Mass coral bleaching in the Andaman Sea, Thailand

Coral bleaching is one of the strongest impacts on reef ecosystem and is clearly caused by abnormally increasing sea temperature. The worst case of coral bleaching in Thai Waters occurred in 2010 as a result of a very long period of high sea surface temperature (up to 32°C) during April and May. Eighty percentages of corals bleached throughout every province along the Andaman Sea and the Gulf of Thailand including species that tend to be more resistant. Consequently, the mortality was up to 90% in many areas.

Field surveys examined the extent of the 2010 mass-bleaching event and revealed that not all colonies of a given species were bleached to the same extent and exhibited differential potential for recovery. A particularly obvious example was Porites lutea, which exhibited wide variation in bleaching response between and within locations. It was hypothesized that different colonies within a coral species may have differing adaptive responses to stressful environmental conditions.

The objective of my study is to investigate physiological and genetic differences for coral colonies in order to understand their potential recovery after bleaching.

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