

## **Reconstruction of Palaeo-Climate Changes in Quaternary Environment, Based on Paleontology, Case Study – Sri Lanka**

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Quaternary period; Holocene is present to 11,500 and Pleistocene is 11,500 to 1,806,000 years past make it significant for dominance of Hominids, sixth global mega-fauna extinction, and glaciations cycles. Sri Lanka geographically located tropical zone during this period, but impacts of global climatic fluctuations has made changes in palaeo-environment; including palaeo-diversity, palaeo-climatic and palaeo-ecology. The study suggested palaeo-climatic changes of quaternary period based on the paleontological evidences identified from Sri Lanka.

Twenty tree mammals and reptiles species from Sri Lanka suggested by Dr. P.E.P. Deraniyagala, 1958, perhaps those were lived in quaternary period. Most of the fauna were extinct and, only few are living today believed to be evaluated from quaternary period. Mega-fauna; Elephant species, Hippocampus and Rhinoceros fossils were considered for the study. Most of the Quaternary faunal fossils of Sri Lanka identified from the area called “Ratnapura/ Sabaragamuwa”, and discovered during gem mining.

Ecology of presently living Elephants, Hippopotamus and Rhinoceros were compared and interpreted for Ratnapura/ Sabaragamuwa climatic conditions were in Quaternary period. Global temperature fluctuations of Holocene, Lower-Pleistocene (11,500 – 126,000), and part of Middle-Pleistocene (126,000 – 781,000) with glacial and inter-glacial cycles were incorporated to Ratnapura/ Sabaragamuwa climatic conditions.

Hippopotamus and two elephant species were living 100,000 years before and palaeo-climate reconstructed as Tropical rainforest climate, Rhinoceros was living 80,000 years before and palaeo-climate reconstructed as Tropical monsoon climate, Tiger was living 14,000 – 20,000 years before and palaeo-climate reconstructed as Tropical wet and dry or savanna climate. Anatomically Modern Human (AMH) exists from 50,000 years to present. Incipient agricultural recorded from 17,000 years and

continued to present.

*Keyword:* Palaeo-Climate Change, Quaternary Reconstruction, Sri Lanka