



Lutetian to Priabonian organic-walled dinoflagellate cyst assemblages from the northwestern Tethyan margin (Adelholzen Section, Eastern Alps, Germany)

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At the Adelholzen section (SE-Germany), a 13 m thick shallow marine Lutetian sequence (Adelholzen beds) comprising shallow benthic foraminifera Zones SBZ13 to SBZ15 (Briguglio in Gebhardt et al., 2013) is overlain by a 1 m thick brownish layer rich in glauconite and ferruginous phosphate. This layer forms the top of the Adelholzen beds. It marks the onset of strong basin subsidence in the late Lutetian and is separated from the Priabonian by a stratigraphic gap comprising a major part of the Bartonian. The Priabonian marlstone (Stockletten) is 4 m thick at the Adelholzen section. It contains rich and high diverse planktonic foraminifera assemblages (“Globigerina marl”) indicating bathyal conditions.

Twenty eight samples from the Adelholzen beds and the Stockletten were processed for palynology at the Geological Survey of Austria following standard procedures. Palynological slides were examined for relative abundances of organic walled dinoflagellate cysts (dinocysts). One-hundred organic-walled dinocyst species were identified at the Adelholzen section.

Stratigraphically important dinoflagellate cyst taxa for the assignment of the Adelholzen beds to the Lutetian are *Wilsonidium echinosuturatum*, *Dracodinium waipawaense*, *Wetzeliella articulata*, *Areoligera coronata*, *Cordosphaeridium cantharellus*, *Hystrichokolpoma pusillum* and *Aireiana* spp.

Stratigraphically important dinoflagellate cyst taxa for the assignment of the Stockletten to the Priabonian are *Diphyes ficusoides*, *Distatodinium ellipticum*, *Nematosphaeropsis labyrinthus*, *Rhombodinium longimanum*, *Rhombodinium perforatum*, and *Selenopemphix nephroides*.

Remarkable bioevents in the section are the abundant occurrences of *Areoligera coronata* and *Cordosphaeridium gracile* in the basal greensand. In the overlying marlstone and marly limestone *Homotryblum tenuispinosum* is the dominating species and the first specimens of *Impagidinium dispertitum* occur indicating open marine conditions.