

# **GENESIS OF THE BETEL – NUT SIZE CALICHE PISOLITES ON DECCAN TRAP BASALTS AT CHUNNA KOLVAN RATNAGIRI DISTRICT, MAHARASHTRA, INDIA.**

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A 15m thick deposit, consisting of betel – nut size pisolites, laminar and hardpan caliche has formed on the top of the valley slopes of the basalt and its overlying alluvium deposits. A perennial fresh water spring which emerges from the basalt flows over the alluvial deposits, appears to be the main source of the calcium carbonate for the caliche deposits. The pisolites which have a variable diameter and shapes are cemented together by silty to clay rich micritic material. Rock fragments of laterite, basalt and even gastropod shells, serve as nuclei for the pisolites.

While the caliche pisolites show some characters quite similar to those of hypersaline pisolites other criteria such as geological setting, petrography and associated gastropod fossils suggest otherwise.

The calcium carbonate required for the formation of the pisolite is derived by the chemical action of the spring water on the basalt and by the pedogenic processes. The degassing of  $\text{CO}_2$  initiates the precipitation of calcite within the alluvial deposits, thus forming the caliche pisolites, hardpan and laminar caliche