

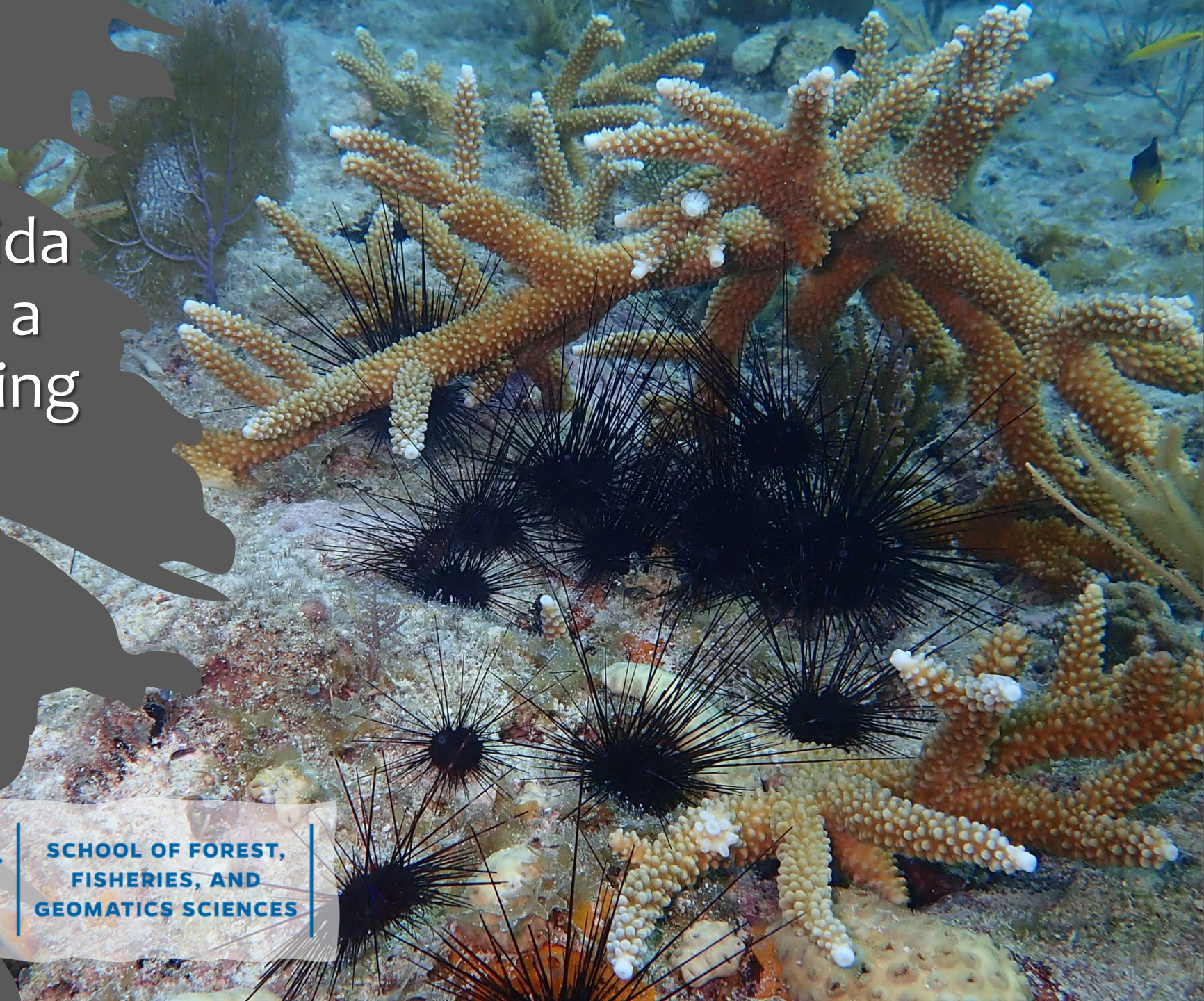
Diadema antillarum production and distribution to Florida partners – creating a growout and stocking network

Joshua Patterson

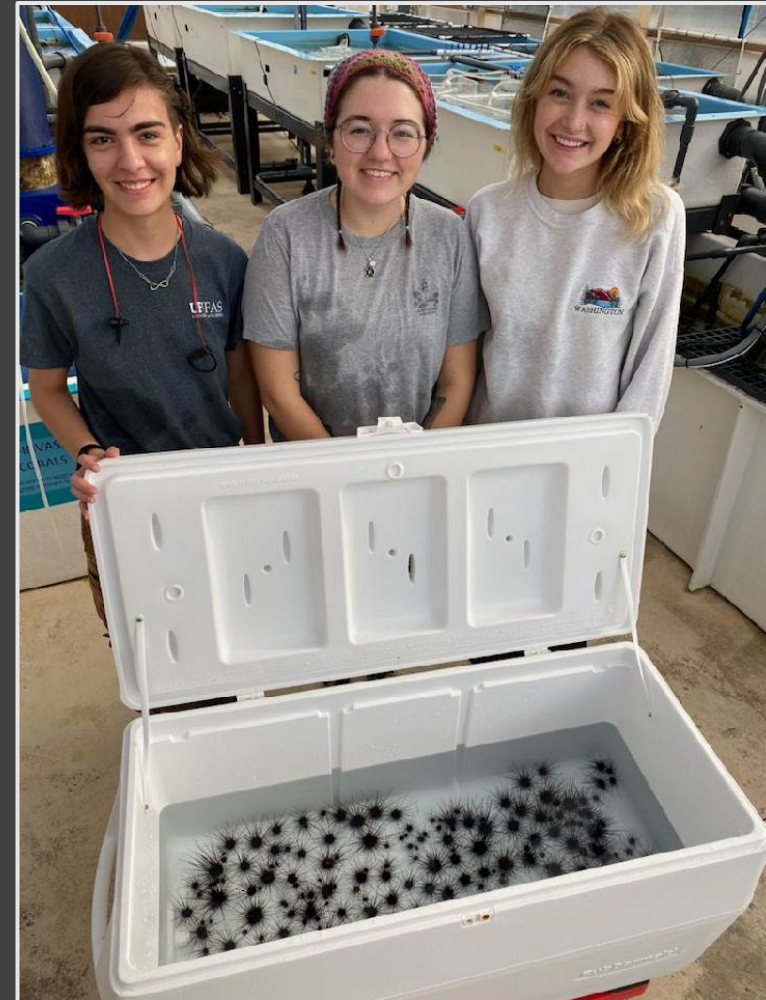
UF | IFAS
UNIVERSITY of FLORIDA



SCHOOL OF FOREST,
FISHERIES, AND
GEOMATICS SCIENCES



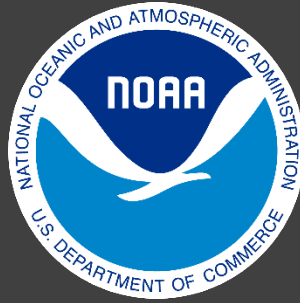
The team



Our location

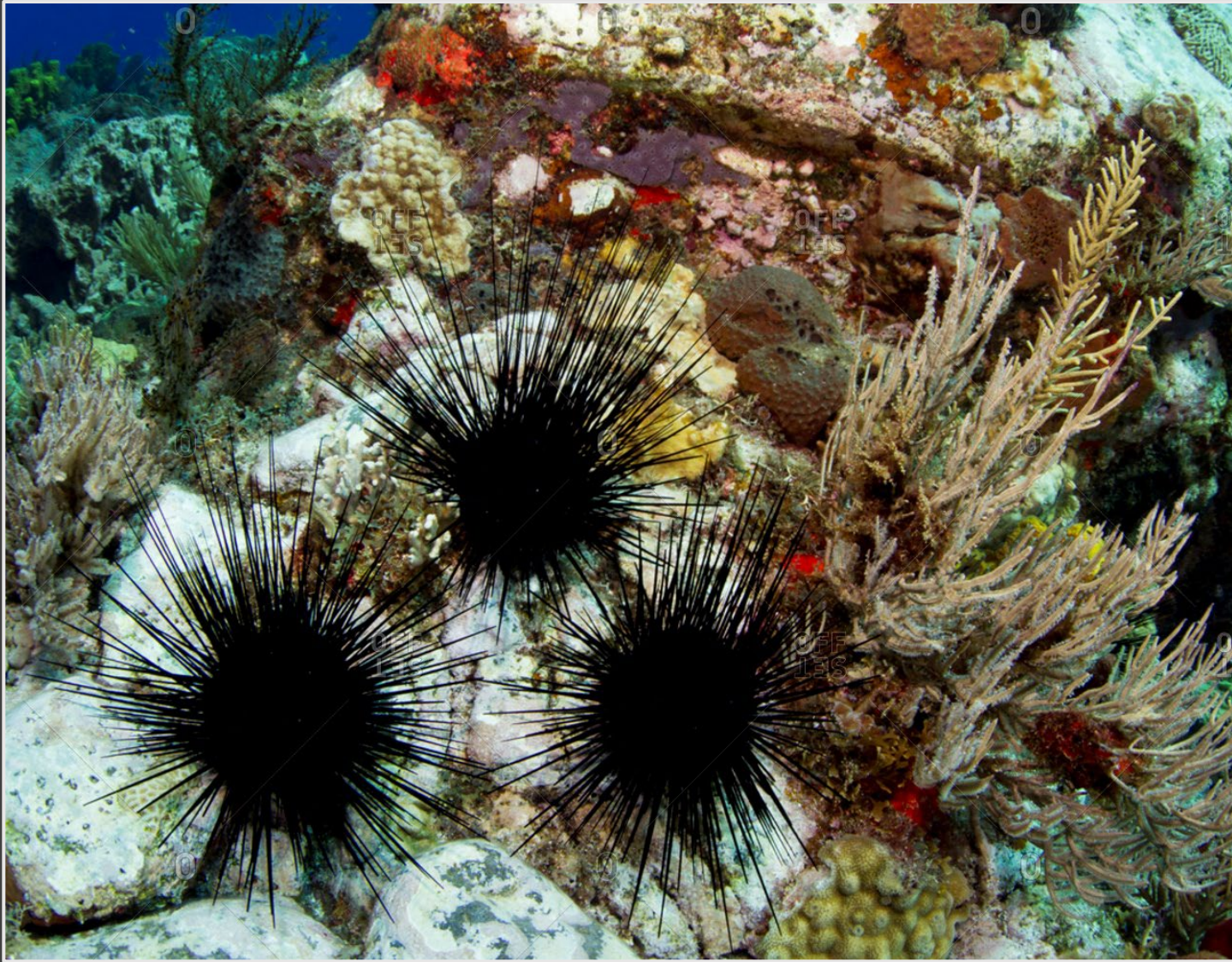


Funding



Florida Keys
National Marine
Sanctuary Foundation





Ecological Context

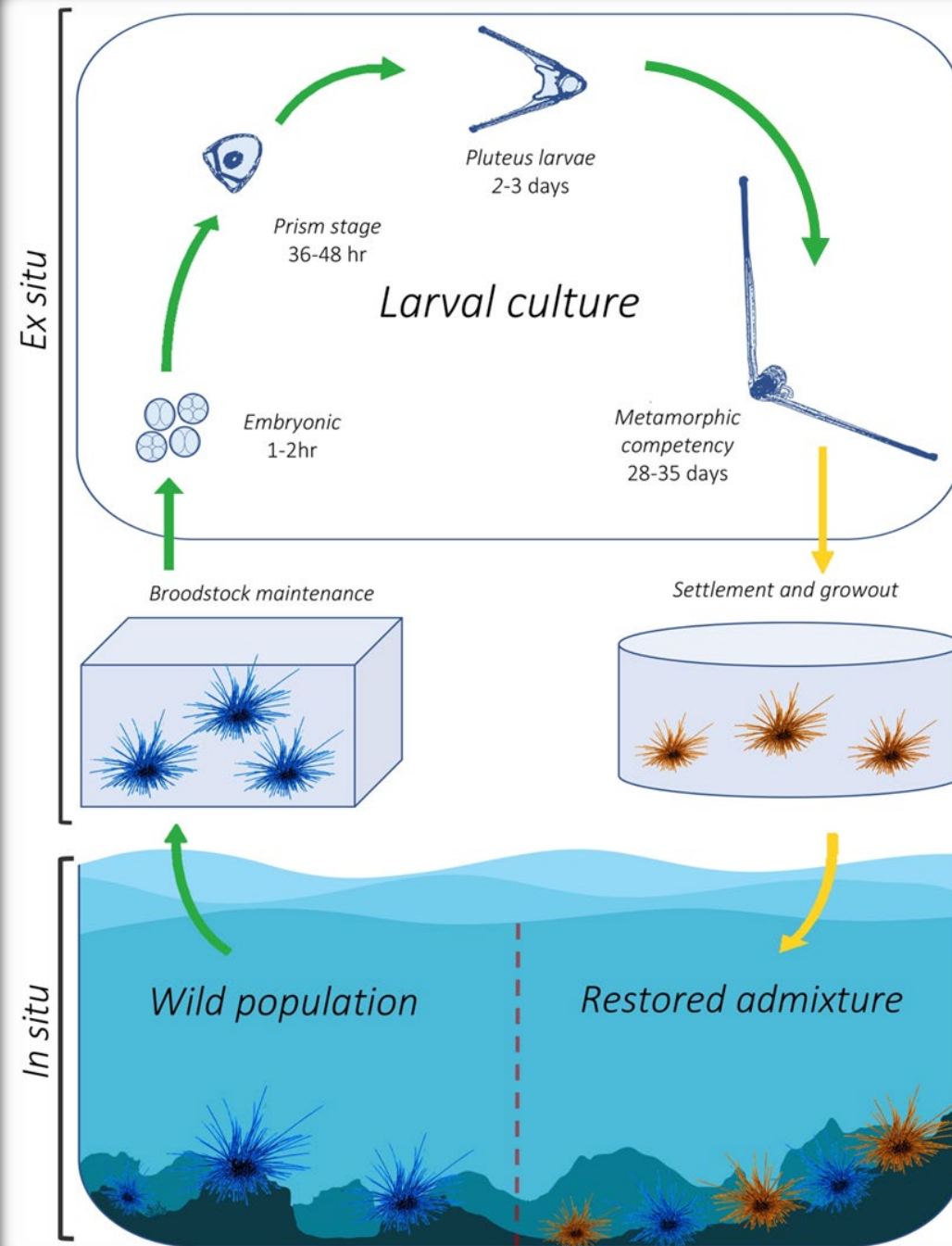
- Important coral reef grazer & bioeroder
- Foundation/keystone species
 - Large impact on benthic community
- Disease 1983-1984
 - Contributed to ecological phase shift

Coral and grazer co-culture



photo: Emily Williams – The Florida Aquarium

Concept





Check out the science 

Success!



Veterinary Health Inspection

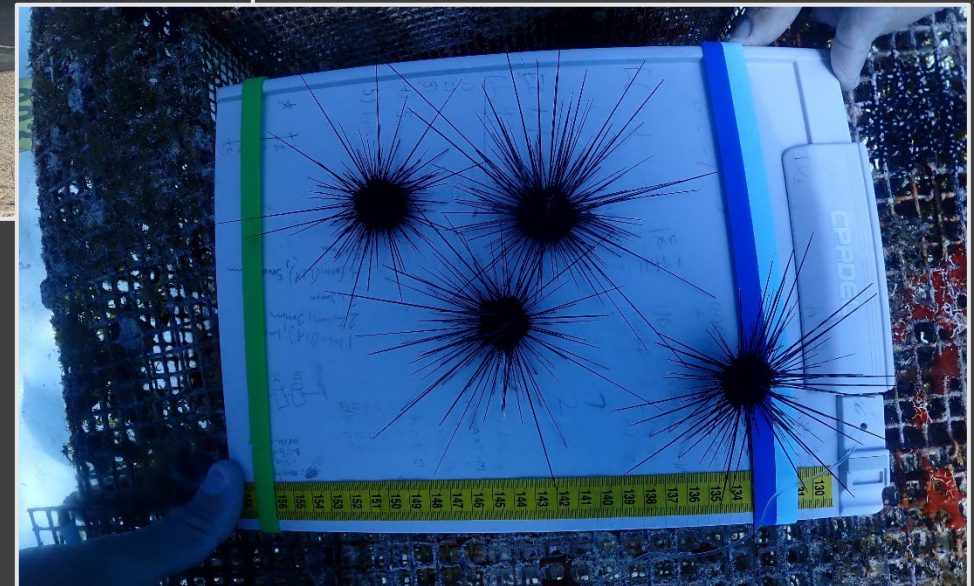




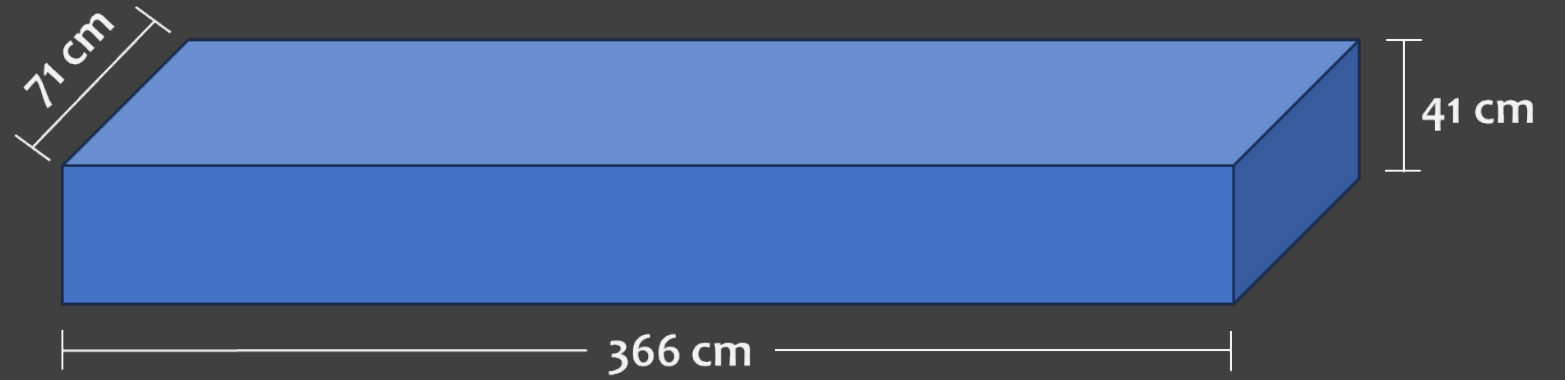


UNIVERSITY
OF MIAMI

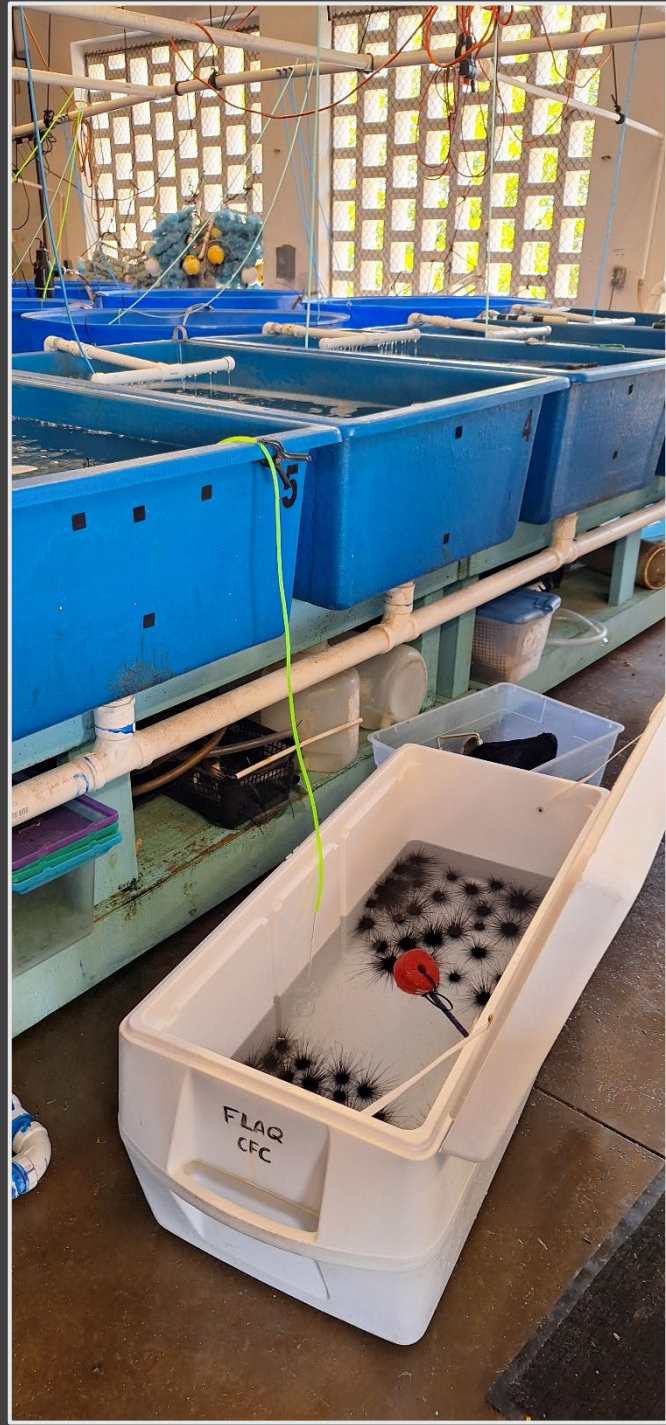
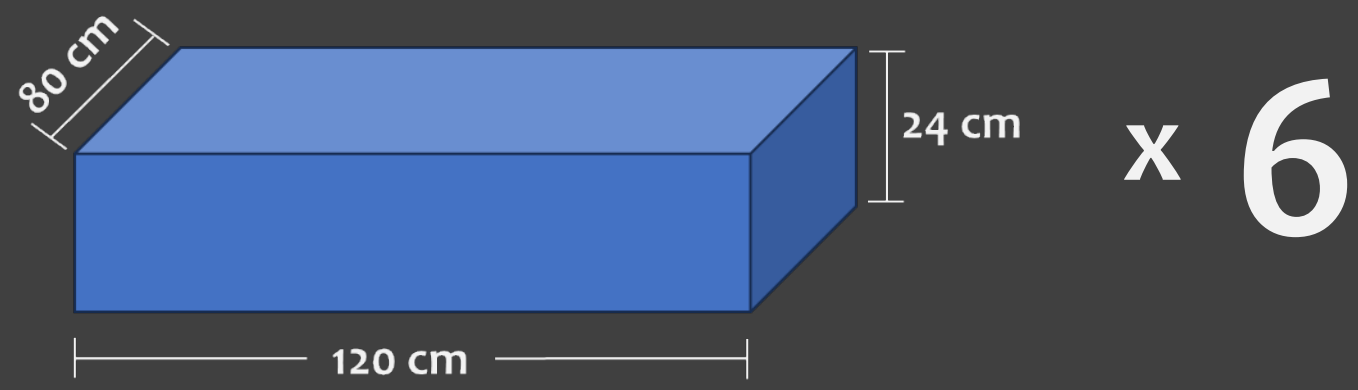
Sustainable Ocean and Reefs (S.O.A.R.)



Keys Marine Lab



FWRI – Marathon Lab



Growth Rates

FWRI

Initial TD – 2.16 ± 0.42 cm

Final TD – 3.34 ± 0.41 cm

55% size increase

SGR = 0.31% / day

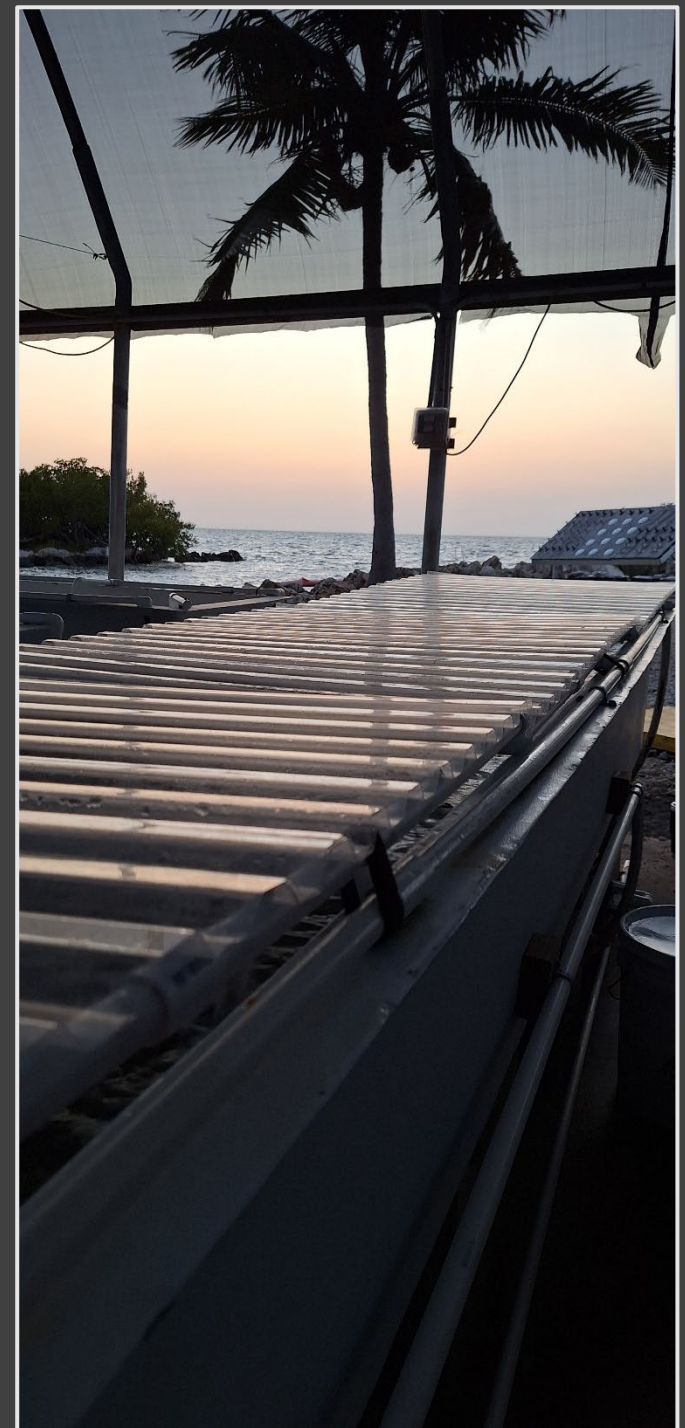
KML

Initial TD – 2.14 ± 0.43 cm

Final TD – 3.92 ± 0.41 cm

83% size increase

SGR = 0.43% / day



Growth Rates

KML (May-Oct '24)

Initial TD – 2.14 ± 0.43 cm

Final TD – 3.92 ± 0.41 cm

83% size increase

SGR = 0.43% / day

99% survival

KML (Feb-June '25)

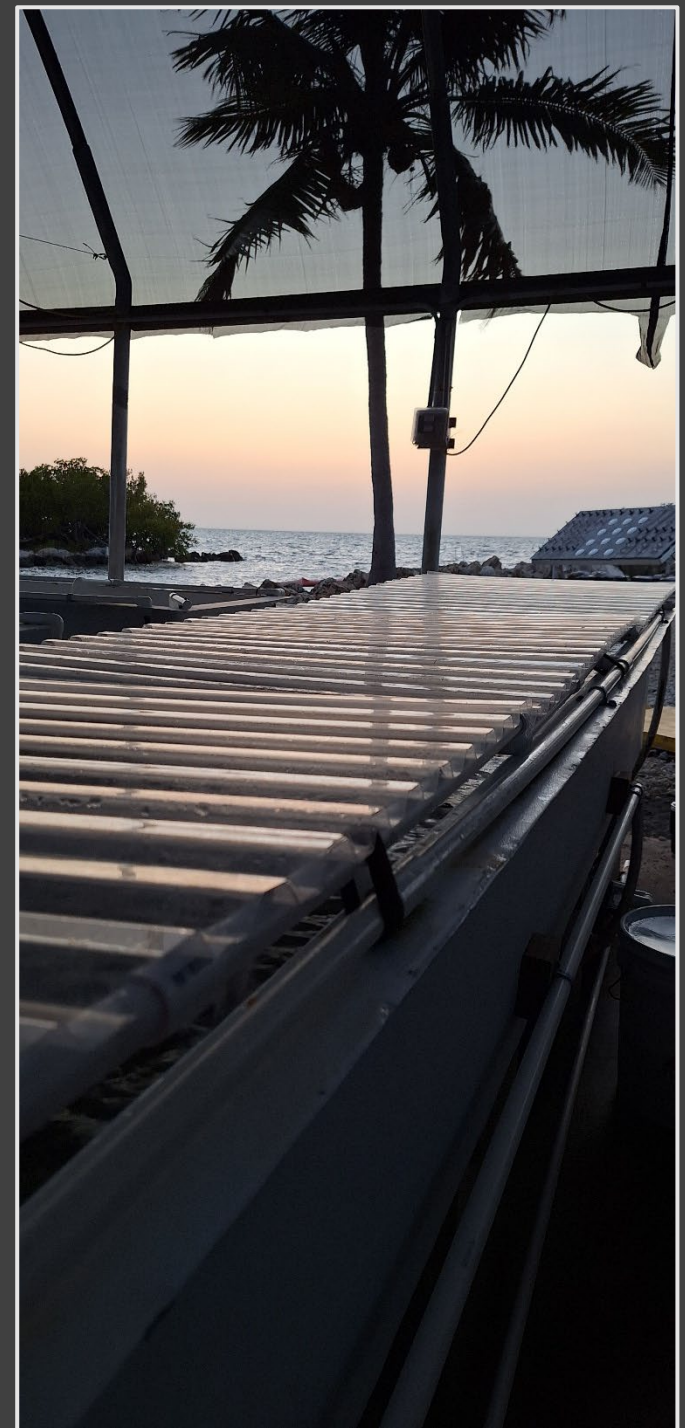
Initial TD – 0.91 ± 0.26 cm

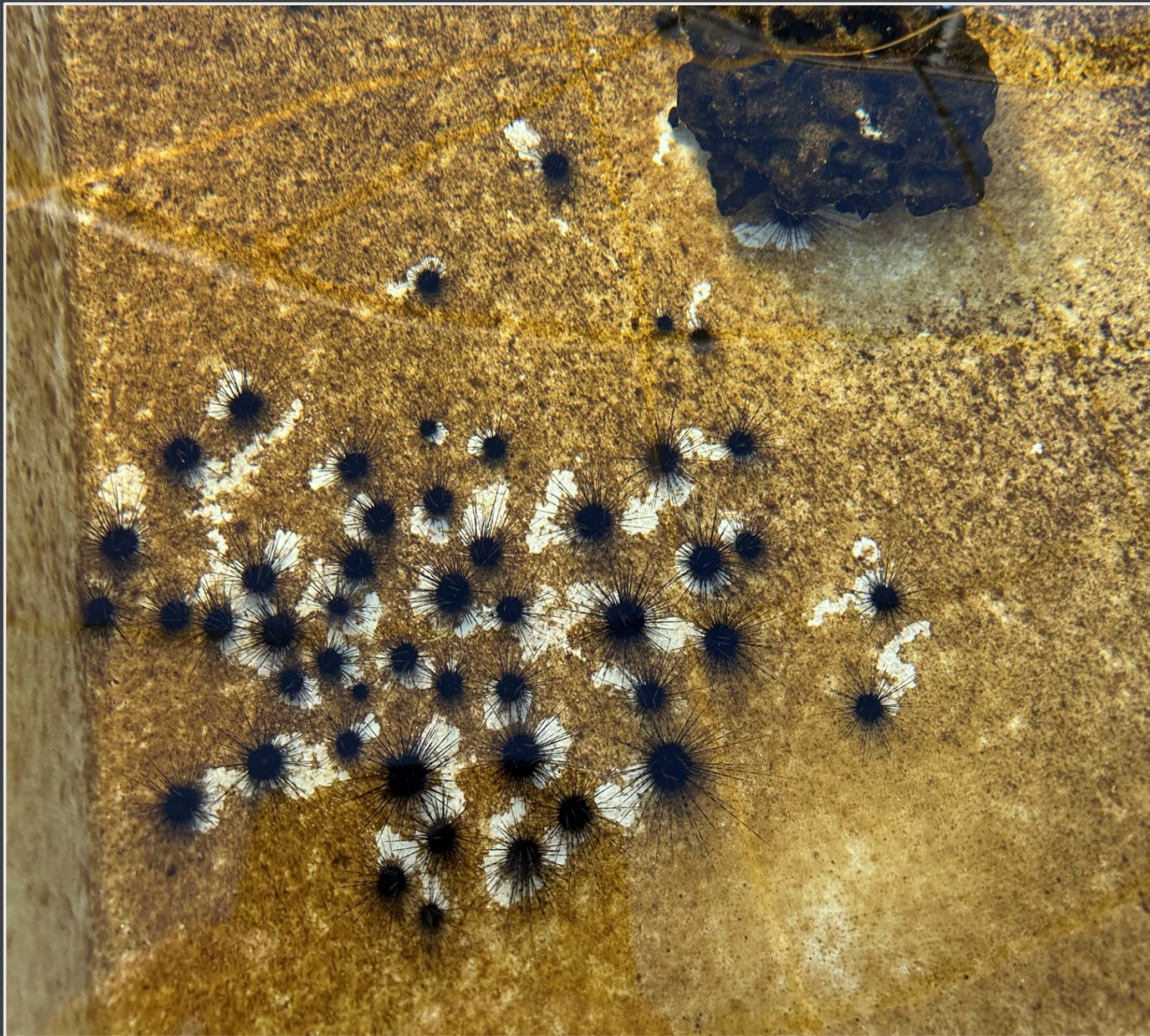
Final TD – 3.47 ± 0.68 cm

279% size increase

SGR = 1.18% / day

75% survival





Stocking

Coral Reefs
<https://doi.org/10.1007/s00338-023-02369-5>



NOTE

Long-term retention and density-dependent herbivory from *Diadema antillarum* following translocation onto a reef restoration site

I

Aaron R. Pilnick^{1,5} · Joseph A. Henry² · Dalton Hesley³ · John L. Akins⁴ · Joshua T. Patterson² · Diego Lirman³



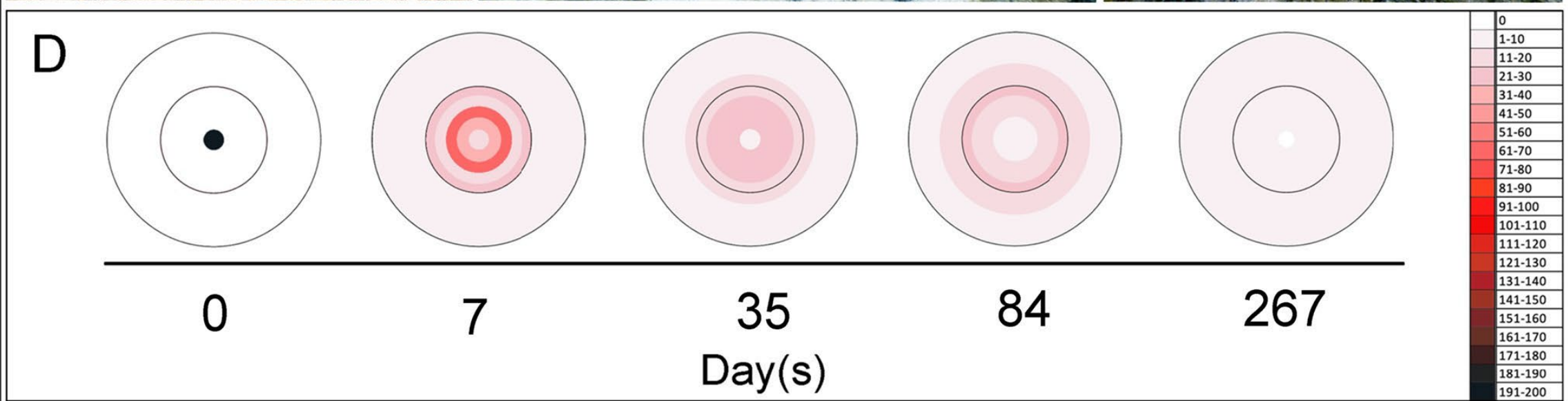
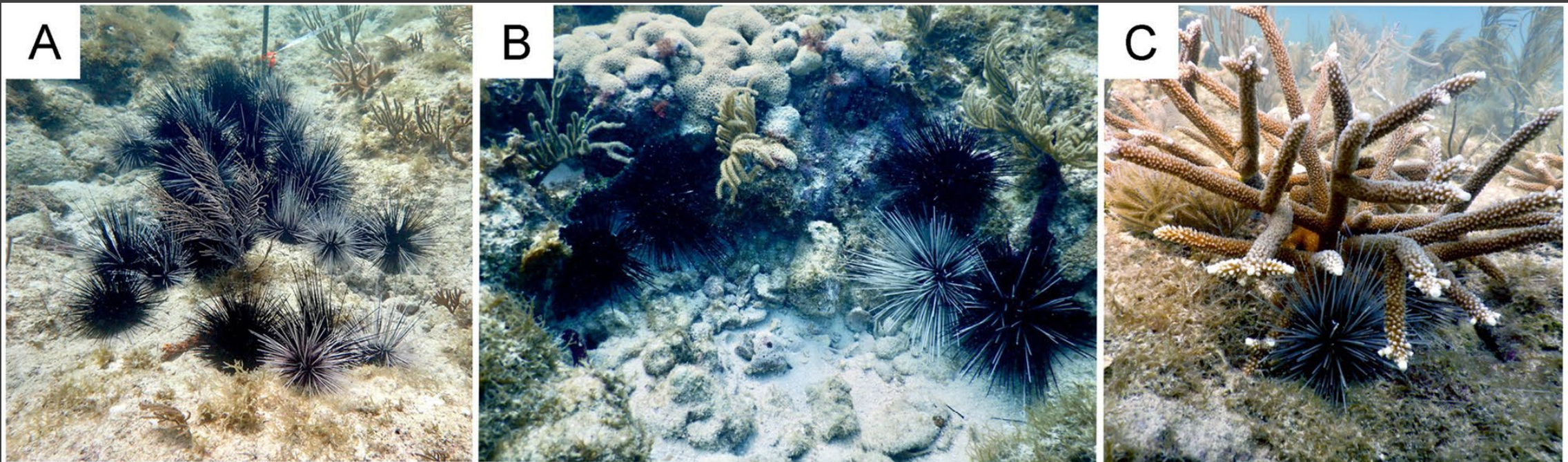
RESEARCH ARTICLE

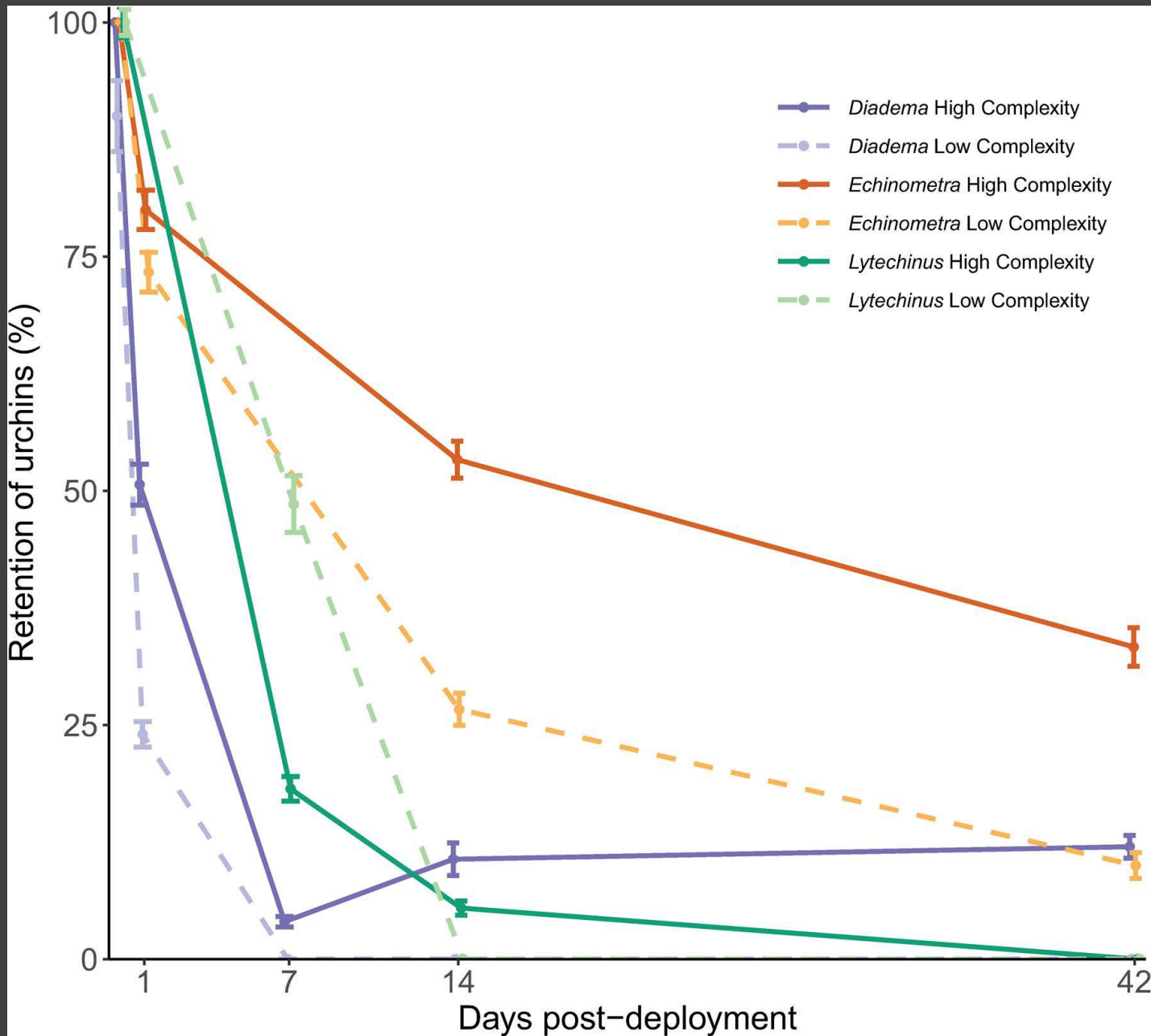
Tandem reef restoration using corals and sea urchins: Building complex habitat for herbivores

Catherine Lachnit^{1*} , Emily Esplandiu¹ , Joshua Patterson² , Diego Lirman¹

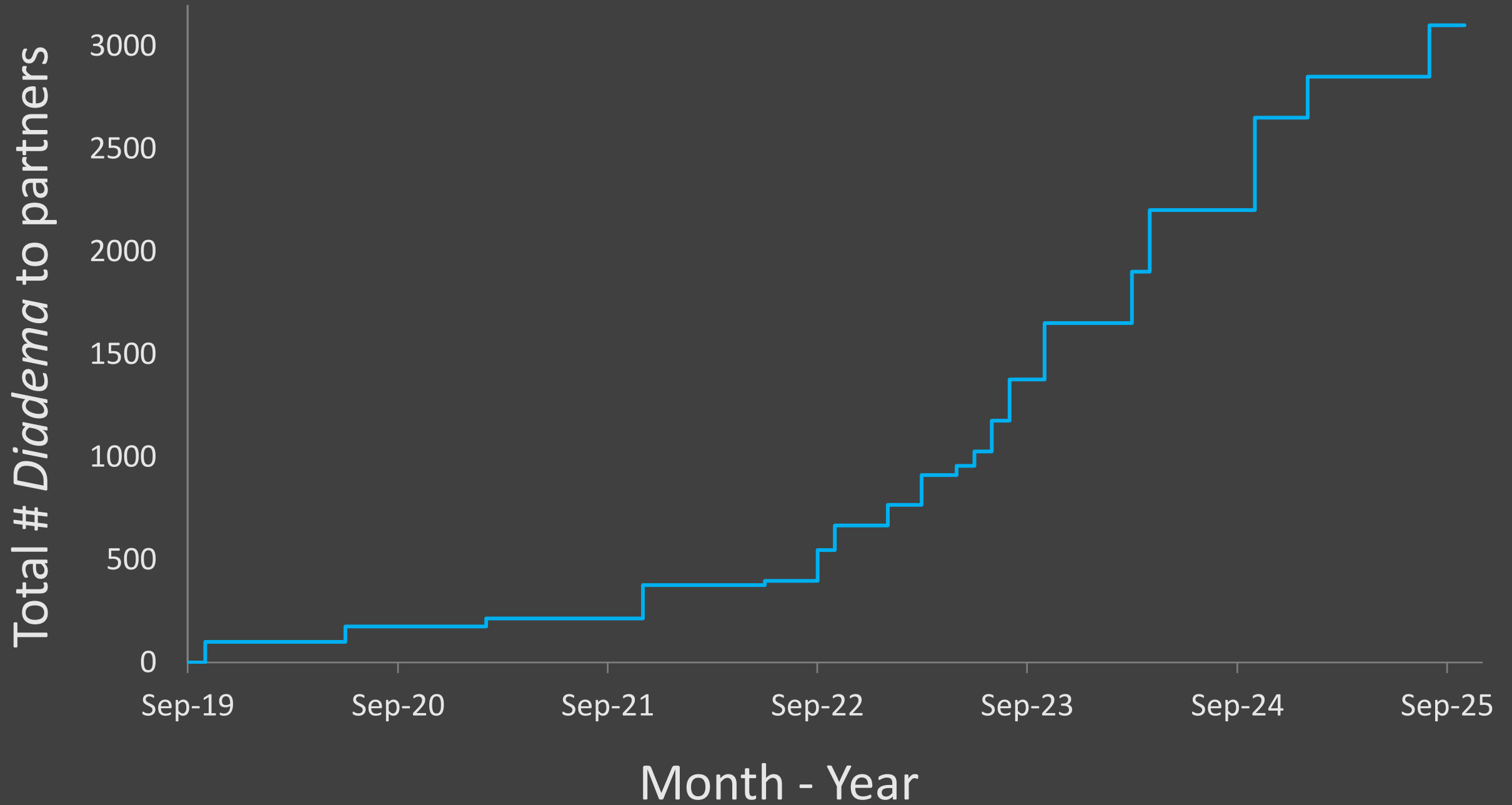
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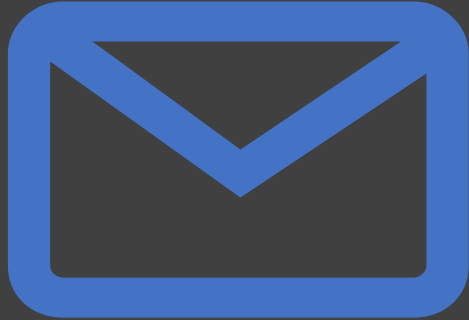




Second stocking trial showed higher retention when larger *D. antillarum* were caged on site for 30 days



Thank you



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