


Succession of coral associations during a Givetian transgressive-regressive cycle in Queensland

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The small solitary coral dominated, *Grypophgllum-Chostophgllum* association, a pioneer coral community, is widely distributed at the base of the Givetian Burdekin Formation of north Queensland in the mixed arkose-carbonate sediments. It is succeeded by fasciculate coral dominated, *Dendrostella trigemne* association, which is mainly associated with wackestone or bioclastic calcirudite of inner shelf, lagoonal or protected environments. The *Australophgllum-Sanidophyllum* association, *Blysmatophyllum-Iowaphyllum schlueteri* association, and *Spongophyllum* association, all dominated by in situ, large massive coral colonies, formed biostromal deposits on the margins of the basin. They developed in nearshore environments during the maximum flooding in the region. The *Aphgllum salmoni-Stringophgllum (Neospongophyllum) bipartitum* association indicates relatively deeper, mid-outer shelf environments connected with maximum flooding in the depocentre and least terrigenous influx. The massive coral dominated *Endophyllum columna-Stringophyllum (Stringophyllum) isactis* association, developed in the initial regressive phase, forms a distinctive biostromal unit at the top of the Burdekin Formation. The *Lekanophyllum* association developed at the base of the Cultivation Gully Formation in a very shallow nearshore environment with a large terrigenous influx as a result of the basin wide, relatively rapid regression. It is characterised by the abundant occurrence of solitary corals and large sized, cerioid *Endophyllum columna*, which often formed micro-atolls. Rugose corals were better adapted than stromatoporoids to survive of mud influx.

Key words: Givetian, corals, associations, palaeoecology, growth form.

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