna* Gould. Charles Island.
3. *Geospiza fortis* Gould. Albemarle Island.
4. *Geospiza fuliginosa* Gould. Charles, Abingdon, Albemarle, Duncan, and Hood Islands.
5. *Geospiza difficilis* Sharpe. Abingdon Island.
6. *Caetornis pallida* Scl. and Salv. James Island.⁴
7. *Camarhynchus crassirostris* Gould. Chatham, Charles,⁵ and Indefatigable Islands.
8. *Pyrocephalus nanus* Gould. Chatham ?,⁶ Charles, and Abingdon Islands.
9. *Myiarchus magnirostris* (Gould). Charles, Duncan, and Hood Islands.
10. *Ardea herodias* Linn. ? Duncan Island.
11. *Bntorides plumbeus* (Sund.). Abingdon, Duncan, and Hood Islands.
12. *Nycticorax panper* Scl. and Salv. Hood Island.
13. *Phœnicopterus ruber* Linn. Charles and James Islands.

¹ Possibly the same as *Sula gossi*, and not the true *S. cyanops*.

² There is a specimen of this species in the *Albatross* collection which had lost its label, and may have come from the Galapagos.

³ This may possibly be the species referred to by Sundevall and Salvin as *S. cyanops* (Sundev.).

⁴ Perhaps a distinct species (*C. hypoleuca* Ridgw.; see p. 109.)

⁵ Doubtfully accredited to Charles Island by Mr. Salvin.

⁶ Perhaps distinct (*P. minimus* Ridgw.; see p. 113.)

14. *Pœcilonetta galapagensis* Ridgw.¹ Charles Island.
15. *Zenaida galapagoensis* Gould. Duncan and Hood Islands.
16. *Haematopus galapagensis* Ridgw.² James Island.
17. *Himantopus mexicanus* (Müll.). James Island.
18. *Arenaria interpres* Linn. Hood Island.
19. *Heteractitis incanus* (Gm.). James and Hood Islands.
20. *Larus fuliginosus* Gould. Chatham Island.
21. *Spheniscus mendiculus* Sundev. Albemarle Island.

The following species have definite localities for the first time assigned them:

1. *Pelecanus californicus* Ridgw.³ Chatham Island.
2. *Anous stolidus* (Linn.). Chatham Island.
3. *Anous galapagensis* Sharpe. Chatham and Hood Islands.

The following species were obtained from new localities by Dr. William H. Jones, U. S. N., in 1884:

1. *Buteo galapagoensis* (Gould).³ Chatham Island.
2. *Butorides plumbens* (Sundev.). Chatham Island.
3. *Zenaida galapagoensis* Gould. Chatham Island.
4. *Haematopus galapagensis* Ridgw. Chatham Island.

It is very evident from the above showing that the avifauna of the Galapagos Archipelago is by no means exhausted as a field for promising research in the problem of the "derivative origin of species." Future explorations will no doubt add new species and extend the range of those already known. The largest island of the group, Albemarle, is still almost untouched, only four species having as yet been collected there; two islands (Wenman and Culpepper) have not been explored at all, while it can safely be said that on none of the islands has anything like a thorough investigation of the bird-fauna been made. The many interesting problems yet to be worked out will require a careful exploration of every island, by some one competent to study carefully and intelligently each species in relation to its congeners and its conditions of environment; its differences of plumage according to sex, age, and season, and to what extent, if any, migration from one island to another takes place. Many changes in the bird-fauna of these islands have doubtless been wrought by the hand of man, through destruction of birds for food, and disturbance by the introduction of domestic animals; therefore, it is earnestly to be hoped that the subject may receive the careful attention which its importance merits before these changes have gone so far as to render investigation more difficult and its results less satisfactory.

¹ = *Dafila bahamensis* Salv., *Anas bahamensis* Sundev. ?

² = *Haematopus palliatus* of Salvin and Sundevall ?

³ = *P. fuscus* of Salviu and Sundevall ?