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A MONOGRAPH

OF

THE TROCHILIDÆ,

OR

FAMILY OF HUMMING-BIRDS.

BY

JOHN GOULD, F.R.S.,

F.L.S., V.P. AND F.Z.S., M.E.S., F.R.GEOG.S., M.RAY S., CORR. MEMB. OF THE ROYAL ACADEMY OF SCIENCES OF TURIN; OF THE SOC. OF THE MUSEUM OF NAT. HIST. OF STRASBOURG; FOR. MEMB. OF THE NAT. HIST. SOC. OF NÜRNBERG, AND OF THE IMP. NAT. HIST. SOC. OF MOSCOW; HON. MEMB. OF THE NAT. HIST. SOC. OF DARMSTADT; OF THE NAT. HIST. AND THE NAT. HIST. AND MED. SOCS. OF DRESDEN; OF THE ROY. SOC. OF TASMANIA; OF THE ROY. ZOOL. SOC. OF IRELAND; OF THE PENZANCE NAT. HIST. SOC.; OF THE WORCESTER NAT. HIST. SOC.; OF THE NORTHUMBERLAND, DURHAM, AND NEWCASTLE NAT. HIST. SOC.; OF THE IPSWICH MUSEUM; OF THE ORN. SOC. OF GERMANY; OF THE DORSET COUNTY MUSEUM AND LIBRARY; OF THE ROYAL UNITED SERVICE INSTITUTION, ETC.

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LIST OF PLATES.

VOL. V.

Cyanomyia quadricolor 284
——— violiceps 285
——— cyanocephala 286
——— Franciæ 287
——— cyanocollis 288
Amazilia Ocai 289
Leucippus chionogaster 290
Leucochloris albicollis 291
Thaumatias candidus 292
——— chionopectus 293
——— leucogaster 294
——— viridiceps 295
——— Milleri 296
——— nitidifrons 297
——— brevirostris 298
——— affinis 299
——— chionurus 300
——— albiventris 301
——— Linnæi 302
Amazilia pristina 303
——— alticola 304
——— Dumerili 305
——— leucophæa 306
——— corallirostris 307
——— Yucatanensis 308
——— cerviniventris 309
——— castaneiventris. 310
— ——— Riefferi 311
——— beryllina 312
— —— Devillei 313
——— viridigaster 314
——— cyanura 315
Erythronota antiqua 316
——— Feliciæ 317
——— Edwardi 318
——— niveiventris 319
——— elegans 320
——— Saucerottei 321
——— Sophiæ 322
Saucerottia cyanifrons 323
Eupherusa eximia 324
Chrysuronia Œnone 325
——— Josephinæ 326
——— Humboldti 327
——— Eliciæ 328
——— chrysura 329
Eucephala Grayi 330
——— smaragdo-cærulea 331
——— chlorocephala 332
——— cæruleo-lavata 333
——— hypocyanea 334
——— cærulea 335
Panterpe insignis 336
Juliamyia typica 337
Circe latirostris 338
——— Doubledayi 339
Phæoptila sordida 340
Damophila amabilis 341
Hylocharis sapphirina 342
——— lactea 343
——— cyanea 344
Sapphironia Goudoti 345
——— cæruleogularis 346
Sporadinus elegans 347
——— Ricordi 348
———? Maugæi. 349
Chlorostilbon auriceps 350
——— Caniveti 351
——— Osberti 352
——— augustipennis 353
——— Phaëthon 354
——— prasinus (*misspelt* Chlorostilbona prasina) 355
——— Atala 356
——— Aliciæ 357
——— Poortmanni 358
Smaragdochrysis iridescens 359
Phlogophilus hemileucurus 360



CYANOMYIA QUADRICOLOR.

J Gould and H C Richter del et lith

Hullmandel & Walton Imp

CYANOMYIA QUADRICOLOR.

Red-billed Azure-crown.

Trochilus quadricolor, Vieill. Ency. Méth. Orn., part ii. p. 573.
Ornismya cyanocephala, Less. Supp. des Ois. Mou., p. 132. pl. 17.
Polytmus quadricolor, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 85.
Cyanomyia quadricolor, Bonap. Rev. et Mag. de Zool. 1854, p. 254.
Uranomitra quadricolor, Reichenb. Aufz. der Colibris, p. 10.

I BELIEVE I am right in stating that this species is exclusively confined to Mexico, as it is from that country alone that I have seen examples. I make this remark because M. Lesson states, in the Supplement to his History of the Humming Birds, that the bird inhabits Brazil,—a statement it is but right to correct. Numerous specimens were from time to time transmitted to this country by M. Floresi d'Areais, before his untimely death in the pestilential region of Panama. The bright coral-red bill, contrasted with the beautiful azure-blue of the crown and the white under surface, renders this species remarkably different from the other members of its genus, all of which, though plain in their general colouring, possess many pleasing features to recommend them to our notice: unfortunately, of their habits but little is known; we have, therefore, a wide field of inquiry before us, into which it is to be hoped future naturalists will enter, for it cannot be doubted that to each peculiar form some essential difference in their habits and manners will be found to appertain.

There is not a very marked difference in the colouring of the sexes of the present species, nor indeed of any member of the genus, except that the blue colouring of the head is much fainter in the female than in the male, and the outer feathers of her tail are tipped with dull greyish white. Neither of them exhibit any metallic brilliancy of plumage; their beauty, in fact, consists in the contrasted tints and agreeable tone of their delicate colouring.

Crown of the head fine blue, continued in a series of spots on the sides of the neck; all the upper surface and wings pale brown, with a slight tinge of green on the upper part of the back; tail-coverts pale bronzy brown, fringed with greyish white; tail pale bronzy brown; all the under surface pure white; bill coral-red, darker at the tip.

The figures are of the natural size.



J. Gould and H.C. Richter del. et lith.

CYANOMYIA VIOLICEPS, *Gould*

Hullmandel & Walton, Imp.

CYANOMYIA VIOLICEPS, *Gould.*

Violet-Crown.

Cyanomyia violiceps, Gould in Ann. and Mag. of Nat. Hist., 3rd series, vol. iv. p. 97.—Sclat. in Proc. of Zool. Soc., part xxvii. p. 386.

I did not expect that so fine a bird as the *Cyanomyia violiceps* could have remained so long undiscovered in the comparatively well-known country of Mexico; the merit of bringing it at length to light is due to M. Sallé, who obtained two specimens at Oaxaca, in Western Mexico. In point of affinity, this new species is most nearly allied to the *Cyanomyia quadricolor*—a bird which has hitherto stood alone in its own genus for the purity of the uniform whiteness of its under surface; but that character, we now find, is equally shared by the bird here represented, which differs, however, from its ally in having a larger and somewhat forked tail, in the violet colouring of its crown, and in having a longer and darker bill, which, moreover, is not so broad at the base. One of the two specimens which grace my collection is either a female or a young bird (it is represented in the upper figure of the accompanying Plate); this specimen differs from the male in not having a trace of violet colour on the crown, in the tail-feathers being reddish bronze, very slightly tipped with buff, and the feathers of the lower part of the back narrowly edged with greyish brown. Now this narrow edging of the feathers is generally indicative of youth among Humming-Birds, and there can be but little doubt, therefore, that I am right in considering the specimen in question to be immature.

The male has the crown of the head deep violet-blue; all the upper surface and wing-coverts brown, tinged with olive-green; wings purplish brown; tail deep greenish bronze; all the under surface white; bill black; under mandible flesh-colour; feet blackish brown.

The female, or young bird, has the crown ashy brown; upper surface olive-green, each feather margined with greyish olive; tail-coverts and tail coppery bronze, tipped with greyish olive; under surface white, stained with rusty red on the flanks.

The Plate represents two males and the supposed female, of the natural size. The plant is the *Cereus Leeanus*.



CYANOMYIA CYANOCEPHALA.

J Gould and H C Richter, del et lith

Hullmandel & Walton, Imp

CYANOMYIA CYANOCEPHALA.

Black-billed Azure-crown.

Ornismya cyanocephala, Less. Supp. des Ois. Mou., p. 134. pl. 18.

So great is the confusion which exists respecting the synonymy and species of this form, that I might be held excused were I to give new specific appellations to at least two of them, namely the one here represented, and the one I have figured as *Cyanomyia quadricolor*; the case is very different with the *C. Franciæ* of M. Bourcier and the *C. cyanicollis* of myself, as the types of both of these are in existence and well known. Lesson states that the *quadricolor* and the *cyanocephala* both inhabit Brazil; but the truth is, that the form does not exist in that country. The present bird, for which I retain the name of *cyanocephala*, rather than add another to the already too numerous synonyms of the group, like the *quadricolor*, is a native of Mexico and Guatemala: it is found rather abundantly in the neighbourhood of Orizaba, whence numerous examples have been sent to England by M. Botta, none of which offer the slightest difference from those collected in the more southern regions of Guatemala by M. Riviera Paz, and sent to me direct by Mr. Skinner.

The *Cyanomyia cyanocephala* is not so finely coloured as the Bogota species, *C. Franciæ*, the only one with which it could be confounded.

The only external difference observable in the sexes consists in the blue crown being nearly obsolete in the female.

Crown of the head and occiput shining greenish blue; all the upper surface, wing-coverts, and flanks bronzy green; wings purplish brown; tail greenish bronze; throat and centre of the abdomen white; under tail-coverts greyish olive, fringed with white; sides of the neck green, but less brilliant than in *C. Franciæ*; bill black.

The figures are of the natural size. The plant is the *Habrothamnus fasciculatus*.



J. Gould and H.C. Richter del. et lith.

CYANOMYIA FRANCIÆ.

Hullmandel & Walton, Imp.

CYANOMYIA FRANCIÆ.

Francia's Azure-Crown.

Trochilus Franciæ, Bourc. Rev. Zool. 1846, p. 316.—Ib. Ann. Sci. Phys. &c. de Lyon, 1843, p. 324.

Uranomitra Franciæ, Reichenb. Auf. der Col., p. 10.

Cyanomyia francia, Bonap. Rev. et Mag. de Zool. 1854, p. 254.—Sclat. in Proc. of Zool. Soc., part xxiii. p. 141.

Polytmus Franciæ, Gray and Mitch. Gen. of Birds, vol. i., p. 109, *Polytmus*, sp. 87.

Of the five or six known species of the genus *Cyanomyia* the *C. Franciæ* may be regarded as the most beautiful, inasmuch as it is characterized by a far greater amount of glittering colour than any of its congeners, and by these glittering hues predominating on the sides and nape of the neck—parts not generally adorned with any fine colouring; there are, however, exceptions to all rules in the colouring of Humming-Birds, and this is a case in point. The glittering of the parts referred to is so resplendent, that it is out of the power of any person, I believe, to portray them; hence art and device are in this instance at a nonplus. In the accompanying Plate a representation of these feathers is attempted with the ordinary media. If the reader can imagine the neck-plumes to be lit up with the most brilliant and glittering light possible, he may have some faint idea of their loveliness; it is only, however, in certain lights that these splendid colours appear; particular states of the atmosphere, or a certain condition of light, are requisite to see them in all their brilliancy. Viewed from behind, an obscure tint is alone visible; reverse the position, so that the rays of light fall upon the bird at a certain angle, and you become at once astonished at the difference.

I believe the female of this species has no brilliant colouring on the crown,—at least we have not yet received any example thus adorned; if, then, this conjecture be correct, the upper figure in the opposite Plate represents this sex.

M. Bourcier tells us that he has named this species in honour of a Mademoiselle Francia Bourcier, who is, I believe, his amiable daughter.

Crown of the head shining metallic blue; sides and nape of the neck glittering metallic light green; upper surface and wing-coverts bronzy green, changing into coppery red on the lower part of the back and upper tail-coverts; wings purplish brown; tail bronze; throat, centre of the abdomen, and under tail-coverts snow-white; flanks bronzy green; upper mandible and tip of the lower one black; remainder of the under mandible fleshy; feet dark brown.

The female or young male has the crown green; only a trace of the coppery hue on the upper tail-coverts, and the lateral tail-feathers crossed by an obscure dark band.

The Plate represents two males and the female, or young male, of the natural size. The plant is the *Cuphea cordata*.



J.Gould and H.C.Richter del. et lith.

CYANOMYIA CYANOCOLLIS, *Gould.*

Hullmandel & Walton Imp.

CYANOMYIA CYANOCOLLIS, *Gould.*

Blue-necked Azure-Crown.

Trochilus (——?) *cyanocollis,* Gould in Proc. of Zool. Soc., part xxi. p. 61
Uranomitra cyanicollis, Reichenb. Auf. der Col., p. 10.
Cyanomyia cyanicollis, Bonap. Rev. et Mag. de Zool. 1854, p. 254.

The range of the members of the genus *Cyanomyia* extends over many degrees of latitude, or from Mexico to Peru, but all are inhabitants of temperate regions, none ascending to the snow-line, or descending to the sultry plains below. The *C. quadricolor* of Mexico may be regarded as the species which proceeds farthest towards the north, and the present bird (which is found in Peru) to the south. For the specimens I possess I am indebted to M. Warszewicz. How much has science been enriched by his researches, and how often have I had to speak in terms of commendation of the energy and perseverance of this celebrated traveller!

The nearest ally of the *Cyanomyia cyanocollis* is the *C. Franciæ*; but it may be readily distinguished from the latter species by the blue tint of the sides and nape of the neck, those parts partaking of the same hue as the crown.

It is most interesting to observe how wonderfully Nature has varied the specific characters of this group of birds—characters which mainly depend upon a difference in colour and markings: thus, two of the *Cyanomyiæ* have the nape of the neck brought prominently before our notice by the brilliant colouring of this part, and two others by the uniform whiteness of their under surface, while the *C. cyanocephala* at present stands alone in having a blue crown unaccompanied by the other characters. It is probable that another species, somewhat similarly coloured, will yet be discovered; indeed I already possess evidence that such will be the case, for I have a single specimen of a young male of some new species, the colouring of which, judging from analogy, tells me that, whenever the adult may be discovered, it will be allied to *C. cyanocephala.*

Of the *Cyanomyia cyanocollis* no female has yet been sent to Europe; in colouring she will doubtless resemble the female of *C. Franciæ* and *C. cyanocephala.*

Crown of the head, sides, and nape of the neck greenish blue; upper surface bronzy green; throat, centre of the abdomen, and under tail-coverts white; flanks bronzy brown; tail bronzy green, all but the two middle feathers crossed near the tip with an obscure dusky band; upper mandible and tip of the lower mandible black, the remainder of the latter fleshy white; feet dark brown.

The figures are of the natural size. The plant is the *Cantua bicolor.*



J. Gould and H.C. Richter, del. et lith.

AMAZILIA OCAI, *Gould.*

Hullmandel & Walton, Imp.

AMAZILIA OCAI, *Gould.*

D'Oca's Amazili.

Amazilia Ocai, Gould in Ann. and Mag. Nat. Hist., vol. iv. 3rd ser. p. 96.

The only example I have yet seen of this very distinct species of Humming-Bird was obtained at Xalapa in Southern Mexico, by M. Rafael Montes d'Oca. I have placed this new bird in the genus *Amazilia*, because I believe it to be a member of that group; at the same time I am aware that there is no other species of this genus that is similarly coloured: it has many characters in common with a bird in the Loddigesian collection, to which M. Bourcier has given the name of *Norrisi*; but after a careful comparison of the two birds side by side, I can come to no other conclusion than that they are distinct from each other. The *Norrisi* has much the appearance of a young male of *Cyanomyia cyanocephala*, having a white breast and a slight tinge of blue on the crown; and were not the specimen mounted and placed in the centre of a large case, I could have instituted a more minute comparison, and by this means have been enabled to settle this point more to my satisfaction. The native country of the *Norrisi* is Bolaños.

In naming this bird after its discoverer, I have been anxious to bear testimony to the great zeal and activity displayed by M. d'Oca in collecting the natural productions of Mexico; his name deserves perpetuation, too, for the masterly manner in which his specimens have been prepared and sent to Europe.

Crown, sides of the head, throat and breast glittering grass-green, with a few of the white bases of the feathers showing on the centre of the throat; back of the neck and upper part of the back deep green; upper and under wing-coverts, flanks, lower part of the back, upper tail-coverts and tail greenish bronze; under surface of the base of the outer tail-feathers reddish buff; wings purplish brown; base of the secondaries reddish buff; abdomen pale brown; under tail-coverts light bronze margined with white; bill black, lighter beneath; feet brown.

The figures are the size of life. The plant is the *Tropæolum umbellatum*.



J. Gould and H.C. Richter, del. et lith.

LEUCIPPUS CHIONOGASTER.

Hullmandel & Walton, Imp.

LEUCIPPUS CHIONOGASTER.

White-breasted Leucippus.

Trochilus leucogaster, Tschudi, Consp. Av., no. 209.
Lampornis chionogaster, Tschudi, Faun. Per., p. 247. pl. 22. fig. 2.
Polytmus chionogaster, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 49.
Leucippus turneri, Bonap. Consp. Gen. Av., p. 73, *Leucippus*, sp. 2.
Thaumatias leucogaster, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 6.
Trochilus Turnerii, Bourc. Rev. Zool. 1846, p. 313.
Trochilus (———?) *hypoleucus*, Gould in Proc. of Zool. Soc., part xiv. p. 90.
Polytmus hypoleucus, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 56.
Thaumantias chionogaster, Bonap. Rev. et Mag. de Zool. 1854, p. 255.
Leucippus Turneri, Reichenb. Aufz. der Colibris, p. 11.

If this bird had been one of the most beautiful, instead of one of the plainest and most modestly attired species of the family, it could scarcely have received a greater degree of attention than has been bestowed upon it by the various naturalists interested in this group of birds; for, although a comparatively recent discovery, it has received no less than four specific appellations, and been placed in more than as many genera. Dr. Tschudi, its first describer, originally gave it the name of *leucogaster*, but that name having been previously employed for another member of the family, he proposed *chionogaster* in lieu of it; which term having the priority, is necessarily the one adopted.

The native countries of this now very common bird are Northern Peru and Bolivia, over which it is widely dispersed. That its range in Bolivia extends to the distant Province of Charcas, is evidenced by the circumstance of my having received numerous examples from the neighbourhood of Chuquisaca. Mr. Bridges found it in abundance in the Valley of Cochabamba, where, he states, it feeds on insects and pollen, obtained from the flowers of the Lemon during the blossoming season of that tree: Humming Birds, however, by no means confine themselves to any particular tree or shrub, but pay their devoirs to each alike, as they successively come into flower; the blossoms of the thorny rock-loving Cactus yielding its contributions, as well as the fragrant Lemon and the numerous trees indigenous to the country in which the bird is found.

The general colouring of the body is alike in all, but some of my specimens have the tail-feathers uniform dull gren, while in others, like those of *Leucippus fallax*, they are tipped with white: is the latter state characteristic of the female? or is it due to youth or maturity? In some specimens the white tipping is more extensive than in others. Possibly these differences may be indicative of two distinct species; but, in the absence of more conclusive evidence, I shall for the present consider them as identical. I must not omit to mention that, through the kindness of M. Louis Coulon of Neufchatel, I have been favoured with the loan of Dr. Tschudi's original specimen, on examining which I find the basal portion of the tail-feathers white, and not the tips; and similar specimens are contained in my own collection; it is evident, therefore, that the colouring of the tail is by no means constant.

Head, upper surface, wing-coverts and flanks bronzy green; throat and all the under surface white; wings purplish brown; central tail-feathers bronzy green; lateral feathers dull bronzy brown on their outer webs, the shafts and inner webs white, clouded with bronzy brown in the centre; bill black; base of the lower mandible paler.

The figures are of the natural size. The plant is the *Echinocactus cinnabarinus*.



J.Gould and H.C.Richter del et lith.

LEUCOCHLORIS ALBICOLLIS.

Hullmandel & Walton Imp.

LEUCOCHLORIS ALBICOLLIS.

White-throat.

Trochilus albicollis, Vieill. 2nde Edit. du Nouv. Dict. d'Hist. Nat., tom. xxiii. p. 426.—Ib. Ency. Méth. Orn., part ii. p. 558.—Temm. Pl. Col. 203. fig. 2.—Jard. Nat. Lib. Humming Birds, vol. ii. p. 93.

Ornismya albicollis, Less. Man. d'Orn., tom. ii. p. 78.—Ib. Hist. Nat. des Ois. Mou., pp. xxxiii et 184. pl. 63.

Lampornis albicollis, Less. Traité d'Orn., p. 282.

Basilinna albicollis, Less. Ind. Gen. et Syn. des Ois. du Genre *Trochilus*, p. xxv.

Colibri albogularis, Spix, Av. Sp. Nov. Bras., tom. i. p. 81. tab. lxxxii. fig. 1.

Polytmus albicollis, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 43.

Thaumatias albicollis, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 7.

Thaumantias albicollis, Bonap. Rev. et Mag. de Zool. 1854, p. 255.

Leucochloris albicollis, Reichenb. Aufz. der Colibris, p. 10.

The southern part of Brazil alone, so far as we yet know, is the native country of this very pretty and well-marked species, and numerous are the specimens that from time to time are sent to Europe from that great emporium of bird skins, Rio de Janeiro. In some notes kindly transmitted to me by Mr. Reeves, that gentleman states that it inhabits the Provinces of Rio de Janeiro, Santa Catharina and Bahia; that it may be seen in the neighbourhood of Rio from May until November, but never very near the city, and that at the same period it is equally abundant at Novo Friburgo.

The markings of this species are so distinct and so different from those of every other Humming Bird, that it is impossible to confound it with either of them. The sexes closely resemble each other in their markings and in the colouring of their plumage, and the young at an early age assume the adult livery.

The nest, which is of a rather large cup-shaped form, is a very beautiful structure, inwardly composed of thistle-down, and outwardly of moss thickly interwoven with strong cobwebs, over which it is coated with flat pieces of reddish-orange and buffy-white lichens, with occasionally the additional decoration of soft downy feathers. It is generally placed in the forked branch of a shrub. The eggs, as usual, are two in number, oblong in form and of a snowy whiteness.

Mr. Reeves states that the local name of the bird is *Papa branca*, and that it utters two different cries: one on the wing, which resembles *Jack*, *Jack*, *Jack*; and another when at rest, like *Klaw*, *klaw*, *jip*, *jip*.

Head, all the upper surface, wing-coverts, chin and sides of the neck, abdomen and flanks deep shining grass-green; on the centre of the throat and breast a large patch of white; lower part of the abdomen and under tail-coverts white; wings purplish brown; two middle tail-feathers deep shining grass-green, the remainder bluish black, the three outer ones tipped with white; upper mandible black; basal two-thirds of the lower mandible fleshy, apical third brown; feet brown.

The figures are of the natural size.



THAUMATIAS CANDIDUS.

Wood del and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

THAUMATIAS CANDIDUS.

White-breasted Emerald.

Trochilus candidus, Bourc. and Muls. in Ann. Sci. Phys. &c. de Lyon, 1846, p. 326.

Polytmus candidus, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 45.

Thaumatias candidus, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 3.—Sclat. in Proc. of Zool. Soc., part xxiv. p. 287.—G. C. Taylor in Ibis, vol. ii. p. 116.

Thaumatias candidus, Bonap. Rev. et Mag. de Zool. 1854, p. 255.—Salv. and Sclat. in Ibis, vol. ii. p. 40.—Salv. in Ibis, vol. ii. p. 270.—Sclat. in Proc. of Zool. Soc., part xxvii. p. 386.

The *Thaumatias candidus* ranges widely over the southern parts of Mexico and Guatemala, and, judging from the number of specimens which have been transmitted to Europe through the instrumentality of De Lattre, Sallé, Skinner, and Salvin, it must be a common species in those countries; at the same time, I doubt not that, like nearly every other member of the family, it is somewhat local. Mr. Salvin states, in the 'Ibis,' vol. ii. p. 40, that it is "common on the Atlantic coast region, and thence one day's ride into the interior;" he also met with it in abundance in the Vera Paz Mountains; and at page 170 he says:—"This species, which is very abundant about Coban, is also found at Yzabal. Many species of Humming-Birds in Guatemala extend through a great range of temperature, the same species being frequently found both in the coast regions and also in the more elevated districts. The males of *T. candidus* largely predominate in numbers at Coban; of those actually dissected, the ratio is as seven males to one female."

Mr. G. C. Taylor states that he saw very few specimens during his stay at Honduras. Southern Mexico and Guatemala, then, may be considered the true habitat of this species,—a species which differs from all the other members of the genus in the great amount of white on the breast and under surface, and by the absence of any luminous colouring on the other parts of the body. All the specimens of this bird I possess are so much alike that I suspect dissection must be resorted to to ascertain which are males and which are females. The remark made by Mr. Salvin, that the females are much less numerous than the males, is, I doubt not, due to a separation of the sexes at the time of year Mr. Salvin was among them. In all probability, the males and females associate each by themselves during the winter months, and pair again, as usual with all birds, just prior to the breeding season.

Head, all the upper surface, wing- and tail-coverts, sides of the neck, and flanks greenish bronze; wings purplish brown; two middle tail-feathers bronze, the remainder deep grey, glossed with bronze, and crossed near the tip with a band of reddish brown; centre of the throat, abdomen, and under tail-coverts snowy white; bill black, except the basal two-thirds of the under mandible, which appears to have been reddish flesh-colour.

The accompanying Plate is intended to represent the male and female of this common but pretty species. The red flowering plant is inserted more as a contrast to the white breast of the bird than as one upon which it seeks its food; it is the *Gesneria Schiedeana*.



J. Gould and H.C. Richter, del. et lith.

THAUMATIAS CHIONOPECTUS, *Gould.*

Hullmandel & Walton, Imp.

THAUMATIAS CHIONOPECTUS, *Gould.*

Snowy-throated Emerald.

I HAVE looked in vain for a name and description of this very familiar species, which is quite as common in our collections as the *Thaumatias leucogaster*. The only published figure which at all resembles the bird is that given by Lesson, under the appellation of *Ornismya albirostris*, in his "Histoire Naturelle des Oiseaux Mouches;" the name, however, does not apply to the species, since its bill is black, and this colour even extends over both mandibles. It would seem that Lesson's figure was taken from a made-up bird formed out of two species—the head and body of *T. leucogaster* and the tail of the *T. chionopectus*; with this doubt on my mind as to the value of Lesson's figure, I have no other alternative than to propose a name for the bird here figured, which is a native of Trinidad and Guiana, and which is sent from the former country in the greatest abundance. It is an extremely pretty species, and is most nearly allied to *T. leucogaster*; it differs, however, from that bird in its smaller size, in having a black bill, a purplish bronzy tail, and in the greyer tint of its under tail-coverts. The adult male has the crown of the head and sides of the neck beautiful glittering green, exhibiting a strong contrast to the snowy whiteness of its throat and breast. The female is very similarly coloured to the male, but she is somewhat smaller in size, rather less brilliant in colour, and has the three outer tail-feathers tipped with greyish brown.

I am indebted to the liberality of Mr. Tucker of Trinidad for several beautiful specimens of this bird. This gentleman informs me, that it is there known by the name of "White-throat," and that it is very generally dispersed over the island, particularly where the wild tobacco grows, from the flowers of which plant it obtains a great part of its insect food.

The male has the crown of the head and sides of the neck glittering green; upper surface and wing-coverts bronzy green, becoming deeper or of a more coppery hue on the lower part of the back and upper tail-coverts; wings purplish brown; tail purplish bronze, with an obscure band of a darker tint near the tip, which is somewhat more perceptible on the under than on the upper surface; throat snowy white; centre of the abdomen white; flanks golden green; feathers forming the under tail-coverts grey with lighter edges; bill black; feet blackish brown.

The female is very similar in colour, but is less brilliant, and has the three outer tail-feathers tipped with greyish brown.

The Plate represents the birds of the natural size. The plant is the *Goethea strictiflora*.



J. Gould and H.C. Richter del et lith

THAUMATIAS LEUCOGASTER.

Hullmandel & Walton Imp

THAUMATIAS LEUCOGASTER.

White-throated Emerald.

Trochilus leucogaster, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 495.—Lath. Ind. Orn., vol. i. p. 315.—Vieill. Nouv. Dict. d'Hist. Nat., p. 363.

Mellisuga cayanensis ventre albo, Briss. Orn., tom. iii. p. 707. pl. xxxvi. fig. 7.

L'Oiseau-mouche à cravate dorée, Buff. Hist. Nat. des Ois., tom. vi. p. 25.—Ib., Pl. Enl., 672. fig. 1.

L'Oiseau-mouche à gorge et ventre blanc, Aud. et Vieill. Ois. Dor., tom. i. p. 86. pl. 43.

Gold-throated Humming-bird, Lath. Gen. Syn., vol. ii. p. 777.—Shaw, Gen. Zool., vol. viii. p. 332.—Lath. Gen. Hist., vol. iv. p. 332.

Agyrtria leucogastra, Reich. Auf. der Col., p. 10.

Thaumantias leucogaster, Bonap. Rev. Zool. 1854, p. 255.

Ornismya albirostris, Less. Hist. Nat. des Ois. Mou., p. 212. pl. 78 ?.

In the usual acceptation of the term this is one of the commonest species of Humming-bird with which we are acquainted; in using the word commonest, I intend to convey that it is a bird which has long been known and sent to Europe in great abundance; all other species will, however, doubtless become equally common when their native localities have been discovered and the collector has played an equal part in procuring examples: we have ourselves evidence of this in what has occurred with regard to several species inhabiting the neighbourhood of Bogota, which ten years ago were scarce in our collections, but have since been sent in thousands. As might be supposed, the synonymy of these earlier known species is in great confusion, and most difficult to unravel. I am indebted for the list given above to M. Bourcier, from whose thorough acquaintance with the subject I have no doubt it is to be depended upon. The native country of the bird is Cayenne, Demerara, the forests bordering the mouths of the Amazon, and the northern parts of Brazil as far as Bahia; at least such would appear to be the case, as I have specimens in my collection from all these localities which offer no marked differences from each other. The only variation in the outward appearance of the sexes, appears to consist in the female being somewhat smaller in size, less brilliantly coloured than the male, and in having the outer tail-feathers tipped with bronzy brown. Next to *T. albiventris*, this is the largest member of the genus yet discovered, and may be distinguished from the whole of them by its fleshy-white under mandibles and the whiteness of its throat, the centre of its abdomen, and the under tail-coverts, which latter is strongly contrasted with the dark colouring of the under part of the tail itself.

Head, sides, and back of the neck luminous green; upper surface, wing-coverts and flanks bronzy green, passing into coppery bronze on the upper tail-coverts; two centre tail-feathers greenish bronze, the lateral feathers steely black with paler tips; wings purplish brown; throat, centre of the abdomen, vent, and under tail-coverts white; upper mandible and point of the lower mandible black, the basal portion of the latter fleshy white.

The figures are of the natural size. The plant is the *Adenocalymna comosum*.



J.Gould and H.C.Richter, del. et lith.

THAUMATIAS VIRIDICEPS, *Gould*

Hullmandel & Walton, Imp.

THAUMATIAS VIRIDICEPS, *Gould.*

Green-headed Emerald.

Thaumatias viridiceps, Gould in Proc. of Zool. Soc., part xxviii. p. 307.

The present species, which I have no hesitation in pronouncing new to science, may be regarded as one of the most recently discovered members of the family Trochilidæ, since I received it direct from Quito in the year 1860. The bird, it is true, has several representatives in other parts of South America, particularly in the eastern and north-eastern parts of that country. It far exceeds most of the other members of the genus *Thaumatias* in the size and strength of its bill and in the robustness of its body. Although I have said I received this bird direct from Quito, it must not be supposed that I mean that it is found in the immediate vicinity of that city; on the contrary, I am convinced that it is not, and believe that its proper habitat is the warmer district of Nanegal, as it was accompanied by other species which are known to inhabit that part of Ecuador. I possess three specimens of this bird, which it would appear comprise representatives of both sexes; and if such be the case, then the female merely differs from the male in being of smaller size, in having a less brilliantly coloured crown, and the two outer tail-feathers tipped with greyish white.

This somewhat remarkable species is almost as stout in its bill, head, and body as the members of the genus *Cyanomyia*, while its tail is short and the feathers narrow, as in *Thaumatias leucogaster* and *T. chionopectus*.

Crown of the head, nape, and sides of the neck glittering light green; back and shoulders bronzy green; throat and abdomen pure white; flanks white, faintly spotted with yellowish green; under tail-coverts white; tail-feathers purplish grey, with an obscure band of purplish brown near the tip of the three outer ones on each side; upper mandible black; under mandible yellowish, except at the extreme tip, which is black.

The figures are of the size of life. The plant is the *Evelyna Caravata*.



J. Gould and H.C. Richter, del. et lith.

THAUMATIAS MILLERI.

Hullmandel & Walton, Imp.



THAUMATIAS MILLERI.

Miller's Emerald.

Trochilus Milleri, Lodd. MSS. ined. Bourc. in Proc. Zool. Soc., pt. xv. p. 43.
Polytmus Milleri, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 46.
Thaumatias milleri, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 4.
Agyrtria Milleri, Reich. Auf. der Col., p. 10.
Thaumantias milleri, Bonap. Rev. Zool. 1854, p. 255.

Miller's Emerald was first described by M. Bourcier of Paris in the "Proceedings of the Zoological Society of London," the specific name of *Milleri* being adopted by him from the late Mr. George Loddiges' MSS. It is not known why Mr. Loddiges gave the bird this specific appellation, unless it was from a desire to perpetuate the name of a surgeon in the Royal Navy, who paid considerable attention to the Humming-birds while stationed on the Pacific side of South America.

The *Thaumatias Milleri* is a diminutive and chastely-coloured species, distinguished by its snow-white breast and glittering crown; in size it is very similar to *T. brevirostris*, with which it might be confounded had it a less brilliant forehead. The native habitat of the species is the Andes of Columbia and the countries lying to the westward towards the upper part of the Rivers Negro and Amazon: most of the specimens which have reached this country are from Bogota. It is by no means a common bird, and but few collectors are in possession of examples; we are, indeed, so little acquainted with it that it would be unsafe to say if the female differs in plumage from her mate; in all probability she is very similarly coloured, but her hues are less bright and contrasted in all their tints, particularly in the glittering portion of the crown and occiput.

The crown, sides of the head, and the sides and back of the neck rich glittering grass-green; upper surface and wing-coverts bronzy green; wings purplish black; tail-feathers greyish green with a transversal mark of brown near the tip of all but the two central ones; throat snow-white; under surface of the body greyish white washed with green on the flanks, the green meeting and forming a band across the breast; upper mandible and tip of the lower mandible black; the basal portion fleshy.

The Plate represents the birds of the natural size. The plant is the *Comparettia falcata*.



THAUMATIAS NITIDIFRONS, *Gould.*

J. Gould and H.C. Richter, del. et lith.

Walter & Cohn, Imp.

THAUMATIAS NITIDIFRONS, *Gould.*

Brilliant-fronted Emerald.

Thaumatias nitidifrons, Gould in Proc. of Zool. Soc., part xxviii. p. 308.

Of the genus *Thaumatias* there are four birds which to the eye of the unpractised observer would appear to be one and the same, but which any person conversant with the Humming-Birds would at once pronounce to be distinct species. The birds to which I allude are *Thaumatias brevirostris*, *T. affinis*, *T. Milleri*, and *T. nitidifrons*. It is the differences which distinguish the latter bird that I have now to point out.

All four of the birds are very similar in size and in the colouring of their tails; but the *T. brevirostris* and *T. affinis* are destitute of any brilliant colouring on the crown; on the other hand, the *T. Milleri* has a glittering crown and a white breast; while the *T. nitidifrons* differs in having both a brilliant crown and a brilliant breast—a union of characters which at once distinguishes it from its near allies.

The following is the description of this species, and the accompanying remark, which I published in the 'Proceedings of the Zoological Society,' and which it will be as well to reprint, notwithstanding the repetition of what I have already said, in some parts of the concluding sentence.

Of its habitat nothing is at present known.

" Crown of the head, face, chest, and breast glittering green; abdomen and flanks golden green; back, shoulders, and rump bronzy-green; tail pale bronzy greyish-green, with a zone of purplish-brown crossing the four lateral feathers on each side near their tips; under tail-coverts grey, with a patch of bronzy-green in the centre of each; tarsi greyish-brown; upper mandible black; under mandible yellow, black at the tip.

" *Remark.*—Nearly allied to the *T. brevirostris* and *T. Milleri*, but differing from both in the glittering green of the face and crown, and in the centre of the breast being covered with the same shining colour. The specimen described was presented to me by G. N. Lawrence, Esq., when I visited New York in 1858."

The plate represents a specimen which appears to be a male of the size of life. The plant is the *Tacsonia sanguinea*.



Wood d. and H.C. Richter del. et lith

THAUMATIAS BREVIROSTRIS.

Hullmandel & Walton Imp.



THAUMATIAS BREVIROSTRIS.

Short-billed Emerald.

Ornismya brevirostris, Less. Hist. Nat. des Ois. Mou., pp. xxxv et 211. p. 77.—Less. Traité d'Orn., p. 283.

Basilinna brevirostris, Less. Ind. Gen. et Syn. des Ois. du Genre *Trochilus*, p. xxvi.—Ib. Rev. Zool. 1839, p. 15.

Polytmus brevirostris, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 44.

Thaumatias brevirostris, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 2.

Thaumantias brevirostris, Bonap. Rev. et Mag. de Zool. 1854, p. 255.

Agyrtria brevirostris, Reichenb. Aufz. der Colibris, p. 10.

It is extremely difficult to determine with certainty what species of Humming Birds some of the Plates of the older and even of the recent writers are intended to represent. One of the figures to which this remark applies, is that of the *Ornismya brevirostris* of Lesson's "Histoire Naturelle des Oiseaux Mouches." If the bill of the bird there figured be drawn of the right length, then the bird represented must be the common species so frequently sent to London and Paris from Rio de Janeiro; but if the locality there given, Guiana, be correct, then the Plate is intended to represent some other species, as the bird found at Rio is never seen in that country. The colouring and description given by Lesson, too, are so vague and unsatisfactory, that they further perplex rather than assist in a solution of the difficulty; without rejecting, then, the name of *brevirostris* altogether, I think it will be best to consider it as referable to the Brazilian bird alone, and that the locality of *Guiana* is an error, which, it is much to be regretted, has been repeated in most of the published arrangements of the family.

The two figures in my Plate are copied from specimens collected in the neighbourhood of Rio de Janeiro, where, as a note from Mr. Reeves informs me, the species is not common; but at Novo Friburgo, about seventy miles from the city, it is abundant.

The nest is a small round cup-shaped structure, composed of soft cottony materials, and decorated externally with the involucres of composite plants; long shred-like dangling pieces of bark and leaves attached round the rim and to the sides with the finest cobwebs,—so fine, in fact, as to be imperceptible to the naked eye. The eggs, as usual, are two in number, and of a spotless white.

The local name of the bird at Rio is *Krikri branco*. Its cry, which is very loud, resembles *Peckēr*, *Peckēr*, *Tutzie*.

Crown of the head, all the upper surface, wing-coverts, sides of the neck and breast, and the flanks greenish-bronze; wings purplish brown; two central tail-feathers bronzy green; the remainder bronzy brown, with dusky tips; centre of the throat and abdomen white; under tail-coverts pale bronzy brown, edged with greyish white; upper mandible black; under mandible flesh-colour; feet fleshy brown.

The figures are of the natural size.



THAUMATIAS AFFINIS, ♀ *Gould.*

J.Gould & nat.H.C.Richter, del. et lith. *Hullmandel & Walton, Imp.*

THAUMATIAS AFFINIS, *Gould.*

Allied Emerald.

Mr. Reeves of Rio de Janeiro has more than once called my attention to the Humming Bird figured on the accompanying Plate, which he considers to be quite distinct from, though closely allied to, *Thaumatias brevirostris*, and which his hunters inform him arrives at Novo Friburgo at another season, has a different note, and places its nest in a different situation. In connexion with this subject I may mention, that I have for many years past received specimens of a bird from Minas Geraes, with a uniform green breast, which I also considered to be different from the *T. brevirostris*, which generally has the throat and centre of the abdomen pure white, and this I now find is the same bird as that to which Mr. Reeves has directed my attention; and I have therefore given it a distinct specific appellation, that of *affinis*. It is altogether more delicately formed than the *T. brevirostris*; has an almost uniform pale green tail, and a breast without the slightest appearance of white in the centre.

The nest I possess, sent by Mr. Reeves, is a much inferior structure to that of *T. brevirostris*; is composed of coarser materials; is much thinner, and nearly devoid of external decoration, having only a few shred-like bits of bark attached to its sides; the eggs are white, and two in number.

Like *T. brevirostris*, this species is not common near Rio de Janeiro, but is very abundant at Novo Friburgo. Its cry is not so loud as that of its near ally.

Head, all the upper surface, upper wing- and tail-coverts, abdomen and flanks greenish bronze; throat, breast and ear-coverts shining glaucous green; under tail-coverts greenish brown, fringed with white; tail, both above and beneath, bronzy green; wings purplish brown; upper mandible black; under mandible fleshy brown.

The figures are of the natural size.



THAUMATIAS CHIONURUS. *(Gould)*

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.



THAUMATIAS CHIONURUS, *Gould.*

White-tailed Emerald.

Trochilus (*Thaumatias ?*) *chionura*, Gould in Proc. of Zool. Soc., 1850, p. 162.

I HAVE before had occasion to remark how different are the species inhabiting Mexico, or the country to the northward of the Isthmus of Panama, from those of the southern portions of the continent of South America, and the present species may be cited as a striking instance in point; for while it is of precisely the same form as its near allies, the well-known *Thaumatias albirostris* and *T. brevirostris* of Brazil, in colouring it is very different from both of those birds; in fact it may be said to differ from every other known species of Humming-Bird, from the great amount of white which pervades the under surface and the tail-feathers. It is a native of the warmer parts of Chiriqui, near David, in the province of Veragua, at an altitude of from two to three thousand feet; and is another of the many interesting discoveries made by M. Warszewiez, who met with it in the locality above named, and from whence he transmitted the specimens figured in the accompanying Plate.

The male has the upper surface very dark grass-green; the central tail-feathers bronzy green; lateral tail-feathers white, largely tipped with black; throat pale shining green; flanks greenish; centre of the abdomen and under tail-coverts white; upper mandible black, base of the lower mandible fleshy white.

The upper surface of the female is the same as in the male, but somewhat paler; the lateral tail-feathers white, crossed by an oblique band, instead of being tipped with black; throat and under surface white.

The Plate represents a male and two females on the *Sobralia macrantha*, of the natural size.



THAUMATIAS ALBIVENTRIS.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton, Imp.



THAUMATIAS ALBIVENTRIS.

White-bellied Emerald.

Trochilus tephrocephalus, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxiii. p. 430.—Ib. Ency. Méth. Orn., part ii. p. 560.—Ib. Traité d'Orn., p. 283.

Ornismya tephrocephalus, Less. Hist. Nat. des Ois. Mou., p. 182. pl. 62.

——— *albiventris*, Less. Hist. Nat. des Ois. Mou., p. 209. pl. 76.—Ib. Les Troch., p. 94. pl. 32.—Ib. Traité d'Orn., p. 283.

Polytmus thaumatias, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 40.

Coeligena tephrocephala, Reichenb. Aufz. der Colibris, p. 7.—Ib. Troch. enumer., p. 3. pl. DCLXXXVII. fig. 4518.

Argytria albiventris, Reichenb. Troch. enumer., p. 7. pl. DCCLVII. figs. 4744, 4745.

Thaumatias albiventris, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 1.

Thaumantias albiventris, Bonap. Rev. et Mag. de Zool. 1854, p. 255.

This well-marked species differs from all the other members of its genus in being of a larger size than either of them, and in having a greater amount of white on the abdomen and under tail-coverts. The two sexes are so much alike in outward appearance that I have looked in vain for any decided difference by which they may be distinguished; I observe, however, that the female, as is the case with most of the Humming Birds, is somewhat smaller and less pure in her colouring.

M. Bourcier informs me that this bird inhabits Santa Catharina, in Brazil, and remarks that it bears a great resemblance to the *Thaumatias Linnæi*, but differs from that species in the larger size of its body, and in the abdomen being always white in the adult.

M. Bourcier also tells me, that the specimen from which Vieillot took his description of *tephrocephalus* is still in the museum at Paris, but in a very bad state, with the feathers of the head much worn and faded, and presenting a grey appearance, which doubtless suggested the appellation Vieillot assigned to it, and which, being intended to express a feature that does not exist, must give place to that of *albiventris*, applied to it by M. Lesson.

Besides Santa Catharina, the northern parts of Brazil, and the Delta of the Amazon, near its embouchure, and the neighbouring country are frequented by this bird.

Head, all the upper surface, wing- and tail-coverts dark green; wings purplish brown; two central tail-feathers and the basal portion of the remainder dull green, the extent of which decreases as they recede from the centre, middle portion of the lateral feathers blackish brown; the tips brownish grey, increasing in extent as the feathers recede from the centre; throat and chest shining grass-green; flanks dull green; abdomen and under tail-coverts white.

The figures represent the two sexes of the size of life. The plant is copied from a drawing sent to me by Mr. Reeves.



THAUMATIAS LINNÆI.

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.



THAUMATIAS LINNÆI, *Bonap.*

Linnæus' Emerald.

Thaumantias linnæi, Bonap. Rev. et Mag. de Zool. 1854, p. 255.
Trochilus Tobaci, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 498?
Tobago Humming Bird, Lath. Gen. Syn., vol. ii. p. 781?
Trochilus Tobagensis, Lath. Ind. Orn., vol. i. p. 316?
Tobago Humming Bird, var. A., Lath. Gen. Hist., vol. iv. p. 336?
L'Oiseau-mouche de Tobago, Aud. et Vieill. Ois. dor., tom. i. p. 114?
L'Oiseau-mouche à poitrine verte (*Trochilus maculatus*), Aud. et Vieill. Ois. dor., tom. i. p. 87. pl. 44?
Trochilus Tobago, Shaw, Gen. Zool., vol. viii. p. 350?
Ornismya viridissima, Less. Hist. Nat. des Ois. Mou., p. 207. pl. 75.

We have here a species that has been common in our collections from the earliest period at which the productions of South America became known to us; but it is quite impossible to say under what name it is designated by the older writers; this difficulty has arisen from the absence of illustrations in their works, and from their careless and curt descriptions applying equally well to several species. M. Bourcier, of Paris, whose opinions respecting the great group of Humming Birds are not to be questioned, has kindly favoured me with the above list of synonyms, as probably referring to this species, and they are given entirely on his authority.

The term *viridissima*, assigned to this species by M. Lesson, having been employed many years before by Gmelin for another member of the family, and the other synonyms given above being, in my opinion, very questionable, I agree with M. Bourcier and Prince Charles L. Bonaparte, that it will be advantageous to give the present bird another appellation, and I have therefore adopted that of *Linnæi*, proposed for it by the Prince, in honour of the great Swedish naturalist.

The native habitat of this species is Northern Brazil, Guiana, and the neighbouring countries; it is also said to visit Tobago; but whether it is to be found in that or any other of the West Indian Islands, is unknown to me. My specimens are from Para, the Delta of the Amazon, and Guiana, and I believe I may also say, from Santa Fé de Bogota; for I possess examples from that locality which so closely accord with the others, that I have no doubt of their identity, the only differences being a trifling increase in the length of the bill and a slight tipping of white to the tail-feathers.

The sexes, like those of *T. albiventris*, very closely assimilate in colour; but the female is somewhat smaller than her mate.

Head, all the upper surface, upper and under wing-coverts, and tail-coverts bronzy green; wings purplish brown; central tail-feathers bronzy green; the remainder black, with paler tips; throat and breast glittering grass-green, fading into duller green on the flanks; a narrow stripe down the abdomen, and the under tail-coverts white.

The figures are the size of life. The plant is copied from a drawing sent to me by Mr. Reeves.



J. Gould and H.C. Richter del. et Lith.

AMAZILIA PRISTINA.

Hullmandel & Walton Imp.

AMAZILIA PRISTINA.

Amazili.

Orthorhynchus Amazili, Less. Voy. de la Coq., Ois., pl. 31. fig. 3.

Ornismya amazili, Less. Hist. Nat. des Ois. Mou., pp. xxvii, 67. pls. 12, 13.—Ib. Traité d'Orn., p. 280.—Ib. Man. d'Orn., tom. ii. p. 81.—Ib. Ind. Gen. et Syn. des Ois. du gen. *Trochilus*, p. xxvii.

Polytmus Amazili, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 70.

Trochilus Amazilia, Tschudi, Consp. Av., no. 206.—Ib. Faun. Peruana, p. 39.

Amazilius latirostris, Bonap. Consp. Gen. Av., p. 77, *Amazilius*, sp. 1.—Ib. Rev. et Mag. de Zool. 1854, p. 254.

Amazilia latirostris, Reich. Aufz. der Col., p. 10.

In his description of this species, Lesson says, "Peru, like Brazil, possesses Humming-birds peculiarly its own," and adds, "the name given to this bird will not only recall to our imagination one of the heroines celebrated by Marmontel in his 'Incas,' but also the country in which it lives." It is, indeed, peculiar to Peru, and is exceedingly common in the neighbourhood of the far-famed city of the Sun—Lima. It is one of the largest and most powerful species of the genus *Amazilia*, and may be regarded as the type of a form to which no less than six generic appellations have been assigned. The specific name of *latirostris* applied to this bird by Prince Charles L. Bonaparte and Dr. Reichenbach cannot be retained, as the *latirostris* of Swainson, which they have imagined to be the same, is a bird of a totally different form.

I possess numerous examples of this species, none of which present sufficient differences to suggest any positive determination of their sex.

"Elle n'est point rare," says M. Lesson, "dans les buissons du littoral du Pérou, qu'elle fréquente le soir et le matin. Comme tous l'oiseaux-mouches, l'Amazili est toujours en mouvement, et vole de fleurs en fleurs en bourdonnant."

Crown of the head and upper surface greenish-bronze, changing into bronzy-red on the lower part of the back and upper tail-coverts; wings purplish-brown, glossed with bronze; tail chestnut-red, glossed on the central feathers with bronze; throat and chest white, with a crescent of glittering green at the tip of each feather; centre of the breast white; under surface sandy-red; vent and under tail-coverts white, the former washed with rufous.

The figures are of the natural size. The plant is the *Befaria æstuans*.



J.Gould and H.C.Richter del. et lith.

AMAZILIA ALTICOLA, *Gould.*

Walter & Cohen, Imp.

AMAZILIA ALTICOLA, *Gould.*

Mountain Amazili.

Amazilia alticola, Gould in Proc. of Zool. Soc., part xxviii. p. 309.

I am indebted to M. Bourcier, of Paris, for an example of this new species, which, he informs me, is from the Puna district in Peru. In size it exceeds the *Amazilia pristina*, the *A. Dumerili* and the *A. leucophæa*. In the general style of its colouring it is very similar to the latter; but, compared with that species, it is a giant in point of size, it has also a less amount of the glittering green on the cheeks and sides of the neck. It is to the present bird and the three species above mentioned that I would wish to restrict the generic term of *Amazilia*; for they form a very natural section, distinguished by their peculiar form and style of colouring. All are natives of Ecuador and Peru, to which countries they appear to be confined; while the other species, to which the generic term of *Pyrrhophæna* has been applied, are widely spread, and the greater number of them are natives of Mexico and Central America.

But little is known respecting the typical *Amaziliæ*, and less about the present bird than of any of the others. I believe, however, that there is no difference in the colouring of the sexes of any of them.

Crown of the head and back of the neck dark brown, with very slight reflexions of golden green; back of the neck, back, and rump golden or orange green; upper part of the throat, cheeks, and sides of the neck light golden green; lower part of the throat, chest, centre of the abdomen, thighs, and the thickly clothed tarsi pure white; flanks rich bright buff; under tail-coverts white washed with buff; tail rich deep reddish buff, the two centre feathers washed with bronzy green, and the four outer ones, on each side, washed on their outer edges with bronzy green; wings purplish brown; bill black at the tip, the remainder white or flesh-colour.

The figures are of the natural size. The plant is the *Chuquiraga insignis*.



J. Gould and H.C. Richter, del. et lith.

AMAZILIA DUMERILI.

Hullmandel & Walton, Imp.

AMAZILIA DUMERILI.

Dumeril's Amazili.

Ornismya Dumerilii, Less. Hist. Nat. des Ois. Mou. Supp., p. 172. pl. 36.—Ib. Ind. Gén. et Syn. des Ois. du Gen. *Trochilus*, p. xxviii.

Trochilus amazicula, Sauc. MSS.

Amazilia Amazilicula, Reich. Auf. der Col., p. 10.

Polytmus Dumerilii, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 79.

Amazilia Dumerilii, Reich. Auf. der Col., p. 10.

Amazilius dumerili, Bonap. Consp. Gen. Av., p. 77, *Amazilius*, sp. 3.—Ib. Rev. Zool. 1854, p. 254.

I HAVE but little doubt that the bird figured in the accompanying Plate is the "*Ornismya Dumerilii*" of Lesson's "Histoire Naturelle des Oiseaux-Mouches," Supplement, p. 172, pl. 36; at the same time it is necessary to observe that, if so, Lesson's figure is inaccurate, inasmuch as, I believe, the red colouring on the sides of the neck and ear-coverts represented in his drawing is due to the wetting of the feathers in the process of mounting the specimen, which has converted the original shining green colour into red; the outer tail-feathers being tipped with rufous, also indicates that the figure was taken from an immature bird. I am quite certain that the *T. amazicula* of Dr. Saucerotte's MSS. has reference to this species, that gentleman having kindly sent me the original specimen from his Collection, which I find to be precisely identical with my own.

The true habitat of this bird, which may at all times be distinguished from its allies by the green colouring of the lower part of the back and tail, is Guayaquil and its neighbourhood. I have now before me four specimens, one of which is labelled "Isle of Puna," a small island near the mouth of the river. It is well that I have been enabled to identify this bird with Lesson's plate, since there are two or three species of the genus most nearly allied to each other, as may be seen on reference to the Plates in this work.

There seems to be little difference in the colouring of the sexes; and it is evident that the young at an early age acquire the adult livery, but while immature they have all the tail-feathers tipped with reddish buff; the adult female also has an indication of a lighter colouring on the same part.

Crown of the head, back of the neck, all the upper surface and tail bronzy green; wings purplish brown; chin and sides of the neck shining golden green; chest white; abdomen rufous or sandy red; under tail-coverts greyish white washed with buff in the centre of each feather; bill black at the tip, said to be fleshy white at the base.

The female or young is very similar in the distribution of the colouring, but is altogether paler; and on the under surface the colours blend more into each other, and the tail is tipped with rufous.

The figures on the accompanying Plate are the size of life. The plant is the *Barnardesia rosea*.



Gould and H.C. Richter, del. et lith.

AMAZILIA LEUCOPHÆA, *Reichenb.*

Hullmandel & Walton, Imp.

AMAZILIA LEUCOPHÆA, *Reich.*

White-breasted Amazili.

Amazilia leucophæa, Reich. Auf. der Col., p. 10.
——— *leucophæa*, Ib., p. 24.

I AM equally certain with regard to the identity of this species as I am with respect to the *A. Dumerili*, the specimens from which Dr. Reichenbach took his description of his *A. leucophæa* and my own having come from the same source—M. Warszewicz, who collected them in the vicinity of the volcano of Arequipa in South Peru. In size it closely resembles *A. Dumerili*; but it is smaller than *A. pristina*, from which it also differs in the colour of its mandibles, which are said to be either white or fleshy white. In the accompanying Plate I have figured this new species of the size of life; and it would have been a source of pleasure to me to have been able to give some account of its history; but such unfortunately is not the case, M. Warszewicz's visit being so hurried a one that he had only time to snatch, as it were, the present and several other new birds from their native forests in passing. If several novelties could be thus obtained under very disadvantageous circumstances, surely we may regard their acquisition as an evidence that a careful investigation of the fine countries of Peru and Bolivia would well repay the researches of the traveller and the naturalist.

I am a little uncertain with respect to the female of this species. Dr. Reichenbach has, it is true, described it; but as I have never seen his specimen, and the three in my own collection are alike, I must defer giving a description of the female, to some future opportunity.

Crown of the head, all the upper surface and wing-coverts golden green, somewhat obscure on the head; upper tail-coverts and tail rufous, the two centre ones with a zone of greenish bronze near the tip; wings pale purplish brown; throat and sides of the neck glittering golden green; on the centre of the chest a patch of white; under surface rufous or sandy red; under tail-coverts very pale rufous fringed with white; bill fleshy white with a dark-coloured tip.

The figures are of the natural size. The plant is the *Calliandria Tweediei*.



J. Gould and H.C. Richter, del. et lith.

AMAZILIA CORALLIROSTRIS.

Hullmandel & Walton, Imp.

AMAZILIA CORALLIROSTRIS.

Coral-billed Amazili.

Trochilus corallirostris, Bourc. et Muls. Ann. de la Soc. Sci. de Lyon, tom. ix. 1846, p. 328.
Polytmus corallirostris, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 74.
Amazilius corallirostris, Bonap. Consp. Gen. Av., p. 77, *Amazilius*, sp. 5.—Ib. Rev. et Mag. de Zool. 1854, p. 254.
Amazilia corallirostris, Reich. Aufz. der Col., p. 10.

Few of the Humming-birds are more plainly coloured than the *Amazilia corallirostris*; the tints of the under surface, from the chin to the lower part of the abdomen, being uniform sandy-buff, while on the crown and all the upper surface, a similar uniformity of tint, although of a different hue, prevails; the chestnut-red tail, too, is only relieved by the bronzy tipping of the feathers. In all the members of this genus, a tendency to a buffy style of plumage occurs, which appears to be carried to a greater extent in the present species than in any other.

The native habitat of this bird is Central America, whence numerous specimens were brought by M. Sallé and others. M. Bourcier gives Escuintla, in the republic of Guatemala, as one of its habitats. None of the examples of this species which have come under my notice present sufficient differences to suggest which are males and which females; the colouring of the sexes in fact appears to be precisely similar.

All the upper surface, wing- and tail-coverts bronzy-brown; wings purplish-brown; tail-feathers deep chestnut, glossed with bronze on their margins and tips; all the under surface sandy-buff; bill said to be red; feet apparently fleshy-brown.

The Plate represents the birds the size of life. The plant is the *Rondeletia versicolor*.



J. Gould and H.C. Richter, del et lith.

AMAZILIA YUCATANENSIS.

Walter & Cohn, Imp.

AMAZILIA YUCATANENSIS.

Yucatan Amazili.

Trochilus Yucatanensis, Cabot in Proc. of Bost. Soc. of Nat. Hist., Nov. 19, 1845.

I am much indebted to Dr. Cabot, of Boston, North America, for the loan of the type specimen of his *Trochilus Yucatanensis*, a bird which differs from every other species that has come under my notice. It is perhaps most nearly allied to the *Amazilia cerviniventris*, but differs in the truncate form of the green colouring of the throat, which in that bird extends down each flank. Dr. Cabot sent at the same time another specimen, which he considered to be the female; and this may possibly be the case; but I suspect that it will prove to be another species, the *A. cinnamomea* (*A. corallirostris* of my work). The upper figure in the accompanying plate is an exact representation of this specimen; and it remains for future research to determine whether my surmise be correct or not. In all probability the *A. cinnamomea* flies in Yucatan, as it is very common in the neighbouring countries of Honduras and Guatemala.

The following is Dr. Cabot's description and brief account of this species, published in the 'Proceedings of the Boston Society of Natural History,' to which, I learn, he has nothing to add; for, in a letter dated April 30, 1859, he says, "It gives me great pleasure to aid you as far as I am able in your most interesting and beautiful work; but I regret exceedingly to say that it is a long time since my observations were made, and that my notes were unfortunately lost overboard while coasting along the shore of Yucatan in a canoe, I regret also that I have no duplicate of the male to present to you."

"*Trochilus Yucatanensis*. Length 4 inches. Bill $\frac{6}{8}$ of an inch. First primary longest; primaries curved, broadest at their tips; tail, somewhat forked, rather more than $1\frac{1}{2}$ inch long, consists of ten feathers; bill light yellowish at base and along centre of mandibles, dark horn-colour at tip and halfway along sides; male brilliant shining emerald on chin, throat, and upper part of breast; head, upper part of neck, and back dull golden green with some metallic reflexions; lower part of breast, belly, under tail-coverts, central and upper part of tail-feathers light bay; tips and both sides of central tail-feathers and outer side of lateral tail-feathers dark golden green with metallic reflexions; vent white; female nearly the same as male, but rufous instead of bright emerald on chin, neck, &c., and less white about vent.

"This is the most common Humming-Bird found in Yucatan. It was seen in numbers about the acacias which grew upon the tops of the ruined buildings, where the specimens from which the above description was taken were procured."

The figures are of the natural size. The plant is the *Passiflora Medusæa*.



AMAZILIA CERVINIVENTRIS, *Gould*

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

AMAZILIA CERVINIVENTRIS, *Gould.*

Fawn-breasted Amazili.

Amazilius cerviniventris, Gould in Proc. of Zool. Soc., part xxiv. p. 150.

The Humming-bird figured on the accompanying Plate is a species very recently discovered by M. Sallé at Cordova in Mexico. It differs sufficiently from every other to satisfy the most scrupulous as to its distinctness. Less difference occurs in the colouring of the sexes than is observable in most other species, but in this particular it accords with the other members of the genus. Two of the three specimens procured by M. Sallé, all of which now form part of my own collection, are said to be males and the third a female; the latter being principally distinguished from the former by the indistinct mark of blackish-brown near the tips of four of the tail-feathers, namely the two on each side next the middle ones.

The tips of all the tail-feathers of both sexes are fringed with a bronzy-orange, which is more intense on the middle than on the outer ones, where indeed it becomes almost obsolete.

This species is about the size of *A. Riefferi*; but its bill is less robust, and the chestnut colouring of the tail-feathers is of a somewhat lighter hue; as also are the under tail-coverts.

Head, all the upper surface, wing- and upper tail-coverts bronzy-green; wings purplish-brown; tail dark chestnut-red, each feather narrowly bordered and tipped with a bronzy lustre, which is of greatest extent and most conspicuous on the two centre tail-feathers; throat and chest luminous green; under surface of the shoulder and flanks dull green; abdomen and under tail-coverts fawn-colour; thighs white; bill reddish-flesh or yellow, at the base merging into brown, and tipped with black.

The Plate represents two males and a female. The plant is the *Gonolobus Martianus.*



J.Gould and H.C.Richter del. et lith.

AMAZILIA CASTANEIVENTRIS, *Gould.*

Walter & Cohn, Imp.

AMAZILIA CASTANEIVENTRIS, *Gould.*

Chestnut-bellied Amazili.

Amazilius castaneiventris, Gould in Proc. of Zool. Soc., part xxiv. p. 150.

This unique bird has been in my collection for a long time; it was sent to me, with a number of other Humming-Birds, by Mr. Mark, Her Britannic Majesty's Consul at Bogota, without any information as to where it was collected. It has so many distinctive characters that it cannot be confounded with any other species. As I have nothing to add to the brief remark respecting it published in the 'Proceedings of the Zoological Society of London,' I cannot do better than repeat them here.

"This species differs from *A. cerviniventris* in the much greater depth of the chestnut colouring of the abdomen, under tail-coverts and tail; in size it is considerably less than that species, being even smaller than *A. beryllina*, to which it offers an alliance in the colouring of its wings, but from which it is distinguished by the chestnut red of its abdomen; the white feathers of the thighs are much developed and very conspicuous.

"Crown of the head, upper part of the back, and shoulders reddish bronze; rump and upper tail-coverts reddish with a bronzy lustre; wings purplish brown, with the exception of the basal portions of the primaries and secondaries, which are rufous; tail dark chestnut, tipped with a bronzy lustre, which is most conspicuous on the centre feathers; throat, fore part of the neck, breast, and upper part of the abdomen shining golden green; under surface of the shoulders, lower part of the abdomen, and under tail-coverts fine chestnut red; thighs white; upper mandible brownish black; under mandible fleshy yellow, except at the tip, which is brownish black."

The figures are of the size of life. The plant is the *Pitcairnia echinata*.



J. Gould and H.C. Richter del et lith.

AMAZILIA REIFFERI.

Hullmandel & Walton Imp.

AMAZILIA RIEFFERI.

Rieffer's Amazili.

Trochilus Riefferi, Bourc. Rev. Zool. 1843, p. 103.—Ib. Ann. Sci. Phys. &c. de Lyon, 1843, p. 45.

Amazilius riefferi, Bonap. Consp. Gen. Av., p. 78, *Amazilius*, sp. 10.—Ib. Rev. et Mag. de Zool. 1854, p. 254.—Sclat. in Proc. of Zool. Soc., part xxvii. p. 145.

Amazilia Riefferi, Reichenb. Auf. der Col., p. 10.—Sclat. in Proc. of Zool. Soc., part xxiv. p. 140, part xxv. p. 16, and part xxviii. pp. 283, 296.—Salv. in Ibis, vol. ii. p. 270.

Polytmus Riefferi, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 72.

Trochilus Dubusii, Bourc. Rev. Zool. 1852, p. .

Amazilia Dubusii, Reichenb. Auf. der Col., p. 10.

Amazilius dubusi, Bonap. Rev. et Mag. de Zool. 1854, p. 254.—Sclat. in Proc. of Zool. Soc., part xxiv. p. 287.—Ib. Proc. of Zool. Soc., part xxvii. p. 386.

Trochilus fuscicaudatus, Fras. in Proc. of Zool. Soc., part viii. p. 17.

Hylocharis fuscicaudatus, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 26.

In a tray now before me I have twenty-five skins of Humming-Birds, all belonging, I believe, to one and the same species, the *Amazilia Riefferi*. These twenty-five specimens are from various localities extending over many degrees of latitude—that is, from the southern parts of Mexico to the confines of Peru. I believe that every part of the high lands which occur between the limits mentioned is frequented by this bird, either as a migrant or a resident. To particularize the localities on the labels attached to my specimens, I may mention Cordova, Guatemala, Honduras, Costa Rica, Veragua, Bogota, and Guayaquil. The specimens from some of these localities are found to differ slightly in colouring from those procured in others of them; the differences, however, are very trifling, and not greater than the local variations observable in a hundred other instances, and consequently are not of sufficient importance to justify their separation into distinct species.

My learned friend and coadjutor M. Bourcier considered the Honduras bird to differ from the others sufficiently to warrant its being regarded as another species, and fixed, I believe, upon the bronzy fringing of the tail-feathers as his principal character; but I can assure him that this will not hold good, for I have specimens of *A. Riefferi*, from Bogota and elsewhere, presenting precisely the same feature. I make this remark with the typical specimen from which he took his description before me, and which he has kindly sent to this country, with many others, for the promotion of this work; the name of *Dubusi*, then—the term applied by M. Bourcier to this supposed new bird—must sink into a synonym. Even if it were otherwise, the name of *Dubusi* must give place to that of *fuscicaudatus* of Fraser, whose description was taken from Honduras specimens; in truth, that name was proposed before that of *Riefferi*,—a fact with which I was unacquainted when my Plate of this species was printed.

There is one peculiarity in the colouring of the *Amazilia Riefferi* by which it may be at once distinguished from every other known Humming-Bird; this is, a little red mark on the lores, or the space between the bill and the eye. I need scarcely say that I find this in M. Bourcier's *A. Dubusi*; it is not, however, so conspicuous as in some of my specimens, and for this reason,—the bird is, I think, a female, and the mark is not so apparent in that sex as in the male. Of its habits and economy but little has been recorded. Mr. Bridges found it feeding on a Malvaceous plant near the Boqueti, at an elevation of four thousand feet; Mr. Salvin met with it at Coban in November, and also near Yzabal, and remarked that it was far from common at Coban, and that all the specimens he procured appeared to be males; and Mr. Fraser noticed it feeding from the bark of a large tree in the forest of Babahoyo in Ecuador, and states that when he arrived in Esmeraldas in October it was by no means uncommon, feeding morning and evening round the eaves of the house; in November it was very scarce, and in December not to be seen.

Crown of the head, all the upper surface, and wing-coverts bronzy green, darkest on the crown; wings dark purplish brown; upper tail-coverts and tail deep reddish chestnut, narrowly fringed above, and more broadly beneath, with golden bronze, the golden fringing being much darker in some specimens than in others, particularly on the upper side of the tail; throat and breast luminous grass-green; abdomen and flanks bronzy green, passing into pale brown towards the vent; under tail-coverts rufous, with lighter edges; bill fleshy brown, with a blacker tip; irides dark hazel; feet brown.

The figures are of the natural size. The plant is the *Odontoglossum hastilabium*.



AMAZILIA BERYLLINA.

J.Gould. and H.C.Richter, del. et lith.

Hullmandel & Walton, Imp.

AMAZILIA BERYLLINA.

Berylline Amazili.

Trochilus beryllinus, Licht. Preis-Verz. Mexican. Thier. ges. v. Deppe und Schiede (Sept. 1830), no. 26.

Ornismya Arsinoë, Less. Supp. Hist. Nat. des Ois. Mou., pp. 154, 156. pls. 28, 29.—Ib. Rev. et Mag. de Zool. 1838, p. 314, 1839, p. 18.

Cynanthus Arsinoë, Jard. Nat. Lib. Humm.-Birds, vol. ii. p. 149. pl. 33.

Polytmus Arsinoë, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 9.

Amazilius arsinoë, Bonap. Consp. Gen. Av., tom. i. p. 77, *Amazilius*, sp. 2.—Ib. Rev. et Mag. de Zool. 1854, p. 254.

Amazilia Arsinoë, Reich. Auf. der Col., p. 10.—Ib. Troch. Enum., p. 8. t. dcclxxiv. figs. 4794–97?

Pyrrhophaena beryllina, Cab. Mus. Hein., Theil iii. p. 36.

This bird is generally known to Trochilidists by the specific name of *Arsinoë*; but the Berlin ornithologists tell us that it had been previously named *beryllinus* by the late Dr. Lichtenstein in his priced list of birds issued in 1830; and I have adopted the name proposed by my very old friend who so long filled the post of Director of the Zoological Museum of Berlin: at the same time I question the justice of the procedure, as it can scarcely be expected that names proposed in a catalogue of duplicate birds, even if accompanied by brief specific descriptions, are to be received and admitted by the scientific naturalist; for myself, I have never seen the pamphlet alluded to.

The native country of the *Amazilia beryllina* is Southern Mexico, where it appears to be numerous; it does not, however, seem to enjoy a very wide range, since I do not recollect ever seeing examples of it in any collection from Guatemala; if it be found there, it is but rarely, and only in the northern parts of the country, or those portions bordering on Mexico. Several specimens were collected by M. Botteri in the neighbourhood of Orizaba, and M. Sallé procured others at Cordova.

A considerable difference occurs in the extent of the green colouring of the under surface in different individuals; in some this colour spreads over the whole of the abdomen, while in others it merely covers the chest and the upper part of the flanks, the breast being of a deep brownish fawn-colour. This variation in the extent of the green colouring I at one time attributed to a difference of sex, the male being generally more clothed with green than the female, but I now think it is merely a local variation.

Head, sides and back of the neck, upper part of the back, and the anterior portion of the wing-coverts dark green, gradually passing into the rich deep golden and purplish bronze of the posterior portion of the wing-coverts, lower part of the back and upper tail-coverts; spurious wing very dark brown; primaries and secondaries dark chestnut-red at the base, and purplish brown for the remainder of their length; tail rich deep purplish bronze, the purple hue prevailing on the four central feathers; chin, throat, chest, and abdomen shining grass-green; under surface of the wing, vent, and under tail-coverts deep chestnut-red, the feathers of the latter part narrowly fringed with white; upper mandible black; under mandible fleshy with a black tip.

The figures are of the size of life. The plant is the *Maxillaria Warreana*.



AMAZILIA DEVILLEI.

H.Gould and H.C.Richter del et lith.

Hullmandel & Walton, Imp.

AMAZILIA DEVILLEI.

Deville's Amazili.

Trochilus Devillei, Bourc. Rev. Zool. 1848, p. 272.—Gray and Mitch. Gen. of Birds, vol. iii., app. p. 30*a*, app. to p. 103.
Amazilia Devillei, Reichenb. Auf. der Col., p. 10.
Amazilius devillei, Bonap. Rev. et Mag. de Zool. 1854, p. 254.
Trochilus Mariæ, Bourc. Ann. Sci. Phys. &c. de Lyon, 1843?
Hylocharis mariae, Bonap. Consp. Gen. Av., p. 74, *Hylocharis*, sp. 6?
Smaragdites Mariæ, Reichenb. Auf. der Col., p. 7?

In order to effect a correct determination of many species of this group of birds, I have found it absolutely necessary to examine the typical specimens from which the original descriptions were taken,—a task of no ordinary difficulty, distributed as they are among our own and the Continental museums, both public and private. With regard to those described by M. Bourcier, I have had but little trouble, since they have not only been freely submitted to my inspection in his own cabinet, but they have, in many instances, been transmitted for this purpose to my own house; and his kindness has been especially serviceable with regard to the bird here represented (*Amazilia Devillei*), as there are two or three species of this form so nearly allied to each other that one description would almost serve for all, particularly if the minute points of difference are not included therein. Thus, by description alone, it would be very difficult to distinguish the *Amazilia Devillei* from the *A. Arsinoë*; yet these birds are really quite distinct—one (the *Arsinoë*) inhabiting Mexico, and the other (the *Devillei*) Guatemala. In size, too, they are very much alike; but the tail of *Devillei* is by far the deepest and richest in colour, and has the beautiful fiery violet tints predominating over the other red parts of the feathers, while the contrary is the case in *Arsinoë*. The wing in *Devillei*, also, is much darker than in *Arsinoë*, the base only of the primaries and secondaries being rufous chestnut, while in *Arsinoë* somewhat more than the basal half is of this colour; and, finally, the green of the under surface is much deeper, and extends further down towards the tail-coverts than in *Devillei*.

As I have before mentioned, the native country of the *A. Devillei* is Guatemala. Some of the specimens I possess were transmitted to me by Mr. Skinner, while others were received from Mr. Salvin, who collected them at Dueñas. Although I have said that the *Arsinoë* inhabits Mexico, and the *Devillei* Guatemala, I do not believe that the two birds are strictly confined to those respective countries, but that they will pass the border-line at one or other season of the year. I believe that the note attached by Mr. Salvin to *Arsinoë* has reference to this bird, and not to that species; if so, I fear I may have inadvertently led him into the error by giving a wrong name when he submitted his collections to me on his return from Guatemala.

It would be difficult to define in writing the minute differences which exist in the external appearance of the sexes, the colouring being so very similar. In size, the female is somewhat smaller than her mate.

Head, wing-coverts, and back dark green; wings dark purplish brown, with a mark of rufous at the base of the primaries and secondaries; tail-coverts dark purple; tail rich fiery purple; all the under surface shining grass-green; thighs thickly clothed with white feathers; under tail-coverts pale bronzy brown; under surface of the tail purplish brown, margined and tipped with fiery copper; bill black, except the base of the under mandible, which appears to have been fleshy red; feet dark brown.

The figures in the accompanying Plate represent two males and a female, of the size of life. The plant is the *Epidendrum linearifolium*.



J. Gould and H.C. Richter del. et lith.

AMAZILIA VIRIDIGASTER.

Hullmandel & Walton Imp.

AMAZILIA VIRIDIGASTER.

Green-bellied Amazili.

Trochilus viridigaster, Bourc. Rev. Zool. 1843, p. 105.—Ib. Ann. Sci. Phys. de Lyon, 1843, p. 42.

Hylocharis viridigaster, Bonap. Consp. Gen. Av., p. 74, *Hylocharis*, sp. 5.—Gray and Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 41.

Saucerottia viridiventris, Reichenb. Auf. der Col., p. 8.

——— *viridigastra*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.—Sclat. in Proc. of Zool. Soc., part xxv. p. 16.

It will be admitted by every ornithologist that a more appropriate specific appellation than the one applied to this species might easily have been selected—one having reference, for instance, to its greyish-brown back or its nearly pure violet tail, whereas the term *viridigaster* will apply equally well to at least a hundred species. So far, however, as I am aware, no other term has ever been applied to it, except *viridiventris*, which has the same meaning; *viridigaster* must therefore be retained.

The native country of this bird is New Grenada, and numerous are the examples which have from time to time been sent to Europe from Bogota. M. Bourcier once told me that, upon reconsidering the subject, he feared that the bird to which he had given the name of *Trochilus Mariæ* might prove to be identical with the present species; but on carefully comparing his description with the examples from which the figures in the accompanying Plate were taken, I find it to differ so much, especially in the colouring of the wings, as to preclude the possibility of such being the case; in all probability it is identical with *A. Devillei*.

I regret that I have not a single note to add respecting the habits and economy of this bird. I believe that all the specimens which have reached Europe have been killed and skinned by the Indians, who, as is well known, pay little or no attention to habits: all they desire is to approach sufficiently near to obtain them by means of the blow-pipe, with which they take almost unerring aim, using round balls of clay for their pellets.

Like the other *Amaziliæ*, the sexes resemble each other in colour; if any difference occurs, it consists in the somewhat brighter hues of the male.

Head, upper part of the back, and wing-coverts dull green; lower part of the back and upper tail-coverts greyish brown; wings purplish brown; tail deep violet; under surface shining grass-green, passing into greyish brown; under tail-coverts greyish buff, with lighter edges; thighs somewhat thickly clothed and white; bill black, except the basal two-thirds of the lower mandible, which appears to have been fleshy.

The figures are of the size of nature. The plant is the *Lælia acuminata*.



J. Gould and H.C. Richter, del. et lith.

AMAZILIA CYANURA.

Hullmandel & Walton, Imp.

AMAZILIA CYANURA, *Gould.*

Blue-tailed Amazili.

All that is known respecting this Humming-bird is, that examples were collected by Captain Sir Edward Belcher, R.N., at Realejo in Nicaragua, and subsequently presented to the Zoological Society of London in the year 1839. On the dispersion of the Society's collection they passed into my possession.

The *Amazilia cyanura* is about the size of *A. Dumerili*, to which species it is very nearly allied, but from which it differs in the blue colouring of its tail and upper and under tail-coverts, as indeed it does in this respect from all the other members of the genus. Now that the bird is figured, and the attention of collectors called to the subject, I doubt not that the Museums of Europe will soon be supplied with specimens; for myself, I shall hail the arrival of additional examples with pleasure, for it is a fine little bird. It is doubtless common on the Pacific side of Nicaragua generally, and I should say will most certainly be found at Realejo. The two examples I possess are precisely alike in colour.

Head, all the upper surface and wing-coverts dark bronzy green, passing into coppery bronze on the lower part of the back; wings purplish brown; the base of the primaries and secondaries both above and beneath chestnut-red; under surface shining grass-green; upper and under tail-coverts and tail dark steel-blue, the under coverts fringed with grey; thighs white.

Total length $3\frac{1}{2}$ inches; bill $\frac{7}{8}$; wing $2\frac{1}{8}$; tail $1\frac{1}{4}$.

In the accompanying Plate the bird is figured of the size of life. The plant is the *Arbutus mollis*.



J.Gould and H.C.Richter del et lith.

ERYTHRONOTA ANTIQUA.

Hullmandel & Walton Imp.

ERYTHRONOTA ANTIQUA.

Erythronote.

Ornismya erythronotos, Less. Hist. Nat. des Ois.-Mou., p. 181. pl. 61.—Ib. Tab. des Esp. d'Ois.-Mou., p. xxxii.—Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xxviii.

——— *erythronotus*, Less. Rev. Zool. 1839, p. 19.

Polytmus erythronotus, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 78.

Saucerottia erythronota, Bonap. Consp. Gen. Av., p. 77, *Saucerottia*, sp. 2.—Reichenb. Auf. der Col., p. 8.—Bonap. Rev. et Mag. de Zool. 1854, p. 255.

Trochilus erythronotus, Jard. in Ann. and Mag. Nat. Hist., vol. xx. p. 374.

Are we to regard the several birds generally known under the name of *Erythronotes* as one or as many species? Great care is required at the hand of the ornithologist respecting this peculiar section of the Trochilidæ. In every group of birds which the monographer attempts to illustrate, some one or two species will be found to vary, or sport as it were, in their size and colouring more than others; fortunately, however, these are the exceptions, and not the rule. I may ask, is the great bird from Tobago the same as the more diminutive bird from Trinidad? Again, is the bird from the Caraccas, which is of the same size as that from Trinidad, but from which it differs in having bright chestnut under tail-coverts, the same? Or are we to regard them as so many species? For the present, I believe it will be better to consider them identical, for this reason: I find that the specimens from Trinidad differ very considerably among themselves, some having beautiful violet-grey under tail-coverts, while in others those feathers are uniform chestnut, and in others again they are olive-grey; it is clear, therefore, that the difference in the colouring of these feathers cannot be regarded as of importance. In making these remarks, it must be understood that I exclude the bird to which M. Bourcier has given the name of *Feliciæ*—a bird most nearly allied, but which has never, I believe, any red colouring on the nape and back,—a feature found in all those previously noticed, whether from Trinidad, Tobago, or the Caraccas. The figures in the accompanying Plate were taken from Trinidad specimens to which I would apply the term *antiqua*, as being the oldest known. If future research should discover good grounds for separating the larger Tobago birds, they might receive a new specific name, as indeed may the other also. In the imperfect state of our knowledge, I feel that I am right in placing them together, and I do this with a strong bias to the opinion that they will never be separated. With regard to the Trinidad bird, but little has been recorded respecting it. Mr. Tucker informed me that it is very common all over the island, inhabiting the woods as well as the savannahs, but more frequently the latter, visiting almost every flower that comes in its way. In the twentieth volume of the 'Annals and Magazine of Natural History,' above referred to, Sir William Jardine, quoting from Mr. Kirk's notes on the Tobago bird, says: "begins to build about the 10th of February, generally on a small stalk, or on the upper side of some twig, sometimes so hidden from the eye by a large leaf as to preclude all possibility of seeing it from above, and often so near the ground as to remain undiscovered: makes a small nest, in which it lays two pure white eggs." Lesson, I believe, is quite wrong in giving Brazil as the habitat of this bird, for I have no reason to suppose that it is ever found there.

Not much difference occurs in the plumage of the sexes, and the young at an early age assume the adult livery, or a dress very similar to it.

Forehead yellowish shining green; crown and nape, back, wing- and tail-coverts coppery red; wings purplish brown; tail black, with steel-blue reflexions; back of the neck green; breast and under surface shining grass-green; under tail-coverts rufous violet or grey; on each side the flanks an oblong patch of white; bill black, with a lighter base to the under mandible, that part appearing to have been flesh-colour.

The figures are of the size of life. The plant is the *Odontoglossum hastilabium*, var. *fuscatum*.



ERYTHRONOTA FELICIÆ.

J.Gould and H.C.Richter del. et lith.

Walter & Cohn, Imp.

ERYTHRONOTA FELICIÆ.

Felicia's Erythronote.

Ornismya Feliciæ, Less. in Rev. Zool. 1840, p. 72.
——— *Feliciae*, Reichenb. Aufz. der Col., p. 7.
Saucerottia felicia, Bonap. in Rev. et Mag. de Zool. 1854, p. 255.
Chlorestes Feliciae, Reichenb. Troch. Enum., p. 6, pl. 697. figs. 455–657.
Hemithylaca Feliciae, Cab. et Hein. Mus. Hein., p. 38, note.
Trochilus Emile.

The *Erythronota Feliciæ* is a species closely allied to the *E. antiqua*—so close, in fact, that it is extremely difficult to distinguish it from that bird in some states of its plumage. The tail-feathers of the *E. Feliciæ*, however, are more blue, and its upper surface is wholly green, except on the lower part of the back and on the upper tail-coverts, which in some specimens are brown, and in others violaceous. Its under tail-coverts appear to be subject to as much variation as those of its near ally; for in some they are russet brown, in others violet, in others, again, violet green, and I have seen a few in which the two colours are intermingled. Venezuela appears to be the native country of this bird. One of my specimens, collected on the Orinoco, seems to be somewhat immature; for all the tail-feathers are beautifully tipped with bright fiery purple, and the lower part of the back and upper tail-coverts are buff; still I have no doubt of its being the same bird. When the *E. Feliciæ* has perfected its moult, its body is clothed in a deep and pure green, which on exposure to light and air changes to a brown or golden hue. I have not been able to detect any difference in the colouring of the sexes, and I believe their discrimination will be impossible unless dissection of freshly killed examples be resorted to.

Crown of the head, all the upper surface, and wing-coverts green, a bronzy hue prevailing on the lower part of the back; upper tail-coverts fiery purple in some specimens; all the under surface shining grass-green; wings steel-blue; tail deep bluish black; under tail-coverts violet and green intermingled; upper mandible black; under mandible fleshy-red, with a black tip; feet black.

The three figures in the accompanying plate are of the size of life. The plant is the *Odontoglossum hastilabium*, var. *fuscatum*.



J. Gould and H. C. Richter, del. et lith.

ERYTHRONOTA EDWARDI.

Hullmandel & Walton, Imp.

ERYTHRONOTA EDWARDI.

Wilson's Erythronote.

Trochilus Edward, De Latt. et Bourc. Rev. Zool. 1846, p. 308.
Polytmus Edwardsii, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 77.
Amazilius Edward, Bonap. Consp. Gen. Av., p. 78, *Amazilius*, sp. 13.
Thaumantias edward, Bonap. Rev. et Mag. de Zool. 1854, p. 255.
Saucerottia Edwardsii, Reichenb. Aufz. der Col., p. 8.

The productions of the native country of the *Erythronota Edwardi*—one of the rarer species of the Trochilidæ—are almost as unknown as those of New Guinea, or any other equally remote part of the globe, which circumstance is very much to be regretted, for were the zoology of the Isthmus of Panama carefully investigated and made known, much of scientific interest would result therefrom.

In size this species equals, if it does not exceed, that of the Common Erythronote; but the whiteness of its belly and the much richer colouring of its back and tail render it remarkably distinct from that and every other species of the genus. I possess several specimens, some of which were procured by the late M. De Lattre, and others by M. Warszewicz.

The Wilson's Erythronote was named *Edwardi* by MM. De Lattre and Bourcier, in honour of Edward Wilson, Esq., of Tenby, a gentleman who formerly paid great attention to natural history, and particularly to ornithology.

The sexes of this species, like those of the other members of the group, are said to be similar in colour.

Crown of the head and back of the neck green, gradually blending with the deep purplish hue of the shoulders, back and tail-coverts; throat and breast glittering grass-green; flanks bronzy green; abdomen white; under tail-coverts brown, bordered with grey; wings purplish brown; tail rich bronzy purple; bill black, except the basal three-fourths of the under mandible, which are fleshy red.

The figures are of the natural size. The plant is the *Odontoglossum membranaceum*.



J. Gould and H.C. Richter, del. et lith.

ERYTHRONOTA NIVEIVENTRIS, *Gould*

Hullmandel & Walton, Imp.

ERYTHRONOTA NIVEIVENTRIS, *Gould.*

White-breasted Erythronote.

Trochilus (————?) *niveoventer*, Gould in Proc. of Zool. Soc., part xviii. p. 164.
Thaumantias niveiventer, Bonap. Rev. et Mag. de Zool. 1854, p. 255.
Saucerottia niveiventer, Reichenb. Aufz. der Colibris, p. 8.

This species is very nearly allied to the *Erythronota Edwardi*; it is, however, a somewhat stouter bird, and is otherwise distinguishable by the lesser brilliance of the back and upper surface, and by the blackness of its tail. Its native country is Veragua, whence I have received several examples direct; I have also a specimen procured by Dr. Berthold Seemann in Panama, and another collected by M. Warszewicz near David, at an elevation of between 5000 and 10,000 feet above the sea-level.

The whiteness of the abdomen of this species and its near ally is a character which at once separates them from the type of the genus, the Common Erythronote of Trinidad and Guiana.

The *Erythronota niveiventris* is at present very rare, as I know of no other examples in Europe but those contained in my own collection.

As far as I can judge, there is but little difference in the colouring of the sexes; the specimen procured by Dr. Seemann has, however, more white on the abdomen, less green on the throat, and the outer tail-feathers slightly tipped with a lighter colour, which distinctions may perhaps be characteristic of the female.

Head and upper surface green, passing into coppery red on the wing-coverts, lower part of the back and upper tail-coverts; wings dark purplish brown; tail purplish black; throat, breast and flanks luminous grass-green; abdomen white; under tail-coverts brown, fringed with white; upper mandible black; lower mandible flesh-colour.

The figures on the Plate are of the size of life. The plant is the *Passiflora Medusæa*.



ERYTHRONOTA ELEGANS, *Gould.*

J.Gould and H.C.Richter, del. et lith.

Walter & Cohn, Imp.

ERYTHRONOTA? ELEGANS, *Gould.*

Elegant Erythronote.

Erythronota? elegans, Gould in Proc. of Zool. Soc., part xxviii. p. 307.

This is one of the unique birds comprised in the vast collection from which this monograph has been written. In what part of South America it was obtained is quite unknown to me, and, of course, I am equally unacquained with its habits and economy. I feel confident that the example from which my figures were taken is fully adult, and I am as certain that it differs from every other known species. The following remarks and description, to which I have nothing to add, are reprinted from the 'Proceedings of the Zoological Society.' It would have given me very great pleasure to have furnished more ample details respecting many members of the family than I have done, but this has been impossible; we often receive examples of new species many years before any details respecting them are obtainable.

"It is easier to assign a specific name to a bird than to determine to which generic form it is referable; and if there be any bird which is a puzzle to the brain of the ornithologist, this is one. It is a very elegant species, and quite distinct from every other known Humming-Bird; in its glittering light-green crown, throat, and chest it looks like a *Chlorostilbon*, but the form of its tail and some other characters ally it to the *Erythronotæ*, with which I have provisionally placed it.

"Crown and all the under surface of the body glittering light green; back of the neck and back golden- or orange-green; upper tail-coverts purplish red or puce-colour; tail long, forked, and of a purplish violet hue with green reflexions on the tips of the two centre feathers; wings purplish brown; tarsi white; under tail-coverts grey with bronzy-purple centres; upper mandible flesh-colour at the base, and black for the remainder of its length; under mandible flesh-colour, except at the tip, which is black.

"Total length $3\frac{7}{8}$ inches; bill $1\frac{1}{2}$; wing $2\frac{1}{8}$; tail $\frac{7}{8}$."

The figures are of the natural size. The plant is the *Mormodes atro-purpurea*.



ERYTHRONOTA SAUCEROTTEI.

J.Gould and H.C.Richter del. et lith.

Walter & Cohn, Imp.

ERYTHRONOTA SAUCEROTTEI.

Saucerotte's Erythronote.

Trochilus Saucerottei, Bourc. et Delatt. Rev. Zool., 1846, p. 311.
Polytmus Saucerottii, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 67.
Saucerottia typica, Bonap. Consp. Gen. Av., tom. i. p. 77; Id. Rev. et Mag. de Zool., 1854, p. 255; *Saucerottia*, sp. 1., Reichenb. Aufz. der Col., p. 7.
Chlorestes typicus, Reichenb. Troch. Enum., p. 4, pl. 701. figs. 4569–70.
Hemithylaca Saucerottei, Cab. et Hein. Mus. Hein., Theil iii. p. 38, note.

The native country of the *Erythronota Saucerottei* is New Grenada, whence it was brought by Delattre. In point of affinity, this bird is nearly allied to *E. Sophiæ*; but it may always be distinguished by its rather larger size, and by the duller colouring of its breast and under surface, and especially by the dull olive-green hue of the centres of the under tail-coverts, which in *E. Sophiæ* are blue. As is the case with the *Erythronotæ*, no perceptible difference is observable in the sexes, either in size or colour.

Crown of the head and upper surface deep grass-green, becoming of a brown hue towards the lower part of the back; upper tail-coverts and tail steely black; all the under surface dull green, of a paler hue than that of the upper surface, and very slightly luminous; under tail-coverts steely brown edged with greyish white; wings steely black like the tail; upper mandible black; under mandible fleshy at the base, black at the tip.

The figures are of the natural size. The plant is the *Barkeria elegans*.



J. Gould and H.C. Richter, del. et lith.

ERYTHRONOTA SOPHIÆ.

Hullmandel & Walton, Imp.

ERYTHRONOTA SOPHIÆ.

Sophia's Erythronote.

Trochilus Sophiæ, Bourc. Ann. Soc. Sci. Phys. et Nat. Lyon, 1846, p. 318.—Ib. Rev. Zool. 1846, pp. 316, 317.
Polytmus Sophiæ, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 76.
Amazilius sophiae, Bonap. Consp. Gen. Av., p. 78, *Amazilius*, sp. 12.
Saucerottia Sophiae, Reich. Auf. der Col., p. 8.
——— *sophiæ*, Sclat. in Proc. of Zool. Soc., part xxiii. p. 141.
——— *sophia*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.
Chlorestes Sophiae, Reich. Troch. Enum., p. 4. t. dcxcvii. figs. 4554, 4555 ?
Trochilus (——?) *caligatus*, Gould in Proc. of Zool. Soc. 1848, p. 14.
Hemithylaca Sophiae, Cab. Mus. Hein., Theil iii. p. 38, note.
——— *Hoffmanni*, Cab. ib. p. 38.

Before taking up my pen to give an account and description of the bird figured on the opposite Plate, I have carefully examined, side by side, the type-specimen from which M. Bourcier took his description of *Trochilus Sophiæ*, the type-specimen of the bird I described as *Trochilus caligatus*, and, through the kindness of the Director of the Royal Museum of Berlin, a veritable example of M. Cabanis' *Hemithylaca Hoffmanni*; and I find that the three birds are so precisely alike, that I am unable to detect any difference either in size, markings, or colour: the date of publication must therefore determine which of the three names is to be retained as a specific designation for the present species; and as that of M. Bourcier was proposed in 1846, my own in 1848, and M. Cabanis' in 1860, the former must be the one adopted, and the others placed in the rank of synonyms.

The *Erythronota Sophiæ* appears to be very common in Costa Rica, for I possess many specimens from that country, all of which were collected in the neighbourhood of San José, a locality which is also inscribed on the label attached to the specimen belonging to the Berlin Museum; independently of Costa Rica, the bird is also found at Panama, and in the country to the southward and eastward of that locality. By some naturalists the *Saucerottia typica* has been considered to be identical with this bird; but on an inspection of the type-specimen, which is also before me, I am inclined to think it distinct; at the same time I must admit that it is very nearly allied; it appears to be a larger bird, to have the green of the under surface less brilliant, the centre of the under tail-coverts dull olive instead of blue, and the tail-feathers inclined to greenish; the lower part of the back, too, differs in presenting no trace of the purple hue which pervades the corresponding part in most of the specimens of the *E. Sophiæ*. The *Saucerottia typica* was brought from New Granada by De Lattre, and I do not find any examples in collections from Costa Rica. M. Bourcier has named this species in honour of Madame Sophie Gairal.

Head, all the upper surface and wing-coverts dark green, inclining to purplish red on the lower part of the back; wings dull blue; upper tail-coverts and tail very deep shining steel-blue; under surface of the body shining grass-green; thighs thickly clothed with white feathers; under tail-coverts blue, narrowly fringed with greyish white; on each side the flanks a tuft of white; bill black.

The purple hue of the lower part of the back immediately above the upper tail-coverts appears to vary considerably, being much deeper in some specimens than in others.

The figures are of the natural size. The plant is the *Trichopilia coccinea*.



SAUCEROTTIA CYANIFRONS.

J. Gould and H. C. Richter del. et lith.

Hullmandel & Walton, Imp.

SAUCEROTTIA CYANIFRONS.

Blue-capped Saucerottia.

Trochilus cyanifrons, Bourc. Rev. Zool. 1843, p. 100.—Ib. Ann. de la Soc. Sci. de Lyons, 1843, p. 42.

Polytmus cyanifrons, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 66.

Thalurania cyanifrons, Bonap. Consp. Gen. Av., p. 77, *Thalurania*, sp. 8.

Saucerottia cyanifrons, Bonap. Rev. et Mag. de Zool. 1854, p. 255.—Reichenb. Aufz. der Colibris, p. 8.

Chlorestes cyanifrons, Reichenb. Troch. enumer., p. 4. pl. DCCI. figs. 4571, 4572.

On perusing the pages of the present work, it will be seen that ornithologists have occasionally selected the names of individuals celebrated for their scientific attainments to designate some of the many genera into which they have found it necessary to subdivide this great family of birds. Among these, that of *Saucerottia* will always stand as the memorial of a gentleman of varied acquirements, and possessing an intimate acquaintance with the Trochilidæ; the selection of his name as a designation for one of these groups is therefore a just and more than usually appropriate tribute.

Although I admit that the present bird is allied to the type of the genus, it nevertheless differs considerably in its colouring, particularly in the rich blue cap which surmounts the head—a character which has not yet been found to exist in any other species of the form. A superficial observer might be inclined to place this bird in some other group—perhaps that of *Cyanomyia*,—but that would not be its proper situation; its peculiarly formed tail, its broad and rigid under tail-feathers, its white and rather thickly clothed thighs, are characters which naturally indicate its true position.

Every collector, both in this country and on the Continent, is so abundantly supplied with examples of this bird, that it would not become rare even were no more killed for the next hundred years. From Bogota it is sent in great numbers; and it is also found in nearly every part of Columbia, wherever regions occur of similar altitude and temperature: M. Bourcier's typical specimen was obtained at Ybague, in New Grenada. I have not yet seen it from any place to the northward of the Isthmus of Panama.

In ten specimens now lying before me, the colouring of the body is so very similar, that they can scarcely be distinguished the one from the other; but much difference is observable in the intensity of the blue on the crown, varying as it does from a beautiful deep indigo to a greenish blue, and a green but slightly tinged with blue: this latter state may probably be characteristic of the female; if it be not, I am unable to define that sex, but I am pretty certain that it is.

Crown of the head deep blue, varying in different specimens, as above described, to greenish blue and bluish green; upper surface and wing-coverts bronzy green, the bronzy hue predominating on the rump and upper tail-coverts; wings purplish blue; tail very dark purple or bluish black; the whole of the under surface shining grass-green; under tail-coverts purplish olive, fringed with greyish white; upper mandible and tip of the lower black; the remainder of the under mandible either yellowish or flesh-colour.

The Plate represents what I believe to be the two sexes, of the natural size. The plant is the *Befaria æstuans*.



EUPHERUSA EXIMIA.

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

EUPHERUSA EXIMIA.

Stripe-tail.

Trochilus eximius, DeLattre, 1853.

Saucerottia eximia, Reich. Aufz. der Col., p. 8.—Bonap. Rev. et Mag. de Zool. 1854, p. 255.

I have been induced to separate this species from the *Erythronotes*, to which it is most nearly allied, principally on account of its larger size, the white colouring of the basal portion of the outer tail-feathers, and the well-defined buff epaulets which adorn the shoulders. In an ornamental point of view this species is eminently attractive; its glittering green throat and under surface presenting a marked contrast to the remainder of the plumage.

The discovery of this fine bird is due to the researches of the late M. DeLattre, either in Mexico or Honduras. The specimens in my own possession were kindly transmitted to me direct from Guatemala by George Ure Skinner, Esq.

Head, all the upper surface, wing- and tail-coverts dark green; base of the primaries and the whole of the secondaries chestnut-red, the remaining portion of the primaries being purplish-brown; tail very dark greenish-bronze, the basal two-thirds of the inner web of the two outer feathers on each side, and the margin of the same part of the third, pure white; under surface brilliant grass-green; under tail-coverts white; bill black; feet dark brown.

The figures are of the natural size.



CHRYSURONIA ŒNONE.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton, Imp.

CHRYSURONIA ŒNONE.

Œnone Humming-bird.

Ornismya Oenone, Less. Hist. Nat. des Ois. Mou. Supp., p. 157. pl. 30.
——— *Œnone*, Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xl.
——— *oenone*, De Latt. et Bourc. Rev. Zool. 1839, p. 17.
Polytmus Œnone, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 80.
Chrysuronia aenone, Bonap. Consp. Gen. Av., p. 75, *Chrysuronia*, sp. 1.
——— *Oenone*, Reich. Auf. der Col., p. 9.
——— *œnone*, Bonap. Rev. Zool. 1854, p. 254.—Sclater in Proc. of Zool. Soc., part xxii. p. 111.

This very charming Humming-bird does not, I believe, inhabit Trinidad, as stated by Lesson; it is true that specimens frequently come direct from thence; but, according to Mr. Tucker, a gentleman long resident on the island, and who has paid great attention to its Humming-birds, these specimens are sent thither from the neighbouring parts of the South American Continent. All the countries traversed by the streams of the Orinoco are probably favoured with its presence; and I think it likely that it also ranges all over the great country of Venezuela, since specimens are sent in tolerable abundance from several of the intervening districts between the Orinoco and the high lands of Columbia. It very frequently occurs in collections from Bogota and other Andean districts lying within an area of 500 miles from the city of Santa Fé; I have also received it direct from the Napo; it is evident therefore that it enjoys a very wide range of habitat. It may fairly be considered as one of the finest species of the genus *Chrysuronia*, the members of which are distinguished by their rich bronze-coloured tails, and by a brilliant blue colouring about the head, which in some species decorates the crown alone, while in others, as in the present bird, it extends over the whole of the throat and neck.

The sexes appear to differ considerably in their colouring, the female being devoid of the blue on the head, while in the distinguishing feature of the group, the bronzy tail, she is scarcely less beautifully adorned.

The male has the entire head and throat rich deep shining blue; all the upper surface and wing-coverts lively golden green; wings purplish brown; upper and under tail-coverts and tail rich golden bronze; under surface shining grass-green; upper mandible and tip of the lower mandible black, the basal two-thirds of the latter flesh-colour.

The female has the head green; upper surface golden green; wings purplish brown; upper tail-coverts and tail coppery bronze; under surface white, spangled with shining green; vent white.

The figures are of the size of life. The plant is the *Solandra lævis*.



J. Gould and H.C. Richter, del et lith.

CHRYSURONIA JOSEPHINÆ.

Hullmandel & Walton, Imp.

CHRYSURONIA JOSEPHINÆ.

Josephine's Humming-bird.

Ornismya Josephinæ, Bourc. and Muls. Rev. Zool. 1848, p. 272.
Trochilus Josephinæ, Gray and Mitch. Gen. of Birds, vol. iii. Supp. App. 30A., App. to p. 103.
Chrysuronia Josephinæ, Reich. Auf. der Col., p. 9.
——— *josephina*, Bonap. Rev. Zool. 1854, p. 254.

Josephine's Humming-bird is one of those species with which we are but little acquainted: my own collection contains two examples; one of these I purchased in Paris; the other I received direct from the Upper Amazon, where it was procured by Mr. Bates, a thorough naturalist, endowed with courage, energy, and perseverance fully equal to the performance of the task he has undertaken—that of exploring the rich districts of the Upper Amazon. England may indeed be proud of two such sons as Wallace and Bates, to whom zoologists especially must feel grateful for a vast extension of their scientific knowledge.

In point of affinity this species is very closely allied to the well-known *Chrysuronia Œnone*; like that bird it has a splendid golden-bronzy tail; but the rich blue which adorns the throat as well as the head of that species is confined to the head alone in *C. Josephinæ*, the whole of whose under surface is green. We really have seen so little of this bird that it is unsafe to say whether the female be or be not contained in our collections; but I may predict that, when discovered, she will be found to differ very little from the female of *C. Œnone*.

This species has been dedicated by MM. Bourcier and Mulsant to Madame Julien Lacroix.

Crown of the head rich deep blue, tinged in some specimens with green; upper surface and wing-coverts golden green; under surface shining grass-green; wings purplish brown; upper tail-coverts coppery bronze; tail fine golden bronze in some examples, and rich coppery bronze in others; under tail-coverts golden bronze fringed with grey; upper mandible black; under mandible for four-fifths of its length apparently fleshy white, the tip darker.

The figures are of the natural size.



CHRYSURONIA HUMBOLDTI.

J.Gould and H.C.Richter, del et lith.

Hullmandel & Walton, Imp.

CHRYSURONIA HUMBOLDTI.

Humboldt's Humming-bird.

Trochilus Humboldtii, Bourc. et Muls. Ann. Sci. Phys. &c. de Lyon, May 7, 1852.
Chrysuronia Humboldtii, Reich. Auf. der Col., p. 9.
———— *humboldti*, Bonap. Rev. Zool. 1854, p. 254.

In the eyes of the naturalist the diminutive Humming-bird and the gigantic Eagle, the smallest animalcule and the largest Whale, are of equal interest; otherwise it could not have been deemed complimentary to name such a minute bird after so great a man as the illustrious Humboldt, whose merits are so varied, that, in whatever light they may be estimated, it may be truly said that few brighter stars have ever graced the roll of fame: in the death of Baron Humboldt, the devotee of the higher walks of science, as well as the more humble zoologist, has to mourn the departure of one whose genius shed a lustre not only over his own nation, but over every other where science is cultivated. It gives me no little pleasure to figure a bird named after this great man, and to state that it is an inhabitant of that part of the world to which he devoted so much attention, and the exploration of which I know, from personal conversation with him, had left such pleasing reminiscences in his memory. The *Chrysuronia Humboldti*, then, is from the rich country of Ecuador. The few specimens hitherto sent to Europe have been procured on the banks of the River Miva, in the province of Esmeraldas. At present the bird is rarely met with in our collections; those in my own, comprising an example of each sex, were received through France by way of Paris.

The female presents the usual difference,—the blue colouring of the head, which is so conspicuous in the male, being absent in the opposite sex.

The male has the head and throat fine deep blue; upper surface and wing-coverts golden-green; wings purplish brown; tail bronzy green; breast shining green; under surface bronzy green, with a streak of white down the centre of the abdomen; bill apparently flesh-colour.

The female has the upper surface coppery bronze; wings purplish brown; central tail-feathers green; lateral feathers brown glossed with green and tipped with white; under surface dull white, spangled with green on the breast and flanks.

The figures are of the size of life.



J. Gould and H.C. Richter, del et lith.

CHRYSOBRONCHUS ELICIÆ.

Hullmandel & Walton Imp.

CHRYSURONIA ELICIÆ.

Elicia's Golden Tail.

Trochilus Eliciæ, Bourc. et Muls. Ann. de la Soc. Sci. de Lyon, 1846, p. 314.—Ib. Rev. Zool. 1846, p. 316.

Polytmus Eliciæ, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 82.

Chrysuronia elicia, Bonap. Rev. et Mag. de Zool. 1854, p. 254.

——— *Eliciae*, Reichenb. Aufz. der Col., p. 9.

——— *eliciae*, Bonap. Consp. Gen. Av., p. 75, *Chrysuronia*, sp. 3.

Of this charming little bird little or nothing is known further than that it is a native of Central America, whence I have received specimens direct from several correspondents, among whom I may mention M. Warszewicz, M. Sallé, and George Ure Skinner, Esq.; all the examples sent by the latter gentleman were procured in Guatemala.

Although the *Chrysuronia Eliciæ* is not distinguished by any great brilliancy of colouring, its blue throat and rich bronzy tail harmonize so well, as to render it as I have termed it above, a very charming little bird. The female has many characters in common with the male, but she may at once be distinguished by the obscure tipping of her tail-feathers, the lesser amount of blue on the throat, and the more buffy colouring of the abdomen.

This pretty species has been named by M. Bourcier in honour of Madame Elicia Alain.

The male has the head, all the upper surface, wing-coverts and flanks dark green; wings dark purplish brown; upper tail-coverts coppery bronze; tail both on the upper and under surface golden bronze; throat deep shining lazuline blue; abdomen dull greyish buff, washed with green; vent white; under tail-coverts dull fawn colour; bill fleshy red at the base, black at the tip.

The female is similar to the male in many respects, but is not so brilliant in colour; has the tail of a more coppery hue, the lateral feathers slightly tipped with buff, and only a trace of the fine blue on the throat.

The figures are of the natural size. The plant is the *Stanhopea ecornuta*.



CHRYSURONIA CHRYSURA.

J. Gould and H.C. Richter, del et lith.

Hullmandel & Walton, Imp.

CHRYSURONIA CHRYSURA.

Golden-tail.

Ornismya chrysura, Less. Hist. Nat. des Ois.-Mou., Supp. p. 107. pl. 4.—Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xl.

Chrysuronia chrysura, Bonap. Consp. Gen. Av., p. 75, *Chrysuronia*, sp. 2.—Reichenb. Auf. der Col., p. 9.—Bonap. Rev. et Mag. de Zool. 1854, p. 254.

Polytmus chrysura, Gray and Mitch. Gen. of Birds, vol. i. p. 109, *Polytmus*, sp. 81.

With the exception of a single specimen from Brazil, all the examples of this species in my collection are from Peru. I mention this because Lesson, in the Supplement to his 'Histoire Naturelle des Oiseaux-Mouches' above referred to, gives Brazil as its sole habitat. In all probability the bird inhabits the same degree of latitude in both countries. I do not, however, believe that it ever flies so far west as to come within the colonized portions of Brazil. In the vast trackless forests and savannahs which occur towards the eastern confines of that country, there doubtless exist many species of birds and quadrupeds common to this and the adjacent countries of Peru and Bolivia, and among them probably the present species, which may, perhaps, account for a solitary specimen of it now and then reaching us by way of Rio de Janeiro. It was from that city, through the kindness and liberality of Thomas Reeves, Esq., that my Brazilian specimen was received.

The *Chrysuronia chrysura* is not characterized by any great brilliancy of colouring; in fact, with the exception of its luminous golden tail, the entire plumage is of a very sombre cast, not easy to depict.

My own Plate gives a tolerably accurate representation of the bird: that of Lesson, I regret to say, is not a good one, and very apt to lead us astray as to the identification of the species.

The sexes offer but little difference in their colouring, but I believe the female may at all times be known by the obscure tipping of grey on the two outer tail-feathers.

Head, all the upper surface, wings, and tail-coverts of a golden hue, inclining to brown on the head; wings purplish brown; tail of a very rich golden lustre both above and beneath; chin buff; under surface grey, washed with a golden hue, which is richest on the flanks; vent and thighs white; under tail-coverts grey, with a slight golden lustre; the bill appears to have been fleshy red at the base of both mandibles and dark at the tip.

The Plate represents two males and a female of the natural size. The plant is the *Drimys Winteri*.



J. Gould and H.C. Richter del. et lith.

EUCEPHALA GRAYI.

Hullmandel & Walton Imp

EUCEPHALA GRAYI.

Blue-headed Sapphire.

Trochilus Grayi, DeLatt. et Bourc. Rev. Zool. 1846, p. 307.
Hylocharis Grayii, Gray and Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 38.—Bonap. Consp. Gen. Av., p. 74, *Hylocharis*, sp. 3.
Eucephala Grayi, Reich. Aufz. der Col., p. 10.
Sapphironia grayi, Bonap. Rev. et Mag. de Zool. 1854, p. 256.

This fine bird was first described by MM. DeLattre and Bourcier in the "Revue Zoologique" for 1846; the specific name of *Grayi* being assigned to it in honour of J. E. Gray, Esq., of the British Museum, a gentleman so well known for his high scientific attainments. It is a powerful and very beautiful species, and was brought to Europe in tolerable abundance by M. DeLattre, who, however, had not the honour of being its first discoverer, specimens, forming part of the fine Loddigesian collection, having been previously collected in the Andes by M. Hartweg. M. DeLattre's examples are said to have been procured at Popayan, and I possess others which were shot by M. Warszewicz in a not far distant locality: as yet, I have never seen any from Bogota or Ecuador.

I have little hesitation in placing this bird in the same genus with *E. cærulea*; in doing which, I am as much guided by the similarity of the females of the two species as by any other characters, for, were it not for size, one description would almost answer for the female of either.

As in the case of the *E. cærulea*, the breast of the male is so brilliant and glittering that it cannot be truthfully depicted; it is of a more orange-green than that of its ally.

The male has the crown of the head, cheeks and chin beautiful shining blue; back, wing- and tail-coverts rich golden; wings purplish-brown; tail steel-blue glossed with green; under surface glittering golden-green; bill red, with a darker tip.

The female has all the upper surface greenish-bronze; wings purplish-brown; tail steel-blue, glossed with bronze on the basal two-thirds of the feathers, and tipped, especially the outer one, with grey; under surface white, spotted on the throat and flanks with glittering bronzy-green; under tail-coverts grey; bill red, with a darker tip.

The Plate represents the sexes of the size of life.



EUCEPHALA SMARAGDOCÆRULEA, *Gould*

J.Gould and H.C.Richter del. et lith.

Hullmandel & Walton Imp.

EUCEPHALA SMARAGDO-CÆRULEA, *Gould.*

Green and Blue Sapphire.

Augasma smaragdineum, Gould in Proc. of Zool. Soc., part xxviii. p. 305.

It is to Mr. Reeves of Rio de Janeiro that I am indebted for a specimen of this rare species of Humming-Bird, of which I have as yet seen but two examples; the one in my own collection, and another in that of M. Verreaux of Paris. Mr. Reeves states that the bird inhabits Novo Friburgo, and that the specimen he sent me was killed on the skirts of the virgin forest. This species forms another link in the chain of evidence which assures us that many new Humming-Birds are yet to be found in the far-distant and unexplored interior of the great country of Brazil; for if we find so fine a bird as the present inhabiting a district but a short distance from the capital, where man is widely spread and daily engaged in collecting specimens, no doubt many other species will be discovered when the country is more closely searched.

It will be seen that I first described this species in the 'Proceedings of the Zoological Society' for 1860, and that I therein proposed for it the generic term of *Augasma*; in the present work, however, I retain it under the name of *Eucephala*. We really have not sufficient examples of this and one or two other nearly allied Humming-Birds to enable us to determine whether they should be generically separated or not.

This elegantly formed bird is about the size of *Thalurania furcata*; it is therefore a rather large species. Those who are acquainted with the *T. chlorocephala* of M. Bourcier will find in this a very near ally; I have not the least doubt, however, of its being quite distinct. In M. Verreaux's specimen the white tippings of the outer tail-feathers are nearly obsolete, while in mine they are conspicuous; in my specimen, also, the two middle tail-feathers are marked with green on their upper surface, while in M. Verreaux's (which I believe to be an older bird than mine) these feathers are uniform in colour throughout.

Having only seen two specimens, I cannot of course say whether the sexes offer any difference in the colouring of their plumage and other external characters.

Crown of the head and throat glittering greenish blue, imperceptibly passing into the glittering green of the breast; back of the neck and upper surface golden green; upper tail-coverts grass-green; under tail-coverts green, inclining to purple on some of the feathers; thighs brown; tail bluish black, the two outer feathers on each side slightly tipped with white; bill black, with the exception of the basal half of the under mandible, which is flesh-colour.

The figures are of the natural size. The plant is the *Lepageria rosea*.



EUCEPHALA CHLOROCEPHALA.

J.Gould and H.C.Fichter, del et lith.

Hullmandel & Walton Imp.

EUCEPHALA CHLOROCEPHALA.

Green-headed Sapphire.

Hylocharis chlorocephala, Bourc. in Rev. et Mag. de Zool. 1854, p. 457.
——— *chlorocephalus*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.
Agyrtria chlorocephala, Reich. Troch. Enum., p. 7.
Lepidopyga chlorocephala, Cab. Mus. Hein., Theil iii. p. 40, note.

This species has some characters in common with the one I have called *Eucephalas maragdo-cærulea*, but it differs from that bird in several particulars of sufficient importance to warrant its being regarded as distinct: in the first place, there is no blue whatever on the chin and upper part of the breast, those parts being clear green like the remainder of the under surface; in the next, the under tail-coverts are white with a stain of olive-brown in the centre of each feather, while the same feathers in the *E. smaragdo-cærulea* are green; and lastly, the upper tail-coverts are bronzy brown in the present bird, and bright green, even brighter than that of the back, in the other.

The *Eucephala chlorocephala* is a very rare bird, and its native country is I believe at present unknown; for although M. Bourcier states that it flies in the environs of Guaranda in Ecuador, I think that gentleman must have been misinformed on this point, and that in all probability the bird inhabits Brazil; but of this I am of course uncertain.

Of its habits and economy nothing has been recorded; nor is it even known whether any difference occurs in the outward appearance of the two sexes.

Crown of the head bluish grass-green; all the upper surface and wing-coverts bronzy green; wings purplish brown; upper tail-coverts rich coppery bronze; tail uniform dark steel-blue; chin, throat, and abdomen shining grass-green; thighs white; under tail-coverts dark olive broadly margined with white; bill black; base of the under mandible fleshy.

The figures are of the natural size. The plant is the *Sciodacalyx Warszewiczii*.



EUCEPHALA CÆRULEO-LAVATA, *Gould.*

J.Gould and H.C.Richter del.et lith.

Hullmandel & Walton Imp.

EUCEPHALA CÆRULEO-LAVATA, *Gould.*

Reeves's Sapphire.

Eucephala cæruleo-lavata, Gould in Proc. of Zool. Soc., part xxviii. p. 306.

Among the numerous persons whose acquaintance and friendship I have had the pleasure of making during the progress of the present work, no one is more highly valued by me than Mr. Thomas Reeves of Rio de Janeiro, a gentleman who has at all times most liberally furnished me with whatever information he could acquire respecting the species inhabiting Brazil, and moreover enriched my collection with some species I could not have procured elsewhere; among which must be enumerated a very fine example of the bird figured on the annexed Plate. This new and interesting bird Mr. Reeves informs me is found at St. Paul's, and this unfortunately is all that he is enabled to tell me respecting it. This example is the only one I have seen.

The *Eucephala cæruleo-lavata* is a stout and rather large species for a Humming-Bird, and differs widely from every other that has come under my notice; in its proportions it may be said to be perfect; its bill being moderate in size, and its tail, which is slightly forked, well balanced when compared with its body and wings; for its colouring I must refer my readers to the accompanying figures and the following detailed description.

I am not quite satisfied that a place in the genus *Eucephala* is the proper position for this bird among the Trochilidæ, and I feel that I might, without overstepping the bounds of propriety, have constituted it the type of a new genus.

Crown of the head greenish blue, not very brilliant, but having a few conspicuous small bright-blue feathers intermingled; throat and chest bright greenish blue, passing into purer green on the flanks; back of the neck, and back, deep grass-green; wings purplish brown; upper tail-coverts bronzy orange; under tail-coverts bronzy purplish brown; two middle tail-feathers deep purplish bronze; the next on each side is washed with bronze on its outer margin; the remaining feathers purplish black; thighs greyish white; the bill appears to have been reddish flesh-colour at the base of both mandibles and black at the tip.

The figures are of the natural size. The plant is the *Nematanthus ionæma*.



EUCEPHALA HYPOCYANEA, *Gould*

J.Gould and H.C.Richter del. et lith.

Hullmandel & Walton Imp.

EUCEPHALA HYPOCYANEA, *Gould.*

Blue-breasted Sapphire.

Eucephala hypocyanea, Gould in Proc. of Zool. Soc., part xxviii. p. 306.

This is a very small but well-marked species. The specimens from which my figures and description are taken are undoubtedly adult, and there is no other Humming-Bird known to me with which it can be confounded. Its beautiful shining blue breast renders it a bird of considerable beauty, and its dark rich coppery-red upper tail-coverts is a character which the Trochilidist should not overlook when comparing it with any other species; it must be understood also that the blue of the throat and breast is confined to those parts, while the crown of the head and all the upper surface are uniform deep green.

Plate 49 of Lesson's 'Histoire Naturelle des Oiseaux Mouches' appears to have been taken from a bird of this kind; but, unless we could see the type-specimen of that author, we cannot be certain that it represents this species; and even if it does, the term *bicolor* proposed by him is surely inappropriate.

I have only seen a single specimen of this bird, the native country of which is unknown to me; in all probability Brazil is its habitat.

Crown of the head, back of the neck, back and flanks dull green; throat and chest brilliant blue, passing into glittering green on the centre of the abdomen; wings purplish brown; upper tail-coverts reddish bronze; under tail-coverts brownish black with bronzy tips; tail steel-black; thighs brown; upper mandible black; basal two-thirds of the under mandible flesh-colour, the apical third black.

The figures are of the size of life. The plant is the *Billbergia Wetherelli.*



EUCEPHALA CÆRULEA.

J. Gould and H.C. Richter, del et lith.

Hullmandel & Walton, Imp.

EUCEPHALA CÆRULEA.

Blue-chinned Sapphire.

Trochilus cæruleus, Vieill. Nouv. Dict. d'Hist. Nat., tom. vii. p. 361.—Ib. Ency. Méth. Orn., part 2. p. 563.

L'Oiseau-mouche à gosier bleu, Aud. et Vieill. Ois. dor., tom. i. p. 82. pl. 40.—Sonn. Edit. Buff. Hist. Nat. des Ois., tom. liii. p. 829.—Ib. Sonn. Edit., tom. xvii. p. 186.

Ornismya Audebertii, Less. Hist. Nat. des Ois. Mou., pp. xxx, 164. pl. 51.—Ib. Traité d'Orn., p. 281.—Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xxxvii.—Bourc. Ann. de la Soc. Sci. de Lyon, tom. v. 1842, p. 310. pl. 16.

Hylocharis cærulea, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 34.

——— *cæruleus*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.

Thaumatias caeruleus, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 12.

Chlorestes coerulea, Reich. Aufz. der Col., p. 7.

This species is known to scientific ornithologists by two specific names—*cærulea* and *Audeberti*; the former of which, having the priority, is the one adopted in the present work.

The *Eucephala cærulea* may be stated to be one of the very commonest of the Trochilidæ, hundreds, nay thousands, being annually sent to Europe, and mounted under glass shades for ornamental purposes. As may be supposed, these great numbers do not all come from the same source: some are sent from Brazil, others from Cayenne, and others from the island of Trinidad. I must here remark that there are two very well-marked varieties of this bird, indicated by the greater or lesser amount of blue on the throat; in all other respects they closely assimilate. The countries favourable to the existence of the variety with the deep blue colouring of the chin—the one figured on the accompanying Plate—are, French Guiana, Cayenne, Para, and the islands of Tobago and Trinidad; while the Antilles, Venezuela, and the borders of the Chamacures, a tributary of the Amazon on the eastern dip of the Andes, are as favourable to the other. The specimens I possess from the latter locality were procured by Mr. Hauxwell, while my Venezuelan examples were collected by the late Mr. Dyson.

Mr. William Tucker informs me that in Trinidad it is principally found in the large woods, but is sometimes met with in the more open parts of the country and on the pasture lands; and that it frequents flowers of all kinds, but appears to be especially partial to those of the *Bois immortel*.

Mr. Reeves states, that though this species is common at Bahia it is very rare in the province of Rio de Janeiro.

The nest and eggs of this bird have been figured by M. Bourcier in the fifth volume of the "Annales des Sciences Physiques, &c., de Lyon," and is accompanied by the following description:—

"Ce nid représente un demi-ovale obliquement coupé; il est formé d'un mélange du duvet cotonneux que contiennent les capsules du fromager à fruit rond (*Bombax globosum*), et de celui que fournit le Baobab (*Adansonia digitata*), vulgairement appellé *Pain de singe*. Sa paroi externe, à laquelle adhèrent quelques corps étrangers, est recouverte d'un léger réseau de fils d'araignées.

"Ce nid était plaqué vers l'extrémité de la page inférieure d'une feuille de Bambou, dont la plicature lui offrait un abri contre les rayons du soleil et contre la pluie. Dans sa cavité se trouvaient deux œufs blancs et de forme cylindrique."

The *Eucephala cærulea* is a bird of great beauty, and differs from most others in the depth of the green colouring of the chest and under surface, which it is quite impossible to represent in a drawing. The female differs in the lighter colouring of the green of the upper surface and in the almost white throat and abdomen, the former, however, as well as the flanks, being beautifully spotted with glittering green; the outer tail-feathers also of this sex are tipped with greyish-white.

The male has the crown and sides of the head, the upper surface of the body, wing- and tail-coverts deep grass-green; wings dark purplish-brown; tail dark steel-blue, with green reflexions; chin a deep shining blue; all the under surface dark glittering green; upper mandible dark brown; under mandible reddish flesh-colour.

The female has the head and all the upper surface bronzy-green; wings and tail as in the male, except that the outer feather of the latter is tipped with grey; under surface white, with a spot of glittering green at the tips of the feathers of the throat and flanks; under tail-coverts green.

The figures in the accompanying Plate are intended to represent the sexes of the size of life, on a plant the botanical name of which is *Eugenia Brasiliensis*.



PANTERPE INSIGNIS, *Cab.*

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

PANTERPE INSIGNIS, *Cab.*

Costa-Rican Humming-Bird.

Panterpe insignis, Cab. Mus. Hein., Theil iii. p. 43, note.

It has fallen to the lot of the well-known Berlin ornithologist, Dr. Cabanis, to make known to science the very distinct and beautiful species of Humming-Bird figured on the opposite Plate. In point of affinity, I know of no other species with which it can be compared; for it is, in fact, both generically and specifically distinct from every other member of the extensive family to which it pertains. I believe that the single specimen from which Dr. Cabanis took his characters and description is the only one which has yet reached Berlin; this individual was procured in Costa Rica by Dr. Hoffmann, a gentleman who has done so much to make us acquainted with the natural productions of that part of South America, but who I regret to say has passed away from among us.

A glance at the accompanying Plate, in which the figures are about the size of life, perhaps a trifle larger, will give an accurate idea of the bird both as to form and colouring. I am greatly indebted to Dr. Peters, the Director of the Zoological Museum of Berlin, for his kindness in permitting this ornithological rarity to be sent to me in London, in order that I might be enabled to enrich the present work with a figure of it; my thanks are also due to Mr. Ferdinand Heine, for a copy of the third part of the "Museum Heineanum," in which the species has been described by Dr. Cabanis.

Crown of the head rich deep shining blue; back and sides of the neck, all the upper surface, wing-coverts, flanks, lower part of the abdomen, and under tail-coverts bronzy green, changing to deep blue on the upper tail-coverts; wings purplish brown; tail black with steel-blue reflexions; throat rich deep scarlet, bordered on the sides with fine yellow; centre of the breast and upper part of the abdomen deep blue; thighs black; under tail-coverts bright bluish green; bill black; base of under mandible brownish.

The plant is the *Begonia biserrata*.



JULIAMYA TYPICA.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

JULIAMYA TYPICA.

Juliamya.

Ornismyia Julie, Bourc. Rev. Zool. 1842, p. 373.
Ornismya Juliæ, Bourc. Ann. Sci. Phys. &c. de Lyon, 1842, p. 345. pl. 21.
Hylocharis Juliæ, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 24.
Damophila Julia, Reich. Auf. der Col., p. 7.
Juliamyia typica, Bonap. Rev. Zool. 1854, p. 255.

In the rounded and almost cuneate form of the tail, this bird differs from nearly all the known species of Humming-birds; it has therefore been made the type of a genus under the title of *Juliamya*. It is one of those species which have been a puzzle to me, and I doubt not to all other Trochilidists; some of the specimens having the crown as well as the throat and neck glittering metallic green, while in others the throat and neck only are so coloured, the crown of the head being of the same dull green as the remainder of the upper plumage; in both cases the individuals appear to be fully adult, and otherwise coloured precisely alike. It is not likely that the differences indicated are due to sex, since specimens in a totally different state of plumage, and which are doubtless females, are frequently sent with them from the same locality; it may be that the examples with the glittering crown are very old males.

The *Juliamya typica* enjoys a wide range of habitat, extending from the environs of Bogota to Ecuador; from both extremes, as well as from the intermediate countries, I have received examples. M. Bourcier procured it at Tunja, and I am indebted to Professor Jameson for two examples from the neighbourhood of Guayaquil. Specimens were also brought to this country by the late M. De Lattre; and I observe that some of these, like those procured by other collectors, have the glittering crown, and others not; in either state they are very beautiful, and the species may be considered as one of the most attractive of the smaller Humming-birds.

M. Bourcier dedicated this species to Madame Mulsant, who inspired her husband's "Lettres à Julie sur l'Entomologie."

The male in one state has the crown, sides of the neck and throat glittering grass-green; all the upper surface and wing-coverts green, passing into bronzy green on the upper tail-coverts; wings purplish brown; tail steely black; abdomen rich deep blue; under tail-coverts bluish black; upper mandible and point of the lower mandible black; the base of the latter flesh-colour.

In another state the male has the head of the same colour as the remainder of the upper surface, the throat only being glittering green.

The young male has the upper surface similar to the adult male last described, but the lateral tail-feathers are tipped with grey; the under surface is greyish with spangles of glittering green on the throat, and of rich blue on the upper part of the abdomen.

The female resembles the young male in the colouring of the upper surface and of the tail; her under surface is greyish white, washed with green on the sides of the neck and flanks.

The Plate represents two males in the different states described, and a female of the size of life.



CIRCE LATIROSTRIS.

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

CIRCE LATIROSTRIS.

Circe.

Cynanthus latirostris, Swains. in Phil. Mag. 1827, p. 441.
Trochilus Circe, Bourc.
Sapphironia circe, Bonap. Rev. et Mag. de Zool. 1854, p. 256.
Trochilus Schimperi, Sauc. MSS.—Reich. Aufz. der Col. Ind., p. 21.

A very common species, the synonymy of which has much perplexed me: on the Continent it is very generally known by the name of *Circe*, a term applied to it by M. Bourcier: my friend Saucerotte has also given the name of *Schimperi* to it in his MSS., an appellation which has unhappily found its way into our scientific lists of Humming-birds; I say unhappily, because both *Schimperi* and *Circe* must give place to Swainson's older name of *latirostris*; but what could have induced this latter author to place the bird in the genus *Cynanthus*, I cannot imagine. The following is his description, which I give in his own words, in order that those Trochilidists who may not have the "Philosophical Magazine" at hand may satisfy themselves as to its identity. I may mention that the original of Swainson's description still exists, and is in the possession of John Taylor, Esq.

"Green, beneath bluish; chin and throat sapphire-blue; tail moderate, slightly forked, bluish-black; base of the bill depressed, red.

"Total length, $3\frac{1}{2}$; bill, 1; wings, $2\frac{2}{10}$; tail (outer feathers), $1\frac{2}{10}$."

I have tried to find a place for this bird in one or other of the already established genera of this great group of birds, but the search not having been attended with a satisfactory result, I have been induced to change M. Bourcier's name of *Circe* into a generic appellation, and to retain Swainson's term of *latirostris* as its specific designation.

The high table-lands of Mexico would appear to be the native habitat of this species, since it is from thence alone that I have received specimens. These, as well as most of the others dispersed in European collections, were procured by the late Signor Floresi.

The sexes, as will be seen on reference to the accompanying Plate, differ very considerably, the under surface of the female being brownish vinous-grey, while the male has the same part sapphire-blue and golden-green.

The male has the head, all the upper surface, wing- and tail-coverts, and under surface of the body shining golden-green, with a tinge of blue on the abdomen; chin and throat sapphire-blue; tail steel-blue, all but the two outer feathers on each side tipped with grey; under tail-coverts white; bill red at the base, black at the tip.

The young male is less brilliantly coloured, and has the under surface brownish-grey, with a few of the sapphire-blue feathers on the centre of the throat.

The female has the colouring of the upper surface, wings and tail similar to that of the male; under surface uniform brownish or vinous-grey; two centre tail-feathers bronzy-green; the three next on each side bronzy-green at the base, then black, and tipped with grey; the outer one grey at the base, then black, and tipped with greyish-white.

The Plate represents the birds of the natural size.



CIRCE DOUBLEDAYI.

J.Gould and H.C.Richter del et lith.

Hullmandel & Walton Imp.

CIRCE DOUBLEDAYI.

Doubleday's Humming-Bird.

Trochilus Doubledayi, Bourc. in Proc. of Zool. Soc., part xv. p. 46.—Ib. in Rev. Zool. 1847, p. 259.
Thaumatias doubledayi, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 11.
Cyanophaia Doubledayi, Reichenb. Auf. der Col., p. 10.
Hylocharis Doubledayi, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 32.
Sapphironia doubledayi, Bonap. Rev. et Mag. de Zool. 1854, p. 256.
Trochilus Lereboulleti, Sauc. MSS.

So far as my knowledge extends, two specimens only of this bird have as yet reached Europe; one of these is in the collection formed by the late George Loddiges, the other in my own. It is a bird of great interest to me, since it happens to be a species which will not clash with any other: I mean, has no near ally with which it can be confounded. It is true that the *Circe latirostris* has a similarly marked tail, and also a blue breast, but it is destitute of the glittering bluish-green crown; and it is moreover fully a third larger than the present bird.

When M. Bourcier described the *Circe Doubledayi*, no satisfactory information was on record as to the country of which it is a native, and the Rio Negro was given as the one in which it was presumed it might be found; but that part of South America is not, I believe, the locality in which it may be looked for; like the *Circe latirostris*, it will, I think, prove to be a native of the more northern country of Mexico. I have two reasons for believing this: in the first place, all the Humming-Birds with obscure tippings to their tails, such as *latirostris*, *Caniveti*, *auriceps*, &c., are denizens of that country; and in the second, the specimen in my collection, which was kindly given to me by my warm-hearted friend Saucerotte, has the words "Chimantla, Mexico," written on the label attached to it.

It will be seen, by the above list of synonyms, that I have found it necessary to include therein the specific name of *Lereboulleti*, proposed for this species by Dr. Saucerotte; that name is attached to the specimen above mentioned,—a circumstance which enables me satisfactorily to determine that *Lereboulleti* of Saucerotte and *Doubledayi* of Bourcier are identical; the latter name, having the priority, is necessarily the one adopted.

In naming this bird after one who has since departed, M. Bourcier was desirous of paying a just compliment to an able entomologist and most amiable man: the name of Doubleday is too well known among the workers in natural history to need any comments upon his many merits at my hands.

Crown of the head shining metallic bluish green; throat brilliant blue, passing into green on the breast; all the upper surface, wing-coverts, upper tail-coverts, and abdomen dark bronzy green; wings purplish brown; tail black, glossed with steel-blue and tipped with brownish grey, which lessens in extent as the feathers recede from the centre; under tail-coverts brown, edged with grey; bill apparently red at the base, with a darker tip.

The Plate represents a bird, which appears to be an adult male, of the size of life. The plant is the *Calliandra Harrisii*.



PHÆOPTILA SORDIDA, *Gould.*

J. Gould and H.C. Richter, del et lith.

Hullmandel & Walton, Imp.

PHÆOPTILA SORDIDA, *Gould.*

Dusky Humming-Bird.

Cyanomyia? sordida, Gould, Ann. and Mag. of Nat. Hist., 3rd ser. vol. iv. 1859, p. 97.
———— *sordida*, Sclat. in Proc. of Zool. Soc., part xxvii. p. 386.
Uranomitra sordida, Cab. Mus. Hein., Theil iii. p. 41, note.

Of this dull-coloured and sombre-looking Humming-Bird I have seen three examples, all of which I am sure are adult, and so much alike that they present no variation in colour; it is probable therefore that the sexes are precisely similar except in size, in which point they appear to differ. The native country of this species is the western side of Oaxaca in Mexico, whence they were received by M. Sallé of Paris. At first I considered the natural position of this bird to be among the *Cyanomyiæ*, and I accordingly described it under that generic title; but on reflection I have deemed it advisable to make it the type of a new genus, a step I am the more disposed to take from the circumstance of there being, I believe, a second species of this form from Bolaños in the Loddigesian collection.

In many species of Humming-Bird tufts of white feathers occupy the sides of the back, which white tufts fall gracefully over the crossed wing when the bird is alive and sitting on the branch of a tree; in the present species this character is more than usually conspicuous, as will be seen on reference to the accompanying Plate.

The male has the head and under surface greyish brown; behind the eye a spot of white; all the upper surface and the sides of the neck dull bronzy green; on each side of the back a conspicuous tuft of white; wings purplish brown; tail dark greenish bronze, approaching to black on the base of the under surface; under tail-coverts very pale brown with lighter edges; bill flesh-colour for seven-eighths from the base and dark at the tip.

The female is similar, but paler in colour.

The figures are of the natural size. The plant is the *Echinocactus visnagra*.



DAMOPHILA AMABILIS, *Gould.*

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton, Imp.

DAMOPHILA AMABILIS, *Gould.*

Black-throated Damophila.

Trochilus (— ?) *amabilis*, Gould in Proc. of Zool. Soc., part xix. p. 115.
Damophila amabilis, Reich. Auf. der Col., p. 7.
Juliamya amabilis, Bonap. Rev. Zool. 1854, p. 255.

It was not until long after that great emporium of novelties, Bogota, had begun to unfold its treasures to the scientific world, that we became acquainted with this pretty species of Humming-bird. Collection after collection had been received from thence for years; but it was not until 1851 that a single example of the *Damophila amabilis* made its appearance. It was from this specimen I took my description, and to which I gave the name. Since that period it has annually become more and more common, numerous specimens having been sent from the same locality, so that this bird which was unique in 1851 is now (1859) precisely the reverse. It is a species which, in the opinion of Dr. Reichenbach and the late Prince Charles L. Bonaparte, differs sufficiently from the other forms of the family to constitute it the type of a new genus; and accordingly the generic title of *Damophila* was proposed for it by the former, and *Juliamya* by the latter; fortunately it has not received a second specific appellation, and hence there is no difficulty with regard to its synonymy. The only information known respecting it, is that it is found in the neighbourhood of Santa Fé de Bogota. It will be seen that the female differs somewhat from the male in colour, particularly in the absence of the bright green of the crown and sides of the head.

The male has the crown of the head shining metallic green; chin black; breast beautiful violet-blue, with a line of lustrous green, commencing at the angle of the bill, passing down the sides of the neck; upper surface bronzy green; tail-coverts and central tail-feathers greenish bronze; lateral tail-feathers brownish black; wings purplish brown; under surface like the upper, but less brilliant; centre of the abdomen and under tail-coverts grey; upper mandible and tip of the lower mandible black, the base of the latter fleshy white.

The female has all the upper surface bronzy green; wings purplish brown; two middle tail-feathers bronze, the lateral feathers bronze at the base, then black and slightly tipped with grey; under surface dull brownish green, fading into grey on the centre of the abdomen and under tail-coverts.

The Plate represents both sexes of the natural size. The plant is the *Espeletia argentea*.



HYLOCHARIS SAPPHIRINUS.

J. Gould, and H. C. Richter, del. et lith.

Hullmandel & Walton, Imp.

HYLOCHARIS SAPPHIRINUS.

Red-throated Sapphire.

Trochilus Sapphirinus, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 496.—Lath. Ind. Orn., tom. i. p. 313.—Shaw, Gen. Zool., vol. viii. p. 324.—Jard. Nat. Lib. Humming-Birds, vol. i. p. 147. pl. 28.

Le Saphir, Buff. Hist. des Ois., tom. vi. p. 26.—Vieill. Ois. dor., tom. i. p. 73. pl. 35, and p. 106. pl. 58.

Sapphire Humming-Bird, Lath. Gen. Syn., tom. ii. p. 775.—Ib. Gen. Hist., vol. iv. p. 327.

Ornismya sapphirina, Less. Hist. Nat. des Ois. Mou., p. 172. pls. 55, 56, 57.—Ib. Les Troch., p. 53. pl. 14.

Hylocharis sapphirina, Gray and Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 36.

——— *sapphirinus*, Bonap. Consp. Gen. Av., p. 74, *Hylocharis*, sp. 1.

Trochilus fulvifrons, Lath. Ind. Orn. Supp., p. 39.

Orange-faced Humming-Bird, Lath. Gen. Syn. Supp., vol. ii. p. 172.

Sapphire Humming-Bird, var. A, Lath. Gen. Hist., vol. iv. p. 328.

The true habitat of this species is the eastern portion of Brazil, over which it would appear to be universally distributed, as I find in my collections specimens from the neighbourhood of Para on the Amazon, with others from Bahia, Rio de Janeiro, and Minas Geraes; and that this is not the limit of its range in either direction is more than probable.

My valued correspondent, Mr. Thomas Reeves of Rio de Janeiro, informs me that "it arrives in Rio during the months of July and August, and departs again in November; that, although it is not common, it cannot be said to be rare; that it frequents the sides of the forests, and at Novo Friburgo will occasionally enter the gardens, but in such situations is rather shy."

This species has a remarkably large fleshy red-coloured bill, much dilated at the base, and in some specimens denuded of the feathers at the base of the upper mandible in a truncate form, as if they had been pulled out to a certain distance in a straight line across the forehead: I notice this peculiarity, in order to lead those who may be favourably situated for observing them, to ascertain whether this may not be induced by some peculiarity in its habits analogous to the denudation of the face in some other birds.

I am indebted to Mr. Reeves for a nest and eggs of this species, accompanied by an accurate drawing of another example, which I have taken the liberty of copying in the accompanying Plate.

The nest is composed of a dull brown cottony vegetable material, bound together externally with green mosses, and decorated with numerous pieces of greyish-white lichens, dead leaves, portions of the glossy brown involucres of some composite plant and similar substances; the eggs, as usual, are white, and two in number, seven-sixteenths of an inch in length, by five-sixteenths of an inch in diameter. It would seem that the nest varies according to the nature of the materials at hand; the one figured being formed of a paler coloured substance, destitute of the lichens and moss, but decorated on its lower part with pendent, narrow, pale, greyish brown ribbon-like strips of the inner lining of the bark of trees.

The male has the head, upper surface, upper and under wing-coverts, flanks and abdomen rich deep shining green; chin rufous; fore part of the neck and the breast rich sapphirine blue, with violet reflexions; upper tail-coverts bronzy brown; tail-feathers chestnut, the two centre ones with a bronzy hue, the remainder edged with blackish brown; wings purple-brown; under tail-coverts light chestnut; bill fleshy red, except at the point, which is black; feet brown.

The female has the upper surface green as in the male, the crown approaching to brown; the throat pale rufous; only a trace of the blue on the throat; the under surface much paler, and fading into white on the centre of the abdomen; tail-feathers dark brown, the lateral ones tipped with greyish, and the middle feathers glossed with deep bronze.

The Plate represents both sexes of the natural size.



HYLOCHARIS LACTEA.

J. Gould and H. C. Richter, del. et lith.

Hullmandel & Walton, Imp.

HYLOCHARIS LACTEA.

Blue-breasted Sapphire.

Ornismya sapphirina, Less. Hist. Nat. des Ois. Mou., pp. xxix. and 172. pl. 56.
——— *lactea*, Less. Ind. Gén. et Syn. des Ois. du Gen. *Trochilus*, p. xxxviii.
Hylocharis lactea, Gray and Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 37.—Bonap. Consp. Gen. Av., p. 74, *Hylocharis*, sp. 2.
Cyanochloris lactea, Reich. Auf. der Col., p. 10.
Sapphironia lactea, Bonap. Rev. Zool. 1854, p. 256.

Lesson created great confusion when he figured this bird in his "Histoire Naturelle des Oiseaux Mouches" as the female of *Hylocharis sapphirinus*, for it has no reference whatever to that species; it is true that he corrected this error in a subsequent publication, the "Index Générale et Synoptique des Oiseaux du genre *Trochilus*," and there described the bird as distinct under the name of *Ornismya lactea*; but this latter work is but little known and rarely consulted. The native country of this species is the northern parts of Brazil, but over what extent of that country its range extends is not known: although tolerably common in our collections, it occurs less frequently than other species.

The *Hylocharis lactea* differs from the *H. sapphirinus* in the darker colouring of its upper mandible, in the absence of red on the chin, and especially in the black colouring of its tail, which with the under coverts are reddish chestnut in *H. sapphirinus*; the white mark down the centre of the abdomen in *H. lactea* also serves to distinguish it. Without resorting to dissection, it is impossible to say whether the female offers any great difference from the male in her colouring; in all probability her dress is very similar to that which characterizes the females of the other species of the genus.

Crown of the head, all the upper surface, and wing-coverts dull bronzy green, somewhat browner on the head; upper tail-coverts deeper bronze; wings purplish brown; tail black, glossed with bronze, and the lateral feathers slightly tipped with grey; throat and sides of the neck rich shining violet-blue; flanks green; centre of the abdomen, vent, and under tail-coverts white; upper mandible blackish brown; under mandible fleshy white; feet reddish brown.

The figures are of the natural size. The plant is the *Nymphæa Amazonum*.



HYLOCHARIS CYANEUS.

J.Gould, and H.C.Richter del. et lith.

Hullmandel & Walton, Imp.

HYLOCHARIS CYANEUS.

White-throated Sapphire.

Trochilus cyaneus, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxiii. p. 426.—Ib. Ency. Méth. Orn., part ii. p. 558.—Jard. Nat. Lib. Humming-Birds, vol. i. p. 107. pl. 7.
Ornismya cyanea, Less. Hist. Nat. des Ois. Mou., p. 199. pl. 71.—Supp. p. 143. pl. 23.
Hylocharis cyanea, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 31.
Thaumatias cyaneus, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 10.

This charming little bird, which is, I believe, strictly confined to the eastern part of Brazil, is very common in every district from Bahia to Rio de Janeiro; in which latter province Mr. Reeves informs me it may be seen at all seasons. During the month of April it frequents the gardens of the city, adding another to the many charms for which that interesting country is famed. I am not only indebted to Mr. Reeves for the above information, but also for the loan of a highly finished drawing of the nest and eggs of this little gem, fresh from nature, and which is faithfully copied in the accompanying Plate. The construction of the nests of birds, whether simple or complicated, at all times calls forth our admiration; but rarely has this feeling been more forcibly elicited than on the sight of the elegant and beautiful nest made by this species, for a fine example of which, the original of the drawing, I am also indebted to my valued correspondent. It is of a cup-shaped, lengthened form, and constructed of some white cottony substance intermingled with seeds of thistle-down, coated externally with bits of dried leaves, bound together with cobwebs, and decorated with woody fibres, ribbon-like strips of the inner coating of the bark of trees, and other similar materials; these, however, are not always alike, but appear to depend upon the nature of those conveniently at hand on the approach of the breeding season, no two nests being precisely alike in outward appearance, though similar in form. The eggs are two in number, and about three-eighths of an inch in length. It would be unjust to Mr. Reeves's artist were I to conclude my account of the nest of this species without mentioning in terms of approbation the beautiful and faithful manner in which he has represented this delicate structure.

Some naturalists are of opinion that the numerous specimens sent to Europe as *H. cyaneus*, constitute more than one species, and that those with a nearly uniform black bill are quite distinct from the true *cyanea*; I have endeavoured to ascertain how far this opinion may be correct, but I have not as yet been able satisfactorily to determine this point; and until more tangible differences are found to occur, I must consider them to be merely local varieties. Considerable difference occurs in the colouring of the sexes, the female being destitute of the rich blue on the head and throat so conspicuous in the male.

The adult male has the head, throat and breast rich deep blue, with a few of the feathers on the chin white; upper surface and wing-coverts green, passing into reddish bronze on the upper tail-coverts; wings purplish brown; tail bluish black; under surface green; bill fleshy red, deepening into black at the tip; feet brown.

The female has the head and upper surface green, passing into rich bronze on the lower part of the back and upper tail-coverts; wings and tail as in the male, except that the outer feathers of the latter are tipped with greyish; under surface grey, glossed with green on the sides, and the throat spotted with pale blue.

The accompanying Plate represents two males, a female, and a nest and eggs, all of the natural size. The little orchid is a species common to the woods of Brazil, in which the bird is found, but the name of which is unknown to me.



SAPPHIRONIA GOUDOTI.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

SAPPHIRONIA GOUDOTI.

Green-breasted Sapphironia.

Trochilus Goudoti, Bourc. in Rev. Zool. 1843, p. 100.—Ib. Ann. Sci. Phys. &c. de Lyon, 1843, p. 47.

Saucerottia goudoti, Bonap. Consp. Gen. Av., p. 77, *Saucerottia*, sp. 6.

Polytmus Goudoti, Gray and Mitch. Gen. of Birds, vol. i. p. 108, *Polytmus*, sp. 68.

Chalybura Goudotii, Reichenb. Auf. der Col., p. 10.

Hylocharis goudoti, Bonap. Rev. et Mag. de Zool. 1854, p. 255.—Sclat. in Proc. of Zool. Soc., part xxv. p. 17.

As will be seen on reference to the accompanying Plate, the *Sapphironia Goudoti* is a very elegantly formed bird, and its colouring is not less worthy of admiration, its throat, breast, and under surface being clothed with glittering metallic green. It will be noticed also, that in this instance I have departed from my general rule in not figuring the female; this omission is due to my not possessing a specimen to figure from: neither have I been able to see an example of this sex in any other collection, which is the more strange, since the male is very commonly met with; indeed, it is one of the birds sent in the greatest numbers from Bogota. That the female will differ from the opposite sex, and bear a general resemblance to the female of *Sapphironia cæruleogularis*, there can be little doubt. It not unfrequently happens that we receive numerous male examples of a species for years before a single female is transmitted, but sometimes the contrary occurs; indeed, even in their native country, one sex appears to be often found in numbers, to the exclusion of the other. This may account for our not having yet received the female of the present species; at the same time, it is, doubtless, the less attractive colouring of the female which prevents examples of that sex being skinned by the Indians, who are the principal collectors and preservers in the neighbourhood of Bogota.

M. Bourcier has named this species in honour of M. Goudot, who, by his researches in New Grenada, and the collections he obtained there, has done so much to promote the cause of natural science.

I trust that the single figure in the accompanying Plate will sufficiently illustrate this pretty bird, and that it will bear out what I have said as to the elegance of its form and the beauty of its colouring.

All the upper surface grass-green; under surface glittering green; wings purplish brown; tail-coverts bronzy green; tail purplish black, slightly washed with bronze; under tail-coverts green, narrowly fringed with white in some specimens, broadly fringed with white in others, and in others again these feathers are white, with a streak only of green down the centre; upper mandible and tip of the lower black, the basal two-thirds of the latter apparently flesh-colour.

The figure is of the natural size. The plant is the *Tropæolum umbellatum*.



SAPPHIRONIA CÆRULEOGULARIS, *Gould*

J.Gould and H.C.Richter, del. et lith.

Hullmandel & Walton, Imp.

SAPPHIRONIA CÆRULEOGULARIS, *Gould.*

Blue-throated Sapphironia.

Trochilus (——?) *cæruleogularis*, Gould in Proc. of Zool. Soc., part xviii. p. 163.
——— *Duchassaigni*, Bourc. Compt. Rend. de l'Acad. des Sci., tom. xxxii. p. 187.
Thalurania Cœlina, Bourc. Rev. et Mag. de Zool. 1856, p. 552.
Cyanochloris cæruleigularis, Reichenb. Auf. der Col., p. 10.
Sapphironia cæruleigularis, Bonap. Rev. et Mag. de Zool. 1854, p. 256.
Hylocharis (?) *cæruleigularis*, Sclat. in Proc. of Zool. Soc., part xxiv. p. 140.

I have not placed the *Trochilus Duchassaigni* and *Thalurania Cœlina* of M. Bourcier among the synonyms of the present species without due consideration and a careful comparison of the typical specimens one with the other. The *T. Duchassaigni* is a young male of the bird here represented which had not fully attained the blue colouring of the throat. The specific name *Cœlina* not having been given till a year later than my own of *cæruleogularis*, it must give place to that term; besides which, the bird is not a *Thalurania*.

In form, this species and *Sapphironia Goudoti* are precisely alike, and these birds form a minute but well-marked section of the *Trochilidæ*, the species of which are characterized by great elegance of form, as well as by the beauty of their colouring: the under tail-coverts of both species are very conspicuous and extremely pretty.

M. Verreaux has received this bird in tolerable abundance from Santa Martha; my own were obtained in Costa Rica, and M. Bourcier's from Panama; it is clear, therefore, that New Grenada, Panama, and Costa Rica are the countries in which this bird flies. Mr. Bridges informs us that it is found in the very streets of the town of David, feeding on the *Tamarindus Indicus* and orange-trees, and that, like all other Humming-Birds, it is very pugnacious, and constantly fighting with others of its species.

A marked difference is observable in the colouring of the sexes,—the female, although having the same lengthened form as the male, being devoid of the bright blue of the throat and the fine green of the abdomen—those parts being greyish white; these, as well as other differences, will be readily perceived on an inspection of the accompanying figures, or a perusal of the following descriptions:—

The male has the upper surface, shoulders, abdomen, and under tail-coverts grass-green; throat, sides of the neck and chest rich violet-blue; wings purplish brown; central tail-feathers bronzy green; lateral feathers purplish black; upper mandible and tip of the lower black, the basal portion of the latter ashy white; the under tail-coverts, which are largely developed, green, margined with silvery grey.

The female has the upper surface bronzy green; tail purplish black, the two central feathers glossed with bronze, the four lateral feathers on each side tipped with white; centre of the throat, abdomen, and under tail-coverts white.

The figures are those of the male and female of the size of life. The plant is the *Cuphea silenoïdes*.



SPORADINUS ELEGANS.

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

SPORADINUS ELEGANS.

St. Domingo Humming-Bird.

Trochilus elegans, Aud. et Vieill. Ois. Dor., vol. i. p. 32. pl. 14.
Ornismya Swainsonii, Less. Hist. Nat. des Ois. Mou., pp. xvii. 197. pl. 70.—Ib. Ind. Gen. et Syn. des Ois. du Gen. Trochilus, p. xxiii.
Hylocharis elegans, Gray and Mitch. Gen. of Birds, vol. civ., *Hylocharis*, sp. 18.
Lampornis elegans, Bonap. Consp. Gen. Av., p. 72, *Lampornis*, sp. 4.
Riccordia elegans, Reich. Auf. der Col., p. 8.
Sporadinus elegans, Bonap. Rev. Zool. 1854, p. 255.

This species was first described and well figured in the "Oiseaux Dorés" of MM. Audebert and Vieillot as long back as 1802, yet, strange to say, although its true habitat, and a brief account of its habits are there given, M. Lesson states in his "Histoire Naturelle des Oiseaux Mouches" that the bird is found in Brazil,—a statement as unfounded as it is unlikely.

"This bird," says Vieillot, "inhabits St. Domingo; it is rarely found near habitations, but is often met with on the borders of the great woods, where it perches in preference on the tops of the trees, and gives forth a song resembling that of the little Humming-bird. This beautiful species is rare; and I only procured two males, while flying round a cotton tree and examining its flowers."

The late exploration of St. Domingo, by M. Sallé, has furnished us with positive proofs of its being a denizen of that island, to which, without doubt, it is strictly confined, since from thence alone have specimens been received. M. Sallé's collection contained numerous examples of both sexes, shot in the interior of the island, in the neighbourhood of La Vega, and at Rancho Abajo, where he killed them while searching for their food on the flowers of the *Inga feculifera*?.

This bird differs in form sufficiently from every other known (except perhaps *Riccordi*), to warrant its separation into a new genus; and two names have accordingly been proposed for it, that of *Riccordia* by Dr. Reichenbach, and that of *Sporadinus* by the late Prince Charles L. Bonaparte: as will be seen, the latter appellation is the one I have adopted.

The *Sporadinus elegans*, as its specific name expresses, is a very gracefully formed bird, all the various parts of its structure being alike elegant in contour, and harmonious with each other.

It will be seen that more than the usual difference occurs in the colouring of the sexes: a more sombre garb than that in which the female is clothed can scarcely be imagined.

The male has the head, neck, all the upper and under surface of the body and the wing-coverts dark bronzy green; wings purplish brown; upper tail-coverts and tail purplish black; throat and sides of the neck shining golden-green, beneath which is a conspicuous spot of black; upper mandible black; under mandible black at the tip, the basal two-thirds being fleshy white.

The female has all the upper surface dull bronzy green; central tail-feathers dark bronzy green deepening into black towards the extremity, the lateral feathers grey at the base and at the tip, the intermediate portion being blackish brown glossed with green; under surface ashy brown, washed with green on the flanks.

The figures represent both sexes of the size of life. The plant is the *Pharbitis cathartica*.



SPORADINUS RICCORDI.

J.Gould and H.C.Richter del et lith.

Hullmandel & Walton Imp.

SPORADINUS RICCORDI.

Riccord's Humming-Bird.

Orthorhynchus Ricordi, Ramon de la Sagra, Hist. de Cuba, p. 128. tab. 21. fig. 2.
Ornismya Parzudhaki, Less. Rev. Zool. 1838, p. 315.
Sporadinus ricordi, Bonap. Rev. et Mag. de Zool. 1854, p. 255.
Hylocharis Ricordi, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 23.
Trochilus ricordi, Grev. Mag. de Zool. 1835, Ois., pls. 41, 42.—Bonap. Consp. Gen. Av., p. 81, *Trochilus*, sp. 2.
Riccordia Raimondi, Reichenb. Auf. der Col., p. 8.
Chlorestes riccordii, Gundl. in Cab. Journ. für Orn. 1856, tom. iv. p. 99.

I HAVE frequently had occasion to remark how limited are the areas affected by some species of this great group of birds, many being confined to even the smallest of the West Indian Islands; indeed, most of those islands are tenanted by species peculiar to each, and Cuba is not an exception to the rule,—two, at least, of the species which fly there are not to be found elsewhere. Besides being remarkable for the limited extent of its habitat, this species is rendered conspicuous by differing in structure from (with one exception) all the other members of the family; this difference of structure, however, is only appreciable by the Trochilidist and those who have paid much attention to the subject. The differences referred to principally consist in the long and forked form of the tail, and the peculiar shape of the feathers of which it is composed,—features which are found in one other species only, the *Sporadinus elegans*, a bird inhabiting the island of St. Domingo.

I have great pleasure in extracting a short note from the 'Journal für Ornithologie,' a publication of great merit and interest, issued by our German coadjutors under the superintendence of the learned ornithologist, M. Cabanis. The note is, I believe, from the pen of Dr. Gundlach, who states that the *Sporadinus Riccordi* is "a very common bird on the island of Cuba, which it never leaves throughout the year. I have found fresh-laid eggs in January, May, and September. I once found a nest that had probably served the same bird for years; it was, in this case, a nest built upon an old one, and, after this operation had been repeated for five or six nests, the whole structure had turned over on one side, a new nest had been built upon it, and a second again upon this. They nest, as I said above, almost throughout the year. The eggs of each brood are two in number, white, and are set upon for fourteen days before the young appear; when the latter come out of the eggs they are black, with some bright down upon the back. The very short diminutive beak, which is then rather broad than long, is whitish."

The following note respecting this species is from the pen of M. Alcide D'Orbigny, and is to be found in M. Ramon de la Sagra's 'Histoire de Cuba,' p. 29:—

"Far from migrating, like the Red Humming-Bird (*Trochilus colubris*), this is one of the stationary inhabitants of the island of Cuba, which it never leaves, and of which it is one of the most beautiful ornaments. The inhabitants (to imitate, doubtless, the sound which it makes whilst flying) give it the name of *Zun-Zun*. Interesting in its plumage and habits, its works are likewise not without merit. Artificially built, and often composed of wool from the silk which surrounds the seed of *Asclepias anasarica*, its nest is attached to the forks of young twigs; like that of all the Trochilidæ, it contains only one or two eggs, from which the young are produced, who, at their birth, have the beak very short."

Much difference occurs in the colouring of the sexes of this bird, but in form they are very similar,—the female having the same peculiarity in the shape of the tail.

For the loan of the fine female from which my figure of that sex was taken, I am indebted to the liberality of my friend M. Bourcier of Paris, my own collection not being graced with one; neither, so far as I am aware, is there one in any other collection in this country.

The entire plumage of the body of the male is bronzy green, the bronzy hue predominating on the head, and the green becoming very luminous on the throat and under surface; wings purplish brown; four central tail-feathers dark bronze, the remainder dark purplish black, glossed with bronze on their outer webs; under tail-coverts white, with a streak of brown down the centre; bill dark brown, except at the base of the under mandible, which appears to have been reddish.

The female has the crown of the head brown; all the upper surface, wing-coverts, tail-coverts, sides of the neck and flanks bronzy green; wings purplish brown; tail as in the male, but the bronzy hue somewhat greener; throat and centre of the abdomen pale buff; under tail-coverts buffy white.

The Plate represents both sexes of the size of life. The plant is the *Lacepedea insignis*.



SPORADINUS ? MAUGÆI.

J. Gould and H.C. Richter, del. et lith.

Walter & Cohn, Imp.

SPORADINUS? MAUGÆI.

Maugé's Humming-Bird.

Trochilus Maugæus, Vieill. Dict. Hist. Nat., tom. vii. p. .—Aud. et Vieill. Ois. dor., tom. i. pp. 77, 79, 80, and pls. 37, 38.—Bonn. et Vieill. Ency. Méth. Orn., part iii. p. 567.—Buff. Hist. Nat. des Ois., Sonn. édit., tom. liii. p. 237.

Ornismya Maugæi, Less. Hist. Nat. des Ois.-Mou., p. 194, pls. 68, 69.—Ind. Gen. et Syn. des Ois. du Genre Trochilus, p. xxii.

Trochilus Ourissia, auct. ?

It is very interesting to the ornithologist to observe that most of the West India Islands, particularly those of any extent, are tenanted by species of birds which are not found in the others. The *Sporadinus Maugæi* is a native of Porto Rico, and, as far as we yet know, is peculiar to that island; strange to say, however, no other specimens besides the two contained in the Museum of the Jardin des Plantes have ever reached Europe. Here, then, is an island that has not yet been visited by the ornithological collector; had it been, the bird would ere this have become common. As to affinity, the *S. Maugæi* is more nearly allied to the *S. Ricordi* than to any other; at the same time it differs in form, being intermediate between it and the long-tailed Mexican species to which I have applied the generic name of *Chlorostilbon*, or, rather, to those bearing that of *Chlorolampis*, of which the *C. auriceps* and *C. Caniveti* are typical examples. Its tail is still more forked than those of the latter, but not so much so as those of the former; but it differs from both in not having the conspicuous bands at the terminations of the central feathers. I think it necessary to go into these particulars because I have hinted elsewhere that probably some future ornithologist may think it requisite to assign to this bird a distinctive generic appellation.

The following short note and description are translated from Audebert and Vieillot's 'Oiseaux dorés,' above referred to :—

"This species has not yet, I believe, been described. Maugé being the first to make it known, I have given it his name. Its only habitat is one of those islands, Porto Rico, which by its position offers to our notice productions similar to those of St. Domingo. It is three inches and seven lines in length; the upper mandible is black, and the lower yellowish; the upper part of the body is of a beautiful golden green; the lower is of the same colour, but more brilliant, with blue and violet reflexions; the lower part of the belly is white; the feathers of the wings and of the tail are of a velvety black which changes into bluish violet; the lateral tail-feathers are fourteen lines in length; the others all diminish in length up to the intermediaries, which are the shortest; the wings when folded somewhat exceed the latter; the feet are black."

The following are my own notes on the colouring, taken during the present year, 1861, from the specimens in the Jardin des Plantes :—

"The male has the crown glittering green; upper surface dull grass-green, inclining to blue on the upper tail-coverts; throat and all the under surface glittering green, with a stain of blue on the chest; wings purplish brown; tail uniform steel-blue; under tail-coverts green; upper mandible black; under mandible reddish flesh-colour with a black tip.

"The female has the upper surface green; the under surface greyish white; upper surface, sides of the neck, and flanks green; two centre tail-feathers green, the rest greenish grey at the base, banded with steel-blue near the tip; the two outer feathers tipped with greyish white."

The figures represent the two sexes of the size of life. The plant is the *Dictyanthus Pavonii*.



CHLOROSTILBON AURICEPS, *Gould.*

J. Gould and H.C. Fischter, del. et lith.

Hullmandel & Walton, Imp.

CHLOROSTILBON AURICEPS, *Gould.*

Long-tailed Emerald.

Trochilus (——?) *auriceps*, Gould in Jard. Cont. to Orn. 1852, p. 137.

In placing this new and highly interesting species in the genus *Chlorostilbon*, I feel assured that I am assigning it to its natural position. A very regular gradation, with regard to the structure and form of the tail, occurs between the present bird and the other species intervening between it and the *C. prasinus* of Brazil, while in the form of the bill and in the glittering metallic colouring of the body they are as nearly alike as possible; and a still greater resemblance occurs in the females of all the species. It is a fact no less true than interesting, that the members of this genus from the countries lying northward of the Isthmus of Panama differ specifically from those found in Brazil and Columbia: and, as if to mark their separation still more strongly, they all possess a more or less forked tail, tipped or banded at the extremity of each feather with grey, a feature which is particularly conspicuous in *C. Caniveti* and the present species; the bifurcate form of the tail, too, appears to be carried to its maximum in the bird here represented, thereby rendering it of a particularly elegant and graceful contour.

The discovery of the *Chlorostilbon auriceps* is due to the researches of the late M. Floresi d'Areais, who obtained several examples of both sexes in Mexico, and which now grace my own collection; I regret to add, that the precise locality in which they were procured is unknown to me.

The male has the forehead and crown of the head of a glittering metallic golden hue; upper surface and wing-coverts golden-green; throat, and the whole of the under surface lustrous metallic green; wings purplish-brown; tail, which is deeply forked and longer than the body, purplish-black, all but the outer feather on each side obliquely tipped with greyish-green; bill reddish at the base, and black for the remainder of its length.

The female has the head, upper surface and flanks bronzy-green; wings purplish-brown; under surface dull grey; central tail-feathers shining green; the remainder, except the outer one on each side, green at the base, then black, and slightly tipped with grey; the outer feather on each side green at the base, then grey, next black, and lastly tipped with greyish-white.

The Plate represents the birds of the size of life.



CHLOROSTILBON CANIVETI.

J. Gould and H. C. Richter, del. & lith.

Hullmandel & Walton, Imp.

CHLOROSTILBON CANIVETI.

Canivet's Emerald.

Ornismya Canivetii, Less. Suppl. des Ois.-Mou., pp. 174, 177, pls. 37, 38.—Ib. Ind. Gen. et Syn. des Ois. du Gen. *Trochilus*, p. xxiii.—Ib. Rev. Zool. 1839, p. 15.
Thaumatias Caniveti, Bonap. Consp. Gen. Av., p. 78, *Thaumatias*, sp. 9.
Riccordia Canivetii, Reichenb. Auf. der Col., p. 8.
Sporadinus caniveti, Bonap. Rev. et Mag. de Zool. 1854, p. 255.—Sclat. in Proc. of Zool. Soc., part xxiv. p. 287.
Hylocharis Caniveti, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 19.
Chlorestes Haeberlinii, Reichenb. Auf. der Col., p. 7?
Chlorostilbon caneveti, Sclat. and Salv. in Ibis, vol. i. p. 130.

In no instance does false information as to locality more frequently occur than among the members of the great group of Humming-Birds, and thus the *Chlorostilbon Caniveti*, the bird here represented, has been described as an inhabitant of a country in which it has never existed. The bird figured by Lesson on the 38th plate of his 'Supplément' has usually been considered by more recent naturalists to be, as M. Lesson states, the young of this species; but I observe that Dr. Reichenbach considers it to be not only a new and distinct bird, but as belonging to a very different genus, and that, entertaining this impression, he has assigned it a new name, that of *Chlorestes Haeberlinii*. Now from this view I must dissent, at least in part: it is just possible that the plate in question may not represent the young of the present species, but it certainly does represent the young of a *Chlorostilbon*,—of what species, however, neither Dr. Reichenbach nor any living Trochilidist can determine unless he had an opportunity of examining the typical specimen from which the figure was taken; consequently the grounds for naming it as distinct are very slight indeed, and I have therefore placed Dr. Reichenbach's name among the synonyms to *C. Caniveti*, giving him the benefit of the doubt which exists in my mind as to his having come to a right conclusion. Enough, I am sure, has now been said upon this part of the history of the bird, which, after all, cannot be of interest to any one but the compiler of names and lists of species. It is time to say of what country it really is a native, and something about its habits and economy. Speaking of its habitat in a wide sense, it may be said to extend over Mexico, Guatemala, Honduras, and Costa Rica, as it is found in all, but I believe it is confined to the eastern parts of those countries; in Western Guatemala its place is supplied by the nearly-allied species which I have named *C. Osberti*—a bird which differs in its much smaller size rather than in any variation in its colouring. The country of Cordova, in Mexico, would appear to be a favourite locality of the *C. Caniveti*; indeed it would seem to be very common there, if we may judge by the numerous examples, together with their nests and eggs, which were brought from thence by M. Sallé. M. Lesson must have become aware of his having made a mistake in giving Brazil as the habitat of this bird, for in the 'Revue Zoologique' for 1839 he states that M. De Lattre had killed it at Kakamoakho in Mexico, but that it was rare in the neighbourhood of Jalapa. M. De Lattre informed him that it "leads a solitary life, either in the forests or by the borders of the little foot-paths, choosing one spot and wandering but little from it."

In its general contour this is a very elegant bird, its body, bill, wings and tail being all well-proportioned; the last-mentioned organ is ample and considerably forked, and has nearly all the feathers tipped with silvery grey, offering a contrast to the colours of the surrounding feathers; its crown, breast, and under surface are brilliant in the extreme, so much so as to nearly rival the same parts in *C. auriceps*, to which species it is more closely allied than to any other, but from which it may at all times be distinguished by its shorter and broader outer tail-feathers.

The male has the crown of the head rich golden; all the upper surface, wing- and tail-coverts rich golden green; wings pale purplish brown; tail deep purplish black, the central feathers tipped with grey, lessening in extent as they approach the external ones, which in some specimens are destitute of this mark; throat and under surface glittering grass-green, washed with a golden hue on the flanks and under tail-coverts; thighs white; bill coral-red at the base, darker at the tip.

The female has the crown golden brown; all the upper surface and flanks green; wings purplish brown; two centre tail-feathers green; the three next on each side are green at the base, the remainder of their length being purplish black, with a narrow edging of grey at the tip; the outer feather on each side is grey, crossed by a broad band of purplish black; behind the eye a patch of white; throat and under surface greyish white.

The young male I possess is similar to, but much less brilliant than the adult, and has a small spot of grey at the tip of the outer feathers of the tail.

The Plate represents two males and a female of the size of life. The plant is the *Pitcairnia macrocalyx*.



CHLOROSTILBON OSBERTI, *Gould.*

J. Gould & H.C. Richter del et lith.

Hullmandel & Walton, Imp.

CHLOROSTILBON OSBERTI, *Gould.*

Osbert's Emerald.

Chlorostilbon Osberti, Gould in Proc. of Zool. Soc., part xxviii. p. 309.—Salv. and Sclat. in Ibis, vol. ii. p. 40.—Salv. Ib. pp. 195, 263, 269, 271.

This little Humming-Bird has many characters in common with the *Chlorostilbon Caniveti*; it displays the same metallic brilliancy on the plumage of its under surface, and is nearly as fine on the crown; but if specimens of the *C. Osberti* from Dueñas are compared with examples of *C. Caniveti* from Mexico, it will be very evident that the two birds are distinct.

Independently of being of smaller size, its tail is less forked, and the feathers, instead of being conspicuously, are very faintly tipped with brown; in some specimens the central feathers are tipped with green; and it is a question whether this is not always the colour in freshly-moulted birds, and that the brown hue is only the result of exposure to light and air. It is just possible that there is another species of this form, of even smaller size than the present bird, inhabiting the Isthmus of Panama; but I really hesitate to describe a specimen I possess from thence until other examples shall have arrived and proved the truth of this supposition.

If I mistake not, the *Chlorostilbon Osberti* will be found to range over a very considerable extent of country; in all probability from Panama to Guatemala.

I have named this bird in honour of Mr. Osbert Salvin, a gentleman who has so praiseworthily exerted himself to make us more intimately acquainted with the birds of Guatemala, and whose notes referring to this species, which I give below, brief though they be, will be of interest:—

"A pair of this species resort to the flowers about our house at Dueñas.

"One specimen was shot on the Volcan de Fuego, at an altitude of about 5000 feet above the sea-level, the highest altitude at which I have yet observed it.

"During the months of August and September this species may be found among the trees on the south-eastern side of the lake."

In speaking of the brilliant colouring of the bills of another species of Humming-Bird, Mr. Salvin remarks, "I may mention that it appears to be due to the transparency of the outer film of the bill allowing the blood to show through, and not to any especial colouring-matter. This seems to be the case also in many other species, as in *Chlorostilbon Osberti*, *Heliopædica melanotis*," &c.

The *C. Osberti* is found at "Dueñas and San Gerónimo. Not uncommon at San Gerónimo."

A very considerable difference is observable in the colouring of the sexes; the female, although bearing a general resemblance to the female of *C. Caniveti*, being of even a still more sombre hue.

The male has the crown of the head glittering golden green; throat and all the under surface glittering grass-green; wing purplish black; tail black, the six central feathers terminated with a mark of brown, which is more conspicuous in some specimens than in others; in some also the two central feathers are tipped with green; bill coral-red at the base, black at the tip.

The female has the head greenish brown; all the upper surface shining green; wings purplish brown; tail dark bluish black, the two central feathers washed with green and the two lateral ones tipped with grey; these latter feathers, moreover, have an indication of a band of greenish grey near their base; under surface dull greyish buff.

The Plate represents both sexes of the size of life. The plant is the *Semeiandra grandiflora*.



CHLOROSTILBON ANGUSTIPENNIS.

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

CHLOROSTILBON ANGUSTIPENNIS.

Columbian Emerald.

Trochilus angustipennis, Fras. in Proc. of Zool. Soc., part viii. p. 18.
Hylocharis angustipennis, Gray and Mitch. Gen. of Birds, vol. i. p. 114, *Hylocharis*, sp. 21.
——— *chrysogaster*, Bourc. Rev. Zool. 1843, p. 101?—Ib. Ann. Soc. Sci. Phys. et Nat. Lyon, 1843, p. 40?
——— *chrysogaster*, Bonap. Consp. Gen. Av., tom. i. p. 74, *Hylocharis*, sp. 7?—Ib. Rev. et Mag. de Zool. 1854, p. 255?—Gray and Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 43?—Sclater in Proc. of Zool. Soc., part xxv. p. 17?

In attempting to investigate the little green Humming-Birds, the ornithologist enters upon a task of no ordinary difficulty. Many have been the days I have spent in endeavouring to correctly separate into species the birds known by the name of *chrysogaster*, *aurigaster*, and *angustipennis*, with, in every instance, anything but a satisfactory result; and, had I not had access to the typical specimens to which these terms had been applied, it would have been impossible to have achieved what I have done in the present work. Of one thing I am certain, namely, that the *angustipennis* of Fraser and the *chrysogaster* of M. Bourcier are one and the same bird; for I have the types of both now before me, and they do not differ in the slightest degree. M. Bourcier, I believe, considered his *chrysogaster* to differ from *angustipennis* in having a brilliant crown; but his type-specimen, with the name of *chrysogaster* written by his own hand, is destitute of brilliancy on that part; I am therefore induced to consider that both names have reference to the same species, and thus the law of priority compels me to adopt that of *angustipennis*, and sink *chrysogaster* to the rank of a synonym. As to the *aurigaster*, I am still in doubt. We really want better information respecting the little green Humming-Birds, and a larger number of specimens than we now possess, before the various species can be determined with accuracy; at present, we do not even know with certainty the female of the very common bird here represented; in all probability she will have all the under surface grey washed with green on the flanks, and a tail, unlike that of the male, with the two centre feathers green, the two next green at the base, then black, and white at the tip, while the two outer ones will probably be green at the base, succeeded by three nearly equal bands of grey, black, and greyish white. I have a specimen from Panama which answers to this description, and which I think may be the female of the present species; but I have not figured it, lest such should not be the case.

The *Chlorostilbon angustipennis* ranges over the whole of the Andean region from Panama to Bogota; it may, in fact, be said to inhabit the temperate portions of all the high lands of Columbia.

Crown of the head, all the upper surface, and wing-coverts golden bronze, passing into green on the upper tail-coverts; wings purplish brown; tail black glossed with dark green; throat luminous golden green, becoming of a richer and more golden hue on the sides of the neck, flanks, and abdomen; under tail-coverts brilliant grass-green; upper mandible black; lower mandible flesh colour at the base, black at the tip; feet blackish brown.

The figures are of the natural size.



CHLOROSTILBON PHÆTON.

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

CHLOROSTILBON PHAËTHON.

Glittering Emerald.

Trochilus phaëthon, Bourc. Rev. Zool. 1848, p. 274.
——— *phæton*, Gray and Mitch. Gen. of Birds, vol. iii. App. p. 300, App. to p. 103.
Chlorestes Phaëthon, Reich. Auf. der Col., p. 7.—Ib. Troch. Enum., p. 4.
Hylocharis phaëton, Bonap. Rev. et Mag. de Zool. 1854, p. 255.
——— *aureiventris*, Bonap. Rev. et Mag. de Zool. 1854, p. 255.
——— *similis*, Bonap. Consp. Gen. Av., tom. i. p. 74, *Hylocharis*, sp. 4?
Chlorolampis phaëthon, Cab. Mus. Hein., Theil iii. p. 48, note.
Trochilus flavifrons, Gould, Zool. of Beagle, part iii. Birds, p. 110.
——— *metallicus*, Gould, MS.
Ornismya aureiventris, D'Orb. and La Fresn. Syn. Av., p. 28.
Trochilis similis, Bourc.?

If we consider the metallic-plumaged Humming-Birds of Bolivia, Peru, and La Plata to be one and the same species, then this bird enjoys a range extending across the continent of South America from east to west. It is true that the specimens from the three localities above mentioned have received distinct specific appellations, but, except in size, they offer no marked difference. The bird frequenting the high lands of Bolivia was named *aureiventris* by MM. D'Orbigny and La Fresnaye; the Peruvian bird so common at Chuquesaca had the name *Phaëthon* assigned to it by M. Bourcier, and the one from La Plata that of *flavifrons*, by myself.

The typical specimen from which M. Bourcier took his description of *Phaëthon* is now before me; it is evidently the Chuquesacan bird, and is by far the largest in size when compared with the examples from the other localities mentioned; those from Monte Video, where specimens were procured by Mr. Darwin, are the next in size, and the *aureiventris* is the least; all are precisely alike in form and colour, their only difference being, as already mentioned, in their admeasurements.

My figures, which represent both sexes of the size of life, were taken from Chuquesacan birds. Time, and the acquisition of a greater number of specimens from every locality, can alone determine whether we are warranted in considering these birds as one or three species: what is the *Trochilis similis* of M. Bourcier?

The male has the head, all the upper surface and wing-coverts rich golden bronze, but inclining to green on the upper tail-coverts; wings purplish brown; tail black, glossed with deep green; throat and breast glittering emerald-green, merging into the glittering coppery bronze of the sides of the neck and abdomen; under tail-coverts green; bill apparently fleshy red at the base, with a darker tip.

The female is bronzy green above and grey beneath, washed with bronze on the flanks; wings purplish brown; tail bluish black, the two lateral feathers tipped with greyish white.

The Plate represents the two sexes of the natural size. The plant is the *Calliandra Tweediei*.



CHLOROSTILBONA PRASINA.

Gould and H.C. Richter, del et lith.

Hullmandel & Walton Imp

CHLOROSTILBON PRASINUS.

Brazilian Emerald.

No state of confusion can be greater than that which exists respecting the small green Humming Birds, and particularly as to which of them the terms *prasinus* and *atala* especially belong. The two birds commonly known by those names do not agree with the figures of the birds so called by M. Lesson, and indeed it is impossible to determine with certainty what birds he intended they should represent; I therefore propose to retain those names for the birds generally known among collectors by these appellations.

The true habitat of the bird here represented is the eastern part of Brazil, over which it ranges from the river Amazon to the latitude of Rio de Janeiro, in which latter province it is very abundant. I have in my possession three very different, apparently local, varieties of this bird; but as the difference consists in the tint of the colour alone, and not in their size or structure, I cannot regard them as specifically distinct. The specimens from the neighbourhood of the city of Rio de Janeiro are wholly metallic bluish green; those from the hilly parts of Minas Geraes have the head and sides of the neck of a golden lustre; while one sent to me by Mr. Reeves, and said to have been procured at Para, has the crown of the head, back and abdomen reddish bronze, the throat alone being green.

Mr. Reeves informs me that the *Chlorostilbon prasinus* remains in the neighbourhood of Rio the whole of the year, and is drest in its full plumage during the months of August and September; he also states that the open plains, the densest forests and the sides of rivers are alike resorted to; that the nest is suspended on reeds and ferns, and even on grasses; two or three being frequently placed within a few feet of each other, and in some instances two on the same branch, as figured in the accompanying Plate from examples sent to me by this gentleman.

Accompanying the brilliantly coloured birds which we know to be males, examples are frequently sent having the entire under surface of a uniform greyish brown, without any metallic brilliancy, and with the outer tail-feathers slightly tipped with white; these dull-coloured birds I have always regarded as females; but it is just possible that this sex sometimes assumes, especially in old age, the brilliant plumage of the male; this, however, is by no means certain, and it remains to be seen whether this opinion be or be not correct.

The male has the upper and under surface yellowish green, with a golden lustre on the crown of the head and the sides of the neck; wings purplish brown; tail black, glossed with steel-blue; throat brilliant grass-green; bill flesh-red at the base, darker towards the tip; feet reddish brown.

The upper surface of the female is bronzy green, passing into purer green on the upper tail-coverts; all the under surface greyish buff; tail black, glossed with steel-blue, the four middle feathers washed with green, and the two outer feathers on each side tipped with greyish buff.

The figure of the male in the accompanying Plate represents a specimen from Minas Geraes, of the natural size.



CHLOROSTILBON ATALA.

J. Gould and H.C. Richter, del et lith.

Hullmandel & Walton, Imp.

CHLOROSTILBON ATALA.

Atala's Emerald.

Ornismya atala, Less. Hist. Nat. des Troch., p. 115, pl. 42??
——— *prasina*, Less. Hist. Nat. des Ois.-Mou., p. 188, pl. 65?
Hylocharis atala, Gray and Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 47?
Saucerottia Atala, Reichenb. Auf. der Col., p. 7?
——— *atala*, Bonap. Consp. Gen. Av., p. 77, *Saucerottia*, sp. 4?
Trochilus mellisugus, Linn.?

The bird figured on the opposite Plate is a native of Trinidad, where it is very common. I also possess examples from Cayenne and Venezuela. I particularly mention that Trinidad is the country whence the specimens I have represented were brought, because the utmost confusion reigns among the names of the little green Humming-Birds: would that it were in my power to unravel this confusion! I trust some future Trochilidist may be more fortunate than myself, and that he will be able to tell the world what really are the species intended in the plates and descriptions of the older authors; no one would be more happy than I should be to see these knotty points satisfactorily elucidated. I have placed the old Linnæan name of *mellisugus* to this species with a mark of doubt, having been induced so to do by finding that name written, I believe by M. Bourcier, on one of the specimens in my collection; with a mark of doubt also I have given plates 42 and 65 of Lesson's 'Trochilidæ' and 'Oiseaux-Mouches.' I have mentioned the difficulty with which the subject is beset in my account of *Chlorostilbon prasinus*; I need not, then, further allude to it here.

M. Bourcier has described a species of this group under the name of *Trochilus Daphne*, which so closely resembles this bird as almost to induce a belief that it is identical with it; the *T. Daphne*, however, differs in having a blue tint of colour over the glittering green of the lower part of the throat and breast; it has also a less forked tail, and, moreover, is from a different locality—the upper parts of the Rio Negro and the eastern confines of Ecuador and Peru.

Mr. Tucker informs me that in Trinidad the *Chlorostilbon Atala* is found in the large open places, or natural savannahs, between the woods, that it is called the Savannah Sapphire, and that it makes a loud noise with its wings when flying.

The sexes differ very considerably in their colouring, the female having all those parts of the under surface buffy grey which are green in the male.

The male has the head, all the upper surface, and wing-coverts shining golden green, most brilliant on the head; throat and all the under surface glittering green; wings purplish brown; upper tail-coverts green; tail steely or bluish black; the bill appears to have been black.

The female has the upper surface of the same hue as her mate, but not so brilliant; a greyish mark behind the eye; all the under surface buffy grey; two centre tail-feathers green; the three next on each side green at the base and bluish black towards their extremities, which are slightly tipped with grey; the outer feather on each side bluish black, slightly washed with green at the base, and tipped with grey.

The Plate represents two males and a female, of the size of life. The plant is the *Stanhopea ecornuta*.



CHLOROSTILBON ALICE.

J.Gould and H.C.Fichter, del. et lith.

Hullmandel & Walton, Imp.

CHLOROSTILBON ALICIÆ.

Alice's Emerald.

Trochilus Alice, Bourc. et Muls. Rev. Zool. 1848, p. 274.—Gray and Mitch. Gen. of Birds, vol. iii., App. p. 30*a*, App. to p. 103.

Smaragdites Alice, Reichenb. Auf. der Col., p. 7.

Chlorostilbon alicia, Bonap. Rev. et Mag. de Zool. 1854, p. 255.

The *Chlorostilbon Aliciæ* is a pretty little species, inhabiting the Caraccas and the high lands of Columbia; collections sent from Bogota always contain examples. It is easily distinguished from every other member of the genus by its greenish-bronzy hue and the shortness of its tail-feathers; it is also conspicuous for the rich glittering golden green of the crown, throat, breast, and under surface of the body; both the upper and under surfaces of the tail, too, are bronze, with an intermingling of purple.

The sexes offer a more marked difference than usual, the female being entirely destitute of the glittering green feathers of the under surface; besides which, she has a larger tail, the three outer feathers of which are black in the centre, with grey tips. We have striking proofs that the bird so marked is the true female of this species; for the young males, at a certain age, are dressed in a particoloured plumage, portions of which are seen in both sexes. I have one young male in which the breast is grey, like that of the female, except that it is here and there spangled with golden green; in this example the three outer tail-feathers are tipped with grey, but the centre ones are green, and not black, as in the female; the female, too, is a somewhat larger bird, and has a longer bill than the male.

The male has the crown of the head and breast rich shining green; all the upper surface, wing-coverts, upper tail-coverts, abdomen, and under tail-coverts rich bronzy green; wings purplish brown; tail, both on the upper and the under surface, shining dark purplish green; bill black; feet dark brown.

A young male in my collection is bronzy green above, and greyish white, speckled or spangled with rich shining green, beneath; wings purplish brown; centre tail-feathers green; lateral feathers green at the base, then bluish black, and tipped with white; under tail-coverts buffy grey.

The female has the upper surface bronzy green, passing into pure green on the upper tail-coverts; under surface greyish white; central tail-feathers green; the lateral feathers green at the base, then black, and lastly tipped with grey, which increases in extent as the feathers recede from the centre.

The Plate represents two males and a female of the size of life. The plant is the *Barkeria elegans*.



CHLOROSTILBON PORTMANNI.

J.Gould and H.C.Richter del et lith.

Hullmandel & Walton Imp.

CHLOROSTILBON POORTMANI.

Poortman's Emerald.

Ornismya Poortmani, Bourc. in Rev. Zool. 1843, p. 2.
Hylocharis Portmanni, Gray and Mitch. Gen. of Birds, vol. i. p. 115, *Hylocharis*, sp. 48.—Sclat. in Proc. of Zool. Soc., part xxiii. p. 141.
——— *portmani*, Bonap. Consp. Gen. Av., p. 74, *Hylocharis*, sp. 11.
Chlorestes Poortmanni, Reichenb. Auf. der Col., p. 7.
Chlorostilbon poortmani, Bonap. Rev. et Mag. de Zool. 1854, p. 255.

If the term insignificant should ever be applied to this bird, it certainly cannot be employed when speaking of the lovely plant figured on the accompanying Plate. Now it may be asked, if the bird and the plant are ever in such close juxtaposition as I have represented them; to which I reply, that in all probability they are, though I have no actual evidence that such is the case; I know that the Humming-Birds examine individually most of the plants in the regions they frequent, whether in the woods or savannahs, and the chances are, therefore, that the *Victoria regia* is not unvisited by this bird during its peregrinations.

No one member of this little group of Humming-Birds is so diminutive as the present species, whose short tail, composed of ten narrow feathers, will at all times serve to distinguish it from its allies, the nearest of which is the *Chlorostilbon Aliciæ*. Both species inhabit the same part of America,—that is, Columbia and the country immediately to the eastward. We often receive examples from Bogota; indeed it may be said that all, or nearly all, the specimens sent to this country and to France are from thence. The same difference occurs in the colouring of the sexes of both species; the females having the under surface grey, instead of glittering green. The young males are all intermediate in their style of colouring, but have larger tails than the female.

Head golden orange; all the upper surface, wing- and tail-coverts reddish bronzy green; wings purplish brown; tail dark bronzy green, both on the upper and under surface; all the under surface, including the under tail-coverts, dull bronzy green; bill black; feet dark brown.

The female has the upper surface similarly coloured to that of the male, but far less brilliant; the under surface grey; the wings purplish brown; the centre tail-feathers green; the remainder green at the base, passing into black near the extremity, and tipped with greyish; under tail-coverts greyish brown.

The young male is similar to the female, but has the under surface spangled with golden green.

The Plate represents a male and a female of the natural size.



SMARAGDOCHRYSIS IRIDESCENS, *Gould.*

J. Gould and H.C. Richter, del. et lith. *Walter & Cohen, Imp.*

SMARAGDOCHRYSIS IRIDESCENS, *Gould.*

Iridescent Humming-Bird.

Calliphlox? iridescens, Gould in Proc. of Zool. Soc., part xxviii. p. 310.

During the progress of the present monograph I have repeatedly had the pleasure of offering my thanks to Thomas Reeves, Esq., of Rio de Janeiro, for the liberal manner in which he placed at my disposal the novelties pertaining to this group of birds which have from time to time come into his possession. This gentleman, who has resided in Rio for many years, has lost no opportunity of securing examples of every species that has been collected in that part of South America, which he has kindly forwarded to me for the furtherance of the present work. Of all these birds, none have been of greater interest to me than the one figured on the accompanying plate; and this interest has been much enhanced by the circumstance of the bird having been killed by Mr. Reeves himself during a visit to Novo Friburgo, a district skirting the virgin forests, about seventy miles from Rio. When he killed it, Mr. Reeves imagined it to be a curious variety of the *Calliphlox amethystina*; but this is not the case, for it differs so much from that species and all others, that I am even at a loss to know to what genus it is most nearly allied. For the present I have placed it near the *Chlorostilbontes*, as it more nearly resembles those birds in its style of colouring than any others; at the same time its delicate structure, diminutive wings, and deeply forked tail would lead to the conclusion that it is allied to the members of the genus *Calliphlox*. When additional examples have been procured and the female has become known to us, then, and then only, shall we be able to determine its proper situation.

The whole of the body, including the upper and under tail-coverts, iridescent pale green and light coppery red, most brilliant on the throat; the deeply forked tail steely dark brown, each feather tipped with a more bronzy or purplish hue, which is seen only in certain lights; upper mandible and the tip of the lower one black, the remainder of the latter apparently reddish flesh-colour.

Total length $3\frac{1}{4}$ inches; bill $\frac{3}{4}$; wing $1\frac{9}{16}$; tail $1\frac{1}{4}$.

The figures are of the size of life. The plant is the *Gesneria purpurea.*



PHLOGOPHILUS HEMILEUCURUS, *Gould.*

J. Gould and H.C. Richter, del. et lith. *Walter & Cohn, Imp.*

PHLOGOPHILUS HEMILEUCURUS, *Gould.*

Pied-tailed Humming-Bird.

Phlogophilus hemileucurus, Gould in Proc. of Zool. Soc., part xxviii. p. 310.

Besides the birds which I have described and figured in the present monograph, I have in my collection several which are either in a state of immaturity or in such a mutilated condition that I have not ventured to write or figure from such imperfect materials. I cannot, however, refrain from giving a figure of one which, although I am certain it is immature, exhibits so many distinctive characters that I have been induced to make it the type of a new genus. The only specimen I have seen has been kindly placed at my disposal by M. Bourcier, who, I believe, received it from the banks of the Napo. It differs so widely from every other known Humming-Bird that I really am unable to determine to which genus it is most nearly allied, its lengthened tarsi and singularly coloured tail rendering it quite distinct from every other member of the entire family; most probably it will be allied to the *Adelomyiæ*.

I look impatiently for more specimens of this bird, and am especially desirous of seeing the adult.

Crown of the head brownish green; back of the neck, upper surface, two middle tail-feathers, and the flanks grass-green; sides of the face and ear-coverts greenish brown; centre of the throat, chest, middle of the abdomen, and under tail-coverts white; tail rounded; the four lateral feathers on each side white, with an oblique band of black or blackish purple occupying the centre of each, this band of black extending along the margin of the two outer feathers to the tip, so that the inner web only is white; not so on the next, which is terminated with a large spot or tip of white; upper mandible black; under mandible flesh-colour; feet yellow.

Total length $3\frac{1}{2}$ inches; bill $\frac{3}{4}$; wing $2\frac{1}{8}$; tail $1\frac{1}{2}$.

The figures are of the size of life. The plant is the *Paphinia cristata*.

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