

- < Carangini, *Bonaparte*, Nuovi Annali delle Sci. Nat., t. 2, p. 133, 1838; t. 4, p. 275, 1840.*
 < Carangina, *Günther*, Cat. Fishes in Brit. Mus., v. 2, pp. 417, 419, 1860.
 = Caranginae, *Gill*, Proc. Acad. Nat. Sci. Phila. [v. 14], p. 431, 1862.
 < Carangini, *Poey*, Anal. Soc. Est. Hist. Nat., t. 4 (Enum. Pisc. Cub., p. 7), 1875.
 < Centronotinae gen., *Swainson*.

The synonymy of the genus *Trachurus* is as follows :

TRACHURUS.

Synonymy.

- = *Trachurus*, *Rafinesque*, Caratteri di Alcuni Nouv. Genere e Nuov. Specie di Animali e Piante della Sicilia, etc., p. 41, 1815.
 = *Caranx* (*Trachurus*), *Cuv. & Val.*, Hist. Nat. des Poissons, t. 9, p. 6, 1833. (Section.)
 < *Selar*, *Bleeker*, Natuurkundig Tijdschrift voor Nederlandsch Indie, v. 1, pp. 343, 352, 1850.
 < *Trachurus*, *Girard*, Expl. and Surv. for R. R. Route to Pac. Oc., v. 10, Fishes, p. 107, 1858.
 = *Trachurus*, *Günther*, Cat. Fishes in Brit. Mus., v. 2, p. 419, 1860.
Scomber sp., *Linn.*
Caranx sp., *Lac. et al.*
Caranxomorus sp., *Lac.*
Seriola sp., *Bowditch*.

CHLOROSCOMBRINÆ.

Synonymy.

- = *Chloroscombrinae*, *Gill*, Proc. Acad. Nat. Sc. Phila., [v. 14,] p. 431, 1865.
 = *Chloroscombrini*, *Poey*, Anal. Soc. Esp. Hist. Nat., t. 4 (Enum. Pisc. Cub., p. 7), 1875.

TRACHYNOTINÆ.

Synonymy.

- = *Trachynotinae*, *Gill*, Proc. Acad. Nat. Sc. Phila., [v. 14,] p. 431, 1862.
 < *Trachynotini*, *Poey*, Anal. Soc. Esp. Hist. Nat., t. 4 (Enum. Pisc., Cub., p. 7), 1875.

CATALOGUE OF A COLLECTION OF BIRDS MADE IN THE INTERIOR OF COSTA RICA BY MR. C. C. NUTTING.

BY ROBERT RIDGWAY.

On page 383 of the present volume, reference is made to a collection of birds from the interior of Costa Rica, but which at the time of writing had not been received. This collection has lately come to hand, and a list of the species is presented herewith. The better to aid our knowledge of the geographical distribution of Central American birds, the specimens collected at the two principal points of San José and the Volcan de Irazú, are given in separate lists. The prominent character-

istics of these two localities having been given in the paper above referred to, we will proceed at once with the enumeration.

All notes on habits, color of eyes, etc., are by Mr. Nutting.

I.—*Species collected on the Volcan de Irazú.*

1. *Catharus frantzii* (Cab.).

One specimen secured. Iris brown; legs very pale.

No. 78. ad. March 11, 1882.

2. *Merula grayi* (Bp.).

Apparently not so common at this altitude as lower down.

No. 61. ♀ ad. March 7.

3. *Merula plebeia* (Cab.).

Common at a high altitude.

No. 22. February 28.

No. 47. ♀ ad. March 4.

4. *Merula nigrescens* (Cab.).

The single specimen secured was shot on the summit of the Volcano Irazú.

No. —. ♀ ad. February 24.

5. *Thryophilus modestus* (Cab.).

One specimen shot in the thick forest.

No. 63. ♀ ad. March 8.

6. *Henicorhina leucophrys* (Tsch.).

This pretty little wren seems to prefer the cool shade of the dense woods to more open country, and is a voluble songster, although most of its time seems to be passed in silence.

One specimen. Iris, reddish brown.

No. 82. ♂ ad. March 11.

7. *Parula gutturalis* (Cab.).

Abundant, rather high on the mountain.

Two specimens.

No. 4. February 23.

No. 5. ♀ ad. February 23.

8. *Dendroeca virens* (Gm.).

Common. Two specimens.

No. 19. (Sex ?) February 27.

No. 52. ♀ ad. March 6.

9. *Myiodiodes pusillus* (Wils.).

This sprightly and familiar warbler is one of the most common repre-

sentatives of its family in Costa Rica, especially in the more elevated portions of the country. Five specimens.

No. 17. (Sex ?) February 27.

No. 18. ♂ —. February 27.

No. 28. (Sex ?) February 28.

No. 29. ♂ ad. February 28.

No. 50. ♂ ad. March 4.

10. *Setophaga torquata* (Baird).

Abundant in thick forest, at a high elevation.

No. 6. February 23.

No. (?) March 1.

11. *Pyrranga bidentata* (Sw.).

Only one specimen seen, and that shot from a hedge-row in the open country.

No. 23. ♂ juv. February 28.

12. *Buarremon brunneinucha* (Laf.).

Common. Habits very like our *Zonotrichia albicollis*, at least so far as a marked preference for brush heaps and tangled thickets of undergrowth is concerned. Iris brown.

No. 44. March 3.

No. 72. ♂ ad. March 9.

13. *Buarremon chrysopogon* (Bp.).

Common. Habits like the preceding. Iris reddish brown.

No. 64. ♀ ad. March 8.

No. 77. ♂ ad. March 10.

14. *Pheucticus tibialis* (Lawr.).

Rather common. A shy and silent bird, found in thick growths of tall reeds.

No. 51. ♀. March 6.

15. *Phonipara pusilla* (Sw.).

Not common. Found generally in open country.

No. 60. ♀. March 7.

16. *Passerina cyanea* (L.).

Rare in Costa Rica. Sr. Zeledon informs me that my specimen was the first he had seen, although he had heard of its occurrence in the region.

No. 26. ♂. ad. April 28.

17. *Junco vulcani* (Bouc.).

A special trip to the top of the volcano was made for the purpose of securing specimens of this rare bird, which has been reported from no other locality. There is a belt of sandy soil studded with clumps of

thick bushes surrounding the volcano near its summit, and in this belt *Junco vulcani* is abundant. In fact, it seems to be more abundant than any other bird in that exact locality. It is gregarious in its habits, like the rest of the genus, but seems to be rather more timid than the others.

Iris yellow. Legs pale.

Five specimens were secured February 23.

18. "*Zonotrichia*" *pileata* (Bodd.).

Very abundant, particularly along the hedge-rows that border the lanes.

No. 24. ♂ ad. February 28.

No. 27. ♀ juv. February 28.

No. 48. ♀ ad. March 4.

19. *Psilorhynchus mexicanus* (Rüpp).

Abundant. The common Jay of the region. Very noisy and impudent. Found generally in open country. Iris brown.

No. 21. ♀ ad. February 27.

No. 30. Ad. February 28.

No. 31. ♀ ad. February 28.

No. 48. ♂ ad. March 4.

20. *Elainea frantzii* (Lawr.).

Very abundant along the hedge-rows. Six specimens. Iris brown.

No. 20. February 27.

No. 25. ♀ ad. February 28.

No. 57. ♂ ad. March 6.

No. 79. ♀ ad. March 11.

No. 80. March 11.

21. *Tyrannus melancholicus satrapa* (Licht.).

Abundant in open country.

No. 9. (Sex ?). February 24.

No. 56. ♂ ad. March 6.

No. 67. March 8.

No. 68. March 8.

22. *Milvulus tyrannus* (Linn.).

Common. At times these elegant Flycatchers associate in flocks, generally preferring the open fields.

No. 59. ♀. March 7.

23. *Chasmorhynchus tricarunculatus* (Verr.).

Rather common in a restricted range of elevation on the volcano. The note of this bird seems to me to be anything but musical, being a curious compound of a croak, whistle, and creak, at somewhat lengthy

intervals. I was unable to ascertain whether the curious wattle-like appendages were erectile or not.

No. 35. ♂ ad. March 1.

24. *Picolaptes affinis* (Lafr.).

Common, especially in thick forests.

No. 70. ♂ ad. March 9.

No. 83. March 11.

25. *Melanerpes formicivorus* (Sw.).

No. 38. ♂ ad. March 1.

No. 39. — ad. March 1.

No. 40. ♂ ad. March 2.

No. 41. ♂ ad. March 2.

No. 42. ♂ ad. March 2.

No. 81. ♂ ad. March 11.

26. *Selasphorus flammula* Salv.

Rather common on Irazú at about the same altitude in which *Junco vulcani* is found.

Two specimens.

No. —. ♂. February 23.

No. —. ♀. February 23.

27. *Pharomacrus mocinno costaricensis* (Cab.).

NOTE.—In commenting upon Dr. Cabanis's proposed separation of the Costa Rican "Quezal" from that of Guatemala, Mr. Salvin points out (Proc. Zool. Soc. Lond., 1870, pp. 202, 203) the apparent unstability of the characters adduced. So far as my own experience goes, however, it is usually, if not always, quite easy to distinguish between birds from the two countries at first glance. I have just measured 19 adult males of the Costa Rican form, and find that in none of them do the longest upper tail-coverts exceed 30 inches in length from their insertion, the average being only 25½ inches, the minimum 19 inches. In none of them are there more than two of these feathers greatly elongated. The Guatemalan specimens which I have examined are unfortunately fewer in number,* but they could all be very readily distinguished not only by the very much longer and broader, but also more compact-webbed covert-plumes, while the shade of green was also appreciably more golden. I cannot at present give measurements of the Guatemalan bird, but am quite satisfied that the differences alluded to will be found reasonably constant.*

* I have handled altogether probably nearly 100 males of the Costa Rican bird.

* Since the above was written I have had an opportunity of measuring three specimens of the Guatemalan bird with the following result: Longest tail-coverts, 34-35.50 (average, 35.00); tail proper, 8-8.75 (average, 8.45); wing, 8.20-9 (average, 8.63).

Following are the extreme and average measurements of the series of adult males of the Costa Rican "Quezal" which I have just examined:

	Minimum.	Average.	Maximum.
Longest plumes, from point of insertion	19.00	25.50	29.75
Length of tail proper	7.50	7.74	8.50
Length of wing (11 specimens).....	8.00	8.14	8.50

Common on Irazu at an altitude of about 8,000 feet. Note resembles that of a parrot. A shy and, for the most part, silent bird, much sought after by native hunters for its brilliant plumage.

Twelve specimens secured during the month of March, 1882.

28. *Crotophaga sulcirostris* Sw.

Here, as elsewhere in Costa Rica, this is among the most familiar of all birds.

- No. 55. March 6.
 No. 62. March 8.
 No. 73. ♂ ad. March 10.
 No. 74. ♀ ad. March 10.
 No. 75. March 10.
 No. 76. ♂ ad. March 10.

28. *Piaya cayana mehleri* (Bp.).

Common. Generally silent, but it occasionally utters a loud, clear cry. Iris red.

- No. 34. ♂ ad. March 1.
 No. 45. March 3.

29. *Tinnunculus sparverius* (Linn.).

Probably the most abundant hawk of the region.

- No. 54. March 6.

30. *Columba albilineata* Gray.

Apparently not common, as only one specimen was seen. That was shot in a group of trees in a pasture near "Cot."

- No. 43. ♂ ad. March 3.

31. *Engyptila verreauxi* (Bp.).

Rather common along the roads. Iris yellow. Legs red.

- No. 16. February 27.
 No. 71. ♀ juv. March 9.

32. *Geotrygon costaricensis* Lawr.

Not very common. Found only in the densest parts of the forest, on the mountain side. Habits terrestrial. Iris and legs red.

- No. 32. ♀ ad. March 1.
 No. 33. ♂ juv. March 1.

II.—*Species collected in the vicinity of San José.*

1. *Merula grayi* (Bp.).

Abundant.

No. 87. ♀ ad. March 14, 1882.

No. 93. ♀ ad. March 15.

2. *Thryophilus modestus* (Cab.).

Common. A fine songster. I once heard a pair of these wrens singing together in a remarkable manner. The male would utter two or three notes, and the female would take up the strain and finish it in perfect time. This I heard repeated on several occasions.

No. 111. ♀ ad. March 19.

3. *Dendroeca aestiva* (Gm.).

Common.

No. 92. ♀ ad. March 15.

4. *Basileuterus mesochrysus* Sel.

Common in open country.

No. 90. ♀ ad. March 14.

No. 116. (? ?) March 20.

5. *Hirundo erythrogastra* Bodd.

Abundant.

No. 98. March 15.

6. *Tanagra cana diaconus* (Less.).

A very abundant and familiar bird. Often seen in the trees which surround the plaza in San José, where it seems to make itself as much at home as the English Sparrow does in our public parks.

No. 88. March 14.

No. 89. March 14.

No. 112. ♂ ad. March 19.

No. 119. ♂ ad. March 20.

7. *Ramphocelus passerinii* Rp.

Apparently not very common.

No. 120. (sex ?). March 20.

8. *Phonipara pusilla* Sw.

Rare in this vicinity. Only one seen and that was shot in a thicket bordering a stream.

No. 99. ♂ ad. March 15.

9. *Pyrgisoma cabanisi* Sel. & Salv.

Common a little lower down than San José.

No. 130. ♂ ad. March 25.

10. "*Zonotrichia*" *pileata* (Bodd.).

Abundant. Legs quite pale.

No. 97. ♂ juv. March 15, 1882.

11. *Icterus galbula* (Linn.).

Abundant around San José during our winter.

No. 86. ♂ ad. March 12.

No. 95. ♀ ad. March 15.

12. *Elainea pagana* (Licht.).

Common along the hedge rows.

No. 94. ♀ ad. March 15.

No. 96. March 15.

No. 118. ♂ ad. March 20.

13. *Myiozetetes texensis* (Giraud).

Common.

No. 109. March 19.

No. 110. ♀ ad. March 19.

No. 113. ♀ ad. March 19.

14. *Pitangus derbianus* Kaup.

Abundant.

No. 104. ♀ ad. March 19.

15. *Megarhynchus pitangua* (Linn.).

Sr. Don José Zeledon, who has collected for many years around San José, informs me that this is the only specimen which has been reported from the vicinity of San José. They usually are found at a considerably less elevation, where they are common. This specimen was found associating with the preceding species.

No. 108. ♂ ad. March 19.

16. *Chiroxiphia linearis* Bp.

This specimen was given to me, and I cannot vouch for its being secured near San José.

No. 127. March 25.

17. *Tityra personata* Jard. & Selby.

Common.

No. 131. March 25.

18. *Petasophora cyanotis* (Boure.).

Common.

One specimen. Label list.

19. *Oreopyra calolæma* Salvin.

Bought in San José.

No. 134. ♂ ad. March, 1882.

20. *Campylopterus hemileucurus* (Licht.).

Common. Bought in San José.

No. 126. ♂ ad. March 25.

No. 128. ♂ ad. March 25.

No. 129. ♂ ad. March 25.

21. *Chlorostilbon caniveti salvini* (Cab. & Heine).

Only one specimen seen, though they are said to be abundant.

No. 117. ♂ ad. March 20.

22. *Nyctidromus albicollis* (Gm.).

Common.

No. 3. ♀ ad. February 21.

23. *Centurus aurifrons hoffmanni* (Cab.).

Abundant. The common Wood-Pecker of the region. Iris yellowish-brown.

No. 91. March 15.

No. 105. March 19.

24. *Momotus lessoni* Less.

This specimen was presented to me by Sr. Zeledon, who says they are common in the region, though I shot none myself.

No. 84. ♂ ad. March 13.

25. *Ceryle americana cabanisi* (Tsch.).

Abundant, especially in the lower parts of the country.

No. 125. ♂ ad. March 25.

26. *Pharomacrus mocinno costaricensis* (Cab.).

Brought to me at San José by native hunters. These gorgeous birds are only found in the elevated mountains in the interior, where they have a restricted and perfectly defined range of elevation.

No. 86. ♂ ad. March 14.

No. 102. ♂ ad. March 18.

No. 103. ♂ ad. March 18.

No. 132. ♂ ad. March 25. Presented by Dr. Van Patten.

No. 133. ♂ ad. March 25. Presented by Dr. Van Patten.

27. *Conurus finschi* Salvin.

The single specimen obtained is a female, perhaps immature. The plumage is entirely green, but with a few small red feathers on the forehead and a very faint tinge of red on the under wing-coverts; under surface of remiges and rectrices, yellowish olive, appearing more yellow in certain lights; wing, 6.30; tail, about 5.00 (allowing for worn-off portion of the tip.).

No. 1. ♀ juv. February 19. Presented by Dr. Van Patten.

28. *Glaucidium phalænoides* (Daud.).

Rather rare; only one specimen seen; iris yellow, legs and cere greenish-yellow; secured in open country.

No. 107. ♂ ad. March 19.

29. *Tinnunculus sparverius* (L.).
Exceedingly abundant.
No. 2. February 19.
No. 106. ♀ ad. March 19.
30. *Chamæpelia passerina* (L.).
Common; iris orange.
No. 85. ♀ ad. March 14.
No. 115. March 20.
31. *Engyptila verreauxi* (Bp.).
Common; iris yellow; legs red.
No. 114. ♀ ad. March 19.
32. *Geotrygon costaricensis* Lawr.
Presented by Dr. Van Patten, of San José.
No. 135. March 25.
33. *Butorides virescens* (L.).
One specimen. Said to be common.
No. 100. Guv. March, 15.

In closing this list, justice requires an acknowledgment of the efficient aid of Sr. Don José Zeledon, who left nothing undone in the way of cheerful and painstaking assistance and genuine hospitality. Indeed, whatever of success has attended my trip to Costa Rica is due largely to his thoughtful generosity.

C. N.

**BRIEF DESCRIPTIONS OF FOSSIL PLANTS, CHIEFLY TERTIARY,
FROM WESTERN NORTH AMERICA.**

BY J. S. NEWBERRY.

The following brief characterizations of fossil plants from the West are supplementary to the descriptions issued in the "Notes on Our Later Extinct Floras", published in the Annals of the Lyceum of Natural History of New York, 1868. Fuller descriptions, with figures of all the species enumerated in both series, with others yet to be added, will soon appear in a volume which is to form one of the Reports of the United States Geological Survey. Most of the fossil plants here enumerated were collected by Dr. F. V. Hayden, but a large number have also been obtained by Prof. Thos. Condon, State geologist of Oregon, by Prof. J. J. Stevenson and his assistant, Mr. I. C. Russell, and by others whose names are indicated in connection with their contributions.

Most of the originals of these descriptions will be placed in the National Museum and the annotated catalogue now issued finds an appropriate place in the Proceedings of the Museum.

J. S. NEWBERRY.

COLUMBIA COLLEGE, NEW YORK,

August 15, 1882.