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Bio Geography & 3D Histology Of Pre Historic Elephant Species In Sabaragamuwa Basin, Sri Lanka

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Sabaragamuwa basin is the dominant type of natural museum in Sri Lanka. Cultural remains of *Homo sapiens* discovered alongside the skeletal fragments, which include with the geometric microliths. Other discoveries include various fauna and flora that are thought to have formed part of their diet, also the animal bones which was fossilized surrounding the basin called “Rathnapura fauna”. From these animal fossils, elephant fossils also were found. The identified elephant fossils were represented by three species of elephant: *Elephas hysudricus*, *Elephas namadicus*, *Elephas maximus sinhaleyus*, who were extinct at present. Fossilized remains (teeth and bones) of elephants are found at present from gem pits and gem gravels (Ilama) belong to the Pleistocene Epoch. The gathered *Ehephas* spp. fossils (five samples, one sample from Highland Complex) found from alluvial sedimentary deposits of gem pits. These were identified according to the special anatomical characters comparing with the similar species recorded in the literature. In addition to sediment samples collected from gem pits, where those fossils can be used for sedimentological analysis. The objective of this study was to paleo biogeographical patters of *Elephas* spp. & develop the evaluate an accurate, fully automated 3D histology reconstruction method to visualize the arterioles and venules within the Prehistoric Elephant’s teeth has founded. This approach will provide a valuable tool for high-accuracy 3D histology reconstructions for analysis of sedimental factors of Sabaragamuwa beds & develop the demo for biogeographical patters base on Interactive 3D map.