

## Miscellanea.

### NEW SPECIES OF KANGAROOS

AT a meeting of the Zoological Society, held on the 25th August, 1840, specimens were exhibited of five new species of Kangaroo, forming part of the collection made by Mr. Gould, who had just returned from Australia, after an absence of two years and a half spent in the investigation of the habits and economy of the animals of that continent.

The first of these Kangaroos to which Mr. Gould drew attention was a large species, but little inferior in size to the *Macropus major*, inhabiting the summits of the mountain ranges in the interior of New South Wales. Mr. Gould observed, that it is a most powerful animal, and very dangerous to approach. The unusual strength and size of the limbs suggested the specific name of *robustus*; and Mr. Gould accordingly characterised it as

**MACROPUS (PETROGALE\*) ROBUSTUS.** *Macr. artubus anticis magnis et prærobustis; vellere e fusco cinereo, apud partes inferiores pallidiorè; tarsi fuscis; digitis anticè nigris; antipedibus, et carpis, nigris; capite fuliginoso levitèr tincto; utràque genâ lineâ albescente notatâ; gulâ, guttureque albidis; caudâ supernè fuscâ, subtùs pallidiorè.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . . .	47	0
———— caudæ . . . . .	25	6
———— tarsi digitorumque (sine unguibus) ..	11	0
———— ab apice rostri ad basin auris . . . . .	8	0
———— auris . . . . .	3	7

Fœmina differt vellere ex argenteo cinereo, corpore subtùs ferè albo. Long. corporis cum capite, 33 unc.; caudæ, 26; tarsi digitorumque, 10 unc. 2 lin.

The second species has a remarkably elegant appearance, being of a slender delicate form, and adorned with two white stripes, which commencing at the *occiput*, run down the back of the neck on to the shoulders, where they are recurved. Mr. Gould proposed to designate this species

**MACROPUS FRÆNATUS.** *Macr. elegans, et gracilis; vellere molli brevi, colore e fusco cinereo; corpore subtùs albo; ab occipite utrinque super humeros lineâ angustâ albâ currente; interspatio obscuro, et apud occiput nigrescente; caudâ tuberculo parvo corneo ad apicem instructo, pilis*

\* The *Petrogale* of Gray is probably identical with *Heteropus* of Jourdan.

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*nigrescentibus abscondito; tarsi, artubusque anticis ferè albis, digitis pilis obscuris paulò adspersis.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . . .	23	0
———— caudæ . . . . .	20	0
———— tarsi digitorumque (sine unguibus) ..	5	6
———— ab apice rostri ad basin auris . . . . .	4	2
———— auris . . . . .	2	3

*Hab.* Interior of New South Wales.

The third species is about the same size as the last. The most remarkable character in this animal consists in its having a nail at the tip of the tail: this nail is hidden by the tuft of hair with which the end of the tail is furnished, and greatly resembles a finger-nail, both in texture and form, but is of a black colour. The name proposed for this species was

MACROPUS UNGUIFER. *Macr. corpore gracili, caudâ perlongâ; vellere perbrevis, et mediocritèr molli; colore fulvo, parte corporis anteriore, et collo albescentibus; capite ferè toto, necnon artubus abdomineque albis; notâ fuscâ longitudinali, apud dorsum; caudâ albidâ, apicem versus, pilis longis et fuscis indutâ, ad apicem cum ungue nigrescente, ferè magnitudinem et figuram unguis exhibente, ut in digito hominis videtur, instructâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . . .	25	0
———— caudæ . . . . .	26	0
———— tarsi digitorumque (sine unguibus) ..	7	0
———— ab apice rostri ad basin auris . . . . .	4	0
———— auris . . . . .	2	6

*Hab.* North-west coast of Australia.

To the fourth species, having two crescent-shaped white marks on the shoulders, Mr. Gould gave the name of

MACROPUS LUNATUS. *Macr. capite brevi, auribus magnis; artubus anticis parvis; tarsi mediocritèr elongatis et gracilibus; colore cinereo, collo humerisque ferrugineo pallidè tinctis; corpore subtùs e cinereo albo; lineâ arcuatâ albâ in utrinque latus, ab humeris extensâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . . .	18	0
———— caudæ . . . . .	0	0?
———— tarsi digitorumque (sine unguibus) ..	4	6
———— ab apice rostri ad basin auris . . . . .	3	0
———— auris . . . . .	2	0

*Hab.* West coast of Australia.

The fifth species resembles the common hare in size, and in the texture of the fur; so much so, indeed, that a portion of its skin could not be distinguished from that of a hare. The fore-legs and feet of this animal being very small, Mr. Gould proposed to describe it as

**MACROPUS LEPORIDES.** *Macr. pro magnitudine et velleris colore necnon textura, Lepori timido assimilis; capite breviusculo; antibrachiis pedibusque parvulis; caudâ breviusculâ et gracili; corpore supernè nigro, fusco et flavido variegato; apud latera, et circum oculos colore pallidè fulvo prævalente; abdomine e cinereo albo; artubus anticis ad basin nigris.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . . .	19	6
———— caudæ . . . . .	13	0
———— tarsi digitorumque . . . . .	4	9
———— ab apice rostri ad basin auris . . . . .	4	0
———— auris . . . . .	2	0

*Hab.* Interior of Australia.

Oct. 13th. Mr. Gould exhibited and characterised two new species of Kangaroos from Swan River; the first of these is rather less than the *Macropus Bennettii*, and is remarkable for the perfect black colour of the fore part of all the feet, which appear as if they had been dipped in ink or some other black liquid, the black not blending, as usual, with the pale colour of the hind part of the feet, but terminating in an abrupt line. The general tint of the upper parts of the body is deep grey, a tint produced by the admixture of black and white, the hairs being black at the tip, and annulated with white near the tip; the sides of the body, as well as the under parts, are of paler grey, and are tinted with buff-yellow; this yellow tint is almost pure on the abdomen between the hind legs, on the feet and inner side of the ears: the upper surface of the head and muzzle are of a soot-like colour, and the *occiput* and back of the ears, as well as the apical portion in front, are pure black; a yellowish white line is observable on each side of the muzzle, commencing at the tip, and running backwards beneath the eye; the fore half of the hands and feet are pure black, and the greater portion of the tail (which is well clothed with harsh hairs) is of the same colour; at the base, however, it is coloured as the body, and on the upper surface, for a considerable distance from the base, the black hairs are more or less annulated with whitish, producing a grizzled appearance. On the chin is a small black patch.

Mr. Gould gave to this species the specific name *manicatus*: its principal characters may be thus expressed:—

**MACROPUS (HALMATURUS) MANICATUS.** *Macr. obscure griseus; vellere apud partes inferiores pallidiore et flavescente; capite supra fuliginoso, occipite necnon auribus externè nigris; utrâque genâ lineâ flavescente notatâ; tarsi antipedibusque flavescensibus, anticè nigris; caudâ ni grâ ad basin griseâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin . . . .	30	0
———— caudæ . . . . .	26	0

Longitudo <i>tarsi digitorumque</i> (sine unguibus) ..	8	10
———— ab apice rostri ad basin auris .....	5	0
———— <i>auris</i> .....	2	6

The second species of Kangaroo to which Mr. Gould drew the attention of the members, is nearly allied to the *Macropus penicillatus* of Mr. Gray, but differs in being of a smaller size, paler colour, in having no black mark on the sides of the body, and the tail less bushy; the ears, moreover, are smaller in proportion, and more pointed. The general colour is grey-brown; the under parts of the body are dirty white, obscurely tinted with yellowish: on each side of the body, near the base of the fore leg, is a dusky patch; a dirty white mark is observable on each side of the head, and there is an indistinct mark on the base of the thigh. The tail is moderately bushy, coloured at the base like the body, but the apical third is dusky black.

Mr. Gould gave to this species the name

MACROPUS (PETROGALE) BRACHYOTIS. *Macr. vellere e fusco cinereo, apud partes inferiores albescente; caudâ floccosâ ad apicem nigrâ; utrâque genâ lineâ albescente notatâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin ....	21	0
———— <i>caudæ</i> .....	16	6
———— <i>tarsi digitorumque</i> (sine unguibus) ..	5	0
———— ab apice rostri ad basin auris .....	3	8
———— <i>auris</i> .....	1	11

### NEW SPECIES OF BIRDS.

At a meeting of the Zoological Society, held on the 8th of September, 1840, a skeleton of the *Talegalla* was exhibited, and Professor Owen drew attention to its peculiarities:—

“On comparing the osteology of the *Talegalla* with that of other birds,” said the Professor, “it exhibits all the essential modifications which characterise the Gallinaceous type, and among the *Rasores* it most nearly resembles the genera *Penelope* and *Crax*.”

“In all the main points the skeletons of these birds agree; their differences are those of proportion only; whereas in the *Raptores*, and especially in the *Vulturidæ*, the following important differences present themselves. The spines of the dorsal vertebræ are detached; the upper transverse processes of the sacrum are separated by oblique elliptical vacuities; the plough-share bone, which terminates the coccyx, has double the relative vertical extent; the cervical vertebræ are shorter and broader; twice the number of the ribs, as compared with *Talegalla*, give off vertical processes, and these are longer and stronger: but the most striking and decisive differences occur

in the sternum; this important bone, in the *Talegalla*, very closely corresponds with that of the two Gallinaceous genera above mentioned; the chief difference occurs in the greater breadth which separates the costal from the external posterior notch. In the Vultures the contiguous margin of the sternum forms part of the same nearly straight line with the rest of the lateral margin of the sternum behind it. In the *Cathartes*, which has the least complete sternum in the tribe of *Raptores*, to which some Quinarian Zoologists have assigned the *Talegalla*, there is a shallow notch and a small foramen in each half of the posterior margin of the sternum; the whole sternum is broader and more convex; the coracoid grooves, and the corresponding extremities of the bones adapted to them, have twice the breadth of those in the *Talegalla*. The *furculum* presents more than six times the thickness of that bone in the *Talegalla* and allied *Gallinacea*; its space is wider, and its superior extremities much more recurved. Equally striking are the differences which the bones of the wing present: in *Cathartes Aurea*, in which the costal and sacral regions of the vertebral column measure five inches, the length of the humerus is five inches and a half, that of the ulna is six inches eight lines, and the bones of the hand are nearly six inches in length: the strength of all these bones is proportionate to their length. The produced angle of the lower jaw is a character which is most conspicuous in the Gallinaceous birds, in some of the species of which, as in the Woodgrouse, it is excessive. Now this process is altogether wanting in the Raptorial birds, and consequently in the *Vulturidæ*; its presence in the *Talegalla* (where its form and size closely agree with those in *Penelope* and *Crax*) coincides with the decisive Gallinaceous characters which are pointed out in the sternum, vertebral column, and bones of the anterior extremity.

“The presence of the *broncho-tracheales*, which alter the length and tension of the bronchial tubes, widen the lateral diameter of the lower larynx, and influence its position, coincides with the observations which Mr. Gould has made respecting the voice of the *Talegalla*; and at the same time establishes another important structural difference between this bird and the *Vulturidæ*, which are precisely those Raptorial birds in which there are no true vocal muscles.

“From all the *Raptores* the *Talegalla* essentially differs, in its gizzard and elongated cæca: in the one we have all the characters of the Gallinaceous structure of that important part of the digestive system: in the form and proportions of the lower appendages—the cæca, the *Talegalla* most closely corresponds with the genera *Crax* and *Penelope*.”

At the meeting on the 13th of October, Mr. Gould proceeded to state that he had received from Swan River another bird having similar habits to the *Talegalla*, and a similar mode

of nidification, but from which it differs in inhabiting the open sandy plains, instead of dense and gloomy glens, and in forming the mound for the reception of the eggs of sand, dead grasses, and boughs, depending as much upon the sun's rays as upon the heat produced by decomposition to develop the young.

Mr. Gould added, that a most interesting note, detailing these facts, accompanied the specimens, and that an equally important sketch of its range, &c. had been furnished him by Captain Grey, who has just returned from the north-west coast of Australia. The acquisition of this new species, and the notes here alluded to, are more than ordinarily acceptable, since they materially tend to clear up the long-disputed point as to what group the Bush Turkey should be referred to. Mr. Gould further stated, that the views of those naturalists who have considered it to be closely allied to the *Megapodii* were perfectly correct, and that the Bush Turkey and the new species now exhibited would in fact form part of a large and singular family of birds inhabiting Australia and the Indian Islands, all of which assimilate in their habits and mode of nidification. This new species differing considerably in several of its characters from the Bush Turkey (*Talegalla*), Mr. Gould proceeded to characterise it as a new genus, under the name of *Leipoa*, signifying "a deserter of its eggs." The specific term of *ocellata* was suggested by the ocellated character of many of the spots with which its body is adorned.

#### Genus LEIPOA.

*Gen. Char.*—*Rostrum* ferè tam longum quàm caput: gracile, ad basin tumescens, tomiis undulatis et ad basin incurvatis, naribus amplis, oblongis, operculo tectis, et in foveâ centrali positis. *Caput* subcristatum. *Alæ* amplæ, rotundatæ, concavæ; e remigibus primariis quinto longissimo; tertiariis quàm remiges primarii ferè tam longis. *Cauda* rotundata, rectricibus quatuordecem. *Tarsi* mediocres, robusti, anticè scutis, posticè squamis rotundatis haud æqualibus, tecti. *Digitis* subbreves; digitis lateralibus inter se ferè æqualibus.

LEIPOA OCELLATA. *Lei.* pectore per medium plumas lanceolatas nigras, strigâ centrali albâ ornatas, præbente, plumis corporis supernè albescenti-cinereis, ad apicem guttâ penè ocellatâ, rufâ, nigro marginatâ, notatis.

Head and crest blackish brown; neck and shoulders dark ash grey; the fore part of the former, from the chin to the breast, marked by a series of lanceolate feathers, which are black with a white stripe down the centre; back and wings conspicuously marked with three distinct bands of greyish white, brown and black near the tip of each feather, the marks assuming an ocellate form, particularly on the tips of the secondaries; primaries brown, their outer webs marked with zigzag lines of darker brown; rump and upper tail-coverts brownish grey, the feathers of the latter transversely marked

with two or three zigzag lines near their tip; all the under surface light buff, the tips of the flank feathers barred with black; tail blackish brown, broadly tipped with buff; bill black; feet blackish brown.

Total length, 24 inches; bill,  $1\frac{1}{2}$ ; wing, 12; tail,  $8\frac{1}{2}$ ; tarsi,  $2\frac{1}{2}$ .

*Hab.* Western Australia.

On the 8th September, 1840, Mr. Gould presented a new species of *Rhipidura*, which has hitherto been confounded with the *Motacilla flabellifera* of Latham: Mr. Gould proposed to characterise it as

*RHIPIDURA ALBISCAPA.* *Rhi. nigrescenti-fusca; reatricibus caudæ ad apices, et per scapos albis.*

All the upper surface, ear-coverts, and a band across the chest, sooty-black, slightly tinged with olive, the tail and crown of the head and pectoral band being rather the darkest; stripe over the eye, lunar-shaped mark behind the eye, throat, tips of the wing coverts, margins of the secondaries, shafts, outer webs and tips of all but the two middle tail-feathers, white; under surface buff; eyes black; bill and feet brownish black.

Total length, 6 inches; bill,  $\frac{3}{8}$ ; wing, 3; tail,  $3\frac{1}{2}$ ; tarsi,  $\frac{5}{8}$ .

*Hab.* Van Diemen's Land and the southern coast of Australia.

On the 10th November, 1840, Mr. Gould exhibited a new specimen of

*EUPHEMA AURANTIA.* *Euph. vittâ frontali lazulinocæruleâ; loris viridibus; abdomine maculâ grandi splendide aurantiacâ ornato.*

*Male.*—Frontal band blue, margined before and behind with a very faint line of greenish blue; crown of the head and all the upper surface deep grass-green; shoulders, many of the secondaries, and outer edges of the primaries deep indigo-blue; lores, cheeks and breast yellowish-green, passing into greenish yellow on the abdomen and under tail-coverts, the centre of the abdomen being ornamented with a large spot of rich orange; two centre tail-feathers green; the next, on each side, blackish brown on the inner, and green on the outer webs; the remainder blackish brown on their inner, and green on their outer webs, and largely tipped with bright yellow; irides very dark brown, becoming lighter on the under side; legs and feet dull brown.

*Female.*—Possesses the orange spot, but in her it is neither so extensive nor so brilliant.

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

*Hab.* Van Diemen's Land and the Actæon Islands in D'Entrecasteaux Channel.—*Magazine of Natural History*, Vol. V., Nos. 46 & 47.

## THE BULRUSH CATERPILLAR.

Description of the Bulrush Caterpillar (*Sphaeria Robertsia*; native name, *Aweto—Hotete*), by Rev. R. Taylor, Waimati, New Zealand.

THIS singular plant, which is a native of New Zealand, may be classed amongst the most remarkable productions of the vegetable kingdom.

There are birds which dispossess others of their nests, and marine animals which take up their abode in deserted shells; but this plant surpasses all in killing and taking possession; making the body of an insect—and that too, very probably, a living one—the foundation from which it rears its stem, and the source from which it derives its support. It certainly forms one of the most surprising links between the animal and vegetable kingdom yet noticed, and, as such, merits as circumstantial a description as our present imperfect acquaintance with it will allow.

The *Aweto* is only found at the root of one particular tree, the *Rata*. The female *Pohutakana*, the root of the plant, which in every instance exactly fills the body of the caterpillar in the finest specimens, attains a length of three inches and a half; and the stem, which germinates from this metamorphosed body of the caterpillar, is from six to ten inches high: its apex, when in a state of fructification, resembles the club-headed bulrush in miniature, and, when examined with a powerful glass, presents the appearance of an ovary. There are no leaves—a solitary stem comprises the entire plant; but if any accident break it off, a second stem arises from the same spot. The body is not only always found buried, but the greater portion of the stalk as well, the seed-vessel alone being above ground: when the plant has attained its maturity, it soon dies away.

These curious plants are far from being uncommon. I have examined at least a hundred. The natives eat them when fresh, and likewise use them, when burnt, as colouring matter for their tattooing, rubbing the powder into the wounds, in which state it has a strong animal smell.

When newly dug up, the substance of the caterpillar is soft; and when divided longitudinally the intestinal canal is distinctly seen. Most specimens possess the legs entire, with the horny part of the head, the mandibles, and claws. The vegetating process invariably proceeds from the nape of the neck, from which it may be inferred that the insect, in crawling to the place where it inhumes itself prior to its metamorphosis, whilst burrowing in the light vegetable soil, gets some of the minute seeds of this fungus between the scales of its neck, from which, in its sickening state, it is unable to free itself, and which consequently, being nourished by the warmth and



moisture of the insect's body, then lying in a motionless state, vegetate, and not only impede the process of change in the chrysalis, but likewise occasion the death of the insect. That the vegetating process thus commences during the lifetime of the insect, appears certain from the fact of the caterpillar, when converted into a plant, always preserving its perfect form : in no one instance has decomposition appeared to have commenced, or the skin to have contracted or expanded beyond its natural size.

A plant of a similar kind was presented to me in 1837 by a Mr. John Allan, who discovered it growing in abundance on the banks of the Murrumbidgee, in a rich black alluvial soil. The insect in some specimens was six inches long, and the plant about the same springing, like the New Zealand one, from the nape of the neck. This plant is quite different from the other, being a thick stem, formed by the close union of several stalks which unite at the top, and are surrounded by a fringe, which, when expanded, assumes the appearance of a full-blown flower upon the surface of the soil, the rest being buried in the ground: this top has a brown velvety texture. Many similar ones were found in the same locality, which is the only part of New Holland in which they have hitherto been seen. Numerous empty shells and holes were observed in the vicinity; and, at night, the number of large brown moths was so great as more than once to extinguish my friend's lamp.

Both are cryptogamous plants. Insects having a vegetative process of a similar kind have been discovered in other parts of the world; and probably, when the flora of each country is more carefully examined, will be found existing in most of them. At the Bristol Association for the Cultivation of Science, held in August, 1836, a paper was read by J. B. Yates, Esq., on the vegetating wasp in the West Indies, in which the author likewise was of opinion, that the vegetating process commenced during the life of the insect; and, certainly, a careful examination of these singular caterpillars favours the hypothesis. If this should be the case, it is an instance of a retrograde step in nature, when the insect, instead of rising to the higher order of the butterfly, and soaring to the skies, sinks into a plant, and remains attached to the soil in which it buried itself.

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#### ABORIGINAL LANGUAGES OF TASMANIA.

The major part of the following list of native words was extracted from documents in the Colonial Secretary's Office, by the late Jorgen Jorgenson. Those marked with an asterisk were furnished by the Rev. Thomas Dove, lately

