Invasion of a New Indo-Pacific Coral – *Tubastraea micranthus* – in the Gulf of Mexico: First Results

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Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE)
New Orleans, LA

Mechanisms of Invasion – Marine Waters

- **Ballast water – ships or barges**
- **Hitchiking on ship hulls**
- **Towing of oil and gas platforms to new sites**
- **Accidental release of exotics from mariculture units**
- **Deliberate release by aquarium hobbyists**

Lionfish – *Pterois volitans*

Lionfish – *Pterois volitans*

Distribution:

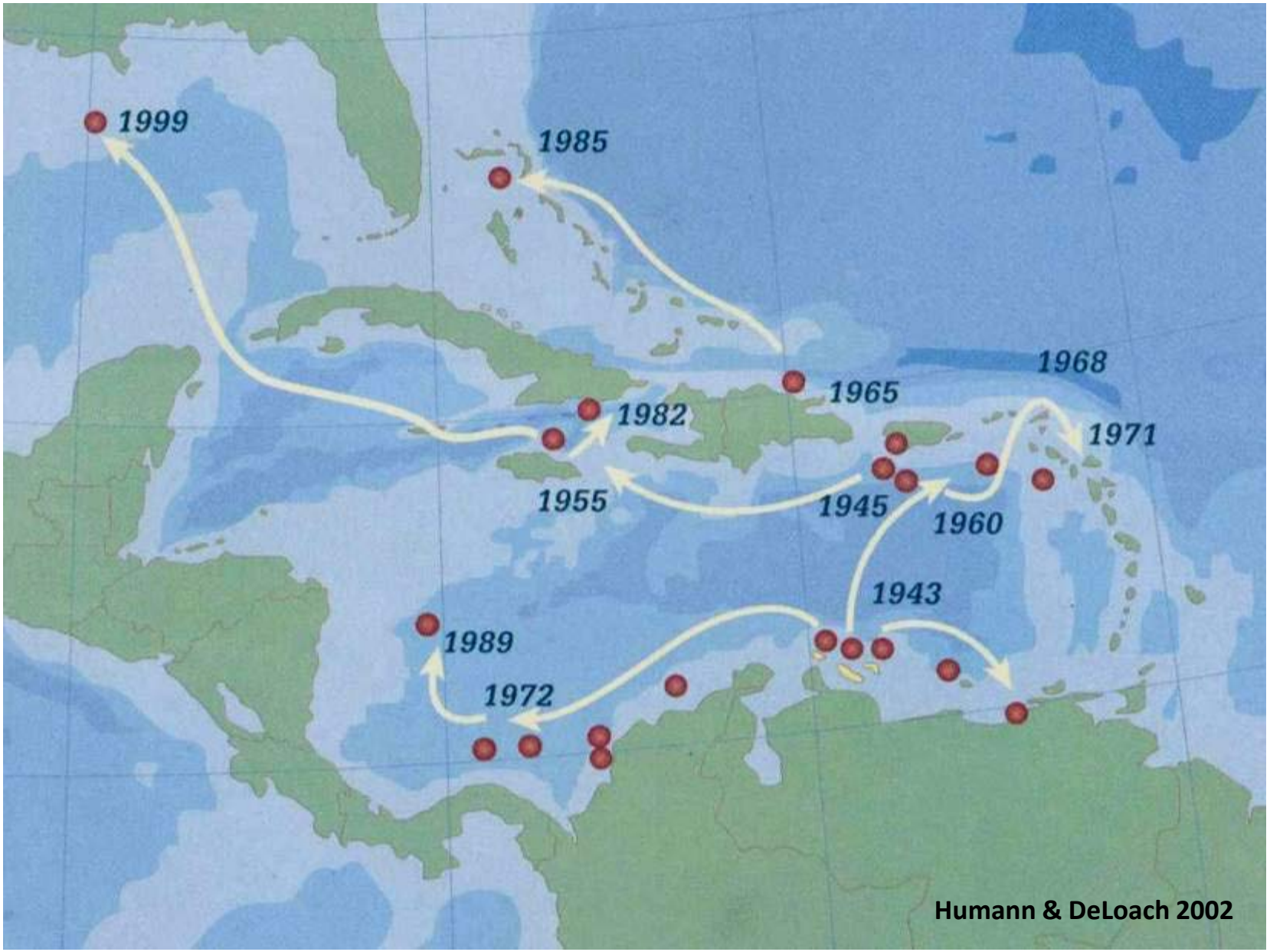
10 yrs after introduction

www.dive-fortlauderdale.com/?attachment_id=278

Tubastraea coccinea

Dinah Rogers,
Times-Picayune

Spread of Invasion by *Tubastrea coccinea*



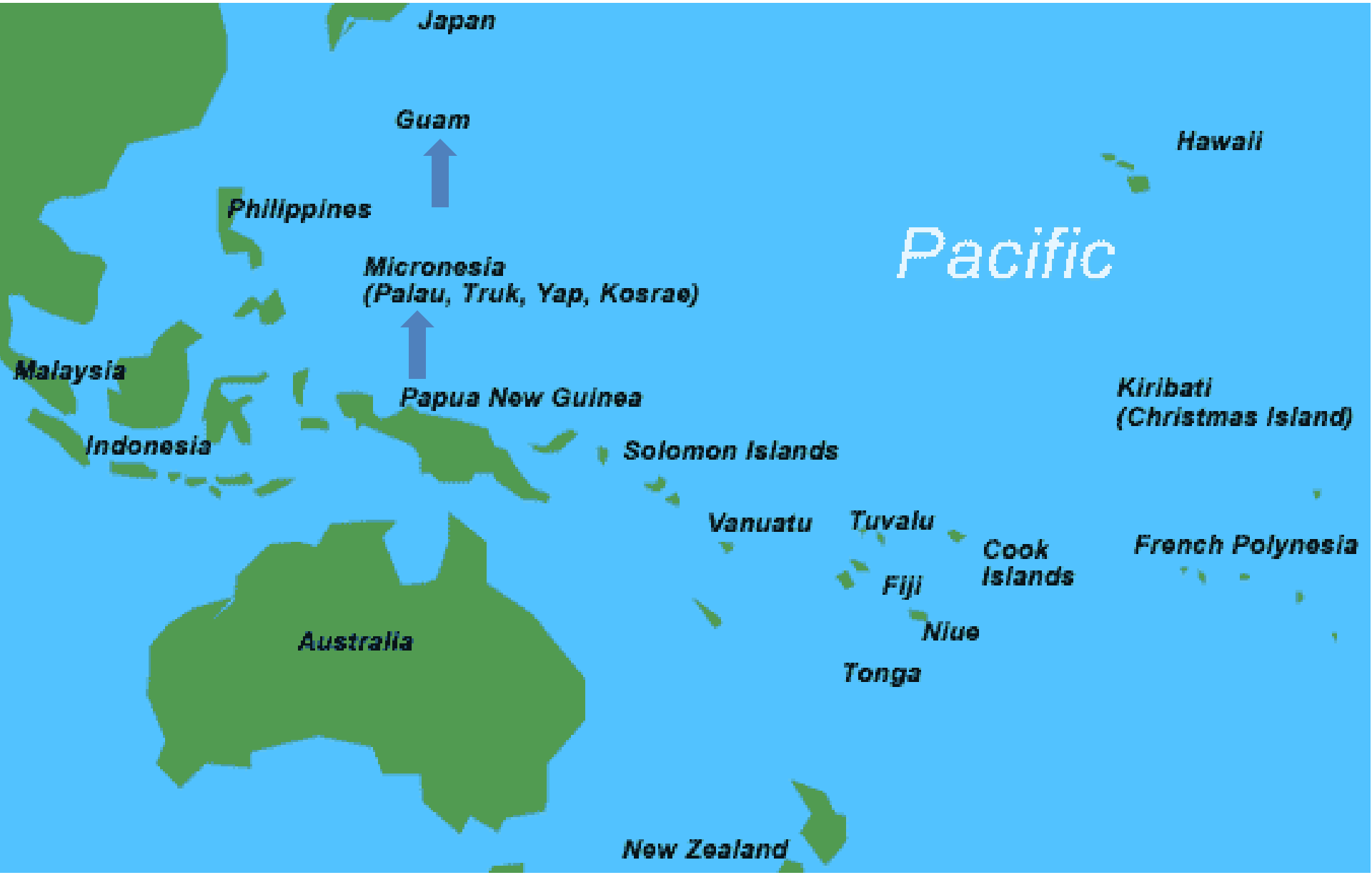
Humann & DeLoach 2002

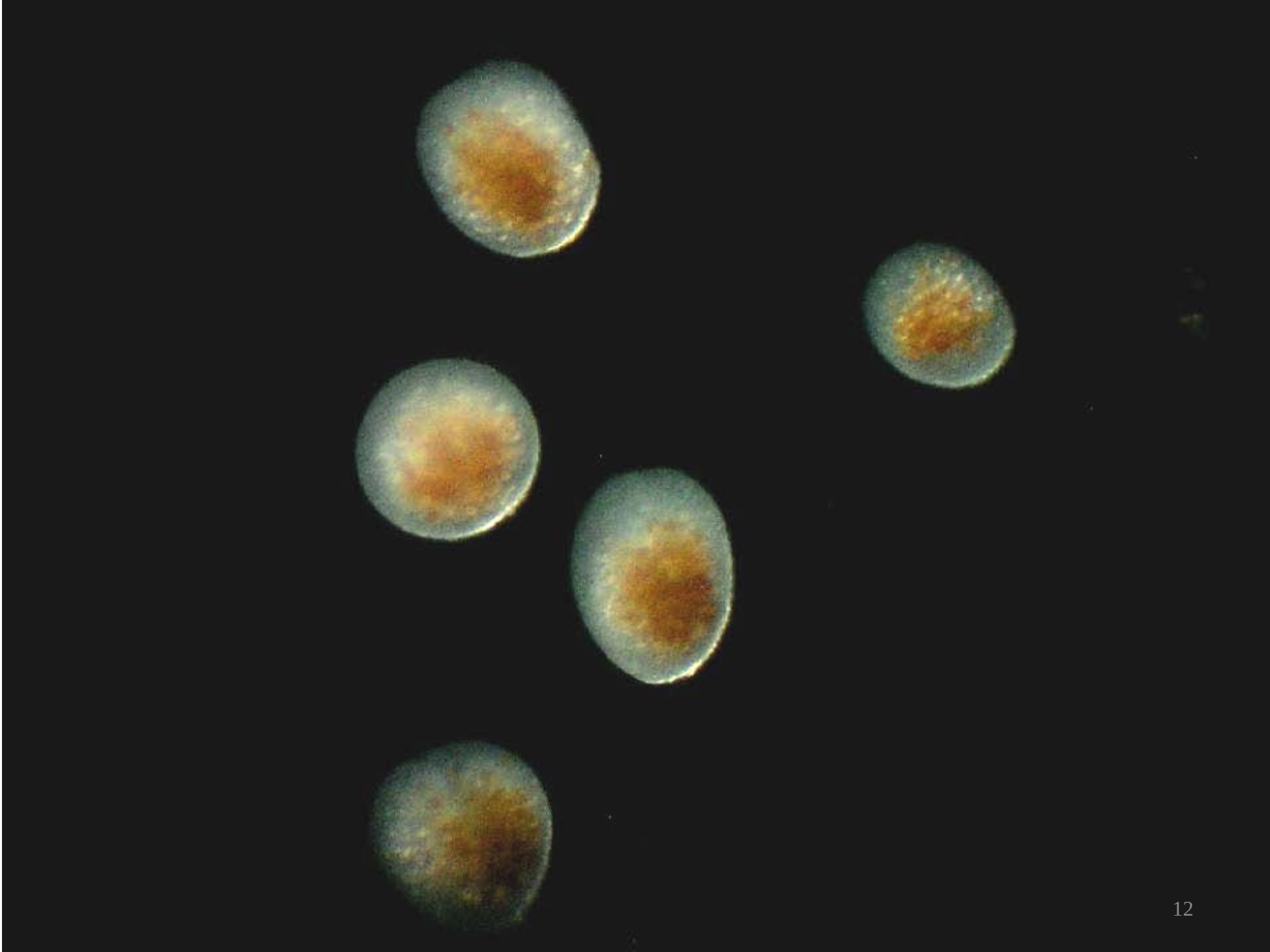
Tubastraea coccinea on GI-90-B, 22m depth

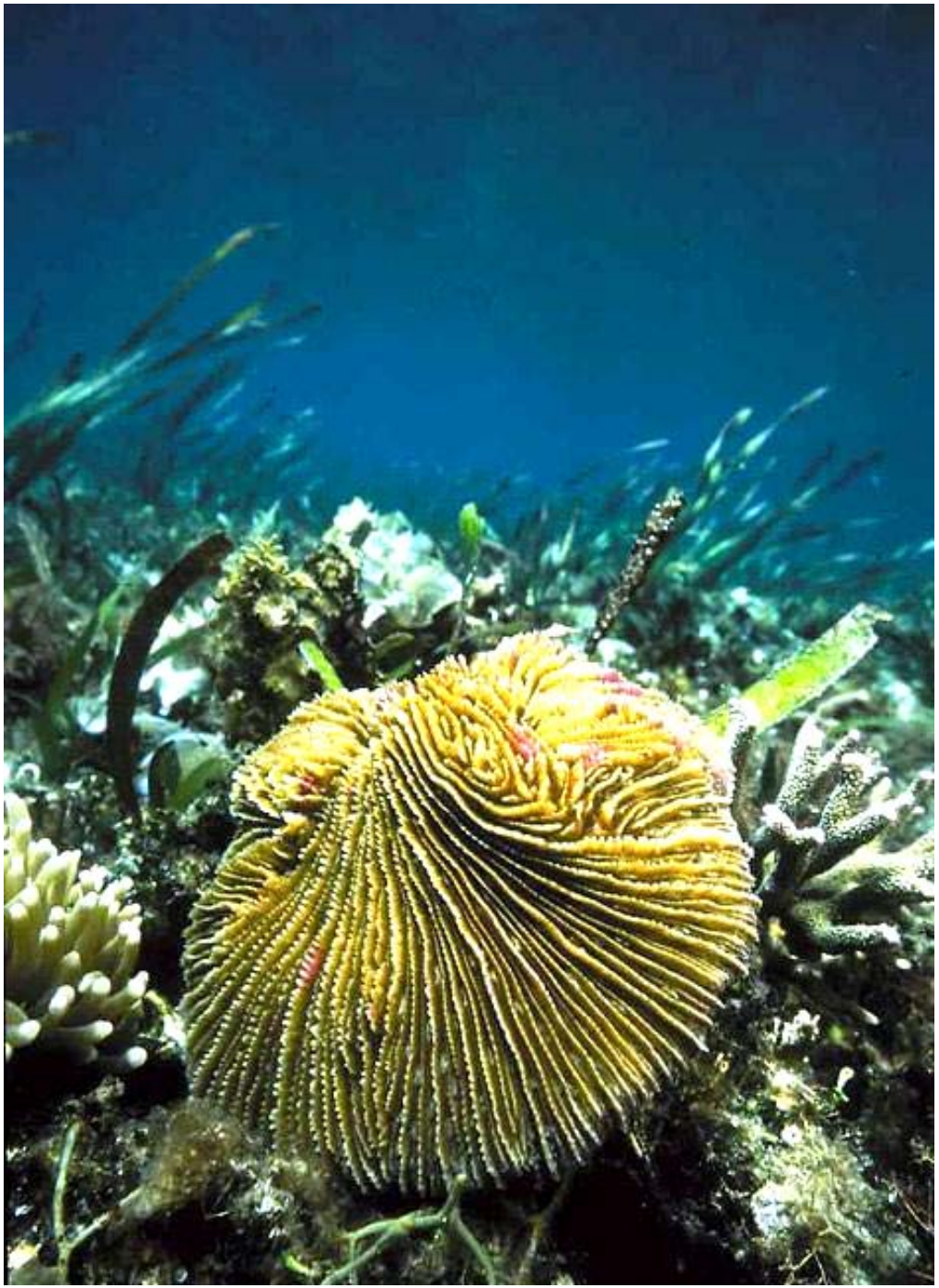
Fungia scutaria

Keoki Stender

www.marinelifephotography.com/corals/mushroom/fungiidae.htm


Japan
Guam
Hawaii
Philippines
Pacific
Micronesia
(Palau, Truk, Yap, Kosrae)
Malaysia
Papua New Guinea
Kiribati
(Christmas Island)
Indonesia
Solomon Islands
Vanuatu
Tuvalu
Cook
Islands
French Polynesia
Fiji
Niue
Australia
Tonga
New Zealand





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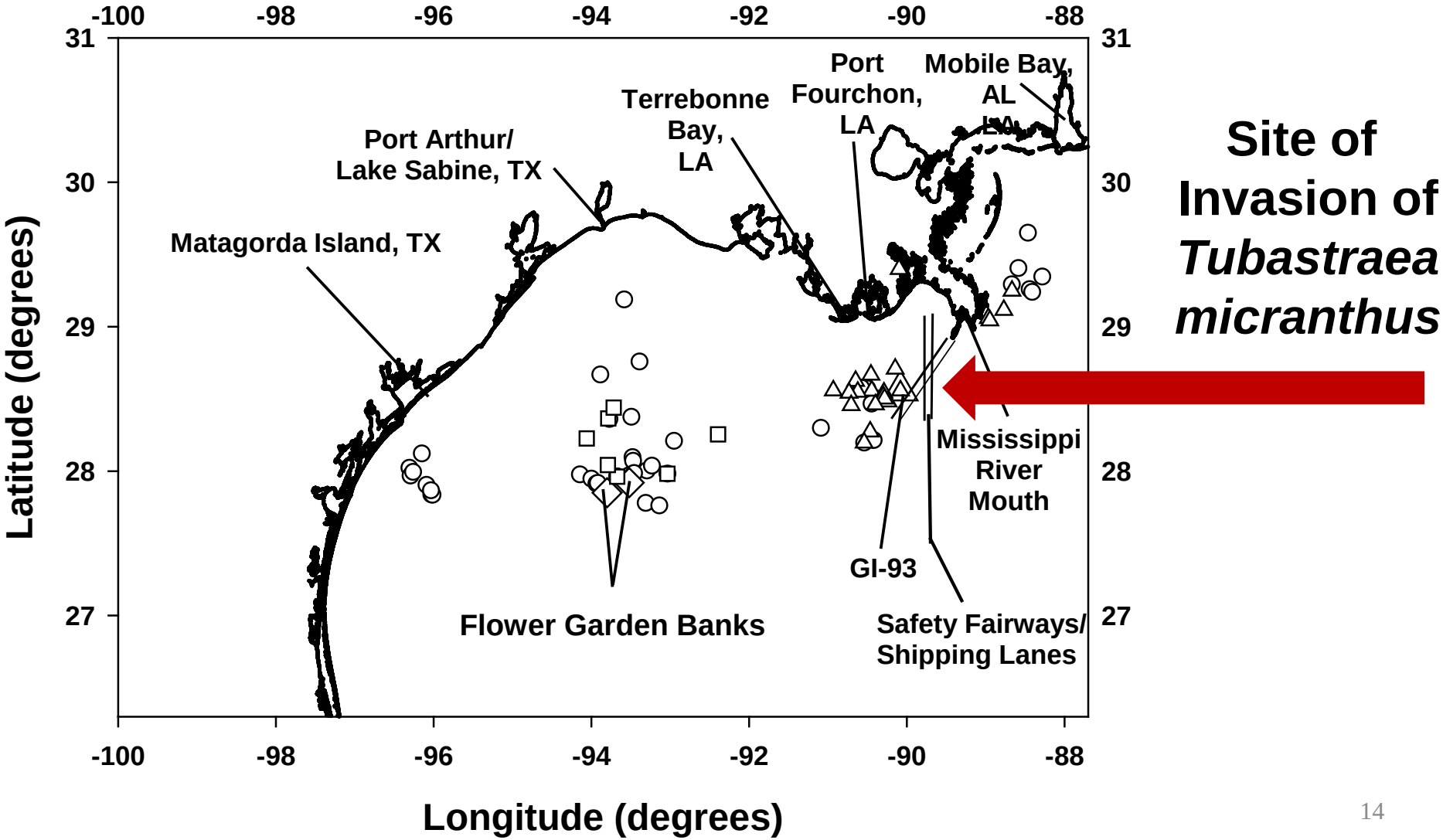
www.deepseaimages.com

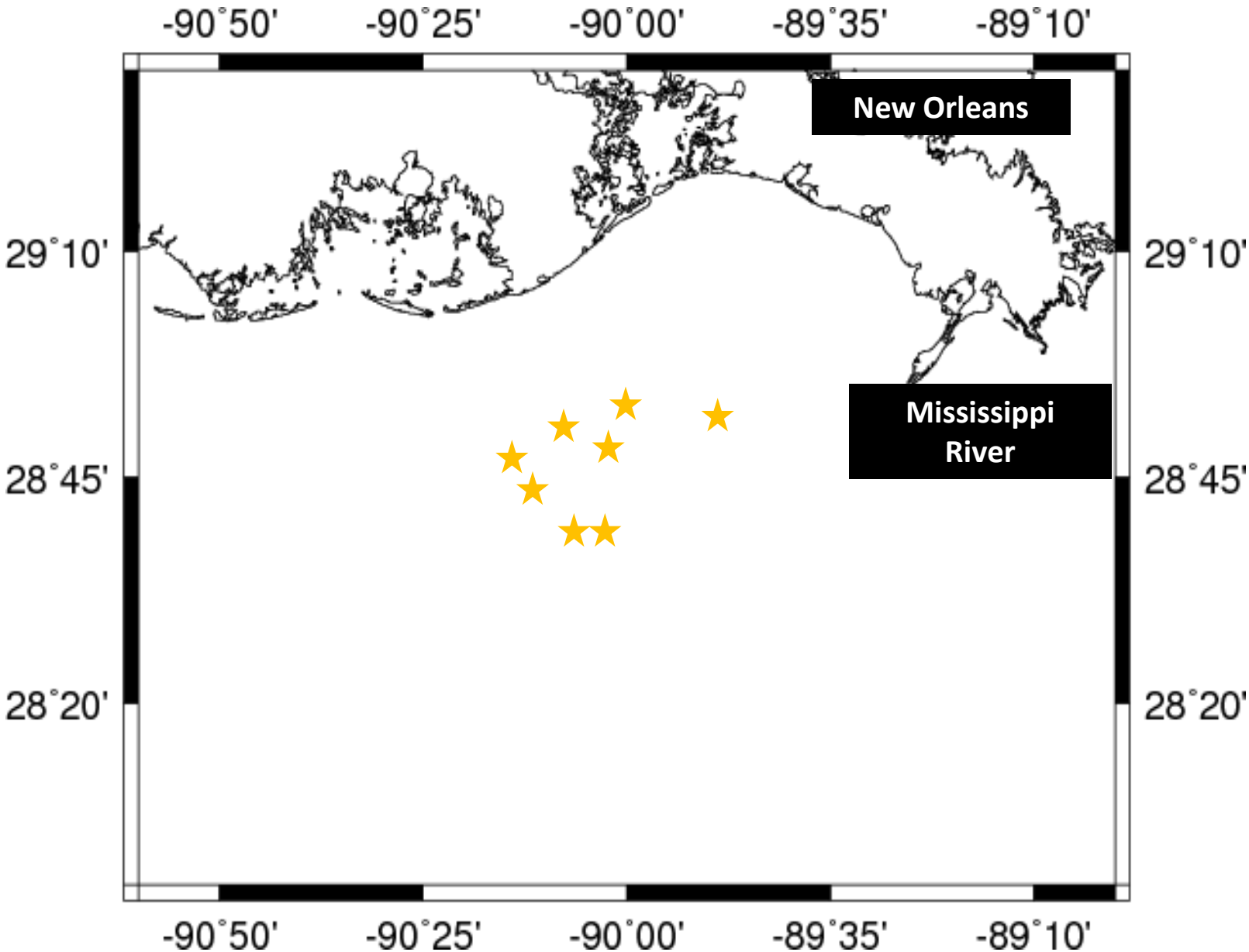
Survey Sites and Confirmed Location of *Tubastraea microcanthus*



Observed on GI-93-C

Tubastraea micranthus
(Japan)

Sampled Platform Locations

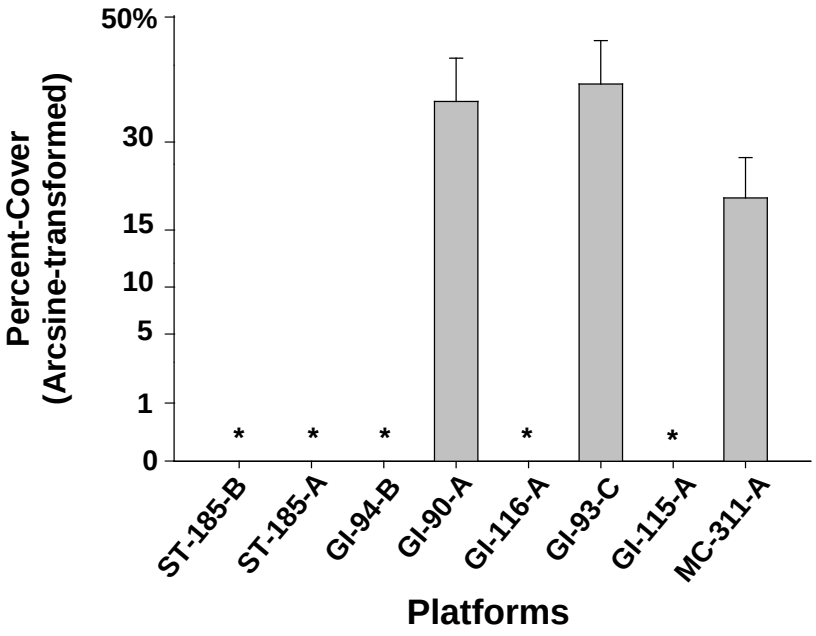


LUMCON

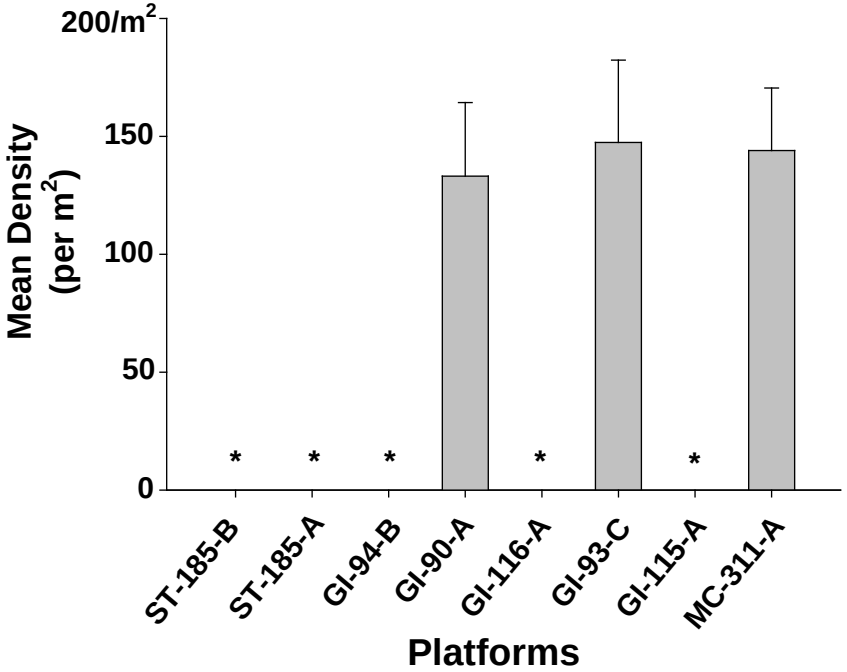
http://farm1.static.flickr.com/151/421351546_01b924e454.jpg?v=0

Tubastraea coccinea on Platforms

Percent-Cover



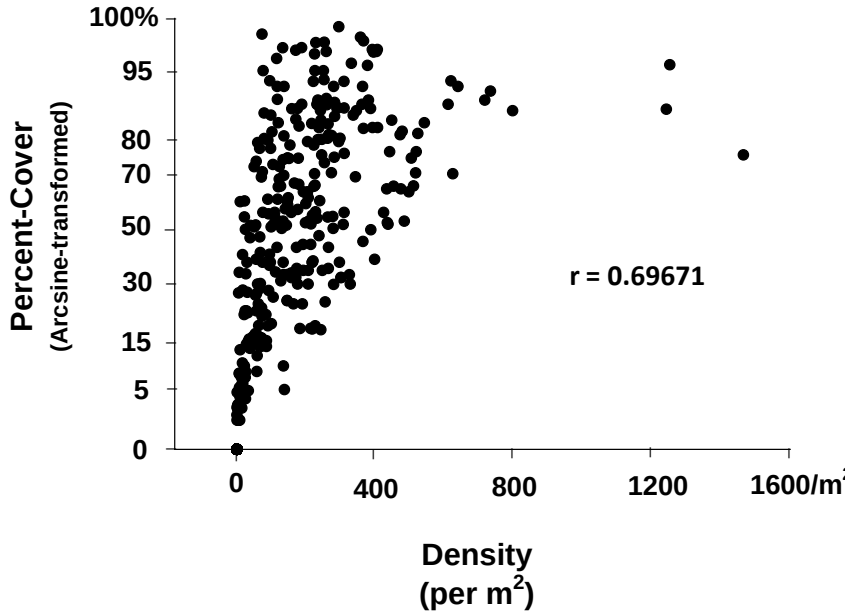
Density (no./m²)



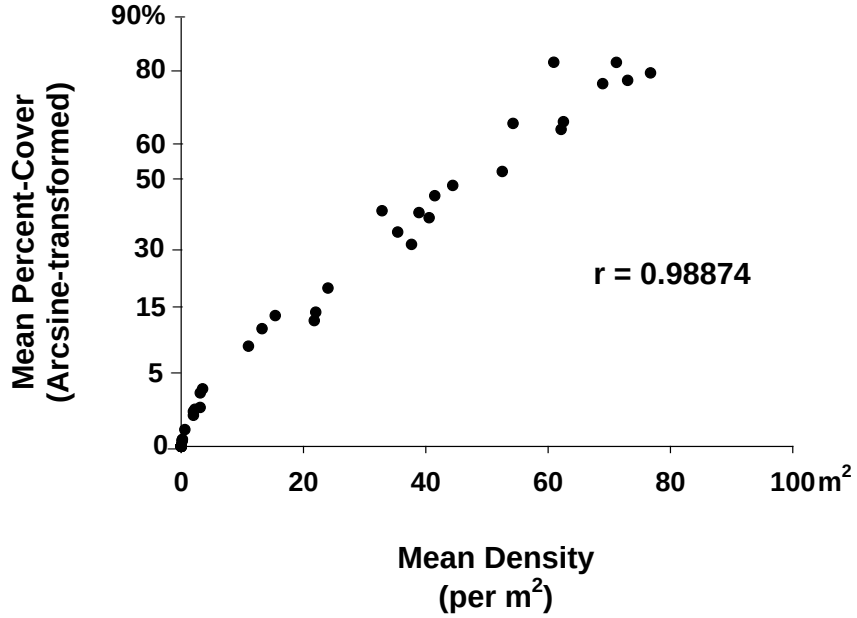
Tubastraea coccinea
Relationship between Percent-Cover and Density

Based on -

Ind. Quadrats

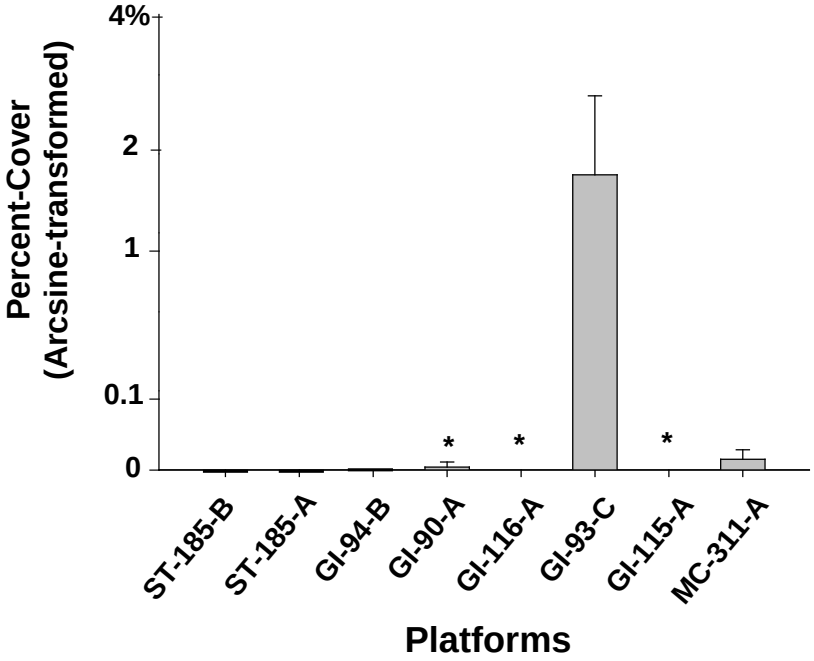


Depth-Distribution Data

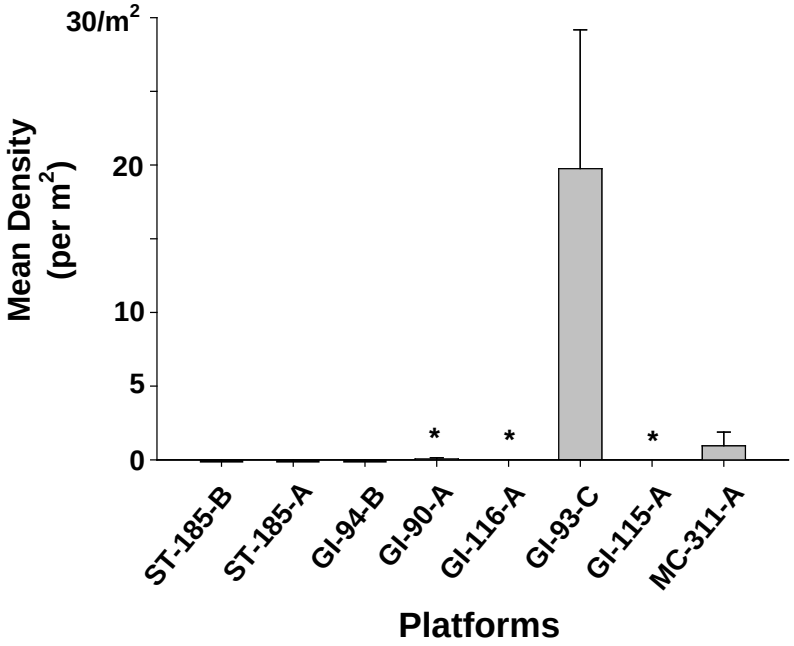


Tubastrea micranthus on Platforms

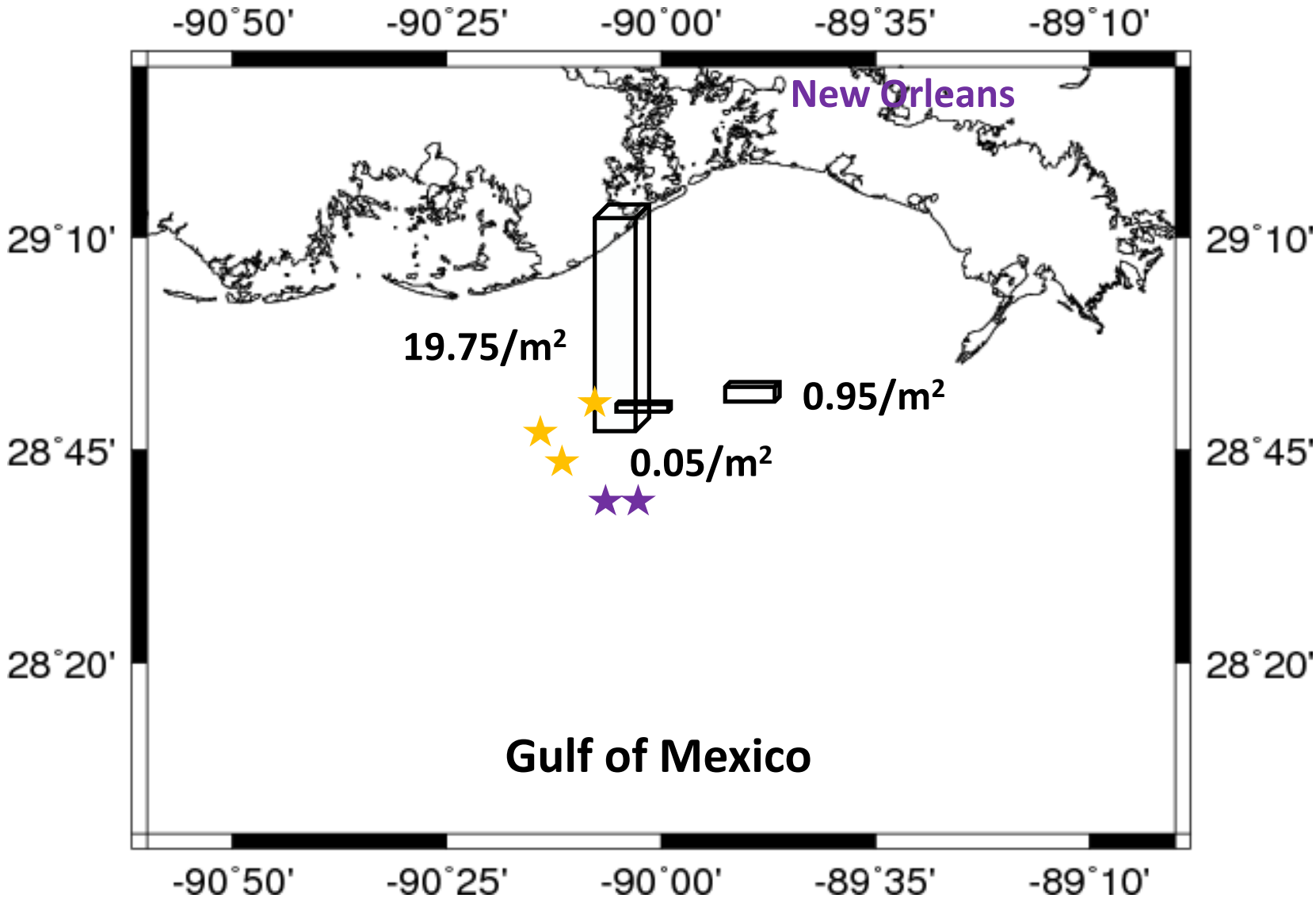
Percent-Cover



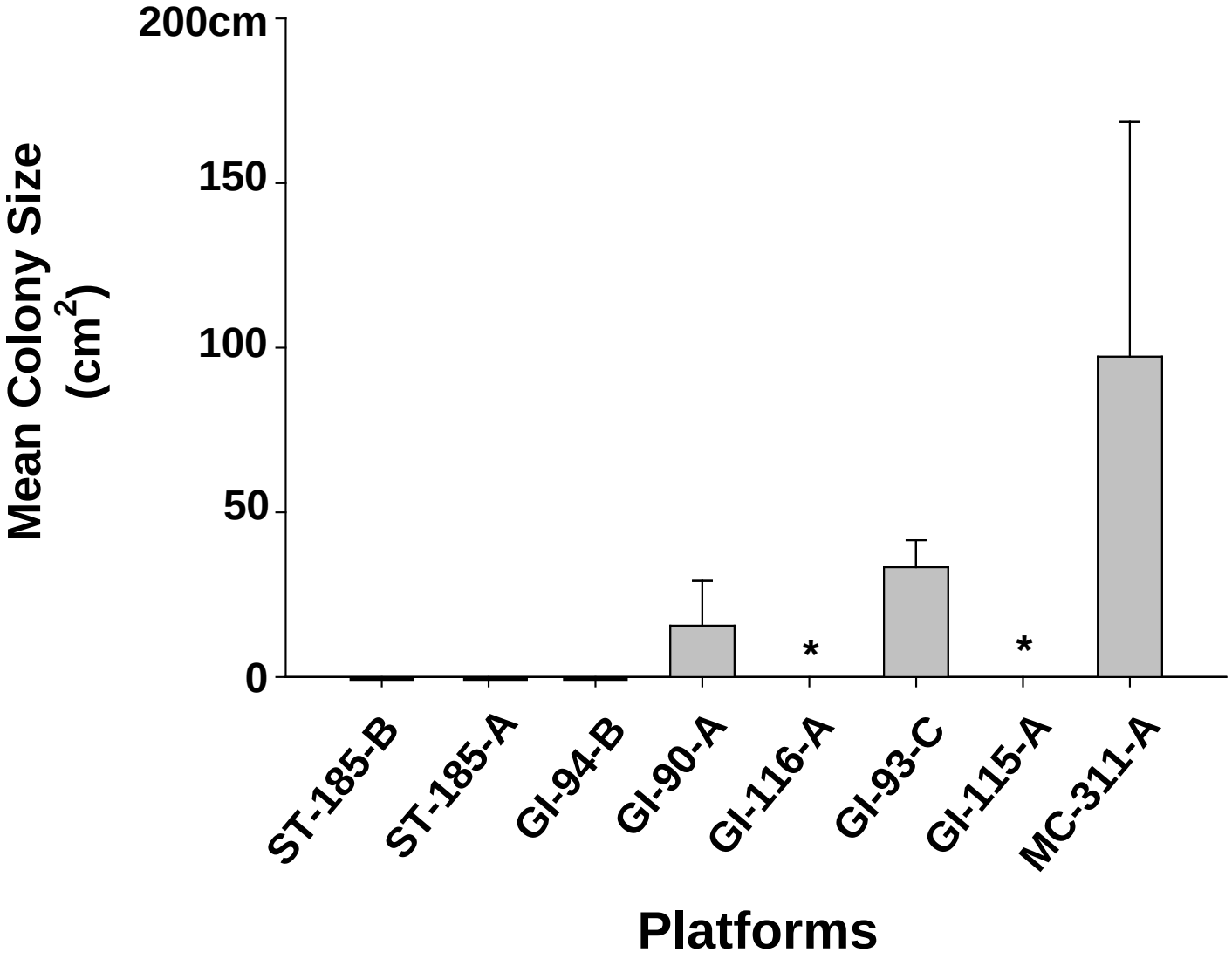
Density (no./m^2)



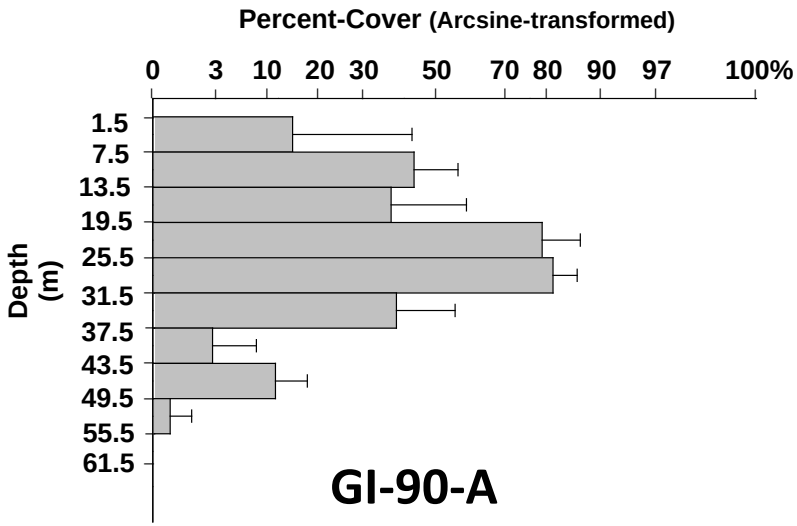
Geographic Location
Density of *Tubastraea micranthus*

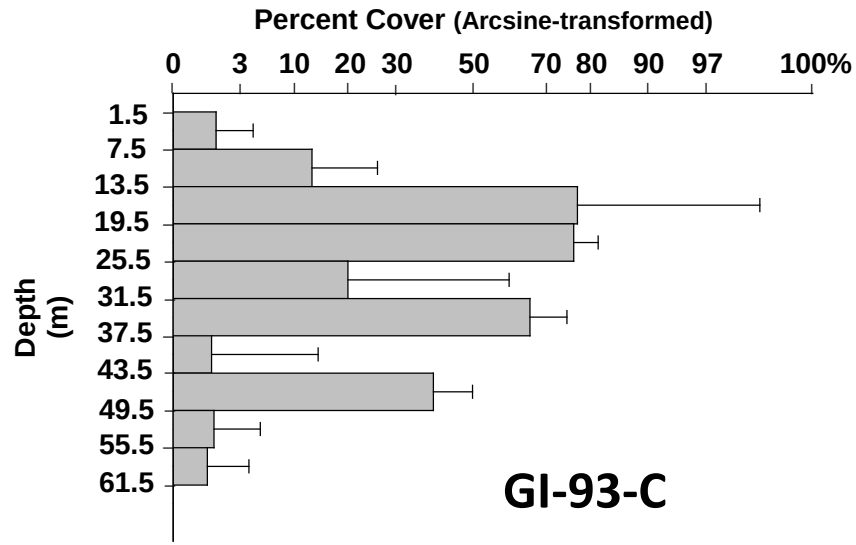


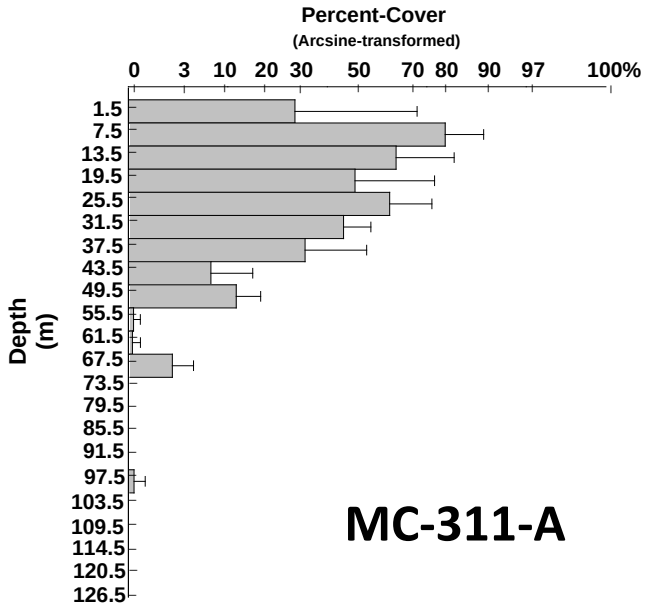
Tubastraea micranthus
Mean Colony Size on Oil/Gas Platforms



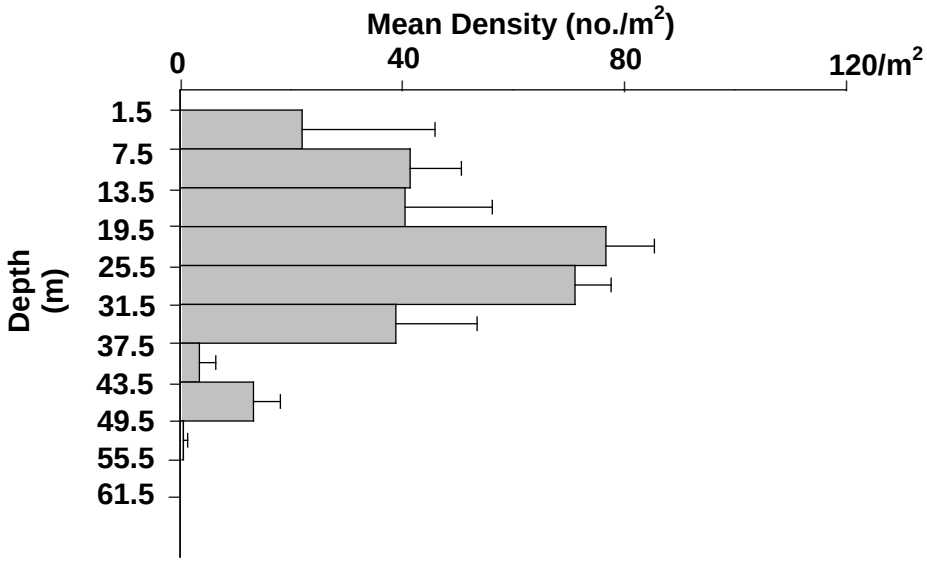
Tubastraea coccinea – Depth Distribution Percent-Cover



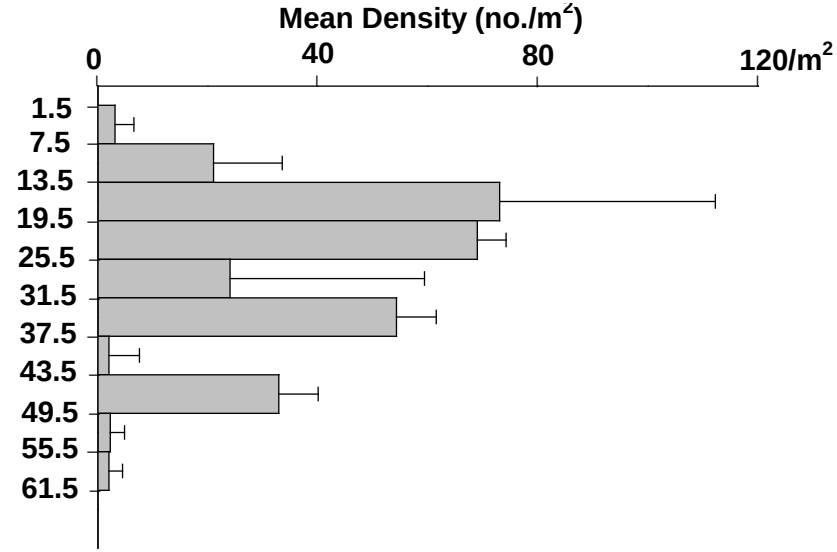




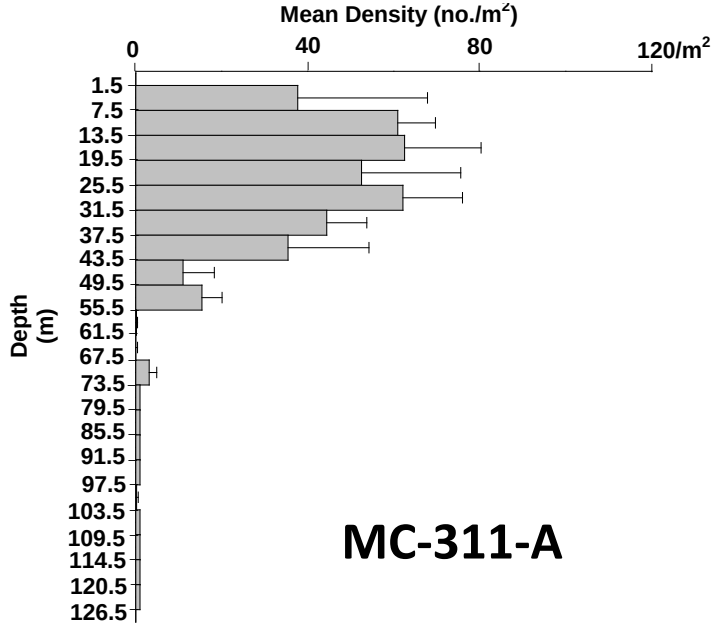
Tubastraea coccinea – Depth Distribution Density



GI-90-A

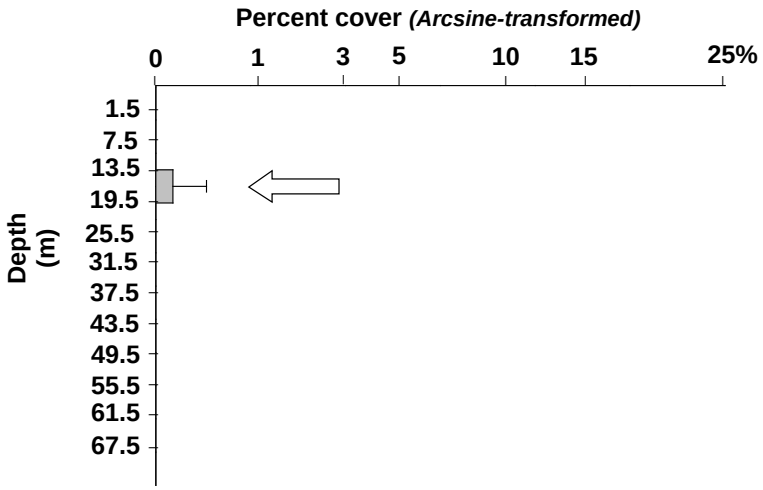


GI-93-C



MC-311-A

Tubastraea micranthus – Depth Distribution Percent-Cover



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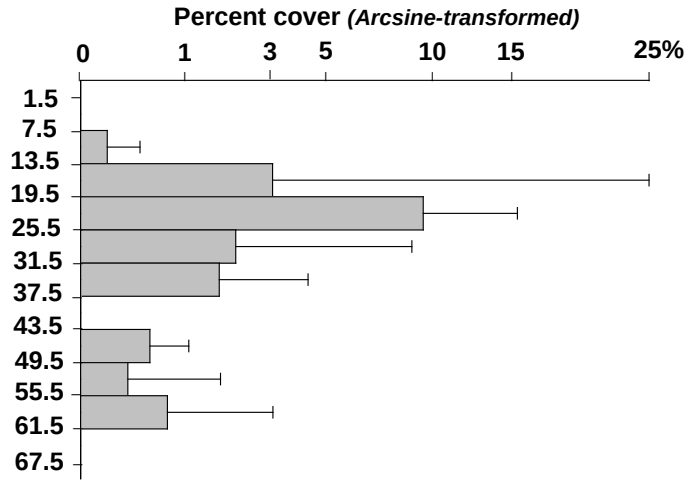

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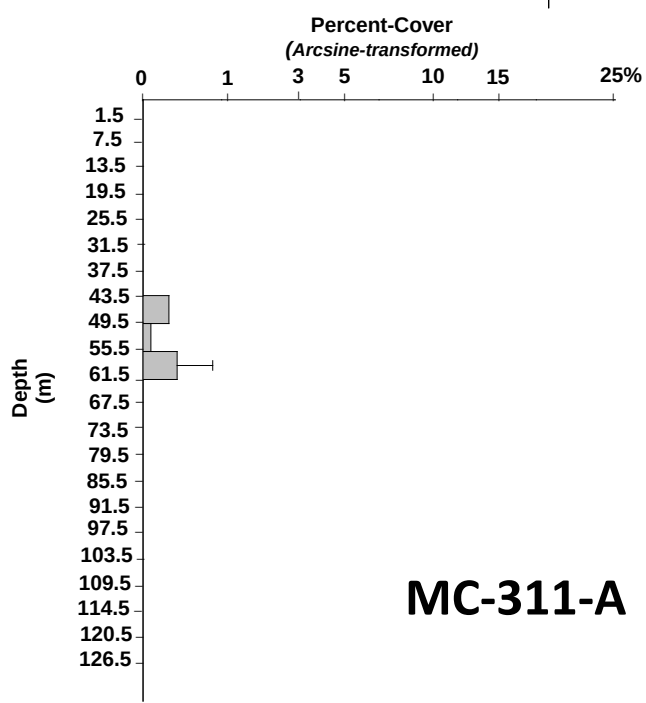
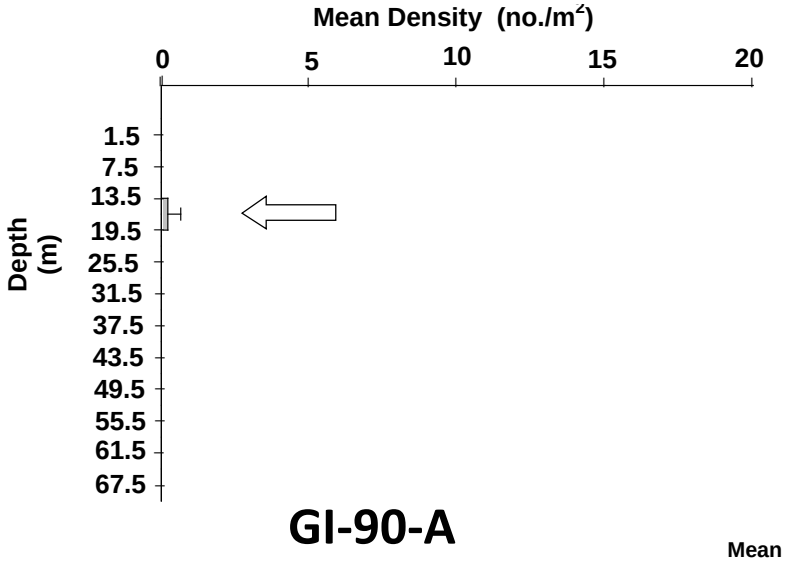
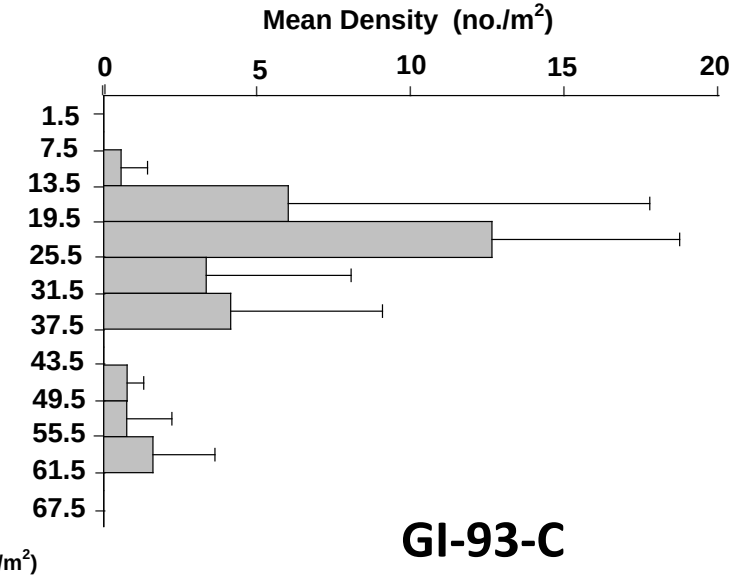
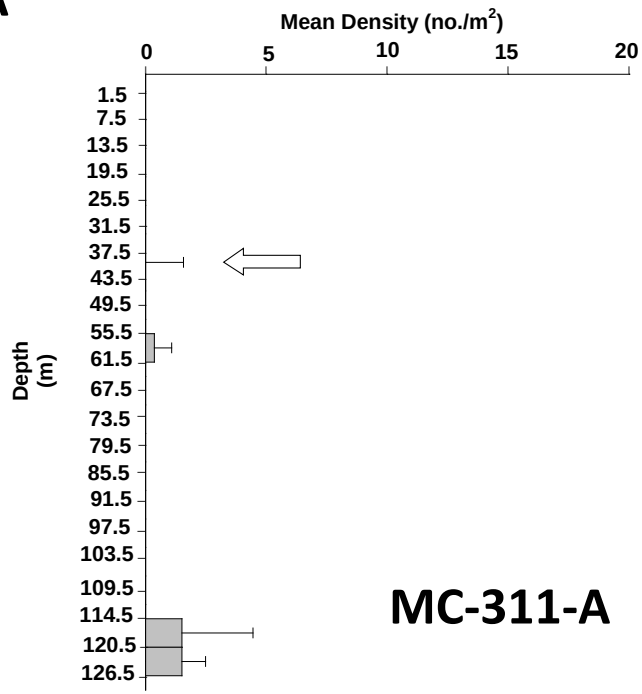


MC-311-A

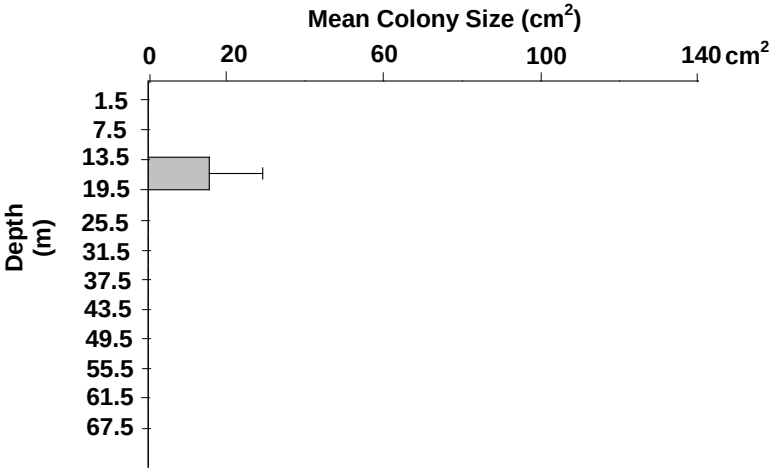
Tubastraea micranthus – Depth Distribution Density (no./m²)







Tubastraea micranthus – Depth Distribution Mean Colony Size (cm^2)



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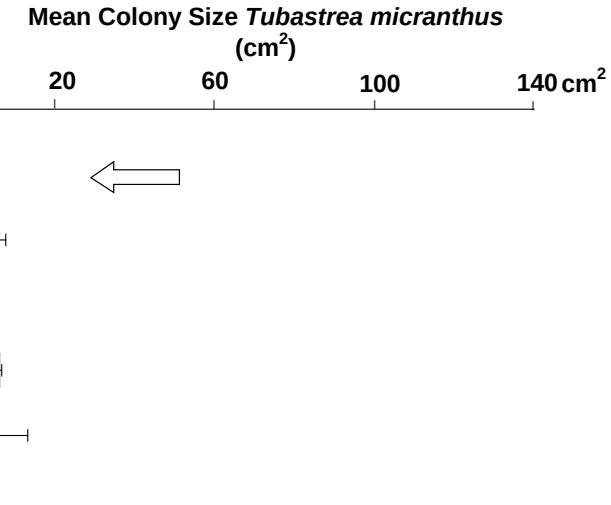

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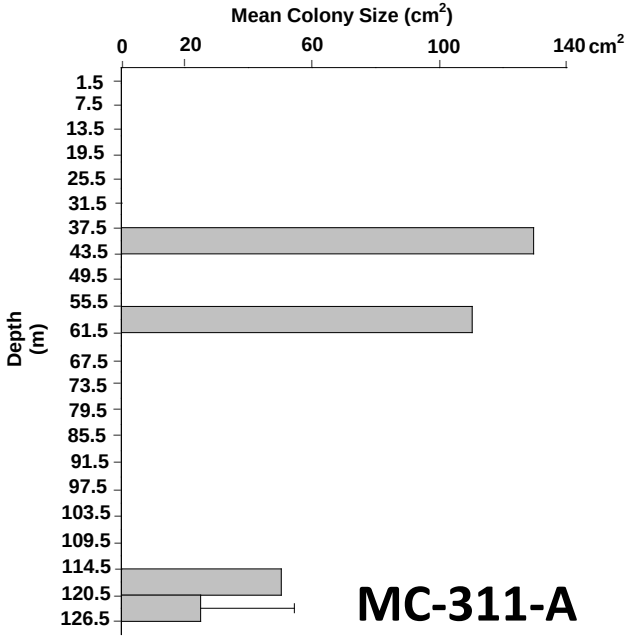


MC-311-A

08:50:10
10.19.10
392
MC-311A LEG 1

100% Successful Eradication

Terebrasabella heterouncinata

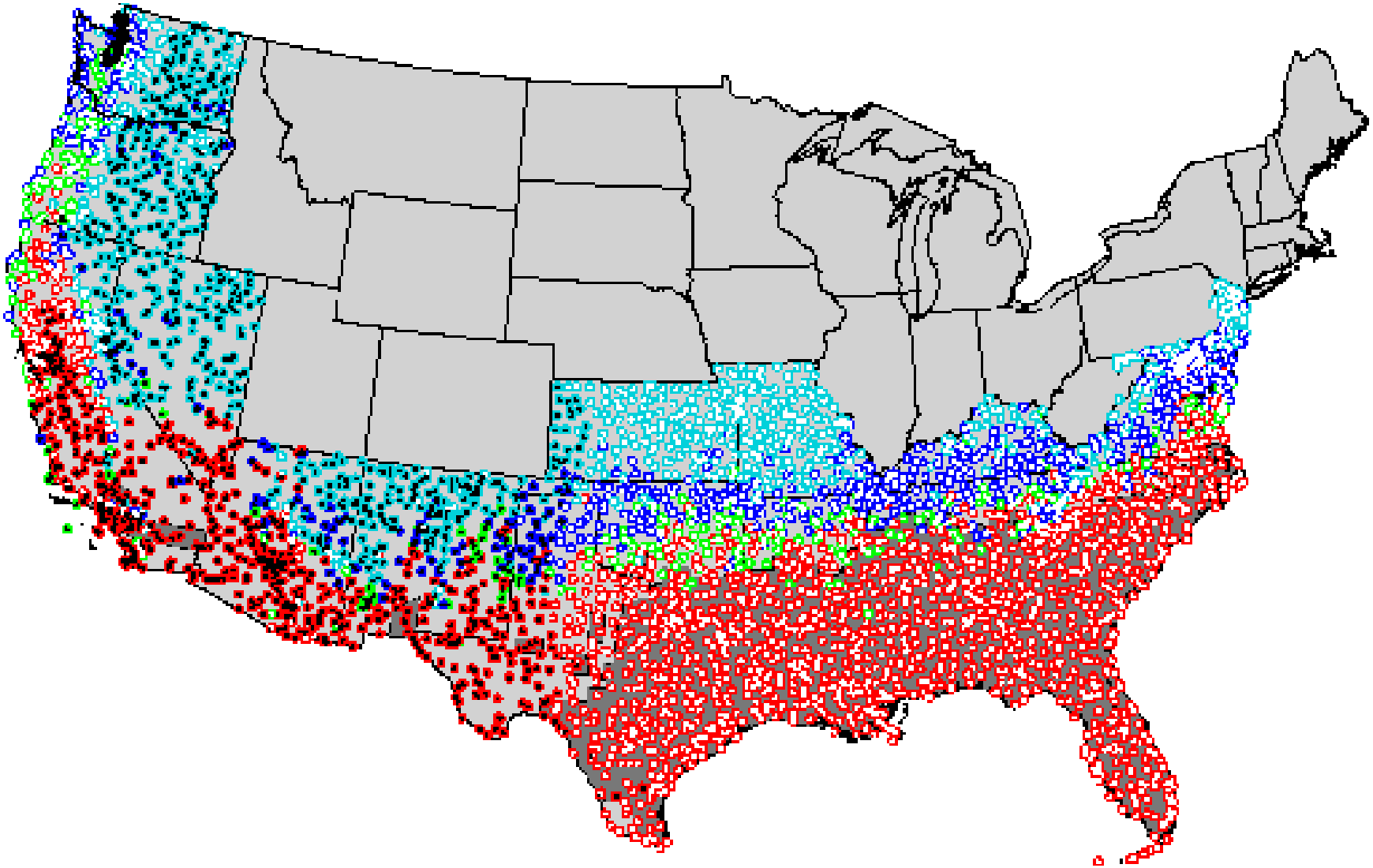
Annelid, Ectocommensal of Abalone, California

www.scielo.cl/scielo.php?pid=S0716-078X2006000200012&script=sci_arttext

Solenopsis – the "fire ant"

http://vinsonlab.tamu.edu/ants.htm

Current Distribution of Fire Ants in the Continental US



http://doyourownpestcontrol.com/pest_control/questions_and_answers/top_10_things_you_should_know_about_fire_ants.html

Feral Cats on Macquarie Island, Australia

World Heritage Site – Eradication Exercise

Best of Intentions – Gone Awry

END OF
IMPROVEMENT
THANK YOU
FOR YOUR PATIENCE

Acknowledgments

- **M. Wike, ROV Pilot, LUMCON**
- **C. Sevin, Captain, R/V *Acadiana***
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- **K. Bush, Captain, M/V *Fling***
- **B. Ellen, Captain, M/V *Fling***
- **J. Tyler, M/V *Fling***
- **K. Kies, M/V *Fling***
- **Lt. Col. D. Perrenod, USAF / NASA**

Reference

Humann, P. and N. Deloach. 2002. Reef Coral Identification, Florida Caribbean Bahamas, Including Marine Plants. Jacksonville, Florida: New World Publications. P. 164.