J. Smit lith.

M&N Hanhart imp.

BUARREMON CRASSIROSTRIS

Var. 2. Sponge slender, with a few distant angular branches, pale purplish red.

Hab. Borneo? (1851, *Capt. Sir E. Belcher*). B.M.

The two varieties were purchased at the same time, in Stevens's sale-room, in 1852. They present just the same differences in colour as are to be observed in different specimens of *Melobesiæ* and *Corallinæ*; and there is no doubt that the purplish-red specimen will become white by exposure.

8. On some Collections of Birds from Veragua.

By Osbert Salvin, M.A., F.L.S., F.Z.S., &c.

(Plate XIV.)

The three collections of birds which form the materials for the present paper were collected at three different localities in Veragua, by Enrique Arcé, a native of Guatemala, who formerly worked for Mr. Godman and myself when travelling in the latter country. Having become proficient in bird-collecting, he undertook to go to Costa Rica, where he remained some months; he then proceeded to Panama, and thence to the ground where these collections were made. The first and largest was from a village called Santa Fé, which Arcé describes as situated twelve leagues on the Panama side of Santiago, the capital of Veragua; the next was from the neighbourhood of Santiago itself; and the third from a district beyond Santiago, which Arcé calls the "Cordillera de Tolé." Neither this district nor Santa Fé are marked in any map that I have seen. All three localities would seem to enjoy a "*tierra templada*," or cool mountain-climate, in their vicinity; and the presence of a Dipper (*Cinclus*) in the last named indicates that our traveller reached a considerable elevation. The collection also contains many birds which are found only in the low-lands, showing that Arcé also visited the hot forests of low elevation.

Before proceeding to enumerate the species contained in these collections, I will shortly mention the notices that have been published from time to time of the birds of this section of Central America, viz. that which is included between the political frontier of Costa Rica and the Panama Railway.

The first notice which I can find referring to the birds of Veragua is in the 'Proceedings' of this Society for the year 1850, p. 92, where Mr. Gould describes *Cephalopterus glabricollis* from a specimen obtained by the botanical traveller M. Warszewicz in the Cordillera of Chiriqui. In a subsequent paper, published in the same year (p. 162), six new species of *Trochilidæ* (*Selasphorus scintilla, Thaumatias chionurus, Thalurania venusta, Sapphironia cæruleogularis, Erythronota niveoventris*, and *Trochilus* (—?) *castaneoventris*) were described by the same gentleman from specimens furnished by M. Warszewicz, and collected between David and the Chiriqui Lagoon. A seventh species from the same collection was also described by

Mr. Gould under the new generic name *Oreopyra*, as *O. leucaspis*, in the 'Proceedings' for 1860, p. 312. In the 'Proceedings' for the year 1853, p. 45, a new species of Toucan (*Aulacorhamphus cæruleogularis*) was defined by Mr. Gould from a specimen collected in Veragua by Dr. Berthold Seemann, who obtained it when travelling as naturalist to H.M.S. 'Herald.' Mr. Gould says this bird was accompanied by other ornithological rarities, of which unfortunately we have no record. In the year 1853, also, MM. Verreaux published their description of *Chasmorhynchus tricarunculatus* in the 'Revue Zoologique,' p. 193, from an immature specimen transmitted to them from Boca del Toro. The next notice we have is in the 'Annals of the New York Lyceum' for 1855 (vol. vi. p. 137), which contains a description by Mr. G. N. Lawrence of the beautiful Hummingbird (*Microchera albo-coronata*), with notes on its habits by its discoverer, Dr. J. K. Merritt, and also on those of *Eutoxeres aquila*, Bourc. These birds were obtained in the district of Belen, which lies to the south-eastward of the Chiriqui lagoon, on the Atlantic slope of the Cordillera. Our 'Proceedings' for 1856 contain two papers referring to Veraguan birds. The first is at p. 107, by Mr. Gould, where two new species are described (*Troyon aurantiiventris* and *Odontophorus veraguensis*) from specimens collected by Mr. Bridges near David. The second paper, by Mr. Sclater (p. 139), gives a complete list of Mr. Bridges's collection, which contained specimens of forty-six species, two of which are described as new, viz. *Thamnophilus bridgesi* and *Geotrygon chiriquensis*. In this paper short notes on the habits of each species are supplied by Mr. Bridges. The next paper I have to notice is by Mr. G. N. Lawrence, on a collection transmitted to the Smithsonian Institution by Mr. F. Hicks from David. This paper, published in the 'Annals of the New York Lyceum,' viii. p. 174, enumerates thirty-nine species, three of which are introduced as new, viz. *Spermophila collaris*, *Elainea chiriquensis*, and *E. semiflava*.

Lastly, in the same journal (June, 1866), Mr. Lawrence describes what appears to be a very beautiful Pigeon, of the genus *Geotrygon*, apparently allied to the West-Indian forms *G. caniceps*, Gundl., of Cuba, and *G. cristata*, Temm. (Bp. Consp. ii. p. 70), of Jamaica. This bird was obtained by Dr. Merritt, the discoverer of *Microchera albo-coronata*, in the district of Belen, and seems to have remained unnoticed in his collection since the year 1852.

I now come to Arcé's collections, some of the new species of which have been already described in these 'Proceedings' by myself; but as these are incorporated into the subjoined list, I need not refer to them here.

There are twenty-three species of birds included in these collections which have not hitherto been noticed within the limits of the Central American fauna. Nine of these have been described as new from these specimens; and the rest are South American species, now shown to be of wider range. The new genera introduced are:—(*Tyrannidæ*) *Colopterus* and *Serpophaga*; (*Trochilidæ*) *Dorifera* and *Clais*; (*Cuculidæ*) *Neomorphus*; (*Cracidæ*) *Chamæpetes*.

The geographical position of the portion of Veragua we are now considering, situated as it is between Panama and Costa Rica, certainly suggests that its ornithological fauna would consist of species belonging to each fauna, with the addition of some few species peculiar to the district. Such appears to be actually the case. Rather more than one-half the birds are also found in Costa Rica, while rather less than two-thirds are found on the Panama Railway. About one in ten has not been hitherto seen beyond its limits. Rather less than three in seven extend beyond Panama into the southern continent of America, while three in seven extend northward into Guatemala, Mexico, or the northern continent of America.

These proportions show that this district most resembles the Isthmus of Panama as regards its birds, that it has a less strong affinity to Costa Rica, and that out of the wide-ranging species a rather larger proportion belongs to more northern regions than to southern. It would be necessary to compare closely the birds of this district with those of Costa Rica to ascertain accurately where the balance of their relationship lies. The presence of several peculiar forms, such as *Cephalopterus*, *Chasmorhynchus*, *Oreopyra*, *Microchera*, &c., suggests that Veragua belongs zoologically to Costa Rica, and that Panama maintains a strictly derivative fauna, and has at no period of the geological history of the isthmus ever been a centre of segregation. On the other hand, it is to Costa Rica and Veragua united that we must look to find the origin of most of the species now found on the Isthmus of Panama, it being evident that this district has for a long period occupied a position as an island, or one of the islands which lay between the two continents at a time when the two oceans were united by two or more channels. It is for geologists to tell us where these divisions were situated. An obvious one, separating Costa Rica, Veragua, and Panama from the southern continent, is the line from the Atlantic bay of San Blas across to the mouth of the Bayano on the Pacific.

Regarding Costa Rica, Veragua, and Panama as a whole, there are indications, in the Humming-birds at least, of some separation having existed between the extreme ends of the district, *Microchera albocoronata* of the southern extremity being represented by *M. parvirostris* at the northern, *Chalybura isauræ* by *C. melanorrhoa*, *Thaumantias chionurus* by *T. cupreiceps*. As no instance of representative forms occurs in other groups of birds, it is perhaps more probable that the local distribution of particular plants from which these birds take their food limits the range of each race than that any actual geographical barrier has given cause to this divergence.

I hope shortly to return to this subject in a paper on some collections from Costa Rica; but I may state that my present view is that this district, viz. that included from the rise of the mountains to the northward of the line of the Panama Railway to the southern shore of the lake of Nicaragua and the river San Juan, forms the key to the peculiarities of the Central-American bird-fauna. Previously to the separation indicated between Costa Rica and the southern continent, but when the more northern strait, where the lake of

Nicaragua now stands, was open, the species of the northern portion of South America and Costa Rica were identical, and but few neotropical forms existed northward of the separation.

A further subsidence must then have isolated Costa Rica, where during a lengthened period most of the species have become slightly modified. A rise of land to the extent of the present contour of Central America then took place. The old straits, now land, have been occupied by contending allied races, sometimes the Costa Rican, and sometimes the southern race prevailing, occasionally the southern race penetrating through the country of its representative and driving it before it. Towards the south the Costa Rican species have soon met with their representative races, by which their range has been stayed; while northward, impeded by no such barrier, they have spread as far as climate and the supply of their necessary food would allow them, the most strongly defined limit in this direction being, probably, the northern boundary of the tropical virgin forest.

Turdidæ.

†1. Catharus griseiceps, Salvin, P. Z. S. 1866, p. 68.

Santa Fé, Veragua.

†2. Catharus fuscater (Lafr.).

Myioturdus fuscater, Lafr. Rev. Zool. 1845, p. 341.

Catharus fuscater, Sclater, Cat. A. B. p. 2; Salvin, P. Z. S. 1866, p. 69.

Cordillera of Tolé.

Arcé has sent a single male specimen of a *Catharus* which agrees closely with Mr. Sclater's examples from Ecuador. The bill, however, is somewhat larger and, in this fresh specimen, of a brighter orange-colour. *C. fuscater* is no doubt the southern representative of *C. mexicanus* (Bp.) (Scl. Cat. p. 1), which occupies its place from Costa Rica to Mexico. Both species are inhabitants of the "*tierra caliente*," and appear to be decidedly scarce in the countries in which they are found.

† 3. Turdus grayi, Bp.; Lawr. Ann. N. Y. Lyc. viii. p. 174.

Santa Fé, Veragua; David (*Hicks*).

Ranges as far southward as Panama. At Santa Martha *T. luridus*, Bp. Notes Orn. p. 28, replaces it, a species of which I have recently acquired a specimen, collected by the late Mr. Bouchard. This differs from a Panama specimen of *T. grayi* in having the under surface much paler, the crissum being nearly white. The upper surface, too, is more olivaceous and hardly shows a cinnamon tinge, the tail is squarer, and the dimensions, especially the feet, smaller. Total length 9, wing 4·5, tail 3·9 inches.

†4. Turdus leucauchen, Sclater, P. Z. S. 1858, p. 447; Baird, Rev. Am. B. p. 24.

Santa Fé and Cordillera de Tolé.

Veraguan specimens exhibit none of the marked characters which

distinguish *T. leucauchen* from *T. assimilis*, Cab., as pointed out by Dr. Baird, *l. c.*, and are even paler above than Costa Rican specimens which are referred to the former species by Baird. I am inclined to confine the term *assimilis* to the Mexican form, as described by Baird, and to refer all these intermediate forms to the Guatemalan *T. leucauchen*. The two more clearly defined species are distributed as follows:—*T. assimilis* is from Mexico only, *T. leucauchen* from the forests of Northern Vera Paz (Choctum, &c.), and from no other district of Guatemala. The intermediate forms, viz. those with olivaceous backs and partially fulvous under wing-coverts, are found in the highlands of Guatemala (Dueñas abundant, Coban a single specimen, and one from Choctum, the district of the true *leucauchen*), Costa Rica (Tucurriqui, 3000 feet), and Veragua. I cannot say that this arrangement is satisfactory; and had the work to be done over again I should prefer to regard all as one variable species, the representative of the South Brazilian *T. crotopezus*, Vieill., the Cayenne and Para *T. phæopygus*, Cab., and the Antillean *T. jamaicensis*, Gm.

I may here notice that the specimens in the collection of the Smithsonian Institution (22,360 and 32,684), marked "Mexico" by M. E. Verreaux, possibly came from Guatemala, and originally formed part of a collection which passed through my hands. I have seen specimens of other species with the locality similarly marked, which certainly were in this collection.

† 5. TURDUS OBSOLETUS, Lawrence, Ann. of New York Lyceum, vii. p. 470; Baird, Rev. Am. B. pt. 1. p. 28.

Santa Fé, Veragua.

A single specimen from Santa Fé I believe to be the adult female of this species. I have little doubt that the male is black, and the species closely allied to *T. atrosericeus*, Lafr. R. Z. 1848, p. 3. In this female the crissum is white, while that of the female of all the allied species is coloured similarly to the abdomen. I append a short diagnosis of this specimen, as Mr. Lawrence's description was evidently taken from an immature bird:—

T. *saturate brunneus, subtus pallidior: gula parce striata: ventre imo et crisso albis: tectricibus subalaribus et remigibus ad basin intus cinnamomeis: rostro nigro, pedibus obscure corylinis: long. tota* 9, *alæ* 4·9, *caudæ* 3·8 *poll. Angl.*

† 6. RHODINOCICHLA ROSEA (Less.).

Furnarius roseus, Less.

Rhodinocichla rosea, Hartl. Journ. f. Orn. 1853, p. 33; Sclater, Cat. A. B. p. 147; P. Z. S. 1856, p. 140; Baird, Rev. Am. B. p. 91.

Santa Fé; David (*Bridges*).

The proper systematic position for this curious bird seems to remain in considerable doubt. Diverse coloration of the sexes is not found in any genus of *Troglodytidæ*, to which family both Baird and Sclater are inclined to refer it. It may prove that Dr. Hartlaub was not so far wrong after all in referring the female to the *Turdidæ*. Though I never observed this bird in Guatemala, it ranges through-

out Central America from Mazatlan to Panama, and thence to Venezuela, &c.

CINCLIDÆ.

+ 7. CINCLUS ARDESIACUS, Salvin, Ibis, 1867, p. 121, pl. 2.

Cordillera de Tolé.

A full description of this species will be found in the 'Ibis,' as referred to above. In coloration this Dipper more nearly approaches North American specimens of *C. mexicanus* than Mexican, which seem to be always darker. (See Baird's 'Rev. Am. B.' p. 60.)

TROGLODYTIDÆ.

— 8. MICROCERCULUS LUSCINIA, Salvin, P. Z. S. 1866, p. 69.

Santa Fé and Santiago de Veragua.

Two specimens sent by Arcé agree accurately with one another, the species forming a distinct race from the northern *M. philomela*, Salvin, P. Z. S. 1861, p. 202.

— 9. THRYOTHORUS LEUCOSTICTUS, Cab.

Thryothorus prostheleucus, Sclater, Cat. Am. B. p. 20.
Microcerculus leucostictus, Sclater & Salvin, P. Z. S. 1864, p. 345.
Santa Fé, Veragua.

This species seems to enjoy an uninterrupted range from Cayenne, Ecuador, and New Granada to Mexico. I am quite unable to find constant characters to separate specimens from the latter country and Guatemala from those obtained from more southern localities.

— 10. THRYOTHORUS RUFALBUS, Lafr.; Sclater, P. Z. S. 1856, p. 140; Lawr. Ann. N. Y. Lyc. viii. p. 174.

David (*Bridges; Hicks*).

— 11. THRYOTHORUS RUTILUS, Vieill.; Baird, Rev. Am. B. p. 135.

Santa Fé and Santiago de Veragua.

This species has before been noticed on the Isthmus of Panama (Lawr. Ann. N. Y. Lyc. vii. p. 320).

— 12. THRYOTHORUS THORACICUS, Salvin, P. Z. S. 1864, p. 580.

Santiago de Veragua.

Three specimens from this locality differ in no way from the typical Costa Rican examples. This species, like many others hitherto considered purely Costa Rican, extends as far south as the termination of the higher mountains of that country, and tends to show that the real boundary of the Costa Rican fauna must be sought here.

— 13. THRYOTHORUS CASTANEUS, Lawr. Ann. N. Y. Lyc. vii. p. 321.

Thryophilus castaneus, Baird, Rev. Am. B. p. 133.
Santiago de Veragua.

This species has hitherto been only recorded from the Isthmus of Panama.

—14. TROGLODYTES TESSELLATUS, Lafr. et D'Orb.

Troglodytes inquietus, Baird, Rev. Am. B. p. 143; Lawr. N. Y. Lyc. viii. p. 174.

David (*Hicks*).

Mr. Sclater and I have recently had an opportunity of comparing the type specimen of *T. tessellatus*, kindly lent us by the authorities of the Muséum d'Histoire Naturelle of Paris, with specimens of the Panama Wren, collected by M^c^Leannan. They present inappreciable differences.

MOTACILLIDÆ.

+15. ANTHUS PARVUS, Lawr.

Anthus rufus, Lawr. Ann. N. Y. Lyc. vii. p. 322; Baird, Rev. Am. B. p. 156.

Anthus parvus, Lawr. Proc. Ac. Phil. 1865, p. 106.

Santa Fé.

I am quite unable to detect any tangible differences between a specimen, no doubt identical with the species described by Mr. Lawrence, collected by Arcé, one from the Amazon Valley, by Wallace, and a third from Bahia, the former equalling in size either of the others. I prefer leaving the question open; but I believe this Veraguan *Anthus* to be a species ranging widely over the continent of South America, and that it is identical with the bird referred by Sclater, Cat. Am. B. p. 24, to *Anthus chii*, Vieill., Spix, Av. Bras. i. p. 75, pl. 76. f. 2, which, being founded on a bird described by Azara, is very probably the same as the *Petite Alouette de Buenos Ayres* of Buffon, Pl. Enl. p. 738, and, therefore, as *Alauda rufa*, Gm.

SYLVICOLIDÆ.

16. MNIOTILTA VARIA (L.); Sclater, P. Z. S. 1856, p. 140; Lawr. Ann. N. Y. Lyc. viii. p. 174.

Santa Fé; David (*Bridges; Hicks*).

17. HELMINTHERUS VERMIVORUS (Gm.); Baird, Rev. Am. B. p. 179.

Santa Fé.

Already noticed as far south as Costa Rica (Baird, *l. c.*); but not yet observed beyond the locality here given. Arcé sent only one specimen.

18. HELMINTHOPHAGA CHRYSOPTERA (L.); Baird, Rev. Am. B. p. 175.

Santa Fé.

This species ranges southward into New Granada (Sclater, P. Z. S. 1855, p. 143).

19. HELMINTHOPHAGA PEREGRINA (Wils.); Lawr. Ann. N. Y. Lyc. viii. p. 174.

David (*Hicks*).

20. Dendrœca pennsylvanica (L.); Baird, Rev. Am. B. p. 191.

Santa Fé.

21. Dendrœca blackburniæ (Gm.); Baird, Rev. Am. B. p. 189.

Santa Fé.

22. Dendrœca æstiva (Gm.); Lawr. Ann. N. Y. Lyc. viii, p. 174.

Rhimamphus æstivus, Sclater, P. Z. S. 1856, p. 141.

Santa Fé; David (*Bridges; Hicks*).

23. Oporornis formosus (Wils.); Baird, Rev. Am. B. p. 218.

Santa Fé.

— 24. Basileuterus mesochrysus, Sclater, P. Z. S. 1860, p. 251; Baird, Rev. Am. B. p. 250.

Santa Fé.

A specimen of this *Basileuterus* sent by Arcé agrees well with a Bogota specimen, which must be ascribed to *B. mesochrysus*, Scl., its wings considerably exceeding in length those of a Guatemalan specimen of *B. delattrii*, Bp., the bill being much larger, and the yellow of the under plumage brighter. I have little doubt Baird is right in referring the Costa Rican specimens to this race, which seems to maintain these constant differences. Northwards of Costa Rica its place is occupied by *B. delattrii*, Bp., which extends its range over the whole of Guatemala (South Mexico doubtfully). In South Mexico *B. delattrii* again gives way to *B. rufifrons*, Sw., a race which is also found very rarely in Guatemala (Salvin, Ibis, 1866, p. 192).

— 25. Basileuterus uropygialis, Sclater, P. Z. S. 1861, p. 128, & 1865, p. 286, pl. x. f. 2; Sclater & Salvin, P. Z. S. 1864, p. 347; Baird, Rev. Am. B. p. 246.

Santa Fé.

Besides a specimen from the above locality, Arcé has, in a previous collection, sent a specimen of this species from Costa Rica; so that this representative of the section of *Basileuterus*, of which *B. semicervinus* is the type, belongs clearly to the Central American fauna.

26. Setophaga ruticilla (L.); Lawr. Ann. N. Y. Lyc. viii. p. 174.

Santa Fé; David (*Hicks*).

— 27. Setophaga torquata, Baird, Rev. Am. B. p. 261.

Cordillera de Tolé.

I also possess a specimen from Costa Rica, the country whence Baird's types were obtained, collected by Arcé, agreeing with this Veraguan example.

VIREONIDÆ.

—28. VIREOSYLVIA FLAVO-VIRIDIS, Cassin; Baird, Rev. Am. B. p. 336.

Santa Fé; Cordillera de Tolé.

— 29. HYLOPHILUS VIRIDIFLAVUS, Lawr. Ann. N.Y. Lyc. vii. p. 324; Scl. & Salv. P. Z. S. 1864, p. 348; Baird, Rev. Am. B. p. 380.

Santa Fé.

— 30. HYLOPHILUS DECURTATUS (Bp.); Baird, Rev. Am. B. p. 381.

Hylophilus cinereiceps, Scl. & Salv. P. Z. S. 1860, p. 299.

H. pusillus, Lawr. Ann. N. Y. Lyc. vii. p. 323; Baird, Rev. Am. B. p. 381.

Santa Fé.

Prof. Baird recognizes the Guatemalan bird we described *l. c.*, as the *Sylvicola decurtata*, Bp. These Veraguan specimens confirm the view taken (P. Z. S. 1864, p. 348) that *H. pusillus*, Lawr., is identical with the northern bird; and in this Baird is strongly inclined to agree.

CÆREBIDÆ.

31. CÆREBA CARNEIPES, Sclater; Lawr. Ann. N. Y. Lyc. viii. p. 174.

Santa Fé, Santiago de Veragua, and Cordillera de Tolé; David (*Hicks*).

32. CÆREBA LUCIDA, Scl. & Salv.

Cæreba cyanea, Scl. P. Z. S. 1856, p. 140.

David (*Bridges*).

33. CHLOROPHANES GUATEMALENSIS, Sclater.

Chlorophanes spiza (L.); Lawr. Ann. N. Y. Lyc. viii. p. 174.

Cordillera de Tolé; David (*Hicks*).

34. CERTHIOLA LUTEOLA, Cab.; Lawr. Ann. N. Y. Lyc. viii. p. 174.

David (*Hicks*).

TANAGRIDÆ.

35. EUPHONIA ANNÆ, Cassin, Proc. Acad. Phil. 1865, p. 172.

Euphonia rufivertex, Salvin, P. Z. S. 1866, p. 71, pl. VII.

Santa Fé.

Though Prof. Baird kindly forwarded me a proof sheet containing Mr. Cassin's description of this species, it did not arrive in time to stop the publication of the name I had assigned it, which must now stand as a synonym, Mr. Cassin's description having several months priority. There can be no doubt as to the identity of the species we each described. It is a well-marked species, the only other

member of the genus having a white crissum being *E. minuta**, Cab., which differs from *E. annæ* primo visu.

36. Euphonia crassirostris, Sclater?; Lawr. Ann. N. Y. Lyc. viii. p. 174.

David (*Hicks*).

37. Euphonia ——?

Cordillera de Tolé.

An immature female, which I am unable at present to determine.

38. Calliste icterocephala, Bp.

Callispiza frantzii, Cab. Journ. f. Orn. 1861, p. 87; Sclater, Ibis, 1863, p. 451.

C. icterocephala, Bp.; Sclater, Cat. Am. B. p. 65; Mon. Calliste, t. xvii.

Santa Fé and Cordillera de Tolé.

Dr. Cabanis, in describing *C. frantzii*, evidently had only female birds before him. Arcé has sent several specimens of both sexes. Of these the males differ in no way from specimens in Dr. Sclater's collection, from Ecuador, which must undoubtedly be referred to *C. icterocephala*, Bp.

39. Calliste gyroloides, Lafr.; Sclater, P. Z. S. 1856, p. 142.

Sante Fé; David (*Bridges*).

40. Calliste franciscæ, Lafr.; Sclater, P. Z. S. 1856, p. 142; Lawr. Ann. N. Y. Lyc. viii. p. 175.

Santa Fé and Cordillera de Tolé; David (*Bridges; Hicks*).

41. Tanagra diaconus, Less.; Sclater, P. Z. S. 1856, p. 142; Lawr. Ann. N. Y. Lyc. viii. p. 175.

Santa Fé; David (*Bridges; Hicks*).

42. Tanagra melanoptera, Hartl.

Santiago de Veragua.

This Tanager ranges northwards into Costa Rica, whence Arcé has sent specimens from Tucurriqui on the Atlantic slope. In Guatemala *T. abbas*, Licht., entirely supplants it.

43. Ramphocœlus dimidiatus, Lafr.; Sclater, P. Z. S. 1856, p. 142; Lawr. Ann. N. Y. Lyc. viii. p. 175.

Santa Fé; David (*Bridges; Hicks*).

44. Ramphocœlus passerinii, Bp.; Scl. P. Z. S. 1856, p. 142; Lawr. Ann. N. Y. Lyc. viii. p. 175.

David (*Bridges; Hicks*).

* I am not at all assured of the real difference between this species and *E. humilis*, Cab.; but having only one specimen of the latter I am hardly in a position to speak positively.

45. Ramphocœlus icteronotus, Lafr.

Santiago de Veragua.

+46. Pyranga hepatica, Sw.

Santa Fé.

A Mexican species, rarely found in Guatemala, and here occurring at probably the southernmost point of its range.

47. Pyranga æstiva (Gm.); Sclater, P. Z. S. 1856, p. 142; Lawr. Ann. N. Y. Lyc. viii. p. 175.

Santa Fé; David (*Bridges; Hicks*).

48. Phœnicothraupis rubica (Vieill.)?

Santa Fé.

Arcé has sent several specimens of a *Phœnicothraupis* which I can hardly distinguish from *P. rubica* of Brazil. They have the same general diffusion of red colouring over the under surface, the upper plumage also agreeing, the uropygium and margins of the rectrices being hardly appreciably less bright. I am at a loss to account for the presence of this bird here, as on both sides at Panama and in Costa Rica *P. fuscicauda*, Cab., is found, a race which is readily distinguishable by its dark coloration contrasting with the bright red of the throat. In Guatemala the genus is represented by *P. rubicoides*, which has also a bright-red throat, but less defined than in *P. fuscicauda*, the general plumage also being redder.

49. Lanio leucothorax, Salvin, P. Z. S. 1864, p. 581; Cassin, Pr. Ac. Nat. Sc. Phil. 1865, p. 171.

Santa Fé, Santiago de Veragua, and Cordillera de Tolé.

The specimens from which my original description was taken were in bad condition. Better examples being included in these collections show that, besides the distinctions pointed out, *L. leucothorax* has the uropygium black, while in *L. aurantius* it is clear yellow. The Costa Rican and Veraguan bird is a well-marked and easily recognizable species.

50. Eucometes spodocephala, Bp.

Santa Fé.

The limits bounding the ranges of this and its closely allied species *E. cristata*, DuBus, seem to be distinctly defined. On the Isthmus of Panama *E. cristata* occurs; while a short distance to the northward the present species takes its place and ranges as far as Guatemala, where, however, it is extremely rare, only one specimen having come under my notice. The type from which Bonaparte's original description was taken came from Nicaragua, from which locality and also from Costa Rica our collection contains examples.

51. Eucometes cassinii (Lawr.).

Tachyphonus cassinii, Lawr. Ann. N. Y. Lyc. vii. p. 297.
Eucometes cassinii, Scl. & Salv. P. Z. S. 1864, p. 351, pl. xxx.
Santiago de Veragua.

52. Tachyphonus delattrii, Lafr.

Santa Fé and Santiago de Veragua.

53. Arremon aurantiirostris, Lafr.

Santa Fé.

—54. Buarremon crassirostris. (Plate XIV.)

Buarremon crassirostris, Cassin, Proc. Acad. Sc. Phil. 1865, p. 170.
Buarremon mesoxanthus, Salvin, P. Z. S. 1866, p. 72.
Santiago de Veragua and Cordillera de Tolé.

As in the case of *Euphonia annæ*, Mr. Cassin's description of this bird has several months priority over mine. In comparing the species with *B. castaneiceps*, Scl. P. Z. S. 1859, p. 441, I have, I believe, indicated its true affinity. These two species constitute a very marked section of the genus *Buarremon*, which comprises several distinct groups.

55. Buarremon brunneinuchus (Lafr.).

Santiago de Veragua; Cordillera de Tolé.

Though strictly an inhabitant of mountainous regions, this species is remarkably constant in its characters, specimens from Mexico, Guatemala, Costa Rica, and Ecuador not differing in any appreciable degree.

56. Saltator magnoïdes, Lafr.; Scl. P. Z. S. 1856, p. 142.

Saltator intermedius, Lawr. Ann. N. Y. Lyc. viii. p. 175.
Santa Fé; David (*Bridges; Hicks*).

Two male specimens from Santa Fé have a slightly fulvous tinge on the under plumage, and more than is usually noticeable in Guatemalan specimens of this bird. This is, I have little doubt, the bird Mr. Lawrence has separated under the name of *S. intermedius*. In our article on the "Birds of Panama," Mr. Sclater and I united this bird with *S. magnoïdes*; but Mr. Lawrence, in his list of Mr. Hicks's Chiriqui collection (Ann. N. Y. Lyc. viii. p. 175), maintains the opinion he formed as to their distinctness. The question at issue concerns the constancy of the characters Mr. Lawrence points out. They are as follows:—(1) In *intermedius* the feathers of the occiput are mingled with olive-green, (2) the white of the throat extends to the chin, (3) the fulvous of the throat is less bright but twice as extensive, (4) the black band of the chest one-third as wide as in the *magnoïdes*, (5) under plumage tinged with fulvous instead of clear cinereous, and (6) the crissum darker. I have before me eleven specimens from Guatemala, two from Costa Rica, three from Veragua, and three (two males and a female) from Panama, in all nineteen specimens. (1) All specimens have olive-green feathers on the occiput; but in Guatemalan specimens the remaining feathers are in general (not in all specimens) blacker. (2) In several of our Guatemalan specimens the white of the throat extends to the bill, in others it does not, nor does it in one of the Panama specimens. (3) As regards the brightness of the fulvous of the throat there is a consider-

able variation, hardly two specimens being alike; the same may be said of the extent of the same colour. (4) The black band varies very much in width, both it and the extent of the fulvous depending very much upon the way in which the skin is made up, and hence a character of doubtful value; two of the Veraguan specimens have scarcely any band, while the third has a broad one. (5) Guatemalan specimens are in general of a clearer cinereous colour below; Costa Rican specimens hardly so much; Veraguan specimens are two of them tinged with fulvous, and one almost as cinereous as Guatemala skins; both the male Panama specimens are quite like the Guatemalan. (6) The crissum of the Veraguan specimens is slightly darker than Guatemalan, not so the Panama.

The fact of the matter is, that wherever *Saltator magnoïdes* is found it varies in some degree as regards a few minor points. If *S. intermedius* were admitted to rank as a species, we should have a number of specimens which might with equal propriety be assigned to either. None of our northern specimens have the sexes marked so that I can depend upon them; hence the question as to the distinction between the sexes cannot be discussed.

57. Saltator isthmicus, Sclater; Scl. & Salv. P. Z. S. 1864, p. 351.

Saltator striatipectus, Lawr. Ann. N. Y. Lyc. viii. p. 175.

Santa Fé; David (*Hicks*).

58. Pitylus grossus (L.).

Santa Fé.

59. Pitylus poliogaster, DuBus.

Santa Fé and Santiago de Veragua.

60. Guiraca concreta, DuBus.

Santa Fé.

At Panama the southern form of this Finch (*G. cyanoides*, Lafr.) occurs, showing that the Central American race has its range sharply defined, the present locality being its southernmost limit.

61. Oryzoborus funereus, Sclater.

Santa Fé.

A single specimen from this locality agrees accurately with our Guatemalan examples of *O. funereus* and with Sclater's type. According to Mr. Lawrence the species of this form occurring on the Panama Railway is *O. æthiops*, Scl.

62. Spermophila semicollaris, Lawr.

Santa Fé.

63. Spermophila collaris, Lawr. Ann. N. Y. Lyc. viii. p. 176.

David (*Hicks*).

†64. Phonipara pusilla (L.).

Santa Fé.

65. Volatinia jacarina (L.); Lawr. Ann. N. Y. Lyc. viii. p. 176.

David (*Hicks*).

66. Cyanospiza ciris (L.); Lawr. Ann. N. Y. Lyc. viii. p. 176.

David (*Hicks*).

67. Embernagra striaticeps, Lafr.

Embernagra conirostris, Scl. P. Z. S. 1856, p. 143.

Santa Fé; Cordillera de Tolé; David (*Bridges*).

This species is also found in Costa Rica; but further to the northward is replaced by *E. chloronota*, Salv.

68. Euspiza americana (Gm.); Scl. P. Z. S. 1856, p. 142.

David (*Bridges*).

69. Ocyalus wagleri, G. R. Gray.

Santa Fé.

70. Cacicus microrhynchus, Scl. & Salv. P.Z.S.1864, p. 353; Lawr. Ann. N. Y. Lyc. viii. p. 180.

Santa Fé; Santiago de Veragua; Cordillera de Tolé.

The most northern locality for this bird yet noticed is Greytown, Nicaragua, whence Mr. Holland has sent specimens to the Smithsonian Institution.

71. Cassiculus prevosti (Less.).

Santa Fé.

72. Icterus baltimorensis (L.); Scl. P. Z. S. 1856, p. 142; Lawr. Ann. N. Y. Lyc. viii. p. 176.

David (*Bridges; Hicks*).

73. Icterus spurius (L.); Lawr. Ann. N. Y. Lyc. viii. p. 176.

David (*Hicks*).

†74. Icterus giraudi, Cassin.

Santa Fé.

75. Sturnella ludoviciana (L.); Scl. P. Z. S. 1856, p. 142.

Sturnella mexicana, Lawr. Ann. N. Y. Lyc. viii. p. 176.

David (*Bridges; Hicks*).

I doubt if there be more than one species of this form.

†76. Sclerurus mexicanus, Scl. P. Z. S. 1856, p. 290.

Santiago de Veragua and Cordillera de Tolé.

This species has not been noticed before as occurring so far south, though specimens of the second Central American bird of this genus (*S. guatemalensis*) have been sent from Panama. The two examples contained in these collections are neither of them in good condition; they appear to differ slightly from our Guatemalan specimens, the uropygium being somewhat darker and the bill shorter.

+77. Synallaxis albescens, Temm. Pl. Col. 227. f. 2; Scl. Cat. Am. B. p. 151.

Santa Fé.

A single example of a *Synallaxis* agrees closely with Sclater's specimen from Trinidad, which he ascribes to *S. albescens*, Temm. Four species of *Synallaxis* have been recorded as occurring in Central America, viz. *S. erythrothorax*, Scl., of South Mexico and Guatemala; *S. pudica*, Scl., Panama; *S. albescens*, Temm., Veragua; and *S. nigrifumosa*, Lawr. Ann. N. Y. Lyc. viii. p. 180, Greytown, Nicaragua. I have not seen specimens of this last mentioned. It seems to be very closely allied to *S. pudica*, perhaps the male of that species; a specimen with the sex so marked from Panama differs from the female in the greater intensity of the smoky-black tinge of the under plumage and in the brighter shade of chestnut, distinctions upon which Mr. Lawrence rests the claim of the species he describes to specific rank.

+78. Xenops mexicanus, Scl.

Santa Fé.

Also noticed on the Panama Railway.

+79. Automolus cervinigularis, Scl.

Santa Fé.

Mr. M'Leannan, according to Mr. Lawrence, also procured this species on the Isthmus of Panama, where, however, another of this form (*A. pallidigularis*, Lawr.) occurs.

+80. Philydor fuscipennis, Salvin, P. Z. S. 1866, p. 72.

Santiago de Veragua.

This is the second species of this genus now known to occur in Central America, the other being *P. rufobrunneus*, Lawr. (Ann. L. N. Y. viii. p. 127), from Costa Rica.

+81. Margarornis brunnescens, Scl.

Cordillera de Tolé.

A single specimen sent by Arcé only differs from Sclater's type of *M. brunnescens* in having the rump slightly darker rufous, the difference not being sufficient to warrant specific separation. It is probably this bird that Mr. Lawrence refers to (Ann. N. Y. Lyc. viii. p. 130), where he suggests the possibility of a Costa Rica specimen being different from *brunnescens*, and proposes the name *brunneicauda* should his surmise prove correct.

82. Dendrocolaptes sancti-thomæ, Lafr.

Santiago de Veragua.

83. Dendrornis erythropygia, Scl.

Santiago de Veragua.

84. Dendrornis lacrymosa, Lawr.

Santiago de Veragua.

I have lately seen a specimen of this fine species in a collection formed by Mr. H. Wickham, near Blewfields, Mosquito coast.

85. Cymbilanius lineatus (Vieill.).

Santa Fé and Santiago de Veragua.

86. Thamnophilus transandeanus, Scl. (?)

Thamnophilus melanurus?, Scl. P. Z. S. 1856, p. 142.

David (*Bridges*).

Probably the same as the Panama bird, which I consider to belong to this race*.

87. Thamnophilus nævius (Gm.).

Santiago de Veragua.

Both these species have been noticed on the Panama Railway, but not further to the northward.

88. Thamnophilus doliatus, L.?; Scl. P. Z. S. 1856, p. 141.

David (*Bridges*).

89. Thamnophilus bridgesi, Scl. P. Z. S. 1856, p. 141.

David (*Bridges*).

90. Dysithamnus puncticeps, Salv. P. Z. S. 1866, p. 72.

Santiago de Veragua.

91. Dysithamnus semicinereus, Scl.

Santa Fé.

Though not yet detected on the Isthmus of Panama, this species doubtless enjoys an uninterrupted range from New Granada to South Mexico; specimens in our collection from several points agree accurately with one another.

92. Myrmotherula menetriesi, D'Orb.; Scl. Cat. Am. B. p. 180.

Santiago de Veragua.

A single male specimen from the above locality agrees best with Sclater's specimen from Ecuador, which he refers to the above species.

* Cf. Scl. & Salv. P. Z. S. 1864, p. 355.

93. Myrmotherula, sp.?

Santa Fé.

Arcé has sent a single specimen of a female of a species of *Myrmotherula*, which I have never been able satisfactorily to determine. It agrees with specimens I obtained in Vera Paz.

+94. Ramphocænus rufiventris, Bp.

Santa Fé.

+95. Ramphocænus semitorquatus, Lawr.

Santiago de Veragua.

This species is very closely allied to *R. cinereiventris*, Sclater, if really distinct. The most obvious and, indeed, the only point of difference seems to consist in the much less extent of the postocular spot.

+96. Myrmeciza læmosticta, Salvin, P. Z. S. 1864, p. 582.

Santa Fé.

A single specimen from this locality agrees accurately with our type from Tucurriqui, Costa Rica.

+97. Cercomacra tyrannina, Scl.

Santa Fé.

+98. Pithys bicolor, Lawr.

Santa Fé.

+99. Phlogopsis macleannani, Lawr.; Scl. & Salv. Ex. Orn. t. 9.

Santiago de Veragua.

+100. Formicarius rufipectus, Salvin, P. Z. S. 1866, p. 73, pl. viii.

Santiago de Veragua.

In the plate above referred to, the artist has represented this bird on a stone surrounded with water. This is manifestly erroneous, as all members of this genus, and, indeed, of the whole family, frequent the thin undergrowth of the virgin forest. *Formicarius* flies little, but follows the ant-paths, walking and running on the ground amongst the decayed leaves, occasionally mounting a prostrate tree. *F. moniliger*, Scl., has a sharp clear cry.

+101. Formicarius analis, D'Orb. & Lafr.; Salv. P. Z. S. 1866, p. 74.

Santiago de Veragua.

A single immature bird from this locality would, no doubt, in the adult state agree with our Costa Rica specimen mentioned in the above reference. This, as I there observed, differs somewhat from southern specimens; but my materials are still insufficient to determine whether the differences are constant or not. *F. hoffmanni*, Cab., doubtless also occurs in this portion of Veragua, as it is found both at Panama and in Costa Rica. We thus have three very distinct

species inhabiting this country. *F. analis* is also given by Mr. Lawrence, in his list of Mr. M'Leannan's collections, as being found at Panama.

102. GRALLARIA GUATEMALENSIS, Prev.

Santa Fé.

A single specimen in not quite adult plumage agrees closely with Guatemalan examples; it is, however, rather darker in general colour, the grey of the head, the olivaceous back, the rufous brown of the wings, and the tawny of the under surface being all of a deeper hue. In our specimens of this species some variation is noticeable in intensity of coloration, especially of the under plumage; so that this Veraguan specimen may only show the extreme limit of this difference.

103. GRALLARIA PERSPICILLATA, Lawr.

Santa Fé and Santiago de Veragua.

104. PITTASOMA MICHLERI, Cassin.

Santa Fé.

The presence of these two birds in these collections deprive the Isthmus of Panama of two more of its hitherto-considered-peculiar species, showing their more northern range.

105. GRALLARICULA COSTARICENSIS, Lawr. Ann. N. Y. Lyc. viii.

Cordillera de Tolé.

A single specimen obtained by Arcé agrees well with Mr. Lawrence's description.

106. ATTILA SCLATERI, Lawr.; Scl. & Salv. P. Z. S. 1864, p. 358.

Santa Fé.

This race is also found in Costa Rica, Arcé having sent a specimen from Tucurriqui. It is more constant in coloration than the more northern form, *A. citreopygius*, Bp. (Scl. Cat. p. 195), which frequently exhibits considerable variation of plumage, both in the striation of the head and in the ochraceous tinge of the under surface. *A. sclateri* is distinguishable from *A. citreopygius* by its greener head, hindneck, throat, and chest, and by the paler lemon-coloured uropygium.

107. COPURUS LEUCONOTUS, Lafr.; Scl. & Salv. P. Z. S. 1864, p. 358.

Santa Fé.

This species also ranges northward into Costa Rica, and to Blewfields in the Mosquito territory.

108. PLATYRHYNCHUS SUPERCILIARIS, Lawr. Ibis, 1863, p. 184.

Santa Fé.

Several specimens of both sexes.

109. Todirostrum cinereum (L.); Scl. P. Z. S. 1856, p. 141.
Santa Fé; David (*Bridges*).

110. Colopterus pilaris, Cab.; Scl. Cat. Am. B. p. 210.
Santa Fé.
The curious formation of the first four primaries, which constitutes the character of this genus, is carried to greater excess in this than in the other species referable to the same genus.

111. Serpophaga cinerea (Strickl.); Scl. Cat. Am. B. p. 211.
Santa Fé.
No member of this genus has hitherto been noticed north of the Isthmus of Panama. The single specimen sent differs in no way from examples from New Granada and Ecuador, over which countries *S. cinerea* ranges.

112. Mionectes oleagineus, Licht.; Scl. Cat. Am. B. p. 213; Scl. & Salv. P. Z. S. 1864, p. 358.
Santa Fé.

113. Tyranniscus parvus, Lawr.; Scl. & Salv. P. Z. S. 1864, p. 359.
Santa Fé.
Arcé has also sent specimens of this species from Turialba in Costa Rica.

114. Tyrannulus elatus (Spix); Sclater, Cat. Am. B. p. 215; P. Z. S. 1856, p. 141.
David (*Bridges*).

115. Elainea subpagana, Scl. & Salv.; Lawr. Ann. N. Y. Lyc. viii. p. 177.
Santa Fé; David (*Hicks*).
The type specimens of this species were shot at Dueñas, in the highlands of Guatemala. The bird is, however, much more abundant further to the southward, hardly any collection coming from those districts without containing examples.

116. Elainea chiriquensis, Lawr. Ann. N. Y. Lyc. viii. p. 176.
Santa Fé; David (*Hicks*).
A single specimen from this locality corresponds fairly with Mr. Lawrence's description. Its general appearance is that of *E. subpagana*; it is, however, smaller and more obscurely coloured, as the original description shows; the feet, too, are weaker, and the concealed white patch of the crown not so large.

117. Elainea semiflava, Lawr. Ann. N. Y. Lyc. viii. p. 177.
David (*Hicks*).

+118. Legatus albicollis (Vieill.); Lawr. Ann. N. Y. Lyc. viii. p. 177.

David (*Hicks*).

+119. Myiozetetes columbianus, Cab. & Hein.; Lawr. Ann. N. Y. Lyc. viii. p. 177.

David (*Hicks*).

+120. Myiodynastes nobilis, Scl.; Lawr. Ann. N. Y. Lyc. viii. p. 177.

Santa Fé; David (*Hicks*).

+121. Rhynchocyclus brevirostris, Cab.

Santa Fé.
Agrees with Guatemalan examples.

+122. Rhynchocyclus flavo-olivaceus, Lawr.; Scl. & Salv. P. Z. S. 1864, p. 359.

Santa Fé.
Agrees with Panama specimens.

+123. Muscivora mexicana, Scl. Cat. Am. B. p. 225; Scl. & Salv. P. Z. S. 1864, p. 360.

Santa Fé.
This species ranges over the whole of Central America, from Southern Mexico to the Isthmus of Panama.

+124. Myiobius sulphureipygius, Scl. Cat. Am. B. p. 226.

Santa Fé.

+125. Myiobius erythrurus, Cab.; Scl. Cat. Am. B. p. 226; Lawr. Ann. N. Y. Lyc. vii. p. 472.

Santa Fé.
Before noticed from the Isthmus of Panama.

+126. Myiobius nævius (Bodd.); Scl. Cat. Am. B. p. 227.

Santa Fé.
A well-known South American species of wide range. It has not hitherto been noticed in so northern a locality.

+127. Myiarchus nigricapillus, Cab. J. f. O. 1861, p. 249.

Santa Fé.
Two specimens rather smaller than a Costa Rican example, but otherwise agreeing. *M. nigriceps*, Scl., of Panama has a narrower rufous border to the rectrices and primaries, and has the dark crown less extensive, which in *M. nigricapillus* includes the nape.

+128. Tyrannus melancholicus, Vieill.; Scl. P. Z. S. 1856, p. 141.

David (*Bridges*).

+129. Milvulus tyrannus (L.); Sclater, P. Z. S. 1856, p. 141; Lawr. Ann. N. Y. Lyc. viii. p. 177.

Santa Fé: Santiago de Veragua; David (*Bridges; Hicks*).

+130. Tityra personata, Jard. & Selb.

Psaris mexicana, Less.
Tityra mexicana, Scl. P. Z. S. 1856, p. 141.
David (*Bridges*).

+131. Pachyrhamphus cinereiventris, Scl. Cat. Am. B. p. 242, note; Scl. & Salv. P. Z. S. 1864, p. 361.

Santa Fé.
Agrees with Panama specimens.

+132. Lipaugus unirufus, Scl.; Scl. & Salv. Ex. Orn. pl. 1, p. 1.

Santiago de Veragua.

+133. Lipaugus holerythrus, Sclater.

Santa Fé.

+134. Lipaugus rufescens, Scl.; Scl. & Salv. Ex. Orn. pl. 2, p. 5.

Santa Fé.

+135. Pipra leucocilla, L.

Pipra coracina, Scl. P. Z. S. 1856, p. 29, & Cat. Am. B. p. 249?
Cordillera de Tolé.
Specimens of this bird agree with Cayenne skins. The grounds for separating the New Granadan from the Cayenne form appear to be very slight. I think they should be reunited.

+136. Pipra cyaneocapilla, Hahn; Scl. Cat. Am. B. p. 249; Scl. & Salv. P. Z. S. 1864, p. 362.

Santiago de Veragua.

+137. Pipra leucorrhoa, Scl. P. Z. S. 1863, p. 63, pl. x.

Santa Fé.
Arcé has also sent specimens of this species from Tucurriqui, in Costa Rica; these all agree with Sclater's types, which came from New Granada (Bogota make).
The species belongs to Cabanis's section *Coropipo*, which includes this bird and its near ally *P. gutturalis* of Cayenne. The collection from Santa Fé also contains females and young males, the former I here describe:—

Pipra leucorrhoa, ♀. *Supra olivaceo-virescens unicolor: subtus gula cinerascente, abdomine dorso concolore, medialiter paulo pallidiore.*

†138. Chiroxiphia lanceolata, Wagl.; Scl. & Salv. P. Z. S. 1864, p. 362.

Chiroxiphia melanocephala, Scl. P. Z. S. 1856, p. 141.

Santa Fé; David (*Bridges*).

The purely Central American species (*C. linearis*, Bp.) terminates its southern range between the Gulf of Nicoya and Chiriqui.

† 139. Chasmorhynchus tricarunculatus, J. & E. Verreaux, R. Z. 1853, p. 193; Salvin, Ibis, 1865, p. 90, pl. 3.

Santiago de Veragua; Cordillera de Tolé.

Adult male specimens having been sent by Arcé, the question broached by Cabanis as to the possibility of the Costa Rican and Veraguan birds being distinct is quite set at rest. These specimens in no way differ from those previously sent by Arcé from Tucurriqui.

†140. Cephalopterus glabricollis, Gould, P. Z. S. 1850, p. 92, pl. xx.; Cab. J. f. O. 1861, p. 254; Sclater, P. Z. S. 1859, p. 142.

Cordillera de Tolé; Cordillera of Chiriqui (*Warszewicz*).

This strange bird appears to be abundant in this locality, and also near Turrialba in Costa Rica. Its probable range hardly extends beyond these points, though it may occur along the northern frontier of Costa Rica, the river San Juan, and the southern shore of the lake of Nicaragua. Judging from the apparently sharp definition of its southern range, I should suppose it a bird that frequents the mountainous region and keeps to forests lying at an elevation of from 2000 to 3000 feet above the sea-level. Arcé has sent home specimens of both sexes. The female has the crest smaller, as is the case in *C. ornatus*, the naked throat-lappet much smaller, and a narrow band of small feathers running down the centre of the bare throat. The head of the young bird very much resembles that of the adult of *Pyroderus*, to which genus *Cephalopterus* is closely allied.

†141. Momotus lessoni, Less.; Sclater, P. Z. S. 1856, p. 139; Lawr. Ann. N. Y. Lyc. viii. p. 177.

Momotus psalurus, Bp.; Cab. J. f. O. 1861, p. 255.

Cordillera de Tolé; David (*Bridges; Hicks*).

An immature specimen, having a black margin to the back of the blue circlet of the head and without the chestnut nape, must indubitably be referred to the Central American *Momotus lessoni*. The specimens examined by us, and mentioned in Mr. Sclater's and my paper "on the Birds of Panama" (P. Z. S. 1864, p. 362) as *M. lessoni*, properly belong to *M. subrufescens*, Scl., as additional specimens have shown. This last-named race has no black border to the back of the circlet of the head, the nape being slightly chestnut as in *M. brasiliensis*. The colouring, too, of the under plumage is of a clearer rufous than is usually the case in *M. lessoni*, in which race, however, considerable variation is shown in this respect. It is probable that the southern range of the true *M. lessoni* terminates in

the district I am now investigating, and that its place is taken at once as we proceed towards the southern continent by *M. subrufescens*.

142. Momotus martii, Spix.

Santa Fé and Santiago de Veragua.

143. Prionirhynchus platyrhynchus, Leadb.; Scl. & Salv. P. Z. S. 1864, p. 362.

Santa Fé.

This species appears to be quite common on the Isthmus of Panama, and thence spreads northward through Veragua.

144. Pharomacrus mocinno, La Llave.

Forest of Boqueti (*Bridges*).

Specimens of the Quezal have also been obtained in Costa Rica (see Cabanis, J. f. Orn. 1862, p. 175).

145. Trogon aurantiiventris, Gould, P. Z. S. 1856, p. 107.

Santa Fé; Cordillera de Tolé; David (*Bridges*).

146. Trogon caligatus, Gould; Sclater & Salv. P. Z. S. 1864, p. 364.

Santa Fé.

147. Trogon atricollis, Vieill.; Scl. & Salv. P. Z. S. 1864, p. 364.

Trogon tenellus, Cab. J. f. O. 1862, p. 173.

Santa Fé, Santiago de Veragua, and Cordillera de Tolé.

Brazilian specimens of this species usually have the central rectrices rather more bronzy green. This is the only difference I can detect which at all justifies Cabanis's separation of the Central American race. The difference is very slight, and not constant.

148. Trogon clathratus, Salvin, P. Z. S. 1866, p. 74.

Santa Fé; Santiago de Veragua; Cordillera de Tolé.

Since I described this fine species Arcé has sent a specimen of the female, of which I now give the following description:—

♀. *Saturate cinereus, alis et cauda nigricantioribus: rectricibus tribus externis albo anguste transfasciatis: abdomine rufescente tincto, ventre imo et crisso coccineis: rostro superiore fusco-nigro, basi et mandibula inferiore flavis.*

149. Trogon massena, Gould.

Santiago de Veragua; Cordillera de Tolé.

150. Galbula melanogenia, Scl. P. Z. S. 1856, p. 139.

David (*Bridges*).

†151. Ceryle amazona, Lath.

Santiago de Veragua.

† 152. Ceryle cabanisi, Tsch.

Ceryle americana, Scl. P. Z. S. 1856, p. 139.
David (*Bridges*).

†153. Eutoxeres aquila, Bourc.; Gould, Mon. Troch. i. pl. 3; Lawr. Ann. N. Y. Lyc. vi. p. 139.

District of Belen, Veragua (*Merritt*).

In one of Arcé's previous collections from Costa Rica (Tucurriqui) three specimens of this strange form were sent, showing that its Central American range probably extends over the whole of the eastern side of Costa Rica and Veragua. Apparently absent from the Isthmus of Panama, it again, like several other Humming-birds, reappears in New Granada and Ecuador.

†154. Phaëthornis emiliæ, Bourc.; Gould, Intr. Troch. p. 44.

Santa Fé.

Arcé has sent quite a number of specimens, both from Costa Rica and Veragua, of a *Phaëthornis* which Mr. Gould and I have compared closely with New Granadan specimens of *P. emiliæ* without detecting any differences. It is somewhat singular that none of these collections contain specimens of *P. longirostris*, a bird which is very common both to the north and south of Costa Rica and Veragua. Should this species be absent altogether from these countries, we have a curious instance of geographical distribution, each of the two species, *P. emiliæ* and *P. longirostris*, having an outlying district detached from what may be considered the metropolis of its range. Mr. Lawrence having recently forwarded to Mr. Gould for inspection the types of the species of *Phæthornis* he lately described (Ann. N. Y. Lyc. June, 1866) as *P. cassinii*, I am enabled to state that they do not differ, according to Mr. Gould, from *P. longirostris* (*P. cephalus*, Bourc. et Muls.).

†155. Phaëthornis adolphi, Bourc.; Gould, Mon. Troch. i. pl. 35.

Santiago de Veragua.

†156. Chalybura isauræ, Gould, P. Z. S. 1861, p. 199, & Intr. Troch. p. 72.

Santa Fé; Santiago de Veragua.

Arcé has sent both sexes of this species; the female, which has not been hitherto noticed, I now describe:—

♀. *Supra viridescens pileo obscuriore: uropygio et cauda æneo nitentibus: alis fuscis: subtus sordide cinerea, crisso albo; rectricibus duabus utrinque externis albido terminatis: rostro superiore fusco, inferiore flavido, apice fusco: pedibus flavis.*

The only other species nearly allied to this is *C. melanorrhoa*,

Salv. P. Z. S. 1864, p. 585 (*C. carmioli*, Lawr. Pr. Ac. Phil. 1865, p. 39), which has the crissum black.

†157. Phæochroa cuvieri, Delatt. et Bourc.; Scl. P. Z. S. 1856, p. 140.

David (*Bridges*).

†158. Oreopyra calolæma, Salv. P. Z. S. 1864, p. 584.

Cordillera de Tolé.

Several specimens agreeing with the types from Costa Rica. One of these has a few chestnut feathers on either side of the chin, strengthening the view that this is the adult male of *O. castaneiventris*; their presence does not, however, settle the point, as chestnut feathers are not unfrequently seen in this region in immature birds of other species, without reference to the coloration of the mature female.

†159. Oreopyra castaneiventris (Gould).

Trochilus castaneiventris, Gould, P. Z. S. 1850, p. 163.
Adelomyia? castaneiventris, Gould, Mon. Troch. iii. pl. 203.
Oreopyra castaneiventris, Salvin, P. Z. S. 1864, p. 585.
Panterpe insignis, ♀, Lawr. Ann. N. Y. Lyc. viii. p. 46.

Cordillera de Tolé; Volcano of Chiriqui (*Warszewicz*).

Arcé has sent two specimens, both marked female; neither of these have so brilliant a crown as the supposed male in Mr. Gould's collection.

†160. Oreopyra leucaspis, Gould, P. Z. S. 1860, p. 312; Mon. Troch. iv. pl. 264.

Volcano of Chiriqui (*Warszewicz*).

I have seen no additional specimens of this fine species.

†161. Lampornis veraguensis, Gould; Sclater, P. Z. S. 1856, p. 140; Lawr. Ann. N. Y. Lyc. viii. p. 177.

David (*Bridges; Hicks*).

†162. Thalurania venusta, Gould, Mon. Troch. ii. pl. 105.

Santa Fé; Santiago de Veragua; Volcano of Chiriqui (*Warszewicz*).

It is hardly possible to distinguish comparatively young birds of this race from the closely allied New Granadan form *T. columbica*. The last named, however, never appears to assume in old individuals nearly the same extent of blue on the back as is seen in *T. venusta*.

†163. Dorifera ludoviciæ, Bourc. et Muls.; Gould, Mon. Troch. ii. pl. 88(?).

Cordillera de Tolé.

There seems to be considerable individual variation between members of this species; or I should be inclined to separate, as a distinct race, the bird found in Veragua, a single specimen only of which

has as yet reached me. The shining forehead is considerably darker and of a bluer shade, the bill longer, and the under plumage blacker than in a New Granadan specimen of *D. ludoviciæ* before me; the wings, too, are shorter. Should the receipt of additional specimens confirm the constancy of these distinctions, I propose for this race the name of *Dorifera veraguensis*.

164. Heliodoxa jacula, Gould, Mon. Troch. ii. pl. 94.

Heliodoxa henryi, Lawr. Ann. N. Y. Lyc. viii. p. 402.

Santiago de Veragua and Cordillera de Tolé.

A series of specimens of both sexes from Veragua and also from Costa Rica have been sent by Arcé. These I have compared with Mr. Gould's specimens of *H. jacula*; and we both consider them identical with that species. Since then Mr. Lawrence has sent the types of his *Heliodoxa henryi* to Mr. Gould for examination. They prove to be immature birds identical with our specimens; hence this name must be considered synonymous with *H. jacula*. This is by no means an isolated case of New Granadan and Costa Rican specimens being specifically identical, though their range appears to be interrupted at the Isthmus of Panama.

165. Microchera albocoronata (Lawr.); Gould, Mon. Troch. ii. pl. 116.

In a previous collection Arcé sent two specimens of a bird of this genus and closely allied to this species from Tucurriqui, in Costa Rica. Not having good specimens of the true *M. albocoronata* with which to compare them, I left them till I could make a more satisfactory examination. Since then Mr. Lawrence has described a female bird from Angostura, in Costa Rica, under the name of *Panychlora parvirostris*, and afterwards sent the type to Mr. Gould for inspection. Mr. Gould pronounced this bird to be the female of a *Microchera*. Having now a good series of the true *M. albocoronata* I am able to point out the following differences between it and the Costa Rican bird:—The latter has the rich vinous purple of the back decidedly brighter, the white crown seems to extend further over the back of the head, and the black band of the apical third of the outer rectrices is wider and the inner margin not so sharply defined. The under plumage of *M. albocoronata* is decidedly darker, being almost black instead of the same shade as the back. These differences are sufficient to separate the Costa Rican from the Veraguan bird; and for the former the name *Microchera parvirostris* must be taken, though the specific one does not convey the character intended. The range of the two forms corresponds with that of the two *Chalyburæ* above mentioned.

166. Gouldia conversi, Gould, Mon. Troch. iii. pl. 129.

Santa Fé.

This species has already been noticed by Mr. Lawrence in M'Leannan's Panama collections. I have also specimens obtained by Arcé at Tucurriqui.

† 167. Selasphorus scintilla, Gould, P. Z. S. 1850, p. 162; Mon. Troch. iii. pl. 138.

Volcano of Chiriqui (*Warszewicz*).

† 168. Clais guimeti, Bourc. et Muls.; Gould, Mon. Troch. iv. pl. 210.

Santa Fé; Santiago de Veragua.

This species has, I believe, not hitherto been noticed so far north. Arcé also obtained numerous specimens near Chepo, a village situated to the south of the Panama Railway.

† 169. Florisuga mellivora (L.).

Santiago de Veragua and Cordillera de Tolé.

† 170. Heliothrix barroti, Bourc.

Heliothrix purpureiceps, Gould, Mon. Troch. iv. pl. 216.

Santa Fé.

These specimens agree with others from Panama and Guatemala, which Mr. Gould considers to be of this species.

† 171. Heliomaster longirostris (Vieill.); Scl. P. Z. S. 1856, p. 140.

Heliomaster stuartæ, Lawr. Ann. N. Y. Lyc. vii. p. 107, & ibid. p. 291; Gould, Intr. Troch. p. 138; Sclater & Salv. P. Z. S. 1864, p. 365.

H. sclateri, Cab. & Hein. Mus. Hein. iii. p. 54.

Santa Fé; Cordillera de Tolé.

Veraguan specimens agree with others from New Granada (Bogota make) and from Panama, all doubtless belonging to the race distinguished by Mr. Lawrence as *H. stuartæ*. Mr. Gould, since he wrote his 'Introduction to the Trochilidæ,' has received from Mr. Lawrence a type of that species, and after close examination considers that the New Granadan bird does not differ from the well-known bird of Trinidad; nor can he sustain the distinctions which the Venezuelan bird, *H. sclateri*, Cab. & Hein., is said to possess. In this view I agree, after having compared about forty specimens (Mr. Gould's and our own) from various localities. The Mexican and Guatemalan bird (*H. pallidiceps*, Gould) appears always to have the shining crown of a paler green tint, and is in this respect distinguishable in a slight degree from the more southern bird. Specimens from Costa Rica are referable to *H. longirostris*.

† 172. Erythronota niveiventris, Gould, P. Z. S. 1850, p. 164; Mon. Troch. v. pl. 319; Scl. P. Z. S. 1856, p. 140.

Santiago de Veragua; David (*Bridges*); Chiriqui (*Warszewicz*).

This is a scarce species; I have seen a large number of its close ally *E. edvardi*, but have not been able to detect more than two or three specimens of this. The only difference between the two consists in the deeper colouring of the tail of this bird. This character, however, appears quite constant.

† 173. Amazilia riefferi (Bourc.); Scl. P. Z. S. 1856, p. 140.
David (*Bridges*).

† 174. Thaumantias chionurus, Gould, P. Z. S. 1850, p. 162; Mon. Troch. v. pl. 300.
Eupherusa niveicauda, Lawr. Ann. N. Y. Lyc. viii. p. 134.
David; Chiriqui (*Warszewicz*).
The type of the species described by Mr. Lawrence as above was sent to Mr. Gould, who pronounces it to be identical with *T. chionurus*. *Eupherusa cupreiceps*, Lawr. (Ann. Lyc. N. Y. June 1866), on the other hand, is quite distinct, as Mr. Lawrence has shown. Arcé has sent a female of this second species from Tucurriqui.

† 175. Sapphironia cæruleigularis, Gould, Mon. Troch. v. pl. 346; Scl. P. Z. S. 1856, p. 140.
Santa Fé; David (*Bridges*); Chiriqui (*Warszewicz*).

† 176. Chlorolampis assimilis, Lawr.
Saucerottia atala, Scl. P. Z. S. 1856, p. 140?
Santa Fé; Santiago de Veragua.
The specimens sent agree with others from Panama, which we* have referred to this species.

† 177. Piaya mehleri, Bp.
Piaya nigricrissa, Lawr. Ann. N. Y. Lyc. viii. p. 177.
David (*Bridges*).
I am unable to distinguish any tangible differences between Panama and Guatemalan examples of this *Piaya*. I believe there is but one species ranging uninterruptedly from Ecuador and New Granada to South Mexico. *P. mexicana* is readily distinguishable by the coloration of its tail.

† 178. Diplopterus nævius (L.); Lawr. Ann. N. Y. Lyc. viii. p. 177.
David (*Bridges*).

† 179. Neomorphus salvini, Sclater, P. Z. S. 1866, p. 60, pl. v.
Santiago de Veragua; Cordillera de Tolé.

† 180. Ramphastos carinatus, L.
Ramphastus brevicarinatus, Gould, Mon. Touc. ed. 2. t. 3.
Ramphastus approximans, Cab. Journ. f. Orn. 1862, p. 333.
Santa Fé.
Veraguan examples agree with others from Panama in having a somewhat wider red band below the yellow throat and breast than is usual in Guatemalan specimens. They belong to the race separated by Gould as *R. brevicarinatus* and by Cabanis as *R. approximans*; but this race is so very closely allied to the more northern bird that I am unwilling to separate them.

* Scl. & Salv. P. Z. S. 1864, p. 365.

†181. Pteroglossus erythropygius, Gould; Lawr. Ann. N. Y. Lyc. viii. p. 178.

David (*Hicks*).

Mr. Lawrence identifies Mr. Hicks's specimens as belonging to this species, which I have never met with, and am strongly inclined to believe to be nothing more than the well-known and wide-ranging species *P. torquatus*.

†182. Selendera spectabilis, Cassin.

Santa Fé; Santiago de Veragua; Cordillera de Tolé.

This fine species appears to be more common in this district of Veragua than on the Panama Railway, where, I believe, Mr. McLeannan only obtained a single specimen.

†183. Aulacorhamphus cæruleogularis, Gould, P. Z. S. 1853, p. 193; Mon. Ramphastidæ, ed. 2, pl. 51.

Santa Fé; Veragua (*Seemann*).

This species is also found in Costa Rica, whence Arcé has sent specimens. It is also included by Cabanis (Journ. f. Orn. 1862, p. 329) in his list of Hoffmann's collections.

†184. Capito maculicoronatus, Lawr.

Santiago de Veragua.

†185. Campephilus guatemalensis, Hartl.

Santiago de Veragua.

†186. Campephilus hæmatogaster, Tsch. F. P. Av. p. 43, pl. 25.

Megapicus hæmatogaster, Malh. Mon. Pic. i. p. 27, t. 9. f. 1–3; Scl. Cat. p. 332.

Santiago de Veragua.

Two examples agreeing with New Granadan (Bogota) specimens.

†187. Campephilus malherbii, Gray & Mitch. Gen. of B. pl. 108; Scl. Cat. p. 331.

Santa Fé; Cordillera de Tolé.

†188. Centurus tricolor, Wagl.

Centurus subelegans, Scl. P. Z. S. 1856, p. 143.

Santa Fé; Cordillera de Tolé.

†189. Chloronerpes ceciliæ, Malh.; Sclater, P. Z. S. 1856, p. 143 (?).

David (*Bridges*).

†190. Chloronerpes caboti (Malh.); Scl. Cat. p. 337.

Cordillera de Tolé.

A single male specimen agrees with our specimens from Guatemala, the bill being, however, somewhat larger.

191. Pionus menstruus (L.).
Santa Fé; Santiago de Veragua.

192. Caïca hæmatotis, Scl. & Salv.
Santa Fé.

193. Spizaëtus ornatus, Daud.
Cordillera de Tolé.

194. Buteo ghiesbreghtii, DuBus.
Cordillera de Tolé.

195. Craxirex unicinctus (Temm.).
Santa Fé.

196. Asturina magnirostris (Gm.); Lawr. Ann. N. Y. Lyc. viii. p. 178.
David (*Hicks*).

197. Falco anatum, Bp.
Santiago de Veragua.

198. Hypotriorchis rufigularis (Daud.).
Santa Fé.

199. Tinnunculus sparverius (L.).
Santa Fé.

200. Accipiter tinus, Lath.
"*Accipiter collaris*, Scl.;" Lawr. Ann. N. Y. Lyc. vii. p. 462.
Santiago de Veragua.
An immature female in change of plumage belongs, I have little doubt, to this species. The immature stage is quite rufous, as in *A. collaris*, Scl.; and I think it very possible that Mr. Lawrence ought to have referred the specimen from M^c^Leannan's collections, alluded to *l. c.*, to this species, and not to *A. collaris*.

201. Ictinia plumbea (Vieill.).
Santa Fé.

202. Elanoïdes furcatus (Vieill.).
Cordillera de Tolé.

203. Lophostrix stricklandi, Scl. & Salv.
Santa Fé.

204. Glaucidium, sp.?
Santa Fé.

†205. Leptoptila verreauxi, Bp.

Santa Fé.

206. Leptoptila, sp.?

Cordillera de Tolé.

The species of this genus require a thorough revision.

†207. Columba rufina, Temm.

Cordillera de Tolé.

†208. Chamæpelia rufipennis, Bp.; Lawr. Ann. N. Y. Lyc. 1865, p. 179.

David (*Hicks*).

†209. Geotrygon chiriquensis, Scl. P. Z. S. 1856, p. 143.

David (*Bridges*).

†210. Geotrygon veraguensis, Lawr. Ann. N. Y. Lyc. June, 1866.

Veragua (*Merritt*).

Arcé has sent a specimen of a young Pigeon from Santa Fé, which is just sufficiently feathered to show a dark purple gloss on the back. I have little doubt it belongs to the fine species which Mr. Lawrence has lately described.

†211. Tinamus robustus, Scl.

Santiago de Veragua.

†212. Chamæpetes unicolor, sp. n.

C. *niger, viridescente nitens : abdomine et ventre imo paulo dilutioribus, vix nitentibus : plumis pectoris cinereo obscure marginatis : rostro nigerrimo, pedibus rubris : long. tota* 24, *alæ* 11, *caudæ* 11, *tarsi* 2·8, *rostri a rictu* 1·6.

Obs. Affinis *C. goudoti*, Less., sed statura paulo majore, corpore unicolore, et coloribus saturatioribus primo visu dignoscendus.

The genus *Chamæpetes* was founded by Wagler (Isis, 1832, p. 1227) upon *Ortalida goudoti* (Less. Man. d'Orn. ii. p. 217), the characters given being as follows:—"Character *Ortalidæ*, gula et mentum toto-plumosa." *Ortalida* is characterized as having the inner web of the primaries entire, &c. Through Mr. G. R. Gray's kindness I have had an opportunity of examining a specimen of *C. goudoti* in the British Museum, and I find that it has strongly arched primaries, with deeply excised inner webs, such as so clearly characterize some sections of the *Cracidæ*. In addition to this, M. Goudot, as quoted by Lesson, distinctly states that the trachea is without the curious fold found in *Ortalida*. These points, as well

as the character of the coloration, show that it is not with *Ortalida* that *Chamæpetes* must be compared.

Its closest relationship is certainly with *Aburria*, Reich., of which *Penelope aburri*, Less., is the type, and with *P. pipile*, a species forming another section of the same group. All these differ from true *Penelope* in possessing three outer primaries strongly arched, the points of which, for at least 1½ inch of their length, are abruptly reduced to a width of not more than ⅛ inch. *Aburria* (*P. aburri*, Less.) is distinguished by an appendage to its throat. *Chamæpetes* has the throat quite feathered, while the circlet of the eye and the lores are destitute of feathers. *P. pipile*, having a bare throat and different style of coloration, seems equally entitled to subgeneric distinction.

Penelope rufiventris (Tsch. Faun. Per. p. 291, pl. 31) has been placed in the genus *Chamæpetes*, as a synonym of *C. goudoti*. The plate, if trustworthy, shows the style of coloration of the head to be very different. Tschudi also states that it differs from *C. goudoti* in having a fold in the trachea. The only two known species of this form are therefore:—

† (1) Chamæpetes goudoti.

Ortalida goudoti, Less. Man. d'Orn. ii. p. 217; Gray, Gen. of B. iii. p. 485.

Chamæpetes goudoti, Wagl. Isis, 1832, p. 1227.

Cauca Valley, New Granada (*Goudot*).

† (2) Chamæpetes unicolor.

Veragua (*Arcé*).

With reference to the curious formation of the primaries in these birds, I well remember being startled by a strange sound when shooting in one of the ravines in the Volcan de Agua in Guatemala. Not at first perceiving whence it arose, I walked on, when the noise was again repeated. I then set about discovering the cause, and soon found that it was produced by a male *Penelope nigra*, Fraser, which, when flying in a downward direction with outstretched wings, gave forth a kind of crashing, rushing noise, which I likened at the time to the falling of a tree. The outer primaries of *P. nigra*, though very strong, are not cut out like those of the present bird and its allies; and I have little doubt that the latter occasionally produce a strange sound with their wings. Indeed it seems probable that the name by which one of them (*P. aburri*, Less.) is distinguished by the natives of the Cauca Valley is derived from this peculiarity. The name *burri*, *aburri*, *aburrida*, which M. Goudot asserts well represents their cry, in fact expresses the sound produced by the wings. An analogous case at once suggests itself, that of the "drumming" of the Common Snipe (*Gallinago media*, Leach), to which I can add another. A well-known Humming-bird of Mexico and the highlands of Guatemala, *Selasphorus platycercus*, makes a shrill, almost whistling, noise with its wings, which are cut out in a somewhat similar way.

213. Ortalida poliocephala, Wagl.; Sclater & Salv. P. Z. S. 1864, p. 371.

Santiago de Veragua; Cordillera de Tolé.
Agrees with Panama specimens.

214. Odontophorus veraguensis, Gould, P. Z. S. 1856, p. 107; Scl. P. Z. S. 1856, p. 143.

Panama (*Seemann*); David (*Bridges*).

215. Odontophorus melanotis, Salv. P. Z. S. 1864, p. 586.

Santiago de Veragua.

216. Odontophorus leucolæmus, sp. n.

O. *supra niger, dorso toto minutissime castaneo maculato: primariis fusco-nigris, secundariis in pogonio externo castaneo notatis: tectricibus alarum minoribus macula magna in pogonio interno nigra, interne castaneo circumscripta: subtus regione parotica et pectore toto nigris, hoc maculis celatis albis notato; gula alba: ventre superiore castaneo, ventre imo cum crisso nigris: rostro nigro, pedibus obscure corylinis: long. tota* 8, *alæ* 5, *caudæ* 2, *rostri a rictu* 0·9, *tarsi* 1·6.

Cordillera de Tolé; Veragua.

Arcé has sent a single female specimen of this very distinct species, which has no near allies that I am acquainted with. Its white throat and black breast marked with hidden white spots at once render it easily distinguishable.

217. Aramides cayennensis (Gm.); Scl. P. Z. S. 1856, p. 143.

David (*Bridges*).

218. Eurypyga major, Hartl.

Santa Fé; Cordillera de Tolé.

219. Parra melanopygia, Scl.

Santa Fé.

A young bird with the breast white, belonging probably to this species.

220. Haliplana fuliginosa, Gm.

Santiago de Veragua.

9. On some New or Rare Birds' Eggs.

By Alfred Newton, M.A., F.L.S., F.Z.S.

(Plate XV.)

It will perhaps be remembered that at the Meeting of this Society on the 14th March, 1865 (P. Z. S. 1865, p. 256), I exhibited specimens of, and made remarks on, several new or rare birds' eggs,