

THE FIRST RHINOCEROTID OF THE PRETIGLIAN "BLACK BONES" FAUNA FROM THE NETHERLANDS

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SUMMARY

An upper last premolar recently dredged from the Schelde estuary represents either *Dicerorhinus etruscus* (Falconer) or *Dicerorhinus jeanvireti* Guérin, a new element to the Pretiglian "black bones" fauna of the Netherlands.

INTRODUCTION

The fossil rhinocerotid cheek tooth dealt with in the present note was dredged on 27 September 1980 from a depth of 35 m in the East Schelde along the South coast of Schouwen, province of Zeeland, the "Roggen-dam", by Messrs. J. and W. C. Schot of the ZZB. It is on exhibit in the municipal museum of Zierikzee, along with bunomastodontid and early true elephant molars from the same locality and depth described before (HOOIJER, 1953). Like these, it belongs to the so-called black bones fauna of the Schelde estuary, the Pretiglian of the Netherlands, a mostly Middle Villafranchian mammalian fauna antedating that of Tegelen, the Tiglian. It is the first element of its kind to have been recovered with the Pretiglian fauna, and, therefore, not without interest. Occlusal and internal views are presented on pl. I.

DESCRIPTION

The fossil tooth is thoroughly black and produces a metallic sound when tapped on. The crown is undamaged but much worn down. It represents the right upper fourth premolar, P⁴ dext., of a dicerorhine rhinocerotid. The external crown surface, worn down to 15 mm from the base of the enamel, is markedly inclined inward, pointing to a brachyodont crown. The paracone and metacone styles are barely noticeable and evidently were not very marked. The external enamel surface is only weakly depressed between the roots. The occlusal surface of the crown is nearly flat anteroposteriorly but hollowed out transversely, the deepest part being at one-third of the width from the external side. In the middle of the occlusal surface there is the remainder

of the medisinus, an oblique enamel pit 19 mm long and 9 mm in width externally, with a depth of 10 mm. The posterior border is straight; there is no trace of the crochet any more, nor of a crista. The postsinus is reduced to a shallow pit, 9 mm at most in diameters and isolated from the posterior crown border. The internal cusps, protocone and hypocone, have become confluent on the occlusal surface over a width of at least 10 mm, between the internal end of the medisinus pit and the groove delimiting the hypocone from the protocone internally. On the internal crown surface there is a strongly developed, crenulated horizontal cingulum well set off from the convex surface of the protocone and 10–11 mm high above the base of the enamel. It is also seen anteriorly, along the rounded anterointernal crown corner, but for a few mm only as it is then reached by the wear level. Along the flattened internal surface of the hypocone it rises gently to a height of 16 mm from the base at the posterointernal crown angle, which is quite marked. Nothing of the posterior cingulum remains because of the advanced stage of wear. There is no crown cement although this may well have been present on the very slightly rugose external and internal enamel surfaces of the crown and in the medisinus and postsinus pits. The anterior and posterior enamel surfaces of the crown show traces of interproximal wear and pressure caused by the adjoining cheek teeth in the form of polished contact facets and depressed areas, such as one next to the parastyle anteriorly into which fitted the metastyle of the penultimate premolar. Of the three roots, the internal is the most powerful, consisting of a large anterior and a smaller posterior portion very nearly separated from each other, with blunt apices and 35 mm long. The anteroexternal root is broad transversely, constricted in the middle, and equally long. The posteroexternal root has broken off at its base.

The anteroposterior diameter of the crown is 36 mm at the base of the external surface, and 32 mm internally. The maximum transverse crown diameter is 55 mm at the base anteriorly; the posterotransverse crown diameter at base is 51 mm.

DISCUSSION AND CONCLUSION

Although specific determination of a single, isolated fossil rhinocerotid cheek tooth may be a delicate matter, we are fortunate enough in the present case to have the option between only two species to which the fossil P⁴ may be referred. On the basis of morphology and size the present tooth may represent *Dicerorhinus etruscus* (Falconer) or *Dicerorhinus jeanvireti* Guérin, both perfectly acceptable but with a slight preference for the latter by the circumstantial evidence.

In its brachyodonty, flatness of the external surface, and the strongly

developed internal cingulum as well as in its dimensions the present fossil P⁴ is indistinguishable from that of *Dicerorhinus etruscus* of the Middle and Upper Villafranchian of Europe. In this species, the internal cingulum of P⁴ is not always as strongly developed as is that in the Zeeland P⁴, e.g., in the Tegelen dentitions (BERNSEN, 1927), but in that of Leffe in Italy (VIALLI, 1956) the internal cingulum is as well developed as that in the Zeeland P⁴. Twelve specimens of P⁴ of *D. etruscus* vary in external anteroposterior diameter from 34.5 to 49 mm, and in greatest basal transverse diameter from 41 to 57.5 mm (GUÉRIN, 1972, p. 67), ranges that include our observations on the Zeeland P⁴.

Less than a decade ago, GUÉRIN (1972, p. 136) separated the dicerorhine rhinoceros of Vialette and other Lower Villafranchian sites in Europe from that of the Middle and Upper Villafranchian as *Dicerorhinus jeanvireti*. In all its characters and in size the P⁴ of this species, however, is so close to that of *D. etruscus* as to make a distinction impossible: the internal cingulum of P⁴ is strongly developed and the crown dimensions (of nine specimens) fall within the variation limits of those of the P⁴ of *D. etruscus* (GUÉRIN, 1972, p. 67).

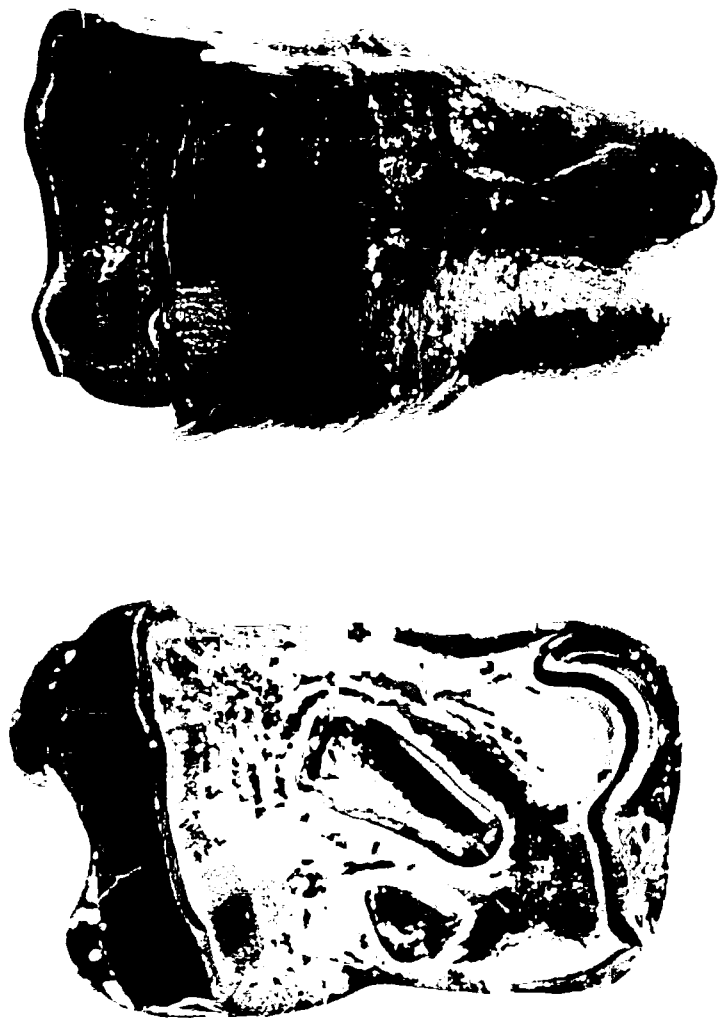
The fossil Zeeland P⁴, therefore, may belong to either one of these species. However, it is somewhat more likely that it represents *D. jeanvireti* rather than the later *D. etruscus*, for the associated *Mammuthus meridionalis* (Nesti) of the black bones fauna is less advanced than that of Tegelen (with *D. etruscus*), and *Anancus arvernensis* (Croizet & Jobert) of the black bones fauna does not occur at Tegelen any more. Some of the black *Mammuthus meridionalis* molars that I have examined approach the Laiatico stage (MAGLIO, 1973, p. 57) and may be as much as 3 million years old (cf. MAGLIO, 1973, p. 74). The black bones fauna may be placed in the Early (not earliest) and the Middle Villafranchian, between 3 and 2 million years ago, whereas Tegelen represents the Upper (but not uppermost) Villafranchian, between 2 and 1.3 million years ago (AZZAROLI, 1970, p. 119).

In conclusion, the fossil Zeeland P⁴ belongs to either *Dicerorhinus etruscus* or *D. jeanvireti*; we need more material to make a decision one way or the other. When we shall have skull and postcranial material of the black bones rhinocerotid we may find both *D. jeanvireti* and *D. etruscus* to be represented, just as they are in the upper levels of the Zone des Etouaires at the top of the Lower Villafranchian (GUÉRIN, 1972, p. 141).

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PLATE I



Dicrodinium jeanvicti Guérin ex. *Dicrodinium chusans* (Falconer), Pl. dext. Prestigian, Roggendaam, province of Zeeland, the Netherlands, Orchisal (left) and internal (right) views, 1.5 \times natural size.

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