

CORAL MUCUS ASSOCIATED MICROBIAL RESPONSE TO CARBON SOURCES USING BIOLOG ECOPLATES™

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Microbial communities that exist on coral mucus provide useful information on changes in the reef environment. Previous studies showed that the addition of labile carbon kill corals by activation of coral associated microbes, however the causal relationship to coral health and diseases remain unknown. With the objective of understanding general trends of microbial response to carbon sources associated to coral mucus, we incubated healthy coral mucus in Biolog Eco Plate™. Coral mucus samples were collected from *Acropora formosa* (M_{ACR}) and *Pocillopora damicornis* (M_{PCL}) from Polhena fringing coral reef located south coast of Sri Lanka and colour development was noted over five incubation days. Results from colour development observations showed that relative response to coral mucus microbes for 31 most useful carbon sources. Colour development indicated that six carbon sources for M_{ACR} (Pyruvic Acid Methyl Ester, L-Asparagine, D-Mannitol, α -Cyclodextrin, N-Acetyl-D-Glucosamine, L-Threonine) and three carbon sources for M_{PCL} (Pyruvic Acid Methyl Ester, D-Mannitol, N-Acetyl-D-Glucosamine) were dominant. There were no significant differences between mean colour developments for mucus collected from M_{ACR} and M_{PCL}. The findings from the present study lead to more detail studies on the microbial activity associated to coral mucus in Polhena coral reef.

Keywords: Carbon source, Coral mucus, Microbial activity