

Article XXV.—NOTE ON *EQUUS CAPENSIS* BROOM.

BY R. BROOM.

Four years ago I published a short paper 'On Evidence of a large Horse recently extinct in South Africa.'¹ For some time it had been known that teeth and bones of a large horse had been picked up frequently in river bed deposits and under sand dunes but the possibility of their being the remains of horses of the earlier European settlers led to their being never very critically examined.

In 1907 a slab of superficial limestone was cast up by the waves on the shore of Table Bay at Yzerplaats containing a large part of the lower jaw of a horse which could not possibly have been a horse introduced by the Europeans. There is reason to believe that the limestone is a land formation and that the horse must date back to at least the time when Table Bay was dry land. Whatever be the age of the formation it is quite manifest that the horse is ancient and the jaw was described and made the type of a new species *Equus capensis*. Unfortunately the characters of the lower molars are of much less value in the classification of horses than the upper and I have thought it well to supplement the account by the description of some upper molars.

As stated in the previous note a number of bones and teeth were found at Bloembosch, near Darling, associated with remains of the extinct huge horned *Bubalus bairni*, and with abundant human implements. There was, however, just a possibility that the human implements might not be contemporaneous. Recently at Hagenstad in the Free State I discovered remains of *Bubalus bairni* and two new extinct Antelopes *Connochætes antiquus* and *Cobus venterae* with undoubtedly contemporaneous human implements, and clear evidence that *Equus capensis* was also a contemporary. Unfortunately the remains of the horse were very few in number but included one good tooth. There is little doubt that the horse and the other associated animals were killed by the early men for food as the bones are all broken, doubtless to obtain the marrow.

The proportions of the Cape horse differ considerably from those of *Equus caballus*. A well preserved right middle metatarsal measures

¹ Annals of the South African Museum, Vol. VII, Pt. III, p. 281, 1909.

in length 272 mm. The maximum width above the distal articulation is 60 mm., and the shaft in the region of the nutrient artery measures 39 mm. in width and 40 mm. in thickness. The corresponding measurements in a modern horse 15 hands in height are 285 mm., 54 mm., 32 mm. and 33 mm. It would thus appear that the Cape horse was more powerfully built but

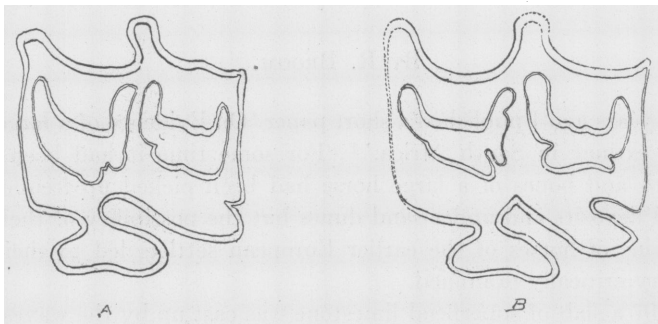


Fig. 1. Upper premolars pm⁴ of *Equus capensis*. A, a specimen from Middelburg, Cape Colony; much worn. Am. Mus. No. 14380. B, a specimen from Darling, C. C., slightly worn: Capetown Museum.

did not stand so high. If the same proportions are found in the tibia and femur the probability is that *Equus capensis* stood about 14 hands in height. The head, however, must have been relatively much more massive than in *Equus caballus*. The incisor portions of two skulls are preserved and while agreeing closely in size they are much larger than in the average modern horse — larger in fact than in the largest specimens of *Equus caballus* I have been able to examine. In the average modern horse of 15 hands the width across the narrowest portion of the diastema behind the 3rd incisor is 56 mm.: in *Equus capensis* it measures 80 mm. The incisors are all of large size and the greatest measurement across the outer ones is 90 mm. The canine is lost but its socket is in part preserved in one specimen, and it is manifest that it must have been much larger than in *E. caballus*. There is no indication as to its length but it must have had a transverse diameter of about 20 mm.— certainly not less than 19 mm., a larger diameter than any of the incisors. In this it differs markedly from *Equus caballus*.

The grinding teeth are chiefly remarkable for their large size and for the simplicity of the enamel pattern. The best preserved grinding teeth are two 4th premolars, one from Darling, the other from the Karroo (?) Middelburg). The tooth which I figure shows the characters well. It measures 29 mm. anteroposteriorly and 31 mm. transversely. One of the teeth from Darling, though less perfectly preserved, is considerably larger, measuring 34 mm. both anteroposteriorly and transversely. The parastyle

and mesostyle are strongly developed. The prefossette and postfossette are of the normal *Equus* type except that there is extremely little folding of the enamel. In the specimen figured there is little more than an indication of folding and in the two Darling specimens it is only very slightly more marked. Another interesting point to which Dr. W. D. Matthew kindly called my attention is that there is no enamel folding at the bottom of the deep valley between the hypocone and protocone. In the majority of species of *Equus* the enamel at the end of the valley forms a sharp angle which passes to some extent into the space between the two fossettes and immediately inside of this ridge the enamel forms a fold into the valley — the *Caballine fold*. In nearly all species of *Equus* this fold is present — at times there are two or more folds. In *Equus capensis* there is only the faintest indication of the fold in one of three specimens. In the other two the bottom of the valley has the enamel rounded and instead of being a very thin layer as in most species it is about half as thick as the thickest part round the protocone. The only species of *Equus* which I am aware of that has a similar condition to that seen in the molars of *E. capensis* is *E. asinus* which is only about $\frac{2}{3}$ the size of the extinct Cape horse.

The knowledge of the structure of the molars is of importance in deciding the question whether the Cape horse is in any way ancestral to the Arab horse or related to the large Indian Siwalik horse. As both these types have the enamel foldings even more complicated than in the ordinary European horse we may safely assume that the Cape horse is not nearly related to either.

On the evidence we at present have we may conclude that there lived in South Africa in the human period and probably to within a few thousand years a large headed heavily built but short legged horse which stood about 14 hands in height. Though associated with *Bubalus bairni* and we might suspect like it allied to early North African and southern Asiatic types, the evidence is against any near affinity between the Cape horse and known recent or pleistocene European, Asiatic or American forms. Where it came from, how long it lived in South Africa, and why it became extinct, are questions we must leave to the future.

