

A Placodontoid jaw fragment from the Lower Muschelkalk of Winterswijk (The Netherlands)

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1 figure

Abstract

A jaw fragment of what was most likely a placodontoid marine reptile has been reported from the Lower Muschelkalk of Winterswijk. The fragment is too small for determination on the species level but the typical tooth replacement of the placodontoid family can just be recognised. The teeth however are far smaller than fitting to any of the known species if not belonging to a juvenile.

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Abbreviations

NME Natuur Museum Enschede, Enschede, The Netherlands



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1. Introduction

The Lower Muschelkalk of Winterswijk (lower Anisian, lower Middle Triassic) has become well-known for some excellent specimens of Triassic marine reptiles. The fauna is known to include taxa such as *Placodus*, *Anarosaurus*, *Nothosaurus*, and *Tanystropheus* (see e.g. Oosterink *et al.*, 2003, and references in Albers & Rieppel, 2003). Although still many of these remain in private collections the tide seems to be turning and people are starting to part with their ‘treasures’ in favour of public repositories as a prerequisite for interest of the scientific community. Recently the ‘Natuur Museum Enschede’, a natural history museum local to the quarry, has been donated by Remco Bleeker a very tiny piece of jaw which in my humble opinion is exemplary for the stuff that is prone to be overlooked in any collection, private or public, but which is sure to eventually be lost if it were to have stayed in a private collection.

The currently described jaw fragment (figure 1) was found in layer 9 (Oosterink, 1986), the layer that has produced most of the material known from Winterswijk and does not resemble any previously found material. The *Placodus* material known from Winterwijk, almost exclusively in private collections, is mostly from much higher up in the stratigraphy (as far as the stratigraphic circumstances of those finds have been at all documented).

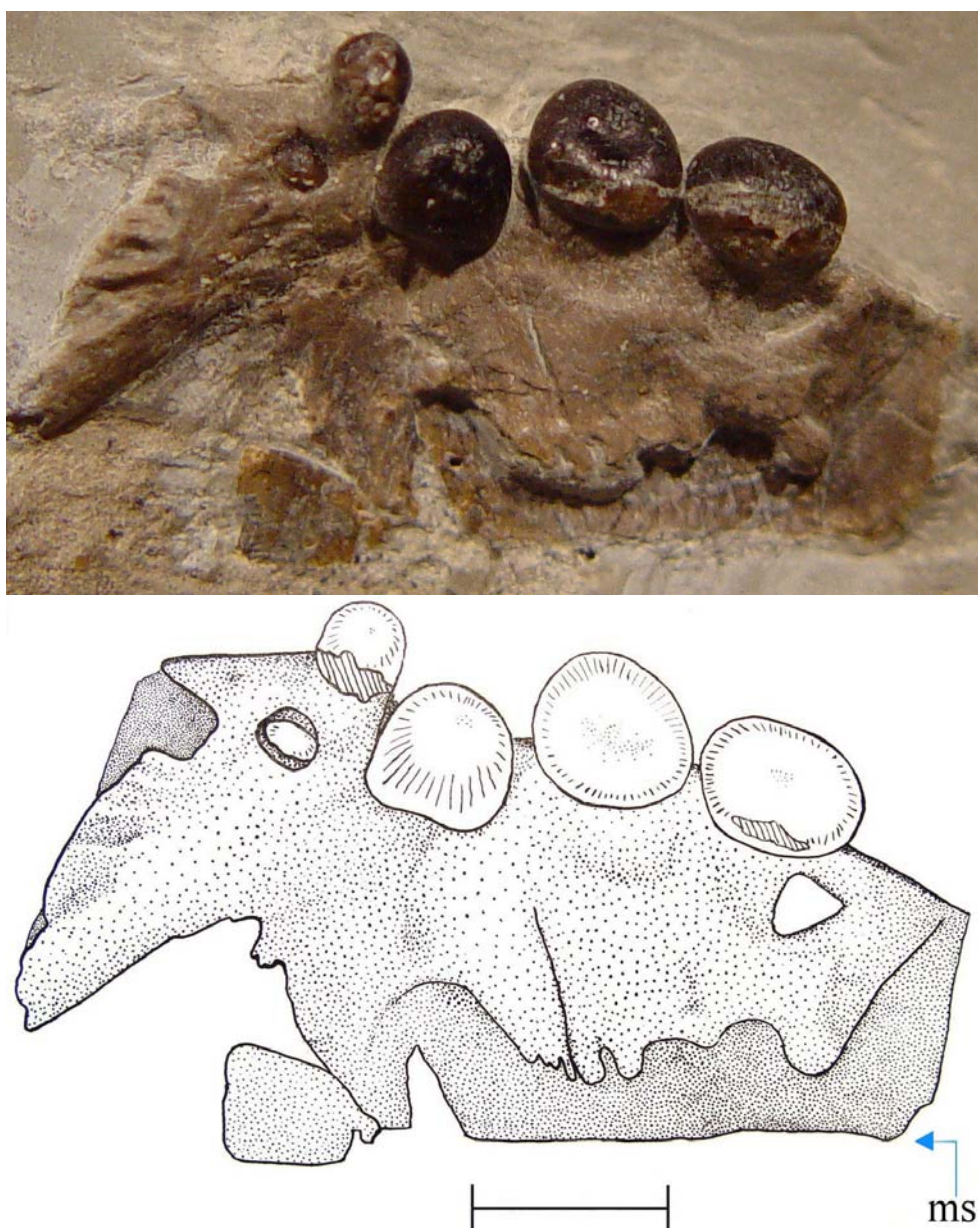


Figure 1. Premaxillary/maxillary jaw fragment (ms: medial suture?). Scale bar = 5 mm. Photograph and drawing by the author.

2. Examined material

A fragment of a left premaxilla/maxilla with round teeth that do not have dental laminae foramina next to them, hence attesting a placodontoid tooth replacement system (Rieppel, 2001).

3. Description

A bone fragment of slightly over 2 cm in length carrying three outgrown 'large' teeth, one smaller tooth and one not yet functional tooth. The latter however does not seem to be replacing a previous tooth, hence possibly showing the juvenile status of this specimen. The positioning of the teeth, not in a straight line but somewhat irregular, in contrast to the straight edge on the opposite side, which possibly represents the medial suture, resembles most that of the left premaxilla/maxilla area of a *Cyamodus*-like placodontoid (figure 1).

4. Discussion

The tiny jaw fragment presented here is peculiar for the extraordinary small size of the teeth. On the one hand this may be due to the fact this does not represent an adult animal. On the other hand, if the fragment is merely a premaxilla, then the whole skull could well have been over 10 cm long and the whole animal over 1 m in length, in which case it would not be expected to have been a juvenile either.

It seems that the more posteriorly positioned grinding teeth have come through before the more anteriorly positioned teeth, of which one is just peeping through the dental lamina foramen. This order might well mark a change in diet between juvenile and adult.

Obviously further speculations without additional finds are pointless. As the life history of these animals might not favour fossilisation of other than adults, the rarity of a find like this one, may only prove its value when more similar finds have accumulated.

5. Acknowledgements

The management of the Winterswijk quarry is gratefully acknowledged for allowing access to the premises. I thank Stefania Nossotti and Olivier Rieppel for commenting on pictures and drawings and attesting the peculiar small size and Martin Sander for discussions after having a look at the real specimen.

6. Cited literature

- Albers, P.C.H. & O. Rieppel. 2003.** A new species of the sauropterygian genus *Nothosaurus* from the Lower Muschelkalk of Winterswijk, the Netherlands. *Journal of Paleontology* 77, 4: 738–744.
- Oosterink, H.W. 1986.** Winterswijk, geologie deel II. De Trias-periode (geologie, mineralen en fossielen). – Wetenschappelijke Mededeling van de Koninklijke Nederlandse Natuurhistorische Vereniging 178:1–120.
- Oosterink H.W., W. Berkelder, C. de Jong, J. Lankamp & H. Winkelhorst. 2003.** Sauriërs uit de ondermuschelkalk van Winterswijk. – Tilburg, Nederlandse Geologische Vereniging (*Staringia* 11, Grondboor & Hamer 57, 1a).
- Rieppel, O. 2001.** Tooth implantation and replacement in Sauropterygia. – *Paläontologische Zeitschrift* 75: 207–217.

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