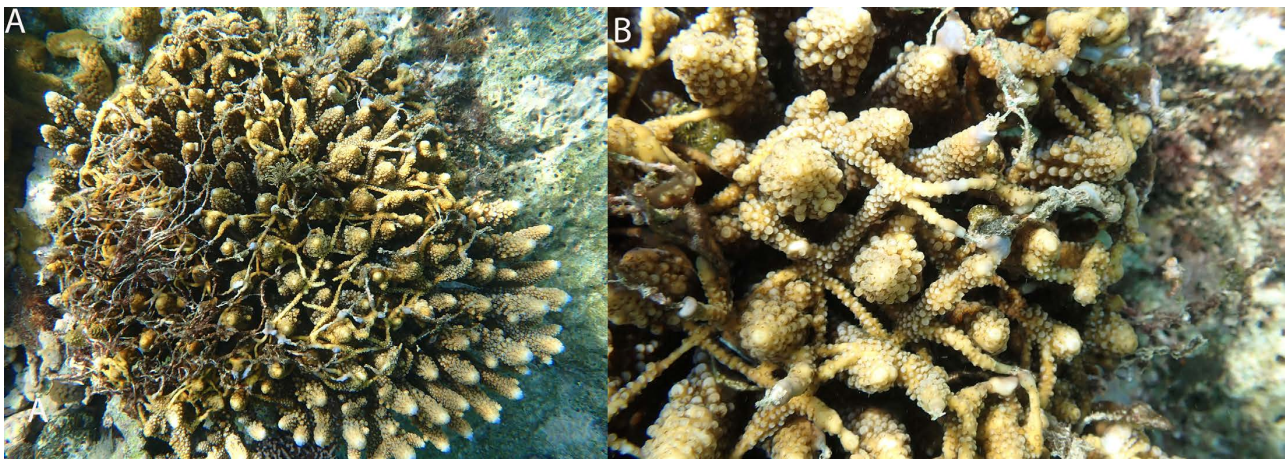


## Coral growth on entangled ghost nets in a tropical Indian Ocean atoll

Alvin Anto<sup>\*1,2</sup>, Aju K. Raju<sup>2</sup>, and Sreenath K. Ramanathan<sup>2</sup>

Coral growth is subject to large-scale fluctuations induced by natural and anthropogenic effects (Buddemeier and Kinzie 1976). One critical extrinsic factor that can affect coral growth is pollution, which can be caused by nutrient enrichment or marine debris, especially derelict fishing gear that is indiscriminately dumped in the seas. For example, ghost nets that become trapped on healthy corals can hinder their growth, preventing access to sunlight and potentially smothering them, leading to the eventual death of the colony (Valderrama Ballesteros et al. 2018). Similarly, corals in contact with plastic have a significantly higher chance of contracting disease (Lamb et al. 2018).

During an underwater survey in February 2021, we encountered a colony of *Acropora* cf. *gemmifera* in the Kavaratti Atoll in Lakshadweep (10.567509, 72.626564). A discarded nylon fishing net with a mesh size of approximately 40 mm had become entangled on this colony (Fig. 1). However, rather than growth being hindered, this colony overgrew the fishing net. Although coral overgrowing ghost nets has been reported previously (Valderrama Ballesteros et al. 2018), instances of corals successfully overgrowing nets are uncommon. The ability of *A.* cf. *gemmifera* to overgrow the net might be linked to the comparatively faster growth rate of acroporids (100–150 mm/year) versus massive corals (<50 mm/year) (Dullo 2005) and the absence of other stressors that might have interfered with its growth.



**Fig. 1** A. *Acropora* cf. *gemmifera* growing on entangled nylon net B. Close up image

### Acknowledgements

The authors acknowledge the institutional support provided by the Director, ICAR-CMFRI and the Vice Chancellor, CUSAT. We also thank the Lakshadweep Administration for providing the necessary permissions.

### Compliance/Conflict of interest

The authors have no conflicts of interest to disclose.

## References

- Valderrama Ballesteros L, Matthews JL, Hoeksema BW (2018) Pollution and coral damage caused by derelict fishing gear on coral reefs around Koh Tao, Gulf of Thailand. *Mar Pollut Bull* 135: 1107–1116
- Buddemeier RW, Kinzie RA III (1976) Coral growth. *Oceanogr Mar Biol Annu Rev* 14: 183–225
- Dullo WC (2005) Coral growth and reef growth: a brief review. *Facies* 51: 33–48
- Lamb JB, Willis BL, Fiorenza EA, Couch CS, Howard R, Rader DN, True JD, Kelly LA, Ahmad A, Jompa J, Harvell CD (2018) Plastic waste associated with disease on coral reefs. *Science* 359: 460–462

**Keywords** Ghost net, Branching coral, Pollution, Lakshadweep

---

## Author information

<sup>1</sup> Cochin University of Science and Technology, Kerala, India

<sup>2</sup> ICAR-Central Marine Fisheries Research Institute (CMFRI), Kochi, Kerala, India

\* Corresponding author: A. Anto E-mail: [alvinantoz@gmail.com](mailto:alvinantoz@gmail.com)

---

Communicated by Andrew Baird (Topic Editor, Ecology)

Received: 3 April 2023, Accepted: 27 April 2023

Published online: 25 July 2023

©Japanese Coral Reef Society