

Supporting Information

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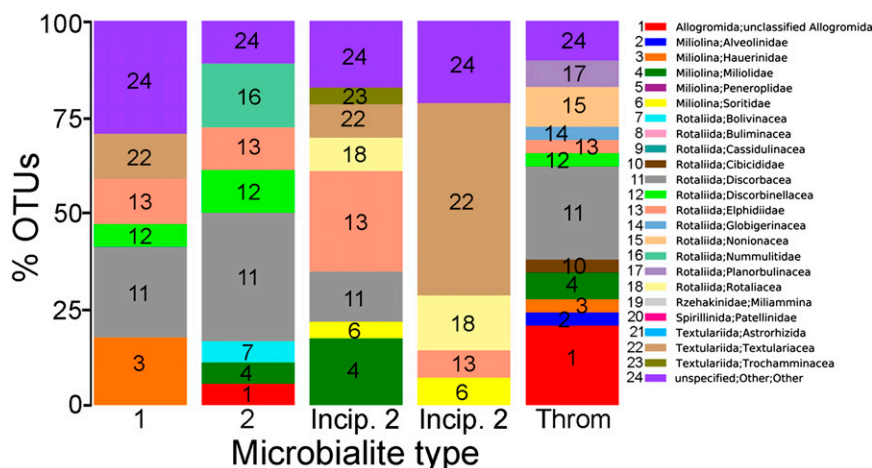


Fig. S1. Stacked bar graph showing taxonomic diversity of foraminifera, presented as percent operational taxonomic units (OTUs) for each taxonomic unit, in the 0- to 1-cm fraction of different Highborne microbialite types (1, stromatolitic type 1; 2, stromatolitic type 2; Incip. 2, incipient type 2 stromatolitic mat; throm, thrombolite). Unweighted diversity of operational taxonomic units (at 97% sequence similarity) revealed by Sanger clone libraries and foraminifera-specific primers.

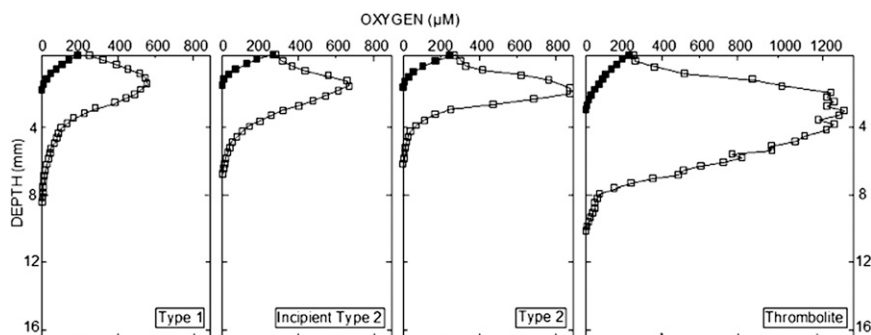


Fig. S2. Depth profiles of the oxygen concentrations in the four microbialite types studied for this investigation. Daytime readings (open symbols) were taken during peak photosynthesis (between 12:00 PM and 2:00 PM; light intensity ranged from 1,988 to 2,104 $\mu\text{E}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$). Nighttime observations (closed symbols) were made at the end of the dark period (4:00–6:00 AM; light intensity was 0–0.01 $\mu\text{E}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$). From left to right are a type 1 stromatolitic mat, incipient type 2 stromatolitic mat, type 2 stromatolitic mat, and thrombolite mat.

Table S1. Species or taxon occurrences presented for the different microbialite samples, along with group-specific proportions and total densities

Sample	Stromatolite						Thrombolite	Thrombolite
	Type 1	Type 1	Incipient type 2	Incipient type 2	Type 2	Type 2		
Sediment interval, cm	0–0.5	0–0.5	0–1	0–0.5	0–2	0–1.5	0–1.5	
Thecate								
Allogromiids	—	2	—	3	1	9	2	
Multilocular thecate	—	—	1	2	—	5	39	
Agglutinated								
<i>Eggerella</i> sp.	—	—	—	—	—	—	13	
<i>Psammosphaera</i> sp.	—	—	—	1	1	11	2	
<i>Saccamina</i> sp.	—	—	—	—	—	—	5	
<i>Valvulina cf. oviedoiana</i>	—	—	—	—	—	14	19	
Calcareous								
<i>Archais?</i> sp.	—	—	—	—	—	1	3	
<i>Bolivina</i> sp.	—	—	—	—	—	2	—	
<i>Bulimina elongata</i>	—	—	—	—	—	1	1	
<i>Cymbaloporetta</i> sp.	2	—	—	—	—	2	3	
<i>Dendritina?</i> sp.	1	3	—	—	—	1	—	
<i>Discorbis rosea</i>	2	5	—	2	—	1	—	
<i>Discorbis</i> sp.	—	23	—	1	—	—	—	
<i>Elphidium</i> sp.	—	1	—	—	—	1	—	
<i>Miliolinella</i> sp. 1	—	—	—	4	—	16	11	
<i>Miliolinella</i> sp. 2	—	—	—	—	—	1	—	
<i>Neoconorbina cf. terquemi</i>	—	2	—	—	—	2	—	
<i>Planorbulina acervalis</i>	1	4	—	3	—	15	2	
<i>Pyrgo</i> sp.	—	—	—	—	—	—	1	
<i>Quinqueloculina cf. striata</i>	—	—	—	—	—	1	8	
<i>Quinqueloculina</i> sp.	—	—	—	—	2	31	59	
<i>Rosalina cf. floridana</i>	94	72	28	67	103	113	112	
<i>Spiroloculina</i> sp.	—	—	—	1	—	—	—	
<i>Strebloides cf. advenus</i>	1	—	—	—	—	—	—	
<i>Uvigerina</i> sp.	—	—	—	—	—	1	—	
Unidentified calcareous	2	1	—	1	—	—	—	
Total	103	113	29	85	107	228	280	
Total per cm ³ in situ	38.8	42.6	5.5	32.0	10.1	28.6	35.2	
Calcareous, %	100.0	98.2	96.6	92.9	98.1	82.9	71.4	
Agglutinated, %	0.0	0.0	0.0	1.2	0.9	11.0	13.9	
Thecate, %	0.0	1.8	3.4	5.9	0.9	6.1	14.6	