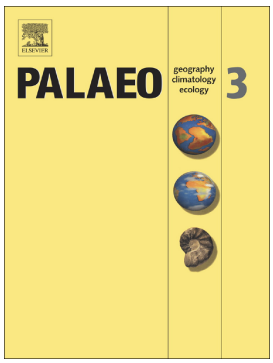

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Diagenesis of dinosaur eggshell from the Gobi Desert, Mongolia

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ABSTRACT

In order to test for paleoenvironmental and paleoecological parameters important in dinosaur evolution, thirty-four fragments of dinosaur eggshell, paleosol carbonates from six localities, and calcite crystals from inside a dinosaur femur were collected from the Campanian to Maastrichtian Baruungoyot and Nemegt formations, Gobi Desert, Mongolia. The samples were examined for diagenesis using light microscopy, SEM, and cathodoluminescence, and each was analyzed for $\delta^{13}C$ and $\delta^{18}O$ values. Eggshell isotope values plot along two trends of enrichment, with paleosol carbonate nodule values plotting along locality specific trends. Convergence of the trends suggests similar initial conditions among localities. Permian-age detrital zircons in the fossiliferous sediment