

This species is larger and more densely haired than *Pteropus edwardsii*, found in the same island; and I do not think that it can be an extraordinary variety of that species. It was sent to the collection during the Zambesi expedition.

PTEROPUS ELSEYII, sp. nov.

Fur short, close, uniform reddish brown; head paler and duller; neck, upper part of shoulders, and chest bright pale red bay; under-side of body reddish bay; sides of the body and near the shoulders pale yellowish.

Young. Back black, grey-washed; belly black brown; neck bay; head blackish grey.

Hab. North-east coast of Australia: Claremont Island (*John Macgillivray*, 1860; *Dr. J. R. Elsey*).

I name this species after my late friend Dr. Elsey, the Surgeon in one of the Australian Land Expeditions, who collected many specimens under great difficulties.

7. Descriptions of Eight New Species of Birds from Veragua.

By OSBERT SALVIN, M.A., F.Z.S., &c.

(Plates VII. & VIII.)

During the past year two collections of birds were forwarded to Mr. Godman and myself by Enrique Arcé from Veragua. One was made near Santiago de Veraguas, and the other near a small village called Santa Fé, which is described as being situated thirty miles nearer to Panamá. The two collections comprise 156 species of birds of various orders; nine of these appear to be new to science, eight of which I now describe.

Santa Fé is a mountainous district, and the climate temperate, from which I gather, and also from the character of some of the birds sent, that the elevation at which the greater part of the collection was made, was from 2000 to 4000 feet. There are no species peculiar to greater altitudes.

Arcé is now at Chiriqui, and I trust ere long to receive a collection from that district. As the few species that have been received thence are mostly of great interest, I have hopes that considerable additions will be made to our collections. Through the exertions of Arcé and the collectors who are enriching the Smithsonian Institution, this section of Central America bids fair to become one of the best-explored of any portion of the Neotropical region.

In drawing up the following diagnoses I have endeavoured to compare the species I describe with as many of their nearest allies as I have access to, thereby, I trust, rendering the task of identifying them less laborious and more certain. In this I have been greatly assisted by Dr. Sclater, and the use of the specimens in his rich collection.

1. CATHARUS GRISEICEPS, sp. n.

C. supra olivaceo-brunneus, capite toto cum collo griseis, pileo obscuriore: alis externe cinnamomeis, interne fuscis; cauda cinnamomea: subtus cinereus, gutture multo pallidiore: ventre medio et crisso albis: rostro aurantiaco, pedibus flavidis.

Long. tota 6 poll., alæ 3·5, caudæ 2·6, tarsi 1·25, rostri a rictu ·85.

Hab. in Veragua.

Obs. Affinis *C. melpomenæ* (Cab.), sed capite griseo, etc., facile distinguendus.

This species, at once distinguishable from *C. melpomene* and its allies, bears a closer resemblance to them than to the other grey-headed species, described (P. Z. S. 1864, p. 580) as *C. gracilirostris*, which has an entirely black bill and more slender tarsi. In the colour of its back it resembles *C. frantzii* (Cab. J. f. O. 1860, p. 323), specimens of which are in our collection from Costa Rica and Guatemala. The wings are, however, cinnamon-colour, resembling those of *C. melpomene*; but the shade is not so dark, nor so pure, being tinged with olivaceous. A specimen marked "male" has a small purely orange-yellow-coloured bill; while a female has a larger bill, the culmen of which, together with the part surrounding the nostrils, is brownish. Both appear to be quite adult. I believe this difference of colour and size to be a constant sexual character in adult species of *Catharus*, as it is in many of the true *Turdi*. The character holds in three dissected specimens of *C. melpomene* before me; two males have a small yellow bill, and one female a slightly larger bill which is brown above. The bill in all the *Turdidæ* is an uncertain character, being subject to very great variation in size.

This species makes the seventh of the genus *Catharus* found in Central America and Mexico, which district must clearly be considered the metropolis of the genus. Three other species occur in the north-west provinces of South America, viz. *C. aurantirostris*, Hartl. (perhaps the same as *C. melpomene*), *C. fuscater*, Lafr., and *C. maculatus*, ScL. This last species appears to be very closely allied to *C. dryas* (Gould). I have recently compared Dr. Sclater's types of *C. maculatus* with my specimens of *C. dryas* from Vera Paz. The contrast of the colouring of the back hardly exists, and the yellow tinge of the breast agrees in specimens of the same sex.

I strongly suspect, though I have no dissected specimens to prove it, that in the black-headed group (*Malacocichla*) of this genus the males are darker than the females. My specimens of *C. mexicanus* show a marked contrast in depth of colour on both upper and under parts.

The following is a list of the known species of *Catharus*, with the chief references:—

(1.) CATHARUS MELPOMENE (Cab.): Mus. Hein. 1850, p. 5; Sclater, P. Z. S. 1859, p. 323; Salvin, Ibis, 1860, p. 29; Baird, Rev. Am. Birds, pt. i. p. 7.

Hab. Mexico; Guatemala; Costa Rica.

(2.) CATHARUS AURANTIROSTRIS (Hartl.): Rev. Zool. 1850, p. 158; Contr. Orn. 1851, pl. 72. *C. immaculatus*, Bp. Consp. p. 278; Baird, Rev. Am. Birds, pt. i. p. 7.

Hab. Venezuela.

(3.) CATHARUS OCCIDENTALIS, Sclater, P. Z. S. 1859, p. 323; Baird, Rev. Am. Birds, pt. 1. p. 8.

Hab. Southern Mexico.

(4.) CATHARUS GRISEICEPS, Salvin (*vide supra*).

Hab. Veragua.

(5.) CATHARUS FRANTZII, Cab. J. f. O. 1860, p. 323; Baird, Rev. Am. Birds, pt. 1. p. 9.

Hab. Guatemala; Costa Rica.

(6.) CATHARUS GRACILIROSTRIS, Salvin, P. Z. S. 1864, p. 580.

Hab. Costa Rica (Volcan de Cartago).

(7.) CATHARUS MEXICANUS, Bp. Compt. Rend. xliii. p. 998, et Orn. Foss. p. 35; Sclater, P. Z. S. 1859, p. 324; Baird, Rev. Am. Birds, pt. 1. p. 11.

Hab. Mexico; Guatemala; Costa Rica.

(8.) CATHARUS FUSCATER (Lafr.): R. Z. 1845, p. 341; Sclater, P. Z. S. 1859, p. 324.

Hab. Ecuador.

(9.) CATHARUS DRYAS (Gould): P. Z. S. 1854, p. 285, pl. 75; Sclater, P. Z. S. 1859, p. 324; Baird, Rev. Am. Birds, pt. i. p. 10.

Hab. Guatemala.

(10.) CATHARUS MACULATUS, Sclater, P. Z. S. 1858, p. 64, et 1859, p. 324; Baird, Rev. Am. Birds, pt. i. p. 10.

Hab. Ecuador.

2. MICROCERCULUS LUSCINIA, sp. n.

Cyphorhinus philomela, Lawr. (nec Salv.) Ann. of N. Y. Lyc. vii. p. 467 (ex Panama).

Microcerculus philomela, Baird, Rev. Am. Birds, pt. i. p. 114 (partim).

M. supra castaneus, pileo et uropygio obscurioribus, hoc paulo rufescentiore: subtus gutture albido, tectricibus auricularibus et pectore cinereis: ventre medio cinereo, nigro et albo transversim lineato: corporis lateribus castaneis; alis et cauda fusco-nigris, tectricibus alaribus castaneo marginatis; rostro nigro, mandibulæ inferioris basi subtus albida: pedibus fusco-nigris.

Long. tota 4 poll., alæ 2·2, caudæ ·9, tarsi ·85, rostri a rictu ·85.

Hab. in prov. Veraguæ et Panamensi.

Obs. *M. philomelæ*, Salv. (P. Z. S. 1861, p. 202), ex Vera Pace,

affinis, sed dorso baud fasciato, gutture albido et corpore subtus non fuliginoso lavato, rostro quoque longiore differt.

The collection contains two specimens of this Wren, both of which agree with Prof. Baird's description (*l. c.*) of Mr. Lawrence's bird from Panama. All of them seem to differ considerably from the Vera Paz bird I described as *Cyphorhinus philomela*. I have therefore thought it necessary to distinguish this Veraguan form under a new name.

Through Dr. Sclater's kindness I have now before me his type specimens of *M. albigularis* (Sclater, P. Z. S. 1858, p. 67) (which certainly belongs here and not to *Pheugopedius*, as Prof. Baird asserts) and of *M. marginatus* (Sclater, P. Z. S. 1855, p. 145). I have also, besides the present bird, *M. philomela* and two specimens of the Cayenne *M. bambla* (Bodd.), making five species, being all that I am acquainted with of this group of Wrens.

Compared with *M. albigularis* the present bird presents great similarity of coloration; it wants, however, the black edges to the feathers of the upper plumage; or, to speak more correctly, it has these in a less degree; for in the new species there are exceedingly faint indications of black margins to the feathers of the upper surface. It also wants the white wing-band, and differs in this respect from *M. bambla*. The throat of *M. albigularis* is rather purer white, the legs yellowish instead of dark brown, and it is smaller in all its dimensions. *M. luscinia* bears very much the relationship to *M. albigularis* that *M. philomela* does to *M. bambla*. Having examined five specimens of *M. philomela*, all of which agree in every respect, I can hardly concur in Prof. Baird's suggestion that the bird I now describe is the adult of *M. philomela*. The bars on the under plumage are subterminal, and not terminal margins, the indication of first feathers. These markings are quite similar to those we find in *M. bambla*.

The nostrils of *Microcerculus* present peculiarities which seem to justify its generic separation certainly from *Heterorhina*, and also from *Cyphorhinus*. In *Microcerculus* the nostril is partially covered with a membrane, which, being convex along its unattached lower edge, meets the lower margin of the nasal cavity towards its anterior end, leaving the posterior end open and comma-shaped, the tail of the comma extending anteriorly. No septum or division is seen externally; but by raising the valvular membrane it appears. This septum, however, is perfectly free and unattached to the membrane of the nostril, and does not adhere to it as Prof. Baird states (with doubt). The perfect nostril never appears double. In *Scytalopus*, with which genus these Wrens have been confounded, the nasal tegument is an oval thickened membrane, so attached as to leave only a slit for the nostril along the lower edge of the nasal fossa.

In *Cyphorhinus* the nostril is circular and surrounded by a membrane.

In *Heterorhina* and also *Thryothorus* the nostril is open, a longitudinal septum showing a division; the nostril itself extends backwards from the anterior edge of the nasal fossa. Thus *Microcerculus*

differs from both in having a membrane partially covering the nostril. *Heterorhina* appears to be a section of *Thryothorus*, differing from it by its proportionately shorter tail and stronger legs. (See Baird's remarks on the subgeneric characters of the American Wrens.)

The subjoined list gives the chief references to the several members of this genus:—

(1.) MICROCERCULUS BAMBLA (Bodd.), ex Buff. Pl. Enl.

Cyphorhinus (Microcerculus) bambla, Scl. Cat. no. 120; ex Cayenna.

(2.) M. PHILOMELA, Salv. P. Z. S. 1861, p. 202 (nec Lawr., nec omnino Baird); ex Vera Pace.

(3.) M. ALBIGULARIS, Scl. P. Z. S. 1865, p. 67; Cat. no. 122; ex Fl. Napo.

(4.) M. LUSCINIA, Salv., ex Veragua et Panama.

Cyphorhinus philomela, Lawr., et *M. philomela*, Baird, Rev. Am. Birds, p. 114 (partim).

(5.) M. MARGINATUS, Scl. P. Z. S. 1855, p. 145; ex Peru et Bogota.

M. philomela is a wonderful songster; I have often listened to it; the note is higher and clearer than that of any bird I know.

3. EUPHONIA RUFIVERTEX, sp. n. (Pl. VII.)

♂. *E. supra nitenti-purpurascenti-nigra, pileo toto et fronte rufo-castaneis, hoc paulo flavidiore: loris, capitis lateribus et gutture purpurascenti-nigris: subtus flava, medialiter aurantiaca: crisso albo: alis nigris, tectricibus cærulescente marginatis, tectricibus subalaribus albis: macula in pogonio interno duarum rectricum utrinque extimarum alba, rectricibus reliquis nigris: rostro et pedibus nigris.*

♀. *Supra olivaceo-viridis, nucha plumbea, fronte rufo tincta: alis et cauda fusco-nigris, extus olivaceo-viridi marginatis: subtus cinerea: ventre imo et crisso dilutioribus: mento et corporis lateribus flavo-olivaceis: rostro et pedibus plumbeis.*

♂. Long. tota 3·75 poll., alæ 2·5, caudæ 1·5, tarsi ·65, rostri a rictu ·4.

Hab. in Veragua et Costa Rica.

Obs. Affinis *E. ruficipiti*, Laf. et D'Orb. ex Bolivia, sed pileo toto rufo-castaneo et crisso albo dignoscenda.

The white marking of the tail on the outermost rectrix extends to the inner margin of the web, but not to the extremity, and is about one-third of the length of the whole feather. The spot on the second rectrix is quite surrounded by black.

A single specimen received in a former collection from Arcé, from Turrialba in Costa Rica, had been labelled by me, with doubt, *E. gracilis*, Cab. The specimen is in quite young plumage, and on re-

examining it I find a few concealed chestnut feathers at the back of the head. I believe that it is a young male of the bird I now describe. The tail, however, is quite black, the crissum greyer than the female *E. rufivertex*, and the wings darker, having assumed the male character. *E. gracilis*, Cab., described from immature specimens, is said to have a clear-yellow belly, and the forehead also yellow. The forehead in this young bird shows none of the rufous of the adult female *E. rufivertex*. This makes the eleventh or twelfth species of *Euphonia* found in the great isthmus between the Americas.

4. BUARREMON MESOXANTHUS, sp. n.

B. supra olivaceus, pileo medio cum fronte castaneis: loris, regione oculari et tectricibus auricularibus cinereo-nigris: subtus plumis in gula albis, basibus nigris et nigro terminatis, versus pectus fere omnino cinereis: pectore, corporis lateribus et crisso olivaceis, ventre medio læte flavo: alis fuscis, extus olivaceis dorso concoloribus: cauda fusca: rostro superiore corneo, inferiore albido: pedibus fuscis.

Long. tota 6 poll., alæ 2·85, caudæ 2·5, rostri a rictu ·7, tarsi 1·1.
Hab. in Veragua.

Obs. Affinis *B. castaneicipiti*, ScL. P. Z. S. 1859, p. 441, sed gula haud cinerea et ventre medio flavo facile dignoscendus.

In addition to the above differences, which at once distinguish this bird from *B. castaneiceps*, the bill shows some strong ridges, which, proceeding from the nasal hollow, run parallel to the culmen.

5. PHILYDOR FUSCIPENNIS, sp. n.

P. cinnamomeus, pileo et capitis lateribus obscurioribus, dorso obscuriore et olivaceo tincto: stria postoculari, corpore subtus et tectricibus subalaribus cinnamomeis; gula pallidiore; ventre, anum versus brunnescentiore: alis fuscis: cauda et uropygio intense cinnamomeis: rostro et pedibus fuscis.

Long. tota 6 poll., alæ 3·5, caudæ 2·75, tarsi ·75, rostri a rictu ·8.
Hab. Veragua.

Obs. Affinis *P. pyrrhodi* (Cab., Schomb. Guian. iii. p. 689), sed uropygio et cauda rufescentioribus et obscurioribus, dorso magis cinnamomeo et corpore subtus brunnescentiore dignoscendus.

This species seems quite distinct from *P. rufobrunneus*, Lawrence (Ann. of N. Y. Lyc. May 1865), which is described as having the upper tail-coverts dark rufous brown, each feather of the breast with a light ferruginous stripe down its centre, outer webs of the quills the same colour as the back, &c. It is, in fact, very nearly allied to *P. pyrrhodes*, with which I have compared it.

6. DYSITHAMNUS PUNCTICEPS, sp. n.

♂. *D. supra cinereus, plumis pilei a fronte ad nucham nigris cinereo excisis et macula in pogonio utrinque subapicali alba: capitis lateribus albo fasciatis, loris albidis: alis fuscis, extus cinereis dorso concoloribus, tectricibus alarum macula alba ter-*

minatis : alula spuria nigra, externe albo marginata : tectricibus subalaribus albis : cauda fusco-cinerea : subtus gula et pectore albis, nigro lineatis ; ventre medio albo ; corporis lateribus cinereo olivaceis : rostro superiore nigro, inferiore et pedibus plumbeis.

♀. *Supra obscure olivaceo-fuscus ; plumis pilei fulvis, rachide nigra et nigro terminatis : subtus gula alba, nigro striata ; pectore et ventre fulvis, illo nigro striato : alis extus brunneis, tectricibus fulvo maculatis ; cauda fusco-nigra ; rostro superiore nigro, inferiore et pedibus plumbeis.*

♂. Long. tota 4 poll., alæ 2·25, caudæ 1·5, tarsi ·85, rostri a rictu ·8.

Hab. Veragua.

Obs. *D. striaticipiti*, Lawr. (Ann. of N. Y. Lyc.), affinis, sed capite punctato nec striato, dorsoque cinereo nec olivaceo facile dignoscendus.

This species, and probably *D. striaticeps*, Lawr., ought perhaps to be referred to the genus *Thamnophilus* rather than to *Dysithamnus*, the bill being stronger than in any member of the latter genus, and even more abruptly hooked than in most *Thamnophili*. The bill, however, is not so high ; and in this respect, and in having weaker legs and feet, the form more resembles *Dysithamnus* ; while, on the other hand, the tail is more rounded.

7. FORMICARIUS RUIPECTUS, sp. n. (Pl. VIII.)

F. supra fusco-niger, uropygio obscure rufo, pileo etiam rufo tincto : loribus et gutture nigris : pectore, crisso et ventre medio castaneo-rufis, hoc dilutiore ; corporis lateribus fuliginosis : rostro nigro, pedibus fuscis.

Long. tota 7 poll., alæ 3·4, caudæ 2·25, tarsi 1·5, rostri a rictu 1·1.

Affinis *F. anali*, D'Orb. et Lafr., sed pectore castaneo-rufo primo visu distinguendus.

The genus *Formicarius* seems well defined, and separable from the allied forms by several trenchant characters. The plumage consists of short, moderately firm feathers, giving the bird a compact appearance, very different from that of *Phlogopsis*, all members of which genus have softer and longer feathers, more like those of *Pithys* and its affines. The region behind the eye is naked ; in *Phlogopsis* the entire circle is bare. The supranasal feathers of *Formicarius* are short and compact ; in *Phlogopsis* they are long and prominent. The scutella of the tarsi of the former are distinct and divided, while *Phlogopsis* has a single shield on the front of the tarsus. The nostril of *Formicarius* is oblong and situated nearer the base of the bill than that of *Phlogopsis*, which is nearly round. The hind claw is longer and less curved. The tail is shorter, stiffer, and less rounded. I have compared these two genera more minutely, as several species have been included under *Formicarius* which indubitably belong to *Phlogopsis*. This latter genus contains four (perhaps five) species, viz., *P. nigro-maculata* (Lafr. & D'Orb.), Syn. Av. in Mag. de Zool. 1837, p. 14 ; *P. erythroptera* (Gould), Ann. N. H. ser. 2. xv. p. 345 ;

P. macleannani, Lawr. Ann. N. Y. Lyc.; and *P. trivittatus* (Scl.), P. Z. S. 1857, p. 47. *Pyriglena ellisiana*, Scl. P. Z. S. 1855, p. 109, pl. 100 (*Phlogopsis ellisiana*, Cat. Suppl. 1160*), belongs elsewhere. This leaves seven species for *Formicarius*, which I now enumerate, having before me examples of all the species.

Sect. a. Sp. aff. *F. cayennensi*, pileo castaneo, loris omnino nigris.

(1.) *F. CAYENNENSIS*, Bodd. ex Buffon, Pl. Enl. 821, et juv. 827; Scl. P. Z. S. 1858, p. 277.

The last reference gives the numerous synonyms of this species.

Supra olivaceo-brunneus; regione oculari, gula et pectore nigricantibus, pileo toto castaneo-fulvo; corpore subtus et crisso fuscis; alula spuria extus castanea.

Long. tota 6·75 poll., alæ 3·3, caudæ 2·2, tarsi 1·15.

Hab. in Guiana, Cayenne, et Brasilia.

A specimen in our collection from South-east Brazil has the head much more lightly coloured than one in Dr. Sclater's collection, which agrees with others in the British Museum. I have not, however, from my present materials, been able to detect other differences sufficient to warrant its separation. Young birds have the lores white—a character of the *moniliger* group.

(2.) *F. NIGRIFRONS*, Gould, Ann. N. H. ser. 2. xv. p. 344, et P. Z. S. 1855, pp. 68, 145; Scl. P. Z. S. 1858, p. 277.

Similis præcedenti, sed fronte nigra; ungue postico brevior et debiliore.

Long. tota 6·75 poll., alæ 3·3, caudæ 2·0, tarsi 1·15.

Hab. in Eastern Peru, New Granada.

The colouring of the head agrees with Cayenne specimens.

Sect. b. Sp. aff. *F. anali*, loris omnino nigris.

(3.) *F. ANALIS*, D'Orb. & Lafr. Mag. de Zool. 1837, p. 14; D'Orb. Voy. p. 191, pl. 6. f. 1; Bp. Consp. p. 205; Scl. P. Z. S. 1860, p. 294.

Supra brunneus, capite toto et corpore subtus ad ventrem nigricantibus, abdomine fuliginoso, crisso vivide rufo.

Long. tota 7 poll., alæ 3·75, caudæ 2·1, tarsi 1·3.

Hab. in Bolivia, Ecuador, Panama, Costa Rica.

A specimen in our collection from Costa Rica has the bill much larger than the two from Ecuador in Dr. Sclater's collection. It is also larger in all its dimensions, except in the length of the tarsi. A young bird from Veragua exhibits the precise plumage of the adult.

(4.) *F. RUFPECTUS*, Salv. (*vide supra*).

Hab. in Veragua.

Sect. *c.* Sp. aff. *F. moniliger*, macula in loris alba, colli lateribus rufis.

(5.) *F. MONILIGER*, Scl. P. Z. S. 1856, p. 294, & 1858, p. 278; Scl. & Salv. Ibis, 1861, p. 353; Cab. Journ. f. Orn. 1861, p. 96.

F. supra brunneus, pileo nigricantiore: gutture nigro, infra rufo cincto: subtus fuliginosus, abdomine medio griseo, crisso rufescentiore.

Long. tota 7 poll., alæ 3·65, caudæ 2·2, tarsi 1·25.

Hab. in Mexico et Guatemala.

(6.) *F. HOFFMANNI*, Cab. Journ. f. Orn. 1861, p. 96; Scl. & Salv. P. Z. S. 1864, p. 357.

Similis præcedenti, sed corpore subtus cinerascentiore, torque subgulari fere absente, crisso vivide rufo.

Juv. *Gula albida rufo tincta.*

Long. tota 6 poll., alæ 3·5, caudæ 2·1, tarsi 1·25.

Hab. in Panama et Costa Rica.

This species is certainly very closely allied to *F. moniliger*, but the above differences are constant in every specimen I have seen. The rufous band of *F. moniliger* is not absolutely wanting in *F. hoffmanni*, but is irregularly and faintly defined.

(7.) *F. CRISSALIS*, Cab. Journ. f. Orn. *Myiothera analis*, Cab. Schom. Guian. iii. p. 686. *F. analis*, Scl. P. Z. S. 1858, p. 277.

Similis præcedentibus, sed corpore subtus fuliginoso, crisso læte rufo distinguendus.

Long. tota 6·7 poll., alæ 3·55, caudæ 2·1, tarsi 1·3.

Hab. in Trinidad, Guiana, Cayenne, Para.

In this species the lower edge of the black throat is not clearly defined, but blends gradually into the sooty colour of the breast. The crissum is deeper in colour than that of *F. hoffmanni*, resembling that of *F. analis* in this respect.

In every one of the above species the inner web of the base of the primary and secondary quills is pale fulvous; the under wing-coverts sooty black, while those nearer the shoulder have their bases pale fulvous.

8. TROGON CLATHRATUS, sp. n.

T. æneo-viridescens: corpore supra, capite toto et pectore concoloribus: regione oculari nigra: ventre et crisso læte coccineis: alis nigris, secundariis extus et tectricibus omnibus minutissime albo variegatis; remigibus, nisi primus, albo marginatis: rectricibus duabus mediis dorso concoloribus, fascia apicali nigra, duabus utrinque proximis nigris, extus æneo-viridescens, reliquis nigris, lineis angustis regulariter transversim notatis: rostro flavo, pedibus plumbeis.

Long. tota 12 poll., alæ 6·2, caudæ 6·2, tarsi ·6, rostri a rictu 1.

Hab. in Veragua.

At first sight this very distinct species has the appearance of *T. massena*, Gould; but in addition to a considerable inferiority in size,

the barred tail, a characteristic of a different section of the *Trogonidae*, viz. of that which includes *T. puella*, Gould, at once shows its complete distinctness. It partakes in fact to some extent of the characters of both the above-mentioned groups. There are five distinct notches on the edges of both upper and lower mandibles; but these are neither so deep nor so large as in *T. massena*.

The collection contains two males in adult plumage, but no female. Mr. Gould, who has kindly examined these specimens, considers the species to be quite distinct from any previously known to him.

8. Notes on the Breeding of several Species of Birds in the Society's Gardens during the year 1865. By A. D. BARTLETT, Superintendent of the Society's Gardens.

(Plate IX.)

The year just passed has been somewhat remarkable from the long continuance during the summer and autumn of dry hot weather; and this has probably much influenced the breeding, and the tendency to breed, among many animals that have not before reproduced, or shown signs of reproducing, in the Society's Gardens.

Among these, perhaps the most interesting to notice will be the Sun-Bittern (*Eurypyga helias*). A pair of these birds were purchased in September 1862, and have always appeared in good health and condition. Early in the month of May last they began to show signs of breeding, by carrying bits of stick, roots of grass, and other materials about; they were constantly walking round the pond, evidently in search of materials to compose a nest, and appeared to try and mix wet dirt with bits of moss, &c. This suggested the idea of supplying them with wet clay and mud, which they at once commenced to use. After a short time they settled to make a nest on the top of a pole or tree about 10 feet from the ground, on which was fixed an old straw nest. Both birds carried up mud and clay mixed with bits of straw, roots of grass, &c. The sides of the nest were raised, and thickly plastered inside with mud. One morning the keeper Travis came to me with the fragments of a broken egg, which he found on the ground under the place where the nest was, telling me he believed the egg had been dropped by the Sun-Bittern. Upon looking at the fragments I observed that the egg was spotted at the broad end, and that it resembled the egg of a Moor-hen, or perhaps rather the egg of a Woodcock than any other bird. I felt doubtful of the correctness of Travis's information, the more so as there was in the same aviary a Blue Water-hen which I strongly suspected to have been the producer of the egg in question. I therefore removed this bird, to prevent any mistake; and in the early part of June Travis again called my attention to the Sun-Bitterns, the female having laid an egg in the nest. I at once went up a ladder to look at it, and found it agree in every respect with the egg



J Smit lith.

M & N Hanhart imp

EUPHONIA RUFIVERTEX.



J Smit, lith.

M & N Hanhart, imp.

FORMICARIUS RUIPECTUS.



Salvin, Osbert. 1866. "Descriptions of Eight New Species of Birds from Veragua." *Proceedings of the Zoological Society of London* 1866, 67–76.

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