

BIRDS OF THE PANAMA CANAL ZONE, WITH SPECIAL REFERENCE TO A COLLECTION MADE BY MR. LINDSEY L. JEWEL.

BY WITMER STONE.

Through the generosity of several of its members the Academy of Natural Sciences has come into possession of a collection of some four hundred bird skins obtained by the late Lindsey Louin Jewel in the Canal Zone, Panama.

Mr. Jewel was stationed in the Zone from late in 1910 to the early part of 1913, engaged in engineering work, and had also been appointed Vice-Consul at Colon.

His beautifully prepared skins are accompanied by numerous notes on the habits, nests and eggs of many of the species. Unfortunately these do not cover all of the species, his death having prevented his return to the Zone, where he had hoped to complete his study of the bird life. They have, however, been used so far as they go in the following list, and as *all* the field notes, coloration of the soft points and description of the eggs and nests are to be credited to Mr. Jewel, it was thought unnecessary to make use of quotation marks; moreover, as there was frequently duplication in notes referring to several specimens of the same species, verbatim quotation was not practicable. Some few of Mr. Jewel's notes refer to specimens which were sent to the American Museum of Natural History, but they have been included wherever the species was unrepresented in the collection, Mr. W. DeW. Miller having kindly sent me a list of such specimens.

Mr. Jewel published an annotated list of the North American birds observed by him during his stay on the isthmus in *The Auk*, 1913, pp. 422-429, with a brief introduction describing the condition of the Zone at the time his collection was made, but did not identify any of the resident species. Some brief mention of his work and a list of birds of the Zone compiled by him from Ridgway's "Birds of North and Middle America" appeared in *The Canal Record* for January 28, 1914, pp. 219-220.

We have no record of a collection of birds having been made on the isthmus until 1847, when Lafresnaye described a number of specimens obtained there by DeLattre, a French collector, who was on his way to South America. This collection was purchased by Dr. Thomas B.

Wilson and is still preserved in this Academy, along with Dr. Wilson's other material. (*Revue Zoologique*, 1847, pp. 67-79.) No further collections were made in the Canal Zone so far as we are aware until the late fifties, when James McLeannan, of New York, who was stationed on the isthmus, began sending specimens to George N. Lawrence, who described them in the *Annals of the New York Lyceum of Natural History* and other scientific journals, issuing a final catalogue in three instalments. (*Ann. N. Y. Lyc.* Vol. VII, 1861-2, pp. 288-302, 315-334, 461-479, and Vol. VIII, pp. 294-360.)

During the winter of 1860-61 John R. Galbraith, son of William Galbraith, a well-known New York taxidermist, went to Panama and aided McLeannan in collecting for Mr. Lawrence. Some 390 species in all were obtained by the two collectors and their specimens are now in the American Museum of Natural History. In March, 1863, the noted British ornithologist, Osbert Salvin, visited McLeannan and in that year and later extensive collections were made for him and sent to England, all of which are now in the British Museum with the rest of the Salvin collection.

An account of the collections sent to him by McLeannan is published by Mr. Salvin in the *Proceedings of the Zoological Society of London*, 1864, pp. 342-373, and covers 272 species. From his introduction we learn that at the time of his visit McLeannan was track-master at Lion Hill (Loma del Leon) station on the Panama Railway, the second station after leaving Colon and about ten miles from the coast. It was situated "in the densest tropical forest, so wet that even in the dry season the trails were confined to the low hills, the swamps being impenetrable." Now we learn from Mr. Jewel that this famous locality is swallowed up in Gatun Lake.

In 1895, the Italian ornithologist Festa made a considerable collection at Punta de Sabana, Darien, and incidentally recorded a few species from Colon and Panama city.

In March, 1900, Mr. W. W. Brown, Jr., spent twenty-eight days at Loma del Leon, collecting for Mr. Outram Bangs, and secured 752 skins representing 148 species. He also secured a collection of 86 species in the vicinity of Panama city on the Pacific side of the isthmus, where the country is much drier with a scrubby growth.

At the same time that Mr. Jewel was making his collection Mr. E. A. Goldman visited the isthmus in the interests of the United States Biological Survey, but with the exception of descriptions of some new species obtained by him his collection has not yet been reported upon.

Mr. Jewel's collection represents 236 species and was made mainly

at Gatun, some three miles north of the historic Loma del Leon. Other localities where he collected were Agua Clara, Mindi and Mt. Hope, between Gatun and Colon; Toro Point, across the harbor from the latter city, and Ft. Lorenzo on the sea front just west of the Zone border. A few specimens were also secured at Tabernilla, almost half way across the isthmus, and at Pedro Miguel and Miraflores, nearer to Panama.

While the ornithology of the Canal Zone is supposed to be pretty well known, every large collection from the region contains a few species not hitherto reported, and in view of the increased interest in the country due to the opening of the canal it has seemed desirable to add to my report on Mr. Jewel's collection the names of such other species as have been recorded from the region, so that we may have a complete list of the avifauna. In making this compilation, in addition to the papers above quoted, the "British Museum Catalogue of Birds"; "Biologia Centrali-Americana" and Ridgway's "Birds of North and Middle America" have been consulted. It is possible that a few of the species recorded do not occur in the Canal Zone, as in some cases "Panama" has been understood as referring to the city while it may have been intended to denote the isthmus in general.

From the light that Dr. Frank M. Chapman has thrown upon the distribution of neotropical bird life in his "Distribution of Bird Life in Colombia" we now recognize the importance of what he terms "the Panama fault" and realize that many species are absent from the Canal Zone and its immediate vicinity which occur in the mountains of Chiriqui to the west and in the highlands of eastern Panama. As Chapman has shown, the subtropical and higher life zones are entirely lacking in the lower country of the Canal Zone, so that only the tropical fauna remains; subtropical species, therefore, which are usually quoted as occurring from Costa Rica to Ecuador have a gap in their range coextensive with the low ground of the isthmus.

In the list which follows the species not contained in the Jewel collection are placed in their proper systematic position, but have their numbers enclosed in brackets. North American migrants are marked with an asterisk.

TINAMIDÆ.

[1.] *Tinamus castaneiceps* Salvadori. Chestnut-headed Tinamou.

2. *Crypturus soui modestus* (Cabanis). Pileated Tinamou.

Female, Tabernilla, March 19, 1911. Iris brownish-yellow, bill fuscous lighter below, feet yellowish-green.

One of a pair flushed in a thicket by a stream. They usually run

and hide but fly strongly when forced, evidently common but hard to find. Have seen them also near Gatun. This bird contained an egg ready to lay, very large for the size of the bird.

ODONTOPHORIDÆ.

3. *Odontophorus guianensis marmoratus* (Gould).

Two males, Gatun, September 3, 1911, and February 22, 1912. Iris brown, bare skin of face orange, bill black, feet dark greenish-slate.

On September 3, a covey of nine was flushed from rocks in the forest. They fly straight away when disturbed and are strong on the wing. Never seen in the open.

CRACIDÆ.

[4.] *Crax panamensis* Ogilvie-Grant. Panama Curassow.

[5.] *Penelope cristata* (Linnæus). Crested Guan.

6. *Ortalis cinereiceps* (Gray). Gray-headed Guan.

Female, five miles south of Gatun, November 9, 1911. Iris grayish-brown, bill black-grayish at tip, feet steel-gray.

Shot from a flock of four.

COLUMBIDÆ.

[7.] *Columba rufina pallidicrissa* (Chubb). Pale-vented Pigeon.

[8.] *Columba subvinacea subvinacea* (Lawrence). Ruddy Pigeon.

[9.] *Columba nigrirostris* Selater. Short-billed Pigeon.

10. *Columba speciosa* Gmelin. Scaled Pigeon.

Male, Gatun, May 21, 1911. Iris brown, bill coral-red with white tip, feet purplish.

Found in a low flat thicket on the bank of Gatun dam and flew in rather labored manner for the forest.

11. *Chaemepelia rufipennis rufipennis* (Bonaparte). Ruddy Ground Dove.

Male and female, Gatun, February 12 and 26, 1911. Iris red, bill light with darker tip, feet reddish-pink.

A very common species in low lands along streams, sometimes flying into the jungle growth when flushed. A nest found August 18, 1912, was a flat platform of twigs built on and between two fair-sized limbs of a tree eighteen feet from the ground in second-growth pasture. Eggs two, .89 x .65 and .86 x .66 ins.

12. *Chaemepelia minuta elaeodes* Todd. Plain-breasted Ground Dove.

A pair, Miraflores, March 5, 1911. Iris light yellowish-brown, bill grayish, feet pink.

13. *Claravis pretiosa* (Ferrari-Perez). Blue Ground Dove.

A pair, Gatun, April 20, 1911. Iris light pinkish-yellow, bill greenish with a dark line on the culmen and gonys, feet pink.

Female was about to oviposit.

14. *Leptotila verreauxi verreauxi* (Bonaparte). Verreaux's Dove.

Two males, Gatun, May 28, and Minti, October 7, 1911. Iris light yellowish-orange, bill black, feet coral red, circumorbital area deep blue.

The latter specimen is largely in the juvenal plumage.

The call of this bird was a single "coo," very deceptive as to distance, and in quality resembling two notes of a chord.

15. *Leptotila cassini cassini* (Lawrence). Cassin's Dove.

A male from Gatun, August 6, 1911; female, Trinidad River, March 12, 1911. Iris light yellow, bill black, circumorbital space coral-red, feet red.

Found in the forest along the trails. This bird has a peculiar habit of bobbing the head and tail, but the movement is not a movement of the entire body as in the sandpipers.

Nest a frail platform of sticks in a large bush, overhanging the trail through a heavily overgrown pasture, at Gatun. Egg, 1.15 x .83 ins.

[16.] *Oreopeleia montana* (Linnæus). Ruddy Quail Dove.**RALLIDÆ.****17. *Aramides cajanea*** (P. L. S. Müller). Cayenne Wood Rail.

A male from the Chagres River, below Gatun, June 21, 1911, and a female from Gatun, April 28, 1912, are lighter colored than specimens from the Orinoco delta, especially as regards the gray of the throat and fore breast. Iris red, bill greenish at the tip passing into yellow basally, feet deep reddish-pink.

A nest found April 27, 1913, at Toro Point, on the edge of woods at the head of a small stream, was made from a bunch of leaves and trash lodged on top of the bushes, eight feet up. A few strips of dead banana leaves, some twigs and a few green leaves had apparently been added to the mass already there. There was one egg, 2.06 x 1.34 ins. The bird sat very close and would not leave until the bush was shaken.

18. *Porzana carolina (Linnæus). Sora.

A female from Toro Point, October 1, 1911. Iris reddish-brown, bill yellowish-green, tarsi greenish-olive.

Shot on the bare beach at the foot of a cliff.

19. *Creciscus albigularis* (Lawrence). White-throated Crake.

Two males secured at Gatun, April 4, 1911, and April 14, 1912; also a jet black downy young from the same locality, September 21, 1911, evidently only recently hatched. Adult: iris reddish-brown, bill sooty-black above green on the sides and lighter below, feet greenish-black. Young: iris black, bill white, feet brownish-horn.

Found in heavy grass in dry field near a marshy flat. Bird had a striking whistle of alarm and a "gathering call" when running similar to that of the Bobwhite.

20. *Ionornis martinicus* (Linn).

Female, Gatun Lake, July 9, 1911. Iris reddish-brown, bill bright red with greenish-yellow tip and purplish-blue frontal shield, feet yellow.

Flushed from a small grassy island, dove when shot, but stayed under water but a short time.

HELIORNITHIDÆ.**21. *Helhornis fulica* (Boddaert).** American Finfoot.

Female, Gatun Lake, February 23, 1913. Iris brown, lids red, bill red passing into white on lower part of the mandible, feet barred-black and yellowish-white.

A very shy bird. Its call is a peculiar "bark" of one to three notes. This specimen was nearly ready to incubate.

COLYMBIDÆ.**[22.] *Colymbus dominicus brachyrhynchus* Chapman.** Mexican Grebe.**LARIDÆ.*****23. *Hydrochelidon nigra surinamensis* (Gmelin).** Black Tern.

Female, Gatun Lake, December 3, 1911. Iris brown, bill black, feet blackish-brown.

***24. *Sterna hirundo* Linnæus.** Common Tern.

Male, shot from a flock, Gatun Lake, December 3, 1911, and a solitary female, from same locality, June 9, 1912 (in Amer. Mus. Nat. Hist.). Iris brown, bill black lighter at the tip and reddish at base, feet light orange-brown.

CHARADRIIDÆ.***25. *Aegialitis semipalmata* (Bonaparte).** Semipalmated Plover.

A pair from Toro Point, July 23, 1911, shot from a flock of eight on the mud flats. Iris black, bill black with a narrow yellow-orange band from the nostrils underneath the mandible in a half ring, feet greenish-yellow.

It was also present, August 4, 1912, and September 4, 1911.

[26.] *Aegialitis collaris* (Vieillot). Collared Plover.

*27. *Oxyechus vociferus vociferus* (Linnæus). Killdeer.

One specimen, Gatun, February 18, 1912.

RECURVIROSTRIDÆ.

*28. *Himantopus mexicanus* (P. L. S. Müller). Black-necked Stilt.

A female, Gatun, November 12, 1911. Iris reddish-brown, bill blackish, feet deep pink.

Observed for a week on the edge of the hydraulic fill of Gatun dam.

SCOLOPACIDÆ.

*29. *Numenius hudsonicus* Latham. Hudsonian Curlew.

A female, Gatun, October 18, 1911, shot from flock of four feeding in a pasture on grasshoppers and butterflies. Iris brown, bill dusky-greenish becoming black at the tip, feet grayish-blue.

*[30.] *Macrorhamphus griseus griseus* (Gmelin). Dowitcher.

*[31.] *Totanus melanoleucus* (Gmelin). Greater Yellowlegs.

*32. *Totanus flavipes* (Gmelin). Lesser Yellowlegs.

A solitary male obtained at Gatun, May 21, 1911, and a flock of half a dozen seen at the same place August 27, 1911. A female was also obtained at Mindi, October 7, 1911. Iris brown, bill black, feet yellow.

Frequented a grassy marsh below the dam.

*33. *Helodromas solitarius solitarius* (Wilson). Solitary Sandpiper.

Female, Gatun, September 10, 1911 (not preserved); male, Mt. Hope, April 13, 1913. Iris brown, bill greenish becoming black terminally, feet green.

A flock of four were seen September 10 in a small running stream.

*34. *Actitis macularia* (Linnæus). Spotted Sandpiper.

Specimens obtained at Gatun, February 22, September 4 and October 1, 1911, and April 28, 1912; also at Pedro Miguel, April 23, 1911, Toro Point, August 4, 1912.

The individual obtained April 23 alighted on a dead tree top, four feet above the water, an unusual action in a wader.

*35. *Bartramia longicauda* (Bechstein). Field Plover.

Two males, Gatun, October 12, 1911. Iris brown, bill yellowish with dusky tip, feet yellowish-green.

Flushed in an open field.

*36. *Ereunetes pusillus* (Linnæus). Semipalmated Sandpiper.

Female, Toro Point, September 4, 1911. Iris, bill and feet black. One of a few associated with many *Pisobia minutilla* on the beach.

*37. *Tryngites subruficollis* (Vieillot). Buff-breasted Sandpiper.

One of a pair found on dry pasture land at Gatun, October 18, 1911. Iris brown, bill dusky-greenish, feet greenish.

*38. *Pisobia minutilla* (Vieillot). Least Sandpiper.

Two males, Toro Point, September 4, 1911. Iris brown, bill black, feet dusky-greenish.

Obtained from a flock of a dozen or more on the beach.

Another was obtained at Mt. Hope, August 31, 1913.

*39. *Pisobia maculata* (Vieillot). Pectoral Sandpiper.

Two females obtained at Mindi, in a grassy marsh, October 7 and 22, 1911. Iris black, bill blackish-green, feet greenish.

*[40.] *Pisobia fuscicollis* (Vieillot). White-rumped Sandpiper.

*41. *Gallinago delicata* (Ord.). Wilson's Snipe.

Male, Mindi, October 22, 1911, one of a bag of twelve killed in a grassy marsh. Iris brown, bill dusky-green tipped with black, feet yellowish-green.

JACANIDÆ.

42. *Jacana nigra* (Gmelin). Black Jacana.

Three specimens, male and female, Gatun Lake, July 9, 1911, where it was very common, and a female from Agua Clara, Trinidad River, March 12, 1911. A specimen in the American Museum of Natural History was obtained at Mindi, November 3, 1911. Iris greenish-yellow, bill greenish fading to pink at the base and yellow below at the base, frontal shield lavender, feet green washed with blue, wing spur bright yellow.

A common species on grassy knolls in the lake.

[43.] *Jacana melanopygia* (Sclater). Black-rumped Jacana.

EURYPYGIDÆ.

[44.] *Eurypyga major* Hartlaub. Greater Sun Bittern.

IBIDIDÆ.

[45.] *Harpiprion cayennensis* (Gmelin). Cayenne Ibis.

CICONIIDÆ.

[46.] *Mycteria americana* Linnæus. Wood Ibis.

ARDEIDÆ.

[47.] *Ardea herodias lessonii* Wagler. Great Blue Heron.

[48.] *Egretta candidissima* (Gmelin). Snowy Egret.

[49.] *Herodias egretta* (Gmelin). American Egret.

50. *Florida caerulea* (Linnæus). Little Blue Heron.

Two males, Chagres River, below Gatun, February 19, 1911, one in

the immature white plumage, the other in the adult blue. Iris bright yellow, bill light blue shading to black at the tip, feet greenish.

A most abundant species, to be seen at almost any time in almost any quantity.

51. *Hydranassa tricolor ruficollis* (Gosse). Louisiana Heron.

Female, Gatun, February 18, 1912. Iris bright yellow, bill sooty-black on the culmen, pale yellow at the gonys, bare skin yellow, feet greenish.

52. *Nycticorax nycticorax nævius (Boddaert). Black-crowned Night Heron.

An immature female, Mindi, October 29, 1911. Dull gray and somewhat streaked below, but with the top of the head and interscapulum greenish-black.

[53.] ***Cochlearius zeledoni*** Ridgway. Zeledon's Boatbill.

[54.] ***Pilherodius pileatus*** (Boddaert). Capped Heron.

55. *Butorides striata* (Linnæus). Black-crowned Heron.

Two males, Gatun, June 9, 1912, and July 16, 1911. Iris bright yellow, bill black with yellow at the base and the gonys, feet yellow.

56. *Butorides virescens hypernotius Oberholser. West Indian Green Heron.

Male, Gatun, September 17, 1911. Iris bright yellow, maxilla black with pale tomia, mandible greenish-yellow, feet greenish-yellow.

[57.] ***Tigrisoma lineatum*** (Boddaert). Tiger Bittern.

[58.] ***Tigrisoma cabanisi*** Heine. Cabanis' Tiger Bittern.

59. *Ixobrychus exilis* (Gmelin). Least Bittern.

Female, Mt. Hope, September 13, 1913. Iris bright yellow, bill dusky above, yellow below, feet yellowish.

A crippled bird, nearly starved.

[60.] *Botaurus lentiginosus (Montagu). American Bittern.

ANATIDÆ.

[61.] ***Cairina moschata*** (Linnæus). Muscovy Duck.

[62.] ***Dendrocygna autumnalis*** (Linnæus). Black-bellied Tree Duck.

[63.] *Anas platyrhynchos Linnæus. Mallard.

[64.] *Dafila acuta (Linnæus). Pintail.

65. *Querquedula discors (Linnæus). Blue-winged Teal.

Female, Mindi, October 22, 1911. Iris brown, bill greenish-black paler below, feet dull yellow with dark joints and webs.

This bird has rusty stains on the plumage of the entire lower parts. One of a flock on the Mindi marshes.

66. *Marila affinis (Eyton). Lesser Scaup Duck.

Female, Gatun, November 25, 1911. Iris brown, bill blackish, feet bluish-gray with black joints and webs.

The species was abundant on Gatun Lake on November 26.

PHALACROCORACIDÆ.

67. *Phalacrocorax vigua vigua* (Vieillot). Brazilian Cormorant.

Female, Gatun Lake, December 17, 1911. One of a flock roosting in a dead tree in the water. It is in the brown immature plumage.

SULIDÆ.

68. *Sula leucogastra* (Boddaert). Booby.

Female in brown immature plumage secured at sea sixty miles north of Colon, December 4, 1910. Iris grayish-white, bill dark bluish-horn color lighter at the tip, tarsi bluish-white, feet yellowish.

PELECANIDÆ.

- [69.] *Pelecanus occidentalis* Linnæus. Brown Pelican.

FREGATIDÆ.

- [70.] *Fregata minor palmerstoni* (Gmelin). Pacific Man-o'-war Bird.

CATHARTIDÆ.

- [71.] *Gypagus papa* (Linnæus). King Vulture.
 [72.] *Cathartes aura aura* (Linnæus). Turkey Vulture.
 [73.] *Catharista urubu* (Vieillot). Black Vulture.

FALCONIDÆ.

74. *Ibycter americanus* (Boddaert). Red-throated Caracara.

Male, Rio Indis, four miles from Gatun, November 19, 1911. Iris, bare skin of throat and face and tarsi orange red, claws black, bill yellow, cere grayish-blue.

- [75.] *Milvago chimachima* (Vieillot). Yellow-headed Caracara.
 *76. *Circus hudsonius* (Linnæus). Marsh Hawk.

Female, Gatun, December 11, 1910. Iris dark brown, bill horn color black at tip, cere and feet yellow.

One of a pair which beat along the shores of Gatun Lake daily for a week or more. A common species in winter.

- [77.] *Micrastur melanoleucus* (Vieillot). Black and White Hawk.
 [78.] *Micrastur mirandollei* (Schlegel).
 79. *Micrastur guerilla interstes* Bangs. Cassin's Barred Hawk.

Male, Agua Clara, May 19, 1912, and female, Gatun, August 27, 1911, both in immature plumage, are referred to this species. The male is marked above with indistinct buff transverse spots on the wings and interscapulum and with narrow dark-brown bars below. The female is plain buff except on the sides of the breast and flanks, where there are a few transverse brown bands partially obscured by the buff feathers. Iris grayish-brown, cere yellowish or olive-green,

bill horn color, mandible yellow at base almost all yellow in female, feet yellow.

The latter bird was shot from a perch in low bushes in the forest near a small marshy stream. Its stomach was filled with remains of slugs, batrachians and small lizards.

[80.] *Geranospizias niger* (DuBus). Blackish Crane Hawk.

[81.] *Accipiter collaris* Kaup. Semi-collared Hawk.

[82.] *Accipiter bicolor* (Vieillot). Four-banded Hawk.

*[83.] *Accipiter velox* (Wilson). Sharp-shinned Hawk.

*84. *Buteo platypterus* (Vieillot). Broad-winged Hawk.

Adult male, Gatun, December 13, 1911, and female in striped plumage, Gatun, November 30, 1911. Iris grayish-brown, bill black bluish at the base, cere greenish-yellow, feet yellow.

Male shot in the heavy forest, the other in a clearing near the edge of the forest.

*85. *Buteo swainsoni* Bonaparte. Swainson's Hawk.

Female, Mindi, October 22, 1911. Quite dark above and below. Iris brownish-gray, bill grayish-blue with dusky tip, cere dull greenish, feet pale yellow.

Another specimen was given to the U. S. Biological Survey.

86. *Asturina nitida* (Latham). Shining Buzzard Hawk.

Male, Gatun, November 3, 1911. This interesting specimen is in immature striped plumage and is referred to this species on the basis of comparison with adults, as I have no authentic specimens in this stage of plumage. The light bases and margins to the feathers of the head are pale buff, those of the back and wings more strongly rusty. Below the throat is nearly white, but the rest of the ground color tawny-buff. The brown spots are very coarse. The primaries are cream with blackish tips, with a rusty suffusion where the colors join. There are narrow dusky cross bars, fewer on the primaries than on the secondaries, so that the under part of the closed wing is almost uniform creamy buff, except for the dusky terminal portion. Iris grayish-brown, bill black, cere and feet yellow.

Stomach contained a large lizard and the gullet a fair sized mouse.

87. *Rupornis magnirostris ruficauda* (Selater and Salvin). Large-billed Hawk.

Female, Trinidad River, eight miles south of Gatun, March 24, 1912. Iris bright yellow, bill black, bluish at base, cere and feet yellow.

[88.] *Busarellus nigricollis* (Latham). Black-collared Hawk.

[89.] *Urubitinga urubitinga* (Gmelin). Brazilian Eagle.

90. *Urubitinga anthracina* (Nitzsch). Mexican Black Hawk.

Male, Ft. Lorenzo, January 7, 1912. Iris brown, bill blue-black, base and cere and feet yellow.

Shot from a palm tree. It had been feeding on carrion in the marsh.

- [91.] *Leucopternis semiplumbea* Lawrence. Semiplumbeous Hawk.

92. *Leucopternis ghiesbreghti* (DuBus). Ghiesbrecht's Hawk.

Female, Gatun, February 22, 1911, and another not now in the collection, July 28, 1912. Iris dark brown, bill grayish-blue dusky at tip, cere and orbital ring bluish, feet pale yellow.

Shot in the thick forest. Had a peevish whistled note. Another female was shot previously at the same spot; it is always found in the jungle timber, and had apparently just deposited eggs.

- [93.] *Morphnus guianensis* (Daudin). Guiana Crested Eagle.

- [94.] *Thrasaetus harpyia* (Linnæus). Harpy Eagle.

- [95.] *Spizaetor melanoleucus* (Vieillot). Black and White Eagle.

- [96.] *Spizaetus ornatus* (Daudin). Manduit's Hawk Eagle.

97. *Spizaetus tyrannus* (Wied.). Tyrant Hawk Eagle.

Female, Gatun, February 4, 1912. Iris bright orange, bill blue-black, cere slaty, toes yellow.

Shot in the forest.

98. *Harpagus bidentatus* (Latham). Double-toothed Hawk.

Male, Gatun, June 9, 1912. Iris purplish-red, bill black, slaty on the sides and beneath, cere greenish, tarsi yellow.

- [99.] *Herpetotheres cachinnans* (Linnæus). Laughing Hawk.

- [100.] *Elanoides forficatus* (Linnæus). Swallow-tailed Kite.

- [101.] *Leptodon uncinatus* (Temmink). Red-collared Kite.

- [102.] *Ictinea plumbea* (Gmelin). Plumbeous Kite.

- *[103.] *Falco columbarius* Linnæus. Pigeon Hawk.

104. *Falco albigularis* Daudin. White-throated Hawk.

Female, Toro Point, August 4, 1912. Iris brown, bill black, blue-gray at base, cere and feet rich yellow.

Shot flying along the beach.

- *105. *Cerchneis sparveria sparveria* (Linnæus). Sparrow Hawk.

Male, Gatun, January 29, 1911. Several others killed and given away—March 5, 1911, April 4, 1911.

- [106.] *Pandion haliaetus carolinensis* (Gmelin). Osprey.

TYTONIDÆ.

107. *Tyto perlata guatemalae* (Ridgway). Central American Barn Owl.

Male, Gatun, August 1, 1911. Iris black, bill whitish ivory.

One of a pair living in ventilators of a building in the town. Always came out at dusk and flew in the same direction.

BUBONIDÆ.

- [108.] *Rhinoptynx clamator* (Vieillot). Striped Horned Owl.
 [109.] *Otus choliba* (Vieillot). Cholibia Screech Owl.
 [110.] *Otus vermiculatus* (Ridgway). Vermiculated Screech Owl.
 [111.] *Pulsatrix perspicillata perspicillata* (Latham). Spectacled Owl.
 [112.] *Ciccaba nigrolineata nigrolineata* Selater. Black and White Owl.
 [113.] *Ciccaba virgata virgata* Cassin. Cassin's Owl.

PSITTACIDÆ.

114. *Ara macao* (Linnæus). Scarlet Macaw.

A cage bird said to have been taken on the upper Trinidad.

- [115.] *Ara chloroptera* Gray. Red, Blue and Green Macaw.
 [116.] *Ara ambigua* (Bechstein). Buffon's Macaw.
 [117.] *Ara severa* (Linnæus). Severe Macaw.
 [118.] *Eupsittula ocularis* (Selater and Salvin). Veragua Parrot.
 [119.] *Pyrilia haematotis coccinollaris* (Lawrence). Red-necklaced Parrot.
 [120.] *Amazona autumnalis salvini* (Salvadori). Salvin's Parrot.
 [121.] *Amazona ochrocephalus panamensis* (Cabanis). Panama Parrot.
 122. *Amazona farinosa inornata* (Salvadori). Plain-colored Parrot.

Female, Gatun, June 4, 1911. Iris brown in young bird, red in adult; bill horn color with yellowish spot on side, cere grayish becoming darker with age, feet dark gray becoming yellow in adult, bare skin of chin and around the eye white.

Found in heavy forest sitting motionless in a large tree with two others, probably young. Gullet was filled with very hard white seeds.

123. *Pionus menstruus* (Linnæus). Blue-headed Parrot.

Female, Trinidad River, near Agua Clara, March 12, 1911. Iris brown, bill lighter at base and with a large red spot on the sides of the mandible, cere black.

A noisy species.

124. *Brotoyeris jugularis* (Müller). Tovi Parrakeet.

Two females, Gatun, May 14, and Toro Point, April 2, 1911. Iris brown, bill and feet light gray-brown, cere very light ashy.

Remarkably swift in flight and usually shy.

ALCEDINIDÆ.

125. *Streptoceryle torquata torquata* (Linnæus). Ringed Kingfisher.

Female, Chagres River, four miles below Gatun, February 19, 1911. Eyes black, bill black, feet bluish-black.

Found all along the river. They are comparatively shy and hard to approach, dashing out of the foliage and holding close to the shore in the shadow of the banks.

*126. *Streptoceryle alcyon alcyon* (Linnæus). Belted Kingfisher.

Male, Toro Point, October 1, 1911. Iris brown, bill black, feet dark brown.

One of six or eight migrants.

127. *Chloroceryle amazona* (Latham). Amazon Kingfisher.

Male, Gatun River, July 8, 1911. Iris brown, bill and feet black. Shot three miles up the river, well into the forest.

128. *Chloroceryle americana isthmica* (Goldman). Isthmian Green Kingfisher.

Two females, Gatun, January 29 and April 18, 1911; male, Chagres River, near the sea, June 11, 1911. Iris dark brown, bill and feet black.

The most common Kingfisher.

[129.] *Chloroceryle inda* (Linnæus). Green and Rufous Kingfisher.

130. *Chloroceryle aenea aenea* (Pallas). Least Green Kingfisher.

Male, Gatun, July 9, 1911. Iris black, bill black with pale stripe on the gonys, feet sooty-brown.

MOMOTIDÆ.

131. *Urospatha martii semirufa* (Selater). Greater Rufous Motmot.

Male, Gatun, August 18, 1912. Iris dark brown, bill and feet black.

Stomach contained a small red crab, entire.

132. *Momotus subrufescens conexus* (Thayer and Bangs). Small-billed Motmot.

Male, Gatun, March 17, 1912. Iris reddish-brown, bill black, feet flesh color.

133. *Electron platyrhynchus minor* (Hartert). Lesser Broad-billed Motmot.

Two males, Gatun, August 20, 1911, and April 28, 1912. Iris brown, bill and feet black.

Found in heavy forest.

[134.] *Hylomanes momotula obscurus* Nelson. Panama Tody Motmot.

NYCTIBIIDÆ.

135. *Nyctibius griseus panamensis* Ridgway. Panama Potoo.

Male, Gatun, August 11, 1912. Iris golden yellow, bill blackish, feet light brown.

[136.] *Nyctibius grandis* (Gmelin). Great Potoo.

CAPRIMULGIDÆ.

137. *Nyctidromus albicollis albicollis* (Gmelin). Parauque.

Male and female, Gatun, February 5, 1911, and April 7, 1912. Iris brown, bill brown, feet gray-brown.

May be flushed from the ground in almost any medium thick growth,

where it rests in the shade. Female specimen flushed from eggs laid on the bare ground on an old path. They measured 1.10 x .84 and 1.12 x .86 ins.

[138.] *Stenopsis cayennensis albicauda* (Lawrence). White-tailed Stenopsis.

[139.] *Antrostomus rufus rufus* (Boddaert). Rufous Goatsucker.

*140. *Chordeiles virginianus virginianus* (Gmelin). Nighthawk.

Female, Gatun, October 3, 1911. Bill black, tarsi grayish.
One of a flock feeding overhead.

*141. *Chordeiles acutipennis texensis* (Lawrence). Texas Nighthawk.

Male and female, Gatun, December 10, 1911.

MICROPODIDÆ.

142. *Chaetura cinereiventris fumosa* (Salvin). Smoky Swift.

Male, Gatun, May 14, 1911.

One of a flock feeding along the base of a hill over a wild banana plantation. Sexual organs well developed.

143. *Chaetura chapmani* Hellmayr. Chapman's Swift.

Two females, Gatun, July 9, 1911. Iris dark-brown, bill black, tarsi sooty-brown.

Two of a large flock feeding over the jungle below Gatun dam. This seems to be the first record of this species from Panama.

This species was described by Mr. Hellmayr (Bull. Brit. Orn. Club, xix, p. 62, 1907) from a Trinidad specimen collected by Dr. F. M. Chapman and recorded by him as *C. cinereicauda* Cassin (Bull. Amer. Mus. Nat. Hist., 1895, p. 324). Before describing it as distinct Mr. Hellmayr sent me a specimen of this and allied forms for comparison with Cassin's type. As he has stated, I found Cassin's specimen to be identical with *C. brachyura* (Jardine). At the same time I found a specimen of the proposed *C. chapmani* in the Academy collection, and a comparison of this with the Panama specimens before me positively confirms my identification. This extends the range of the species northward, as it was previously known only from Trinidad and French Guiana according to Hellmayr.

TROCHILIDÆ.

144. *Threnetes ruckeri* (Bourcier). Rucker's Hermit.

Two males, Gatun, February 12, 1911, and January 28, 1912. Iris black, maxilla black above with a narrow yellow strip on each side from the base, mandible yellow with a black tip, feet pink.

A bird of the jungle, a noisy species.

145. *Glaucis hirsuta affinis* (Lawrence). Lesser Hairy Hermit.

Two males and a female, Gatun, February 5 and May 7, 1911, and April 30, 1911. Iris black, maxilla black, mandible yellow with black tip, feet flesh color.

A bird of the thick jungle, always well below the top foliage.

Four nests found April 30 hung on blades of thorny palm leaves fastened with cobweb. May 7, one nest contained two pure white eggs, .35 x .61 and .34 x .62 in.

146. *Phoethornis adolphi saturatus* Ridgway. Dusky Hermit.

Two males, Gatun, April 9, 1911. Iris black, maxilla black, mandible bright yellow abruptly black near tip, feet flesh color.

Frequently seen but always near the same spot, a stretch of jungle just west of Gatun dam. They seldom fly over twelve inches from the ground, usually under the foliage, darting about like bees. They are very noisy, chirping constantly one note at a time and then several rapid notes of varying pitch. This sounds so like several birds that I have more than once crept close and looked long to find a single individual perched on a leaf stem a few inches from the ground, beating his little tail up and down as though he would break himself in two and chirping away for dear life. Once I saw one leave a leaf stem about eight inches from the ground and hanging on invisible wings revolve around and around as if he were a weight suspended at the end of a thread, first one way and then the other as if winding and unwinding. Then with great energy he flew in a figure eight back and forth over the same path, and the figure was not over eighteen inches long. (Jewel.)

147. *Phoethornis longirostris cephalus* (Bourcier and Mulsant). Nicaraguan Hermit.

Two males and a female, Gatun, February 12, May 7 and 30, 1911. Iris black, bill black with base of mandible yellow, feet pink.

A bird of the thick jungle. Its nest was hung on the underside of a broad leaf at the pendant tip. It was a compact cup of grass stalks wrapped onto the leaf tip with spiders' webs, the nest tapering down below the end of the leaf. The bird sits facing the leaf with his bill pointed straight up against it. The broad point of the leaf arches overhead like a roof. (Jewel.)

148. *Phaeochroa cuvieri cuvieri* (DeLattre and Bourcier). Cuvier's Hummingbird.

Two males, Gatun, April 14, 1914. Iris brown, bill black, basal half of mandible pink, feet black.

149. *Florisuga mellivora* (Linnæus). Jacobin Hummingbird.

Two males and two females, Gatun, April 14, May 30, and April 9, May 21, 1911. Iris, bill and feet black.

Stomach filled with very small insects of a greenish metallic lustre. A bird of the jungle.

150. *Polyerata amabilis* (Gould). Lovely Hummingbird

Three males, Gatun, January 1, February 11, 1912, and April 9, 1911. Iris dark brown, bill black yellowish below with black tip, feet black.

Shot in the jungle.

151. *Lepidopyga caeruleocularis* (Gould). Duchassain's Hummingbird.

Three males and a female, Gatun, March 2, 1911, and May 30, August 11, 1912; two other males, Mt. Hope, August 31, 1913, and Ft. Lorenzo, January 7, 1912. Iris and feet black, maxilla black, mandible pink with a black tip.

152. *Saucerottia edwardi* (DeLattre and Bourcier). Wilson's Hummingbird.

Three males, Gatun, April 14, 1911 (2), March, 1912. Iris, feet and maxilla black, mandible pale tipped with black.

Obtained in the forest.

[153.] ***Saucerottia niveoventer*** (Gould). Snowy-breasted Hummingbird.

154. *Amazilia tzacatl tzacatl* (De la Llave). Rieffer's Hummingbird.

Two males and two females, Gatun, July 4, 1911, May 30, 1912, and May 7, 1911, January 14, 1912. Iris and feet black, bill black purplish about the nostrils and below.

A nest found April 30 was on the horizontal limb of a shrub, five feet from the ground, a dainty cup of light yellow silky vegetable fiber, with a few gray lichens on the outside, all held together by a network of spiders' webs. Contained two fresh eggs May 7. Another nest about fifteen feet from the ground in similar situation found May 7 contained one egg and one young bird. (Jewel.)

It seems to the writer that it will be necessary to revert to the generic name *Amazilia* Lesson for these birds. When Dr. Oberholser proposed to adopt *Amizilis* Gray (Proc. Acad. Nat. Sci. Phila., 1899, p. 206) he asked me to verify some references for him and through a misunderstanding a quotation from Gray's large work, "Genera of Birds," was quoted as from his "List of Genera of Birds, 1840." This, however, does not affect the main question and is mentioned in order to correct an obvious error for which I am mainly responsible.

The generic name *Amizilis* does occur in Gray's 1840 "List" as correctly quoted in the 1910 edition of the "A. O. U. Check-List," *i. e.*, p. 14, with the following as its basis:

A. latirostris (Sw.) *n. Ois. M.*, pl. 12. *Or. amizili* Less.

The A. O. U. committee accepted *Orthorhynchus amizili* Less. as the type on the basis of Gray's use of it alone in his 1855 edition of the

"List." As a matter of fact, in all editions of the "List" we find on the title page "with an indication of the typical species of each genus" and the citation of a species in any edition is rightly regarded as a type designation for the genus under which it is quoted. Where two names are cited as above the second is obviously intended as a synonym of the first and is usually a reference to a plate or figure of the species. Gray's own statement on the title page, moreover, proves that he was citing but a single species under each genus.

In the present case he misidentified the *Cynanthus latirostris* of Swainson, thinking it the same as *Orthorhynchus amizili* Lesson, and did not correct his error until the 1855 edition. Upon this basis *C. latirostris* becomes the type of *Amizilis* Gray, 1840, which, therefore, becomes a synonym of *Cynanthus* Swainson, 1827.

Amazilia Lesson, L'Echo du Monde Sav. ser. 2, viii, No. 32, Oct. 22, 1843, col. 757, seems to be the first name available for the present genus. Mr. Ridgway (Birds of N. and Mid-America, vol. V, p. 405) quotes five species as mentioned by Lesson, and of these I would designate *Ornismia cinnamomea* Less. (= *O. rutila* DeLattre) as the type of *Amazilia* Lesson.

155. *Hylocharis eliciae* (Bourcier and Mulsant). Elicia's Golden-tail.

Male, Gatun, July 28, 1912. Iris black, bill bright red, terminal third black, feet blackish.

[156.] ***Damophila panamensis*** Berlepsch. Panama Hummingbird.

157. *Chlorostilbon assimilis* Lawrence. Allied Emerald.

Male and female, Gatun, April 5, 1912, and October 14, 1911. Iris and feet black, maxilla black, mandible orange-brown tipped with black.

158. *Thalurania colombica colombica* (Bourcier). Colombian Wood Nymph.

Four males and two females, Gatun, May 14, June 4 (2), 1911, February 4, 1912, and May 28, 1911, July 28, 1912. Iris and bill black the latter yellowish at extreme base, feet black, under side of toes pink.

Found in the jungle.

[159.] ***Chalybura buffoni*** (Lesson). Buffon's Plumeteer.

160. *Anthracothorax nigricollis nigricollis* (Vieillot). Black-throated Mango.

Two males and a female, Gatun, May 14, 21 and 28, 1911. Iris, bill and feet black.

In wild banana thickets on the edge of the jungle.

[161.] ***Heliothryx barroti*** (Bourcier and Mulsant). Barrot's Fairy.

[162.] ***Anthoscenus longirostris longirostris*** (Vieillot). Long-billed Star-throat.

[163.] *Lophornis delattrei* (Lesson). DeLattre's Coquette.

[164.] *Popelairia conversii aequatorialis* (Berlepsch and Taczanowski). Salvin's Thorn-tail.

TROGONIDÆ.

165. *Curucujus massena* (Gould). Massena Trogon.

Two males and two females, April 13, 1911, March 2, 1913, and June 11, 1911, March 2, 1913. Iris brownish-yellow in male, brown in female, bill red in male; mandible yellow, maxilla black in female, feet grayish-brown.

Female, June 11, contained an egg nearly ready to deposit, pure glossy white.

[166.] *Curucujus melanurus macrourus* (Gould). Large-tailed Trogon.

[167.] *Curucujus clathratus* (Salvin). Lattice-tailed Trogon.

168. *Trogon strigilatus chionurus* (Sclater and Salvin). White-tailed Trogon.

Male, Gatun, September 3, 1911. Iris dark brown, eyelids light blue, bill dull yellowish-green with a sooty terminal area, feet whitish.

Found in open forest.

169. *Chrysotrogon caligatus* (Gould). Gartered Trogon.

Male, Rio Trinidad, March 31, 1912. Iris brown, eyelids yellow, bill greenish-gray.

170. *Trogonurus curucui tenellus* (Cabanis). Graceful Trogon.

Two males and a female, Gatun, August 6 (pair), December 3, 1911. Iris brown or black, eyelids grayish-blue, bill yellowish-green, feet grayish-lead.

Found in heavy forest.

CUCULIDÆ.

*171. *Coccyzus americanus americanus* (Linnæus). Yellow-billed Cuckoo.

Female, Mindi, October 22, 1911.

172. *Piaya cayana thermophila* (Sclater). Central American Squirrel Cuckoo.

Female, Toro Point, March 3, 1912. Iris red, eyelids greenish-yellow, bill greenish-yellow, feet blackish-slate.

[173.] *Neomorphus salvini* Sclater. Salvin's Ground Cuckoo.

174. *Coccyua rutila panamensis* (Todd). Panama Cuckoo.

Male, Gatun, February 27, 1912. Iris and eyelids red, bill greenish-yellow, feet greenish-gray, mouth black inside.

[175.] *Dromococcyx phasianellus* (Spix). Pheasant Cuckoo.

[176.] *Crotophaga sulcirostris* Swainson. Groove-billed Ani.

177. *Crotophaga ani* Linnæus. Ani.

A pair, Gatun, August 11, 1912, and a male, Mt. Hope, June 1, 1913. Iris brown, bill and feet black.

A nest belonging to these birds in bush three feet from ground, a

bulky cup of sticks, weed stalks with rootlets inside, and a few green leaves partly covering the eggs, which were five in number, 1.37 x 1.01 to 1.46 x 1.05 ins., blue covered with white chalky deposit. The bird slipped off and crawled away through the weeds.

178. *Tapera naevia excellens* (Selater). Northern Striped Cuckoo.

Male, Gatun, November 5, 1911. Iris light reddish-brown, maxilla brown, black on the culmen, mandible pale-horn, feet grayish-blue. Stomach filled with grasshoppers.

CAPITONIDÆ.

179. *Capito maculicoronatus maculicoronatus* Lawrence. Spotted-crowned Barbet.

Male, Mt. Hope, February 22, 1913. Iris brown, bill and feet blue-gray.

RAMPHASTIDÆ.

[180.] *Ramphastos swainsonii* Gould. Swainson's Toucan.

[181.] *Ramphastos ambiguus* Swainson. Wagler's Toucan.

182. *Ramphastos piscivorus brevicarinatus* (Gould). Short-tailed Toucan.

Two males, Gatun, July 4 and 30, 1911. Iris bottle-green, bill yellowish-green with a triangular orange streak on the side of the maxilla, mandible bluish at base shading into the yellowish-green subterminally, ends of both blood red, a narrow black band all around the base, bare skin around the eye and throat green, feet bluish-green.

Call is loud and piercing, repeated rapidly and almost constantly.

[183.] *Selenidera spectabilis* Cassin. Cassin's Aracari.

184. *Pteroglossus torquatus torquatus* (Gmelin). Collared Aracari.

Male, Gatun, February 22, 1911. Iris bright yellow, bare skin around the eye and lores dark red, bill with a narrow white band around the base, mandible dark-horn color with one light spot beneath, maxilla black at end with a black stripe the full length of the culmen, sides lighter with reddish-brown shading near base, edge of "teeth" black, feet olive-green.

Shot on the edge of the jungle.

GALBULIDÆ.

[185.] *Jacamerops aurea* (Müller). Great Jacamar.

BUCCONIDÆ.

186. *Notharchus tectus subtectus* (Selater). Black-breasted Puff Bird.

Three females, Gatun, January 27, 28, 1912, and March 2, 1913. Iris brown, bill black, feet blue-black.

Stupid birds found in second growth, usually feeding on termites' nests, fluttering to the nest and then back to their perches.

- [187.] *Notharchus hyperrhynchus dysoni* (Sclater). Dyson's Puff Bird.
 [188.] *Notharchus pectoralis* (Gray). Black-breasted Puff Bird.
 [189.] *Ecchaunornis radiatus fulvidus* (Salvin and Godman). Fulvous Puff Bird.
 190. *Malacoptila panamensis panamensis* Lafresnaye. Panama Malacoptila.

Male, Agua Clara, May 19, 1912, and female, Gatun Lake, March 30, 1913. Iris red, bill dusky above greenish below, feet grayish-green.

- [191.] *Monasa fidelis* Nelson. Golden Nun Bird.
 [192.] *Monasa similis* Nelson. Cerro Azul Nun Bird.
 [193.] *Nonnula frontalis* Sclater. Panama Nonnula.

PICIDÆ.

194. *Centurus subelegans wagleri* (Salvin and Godman). Wagler's Woodpecker.

Three males, Tabernilla, March 19, Miraflores, March 5, and Toro Point, April 2, 1911, and female, Gatun, September 10, 1911. Iris brown, bill black, feet dark olive.

The specimen taken March 19 was one of a brood just leaving a nest in a dead stub about eighteen feet from the ground in an open field. Another nest in a hole, fifteen feet up in dead stub, April 28, 1912, contained two eggs, .94 x .70 and .93 x .69 in.

195. *Melanerpes pucherani pucherani* (Malherbe). Pucherani's Woodpecker.

Two males, Gatun, April 4 and May 30, 1911. Iris brown, bill black, feet greenish-gray.

First bird had nest hole in dead tree in a clearing.

- [196.] *Chloronerpes callopterus* Lawrence. Panama Woodpecker.
 197. *Celeus loricatus loricatus* (Reichenbach). Fraser's Woodpecker.

A pair, Mindi, October 22, 1911. Iris reddish-brown, bill pale greenish-yellow with dusky culmen, feet gray-green.

198. *Ceophloeus lineatus mesorhynchus* (Cabanis and Heine). Panama Pileated Woodpecker.

Male, Mt. Hope, August 31, 1913, and male, Gatun, November 12, 1911. Iris yellowish-white, bill brown, feet grayish-blue.

199. *Scapanus malherbii* (Gray). Malherbe's Woodpecker.

A pair, Gatun, November 12, 1911. Iris golden-yellow, bill brown, feet grayish-blue.

200. *Picuminis olivaceus panamensis* Ridgway. Panama Piculet.

Female, Gatun, May 28, 1911. Iris brown, bill black, feet greenish. Young male, Mindi, September 17, 1911.

FORMICARIIDÆ.

201. *Cymbilaimus lineatus fasciatus* Ridgway. Fasciated Ant-Shrike.

Female, Gatun, May 26, 1912. Iris carmine, bill black above gray below, feet blue-gray.

202. *Taraba transandean transandean* (Sclater). Holland's Ant-Shrike.

Male, Rio Siri, twenty miles from Gatun, November 19, 1911, and female, Gatun, March 29, 1911. Iris brownish-orange, bill black, feet bluish-gray. Female, Gatun, March 29, 1911. Iris red-orange.

Stomach of latter specimen contained many ants and a lizard three inches and a half in length, the legs and tail of which had been cut off and swallowed separately.

203. *Thamnophilus radiatus nigricristatus* (Lawrence). Black-crested Ant-Shrike.

Male, Tabernilla, March 19, 1911. Iris dull greenish-yellow, bill black above, bluish below, feet dark-bluish. Female, Gatun, April 30, 1911. Iris light yellow.

Found in clearings near the jungle.

204. *Erionotus punctatus atrinucha* (Salvin and Godman). Slaty Ant-Shrike.

Two males and two females, Gatun, July 30, 1911, February 11, 1912, and May 7, May 30, 1911. Iris brown, bill black above blue-gray below, feet grayish-blue.

Nest found May 7, 1911, in the horizontal fork of a horizontal limb, twelve feet from the ground, in a thick jungle. A very frail and pensile cup of grass stalks covered over on the sides loosely but heavily with fuzzy green moss, bottom so thin that there seemed danger of the eggs falling through. Contained one egg, .64 x .85 in., white, with a broad wreath of rufous brown spots at the larger end.

A bird of the jungle.

205. *Microrhophias boucardi virgata* (Lawrence). Panama Ant-Wren.

Female, Gatun, January 21, 1912. Iris black, bill black with blue tomial stripe, feet blue-gray.

A noisy, active, arboreal species, an inhabitant of the jungle.

206. *Myrmotherula surinamensis* (Gmelin). Surinam Ant-Wren.

Female, Rio Siri, March 31, 1912. Iris brown, bill brownish-black paler below, feet blue-gray.

Found in a clearing along the bank of the river. Nest pensile at end of slender branch six feet from ground, made of fine grasses with curtain of green moss on exposed side. Eggs two, July 13, 1912, .67 x .51 and .69 x .53 in., grayish-white, heavily speckled, mottled and washed with shades of cinnamon-brown, with a heavier wreath around the larger end.

[207.] *Myrmotherula pygmaea* (Gmelin). Pigmy Ant-Wren.**208. *Cercomacra nigricans* Sclater. Black Tyrannine Antbird.**

Two males, Colon, February 25, 1913, Toro Point, August 4, 1912. Iris brown, bill black, feet slaty.

209. *Cercomacra tyrannina tyrannina* (Selater). Tyrannine Antbird.

Female, Gatun, July 30, 1911. Iris grayish-brown, bill black above pale grayish-brown below, feet blue-gray.

Shot in a forest thicket.

[210.] ***Myrmopagis melaena*** (Selater). Black Ant-Wren.

211. *Myrmopagis fulviventris* (Lawrence). Lawrence's Ant-Wren.

Three males and a female, Gatun, May 14, 1911, January 21, July 21, 1912, and June 25, 1911. Iris light yellow, bill bluish-black lighter below, feet pinkish, toes blue.

Found in low wet forest, near the ground, creeping about the shrubbery like a warbler or vireo.

212. *Myrmeciza boucardi panamensis* Ridgway. White-bellied Antbird.

Male and female, Tabernilla, March 19, 1911, and Pedro Miguel, May 5, 1912. Iris reddish-brown, bill black, feet pale.

The pair collected March 19 had their stomachs filled with ants and I watched them for some time hopping back and forth along a trail of leaf-cutter ants.

213. *Myrmeciza exsul exsul* Selater. Selater's Antbird.

Two males and a female, Gatun, July 2, 1911, March 24, 1912, and August 6, 1911. Iris brown, skin around the eye blue, bill black, feet bluish-gray.

A noisy species, inhabiting the thick jungle.

214. *Ramphocaenus rufiventris rufiventris*. Northern Long-billed Ant-Wren.

Female, Gatun, June 25, 1911. Iris brown, bill grayish-brown, feet blue-gray.

A forest bird.

[215.] ***Microbates cinereiventris semitorquatus*** (Lawrence). Half-collared Ant-Wren.

[216.] ***Anaplops bicolor*** (Lawrence). Bicolored Ant-Thrush.

217. *Gymnocichla nudiceps nudiceps* (Cassin). Bare-crowned Antbird.

Two males, Gatun, February 5 and April 9, and one Tabernilla, April 8, 1911. Iris dark brown, bill black, feet blue-gray.

Several individuals were seen in the jungle climbing along roots and low stems; never saw one on the ground.

218. *Hylophylax naevioides* (Lafresnaye). Spotted Antbird.

Two males, Gatun, May 14 and August 20, 1911. Iris brown, bill black, feet blue-gray.

Nest found in fork of small bush in the forest, about four feet from the ground, a thin pensile cup containing two nearly feathered young.

219. *Formicarius moniliger panamensis* Ridgway. Panama Antbird.

Female. Iris brown, bill black, feet brownish, bare skin pale bluish-gray.

[220.] *Phaenostictus mcleannani mcleannani* (Lawrence). McLeannan's Ant-Thrush.

221. *Pittasoma michleri michleri* Cassin. Michler's Ant-Pitta.

Male and female, Gatun, July 21, 1912, and August 13, 1911. Iris brown, bill black whitish below, feet blue-gray.

A shy species found in the heavy jungle. Had a very loud penetrating whistled call, "qua, qua, qua," etc., slower toward the end, gave it several times on the ground and then flew to a perch about twenty feet up and repeated it several times more.

[222.] *Hylopezus perspicillatus perspicillatus* (Lawrence). Lawrence's Antbird.

DENDROCOLAPTIDÆ.

[223.] *Synallaxis pudica pudica* Selater. Slaty Synallaxis.

224. *Automolus pallidigularis pallidigularis* Lawrence. Pale-throated Automolus.

Male, Gatun, August 13, 1911. Iris brown, bill dusky-horn, feet grayish-olive.

Shot on the ground in the forest. Nest on open tops of twigs, dead leaves, etc., lined with fine grass, slightly elbow-shaped, and about twelve inches long; situated in a tree fork, seven feet up; eggs, two fresh, .83 x .62 in.

225. *Xenops genibarbis mexicanus* (Selater). Mexican Xenops.

Three males, Gatun, November 30, 1911, January 21 and May 26, 1912. Iris brown, bill black, feet dark blue-gray.

Found in the forest.

226. *Sclerurus guatemalensis* (Hartlaub). Guatemalan Sclerurus.

Two males, Gatun, August 20, 1911, and February 22, 1912. Iris dark brown, maxilla black, mandible pale brownish-yellow with dusky tip, feet blackish-brown.

Nest found August 20 was elbow-shaped, made of twigs, leaf skeletons, weed stalks, rootlets, etc., lined with fine leaf skeletons and four feathers. Eggs, .97 x .64 and .92 x .61 in., glossy white, smaller one very sparingly specked with deep rich brown, larger one more heavily marked with spots and specks of olive-brown.

[227.] *Sclerurus mexicanus mexicanus* Selater. Mexican Sclerurus.

228. *Glyphorhynchus cuneatus pectoralis* (Selater). Northern Wedge-bill.

Male and female, Gatun, July 21, 1912, and March 22, 1911. Iris brown, bill blackish, feet bluish-black.

Found creeping about tree trunks in heavy jungle.

[229.] *Deconychura typica* Cherrie. Cherrie's Dechonicura.

[230.] *Dendrocincla homochroa ruficeps* (Selater and Salvin). Panama Ruddy Dendrocincla.

231. *Dendrocincla lafresnayi ridgwayi* (Oberholser). Brown Dendrocincla.

Two males, Gatun, May 21 and August 20, 1911. Iris grayish-brown, bill black, gonyes light blue, feet blue.

In company with the next species on tree trunks in the forest.

[232.] *Dendrocolaptes sancti-thomae sancti-thomae* (Lafresnaye). Barred Wood-Hewer.

[233.] *Xiphorhynchus punctigulus punctigulus* (Ridgway). Spotted-throated Wood-Hewer.

234. *Xiphorhynchus nanus nanus* (Lawrence). Lawrence's Wood-Hewer.

Two males and two females, May 21 and June 25, 1911; March 29, 1911, and July 21, 1912. Iris brown, bill blackish, feet bluish-horn color.

A rather common forest bird.

235. *Xiphorhynchus lacrimosus lacrimosus* (Lawrence). Black-striped Wood-Hewer.

Female, Gatun, November 12, 1911. Iris brown, maxilla horn color, mandible pale bluish-white, feet bluish-gray.

Shot from a tree trunk in the submerged area of Gatun Lake.

[236.] *Picolaptes lineaticeps lineaticeps* Lafresnaye. Streaked-headed Wood-Hewer.

237. *Campylorhamphus venezuelensis* (Chapman). Venezuelan Sicklebill.

Male, Gatun, April 14, 1911. Iris brown, bill light reddish-brown, feet fuscous.

Was picking dead wood from the rotted end of a tree limb, searching for boring insects or larvæ.

TYRANNIDÆ.

238. *Copurus leuconotus* Lafresnaye. White-backed Copurus.

Male and female, Gatun, February 18, 1912. Iris brown, bill and feet black.

[239.] *Placostomus superciliaris* (Lawrence). Lawrence's Spade-billed Flycatcher.

240. *Craspedoprion aequinoctialis* (Sclater). Equinoctial Flycatcher.

Two females, Gatun, December 18, 1910, and August 6, 1911. Iris black, bill black above pinkish below, feet gray-blue.

Found in wild banana thickets and in the forest.

[241.] *Rhynchocyclus marginatus* Lawrence. Yellow-margined Flycatcher.

[242.] *Rhynchocyclus cinereiceps* (Sclater). Gray-headed Flycatcher.

243. *Rhynchocyclus flavo-olivaceus* Lawrence. Yellow-olive Flycatcher.

Male and female, Gatun, July 2 and May 28, 1911. Iris brownish-gray, bill black above whitish below, tarsi grayish-brown.

A forest species.

Nest hung loosely from a branch over the water, composed of a mass of very long brown fibers, entrance from the bottom, passage extending up about eight inches to nest proper, which was compactly built; contained three young May 28. Another nest exactly like this one was placed a few feet below, close to the water and contained one egg, light reddish-brown, with deeper colored spots forming a wreath at the larger end. The lower nest had been water-soaked. The female specimen was sent to the American Museum of Natural History.

244. *Myiopagis placens accola* Bangs. Panama Placid Flycatcher.

Male, Gatun, October 17, 1911. Iris brown, bill brown above pale below, feet brownish-black.

Shot from a small hedge near the lake shore. Specimen not in the collection.

245. *Todirostrum cinereum finitimum* Bangs. Northern Tody Flycatcher.

Male and female, Gatun, February 27, 1912, and April 21, 1911. Iris light yellow, bill black, base and tip of mandible white.

Nest found late in March, suspended from tip of twig ten feet from the ground, pendent and shaped like an inverted pear, opening on the side at about one-third the height. Nest ten and a half inches high and three in outside diameter at bottom, made of plant fibers, weed bark and fine grasses, covered on exposed side with brown fuzzy seeds. Progress in building was very slow but on April 21 it contained two eggs, .46 x .63 in. Two other nests contained two eggs each—April 30, 1911, and June 23, 1912.

[246.] *Todirostrum nigriceps* Selater. Black-headed Tody Flycatcher.**247. *Todirostrum schistaceiceps* Selater.** Slate-headed Tody Flycatcher.

Male and female, Pedro Miguel, May 5, 1912, and a male, Gatun, February 16, 1912. Iris brown, bill black paler below, feet blue-gray.

[248.] *Oncostoma cinereigulare* (Selater). Bent-billed Flycatcher.**249. *Oncostoma olivaceum* (Lawrence).** Lawrence's Bent-billed Flycatcher.

Two males and a female, March 26, November 3 and November 26, 1911. Iris yellowish-white, bill dusky paler below, feet grayish.

Has a peculiar clear note, a short song or trill of several notes. Found in the dry jungle and in groves.

250. *Atalotriccus pilaris pilaris* (Cabanis). Pigmy Flycatcher.

Two males, Pedro Miguel, April 23, 1911, and May 5, 1912. Iris yellowish-white, bill dusky paler below, feet pale-brownish.

Found in second growth. Call a trill, resembling the last syllable of the Wood Pewee's note (*Myiochanes virens*) prolonged.

251. *Pipromorpha oleaginea parca* (Bangs). Bangs' Pipromorpha.

Two males and a female, Gatun, July 4, November 30, May 14, 1911. Iris brown, bill black lighter below, feet brownish-flesh.

A forest species.

Nest found May 14 hung on a long slender vine between the trunks of large trees, about six feet up. A long pear-shaped structure with entrance on the side, made of green moss and fine grasses. Eggs three, pure white, .58 x .78, .57 x .76 and .56 x .75 in.

252. *Mionectes olivaceus olivaceus* Lawrence. Olivaceous Mionectes.

Male, Gatun, August 20, 1911. Iris brown, bill black paler basally and below, feet light grayish-brown.

Found in the forest.

[253.] ***Leptopogon pileatus*** Cabanis. Brown-capped Leptopogon.

[254.] ***Leptopogon flavovirens*** Lawrence. Yellow-green Leptopogon.

[255.] ***Capsiempis flaveola*** (Lichtenstein). Yellow Flycatcher.

[256.] ***Tyranniscus vilissimus parvus*** (Lawrence). Lesser Paltry Flycatcher.

257. *Camptostoma pusillum flaviventre* (Sclater and Salvin). Yellow-bellied Camptostoma.

Two males, Gatun, April 21, 1911, and May 26, 1912. Iris brown, bill fuscous paler below, tarsi black.

Shot from a small tree in an open marshy flat.

258. *Elaenia martinica subpagana* (Sclater and Salvin). Northern Elaenia.

Two females, Gatun, April 21, 1912, and Pedro Miguel, April 23, 1911. Iris brown, bill fuscous lighter below, feet blackish.

Found on the edge of swampy thickets.

Nest found April 23 saddled on a horizontal limb eight feet from the ground; a shallow and compact cup three inches in diameter, made of fine rootlets, twigs, etc., covered with green moss and gray lichens and lined with dove feathers. Two eggs, .64 x .86 in., white, with small cinnamon-brown blotches and spots in a wreath at the larger end. Another nest at Mt. Hope, April 13, 1913, was exactly like this one; eggs, two.

259. *Elaenia chiriquensis chiriquensis* Lawrence. Lawrence's Elaenia.

A male and female, Gatun, July 2, 1911, January 27, 1912, and a female, Miraflores, March 5, 1911. Iris brown, bill fuscous lighter below, feet bluish-black.

260. *Legatus albicollis* (Vieillot). Striped Flycatcher.

Male, Gatun, May 2, 1911. Iris brown, bill and feet black.

Shot on the edge of the jungle.

[261.] ***Sublegatus glaber*** Sclater and Salvin. Smooth Flycatcher.

262. *Myiozetetes cayanensis cayanensis* (Linnæus). Cayenne Flycatcher.

Three females, Gatun, January 29, May 21 and July 16, 1911. Iris brown, bill and feet black.

Nest adorned like others of the genus and contained one egg March 17, 1912, .62 x .87 in. Another, May 21, 1911, contained three eggs, .63 x .84 and .64 x .85 in.

Found in a marshy thicket. On January 29 there was a large flock feeding in the tree tops in wet woodland.

263. *Myiozetetes texensis columbianus* (Cabanis and Heine). Colombian Flycatcher.

Two males and two females, February 12, April 9, 1911, and April 14, 1911, April 21, 1912. Iris light yellow, bill and tarsi black.

A bird of the open, and never found far from water.

Nest on horizontal stem of a bush leaning over the water, eight feet above the surface, constructed of plant bark, weed stalks and grasses, lined with very fine grass, bulky but compact, opening on side, nearly spherical, six inches in diameter. Contained three fresh eggs April 9, .64 x .90 and .68 x .94 in., white, finely speckled with cinnamon-brown. Another exactly similar nest found April 14 in same situation held two fresh eggs.

264. *Myiozetetes granadensis* Lawrence. Gray-capped Flycatcher.

Male, Gatun, July 2, 1911. Iris gray, bill and feet black.

Nest as in the last species.

Found in thickets.

265. *Pitangus lictor* (Lichtenstein). Lictor Flycatcher.

Female, Gatun, July 9, 1911. Iris brown, bill and feet black.

Contained an egg nearly ready for deposit.

[266.] ***Coryphotriccus albobittatus*** (Lawrence). White-ringed Flycatcher.

267. *Myiodynastes maculatus nobilis* (Slater). Noble Flycatcher.

Two males and a female, Gatun, November 26, 1911, March 30, 1913, and November 30, 1911. Another not in the collection was taken January 21, 1912. Iris brown, bill black above pinkish below with black tip, feet bluish-black.

Found in the jungle and in clearings along the edge.

[268.] ***Myiodynastes luteiventris*** Slater. Sulphur-bellied Flycatcher.

269. *Megarynchus pitangua mexicanus* (Lafresnaye). Boat-billed Flycatcher.

Female and young, Ft. Lorenzo, June 2, 1911. Iris brown, bill and feet black.

Nest belonging to these birds was a shallow mass of sticks, thirty-five feet up in a tree.

[270.] ***Onychorhynchus mexicanus fraterculus*** Bangs. Colombian Royal Flycatcher.

[271.] ***Cnipodectes subbrunneus*** (Slater). Brown Flycatcher.

[272.] ***Cnipodectes minor*** Slater. Lesser Brown Flycatcher.

273. *Terenotriccus erythrurus fulvularis* (Salvin and Godman). Fulvous-throated Flycatcher.

Two females, Gatun and Rio Trinidad, August 6, 1911, March 31, 1912. Iris brownish-black, bill sooty above whitish below, feet buffy.

Found in the forest.

274. *Myiophobus fasciatus furfurosus* (Thayer and Bangs). Bran-colored Flycatcher.

Male and female, Gatun, March 26 and November 3, 1911. Iris brown, bill black lighter below, feet black.

In second growth thickets and in thick jungle.

275. *Myiobius barbatus atricaudus* (Lawrence). Black-tailed Myiobius.

Male and female, Gatun, June 25 and August 13, 1911. Iris black, bill black above, mandible grayish-blue with black tip, feet dark gray.

In thickets on the forest edge. Nest a pendant bell-shaped structure with entrance beneath the passage going up and over into the nest cavity; made of dead leaves and fine vegetable fiber, lined with vegetable silk and fine fibers. Situated on a branch overhanging a stream in the forest. Eggs two, rich deep rufous, wreathed about the larger end with deeper shade of the same, .65 x .50 in.

Another pair found building July 30 had finished their nest by August 6. Eggs two, .64 x .50 and .67 x .50 in. Location and materials exactly as in the former one.

[276.] ***Myiobius xanthopygus sulphureipygius*** (Sclater). Sulphur-rumped Myiobius.

*[277.] ***Empidonax flaviventris*** (Baird). Yellow-bellied Flycatcher.

*[278.] ***Empidonax virescens*** (Vieillot). Acadian Flycatcher.

[279.] ***Empidonax albigularis*** Sclater and Salvin. White-throated Flycatcher.

*[280.] ***Empidonax minimus*** (Baird). Least Flycatcher.

*[281.] ***Empidonax traillii traillii*** (Audubon). Traill's Flycatcher.

*[282.] ***Empidonax traillii alnorum*** Brewster. Alder Flycatcher.

*[283.] ***Myiochanes richardsoni richardsoni*** (Swainson). Western Wood Pewee.

*[284.] ***Myiochanes virens*** (Linnæus). Wood Pewee.

Male, Gatun, November 3, 1911. Iris brown, bill black above yellow below, feet black.

One of several migrants, calling repeatedly. Specimen not in the collection.

[285.] ***Myiochanes brachytarsus*** (Sclater). Short-legged Wood Pewee.

Two males and two females, Gatun, January 14, 1912, February 16, 1913, and April 4, 1911, January 1, 1912. Iris brown, bill black above, mandible rich yellow, feet black.

Found in trees in low flat jungle. Note very similar to that of the preceding but with weaker accent.

*[286.] ***Myiarchus crinitus*** (Gmelin). Great-crested Flycatcher.

287. *Myiarchus ferox panamensis* (Lawrence). Panama Flycatcher.

Two males, Ft. Lorenzo, June 11, and Toro Point, July 23, 1911. Iris brown, bill and feet black.

Found in low bushes along the river bank and seashore.

288. *Myiarchus nigriceps* Sclater. Black-crested Flycatcher.

A pair, Gatun, February 4, 1912, and a male, Gatun, November 26, 1911. Iris brown, bill and feet black.

289. *Tyrannus dominicensis dominicensis* (Gmelin). Gray Kingbird.

Female, Gatun, February 16, 1912. Bill and feet black.

290. *Tyrannus tyrannus (Linnæus). Kingbird.

Female, Toro Point, April 27, 1913.

A solitary migrant, perfectly silent.

291. *Tyrannus melancholicus satrapa* (Cabanis and Heine). Lichtenstein's Kingbird.

Two males and two females, Gatun, December 3, February 5, 1911, and February 12, March 26, 1911. Iris brown, bill black, feet blue-black.

A very common species in shrubbery along the lake, apparently always near water.

Nest a thin cup of vine stalks and tendrils in a bush, five feet up, contained three eggs March 20, 1912, .98 x .71, .99 x .70 and .98 x .72 in.

292. *Muscivora tyrannus* (Linnæus). Swallow-tailed Flycatcher.

Female, Mindi, October 29, 1911. Iris brown, bill and feet black. Shot from a small tree in a pasture.

PIPRIDÆ.

293. *Pipra mentalis ignifera* Bangs. Southern Yellow-thighed Manakin.

Three males, Gatun, April 30, August 27, 1911, and February 22, 1912.

Found in trees in low flat jungle.

294. *Pipra velutina* Berlepsch. Velvety Manakin.

Female, Gatun, July 30, 1911. Iris brown, bill black above grayish below, feet blue-black.

A bird of the forest.

[295.] *Chiroprion lanceolata* (Wagler). Sharp-tailed Manakin.

[296.] *Laniocera rufescens* (Selater). Rufous Manakin.

297. *Manacus vitellinus* (Gould). Gould's Manakin.

Three males and a female, Gatun, February 22, April 9 and 14, 1911, and April 14, 1911. Iris and bill black, feet reddish-orange.

Always found in fairly thick jungle. Flies with wing beats almost as rapid as those of a hummingbird, seen in shrubs and bushes, never high up nor on the ground. Makes a snapping noise exactly like knocking two stones together and another sound like tearing heavy cloth.

Nest hung on a fork of a horizontal twig of a small bush five feet from the ground, a very frail shallow cup, made of strips of plant bark, hair-like rootlets and grass stalks. Eggs two, heavily incubated (April 14), .62 x .82 in., grayish, heavily streaked longitudinally with varying shades of brown. Another nest contained two fresh eggs May 7, 1911.

COTINGIDÆ.

298. *Tityra semifasciata costaricensis* Ridgway. Costa Rican Tityra.

Male, Ft. Lorenzo, February 26, 1911, and female, Gatun, February 23, 1913. Iris reddish, bare skin around the eye and base of bill red, tip of bill black, feet gray.

Found along the shores of the lake and river.

[299.] *Erator albitorques* (DuBus). Fraser's Erator.

[300.] *Platypsaris homochrous* (Sclater). One-colored Becard.

301. *Pachyrhamphus polychropterus cinereiventris* (Sclater). Gray-billed Becard.

Male and female, Gatun, June 25 and 18, 1911. Iris black, bill blue-gray with black tip, feet blue-black.

Nest found June 18 in a crotch of a small tree twenty-five feet from the ground, an enormous pile of strips of dead banana leaves, plant fibers, weeds, bark, etc. A small opening on one side. Eggs three, two of which hatched the same day. The young are hatched naked and blind, reddish in color. Eggs grayish-lavender, streaked and scrawled with deeper brownish.

[302.] *Pachyrhamphus dorsalis* Sclater. Bogota Becard.

303. *Pachyrhamphus cinereus* (Boddaert). Cinereous Becard.

Male, Gatun, May 26, 1912. Iris brown, bill blue-gray with black tip, feet light gray.

304. *Pachyrhamphus cinnamomeus* Lawrence. Cinnamon Becard.

Two males, Gatun, July 4, 1911, and February 22, 1912. Iris brown, bill black above, mandible blue-gray, feet blue-gray.

Found in the forest.

[305.] *Microtriccus brunneicapillus* (Lawrence). Brown-capped Tyrannulet.

306. *Tyrannulus elatus reguloides* (Ridgway). Riker's Yellow-crowned Tyrannulet.

Male, Toro Point, March 3, 1912. Iris buffy-white, feet grayish-blue.

307. *Elainopsis gaimardii macilvainii* (Lawrence). McIlvaine's Flycatcher.

Male, Gatun, July 4, 1911. Iris brown, bill blue-black lighter at base below, feet blue-black.

Found along the forest trail. Has a quaint single call of Flycatcher quality.

I follow Mr. Ridgway in placing this genus in the Cotingidæ, though I cannot but feel that its affinities are with the Tyrannidæ.

[308.] *Lipaugus holerythrus holerythrus* Sclater and Salvin. Rufous Lipaugus.

[309.] *Lathria unirufa clara* Ridgway. Panama Lathria.

[310.] *Sirystes albogriseus* (Lawrence). Panama Sirystes.

311. *Attila citreopygus citreopygus* (Bonaparte). Sclater's Attila.

Male, Gatun, July 2, 1911. Iris gray-brown, bill sooty-black paler at base of mandible, feet blue.

A dull stupid bird, perching high up in the forest.

[312.] *Cotinga nattererii* (Boissoneau). Naterer's Cotinga.

313. *Querula purpurata* (Müller). Purple-throated Fruit Crow.

Male and female, Gatun, June 23, 1912. Iris brown, bill blue-gray black at tip, feet black.

It flocks in the forest, a shy species.

HIRUNDINIDÆ.

*314. *Riparia riparia* (Linnæus). Bank Swallow.

Male, Gatun, September 23, 1911.

Shot from a flock of migrants.

315. *Iridoprocne albilineata* (Lawrence). Mangrove Swallow.

Two males and a female, Gatun, July 17, May 30, 1911, and July 17, 1911. Iris brown, bill blue-black, feet black.

Common along the Chagres River, where it nests in holes in partly submerged stumps.

316. *Pygochelidon cyanoleuca* (Vieillot). Blue and White Swallow.

Male and female, Gatun, July 7 and 16, 1911. Iris dark brown, bill and feet black.

On the former date a flock was coursing over the lawns and clearings. On the latter some two hundred were lined up on a telephone wire.

[317.] *Neochelidon tibialis* (Cassin). White-thighed Swallow.

*318. *Hirundo erythrogaster* Boddaert. Barn Swallow.

Male and female, Gatun, April 20 and May 30, 1911.

A common migrant through April. The unusually late female specimen showed a breeding tendency, as several eggs were well started. It was associated with a flock of *Iridoprocne albilineata*.

319. *Progne chalybea chalybea* (Gmelin). Gray-breasted Martin.

Male, Gatun, February 4, 1912. Another was obtained at the same place April 13, 1911, but is not in the collection. Iris brown, bill and feet black.

Nest in holes usually inaccessible on account of the mud and water.

*[320.] *Petrochelidon lunifrons tachina* Oberholser. Lesser Cliff Swallow.

320a. *Stelgidopteryx serripennis* (Audubon). Rough-winged Swallow.

A male, Gatun, December 18, 1910, is typical of this species except for a slight subterminal dusky blotch on the longest under tail coverts. It is quite uniform above and is thus distinguished at a glance from specimens of *S. ridgwayi*. This occurrence is apparently farther south than any previously recorded.

321. *Stelgidopteryx ruficollis uropygialis* (Lawrence). Panama Rough-winged Swallow.

A male and two females, Gatun, July 9, 1911, and June 3, 1912, November 5, 1911. Iris brown, bill and feet dull black.

The last specimen has two pure white quills in the wing.

POLIOPTILIDÆ.

322. *Polioptila superciliaris superciliaris* Lawrence. Lawrence's Gnatcatcher.

Male, Gatun, January 1, 1912. Iris brown, bill black, mandible blue-gray at base, feet black.

Found in second growth.

TROGLODYTIDÆ.

[323.] ***Heleodytes albobrunneus*** Lawrence. White-headed Cactus Wren.

324. *Thryophilus modestus elutus* Bangs. Panama Wren.

Two males, Gatun, April 30 and December 24, 1911. Iris golden brown, bill black, mandible bluish-gray with black tip, feet blue-gray.

In thickets near the jungle.

[325.] ***Thryophilus rufalbus castanonotus*** Ridgway. Chestnut-backed Wren.

326. *Thryophilus galbraithii galbraithii* (Lawrence). Galbraith's Wren.

A pair, Gatun, June 23, 1912, and a male, Gatun, April 14, 1912. Iris reddish-brown, bill dusky paler below, feet blue-gray.

In thickets.

327. *Thryophilus castaneus castaneus* (Lawrence). Bay Wren.

Male, female and nestling, Gatun, February 18, March 15, 1911, and July 28, 1912. Iris reddish-brown, bill black lighter below, feet black.

Found in heavy undergrowth in damp jungle-thickets. Song loud and ringing, resembling that of *Thryothorus ludovicianus*, but much longer.

Nest a loosely built elbow-shaped affair, made almost entirely of a round-stemmed grass and lined with finer stems of the same, a few coarser stems and reddish-brown vine tendrils on the outside. Loosely placed in vines, four feet up, by a stream; contained one fresh egg, July 28, measuring .90 x .59 in.

328. *Troglodytes musculus inquietus* (Baird). Panama House Wren.

Male and female, Gatun, February 26, 1911; male, Gatun, September 17, 1911, and female and young, Ft. Lorenzo, June 11, 1911. Iris gray-brown, bill and feet brown.

In thickets along the lake shore, cocoanut groves, etc.

A nest was built in a floating boathouse, on a beam under the roof, made of weed stalks, small twigs and a few feathers inside. Also contained a small cast snake skin and part of a kodak film. The

first two eggs were destroyed and three more were laid June 5, light pink heavily speckled with rufous brown with wreath effect at large end, .74 x .56 and .75 x .55 in. After these were taken three more were laid and hatched. The boathouse was moved two hundred yards after the nest was built, but the birds were not disturbed by the change of location.

329. *Henicorhina prosthaleuca pittieri* (Cherrie). Pittier's Wood Wren.

Male, Gatun, February 22, 1912. Iris brown, bill and feet black.

330. *Leucolepis lawrencii* (Sclater). Lawrence's Musician Wren.

Male and female, Gatun, July 30, 1911, and April 9, 1911. Iris brown, bill black, feet light brown, bare skin around the eye bluish-green.

A bird of the jungle.

Nest found in low wet forest two feet from the ground on May 7, 1911. It consisted of a long tube or tunnel with the nest proper at the far end, built of sticks, twigs and dead leaves, lined with grasses. Eggs two, .65 x .92 and .65 x .89 in., white, very finely and sparingly speckled with brown, one almost immaculate.

[331.] ***Pheugopedius hyperythrus*** (Salvin and Godman). Tawny-bellied Wren.

332. *Pheugopedius fasciato-ventris albigularis* (Sclater). Panama Black-bellied Wren.

Male, Gatun, June 25, 1911. Iris bright brown, bill black bluish-gray below, feet bluish-gray.

Shot in a jungle thicket on a small stream.

[333.] ***Microcerculus lusciniæ*** Salvin. Panama Nightingale Wren.

MIMIDÆ.

[334.] ***Dumetella carolinensis*** (Linnæus). Catbird.

TURDIDÆ.

335. *Planesticus grayi casius* (Bonaparte). Bonaparte's Thrush.

Male, Miraflores, March 5, 1911; female, Pedro Miguel, May 5, 1912. Iris dark brown, bill dark yellow greenish at base, feet pale yellow.

Call note resembles that of the American Robin (*P. migratorius*). Frequents tall trees in the jungle.

Nest in fork of a small tree in second growth timber, twelve feet from the ground, Pedro Miguel, April 23, 1911; a typical cup with base of weed and cattle manure, and built of twigs, straw, dead leaves and moss, with a lining of rootlets and tendrils. Eggs three, fresh, .86 x 1.24 and .88 x 1.23 ins., greenish-blue heavily marked with various shades of brown, mainly at the larger end.

Another nest in same vicinity, May 5, 1912, contained three incubated eggs, 1.12 x .83 and 1.13 x .84 ins. A third set of three measured 1.04 x .72 and 1.06 x .73 ins.

[336.] *Planesticus obsoletus* (Lawrence). Lawrence's Thrush.

*[337.] *Hylocichla ustulata swainsonii* (Cabanis). Olive-backed Thrush.

*[338.] *Hylocichla fuscescens fuscescens* (Vieillot). Veery.

VIREONIDÆ.

339. *Vireosylva flavoviridis flavoviridis* Cassin. Yellow-green Vireo.

Male, Agua Clara, May 19, 1912. Iris red, bill and feet pale blue-gray.

*[340.] *Vireosylva olivacea* (Linnæus). Red-eyed Vireo.

*[341.] *Lanivireo flavifrons* (Vieillot). Yellow-throated Vireo.

342. *Pachysylva viridiflava* (Lawrence). Yellow-green Pachysylva.

Male, Mt. Hope, February 22, 1913; female, Gatun, May 30, 1912. Iris whitish yellow, bill and feet pinkish.

343. *Pachysylva aurantiifrons aurantiifrons* (Lawrence). Lawrence's Pachysylva.

Male, Pedro Miguel, May 5, 1912.

Shot from a tree in a wild banana jungle.

344. *Pachysylva decurtata* (Bonaparte). Gray-headed Pachysylva.

Male and young, Gatun, July 4 and June 25, 1911. Iris dark brown, bill gray-brown, feet bluish-gray.

Found in the forest.

[345.] *Vireolanus pulchellus viridiceps* Ridgway. Panama Shrike-Vireo.

*[346.] *Bombycilla cedrorum* Vieillot. Cedar Waxwing.

[347.] *Anthus parvus* Lawrence. Panama Pipit.

MNIOTILTIDÆ.

*348. *Mniotilta varia* (Linnæus). Black and White Warbler.

Male, Gatun, March 26, 1911.

*349. *Protonotaria citrea* (Boddaert). Prothonotary Warbler.

Male, Toro Point, October 1; female, Mindi, October 7, 1911.

*[350.] *Vermivora chrysoptera* (Linnæus). Golden-winged Warbler.

*[351.] *Vermivora peregrina* (Wilson). Tennessee Warbler.

*[352.] *Dendroica magnolia* (Wilson). Magnolia Warbler.

*[353.] *Dendroica coronata* (Linnæus). Myrtle Warbler.

*[354.] *Dendroica virens* (Gmelin). Black-throated Green Warbler.

*[355.] *Dendroica cerulea* (Wilson). Cerulean Warbler.

*[356.] *Dendroica fusca* (Müller). Blackburnian Warbler.

*357. *Dendroica pensylvanica* (Linnæus). Chestnut-sided Warbler.

Two males and one unsexed, Gatun, March 31, 1911 (molt completed), February 4, 1912 (molt begun), February 22, 1912.

*358. *Dendroica castanea* (Wilson). Bay-breasted Warbler.

Three males, Gatun, November 3, 1911 (2), and Toro Point, April 27, 1913, and one unsexed, Gatun, February 16, 1913.

*359. *Dendroica aestiva aestiva* (Gmelin). Yellow Warbler.

Four males and two females, Gatun, March 26 (2), March 29, November 5, 1911, and August 29 and December 24, 1911.

360. *Dendroica erithachorides* Baird. Panama Yellow Warbler.

Four males, Mt. Hope, February 9 and August 31, 1913, and Toro Point, July 23 and October 1, 1911. Iris black, bill and feet olive-brown.

In bushes along the shore.

*361. *Oporornis formosus* (Wilson). Kentucky Warbler.

Female, Gatun, February 22, 1911.

*362. *Oporornis philadelphia* (Wilson). Mourning Warbler.

Male and female, Gatun, April 7 and 14, 1912. (Male not in the collection.)

[363.] *Oporornis tolmiei* (Townsend). McGillivray's Warbler.

*364. *Seiurus aurocapillus* (Linnæus). Ovenbird.

Female, Gatun, November 26, 1911.

*[365.] *Seiurus motacilla* (Vieillot). Louisiana Water Thrush.

*366. *Seiurus noveboracensis noveboracensis* (Gmelin). Water Thrush.

Male, Gatun, March 29, 1911; female, Gatun, April 14, 1911.

Found regularly all winter.

*367. *Wilsonia canadensis* (Linnæus). Canada Warbler.

Male, Gatun, April 28, 1912.

*[368.] *Wilsonia citrina* (Boddaert). Hooded Warbler.

*369. *Setophaga ruticilla* (Linnæus). Redstart.

Three males, Gatun, March 26 and November 26, 1911, April 28, 1912; female, Gatun, April 14, 1912.

370. *Basileuterus rufifrons mesochrysus* (Sclater). Sclater's Warbler.

Male and an unsexed specimen, Gatun, April 7, 1912, and Pedro Miguel, April 23, 1911. Iris brown, bill fuscous, feet light flesh-color.

371. *Basileuterus semicervinus veraguensis* (Sharpe). Buff-rumped Warbler.

Female, Rio Siri, March 31, 1912. Iris brown, bill blackish.

Frequents river banks and overhanging tree-roots. Flits its wings like a Kinglet (*Regulus*), flashing its bright rump. Has a beautiful clear ringing song, somewhat like that of the Ovenbird (*Seiurus aurocapillus*), but more striking because the crescendo rises higher. The bird also walks like an Ovenbird and feeds along the water's edge like a Water Thrush (*S. noveboracensis*).

FRINGILLIDÆ.

*[372.] *Zamelodia ludoviciana* (Linnæus). Rose-breasted Grosbeak.

373. *Cyanocompsa concreta cyanescens* Ridgway. Panama Blue Grosbeak.

Two males and a female, Gatun, July 30, 1911; August 11, 1912; June 18, 1911. Iris brown, bill bluish-horn color, feet black.

Nest a frail cup of fine twigs lined with vine tendrils in crotch of bush five feet up in a thicket. Eggs two, bluish-white, wreathed heavily at the larger end with reddish and purplish brown, .82 x .71 in.

A bird of thickets and heavy forest.

374. *Oryzoborus funereus* Selater. Lesser Rice Grosbeak.

Male, Ft. Lorenzo, June 21, 1911.

Associates with the next.

375. *Sporophila aurita* (Bonaparte). Hicks' Seedeater.

Three males and three females, Gatun, March 22, April 13, December 24, 1911; June 25, 1911, June 2 and August 11, 1912. Iris brown, bill blackish-horn, feet gray-brown.

Nest a thin-walled cup, made entirely of fine reddish-brown tendrils, situated in the terminal twigs of a small sapling, fifteen feet from the ground. Eggs two, heavily incubated (June 25), white, very heavily marked all over with brown and with some wash of lavender at the larger end, .66 x .51 in. Another nest August 11, 1912, contained two eggs nearly fresh, .69 x .53 and .70 x .53 in.

Occurs in flocks of a dozen feeding on seeds in grass and shrubbery in open places and in second growth.

[376.] *Sporophila grisea schistacea* (Lawrence). Slate-colored Seedeater.

[377.] *Sporophila minuta minuta* (Linnæus). Minute Seedeater.

[378.] *Sporophila gutturalis* (Lichtenstein). Yellow-bellied Seedeater.

379. *Tiaris olivacea pusilla* (Swainson). Mexican Grassquit.

Male and female, Gatun, December 24, 1911, and April 7, 1912. Iris brown, bill horn-brown, feet gray-brown.

Common in second growth.

380. *Volatinia jacarini splendens* (Vieillot). Blue-black Grassquit.

Three males and two females, March 22 and November 26, 1911, July 21, 1912; April 13 and December 24, 1911. Iris black, bill black above bluish below, feet blue-black.

Flocks with *Sporophila aurita*.

Nest (July 21, 1912) in clump of weeds, two feet from the ground, a frail thin-walled cup of fine vine tendrils or rootlets. Eggs two, fresh, pale bluish or greenish-white heavily spotted with brown, lavender and burnt umber, denser at the larger end, .69 x .51 and .68 x .51 in.

[381.] *Amaurospiza concolor* Cabanis. Cabanis' Seedeater.

382. *Pitylus grossus* (Linnæus). Slate-colored Grosbeak.

Male, Gatun, June 25, 1911. Iris dark brown, bill salmon-pink, tarsi dull black.

Found in clearing in the forest.

[383.] ***Caryothraustes poliogaster scapularis*** Ridgway. Lesser Bishop Grosbeak.

384. *Saltator magnoides intermedius* (Lawrence). Panama Buff-throated Saltator.

Female, Gatun, April 30, 1911. Iris greenish-brown, bill black, feet fuscous.

Nest (April 30) in shrubbery in clearing two feet up, a bulky compact cup set on a light base of sticks, made of strips of banana leaves and plant bark and lined with brown rootlets and vine tendrils. Eggs two, nearly fresh, blue with a few spots of black in a wreath near the larger end, .72 x 1.03 and .75 x 1.01 ins.

A common species in thickets adjoining the forest; very quiet.

385. *Saltator atriceps lacertosus* Bangs. Panama Black-headed Saltator.

Female, Agua Clara, March 12, 1911. Iris brown, bill black, feet grayish-horn color.

A fairly common species. Has a loud and peculiarly harsh call.

Nest (April 30) three feet up in a shrub grown over with vines, a rather small open cup. Eggs two, bluish-green wreathed with black at the larger end, 1.13 x .76 and 1.12 x .79 ins. Another nest in same sort of situation (March 24, 1912), made of weed stalks and tendrils, contained two fresh eggs, 1.07 x .76 and 1.06 x .75 ins.

386. *Saltator albicollis isthmicus* (Sclater). Panama Streaked Saltator.

A male, Pedro Miguel, May 5, 1912, and female, Tabernilla, April 18, 1911. Iris gray-brown, bill black, feet pale brown.

[387.] ***Astragalinus psaltria croceus*** (Jouy). Central American Goldfinch.

388. *Spiza americana (Gmelin). Dickcissel.

Male and two unsexed specimens, Gatun, June 16, March 16 and February 18, 1912; male, Miraflores, March 5, 1911, and female, Mindi, October 15, 1911.

March 16, a flock was seen along the river bank; the others were alone.

389. *Arremonops conirostris conirostris* (Bonaparte). Lafresnaye's Sparrow.

Male, Gatun, April 18, 1911; female, Ft. Lorenzo, June 11, 1911. Iris light brown, bill black lighter below, feet gray-brown.

Nest (April 18) in a tussock of grass against a stump about a foot from the ground, an open cup of dead leaves, strips of bark and weed stalks lined with light-brown rootlets. Eggs two, plain white, .71 x .93 and .72 x .93 in. Two other nests (June 2 and June 11) were

found, but of same materials, one in a shrub six feet from the ground. Eggs, two in each, were fresh; those in the latter one were larger, 1.06 x .72 and 1.05 x .74 ins.

390. *Arremon aurantirostris* Lafresnaye. Orange-billed Sparrow.

Male, Gatun, August 27, 1911. Iris brown, bill salmon-red, feet pale brown.

Found in the forest.

CEREBIDÆ.

391. *Coereba mexicana* (Sclater). Mexican Banana-quit.

Three males, Gatun, April 4, June 25 and November 3, 1911. Iris brown, bill and feet black.

In thickets and second growth.

392. *Dacnis cayana ultramarina* (Lawrence). Ultramarine Dacnis.

Two males and two females, Gatun, June 4, November 26, 1911, and July 2, 1911, April 7, 1912. Iris reddish-brown, bill dull black above paler below, feet light brown.

Found in the jungle as well as in groves.

393. *Cyanerpes cyaneus* (Linnæus). Blue Honey-Creeper.

Two males and a female, Gatun, July 2, 1911, April 14, 1912, and December 24, 1911. Iris brown, bill black, feet red.

Common in second growth.

[394.] ***Cyanerpes lucidus*** (Sclater and Salvin). Shining Honey-Creeper.

395. *Chlorophanes spiza guatemalensis* (Sclater). Northern Green Honey-Creeper.

Female, Gatun, June 4, 1911. Iris brown, bill black lighter below, feet bluish-gray.

TANAGRIDÆ.

396. *Tanagra crassirostris* (Sclater). Thick-billed Euphonia.

Two males, Gatun, November 3, 1911, and April 4, 1912; male and female, Mindi, October 22 and September 17, 1911; male, Toro Point, March 3, 1912, and male, Mt. Hope, June 1, 1913. Iris brown, maxilla black with a bluish spot on each side, mandible bluish-gray, feet dark gray.

Seen frequently in second growth and in trees in open ground.

[397.] ***Tanagra fulvicrissa*** (Sclater). Fulvous-vented Euphonia.

[398.] ***Tanagra luteicapilla*** (Cabanis). Yellow-crowned Euphonia.

[399.] ***Tanagra minuta humilis*** (Cabanis). White-vented Euphonia.

400. *Tangara larvata fanny* (Lafresnaye). Mrs. Wilson's Tanager.

Male, Mindi, October 15, 1911, and female, Gatun, April 30, 1911. Iris brown, bill black, feet blue-black.

Usually seen on the edge of the jungle.

401. *Tangara inornata* (Gould). Plain-colored Tanager.

Male and female, Gatun, April 7, 1912, and May 30, 1911. Iris brown, bill black blue-gray below, feet blue-gray.

Found on the edge of the jungle.

[402.] ***Tangara gyroloides*** (Lafresnaye). Blue-rumped Green Tanager.

[403.] ***Tangara lavinia*** (Cassin). Lavinia's Tanager.

404. *Thraupis cana cana* (Swainson). Blue Tanager.

Two females, Toro Point, April 2, 1911, and also taken at Gatun, March 2, 1911. Iris brown, bill black above blue-gray below, feet dark grayish-blue.

A fairly abundant bird in thickets and cocoanut groves.

405. *Thraupis palmarum melanoptera* (Selater). Black-winged Tanager.

Three males, Gatun, March 2, 1913; Toro Point, July 23, 1911, and Ft. Lorenzo, January 7, 1912.

Found in cocoanut groves.

[406.] ***Ramphocelus luciani*** Lafresnaye. Bonaparte's Tanager.

407. *Ramphocelus icteronotus* Bonaparte. Yellow-rumped Tanager.

Male and female, Gatun, February 12, and a female, Gatun, April 30, 1911. Iris reddish-brown, bill light blue with dark edges and tip, feet dark blue.

Common in thickets along the edge of the jungle.

Nest five feet up in clump of shrubbery, a very compact cup, made of vines on the outside, dead leaves, plant fibers and finally a lining of brown and black rootlets. Eggs two, nearly fresh (April 30), blue with heavy blackish blotches on large end forming a cap, .67 x .93 in. Another nest (May 14) exactly the same, with the same sort of vine wrapped around the outside. Eggs two, fresh, .73 x .95 in., blue, with black spots more scattered.

408. *Ramphocelus dimidiatus isthmicus* Ridgway. Panama Crimson-backed Tanager.

Three males, Mindi, September 17, 1911; Tabernilla, March 19, 1911, and Gatun, April 5, 1912; two females Ft. Lorenzo, June 21, 1911, and Miraflores, March 5, 1911. Iris reddish-brown, bill black above, mandible white for basal two-thirds (uniform dusky in female), feet black.

A fairly common species in thickets.

Nest a frail shallow cup, made of strips of plant bark and dead leaves, lined with finer grass stalks and a few black hairs, ten feet up in a bush. Eggs two (June 11), blue, with irregular spots and scrawls of black about the larger end, one much more extensively spotted than the other, .96 x .66 and .96 x .69 in. Another nest (March 3, 1912) at Toro Point contained two fresh eggs, .94 x .70 in.

*[409.] *Piranga rubra rubra* (Linnæus). Summer Tanager.

*[410.] *Piranga erythromelas* (Vieillot). Scarlet Tanager.

411. *Phoenicothera fuscicauda* Cabanis. Dusky-tailed Ant-Tanager.

Two males, Gatun, May 30, 1911, and January 21, 1912; two others, Agua Clara, March 12, 1911, and Mt. Hope, June 1, 1913; two females, Gatun, May 14, 1911, and Agua Clara, March 12, 1911. Iris brown, bill black (brown in female), feet gray suffused with pink.

Found in thickets and in the jungle. It has a guttural scolding note somewhat similar to that of a wren but with more volume.

Nest in a cluster of orchids on a vine eight feet up; a cup made of dead leaves wound tightly with green vines and lined with brown rootlets. Two fresh eggs (May 14), glossy white, .66 x 1.01 and .65 x .95 ins.

Stomach of one of the birds contained many insects, a few seeds and a small snake.

[412.] *Heterospingus rubrifrons* (Lawrence). Lawrence's Tanager.

413. *Tachyphonus rufus* (Boddaert). Boddaert's Tanager.

Male and female, Tabernilla, April 8, 1911, and female, Gatun, May 7, 1911. Iris brown, bill and feet bluish.

Nest (May 7) in a clump of leaves of wild banana two feet from the ground. Eggs two, .70 x .94 and .71 x .96 in., gray spotted and scrawled with black very much like those of *Agelaius phœniceus*.

414. *Tachyphonus luctuosus* Lafresnaye and D'Orbigny. White-shouldered Tanager.

Male, Gatun, February 11, 1912. Iris grayish-brown, bill black with wedge-shaped blue spot on the sides, tarsi blackish-slate.

[415.] *Tachyphonus delatrii* Lafresnaye. Tawny-crested Tanager.

416. *Eucometis cristata* (DuBus). Gray-crested Tanager.

Two males, Gatun, February 5 and July 9, 1911, and an unsexed specimen, March 3, 1912. Iris reddish-brown, bill black, feet flesh color.

Found in thick undergrowth of jungle.

Nest a loosely built cup, formed entirely of slender round fibers and very fine reddish-brown tendrils, situated in a bush. Two eggs, partly incubated (July 9), gray, heavily marked with blotches and smears of smoky-brown and blackish, .94 x .70 and .92 x .69 in.

[417.] *Mitrospingus cassini* Lawrence. Cassin's Tanager.

418. *Rhodinocichla rosea eximia* Ridgway. Panama Thrush Tanager.

Two males, Tabernilla, March 19, 1911, and Pedro Miguel, May 5, 1912; female, Mt. Hope, February 20, 1913. Iris light brown, bill blue-gray dusky at base, feet bluish-black.

Found in thickets. Song very striking; a loud clear whistle of two

notes or syllables, repeated several times. More often two birds near together sing at the same time, but in a different pitch, as if one song was an accompaniment to the other.

I follow Dr. Hubert Lyman Clark in placing this bird in the Tanagridæ and have altered Mr. Ridgway's vernacular name "Thrush Warbler" as suggested by Dr. Clark (cf. *The Auk*, 1913, p. 11).

ICTERIDÆ.

- [419.] *Zarhynchus wagleri wagleri* (Gray). Wagler's Oropendula.
 [420.] *Gymnostinops montezuma* (Lesson). Montezuma Oropendula.
 [421.] *Cacicus microrhynchus* (Sclater and Salvin). Small-billed Cacique.
 422. *Cacicus vitellinus* Lawrence. Lawrence's Cacique.

Male, near Agua Clara on the Trinidad River, March 12, 1911. Iris bright blue, bill light lemon-yellow, feet black.

One of a flock that were building nests in a fair-sized tree on the river bank. Many nests were under way, but none advanced enough to judge of their size.

423. *Cassidix orizivora violea* Bangs. Colombian Rice Grackle.

Female, Gatun Lake, July 16, 1911. Iris buffy-yellow, bill and feet black.

Shot from a tree top; was alone.

- *[424.] *Dolichonyx oryzivorus* (Linnæus). Bobolink.

425. *Amblycercus holosericeus* (Lichtenstein). Prevost's Cacique.

Female, Gatun, February 5, 1911. Iris very light yellowish-brown, bill light greenish-yellow, feet bluish-gray.

An inhabitant of the jungle.

- [426.] *Leistes militaris* (Linnæus). Red-breasted Blackbird.

- *[427.] *Icterus spurius* (Linnæus). Orchard Oriole.

- *[428.] *Icterus galbula* (Linnæus). Baltimore Oriole.

- [429.] *Icterus giraudii* Cassin. Giraud's Oriole.

430. *Icterus mesomelas salvinii* (Cassin). Salvin's Oriole.

Three males, Gatun, February 18 (2) and 22, 1912; two females, Gatun, May 14 and 28, 1911, and a male, Toro Point, August 4, 1912. Iris brown, bill bluish-gray darker on culmen, feet grayish-blue.

Found in wild banana thickets and in trees.

- [431.] *Megaquiscalus major macrourus* (Swainson). Great-tailed Grackle.

CORVIDÆ.

432. *Cyanocorax affinis zeledoni* Ridgway. Talamanca Jay.

Male, Gatun, January 1, 1912; another not in the collection was secured August 13, 1911, at the same place.

Found in the forest in small flocks, shy and hard to approach.



Stone, Witmer. 1918. "Birds of the Panama Canal Zone, with Special Reference to a Collection Made by Mr. Lindsey L. Jewel." *Proceedings of the Academy of Natural Sciences of Philadelphia* 70, 239–280.

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