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From the Cretaceous/Paleogene boundary to the Paleocene/Eocene-boundary in the Gosau Group of Gams (Austria)

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In the area of Gams, Paleogene deposits of the Gosau Group crop out in the Gamsbach creek and several tributary creeks. The ca. 400 m thick sedimentary succession was deposited in a middle to lower bathyal environment and comprises the Paleocene and the lowermost Eocene (calcareous nannoplankton zones NP1 to NP12). Both the Cretaceous/Paleogene boundary and the Paleocene/Eocene boundary have been investigated in this area (Egger et al., 2009).

The Cretaceous/Paleogene boundary section includes the upper part of the Cretaceous *Nephrolithus frequens* Zone (CC26) and the lower part of the Paleocene *Markalius inversus* Zone (NP1). The boundary is characterized by (1) an enrichment of the contents of the siderophile elements Ir, Co, Ni, and Cr compared to background and continental crustal values, (2) a sudden decrease of carbon and oxygen isotopic ratios, (3) a sudden decrease of carbonate content, and (4) an acme of the calcareous dinoflagellate cyst *Operculodinella operculata*, which is succeeded by an acme of the small coccolith species *Neobiscutum parvulum*.

The Danian is characterized by a predominance of red and grey pelagic to hemipelagic marlstones and marly limestones. Thin sandy turbidite beds are present in variable amounts, but sandstone to shale ratios stay below 1:5. Turbidite beds are typically calcarenitic, with <10% siliciclastic material.

The Selandian to lowermost Ypresian is characterized by siliciclastic turbidites with sandstone to shale ratios between 1:1 and 5:1. The turbidites display only weak cementation due to very low carbonate content. Centimetre thick turbiditic shales are dark grey and largely carbonate free. The Paleocene/Eocene-boundary interval has been recognized by the lower occurrence of the genus *Rhomboaster*. It occurs in a siliciclastic, high-frequency turbidite succession.

The largely carbonate-free turbiditic succession of the Paleocene/Eocene-transition grades into a succession dominated again by carbonate turbidites (NP10 to NP11). Within the lower part of this succession (sub-zone NP10a) four 3 to 9 cm thick montmorillonite layers were discovered, which are interpreted as volcanic ashes. Similar layers have been found in other Austrian sections and were correlated with the positive ash–series of the Fur Formation in northern Denmark.

Egger, H., Koeberl, C., Spötl, C. & Wagreich, M. (2009): Paleogene deep-water deposits at Gams (Austria): From the K/Pg-boundary to the P/E-boundary in a Tethyan setting. In: STRONG, P., CROUCH, E. & HOLLIS, C. (Eds.): Climatic and Biotic Events of the Paleogene - Conference Programme and Abstracts. GNS Science Miscellaneous Series, 16, p.105, Wellington.

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Artikel/Article: From the Cretaceous/Paleogene boundary to the Paleocene/Eoceneboundary in the Gosau Group of Gams (Austria) 46