Corals in Singapore likely to survive sea-level rise

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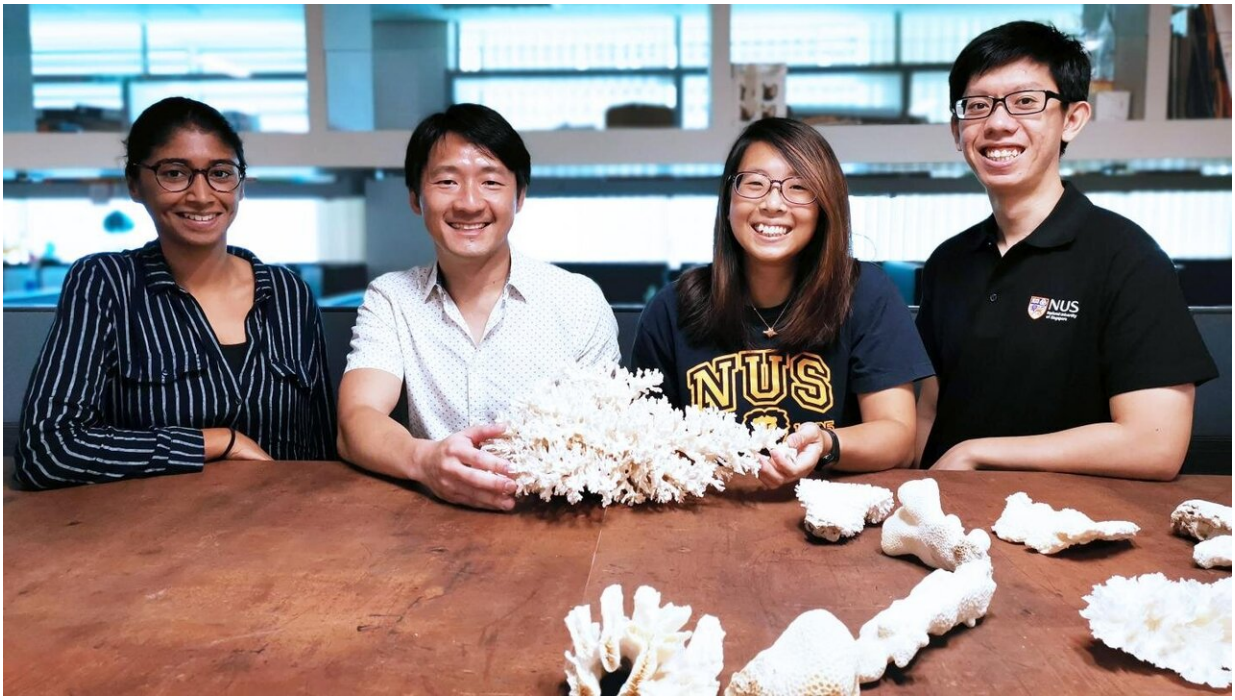

Assistant Professor Huang Danwei (second from left) from the NUS Department of Biological Sciences, together with his team members (from left) Ms Sudhanshi Jain, Ms Gwendolyn Chow, and Mr Samuel Chan, examined nearly 3,000 corals from 124 species at two reef sites in Singapore. Credit: Yip Zhi Ting

Global sea levels are expected to rise by at least half a metre by the year 2100 due to climate change. The projected rise can affect important

environmental factors such as habitat suitability and availability of light, threatening the health and survival of marine ecosystems.

For the corals dwelling in the sedimented, turbid waters around Singapore, rising sea levels can imperil species, as those living among the deepest waters could starve due to insufficient light for them to make food.

A team from the National University of Singapore (NUS), led by Assistant Professor Huang Danwei from the Department of Biological Sciences at the NUS Faculty of Science, examined nearly 3,000 corals from 124 species at two reef sites in Singapore, namely Pulau Hantu and Raffles Lighthouse.

The research team discovered that the corals in Singapore waters typically do not extend deeper than eight metres, as light levels beyond this depth are not sufficient to support coral growth. The researchers also found that species present in deeper areas are able to tolerate a wider range of conditions, and are unlikely to be threatened by a rise in sea level, provided that other stress factors such as sedimentation do not increase.

The findings, published online in the journal *Marine Environmental Research* on 19 April 2019, highlight the resilience of coral reefs in Singapore. The results serve to support reef management, and inform conservation efforts especially in the selection of sites and depths for coral restoration.

NUS marine scientists found that coral species in Singapore's sedimented and turbid waters are unlikely to be impacted by accelerating sea-level rise. Credit: Huang Danwei

More information: Gwendolyn S.E. Chow et al, Light limitation selects for depth generalists in urbanised reef coral communities, *Marine Environmental Research* (2019). DOI: 10.1016/j.marenvres.2019.04.010

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