Upper Maastrichtian cephalopods and the correlation to calcareous nannoplankton and planktic foraminifera zones in the Nierental Formation of Gams (Styria, Austria)

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A short section within the siliciclastic succession of the Gosau Group of the Gams Basin provides for the first time an upper Maastrichtian cephalopod fauna, which consists of: *Angulithes* (*Angulithes*) sp. indet., *Hauericeras* sp. indet. juv., *Pachydiscus* (*Pachydiscus*) *gollevillensis* (D'ORBIGNY 1850), *Glyptoxoceras* cf. *rugatum* (FORBES, 1846) and *Neancyloceras bipunctatum* (SCHLÜTER 1872). The ammonite *Pachydiscus* (*Pachydiscus*) *gollevillensis* (D'ORBIGNY 1850) is a typical Late Maastrichtian taxon.
Nannofossil investigations indicate the presence of *Lithraphidites quadratus* in all the samples and the absence of *Micula murus* and *Nephrolithus frequens*, which allows the recognition of standard nannplankton zones CC25b and UC20a^{TP}. Planktic foraminiferal data indicate the presence of the marker species *Globotruncanita stuarti* and *Rosita contusa*, typical Maastrichtian species. Additional marker species include *Abathomphalus intermedius* and *Racemiguembelina intermedia. B*oth have a first occurrence higher up in the Maastrichtian, within the *Gansserina gansseri* Zone. Thus, the samples can be attributed to the upper part of the *Gansserina gansseri* Zone, the *Contusotruncana contusa* (Sub-) Zone, just below the first occurrence of *Abathomphalus mayaroensis*, which marks the base of the *A. mayaroensis* Zone. A "middle" Maastrichtian age can be inferred from this planktic foraminiferal assemblage.
Integrating foraminiferal and nannofossil data for a correlation to the boreal belemnite zonation of NW Europe leads to a position within the *Spyridoceramus tegulatus /Belemnitella junior* Subzone to the lower part of the *Tenuipteria argentea /Belemnitella junior* Subzone.

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