

plant is now growing under the care of Mr. Kefford, of the Acclimatisation Garden, it will be possible to determine what the plant is.

The native food-plants of the desert are deserving of patient study, and, by a knowledge of them, the lives of explorers may be, at times, preserved.

The proper way of using Nardoo, grass-seeds and the oil-seed *Portulaca*, are worthy of investigation. Very little is known of Yowa and other underground bulbs and roots.

Bulbs of *Hypoxis hygrometrica*, *Labill.*, with a yellow flower, were sent me as a native food-plant from Mitchell Downs.

A starch is prepared from a native tuber on the North Coast, supposed to be a "Tacca." Specimens of this farina are to be seen in the Brisbane Museum. The whole subject of indigenous food is deserving of more extended enquiry than it has yet received.

ON APPARENTLY NEW SPECIES OF HALMATURUS.

BY

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(Read on the 8th August, 1884).

THOSE who, like myself, are of opinion that an interesting book might be written upon the colouring of animals and plants, will feel indebted to a German biologist—Herr Eimer—who has, in the Proceedings of the Natural History Society of Würtemberg, endeavoured to explain the present distribution of colours in the Vertebrates. As the result of his researches, Herr Eimer proposes, for our acceptance, three canons. 1st, the ornamental colouring of the primitive stock consisted of longitudinal stripes; the interruption of the stripes gave rise to spots; the lateral elongation of the spots produced cross-bands. 2. The process of transformation is most complete in adults of the male sex; females and young retain more persistent traces of the original pattern. 3. The transformation has not taken place simultaneously over the whole body, but

has proceeded from behind forwards, and from below upwards; the longitudinal stripes, if any remain, being observable on the fore part of the back, or on the lower part of the body. There is no difficulty in understanding the formation of transverse from longitudinal streaks through the intermediation of spots: we see the process almost in its course in reptiles and fish: in scaly-fish, indeed, it is sometimes difficult to say whether the disposition of the spots should be called longitudinal or transverse—they are equally the remnants of the one and the rudiments of the other pattern; nor can a valid objection be taken to the conclusion that the longitudinal striping rather than the transverse was the original pattern, or at least had precedence in time. The passage from former to the latter is frequently shown by the same individual during its stages of growth; changes in the converse direction never. Further, it is worthy of notice that regular longitudinal striping, in the mature animal, is characteristic of the cold-blooded classes; it is rarely shown by birds and mammals. The truth of the second proposition has long been recognised by ornithologists. The third—that modifications of the type pattern have proceeded by a kind of undulatory movement from the hinder and lower towards the fore and upper parts of the body—will probably require fuller consideration; but, on turning to our Australian marsupials, we certainly find in them something very like a confirmation of it. In the largest of the existing members of the carnivorous division, the Thylacine, male and female, the hinder part of the back is ornamented with a series of conspicuous transverse stripes. These stripes—or, rather, the pale intervals between them—re-appear in the Bandicoots (*P. fasciata* and *myosuroides*), and, after another long suppression, they are reproduced in the *Macropidae*—e.g., *Lagorchestes fasciata* and *Halmaturus Irma*—as continuous bands; and in several of the Wallabies as a haunch stripe, representing the interval between the two dark stripes upon the haunch of the Thylacine. Together with these posterior cross-bands, the majority of the Wallabies, in common with the Flying Phalangers, retain a longitudinal stripe on the fore part of the back, and, the Wallabies at least, similarly disposed stripes on the face. Besides these, however, the Wallabies tend strongly to reproduce a second longitudinal band, apparent in *Onychogalea fraenata* and *lunata* as a shoulder-stripe, rendered more distinct by a darkening of the ground colour around it. Curiously enough, this dark area behind the shoulder is more permanent than the stripe itself: it appears again and again without a trace of the latter. All these mark-

ings may be, and are, used as specific characters, and we shall find them exemplified in the species which await an introduction to the Society. One consideration remains. The breeders of domestic animals know full well their tendency to re-exhibit ancestral characters, including colouring and arrangement of colours. To them the recurrence of peculiar markings in several strains of blood would point to their origin from a common stock having those or such-like markings; and they would not be slow to express their contempt for the judgment of a gainsayer. But whether they are more rational than their neighbours, who prefer to regard such similitudes as coincidences, or the result of being called into being to perform hypothetically similar functions under similar conditions, I leave you to discuss, and proceed.

It has been well remarked that the Cape York Peninsula appears to have a fauna peculiarly its own, and experience tends to confirm the idea. Many a harvest has been gathered there; yet, gleanings, sufficient to reward the seeker, still remain on the ground. It is, indeed, more than possible that, when investigation of the interior of the Peninsula becomes safer, a wealth of unknown life will be brought to light. We have a hint of this in the discovery of a fine wallaby, whose haunt of open forest is, as yet, shared by aboriginal man. It is the most conspicuous of the novelties procured by Mr. K. Broadbent during his late sojourn at Cape York, where, by the kind protection of Mr. F. Jardine, he was enabled to penetrate about thirty miles inland from Somerset. We describe it under the name of

HALMATURUS JARDINII, (n.s.)

Size, large; habit, elongate; head with a convex profile, and comparatively short, pointed ears; tail, long and thick; general colour, russet-grey on the upper parts, grey and dirty-white on the lower; a distinct streak across the thigh; a large, reddish-brown patch behind the shoulder; a dark streak from near the eye towards the snout, with a pale one below it, both ill-defined; ears externally edged and tipped with black, internally whitish, with a narrow black edge at the tip; hands dusky, becoming nearly black on the fingers; feet, blackish above, towards the toes, and on the middle of the great toe; tail, black on the upper surface near the end, and with a short, black tuft at the tip; fur of the lower parts, long and soft, yellowish white on the belly, becoming lighter towards the chest, still lighter on the throat.

	Inches.		Inches.
Total length of adult male	68	Of snout from the eye	3½
Length of tail	31	Of shank	13½
Of head	7	Of hind foot...	10
Of ears	3½		

With the dark shoulder-patch of *ualabatus*, the black hands and feet of *manicatus*, and the sandy neck of *ruficollis*, this wallaby equals in size the rock-loving *Parryi*, from which, however, it differs entirely, not only in colouring, but in habitat. The upper surface of the head is rufous, the hairs of the crown being mostly black, with a broad yellow ring in the centre; a few of them are entirely black, and an elongated pencil of stiff, black hairs runs from the upper hinder edge of the orbit towards the ears; at the base of the ears an obscure spot of sandy hair reminds us of *apicalis*. The dark-brown loreal streak extends from near the eye about half way along the snout; it blends anteriorly with the dark-grey of the snout, and inferiorly more or less with the suborbital streak, which is brightest beneath the eye and on the hinder part of the upper lip; below this the face is grey. The hairs of the middle and posterior part of the back are ringed similarly to those of the head, but on the nape and fore part of the shoulders the black portion of each hair becomes light-brown, and the general tint is a rather bright sandy; this merges, on the hinder part of the shoulder, into a large, suffused, reddish-brown stain, which inferiorly extends under the axil. The flanks are grey, the femoral stripe of the same tint, and rendered conspicuous by contrast with the rufous brown of the thigh. The tail is covered, for a quarter of its length at the base, with fur, rather greyer in colour than that of the back; its middle half with rather sparse, adpressed, pale grey hairs, which become longer and darker on the upper surface as they approach the tip, where they are three-quarters of an inch long, and black; the black edge of the outer side of the ear is much expanded on the anterior part of the base; the naked muzzle and the claws are black. Locality, Cape York. Collected by Mr. K. Broadbent. Named in recognition of the assistance given to Mr. Broadbent by Mr. F. Jardine, of Somerset.

✓ HALMATURUS GAZELLA.

Size, small; habit, slender; muzzle, compressed, pointed; profile, straight, a little concave before the eyes; ears, rather large; tail, moderate; general colour, russet-grey, mingled with much black on the back, becoming rufous-brown on the head, rufous on the shank, fawn on the fore-limb, and greyish-white

beneath; a blotch behind the shoulder and a nuchal band, nearly black; loreal and facial streaks, distinct, but ill-formed; ears very scantily clothed within, and scantily without; with a very narrow black edge externally; hind feet rusty-grey; tail furred but a short distance on the base, for the rest clothed with scanty, short adpressed hairs, greyish laterally, blackish superiorly; apical two inches pale grey above and below.

	Inches.		Inches.
Total length of adult female	30½	Of snout ...	1¾
Length of tail ...	12	Of shank ...	5¾
Of head...	3¾	Of hind foot	4¾
Of ears ...	2		

This pretty little wallaby, or padymelon, found in the scrubs around Somerset, with some features in common with those of *Jardinii*, has so juvenile a look that, at the first sight of its skin in spirits, it seemed to be the young of its larger companion; but the specimen described is a female, which has borne young. On the middle part of the back and upper part of the flanks posteriorly it presents a patchy mixture of black and grey, with a reddish tinge, the black extending forwards along the nape and over the head to a vanishing point before the eyes. The dark blotch above the axil contrasts with the grey fawn of the fore-shoulder and side of the nape, and with the purer grey of a large semi-circular space behind it. The rufous colour of the head descends upon the cheek, and separates the pale facial streak from the grey of the chin. The dark loreal stripe is short and broad, and cut off from the angle of the mouth by the facial stripe, which descends from the eye, and is continued horizontally upon the upper lip. The femoral streak is an elongate, oval blotch, on a level with the knee-joint. The lower edge of the flank is fawn, and divides the darker shade of the flank above from the dusky-white of the abdomen. The chest and throat are buffy-white. The third upper incisor smooth, without any fold.

HALMATURUS TEMPORALIS.

Size, small; habit, elongate; tarsi and tail, rather short; ears, moderate, obtusely pointed; fur, moderately short and soft; rufous-brown on the back, finely pencilled with black; on the neck and shoulders and base of the tail dark-grey, pencilled with yellowish-white; side of the head to the ears, a spot behind the base of the ears, and the shanks rufous; a distinct facial streak; indistinct loreal and femoral streaks; a dark spot on the chin; tip of the tail white; a short dorsal streak; hands and feet brown.

	Inches.		Inches.
Length of body...	... 24	Of ear...	... 1-10 lines.
Of tail 14	Of head to the ear ...	3 $\frac{1}{4}$
Of tarsus 5		

I find great difficulty in believing that this, the common padymelon of the Moreton Bay and Darling Downs districts, has remained unnoticed until now. No English description of it exists, but it is possible that a German periodical, not in the Museum library, may contain one. If so, the price paid by the colonial student for an accessible description will be the encumbrance of one more synonym in our lists; if not, the name proposed (*temporalis*) may be thought suitable. The nearest allies of the species seem to be *Wilcoxi*, McCoy and *apicalis*, Gld. The upper surface of the head is light rufous-brown, becoming greyish-brown anteriorly, and light-brown round the muzzle. The side of the head to the upper lip is rufous, much brighter round the base of the ears, and on the upper part of the base of the ears externally there is a large spot of rich rufous; a clear white facial streak, beginning indistinctly beneath the eye, borders the upper lip, and is defined below by a rufous-grey continuation from the grey of the neck. The hairs of the base of the ears externally are long and pale buff, contrasting with the rich rufous around; towards the tip they are also long, but more scanty. The apical two-thirds of the ears externally is a rich brown; the occiput dark-brown, without any rufous tinge. The spot on the chin is dark-brown. The anterior part of the back, top and sides of the neck, and part of the shoulders dark-grey, pencilled with white, becoming lighter grey on the fore part of the shoulder; yellow, pencilled with brown, on the arm, and pure brown on the hands. The back is grizzled rufous-grey, regularly pencilled with black; the black is lost upon the flanks and part of the thighs; the grizzling also on the hind part of the thighs and round the root of the tail, which are smoky-brown. The shanks are bright rust, darker than the temples, but less rich than the back of the ears. The somewhat obscure femoral streak is long, running from below the knee well upon the haunch. Hind feet yellowish, much pencilled with black. The base of the tail, beyond the smoky-brown root, is dark-grey, like the shoulders; this colour is continued nearly to the tip, but is pencilled with white in the middle. The tail beneath is yellowish-white, purer white at the base; all beneath nearly pure white. The tail is well clothed above and below, but on the middle of the sides the scales are nearly uncovered.



De Vis, Charles Walter. 1884. "On Apparently New Species of Halmaturus." *The Proceedings of the Royal Society of Queensland* 1(3), 107–112.

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