STUDIES IN TASMANIAN MAMMALS, LIVING AND EXTINCT.

Number I.

Nototherium mitchelli.

(A Marsupial Rhinoceros.)

Nototherium mitchelli, Owen, British Association for Advancement of Science, Report 1844, p. 232.

?Zygomaturus trilobus, De Vis, Proceedings Royal Society of Queensland, 1888, Vol. V., pt. 3, p. 111.

By H. H. Scott (Curator, Launceston Museum); and Clive E. Lord (Curator, Tasmanian Museum).

(Received 3rd May, 1920. Read 10th May, 1920.)

The discovery at Smithton, during the present year, of a nearly complete skeleton of *Nototherium mitchelli* forms the occasion for a revision of many of our ideas respecting these remarkable marsupial animals, since the fragmentary remains hitherto available for study have failed to yield the sequence of evidence we now possess. This is a note only—intended to place upon record the fact that *Nototherium mitchelli* was an extinct marsupial rhinoceros, and that the four genera, *Nototherium*, *Zygomaturus*, *Euowenia*, and *Sthenomerus*, with their several species, are accordingly under revision—and will later on be dealt with in detail. The enormous mass of material to be passed in review forbids anything like speculation at present, but it is within the mark to observe that two groups of these animals have been instinctively felt (by all workers) to have existed, quite irrespective of sex questions—one a platyrhine and the other a latifrons type, and that it now appears that they were also a horned, and a hornless group, and that *Nototherium mitchelli* belonged to the former, or cerathine group, and that some other species constituted the acerathine group, in which the

weapons were reduced to very small things, or actually missing. We are fully alive to the fact that the sex question comes strongly to the front here, and we hope to fully deal with the whole question later on. The true Rhinoceroses and Tapirs had generalized ancestors that brought these two families exceedingly close together, and so closely did they simulate each other that the teeth alone served to distinguish them. The *Nototheria* had tapir like teeth, and, as Professor Owen demonstrated, as far back as 1872, the nasal structure recalled the anatomy of the Tichorhine Rhinoceros, but with the imperfect material Owen had to work upon he was unable to say, as we can to-day, that *Nototherium mitchelli* was a marsupial Rhinoceros, and not a marsupial Tapir like animal, as hitherto assumed. The fortunate discovery of remains of the Tichorhine Rhinoceros, embedded in the ice, enabled palæontologists to speak with absolute certainty as to the nature of the animal's horn, but the absence of such an event in our case leaves grounds for conjecture as to structure and shape, to which set of circumstances we must add the fact that the marsupials, as a group, are well removed from the ancestral rhinoceros type, and accordingly the complex factors of "parallel evolution" have to be contended with. At present all that can be said is that we have an animal with a skull built for aggressive warfare with specially constructed cervical vertebræ—powerful and shock resisting—nasal regions akin to those of the Tichorhine Rhinoceros, plus a curious nasal cartilage point (practically unique), which is evidently a development, essential to the remoulding of the marsupial skull, to the special needs of the case. All these structures will, in due course, be dealt with, but at present can only be glanced at. Evidence of the titanic battles that this animal engaged in are to be found in the complete smashing and partial mending of the collar bone, the crushing in of the maxills-nasal region, and its subsequent repair. The whole series of structures that in *Nototherium tasmanicum* could have served no greater purpose than a moderate resistance of force, are here, in *Nototherium mitchelli*, built up to the strength essential to the conducting of the fiercest aggressive warfare; and the conclusion seems inevitable that the Marsupial Order, in ages past, evolved a fighting group of Rhinoceros like animals, of which the giant, *Nototherium mitchelli*, was one. The Palæontologist De Vis worked hard to show that *Zygomaturus* was a rare animal in its day, and made many departures from the typical *Nototheria*, thus feeling his way through fragmentary evidence to a segregation of the two groups cited above. Professor Owen never saw

the skull called *Zygomaturus*, but claimed a cast of it, as a replica of the skull that should have been associated with the type jaws of his genus *Nototherium*. We hold a very exact copy of Professor Owen's cast, and have checked it with his description and measurements, and found it to agree *in toto*, but the real skull, that has come to us, is more powerful in the essential parts, and accentuates the Rhinoceros habits in a most marked degree. In working over this cast, with Professor Owen's descriptive text as a guide, the master mind of the great comparative anatomist stands boldly out, and the pity is Owen is not here to deal with this splendid find from the Tasmanian pleistocene formations. This latest addition to our knowledge shows that the cerathine *Nototheria* were much larger animals than the genus were suspected of producing, and we quite expect to find Huxley's *Diprotodon minor* thus accounted for, not so much for its original description as for its later acceptance by others, who, finding Nototherian remains relating to the appendicular skeleton, naturally relegated them to *Diprotodon minor*, but this question we shall deal with very fully later.