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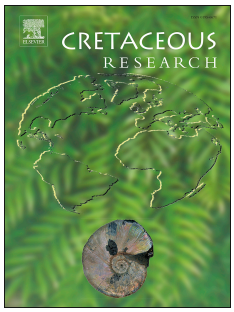

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An integrated study of upper Campanian-lower Maastrichtian carbon isotopes and calcareous plankton biostratigraphy of the Kurdistan Region, northeastern Iraq

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Abstract

New carbon ($\delta^{13}C$) isotope records calibrated by planktonic bioevents provide general support for a late Campanian age assignment of the Shiranish Formation (Fm.) and its boundaries in the Dokan section (NE Iraq). The Shiranish Fm. is characterised at the base by a mid-Campanian unconformity as can be interpreted by absences of nannofossil zones CC20-21. The Shiranish Fm. then spans nannofossil biozones CC22-CC23a (UC15d-e^{TP} to UC16a^{TP}). Results obtained on carbon isotopes suggest that diagenesis affected and compromised a few carbonate samples in the uppermost 50 m of the section. However, once these samples are discarded, pristine trends suggest that the top of the section records a negative carbon isotope excursion that is interpreted as