

Curation and identification of Triassic fossils from Winterswijk

Uncovering biodiversity after the PTME

Department: Earth Sciences

Research group: Stratigraphy & Paleontology

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Project description

252 million years ago, the Permo–Triassic Mass Extinction (PTME) had a devastating impact on terrestrial and marine biodiversity alike. Following the PTME, life slowly recovered and new ecosystems emerged. Mode and tempo of this recovery are still poorly understood.

The rich and well-preserved fossil fauna of the Vossenveld Formation, exposed in the quarry near Winterswijk (E Netherlands), is a major source of information on the early part of the post-PTME recovery.

Every summer, Utrecht University and Naturalis organize a joint excavation in the quarry of Winterswijk. The fossil material recovered during the yearly excavation usually allows for multiple BSc and MSc projects. This year, student projects include research on dental microwear in *Nothosaurus*, dietary analysis using geochemistry, and development of an educational / science outreach programme. As a result, a better understanding of the early evolution and niche exploitation of sauropterygians in the post-PTME ecosystem is slowly emerging from the strata exposed in the quarry.

Last summer's (2024) field season has yielded an unusually large number of promising discoveries, and to fully exploit the potential, additional hands in curation, preparation and taxonomic identification are urgently needed.

The fossil material consists largely of fish and marine reptiles, as a vertebrate-rich layer was the focus of the 2024 excavation. We hope to welcome a motivated, independent student keen on expanding their taxonomic and curatorial skills. Their taxonomic work will feed directly into the ongoing work by the applicants, may spark a new BSc or MSc project or two, will help with the curation of the new discoveries and will occasionally support ongoing BSc and MSc projects with preparation of fossil material for further analysis. A manuscript reviewing the biodiversity of the Winterswijk ecosystem is currently in preparation and the work by the Bright Minds Assistant will feed into this research.

Job requirements

- Affinity with Triassic marine fossils
- Very interested in (vertebrate) anatomy and taxonomy
- Basic preparation skills and fine manual dexterity required, as the assistantship includes the handling of delicate fossils
- Desire to expand curatorial skill set
- Completion of the UU lab safety training is a pre