



New Cretaceous/Paleogene boundary section in Central Cuba: evidence for the Chicxulub impact

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A newly discovered Upper Cretaceous to lower Paleogene section at Loma Capiro (central Cuba) has provided new evidence for a Cretaceous/Paleogene (K/Pg) boundary age of the Chicxulub impact.

The Upper Cretaceous and lower Paleogene sediments at Loma Capiro consist of a foraminiferal-rich marly and sandstone hemipelagic sequence, and a 9.6 m-thick clastic complex intercalated. Planktic foraminifera indicate an upper Maastrichtian age (*Pseudoguembelina hariaensis* Subzone) for the sediments below the clastic complex, and a lowermost Danian age (*Guembelitra cretacea* to *Globanomalina compressa* Zones) for those just above this complex. These sediments were deposited at middle to lower bathyal depths, as inferred from benthic foraminiferal assemblages.

The fining-upward clastic complex consists of a basal breccia that is overlain by microconglomerates and coarse-grained sandstones, and by coarse- to fine-grained sandstones. The clastic complex contains reworked foraminifera from different ages and different paleoenvironments, and impact material such as altered microtektites, shocked quartz, terrestrial chondrules and accretionary lapilli towards the top of it. These microfacies suggest deposition from gravity flows that eroded sediments from upper slope and shelf settings and re-deposited them in deeper, bathyal environments. Such gravity flows may be linked to the collapse of the surrounding platforms due to the seismic waves originated by the K/Pg impact. The K/Pg boundary at Loma Capiro thus must be placed at the base of the breccia, because this deposit corresponds to the platform margin collapse and debris-flow deposits that occurred around the Chicxulub

impact crater.

We suggest that the origin of the clastic complex may be linked to the collapse of the Cuban continental margin, triggered by the K/Pg impact at Chicxulub.