

**EARLY CRETACEOUS CARBON ISOTOPE STRATIGRAPHY:
PROBLEMS AND QUESTIONS**

Helmut **WEISSERT**

Chemostratigraphy uses chemical fingerprints stored in sediments and sedimentary rocks for stratigraphic correlation. Stable isotope signatures fixed in sedimentary inorganic and organic matter are among the most powerful methods used in chemostratigraphy. Early Cretaceous carbon isotope stratigraphy established in pelagic limestone successions from the Southern Alps (N. Italy) is often used as an informal reference curve. With carbon isotope stratigraphy established in ammonite-dated hemipelagic sediments from the Vocontian Trough (S. France) a tool is available for correlation of ammonite biozones with magnetostratigraphy. The beginning of the

Valanginian carbon isotope excursion starts in *campylotoxus* ammonite zone Ct4, and the boundary between *campylotoxus* and *verrucosum* zones falls into magnetozone CM11. This correlation differs by about one magnetozone from other published correlations. The Barremian-Aptian carbon-isotope stratigraphy from the Vocontian Trough differs in absolute values and in the excursion pattern from the carbon-isotope stratigraphy established at the locality Cismon (S. Alps, N. Italy). Differences can be explained with sedimentary gaps in studied sections and with differences in oceanography and depositional conditions.

Helmut **WEISSERT**

D-ERDW, ETH-Zürich

CH-8092 Zürich

Switzerland

e-mail: helmut.weissert@erdw.ethz.ch

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