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A study of the sediments of Lagan's Cave, Gunung Mulu National Park, and its relevance as a record of geomorphic processes.

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While limestone cave genesis has been well studied, relatively little work has been done on sedimentation within caves. The main focus of work on cave sedimentation has been attempts to reconcile surface river processes to the sedimentation patterns found in caves. However, varying sedimentary budgets in karst basins can result in stark differences in the type and quantity of material transported. This study examines a tropical karst landscape with active fluvial processes The Gunung Mulu National Park in Sarawak, Borneo, is well known for its tropical karst landscape. Many of the caves in the National Park were formed in the last 910,000 years (Farrant, 2007) over different periods. Many of the younger caves closer to current base level still have an active river flowing through them. As the rivers that ply the landscape are typically high order rivers with a high load of coarse sediment, this region is a good case study for studying processes of sedimentation within caves. The paper focuses on the thick sedimentary sequences that are found in Lagan's cave, Gunung Mulu National Park due to its accessibility to its sediment deposits. Using palaeovelocity data collected by gravel size calculations, and particle size analysis, this study has found a correlation between the sedimentary record and the different stages of geomorphologic change that the cave has undergone. XRD analysis of the silt and clays prevalent on the top of the sedimentary sequence found that the silt and clay sized sediments has undergone no chemical weathering since its deposition. Using these data, this study reconstructs the timeline for sedimentation in Lagan's cave, and as such model the geomorphic processes acting on the region.