

Genome scientific approach towards coral reef preservation in Okinawa

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Coral reefs are the most biodiverse marine ecosystems. Because they nurture edible marine species and contribute to culture, communities and governments are calling for their preservation. However, many coral reefs including Great Barrier Reef and Okinawa are currently experiencing severe, cumulative disturbances, including coral bleaching and massive outbreaks of crown-of-thorns starfish (COTS). For the past decades, our group has adopted genome scientific approach towards better understanding of coral-reef biology, which might provides future plans of coral reef preservation in Okinawa. The approach includes decoding of genomes of 15 *Acropora* corals (Shinzato et al. 2020. *Mol. Biol. Evol.* Msaa216), four clades of coral-symbiotic dinoflagellates (Shoguchi et al. 2020. *Genome Biol. Evol.*, in press), and COTS (Hall et al. 2017. *Nature* 544: 231-234). Taking advantages of the genomic information, we are now conducting several analyses to understand coral-reef preservation biology at Okinawa.

