

## **The stratotype of the Gutenstein Formation**

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New biostratigraphic data derived from the stratotype of the Gutenstein Formation at the village Gutenstein (Lower Austria) help to solve some long-standing problems about the stratigraphy of the Anisian stage within the eastern part of the Northern Calcareous Alps (NCA). The mainly stratigraphically definable lower lithostratigraphic boundary of the Gutenstein Formation to the underlying Reichenhall Formation can be defined with help of the "Reichenhall fauna", described by Bittner (1897) and new microfacial data coming from the Anisian rauwackes. Moreover, a detailed lithostratigraphic and microfacial definition of the Gutenstein Formation as mainly thin and planar bedded, black colored, sometimes fine-bedded limestone (dolostone) and radiolarian bearing, black colored mud- to wackestone, mostly containing some fine crinoid debris, is nominated. Additionally, upsection, a gradual change to an upper (Pelsonian) member with nodular bedding planes and brachiopod-, crinoid- and ammonite accumulations, can be described. The depositional environment of the Gutenstein Formation is considered to be that of an outer carbonate ramp deposit, with a shallowing upward trend to the mid- and inner carbonate ramp deposits of the Annaberg- and Steinalm Formations. The approximate interval of the Anisian/Ladinian boundary within the type section of Gutenstein is determined with help of new fossil findings. Based on distinct lithological differences, which appear within the Gutenstein Formation as part of a basin-like sedimentary succession at Großreifling (Styria), at Innerfahrafeld (elevation Fuchsriegel, Lower Austria) or on mount Kasberg at Grünau (Upper Austria), a subdivision of the whole Gutenstein Formation into a lower, so far unnamed member, and an upper Kasberg Member (= upper Gutenstein Formation), is proposed. A complete lithostratigraphic definition of the Gutenstein Formation, its members and adjoining stratigraphic units is still in progress.