

Finally, I should be very much obliged to any gentleman who can at any time give me notice of a "Kangaroo Drive" about to take place in any accessible part of the colony.

ON REMAINS OF AN EXTINCT MARSUPIAL.

BY C. W. DE VIS, B.A.

It most frequently happens that bones obtained from the Queensland drifts are confusedly scattered specimens, having indeed a certain value of their own, but often demanding of their specifier a large use of that "wise and well-founded conjecture" which is not always within reach. Every association of congruous bones is therefore of value—generally of sufficient value to be placed on record, however mistaken in his conclusions drawn from the bones themselves the recorder may chance to be. A belief in this, has prompted the following observations on a collection of fragments in a precisely similar state of preservation, and evidently belonging to the same individual, obtained together in Gowrie Creek, with much pains and patience by my friend, Mr. Henry Tryon. From these fragments, it has been found possible to reconstruct a few bones in portions, sufficient to guide us among the probable affinities of their whilom owner. Fortunately, one of the relics is a molar tooth—a deciduous grinder of a young animal, the epiphyses of whose long bones were as yet non-adherent. The tooth is 14 lines in length, $10\frac{1}{2}$ lines in its anterior, and 9 lines in its posterior transverse diameter. Though worn down nearly to a level with the gum, the disposition of the enamel shows that it had two nearly equal transverse lobes, a strong tubercle opposite to the inner entry of the valley, no median or other link, no cingulum and no anterior valon. On the inner half of the hinder edge of the base, a sinus of enamel indicates that an accessory cusp rising therefrom, with an outwardly-directed and expanding concavity, was applied to the hinder lobe posteriorly, much as in the true molars of *Macropus Titan*. The fangs, partially absorbed, are two in number—the upper part of the front surface of the anterior and

larger one, is shallowly excavated for the reception of the neck of the tooth preceding it—the upper part of the hinder surface of this fang is deeply channelled, as though premonitory of its complete division in the true molars. These characters selectively show marks of affinity with *Macropus* and *Palorchestes* on the one hand—with *Nototherium* and *Diprotodon* on the other—collectively, they point to some bilophodont form differing from both the genera named. The suggestion is strengthened by an examination of the accompanying incisors. Of these, five out of six are serially represented, the three of the right side more or less in perfection. The front tooth (*i*) assumes the form of a tusk, but instead of the long, strongly-arched, laterally compressed and deeply channelled fang of a tusk before me, which unmistakably belongs to the *Nototherium (Mitchelli)*, the present fossil has its fang short, slightly curved, and moderately compressed fore and aft. It is, moreover, conspicuously striated on the upper part of its fore and hind surfaces, and presents at its fracture, an angularly oval, not the bilobed section of the nototherian tooth. Nototherian tusks again are widest in the middle of the fang whence they contract slightly in both directions, the fang before us thickens rapidly from the pulp cavity upwards to its junction with the crown, where it attains a diameter of 13 lines. Of the projecting blade nothing can be said. The outer tooth (*i* 2) is as to its fang similar in proportions and not much less in size, being 12 lines in breadth and 9 lines in thickness. In section it is sub-triangular. On the inner surface of the neck is an elongate concave facet adapted to the convex surface of the intermediate incisor. The blade is produced to an extent of $15\frac{1}{2}$ lines in the axis of the tooth, forming a long oval strongly concave near the base and thinning suddenly off towards the apex, which appears to have been trenchant. The second or intermediate tooth is comparatively small, its diameter being but 7 lines; it has a sub-triangular and slightly convex working surface, and when in place seems little more than an extension of the base of the outer tooth. On the whole the incisor group may be regarded as notothercid in character; the incisors and molar together as *sui generis*.

Femur. Of this bone a moiety of the shaft has been recovered, but unfortunately no portion of the heads. That part of the bone however, which has been restored, comprising the proximal half, perhaps somewhat more, of the shaft, from near the base of the great trochanter on the one side and from the upper part of the lesser one on the other, is a most welcome guide. The lesser trochanter is represented exactly as in the *Diprotodon's* femur by a broad and low convex ridge running along the hinder half of the lower margin of the "neck." Another Diprotodontoid feature is also observable in the present fossil, the scar between the two trochanters. This in *Diprotodon* is a long shallow depression on the anterior side of the shaft close to the lower margin of the neck—in the bone before us it is a semi-lunar rough tract with its lower convex border raised above the surface. Again the scar representing the so-called "third trochanter" in the Kangaroo is present in both femurs, but not in the same position. In *Diprotodon* it appears about the middle of the shaft, in this fossil it is close to the inner edge. A rough tract from the great trochanter downwards alongside the whole outer edge formed by the fore and hind surfaces resembles in a general way the corresponding representative of the *linea aspera* in the *Diprotodon*. The bone as restored measures 13 inches in length and $2\frac{1}{2}$ inches in its least transverse diameter. The fore and aft diameter of this greatly compressed fossil may not however be trusted, the bone has evidently been subjected to a crushing power which may have flattened it considerably before breaking it up into angular fragments. On the whole it bears a striking resemblance to a *Diprotodon* femur.

Radius and Ulna.—Of the Radius and Ulna, of the last-named marsupial or of *Nototherium* the writer knows nothing with certainty. There are bones before him which, from their size alone, might well be referred to one or other of the gigantic genera, but from evidence at hand it appears probable that there is more than one huge form to be distinguished, by their as yet unknown dentition, from those whose teeth have been discovered. It would, therefore, be hazardous to associate the radio-ulnar

joint of the subject before us with those referred to, notwithstanding that it has much greater affinity with them than with that of any macropod or phascolumys. We must be content to notice its distinctive features. The proximal end of the radius in the kangaroo is characterised by a strong inflection of the neck of the bone ulnad, and by the development from its inner side below the neck of a produced tubercle for the insertion of the biceps tendon. In the fossil radius the inflection is but slight, and there is no tubercle whatever, the tendon being inserted on the strongly rugose surface. It has in the first particular more resemblance to the radius of the wombat, but in this animal the tubercle, though lower than in the kangaroo, stands well out from the surface of the bone. In the macropod the interosseous ridge is faintly marked—in the fossil it is conspicuously developed. At four diameters from the head it causes nearly as great a dilatation of the shaft as in *Phascolumys*, but whereas in the latter it forms a sharp edge resulting from the gradual bevelling of the whole shaft towards it, in the fossil it is the edge of a longitudinal ridge pinched out, as it were, from the body of the bone from which it is separated on the outer side by an impressed channel. In a portion of the ulna, consisting of the head minus the olecranon, we remark the absence of the lesser sigmoid cavity and the imperfection of the greater. The median ridge of the latter is completed only at the posterior edge adjacent to the olecranon—in front there is no deflection of the articular surface towards the position which should be occupied by the lesser sigmoid. The insertion of the brachialis anticus is not as in the Macropodidæ into a rough oblique ridge beneath the coronoid process, nor as in *Phascolumys* into a depression on the inner foot of the sigmoid process, but into a deep pit in the front of the upper edge of that process. The outer surface of the shaft, from the broken edge of the olecranon to the lower end of the fragment, is traversed by a broad and rough tract for the attachment of the interosseous ligament.

To sum up—In dentition the animal diverges considerably from *Nototherium*—more so from *Diprotodon*—its divergence is towards

the *Macropodidæ*. In its long bones it approaches very closely to *Diprotodon*, possibly to *Nototherium* also. Its thigh-bone shows that it hardly departed from these in the structure and movements of its hind quarters. It is in short a transition form.

It is to be regretted that the rest of the bones, namely, two ribs, portions of two dorsal vertebræ, part of a pelvis and of a scapula and portions of a tibia and fibula, are too imperfect to afford material for comparative or descriptive notes. It may be convenient that the creature should have a name, and since its remains have carried us from the known to the unknown, the writer would suggest *Sthenomerus Charon*.

CONTRIBUTIONS TO THE ZOOLOGY OF NEW GUINEA, PART VII.

BY E. P. RAMSAY, F.L.S. (Curator of the Museum, Sydney.)

Since I last laid before the Society some notes on the avi-fauna of New Guinea, I have been fortunate enough to secure large and important collections of birds from the interior portion of the east end of the island, inland from Port Moresby, collected at the foot of, and on the slopes of Mount Astrolabe range. The first portion of these collections was obtained from Mr. Charles Hunstein, and is extremely interesting, showing that as we ascend the mountains to higher altitudes, we meet with species which were previously only known from Mount Afak, in the north-west island, such as *Grallinabrugni*, *Oreocharis*, *Diphyllodes chrysoptera*, *Phlogænas rufigula*, and many others.

There were comparatively few new species in this portion of the collection, but it contained many that were not previously known from that portion of the island; nevertheless I obtained a new species of *Sericornis*, a genus which, as far as I know, had not been previously recorded from New Guinea. The *Grallina* also proved of interest, as one sex only of this species was previously known.