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BIRDS COLLECTED DURING THE WHITNEY SOUTH SEA EXPEDITION. I.

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Since September 1920, The American Museum of Natural History has been conducting ornithological field work in eastern Polynesia. The expedition, which was made possible by the generous patronage of Mr. Harry Payne Whitney, is in charge of Mr. Rollo H. Beck, who has had at his disposal, during the greater part of the period in the field, a seventyton, power schooner, the 'France,' which was purchased at Tahiti for the Museum. Mr. Beck's principal assistants have been Mr. Ernest H. Quayle, and, more recently, Mr. José G. Correia.

A brief account of the objects of the expedition will be found in Science, 1922, LVI, pp. 701-704. To date Mr. Beck or his associates have made collections at approximately ninety South Pacific Islands, the greater number of which pertain to the Tuamotu, Marquesas, Society, Austral, Cook, and Samoan groups. In due course an appropriate record of the expedition will be published by the Museum. For the present it seems advisable to issue lists of the birds which have been received.

The order followed in the present paper is that of Sharpe's 'Hand-List,' 1899. Brigham's 'Index to the Islands of the Pacific,' 1900, has been the guide to the choice and orthography of geographic names. Color terms, except when quoted from field records, are those of Ridgway's 'Color Standards and Nomenclature,' 1912.

Phasianidæ

Gallus gallus (Linnæus)

Phasianus gallus LINNÆUS, 1758, 'Syst. Nat.,' 10th Ed., I, p. 158 (India). Gallus bankiva, PEALE, 1848, 'U. S. Expl. Exped.,' VIII, p. 179. Gallus tahitiensis HARTLAUB, 1854, Jour. für Ornith., p. 169. Gallus tahiticus, CASSIN, 1858, 'U. S. Expl. Exped.,' VIII, p. 290. Gallus gallus, BEEBE, 1921, 'Monogr. Pheasants,' II, p. 172.

Specimens from the Society Islands (Tahiti, December, 1920, May, October, November, and December, 1921; Moorea, June, July, August,

and November, 1921; Raiatea, January, 1922); Austral Islands (Tubuai, May, 1921); Marquesas Islands (Hivaoa and Eiau, October, 1922; Motane, Huahuna, and Tahuata, November, 1922; Nukuhiva, October, 1921, and October and November, 1922).

A series of more than sixty feral birds from ten islands offers convincing evidence that it is vain to look for a pure strain of the red jungle fowl in Polynesia. Two cocks from Moorea and a hen from Tahiti are very nearly identical with examples of *Gallus gallus* from India and Burma, but the majority of specimens exhibit the pattern and coloration, usually more or less mixed, of ancient domestic breeds such as the cochins, brahmas, and Mediterranean fowl. In size, as in color, there is much variability, several of the Marquesan cocks and hens being moderately large poultry.

Both light and dark (silver and golden) brahma types are represented among the Society and Marquesan birds, some specimens showing pencillation which is the prototype of barring in advanced domestic strains. A handsome melanic phase is illustrated by a cock from Moorea, the black pigmentation completely masking the red of the hackles which, nevertheless, carry high iridescence. Two large cocks and several hens from Eiau are essentially buff cochins in feathering, although these, like all the others, have retained the single comb of the jungle fowl. A cock from Huahuna departs from the jungle type only in that it is irregularly covered with white spangles. A mixed black and reddish cock from Tubuai looks as though it were a familiar sort of heterozygote resulting from a cross between a straight jungle type and one of the buff strains. Chicks are as variable as the adults, ranging in color from yellow to dark brown.

According to Mr. Beck's notes, the modern feral fowls of the islands do not differ in appearance from the domesticated birds of the natives. There is, as a matter of fact, a more or less continuous interchange of blood. Almost nothing is known about the types of poultry brought into the Pacific by the early Polynesian navigators, or of the additions to the stock made during the historic period.

The characters of the comb in Tahitian "jungle fowls," to which Hartlaub and Cassin referred, are not in any way distinctive, for they are shared by many Indian specimens. Dr. Charles B. Davenport, who has kindly examined our series, has pointed out, furthermore, that the "typical" jungle fowl is not necessarily a primary phase in Polynesia, for such birds readily appear as reversions from the crossing of certain old domestic strains which are widely distributed among various Pacific archipelagos. To make use of Johannsen's convenient genetic term, the insular jungle fowls, however typical in appearance, must be considered as no more than phenotypes of the ancestral stock.

Treronidæ

Ptilopus perousei (Peale)

Ptilinopus perousii PEALE, 1848, 'U. S. Expl. Exped.,' VIII, p. 195 (Upolu, Samoan Islands).

Specimens from the Samoan Islands (Tutuila, November, 1923; Tau, Manua group, December, 1923; Ofu, January, 1924).

Iris, red in males, yellow in females and young; bill, greenish; feet, gray.

This extravagantly beautiful fruit pigeon is remarkable for the differences between the sexes. The cream, perilla purple, and wax yellow of the male bird's neck, scapulars, and back, respectively, are replaced in the female by lily green plumage on occiput and nape, and bronzy jade or cress green on the back. Females, moreover, have no more than a mere suggestion of the rosolane purple breast-mantle and the ochraceous orange band below it. The under tail coverts in both male and female are rosolane purple, some of the feathers having narrow yellow terminations.

The young of both sexes are alike, but the characteristics of the adult male appear early in the juvenal stage. The under tail coverts of young birds are yellow, with rosy subterminal patches.

Our examples of *Ptilopus perousei* from three Samoan islands appear to be identical. No topotypes from Upolu have yet been received.

Ptilopus dupetithouarsi dupetithouarsi (Neboux)

Columba Du Petithouarsii NEBOUX, 1840, Rev. Zool., p. 289 (Tahuata, Marquesas Islands).

Specimens from the Marquesas Islands (Tahuata, November, 1922; Hivaoa, January and October, 1921, January and November, 1922; Fatuhiva, December, 1922; Motane, November, 1922).

Iris "gray," "drab," or "olive-brown" in adults; orbital ring red; bill "reddish" or "maroon" at base, blending through "greenish-blue" to a "pea-green" tip; feet coral red.

Young specimens lack the white crown, and differ in other respects in the manner characteristic of the genus.

Ptilopus dupetithouarsi viridior, new subspecies

SUBSPECIFIC CHARACTERS.—Differs from *Ptilopus dupetithouarsi dupetithouarsi* in having a distinct yellowish and greenish cast over the gray plumage of the throat, breast, and the sides and back of neck; orange border of pileum narrower, less rich in hue, and less clearly defined posteriorly than in *P. d. dupetithouarsi*.

TYPE.—No. 193,813, Amer. Mus. Nat. Hist.; ♂ ad.; Nukuhiva Island, Marquesas Group, November 1, 1922; R. H. Beck.

RANGE.-Nukuhiva, Huapu, and Huahuna Islands, Marquesas.

MEASUREMENTS.—Five males from Nukuhiva: Wing, 143-147; tail, 75-80; exposed culmen, 11.8-12.6; tarsus, 25-26.5; middle toe without claw, 20-21 mm.

Measurements of a series of birds from seven of the Marquesas Islands indicate that the two geographic races do not differ in size. The same is apparently true of the colors of soft parts.

Specimens from the Marquesas Islands (Nukuhiva, October, 1921, September, October, and November, 1922; Huapu, October, 1921, September and November, 1922; Huahuna, November, 1922).

The fruit pigeons of this species from the above-mentioned leeward islands of the Marquesas Group differ slightly in color from those inhabiting the windward islands (Hivaoa to Fatuhiva). The distinctions relate chiefly to the hue of the breast-mantle and the breadth and intensity of the orange border of the pileum. Although the differences are average rather than absolute, they become obvious as soon as series of birds from the respective localities are laid side by side. There is a suggestion, moreover, of regular and very slight gradation from island to island. At any rate, the most pronounced contrast is between specimens from Nukuhiva, in the northwest of the archipelago, and Fatuhiva, in the extreme southeast.

Ptilopus fasciatus (Peale)

Ptilinopus fasciatus PEALE, 1848, 'U. S. Expl. Exped.,' VIII, p. 193 (Samoan Islands).

Specimens from the Samoan Islands (Tutuila, October and November, 1923; Tau, Manua group, December, 1923; Ofu and Olosenga, January, 1924).

Iris, red (yellow in immature birds); bill greenish; feet, red.

The plumage sequences of this species are well described by Salvadori in the 'Catalogue of Birds of the British Museum.' The number of rectrices is 14, which is as recorded for the majority of Treronidæ. It is noteworthy, however, that many of the smaller Polynesian species, such as *Ptilopus perousei*, *purpuratus*, *coralensis*, *dupetithouarsi*, etc., have but 12 rectrices. As Wetmore remarks (Bull. Mus. Comp. Zoöl., 1919, LXIII, p. 165) the whole group is much in need of revision, but this could not be attempted upon the basis of the material thus far received by The American Museum of Natural History.

Ptilopus coralensis (Peale)

Ptilinopus coralensis PEALE, 1848, 'U. S. Expl. Exped.,' VIII, p. 190 (Aratika, Tuamotu Group).

Ptilopus coralensis, SALVADORI, 1893, 'Cat. Birds,' XXI, p. 104; Wetmore, 1919, Bull. Mus. Comp. Zoöl., LXIII, p. 186 (part).

Ptilopus smithsonianus SALVADORI, 1893, 'Cat. Birds,' XXI, p. 105.

Specimens from the Tuamotu Group (Aratika, December, 1922; Ahii, Rangiroa, August, 1922; Marutea, May, 1922; Tenararo, Maturei-Vavao, Tenarunga, June, 1922; Niau, September, 1921, August, 1922; Hiti, October, 1921; Arutea, February, 1923; Raraka, Kauehi, Tahanea, March, 1923).

Iris, red (brown in immature birds); bill, yellow; feet, coral red (brownish in young).

Series of specimens from islands extending from Marutea, near the southeastern end of the archipelago, to Rangiroa, in the northwestern part, show no appreciable geographic variation.

The juvenal plumage resembles that of the adult except for the absence of the purple crown and gray neck, and the presence of yellow margins on the feathers of head and back.

Wetmore recorded this fruit pigeon from the additional islands of Makemo and Fakarawa. Birds from Makatea, which he listed under the name *P. coralensis*, are shown by the Whitney Expedition collections to be referable to a distinct species.

Ptilopus purpuratus (Gmelin)

Columba purpurata GMELIN, 1789, 'Syst. Nat.,' I, part 2, p. 784 (In insulis australis intra tropicos inclusis=Society Islands).

Specimens from the eastern Society Islands (Tahiti and Moorea) collected during October, November, and December, 1920, and March, May, June, July, and November, 1921.

Iris, orange (dull yellow in immature birds); eyelid yellow; bill, greenish-yellow, the nostrils orange; feet, purple or "pink."

Birds from Tahiti and Moorea appear to be indistinguishable. The type locality is here fixed at Tahiti, where Latham's "Purple-crowned Pigeon" was obtained ('Gen. Syn.,' 1783, II, part 2, p. 626, No. 15).

Ptilopus chrysogaster (G. R. Gray)

Ptilinopus chrysogaster GRAY, 1853, Proc. Zoöl. Soc., p. 48, Pl. LIV (Society Islands).

Specimens from the western Society Islands (Raiatea and Bolabola, December, 1921, January, 1922).

Iris, orange red; bill green, the nostrils yellow, with a red spot above them; feet, purple.

The type of this species in the British Museum was erroneously labeled "Tahiti." Raiateris here designated the type locality. The known range includes also the neighboring islands of Tahaa and Huaheine.

Ptilopus tristrami Salvadori

Ptilopus tristrami SALVADORI, 1892, Bull. Mus. Zool. ed Anat. Comp. Univ. Torino, VII, p. 135 (Hivaoa, Marquesas Group).

Specimens from Hivaoa, Marquesas, collected during January, 1921, and October and November, 1922.

Iris, yellow or "drab" (olive-brown in immature birds); orbital skin red; bill, red at base, blending through greenish-blue to a pea-green tip; feet, dull purplish red.

Ptilopus insularis North

Ptilopus insularis NORTH, 1908, Rec. Austral. Mus., VII, p. 30 (Henderson Island).

Specimens from Henderson or Elizabeth Island, collected in March and April, 1922.

This fruit pigeon is a well-marked species, not nearly so closely related to *Ptilopus coralensis* as North supposed. It is larger in all dimensions except those of bill and feet, besides which a curious distinction is found in the extraordinary breadth of its rectrices, the tail consequently appearing heavier than in *P. coralensis*, although the number of quills (12) is the same.

North's description of the species is adequate. In immature specimens there is no trace of the rosy crown, the pileum being uniformly bronzy green. The juvenal feathers of breast and wings have, moreover, yellowish terminal borders. Iris of adult, breeding birds, orange; eyelid yellow; bill greenish yellow; feet red. The iris and feet are yellowish in young birds.

The label on the specimen orginally described by North gave "crimson-lake" as the color of the bill, as well as of the legs and feet. This is evidently erroneous in so far as it applies to the bill, for Beck records "greenish" or "greenish-yellow" upon the label of every adult specimen in our excellent series, and a sketch by Quayle confirms his notes.

THYLIPHAPS,¹ new genus

Nearest to *Ptilopus* Swainson, but larger than any member of that genus, and differing in proportions.

Medium-sized Treronidæ, with long tails, long tarsi, and relatively long slender bills. Nasal groove less than half as long as exposed culmen. Wing rounded, the fourth primary longest, the third and fifth, second and sixth, and first and seventh, respectively, subequal. Tail not less than two-thirds as long as wing; upper coverts extending less than half the length of the rectrices; the latter 14 in number. Tarsus much longer than culmen, and approximately equal to middle toe with claw; tarsus feathered almost to tarsal joint.

Type of the genus, Ptilinopus huttoni Finsch.

Thyliphaps huttoni (Finsch)

Ptilinopus huttoni FINSCH, 1874, Proc. Zoöl. Soc. London, p. 92 (Rapa, Austral Group).

Specimens from Rapa or Oparo Island, collected during April, 1921, and February, 1922.

Iris, deep yellow in adults, yellowish in immature birds; bill red, with a yellow tip; feet, red in adults, reddish orange in young.

Measurements.— (10 males): Wing, 164–175 (169.4); tail, 111– 125 (118); exposed culmen, 20–22 (21.1); tarsus, 28–31 (29.5); middle toe with claw, 31–32 (31.1) mm.

10 females: Wing, 162–172 (165.8); tail, 111–122 (115.4); exposed culmen, 20–22 (20.8); tarsus, 28–31 (29.8); middle toe with claw, 29–31 (29.8) mm.

This handsome and aberrant fruit pigeon was known previously only from the type skin, collected in 1873 or earlier by Captain F. W. Hutton.

Serresius galeatus Bonaparte

Serresius galeatus BONAPARTE, 1855, Compt. Rend., XLI, p. 1110 (Marquesas Islands).

Specimens from Nukuhiva, Marquesas, collected during September and October, 1922.

Iris white; bill and feet black.

Nukuhiva is here designated the type locality. Despite several uncertain records, it is unlikely that this gigantic fruit pigeon has ever occurred upon other islands.

Globicera pacifica (Gmelin)

Columba pacifica GMELIN, 1789, 'Syst. Nat.,' I, part 2, p. 777 (Ins. Amicis = Tonga Islands).

 $^{^{1}\}theta\delta\nu\lambda\eta=$ "Ultima Thule" + $\phi a\psi = a \mod pigeon.$

Specimens from the Samoan Islands (Tutuila, November, 1923; Tau, Manua group, December, 1923; Ofu and Olosenga, January, 1924).

Iris, red (brownish in young birds); bill black; feet, red or orange red.

No topotypes have yet been obtained by the expedition, but the range of this pigeon is known to extend from the Tonga Islands to the Ellice Islands.

Globicera auroræ (Peale)

Carpophaga auroræ Peale, 1848, 'U. S. Expl. Exped.,' VIII, p. 201. (Makatea, Tuamotu Group.)

Carpophaga wilkesii PEALE, idem, p. 203 (Tahiti).

Specimens from Makatea or Aurora Island, Tuamotu Group, August, 1922; and from Tahiti, August and September, 1921.

A series of birds of various ages illustrates the plumage changes. In young specimens the mantle is iridescent as in adults, but the belly is blackish slate, while head, neck, and breast are of a still darker shade, overlaid with a greenish gloss. Light feathers enter these regions during a progressive molt, and, after an intermediate, mottled stage, the adult assumes the lovely gull-gray plumage.

Iris, "crimson" or "cardinal" (brownish and then yellowish in immature stages); bill, black; feet, coral red.

Wetmore (1919, Bull. Mus. Comp. Zoöl., LXIII, p. 190) has shown that G. wilkesi is a synonym of G. auroræ.

Columbidæ

Columba livia Gmelin

Columba domestica β livia GMELIN, 1789, 'Syst. Nat.,' I, part 2, p. 769 (South Europe¹).

One adult and one immature, both males, collected at Huahuna Island, Marquesas, November 9 and 14, 1922. The specimens are of the characteristic rock dove type. Nothing is known of the source of the birds, or of the date of introduction. Pigeons were brought into Tahiti, however, shortly after the opening of the nineteenth century.

Peristeridæ

Gallicolumba erythroptera (Gmelin)

Columba erythroptera GMELIN, 1788, 'Syst. Nat.,' I, part 2, p. 775 (Moorea, Society Group).

Peristera pectoralis PEALE, 1848, 'U. S. Expl. Exped.,' VIII, p. 205 (Aratika, Tuamotu Group).

¹As fixed by Hartert, 1920, 'Vögel palaärkt. Fauna,' p. 1465.

Peristera erythroptera, CASSIN, 1858, 'U. S. Expl. Exped.,' VIII, p. 277. Phlogoenas erythroptera SALVADORI, 1893, 'Cat. Birds,' XXI, p. 600, Pl. XII, fig. 2.

Phlogoenas sp., SALVADORI, 1893, idem, p. 601 (Tahiti).

ADULT MALE.—Forehead, lores, circumorbital region, postocular stripe, throat, sides of neck, and breast, white; remainder of under surface, and lining of wings, blackish brown, the feathers of belly and flanks broadly but indistinctly edged with gull gray, giving a pronounced bloom to fresh plumage; crown, nape, and auricular region below the postocular stripe, slate color, with a faint tinge of lighter gray; dorsal surface, including the wing quills, fuscous-black, the interscapulars, back, rump, as well as a few of the tertials, having a bloom produced by indistinct gray edgings, sometimes enhanced by scattered feathers with glossy greenish terminations; plumage of sides of breast, scapulars, coverts and upper back broadly margined with magenta or purple iridescence, which alters, with wear and disintegration of the barbules, to Prussian or ocher red; tail sooty black, obscurely barred, the proximal half of the 12 rectrices overlaid with a neutral gray on their upper surfaces. Iris, brown; bill, black; feet and legs, purplish black.

ADULT FEMALE.—Crown, nape, and upper back, slate-gray, faintly overlaid with vinaceous purple which turns ochraceous with wear; slight and inconstant suggestions of white on forehead and postocular region; breast fawn color, sometimes slightly interspersed with white, the concealed bases of the feathers gray; belly and flanks blackish brown, some of the feathers indefinitely fuscous or plumbeous; dorsal surface fuscous-black, with indistinct gray edgings, as in the male, but with a much more pronounced olive-green gloss which affects even the inner feathers of the wing; magenta iridescence only rarely and slightly evident, and confined to the sides of the breast and the scapulars; tail fuscous-black, gray proximally as in the male. Flesh colors like those of the male.

MEASUREMENTS.—(10 males): Wing, 138-151 (143.2); tail, 69-79 (73.8); exposed culmen, 17.8-19 (18.4); tarsus, 32-35 (33.4); middle toe and claw, 33-37 (34.8) mm.

10 females: Wing, 131-142 (136); tail, 66-78 (72.6); exposed culmen, 16-18 (17); tarsus, 31-32 (31.6); middle toe and claw, 31.5-34 (32.7) mm.

Specimens from the Tuamotu Islands (Moerenhout or Maria, May, 1922; Tenararo, Vanavana, and Tenarunga, June, 1922).

Nothing in the published figures and descriptions would make it possible to distinguish the Tuamotuan ground pigeons collected during the Whitney Expedition from the practically unknown "Garnetwinged Pigeon" of Latham. The lost type of the species came from Eimeo, or Moorea, and upon Latham's description Gmelin based his *Columba erythroptera*. It is said that an example of the bird of Moorea is still preserved in the Leyden Museum. Peale's two skins from Aratika are perhaps the only other known specimens. It seems unlikely that the bird of the Tuamotus is, at most, more than subspecifically distinct from the once abundant *Gallicolumba* of the Society Islands.

The juvenal plumage of this species is very reddish, both above and below, many of the feathers, including even remiges, being tipped with cinnamon-rufous. Young males differ from females chiefly in the darker shade of the belly, and in the early appearance of white feathers throughout the breast-mantle and of purple-bordered feathers on the scapulars and lesser coverts. Plumage wear, and consequent color change, proceed rapidly. Many females are so rufous all over that they have slight resemblance to birds in fresh feathers. Some of the specimens in our series also have their tail quills worn to shreds.

Gallicolumba rubescens (Vieillot)

Columba rubescens VIEILLOT, 1818, 'Nouv. Dict. d'Hist. Nat.,' XXVI, p. 346 (Nukuhiva (?), Marquesas Group).

Phlogoenas ? rubescens, SALVADORI, 1893, 'Cat. Birds,' XXI, p. 606.

Phlegoenas rubescens, HARTERT, 1916, Novit. Zool., XXIII, p. 94.

ADULT MALE.—Entire head, neck, and breast, gray, varying on crown and nape from deep or even dark neutral gray to light neutral gray; the breast, of a lighter shade than the crown, ranging from neutral gray to pale neutral gray or, rarely, almost to white; remainder of under surface, including flanks and axillaries, fuscousblack, with a slight grayish bloom; dorsal plumage, including rump and tail coverts, fuscous-black, the feathers of upper back, scapulars, lesser coverts, and sometimes the interscapulars, broadly margined with iridescent violet-purple, which changes with wear to dull ocher or Prussian red; feathers of middle of back, inner scapulars, and inner tertials indistinctly glossed with dark green; quills of wing and tail terminally black, with black shafts, but the proximal half or two-thirds of all remiges and rectrices white on both webs. Iris, brown; bill, black; feet and legs, reddish-black or "dark purplish-red."

ADULT FEMALE.—Differs from the male in the greater extent of greenish gloss on the dorsal surface, and in the reduced amount of white on the quills of the wing and, more particularly, of the tail.

NEOTYPE.—No. 193,929, Amer. Mus. Nat. Hist.; 37 ad.; Fatuhuku Island, Marquesas Group, November 8, 1922; R. H. Beck.

RANGE.-Fatuhuku, Hatutu, and, formerly, Nukuhiva (?) Islands, Marquesas.

MEASUREMENTS.—(20 males; 10 from Fatuhuku, 10 from Hatutu): Wing, 123-134 (127.4); tail, 61-73 (67.5); exposed culmen, 13.5 -17 (15.3); tarsus, 27-31 (28.8); middle toe and claw, 26-31 (28) mm.

10 females: Wing, 117-126 (122.6); tail, 64-67 (64.9); exposed culmen, 14-16 (15); tarsus, 25.5-29 (27.4); middle toe and claw, 25-28 (26.7) mm.

Specimens from the Marquesas Islands (Hatutu, September and October, 1922; Fatuhuku, October and November, 1922).

So far as can be learned, no specimens of this ground pigeon have heretofore existed in collections. Vieillot's name and the whole of our slight knowledge of the bird are based upon a figure labeled "Der Kokuh" on Plate xVII of the 'Atlas zur Reise um die Welt unternommen auf Befehl Seiner Kaiserlichen Majestät Alexander des Erstens auf den Schiffen 'Nadeshda' and 'Neva' unter dem Commando des Capitains von Krusenstern,' St. Petersburgh, 1814. The volume of text, which was to accompany this rare atlas, has never been published.

The example from which Krusenstern's illustration was drawn is supposed to have come from the mountains of Nukuhiva. If this be true, the bird is doubtless now extinct at that island, for Messrs. Beck and Quayle found no trace of it there. Since no type specimen exists, and since, according to the supposition just expressed, no topotype can ever be obtained, the writer has designated one of the specimens from Fatuhuku as the neotype of the species. This is, in fact, the specimen upon which the first adequate description of the species is based, and, pending new information, it may fill the practical function of the nonexistent holotype.

The variation in the intensity of the gray breast-mantle in this species is highly interesting. Several of our specimens have an almost white breast, and two Fatuhuku birds, the palest in the whole series, have not only exceptionally light foreheads but also DEFINITE INDICA-TIONS OF A POSTOCULAR STRIPE, characters which make them strongly resemble the Tuamotuan species, *G. erythroptera*. Such purely individual variations have indubitable evolutionary significance.

The distinctive characteristics of G. rubescens, aside from the similarity of plumage in the two sexes, are the extensive white patches on the wings and tail, which form a most striking mark in life. In male birds the primaries are sometimes white to within an inch of their tips, and the rectrices to a point well beyond the ends of the upper and lower tail coverts.

In females the wing patch is confined chiefly to the proximal half of the quills; the white of the tail is, moreover, often concealed by the coverts, while the outermost rectrices may be dark quite to their bases.

In the juvenal plumage of both sexes, the concealed bases of the remiges are white but the rectrices are entirely dark. The breast is of a deep, saturated gray, not without an olivaceous tinge. The fuscousblack of the dorsal plumage has a slight purplish gloss, but disintegration of some sort proceeds rapidly and the young birds soon become very rusty and ochraceous.

Comparison of large series shows that the ground doves of Fatuhuku are a trifle larger, on the average, than those inhabiting the remote island of Hatutu. This is especially noticeable in the length of the bill and the size of the feet, but the absolute distinctions are so slight that the writer prefers not to invest them with taxonomic rank.