

BEACHROCK IN WEST COAST OF SRI LANKA

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Formation of beachrock is related to the ground water table and to the level of the sea. Under warm water conditions of tropical coasts, the sand grains are cemented by calcareous materials, and beachrock thus formed is extremely resistant to erosion. Its reef-like form acts as a barrier to movement of sediments across the beach. Shoals of beachrock in Sri Lanka are cemented predominately by biogenic carbonate sands, quartz grains and different types of heavy minerals. They are exposed in many places along the present coastline as reef-like patches and long reefs. Patches of calcareous algae occur on the surface of exposed beachrock, and sometimes shells are found embedded on these. In many localities along the west and south west coasts emerged coral reef patches have been cemented with beachrock. Such beachrock shoals are invaluable in the study of sea-level changes in Sri Lanka.

Recently obtained ^{14}C dates of geologic samples collected from west and south coasts indicate that there were two different age groups related to high sea-level episode viz: mid-Holocene ($6,170 \pm 80$ - $5,170 \pm 70$ yr B.P.) and late Holocene ($3,210 \pm 70$ - $2,330 \pm 60$ yr B.P.). As evidenced from ^{14}C dates of emerged coral reef patches (in growth position), that are cemented with beachrock, ranged within $5,980 \pm 70$ - $5,100 \pm 70$ yr B.P. and $2,560 \pm 60$ - $2,250 \pm 70$ yr B.P. age groups. Furthermore, ^{14}C dates of calcareous algae from the surface of beachrock and of embedded shells in beachrocks on the west coast can be dated at $2,470 \pm 70$ yr B.P. respectively.

^{14}C dates of buried corals and emerged coral reef patches on the west and south coasts record that the post-glacial transgression culminated between $5,970 \pm 70$ and $5,350 \pm 80$ yr B.P., and the mid-Holocene sea-level was at least 1 m above that of the present level. Following this transgression, coral patches that had been thriving in small headlands can be seen a few centimeters above MHWS level. It is surmised that the beachrock shoals along the present coastline have developed due to coastal progradation after the Holocene. Calcareous algae on the surface and embedded shells in beachrock shoals have been deposited during a still-stand of sea-level in the Late Holocene. A beachrock shoal which occurs inland from the present coastline on the west coast can be correlated with the still-stand of high sea-level which occurred in the mid-Holocene.