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# Mercury anomaly, Deccan volcanism and the end-Cretaceous mass extinction

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The contribution of the Deccan Traps volcanism in the Cretaceous-Palaeogene (KPg) crisis is still a matter of debate. Particularly, the global geochemical effects of Deccan volcanism in the marine sedimentary record are still poorly resolved. Here, we investigate the mercury (Hg) content of the Bidart (France) section, where an interval of low magnetic susceptibility (MS) located just below the KPg boundary was hypothesized to result from paleoenvironmental perturbations linked to paroxysmal Deccan phase-2. Results show mercury concentrations over two orders of magnitude higher from ∼80 cm below up to ∼50 cm above the KPg boundary (max. 46.6 ppb) and coincident with the low MS interval. Increase in Hg contents shows no correlation with clay or total organic carbon contents, suggesting that the mercury anomalies resulted from higher input of atmospheric Hg species into the marine realm, rather than organic matter scavenging and/or increased run-off. The Hg anomalies correlate with high shell fragmentation and dissolution effects in planktic foraminifera suggesting correlative changes in marine biodiversity. This discovery represents an unprecedented piece of evidence of the nature and importance of the Deccan-related environmental changes at the onset of the KPg mass extinction.

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