

XXI.—*Description of the Mammalian Remains found at Kyson in Suffolk, mentioned in the preceding Notice.* By RICHARD OWEN, Esq., F.R.S., &c.

1. Molar of a *Macacus*. (Fig. 1.)

THIS tooth was one of the first of the mammiferous remains from the London clay formation at Kyson which was submitted to my examination by Mr. Lyell, and the one which after a cursory comparison I observed to present a considerable resemblance with the molar of an opossum. I should not however have presumed to have published a statement of its affinity to, much less its identity with, the genus *Didelphys*, without testing the fossil by a more extended and rigorous comparison.

This I have lately undertaken with a view to the present communication, and the result has been to identify the tooth as a second molar, left side, lower jaw of a *Macacus* (the tooth which corresponds with the second ‘bicuspis’ in Human Anatomy.) (See fig. 1.) The crown presents four tubercles, arranged in two transverse pairs, the anterior pair being the most distinctly developed, and rising the highest (fig. *a*.); there is also a very small ridge or rudimental talon at the anterior and another at the posterior side of the crown; the latter is placed between and connects together the two posterior tubercles. The fangs are two, strong and divergent; the anterior one has been broken off. The grinding surface of the tooth presents two depressions, a small one in front of the anterior pair of tubercles, and a larger one between the two pairs of tubercles. (Fig. 1, *b*.) The tooth has evidently belonged to an old individual, for the tubercles are worn and the posterior concavity is smoothed and deepened by attrition. It differs from the corresponding tooth of a recent *Macacus* of the same size in having a slight ridge along the base of the anterior part of the crown, and in being a little narrower from side to side, and the same characters distinguish the posterior molar of the fossil *Macacus* described by me in the September number of the ‘Magazine of Natural History’ (1839). As, moreover, the present fossil

Fig. 1.



molar bears exactly the same proportion to the above-mentioned fossil posterior molar, which obtains in the corresponding teeth of the recent *Macaci*, I have no doubt that the two fossil teeth belong to the same extinct species of *Macacus*.

The inferior molars in the genus *Didelphys* differ from the tooth in question in having the anterior and external angle cut off as it were vertically.

2. *A portion of Jaw with one of the False Molars of a Mammiferous Species, probably allied to the Genus Didelphys.* (Fig. 2.)

There is no tooth so little characteristic, or upon which a determination of the genus could be less safely founded, than one of the false molars of the smaller carnivorous and omnivorous *Feræ* and *Marsupialia*. A large, laterally compressed, sharp-pointed middle cone or cusp, with a small posterior, and sometimes also a small anterior talon, more or less distinctly developed, is the form common to these teeth in many genera of the above orders. It is on this account, and because the tooth of the fossil in question (fig. 2 a.) differs in the shape of the middle and size of the accessory cusps from that of any known species of *Didelphys*, that I regard its reference to that genus as premature, and the affinities of the species to which it belongs as awaiting further evidence before they can be determined beyond the reach of doubt. Mr. Charlesworth, by whom the present fossil was first described and figured*, has accurately specified the differences above alluded to in the shape of the crown of the tooth as compared with the false molars of the true Opossums: they are seen in the more equilateral or symmetrical shape of the middle cusp, the greater development of the posterior talon, and the presence of the anterior talon at the base of the middle cusp: the grounds on which his determination of the fossil was founded are not stated.

Fig. 2 a.



Outside, nat. size.

I agree, however, with Mr. Charlesworth, so far as to consider the fossil in question as bearing so close a resemblance

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to the corresponding part of the Opossums as to warrant the expectation that subsequent discoveries may prove the differences above-mentioned to be merely specific. The crown of the spurious molars of the placental *Feræ* which present the same general form as the fossil, are thicker from side to side in proportion to their breadth; the spurious molars of the *Dasyurus Thylacinus* and *Phascogale* differ in like manner from the fossil. It is in the marsupial genera *Didelphys* and *Perameles* that the false molars present the same laterally compressed shape as in the fossil. Now besides the perfect tooth, the fossil includes the empty sockets of two other teeth (fig. 2, *b*); and the relative position of these sockets places the *Perameles* out of the pale of comparison. On the hypothesis that the present fossil represents a species of *Didelphys*, the tooth *in situ* unquestionably corresponds with the second or middle false molar, right side, lower jaw. This is proved by the size and position of the anterior alveolus. Had the tooth *in situ* been the one immediately preceding the true molars, the socket anterior to it should have been at least of equal size, and in juxta-position with the one containing the tooth. The anterior socket, however, is little more than half the size of the one in which the tooth is lodged: it is also separated from that socket by an interspace equal to that which separates the first from the second false molar in the *Didelphys Virginiana*. This is well shown in the inside view (fig. 2, *c*). In the placental mammalia, in which the first small false molar is similarly separated by a *diastema* from the second, the first false molar has only a single fang. In the present fossil the empty socket of the first false molar proves that that tooth had two fangs as in the marsupial *Feræ* and *Insectivora*. There is nothing in the size or form of the socket posterior to the implanted tooth of the fossil to forbid the supposition that it contained a spurious molar resembling the one in place; had it been the socket of a true molar, as Mr. Charlesworth conjectures, then the fossil could not have belonged to *Didelphys* or to any other known marsupial genus, because no known marsupial animal which presents the

Fig. 2, *b*.

Nat. size.

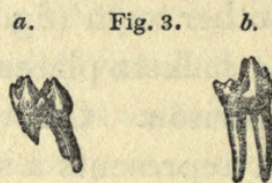
Fig. 2, *c*.

Inside. Nat. size.

posterior false molar of a similar form and in like juxtaposition with the true molars, as the tooth in the present fossil, (on the supposition that it immediately preceded the true molars) has the next false molar so small as it must have been in the fossil on that supposition.

3. *Two molars of a small Mammal most nearly resembling those of the Insectivorous Bats.* (Fig. 3.)

One of these small grinders (fig. 3, *a*) has its crown composed of four triangular prisms, placed in two transverse rows, with an angle turned outwards and a side or flat surface inwards, the summits being sharp-pointed. The exterior prisms are the largest. The crown swells out abruptly above the fangs, defending them, as it were, by an overhanging ridge. There is a small transverse eminence or talon at the anterior part of the crown; and a very small tubercle is placed between the bases of the two external prisms.



Twice nat. size.

The second molar (fig. 3, *b*) differs from the preceding in having the two posterior prisms suppressed, and replaced by a flattened triangular surface. The anterior prisms are present, and their apices project far beyond the level of the posterior surface. There is a small ridge at the anterior part of the tooth.

These teeth agree more nearly with the antepenultimate and last molars of the larger Insectivorous Bats than with any other teeth with which I have as yet compared them: they differ chiefly in the presence of the small tubercle at the basal interspace of the exterior prisms.

XXII.—*Information respecting Botanical Travellers.*

Mr. Schomburgk's recent Expedition in Guiana.

IN our first volume, p. 68, we communicated the accounts which we had received from Mr. Schomburgk up to the autumn of 1837, informing us of his intention to prosecute his researches to the eastward and towards the sources of the Orinoko. We shall now have the satisfaction, from his arrival in this country, to present our readers, in the present and subsequent Numbers, with the narrative of his proceedings up to the time of his return to Georgetown, the capital of British Guiana.



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