Supplementary information

Characterization of coral-associated microbial aggregates (CAMAs) within tissues of the coral *Acropora hyacinthus*

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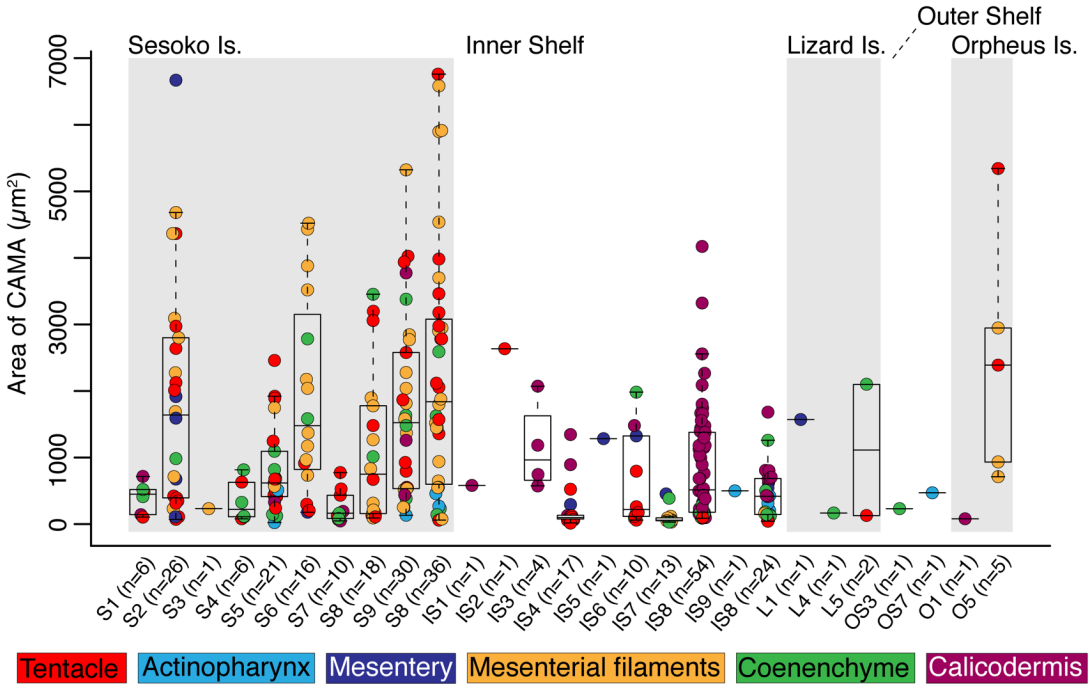
Suppl. table S1 Fisher's exact test values for the presence/absence of CAMA detected by HE stain and FISH among samples collected from the five sites

	Compared element	p-value of Adj. Fisher exact test
CAMAs detected by HE[†]	Sesoko Is. vs. Inner Shelf	0.6770
	Sesoko Is. vs. Lizard Is.	0.0155**
	Sesoko Is. vs. Outer Shelf	0.0151**
	Sesoko Is. vs. Orpheus Is.	0.0360**
	Inner Shelf vs. Lizard Is	0.1400
	Inner Shelf vs. Outer Shelf	0.1340
	Inner Shelf vs. Orpheus Is.	0.2830
	Lizard Is. vs. Outer Shelf	1.0000
	Lizard Is. vs. Orpheus Is.	1.0000
	Outer Shelf vs. Orpheus Is.	0.7980
CAMAs detected by FISH	Sesoko Is. vs. Inner Shelf	1.00000
	Sesoko Is. vs. Lizard Is.	0.00517***
	Sesoko Is. vs. Outer Shelf	0.00378***
	Sesoko Is. vs. Orpheus Is.	0.00357***
	Inner Shelf vs. Lizard Is	0.00517***
	Inner Shelf vs. Outer Shelf	0.00378***
	Inner Shelf vs. Orpheus Is.	0.00357***
	Lizard Is. vs. Outer Shelf	1.00000
	Lizard Is. vs. Orpheus Is.	1.00000
	Outer Shelf vs. Orpheus Is.	1.00000

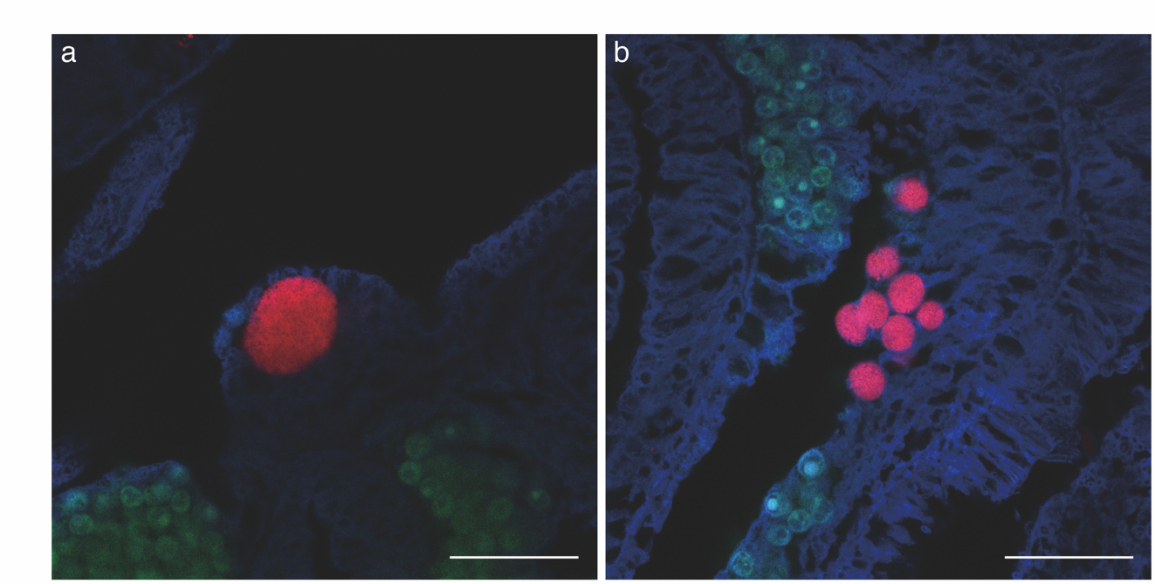
[†]The HE stained CAMAs include basophilic and eosinophilic CAMAs.
P values are $^{**}p < 0.05$ and $^{***}p < 0.01$.

Suppl. table S2 Summary of the densities of CAMAs in HE- and FISH- stained tissues

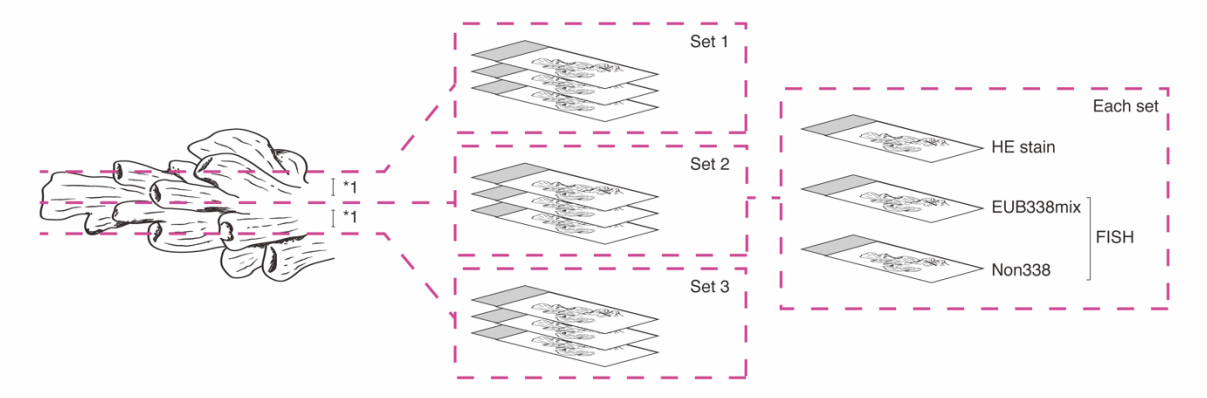
	Sesoko Is.	Inner Shelf	Lizard Is.	Outer Shelf	Orpheus Is.
Sample size	10	10	10	8	10
Basophilic CAMAs					
Colonies observed with CAMAs	10	8	3	0	3
Ave. densities (n/cm^2) in tissues	20.13±17.1	6.78±9.3	0.92±0.1	-	3.55±3.3
Density range (n/cm^2) across samples	1.06 - 48.90	0.86 - 25.48	0.87 - 1.02	-	1.54 - 7.42
Eosinophilic CAMAs					
Colonies observed with CAMAs	0	1	0	2	1
Ave. densities (n/cm^2) in tissues	-	0.86	-	5.39±6.7	1.28±2.8
Density range (n/cm^2) across samples	-	-	-	0.69 - 10.10	
FISH detected CAMAs					
Colonies observed with CAMAs	10	10	3	2	2
Ave. densities (n/cm^2) in tissues	18.72±12.7	7.90±8.2	1.26±0.6	0.90±0.5	4.48±4.2
Density ranges (n/cm^2) across samples	0.53 - 41.08	0.86 - 25.48	0.87 - 1.02	0.58 - 1.22	1.54 - 7.42



Suppl. Fig. S1 High variation of CAMA size at the individual colony level. Dot plots with box plots showing the size of CAMAs among six anatomical regions (see color coding in below index) for each site.



Suppl. Fig. S2 Calculating the area of CAMAs. **(a)** A single large CAMA, comprised of rod-shaped bacteria, was calculated to be 175.7 μm^2 in cross-sectional area from 3D images. **(b)** Smaller, numerous aggregations were calculated to be, on average, 22.6±4.2 μm^2 in cross-sectional area (n = 8). Scale bars indicate 50 µm.



Suppl. Fig. S3 Schematic drawing showing how coral fragments were sectioned for HE staining and FISH. In total, nine sections were collected from each sample (three sets of sections, each set comprised of three serial sections). *1: Distance between each set was 100 μm.