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## **New stratigraphic constraints for the upper Oligocene to lower Miocene Puchkirchen Group (North Alpine Foreland Basin, Central Paratethys)**

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The upper Oligocene to Lower Miocene Puchkirchen Group, deposits of a deep-marine channel belt in the Puchkirchen Trough (central North Alpine Foreland Basin), constitutes important reservoir rocks for biogenic gas and represents a stratotype for the regional Egerian stage of the Central Paratethys. Despite numerous studies on the sedimentary architecture of the Puchkirchen Group its stratigraphic correlation is poorly constrained. Herein, we present a new age model for the Puchkirchen Group inferred from the integration of new bio- (calcareous nannoplankton) and chemostratigraphic ( $\delta^{13}\text{C}_{\text{bulk}}$ ) data from the drill-site Hochburg 1. Nannoplankton analysis suggests a stratigraphic range from upper NP25 to upper NN2 zones (upper Chattian to lowermost Burdigalian) based on the first occurrences of *Helicosphaera carteri* and *H. ampliaperta*. This correlation is strongly supported by the  $\delta^{13}\text{C}_{\text{bulk}}$ -record: the comparison with global reference records suggests an age between ~24.2 Ma and ~20.2-19.8 Ma. The top of the Puchkirchen Group has to be even younger as c. 100m of sediment have been eroded at Hochburg 1.

The new data indicate a significantly younger age than previously assumed and challenge established concepts on the evolution of the North Alpine Foreland Basin as well as aspects of Central Paratethys stratigraphy in general. However, the herein proposed age model is considerably better constrained than previous attempts and resolves some long-standing issues regarding the correlation of the Puchkirchen Group in the Austrian and German parts of the Puchkirchen Trough.