February 23, 1847.

William Yarrell, Esq., Vice-President, in the Chair.

The following communications were read:—

1. OBSERVATIONS ON STRUTHIONINE BIRDS IN THE MENAGERIE AT KNOWSLEY. BY THE PRESIDENT.

I shall take this opportunity of noticing some of the differences which appear to me to characterize the Struthious tribe in their breeding, and which I rather think are not generally known.

I believe the general supposition to be, that no difference exists, and that they agree at this period with most of the Rasorial birds in being polygamous; but this is by no means the case.

What may be the truth with the head of the Family, the *African Ostrich*, we have had too few opportunities or means of judging. The *Emu* is strictly monogamous; and the male, who attends to the eggs, by no means approves of any other female than the favoured one coming near the nest.

The *Rheas*, on the contrary, are clearly polygamous; and with them the male not only selects the place for and forms the nest, but actually collects together in it the eggs* (which are frequently laid at random about the enclosure), in order that he may incubate them. He shows no signs of anger when the females approach, and in one instance two females have laid in the same nest. By analogy we may perhaps suppose that the Ostrich follows a similar plan.

There are differences also in their modes of copulation. If my memory does not deceive me, the *Struthio Camelus* does not, like other birds, mount on the back of the female, but merely places one foot on her back, the necks of the pair twisting about all the while like two snakes, but without holding.

The *Rhea*, on the other hand, seizes hold of the back of the neck; and the *Emu*, I think, is the one which straddles over the female during the operation with his legs on each side of her.

The *Rhea* lays from fourteen to twenty-five eggs; the *Emu* from twelve to seventeen.

2. DESCRIPTION OF A NEW RAT FROM SOUTH AUSTRALIA. BY J. E. GRAY, Esq., F.R.S. &c.

MUS VELLEROSUS. *M. brunneus, albido-varius, ad caput obscurior; vellere prælongo, denso; pilis mollibus ad basin fusco-brunneis, inde*

* The manner in which this operation is accomplished is by inserting the beak between the egg and the ground, and rolling it along by the assistance of his long neck, exactly in the way that a boy would roll a cricket-ball along by the aid of a long stick with a hooked end to it.

pallidioribus, ad apicem albis; codario mollissimo, brunni-plumbeo; caudâ annulatim squamatâ, raris brevibus et rigidioribus setis obsidâ; auribus mediocribus, rotundatis.

Hab. in campis Australiasianis inter fluvios Murray et Glenelg.

The skull resembles the typical Rats. The cutting teeth are yellow, moderate, slightly rounded in front, without any regular groove. The grinders are $\frac{3}{3}$, worn; the anterior upper oblong, formed of three transverse folds, the hinder being smallest; the second tooth is nearly circular, formed of two folds, the front fold largest, and having a notch on its inner side; the third tooth small, half ovate, with two notches on the inner side. The anterior lower grinder is formed of three, and the others of two folds; the anterior fold of the last tooth having a slight notch on the inside, and the posterior fold being smaller than the rest.

	in.	lin.
Length of skull	1	9
tooth-line	0	4
Total length	7	6
Tail	4	6

This rat has the dentition and somewhat the general appearance of *Mus fuscipes*, Waterh., but the skull and animal are considerably larger, and the fur is very much longer and paler.

The specimens from which this description is taken were sent to the British Museum by His Excellency Capt. Grey, Governor of New Zealand.

3. ON TWO NEW GENERA OF CERTHINÆ. BY G. R. GRAY, ESQ., F.L.S. &c.

I beg to lay before the Meeting the following description of what I believe to be a new genus belonging to the subfamily *Certhinae*, under the name of *Caulodromus*.

Rostrum capite longius, latum, basi subdepressum, gracile, per totam longitudinem curvatum, lateribus a naribus usque ad apicem obtusum subemarginatum fortiter compressis. *Gonys* longus curvatus. *Nares* laterales, anteriùs in sulco brevi lato siti, aperturâ magnâ rotundatâ nudâ. *Alæ* breves, basin caudæ operientes, fortiter rotundatæ, remige sextâ omnium longissimâ. *Cauda* brevissima, rectricum apicibus subacutis. *Tarsi* digito medio breviores, anticè squamis latis transversis muniti. *Digit*i longi, graciles, extimo quam intimo longiore basi coadunato, intimo basi vix coadunato; postico longo, ungue longo curvato armato.

CAULODROMUS GRACEI. *Caul. rufescens, plumarum scapis strigâ rufo-albidâ notatis, pogoniis interioribus in dorso nuchâque nigris; tectricibus caudæ superioribus inferioribusque late rufis, alis caudâque saturatè brunneis strigis duabus nigris alterâ à rictu alterâque (breviusculâ) à rostri basi ductis, gulâ pectore abdomineque medio rufescenti-albis rufo-brunneo variegatis.*

Rufous brown, streaked narrowly down the shaft of each feather with rufous white; the inner web of the feathers of the back of neck

and back black; the upper and under tail-coverts bright rufous; the wings and tail dark brown; two streaks of black, one from the gape and the other (rather short) from the base of the bill; the throat, breast and middle of the abdomen rufous white, varied with rufous brown.

Total length, 5 inches; bill, from gape, 1 inch; wing, 2 inches 2 lines; tarsi, 1 inch.

This proposed division differs from the typical form of *Certhia* by the length and form of the bill and the position and form of the nostrils, while the extreme shortness of the tail at once points out a great dissimilarity from those species that properly belong to the above-mentioned genus.

I have also before me another bird that appears to belong to the same subfamily, which I shall form into a distinct genus, under the name of

SALPORNIS.

Rostrum longum latum basi subdepressum, per totam longitudinem curvatum; lateribus à naribus fortiter compressis. *Gonys* elongatus, curvatus. *Nares* laterales, anticè in sulco lato brevi siti, aperturâ magnâ nudâ. *Alæ* longissimæ, usque ad caudæ apicem ferè attingentes, acutæ, remige primâ brevissimâ, secundâ ferè longitudinis tertiæ quartæque, quæ æquales et omnium longissimæ. *Cauda* breviuscula, quadrata, rectricum apicibus rotundatis. *Tarsi* medio digito breviores, squamis latis muniti. *Digiti* longi, fortes, intimo quam extimo breviorè basi parùm coadunato, extimo longius coadunato; postico longo, forti, ungue curvato armato.

The type of this proposed genus is already described by Major Franklin in the Proceedings of the Society under the name of *Certhia spilonota* (Proc. 1831, p. 121).

The differences exhibited between this and the former genus are at once seen in the form of the wings, which are lengthened and pointed, and of the tail, which has the ends of the feathers slightly rounded. These characters are like those of *Tichodroma*, while the form of the bill and feet are similar to those of the genus proposed above.

The specimen of *Caulodromus* was kindly lent me by J. R. Grace, Esq., who procured it in Darjeeling: that of *Salpornis* was presented by B. H. Hodgson, Esq. to the British Museum, and forms part of a collection from Behar.

4. DRAFTS FOR AN ARRANGEMENT OF THE TROCHILIDÆ, WITH DESCRIPTIONS OF SOME NEW SPECIES. BY JOHN GOULD, F.R.S.

Genus PETASOPHORA, G. R. Gray (*Heliothryx*, Boie; *Ramphodon*, Less.; *Colibri*, Spix).

This is one of the best-defined groups of the family, and is distinguished by several peculiarities, the principal of which are the greatly developed ear-coverts and their blue colour, and the similarity in the colouring of the sexes, the females possessing all the brilliancy of

the males and only distinguishable from them by their smaller size and more delicate contour: the young too assume the plumage of the adult.

The oldest known species of this form constitutes the type; it is the

Sp. 1. PETASOPHORA SERRIROSTRIS.

Trochilus serrirostris, Vieill. Nouv. Dict. tom. vii. p. 359 ;
Ency. Méth. part 2. p. 561 ; Ois. Dor. tom. iii. pl. 1.
ined.

Ornismya petasophora, Less. Ois. Mon. pl. 1 ; Ib. Troc.
pls. 12 & 59 ; Pr. Max. de Wied, sp. 10 ; Temm.
Pl. Col. 203. fig. 3 ; Jard. Nat. Lib. vol. i. p. 120.
pl. 13, male ; vol. ii. p. 81. pl. 15, fem.

Petasophora serrirostris, G. R. Gray, List of Gen. of
Birds, 2nd edit. p. 17.

Hab. Brazil.

Sp. 2. PETASOPHORA CYANOTUS.

Trochilus cyanotus, Bourc. Rev. Zool. 1843, p. 1 ; Ann.
de Lyons, tom. vi. p. 41, but not the *cyanotus* stated
by Lesson to be synonymous with *Delphinae*.

This species appears to be the representative in the Cordilleras of the *P. serrirostris* of the Brazils, from which it is at once distinguished by the blue colouring of the ear-coverts.

Hab. Bogota.

Sp. 3. PETASOPHORA THALASSINA.

Trochilus thalassinus, Swains. Syn. Birds of Mexico, in
Phil. Mag. June 1827, p. 441.

Differs from the other members of the genus by being of a smaller size and by the greater extent of the blue on the cheeks and ear-coverts ; it has also a slight wash of blue on the chin and centre of the abdomen.

Hab. Mexico.

Sp. 4. PETASOPHORA ANAIS.

Ornismya Anais, Less. Col. Supp. pl. 3 ; Less. Troc. pls.
55, 56, 57 ; Rev. Zool. 1838, p. 315, 1839, p. 19 ;
Less. Velin, no. 11 ; Echo du Monde savante, 1843,
no. 31. ined. pl. 11.

Much confusion evidently exists with respect to this species, M. Lesson having figured one bird and described another with the same appellation ; under these circumstances it will be to the advantage of science to retain the specific term *Anais* for the bird best known to ornithologists by that designation, the species so common in all collections from Bogota, the *great Anais* of the French, and which is a very fine species, distinguished by the existence of a well-defined band of blue on the throat. The female is fully as bright as the male, but at least one-third smaller in size.

Hab. Venezuela and all the Cordilleras in the neighbourhood of Bogota.

Sp. 5. PETASOPHORA IOLOTA, sp. nov. *Pet. capite, et corpore superiore saturatè viridibus; mento, spatio suboculari, auribus, et medio abdomine intensè, metallicè, cyaneis; corpore inferiore nitense viridi; guld quasi tessellatè, quia mediæ plumæ quam pogoniæ extremæ obscurius nitent; tectricibus caudæ inferioribus pallidis ad margines pallidioribus.*

Head and all the upper surface deep green, in some specimens tinged with gold; primaries and secondaries brown, tinged with purple; chin, space beneath the eye, ear-coverts and the centre of the abdomen rich deep metallic blue; all the under surface rich deep glossy green, the throat presenting a tessellated appearance, occasioned by the reflection from the webs throwing a darker hue on the centre of each feather; under tail-coverts pale, with lighter margins; two centre tail-feathers golden green, the remainder steel or bluish shining green, crossed near the extremity by a broad band, which is dull black on the upper surface and shining steel-blue on the under; bill and feet black.

Total length, $5\frac{3}{4}$ inches; bill, $1\frac{3}{8}$; wing, $3\frac{3}{8}$; tail, $2\frac{1}{4}$.

The female is similar to the male in plumage, but smaller in size. Nearly allied to the preceding, but larger and finer in every respect.

Hab. Bolivia.

Sp. 6. PETASOPHORA CORUSCANS.

Vide Proc. of Zool. Soc. Part 14. pp. 44 & 90.

Sp. 7. PETASOPHORA DELPHINÆ.

O. Delphinæ, Less. Rev. Zool. 1839, p. 44; Echo du Monde savante, 1843, no. 31; Less. Ill. de Zool. tom. ii. 1832, pl. 64.

Sp. 8. PETASOPHORA? GEOFFROYI.

Trochilus Geoffroyi, Bourc. et Muls. Ann. de Lyons, tom. vi. p. 37.

It will probably be necessary at some future period to make this the type of a new genus.

The eight species enumerated above comprise every member of this beautiful genus with which I am acquainted; I possess, however, some immature specimens which may be referable to a ninth species, in which case it will prove to be most nearly allied to *P. serrirostris*. They differ from that bird in having the two outer tail-feathers rather largely tipped with white, the lower part of the abdomen greyish white, and in the ear-coverts being very diminutive. Although I have little doubt of their being distinct, I prefer seeing other specimens before characterizing them.

Genus OREOTROCHILUS, n. g.

Rostrum capite longius, subcylindricum, paulo incurvum. *Alæ* subgrandes valentes. *Cauda* magna, rotundata, rectricibus attenuatis, submucronatis, rigidis. *Pedes* fortes. *Digitus* et unguis postici digito et ungui mediis longitudine æquales. *Tarsi* plumis vestiti. *Gula* luminosa infra torquata.

Gen. Char.—Bill longer than the head, almost cylindrical, but slightly curved downwards; wings rather large and powerful; tail large and rounded, the feathers narrow, rather pointed and rigid; feet strong, the hind-toe and nail about equal in length to the middle toe and nail; tarsi clothed with feathers. Throat luminous, bounded below by a distinct collar.

I propose this term as a generic appellation for a section of the *Trochilidæ*, which has hitherto only been found immediately beneath the line of perpetual congelation, where they feed upon the insects which resort to the newly expanded flowers. The type is

Sp. 1. OREOTROCHILUS ESTELLA.

Orthorhynchus Estella, D'Orb. Voy. Am. Birds, pl. 6. fig. 1; D'Orb. et La Fres. in Guérin's Mag. de Zool. 1838, p. 31.

O. Ceciliae, Less. Rev. Zool. 1839, p. 43.

Sp. 2. OREOTROCHILUS LEUCOPLEURUS, sp. nov. *Oreot. capite, corpore superiore, alisque, olivaceo-fuscis, griseo tinctis; tectricibus caudæ superioribus sordide æneo-viridibus; rectricibus duabus intermediis viridibus, æneo splendentibus; rectricibus lateralibus sordide albis, apicibus et marginibus exterioribus fuscis; gula luminose viridi, fasciâ semilunari holoserica atrâ infra ornatâ; medio abdomine lateribusque nigris; mediis sed lateribus et pectore albis.*

Head, all the upper surface and wings greyish olive-brown, passing into dull coppery green on the upper tail-coverts; two centre tail-feathers green, with bronze reflections; lateral tail-feathers dull white, margined externally and tipped, dull brown gradually blending into the white; throat rich luminous grass-green, bounded below by a crescentic band of deep velvety black; breast and centre of the flanks pure white; the remainder of the flanks and centre of the abdomen bluish black; feet dark olive-brown; bill black.

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

This species is nearly allied to the preceding, but differs from it in being somewhat smaller and in having the centre of the abdomen black instead of chestnut.

Hab. The Chilian Cordilleras.

Sp. 3. OREOTROCHILUS CHIMBORAZO.

T. Chimborazo, Bourc. in Rev. Zool. Sept. 1846, p. 305.

Sp. 4. OREOTROCHILUS ADELA.

Orthorhynchus Adela, D'Orb. Voy. Am. Birds, pl. 61. fig. 2; D'Orb. et La Fres. Mag. de Zool. 1839.

Sp. 5. OREOTROCHILUS MELANOGASTER, sp. nov. *Oreot. omni corpore superiore olivaceo-fusco aureo nitente, tectricibus caudæ superioribus viridi lavatis; alis griseo-fuscis purpureo splendentibus; gula fulgente viridi, pectore et abdomine intense cyaneo-atris.*

All the upper surface olive-brown, with a golden lustre, and washed with green on the upper tail-coverts; wings greyish brown,

with purple reflections; throat rich lustrous grass-green; breast and abdomen rich deep bluish black; flanks rusty brown; tail green, with bronze reflections; bill black; feet olive-black.

Total length, 5 inches; bill, 1; wing, $3\frac{1}{4}$; tail, $2\frac{1}{4}$.

Hab. unknown.

This fine species is in the collection of Mr. John Leadbeater, to whom I am indebted for the loan of it for the purpose of describing.

Mr. Gould then described a fourth new species of Humming Bird, belonging to the genus *Calothorax*, as

TROCHILUS (CALOTHORAX) CALLIOPE. *Cal. corpore superiore viridi; alis caudæque griseo-fuscis; gulæ plumis elongatis, attenuatis, coccineis, basibus albis in formâ stellæ ordinatis; pectore, abdomine medio, tectricibusque caudæ inferioribus, albis; lateribus cervino-albis.*

Upper surface green; wings and tail greyish brown; feathers of the throat elongated, narrow, and of a rich pinky scarlet, with white bases arranged in a starred form; breast, centre of the abdomen and under tail-coverts white; flanks buffy white; bill and feet blackish brown.

Total length, $2\frac{1}{2}$ inches; bill, $\frac{5}{8}$; wing, $1\frac{1}{2}$; tail, 1.

This is a very diminutive species, much smaller than the *C. cyanopogon*, but of precisely the same form.

Hab. Mexico; precise locality unknown.

The Secretary, on the part of Dr. Falconer, exhibited the lower end of the left tibia of a gigantic fossil Struthious Bird from the Sewalik Hills. This interesting remain indicates a very close generic representation of the existing African *Struthio* in the extinct fauna of Asia. Although not altogether unexpected, this is a valuable addition to the facts previously demonstrated in relation to the genera *Camelopardalis*, *Camelus*, *Elephas*, and *Hippopotamus*.

The Secretary also announced to the Meeting that a living specimen of *Otocyon Lalandii*, a drawing of which was exhibited, had been recently presented to the Society by Captain Sir Edward Belcher, C.B., R.N.