



13TH INTERNATIONAL

Coral Reef Symposium

19–24 JUNE 2016 • HONOLULU, HAWAII

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Abstract

ISLANDS OF SEA: THE ROLE OF ISOLATION IN SPATIAL PATTERNS OF MARINE BIODIVERSITY

Phylogeographic studies in the Coral Triangle have shown that populations of coral reef organisms are more structured than previously assumed and that isolation at small spatial scales may play an important role in forming the observed spatial patterns of genetic diversity. Isolation can affect genetic diversity due to physical barriers, irrespective of environment, and/or due to different environmental regimes. A key issue is that environmental data is generally spatially structured at multiple scales and will change over time, thereby clouding the ultimate cause of divergence and differentiation. Here we use the clearly defined spatio-temporal context of marine lakes – islands of sea - to study how gene flow corresponds with environmental gradients. Marine lakes are land-locked water bodies that maintain a marine character with coral reef organisms through narrow submarine connections to the sea. By comparing marine lakes in Indonesia, with comparable ages and sizes, but varying degrees of connection to the open sea and differing environmental regimes, we aim to test the relative contribution of dispersal limitation due to barriers versus selective environments in the formation of marine biodiversity patterns. We will present preliminary data of our study on multiple marine lineages (sponges, mussels, jellyfish) across the marine lake model system based on population genomic techniques (RADSeq). Understanding how geneflow corresponds with environmental gradients will improve predictions on adaptive capacities of species under different climate change scenarios.

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DETAILS

Oral presentation

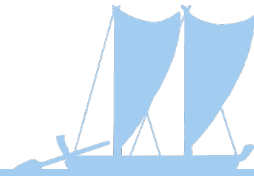
Session #:15

Date: 06/23/2016

Time: 10:30

Location: 317 A/B

Presentation is given by student: No



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