



Courtney Klepac

Basic Life Res Scientist

Biology

 Curriculum Vitae available Online

Bio

BIO

Courtney completed her B.S. in Marine Biology at Texas A&M University Galveston, her M.S. in Biology at Florida Atlantic University in the Voss lab, and a Ph.D. in Ecology and Evolution at Old Dominion University in the Barshis lab. She recently finished a postdoctoral research position with More Marine Laboratory in Summerland Key, FL, where she examined nursery coral resilience and/or resistance under multiple coral stressors (temperature and acidification) and investigated tolerant symbiotic associations to inform and assist in coral restoration interventions. At Stanford, she will be involved with mapping coral heat resistance across multiple Pacific reefs as part of a collaborative (NSF) Super Reefs project, where she will train and collaborate with local students and researchers on coral tolerance experiments. By investigating the influence of environment, physiological plasticity, and genetic adaptation on the stress tolerance scope of corals, her research aims are to understand how corals will respond to future climate change and identify putatively tolerant corals for management. When she isn't doing science, Courtney enjoys running, surfing, and hiking with her husband and dog, Hank.

ACADEMIC APPOINTMENTS

- Basic Life Research Scientist, Biology

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Courtney will be involved with mapping coral heat resistance across multiple Pacific reefs as part of a collaborative (NSF) Super Reefs project, where she will train and collaborate with local students and researchers on coral tolerance experiments. By investigating the influence of environment, physiological plasticity, and genetic adaptation on the stress tolerance scope of corals, her research aims are to understand how corals will respond to future climate change and identify putatively tolerant corals for management.

Publications

PUBLICATIONS

- **Assessing acute thermal assays as a rapid screening tool for coral restoration.** *Scientific reports*
Klepac, C. N., Petrik, C. G., Karabelas, E., Owens, J., Hall, E. R., Muller, E. M.
2024; 14 (1): 1898
- **Bio-optical signatures of in situ photosymbionts predict bleaching severity prior to thermal stress in the Caribbean coral species *Acropora palmata*** *CORAL REEFS*
Hoadley, K. D., Lowry, S., Mcquagge, A., Dalessandri, S., Lockridge, G., O'Donnell, S., Elder, H., Ruggeri, M., Karabelas, E., Klepac, C., Kenkel, C., Muller, E. M.
2024

- **The roles of heating rate, intensity, and duration on the response of corals and their endosymbiotic algae to thermal stress** *JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY*
Evensen, N. R., Bateman, T. G., Klepac, C. N., Schmidt-Roach, S., Barreto, M., Aranda, M., Warner, M. E., Barshis, D. J.
2023; 567
- **The Coral Bleaching Automated Stress System (CBASS): A low-cost, portable system for standardized empirical assessments of coral thermal limits** *LIMNOLOGY AND OCEANOGRAPHY-METHODS*
Evensen, N. R., Parker, K. E., Oliver, T. A., Palumbi, S. R., Logan, C. A., Ryan, J. S., Klepac, C. N., Perna, G., Warner, M. E., Voolstra, C. R., Barshis, D. J.
2023
- **Symbiont composition and coral genotype determines massive coral species performance under end-of-century climate scenarios** *FRONTIERS IN MARINE SCIENCE*
Klepac, C. N., Eaton, K. R., Petrik, C. G., Arick, L. N., Hall, E. R., Muller, E. M.
2023; 10
- **High-resolution *in situ* thermal metrics coupled with acute heat stress experiments reveal differential coral bleaching susceptibility** *CORAL REEFS*
Klepac, C. N., Barshis, D. J.
2022; 41 (4): 1045-1057
- **Microbiome Structuring Within a Coral Colony and Along a Sedimentation Gradient** *FRONTIERS IN MARINE SCIENCE*
Fifer, J. E., Bui, V., Berg, J. T., Kriefall, N., Klepac, C., Bentlage, B., Davies, S. W.
2022; 08
- **Reduced thermal tolerance of massive coral species in a highly variable environment.** *Proceedings. Biological sciences*
Klepac, C. N., Barshis, D. J.
2020; 287 (1933): 20201379
- **Seasonal stability of coral-Symbiodinium associations in the subtropical coral habitat of St. Lucie Reef, Florida** *MARINE ECOLOGY PROGRESS SERIES*
Klepac, C. N., Beal, J., Kenkel, C. D., Sproles, A., Polinski, J. M., Williams, M. A., Matz, M. V., Voss, J. D.
2015; 532: 137-151