

IN CONFIRMATION OF THE GENUS *OWENIA* SO-CALLED.

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(Plate xiii.)

Some two years ago a few fossil bones were sent to me from the town of Warwick, Queensland. Unimportant in themselves they begot the hope that others would follow, but the hope proved futile, as no one on the spot was sufficiently interested in such matters to look for more. As it seemed important to ascertain whether the neighbourhood were indeed fossiliferous, Mr. H. Hurst was commissioned in August last to repair to the district and institute a careful search. This he did. The first fruits of an otherwise scanty ingathering were a *Diprotodon* skull in fragments, and the greater part of a large mandible in fairly sound condition. The latter at once met with a hearty recognition; its incisors and premolars were those of the genus to which the name *Owenia* had been assigned.

The discovery of a second species of the genus is opportune, inasmuch as it establishes a validity which has been denied, and offers for reconsideration a name which is undeniably liable to extinction. Suggested by a strong desire to commemorate, in even so feeble a fashion, the labours of the first interpreter of the marsupiate fossils of Australia, the name was proposed in spite of its declared preoccupation in sundry genera of recent invertebrates. The hope was cherished that since its appropriation to an extinct mammalian genus would cause little or no inconvenience, it might be allowed to pass current. But sentiment will evidently

not avail to excuse an offence against the letter of a law of nomenclature should an objector choose to exact the penalty. Consequently, the writer, brought to a sense of duty by a palæontological friend of well known judgment who happened to be in Brisbane when the fossil was received, now begs permission to withdraw the name *Owenia* and substitute for it the modification

EUOWENIA.

Characters :—Dentition $i \frac{2}{1}$, $c \frac{0}{0}$, $p^4 \frac{1}{1}$, $m \frac{4}{4}$.

Incisors conical, diverging, curving outwards and $\frac{\text{downwards}}{\text{upwards}}$, the lower receiving the upper upon and between them, the posterior upper incisor subrudimentary.

Premolars subtriangular, unilobate, with posterior talon and incomplete external cingulum. Molars of the normal form in the *Nototheriidae*. Nasals narrow, short, not covering the narial aperture anteriorly. Jugals slender. Naso-frontal region as in *Nototherium* (nec *Zygomaturus*) and *Diprotodon*, not greatly depressed.

The almost complete reduction of the upper incisors to a single functionary pair, and the strong curvature of both upper and lower incisors are good generic characters.

The newly acquired mandible, for which a suitable name may be *Euowenia robusta*, indicates a species far removed from identity with *E. grata*, mihi. This will be best seen from the following statement.

Mandibular characters of the two species :—

Habit weak ; symphysial gradient steep ; inferior contour	
angular ; mesially rather concave ; incisors rotund.....	<i>grata</i> .
Habit robust ; symphysial gradient low ; inferior contour	
parabolic ; incisors compressed	<i>robusta</i> .

The fossil consists of the inferior moiety of the articulating limb with the dentary limb of the left side in natural conjunction with the anterior half of the dentary limb of the right side, all the teeth of the parts preserved being in place except m^3 of the left side, which has been destroyed by a recent fracture of the jaw.

The mandible has been bequeathed by an individual well stricken in years.

The symphysis is 194 mm. in length; its upper surface descends caudad at an angle of 20° , in strong contrast with its precipitous descent in *E. grata*. Beneath the posterior end of the symphysis, on either side of its central line, is a deep excavation, confluent with its fellow posteriorly but separated from it anteriorly by a broad backwardly projecting spine, which gives a reniform shape to the excavation as a whole. The posterior half of the diastema is compressed; its edge ascends from the premolar forwards and about the middle of the diastema parts from that of the anterior half and curves downwards and forwards upon the outer surface of the incisive socket, but no tubercle is developed upon it as in *E. grata*. The anterior half of the diastema becomes less and less compressed as it approaches the incisive outlet. The dentary limb posteriorly is low, thick, and convex; at m^4 it has a height of 90 mm., with a thickness of 67 mm. Beneath the anterior grinders its outer surface becomes concave to a notable degree, but resumes its convexity in front of the anterior dental foramen, which is large and placed, as to its posterior margin, in the vertical of the anterior fang of the premolar. The articulating limb presents only the lower part of the masseteric fossa; this is, for a Nototheroid, rather deep, and has its surface corrugated by ridges and furrows which have a roughly concentric course near the base of the fossa, above it an irregular converging course towards the base. On the inner side the post-molar ledge behind the last molar rises into a strong abutment against the base of the tooth; this tapers off and subsides before reaching the angle of the ledge. The angle is well marked, and from it a broad low ridge runs upwards and backwards to the posterior dental foramen, which is large and is placed further from the angle of the ledge than this is from the last molar. The channel between the raised margin of the ledge and the coronoid process is contracted; the hinder surface of m^4 is level with the basal edge of the coronoid process. The inferior contour of the mandible would be a regular parabolic curve but for a slight emargination beneath the anterior dental foramen.

The large incisors are separated at the base by a space of 15 mm. They are in shape compressed twisted cones, diverging strongly outwards with a double curve which brings their trenchant apices nearly parallel with the axial line of the jaw. The surface of wear describes a convoluted curve from the middle of the outer upper edge to the inner face of the extreme tip and thence downwards upon the anterior surface of the tooth; the surface of wear is much larger on the right tooth than on the left. The apex of the tooth is unguiform, a shape conferred upon it by the coat of enamel investing the outer surface of the tooth.

The general shape of the premolar is triangular with the transverse and longitudinal diameters in the ratio 1 : 1.4. Wear has exposed an irregular field of dentine on the lobe and a larger one of crescentic shape on the talon; these are separated by their respective margins of enamel and these again by the remains of the depression which in the younger tooth separates the talon from the lobe. From the middle of the outer surface of the crown a projecting fold or cingulum runs along the posterior half to the end of the talon; the fore end of the crown is not reached by the worn surface above, showing that in the unworn tooth the lobe had a backward curve.

Of the molars there is little to be said; they present nothing which would compel us to distinguish the mandible from that of a *Nototherium*. The premolar and first molar of the right side are, like the incisors, much more reduced by attrition than those of the opposite side, and the greatest amount of reduction has taken place on the inner side of their crowns, a circumstance which reminds us of a somewhat similar condition of things in *E. grata*. In a large number of mandibles of *Nototherium* and *Diprotodon* a similar detrition of the inner sides of the anterior cheek-teeth does not once occur.

Dimensions.

Total length from tip of incisor to base of condylar process.....	450mm.
Height at m^4	90
Transverse diameter at m^4	67

Length of molar series with premolar	174
Length of premolar.....	14
Breadth of premolar.....	10
Length of m^4	48
Breadth of m^4	30
Length of incisor, upper edge.....	47
Breadth of incisor, longitudinal, at upper margin of outlet	34
Breadth of incisor, transverse.....	22
Length of symphysis... ..	194

Judging by the general facies and by the molars only, and allowing for changes wrought by age and differences possibly contingent upon sex, the *Nototherium* jaw, with which the present one might readily be identified, is that named by Owen *Nototherium victoriæ*. So great is the resemblance between them that the writer long hesitated to think them distinct. Possibly they are not so, but after much pondering he has come to the conclusion that he would not be justified in assuming an identity for which, in the absence of the necessary tests, there is no positive warrant. Still it would be by no means surprising to find that the essential characters of *N. victoriæ*, at present unknown, associate it with *Euowenia*.

The family name *Nototheriidae* has been imposed by the talented author of the British Museum Catalogue of Fossil Mammals, Vol. V., upon the single genus *Nototherium* as understood by Owen, and in a larger sense that name is admissible, nay inevitable. For the genus *Diprotodon* Mr. Lyddeker writes as a higher term *Diprotodontidae*. This proposal to erect *Diprotodon* into the type of a distinct family must be ascribed to the unfortunate confusion perpetuated between *Nototherium* and *Zygomaturus*. Compared immediately with *Zygomaturus*, *Diprotodon* stands indeed sufficiently far aloof to be invested with family rank, but when *Nototherium* in its true characters is placed in position between the two, *Diprotodon* seems to be nothing more than a member of the *Nototheriidae*. However that may be, the term *Diprotodontidae* is

unfortunate, in fact altogether objectionable. In its exclusive sense it can only be properly applied to the wombats, in its looser signification it cannot be accepted as the name of a division of the *Diprotodontia* simply because it involves a contradiction; it inferentially secludes within the limits of a genus attributes which the term *Diprotodontia* predicates of the whole suborder to which the genus belongs. The infelicity of the selection of *Diprotodon* as a generic name would only be accentuated by raising a modification of it into the name of a higher generalisation.

The *Nothotheriidae* include the genera *Nototherium*, *Diprotodon*, *Euowenia*, *Zygomaturus*, and probably *Sthenomerus*, but of the last named genus the dentition is insufficiently known. Probability is also in favour of *Scaparnodon* proving to belong to this family.

Characters of the Nothotheriidae.

Dentition $I \frac{3 \text{ or } 2}{1}$, $C \frac{0}{0}$, $P \frac{1}{1}$, $M \frac{4}{4}$.

Posterior upper incisors small. Premolars, except in *Zygomaturus*, subtriangular, single-cusped, with a posterior talon. Molars transversely bilobed, the upper without longitudinal ridges, talons antero-posteriorly narrow. Scapula long, narrow. Ilii greatly expanded. Limbs gressorial, approximately equal; their proximal bones elongate, simple. Foot broad. Tail short, tapering.

Synopsis of genera:—

Incisors $\frac{3}{1}$ —

Upper premolars subtriangular, unicuspid;
cranial habit and length of muzzle
moderate.

Crowns of first incisors contiguous or slightly
diverging, the lower incisors proclivous.

Posterior upper incisors on the edge of
the jaw; cusp of premolar with a
shallow posterior cleft..... *Nototherium*.

Posterior upper incisors near midline of jaw ; cusp of premolar with a deep lateral cleft..... *Diprotodon*.

Upper premolars oval, tuberculated ; cranial habit very massive, with short expanded muzzle..... *Zygomaturus*.

Incisors $\frac{2}{1}$ —

Crowns of first incisors above and below widely diverging, with a similar strong double curvature..... *Euowenia*.

Supplementary Note : In a collection of fossils received since the foregoing remarks were remitted, a second example of *E. robusta* very opportunely occurs. It exemplifies the state of the teeth and jaw at an early stage of adult life. At this period the following unessential differences are noticeable :—The corrugations of the ectocrotaphyte fossa are much less pronounced, the curvature, descending from the edge of the diastema, commences further forward, and the surface of wear on the incisor is not so extensive. In all other respects it is identical with the type. In the same collection is an isolated incisor and a fragment of jaw containing a premolar and first true molar, much worn.



De Vis, Charles Walter. 1891. "In confirmation of the genus *Owenia* so-called." *Proceedings of the Linnean Society of New South Wales* 6, 159–165.
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