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LAMPIRAN

Lampiran 1 Pengamatan penyakit pada karang batu



Lampiran 2. Perhitungan prevalensi penyakit pada karang



Lampiran 3. Pengambilan cuplikan karang yang terinfeksi penyakit untuk identifikasi bakteri



Lampiran 4. Prosedur tissue processor dan pengaturan waktu.

No	Proses	Reagensia	Waktu
1	Fiksasi	Buffer formalin 10%	2 jam
2	Fiksasi	Buffer formalin 10%	2 jam
3	Dehidrasi	Alkohol 70%	1 jam
4	Dehidrasi	Alkohol 90%	1 jam
5	Dehidrasi	Alkohol 100%	1 jam
6	Dehidrasi	Alkohol 100%	2 jam
7	Dehidrasi	Alkohol 100%	2 jam
8	Clearing	Toluen	1 jam
9	Clearing	Toluen	1.5 jam
10	Clearing	Toluen	1,5 jam
11	Impregnasi	Paraffin	2 jam
12	Impregnasi	Paraffin	3 jam

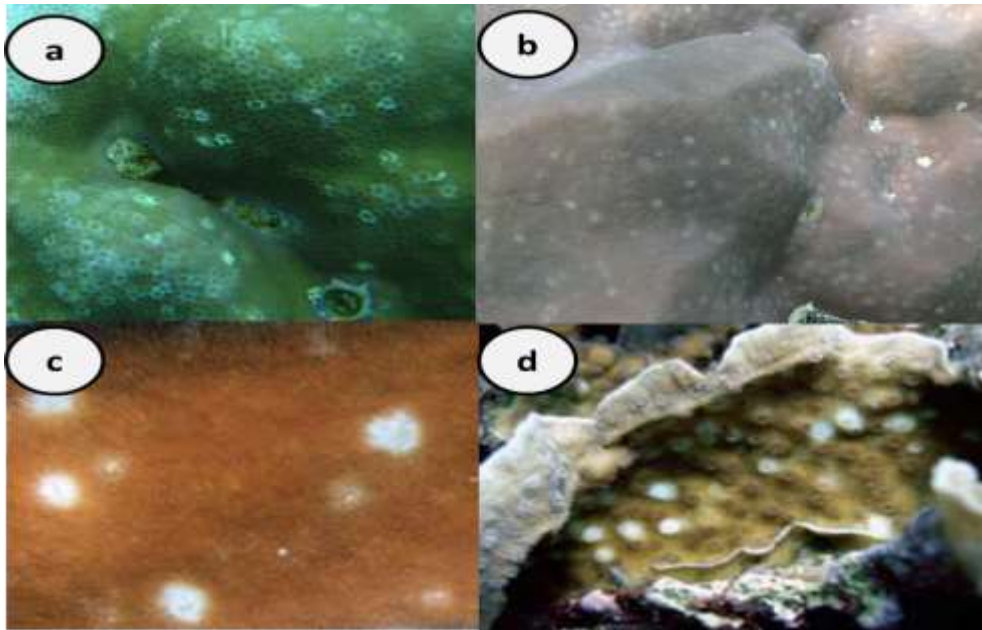
Lampiran 5. Pembuatan blok specimen dengan alat Tissue Tek



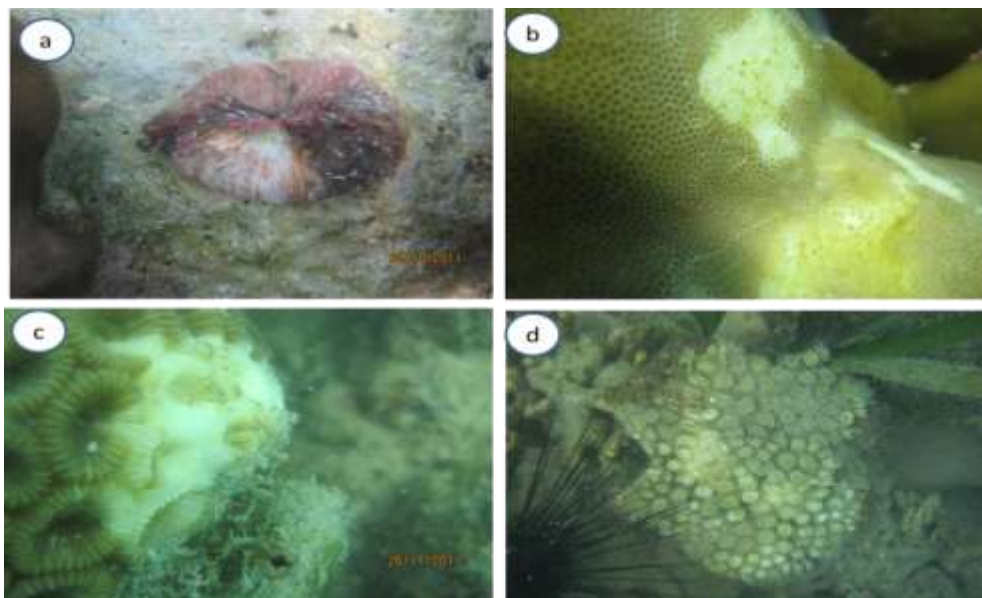
Lampiran 6 Tahap pewarnaan spsimen dengan pewarnaan Mayer Hematoxylin Eosin

No	Reagensia	Waktu
1	Xylol I	2 menit
2	Xylol II	2 menit
3	Alkohol 100% I	1 menit
4	Alkohol 100% II	1 menit
5	Alkohol 95% I	1 menit
6	Alkohol 95% II	1 menit
7	Mayer's Haematoxylin	15 menit
8	Rendam dalam Tap Water	20 menit
9	Masukkan dalam Eosin	15 detik -2 menit
10	Alkohol 95 % III	2 menit
11	Alkohol 95 % IV	2 menit
12	Alkohol 100% III	2 menit
13	Alkohol 100% IV	2 menit
14	Akohol 100%V	2 menit
15	Xylol III	2 menit
16	Xylol IV	2 menit
17	Xylol V	2 menit

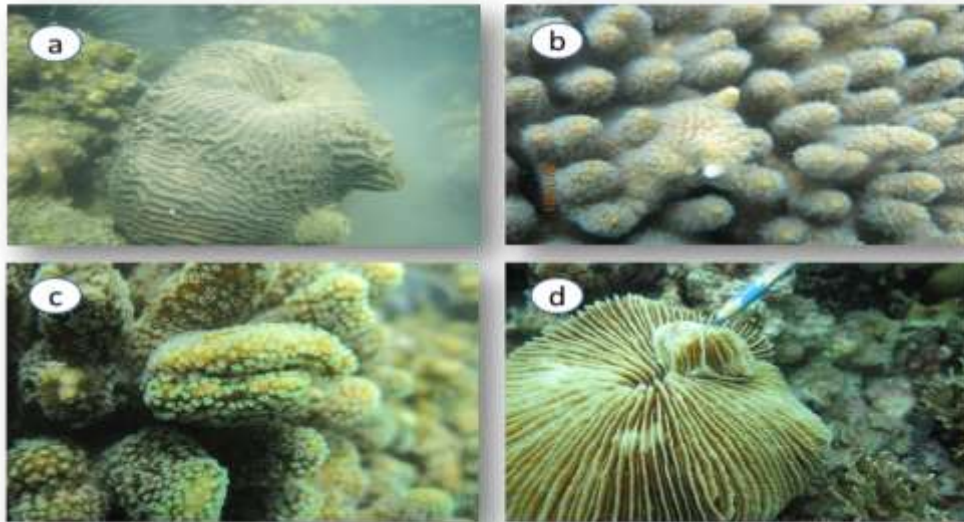
Lampiran 7. Bentuk lain dari penyakit Ulcerative White Spots



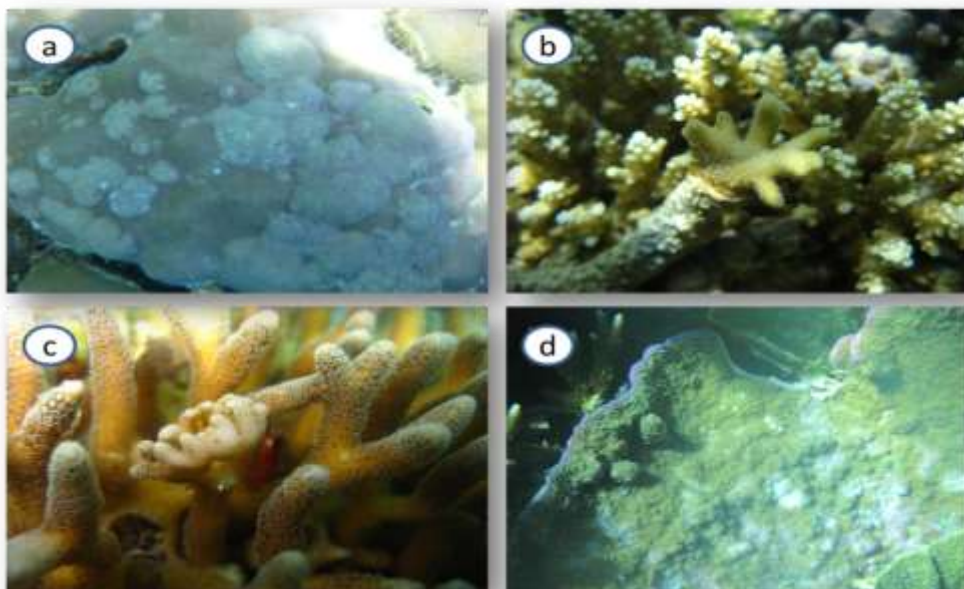
Lampiran 8a. Infeksi penyakit White Syndrome pada *Fungia* (a), *Porites* (b), *Favia* (c), dan *Lobophyllia* (d)



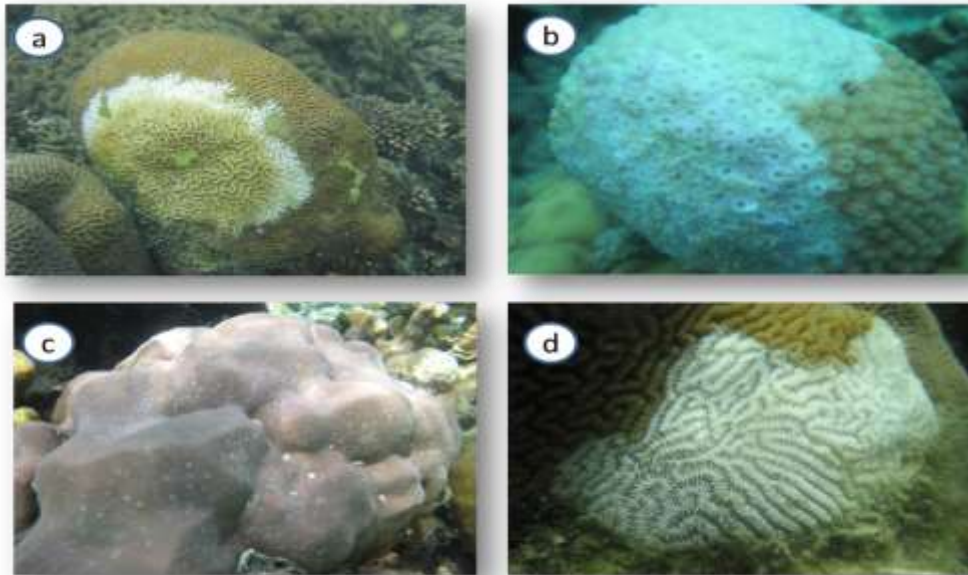
Lampran 8b. Infeksi penyakit Growth Animaly (GA) pada: *Platygyra* (a), *Acropora* dan *Acromentous Necrosis* (b), *Pocillopora* (c) dan *Fungia* (d).



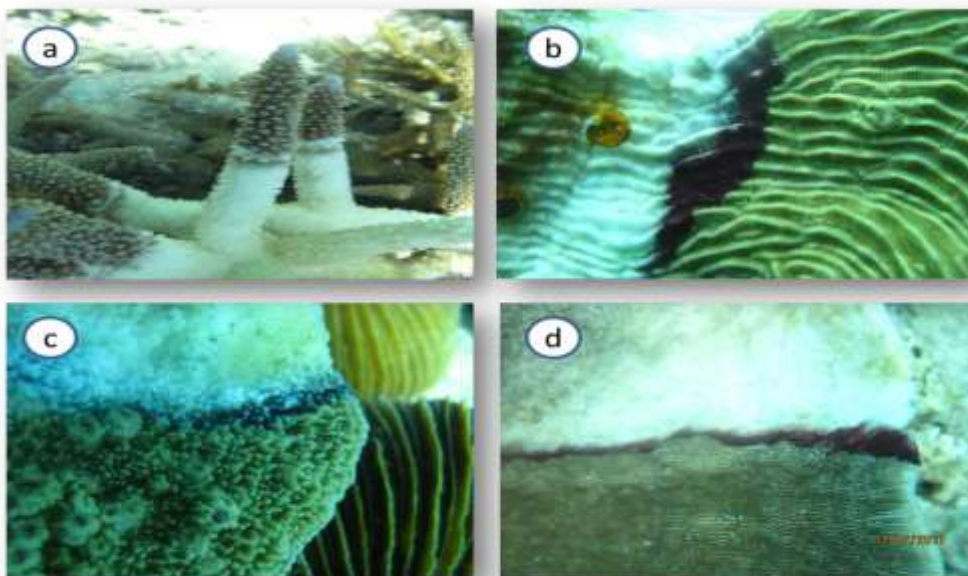
Lampiran 8c. Infeksi penyakit Growth Animaly (GA) pada: *Porites* (a), *Acropora* (b), *Seriatopora* (c) dan *Montipora* (d).



Lampiran 8d. Infeksi penyakit White Band Disease pada *Platygyra* (a) White Plague pada *Astreopora* (b) dan leptoria (c), Ulcerative White Spots pada *Porites*



Lampiran 8e. Infeksi penyakit Brown Band Disease pada *Acropora* (a), Black Band Disease pada *Pachyseris* (b), *Montipora* (c) dan *Leptoseris* (d).



Lampiran 9. Persentase karang yang terinfeksi penyakit di Kepulauan Sprmonde

No	Karang	Jumlah koloni terinfeksi	% Koloni Terinfeksi
1	Porites	25	32,05
2	Pachyseris	2	2,56
3	Montipora	3	3,85
4	Acropora	13	16,67
5	Favia	2	2,56
6	Platygyra	2	2,56
7	Seriatopora	2	2,56
8	Pocillopora	1	1,28
9	Astreopora	2	2,56
10	Fungi	22	28,21
11	Lobophyllia	2	2,56
12	Leptoria	1	1,28
13	Podobacia	1	1,28

Lampiran 10. Persentase jenis penyakit di Kepulauan Spermonde

No	Penyakit	Jumlah Infeksi	% infeksi penyakit
1	Black band disease	3	3,85
2	Brown band disease	4	5,13
3	White syndrome	24	30,77
4	Ulcertive White Spots	8	10,26
5	Growth anomaly	28	35,90
6	Atramentous necrosis	2	2,56
7	White Band Disease	1	1,28
8	White Palque	3	3,85
9	Skeletal Eroding Band	1	1,28
10	Belum teridentifikasi	4	5,13

Lampiran 11. Sebaran Penyakit dan parameter kualitas air di Kepulauan Spermonde

Lokasi	Penyakit	kec arus m/dtk	arah arus °	salinitas ‰	kekeruhan Ntu	pH	suhu ° C	O2 mg/L	BOT mg/L	Nitrat mg/L	Fosfat mg/l	Laju sedimen gr/cm3/hr
P. Lae-lae	tdp	0,088	340	27	0,90	7,72	29,1	5,3	td	td	td	0,182
P. Laiya	WBD dan WS	0,086	325	32	0,16	7,71	29,3	7,07	52,7	0,156	0,17	0,050
P. Salemo	BrB, GA, WP, UWS dan WS	0,088	79	31	0,48	7,45	28,8	6,82	106,0	0,245	0,21	0,059
P. Barranglompo	BrB, BBD, WS, UWS, GA, SEB, Atn, Unkw	0,179	140	30,5	0,90	7,0	29	5,8	72,5	0,84	0,36	0,139
P. Bontosua	WS	0,263	343	31	0,38	7,18	29,1	6,18	111,0	0,09	0,23	0,006
P. Samatellupedda	WS dan AtN	0,078	10	31	0,31	7,7	28,3	7,05	88,5	0,25	0,21	0,031
P. Kodingareng	BrB, UWS, WS, GA	0,096	330	33	0,52	7,6	28	7,6	55,0	0,076	1,23	0,054
P. Badi	BrB dan UWS	0,029	35	31	0,23	7,9	29	6,18	52,9	0,328	0,53	0,018
P. Reangreang	GA dan WP	0,060	66	31	0,40	7,74	28,5	7,43	58,8	0,148	0,17	0,042
P. Lankai	UWS dan WS	0,263	130	32	0,48	7,45	28,8	6,82	46,1	0,245	0,21	0,045
P. Kondongbali	WS	0,102	330	32	0,26	7,78	28,8	5,8	136,0	0,051	1,27	0,069
P. Suranti	WS, UWS, GA, unknown dan BBD	0,077	5	31	0,22	7,73	27,8	6,5	94,2	0,116	1,18	0,019

Lampiran 12 .Prevalensi penyakit karang batu pada tiga transek di Pulau Salemo.

No	Karang	Penyakit/ Transek																	
		BBD			BrB			WS			UWS			GA			AtN		
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
1	ACB				1										3				
	ACT															1			
2	ACD													1					
	Pocillopora															1			
3	Cypastrea							1											
4	Leptoseris																	1	
5	Porites							1	1	4				1					
6	Fungi							2	1					10	2	2			
7	Lobophyllia							1											
8	Pavia										3								
Total Penyakit		0	0	0	1	0	0	5	2	4	3	0	1	11	5	4	1	0	0
Total Karang		499	589	470	499	589	470	499	589	470	499	589	470	499	589	470	499	589	470
Prevalensi % (Transek)		0	0	0	0.2	0	0	1	0.34	0.85	0.6	0	0.21	2.2	0.85	0.85	0.2	0	0
Prevalensi % (Penyakit)		0			0.2			2.19			0.81			3.9			0.2		
Total Prevalensi (%)		7.31																	

Lampiran 13. Analisis anova prevalensi antara penyakit di Pulau Salemo

Tabel Anova	JK	db	AK	Nilai P < 0,05
Perlakuan (antara kolom)	3,368	4	0,8419	0,0185
Sisa (antar kolom)	1,703	10	0,1703	
Total	5,071	14		

Lampiran 14. Uji lanjut Tukey prevalensi antara penyakit di Pulau Salemo

Uji Tukey	Mean	q	Signifikan? P < 0,05?	Summary	95% CI of diff
<i>Atramentous necrosis vs Brown band disease</i>	0	0	No	ns	-1,109 to 1,109
<i>Atramentous necrosis vs Atramentous necrosis</i>	-1,235	5,182	Yes	*	-2,344 to -0,1258
<i>Atramentous necrosis vs Ulcerative white spots</i>	-0,2045	0,8584	No	ns	-1,313 to 0,9043
<i>Atramentous necrosis vs White Syndrome</i>	-0,6642	2,788	No	ns	-1,773 to 0,4446
<i>Brown band disease vs Growth anomaly</i>	-1,235	5,182	Yes	*	-2,344 to -0,1258
<i>Brown band disease vs Ulcerative white spots</i>	-0,2045	0,8584	No	ns	-1,313 to 0,9043
<i>Brown band disease vs White Syndrome</i>	-0,6642	2,788	No	ns	-1,773 to 0,4446
<i>Growth anomaly vs Ulcerative white spots</i>	1,03	4,324	No	ns	-0,07870 to 2,139
<i>Growth anomaly vs White Syndrome</i>	0,5705	2,394	No	ns	-0,5384 to 1,679
<i>Ulcerative white spots vs White Syndrome</i>	-0,4597	1,929	No	ns	-1,569 to 0,6492

Lampiran 15. Prevalensi penyakit karang katu pada tiga transek di Pulau Barranglombo

No	Karang	Penyakit																	
		BBD			BrB			WS			UWS			GA			AtN		
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
1	ACB					1	2												
2	ACT													5	5	1			
3	ACD													1	2	2			
4	Stilopora							1											
5	Porites							6	2		3	4							
6	Fungia							4	3	21					1				
7	Montipora								1	2							1	1	2
9	Seriatopora													2					
10	Pachyseris		1	1															
11	Leptoseris			2															
Total Penyakit		0	1	3	0	1	2	11	6	23	3	4	0	6	10	4	1	1	2
Total Karang		538	360	585	538	360	585	538	360	585	538	360	585	538	360	585	538	360	585
Prevalensi %		0,00	0,28	0,51	0,00	0,28	0,34	2,04	1,67	3,93	0,56	1,11	0,00	1,12	2,78	0,68	0,19	0,28	0,34
Prevalensi % (Penyakit)		0,79			0,62			7,64			1,67			4,58			0,81		
Total Prevalensi (%)		16,10																	

Lampiran 16. Prevalensi penyakit karang batu pada tiga transek di Pulau Kodingarenglombo

No	Karang	Penyakit																	
		BBD			BrB			WS			UWS			GA			AtN		
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
1	ACB				1	1													
2	ACD													1					
3	Seriatopora													1					
4	Porites							1	3	2	3	1	1						
Total Penyakit		0	0	0	1	1	0	1	3	2	3	1	1	1	1	0	0	0	0
Total Karang		369	186	193	369	186	193	369	186	193	369	186	193	369	186	193	369	186	193
Prevalensi % (Transek)		0,00	0,00	0,00	0,27	0,54	0,00	0,27	1,61	1,04	0,81	0,54	0,52	0,27	0,54	0,00	0,00	0,00	0,00
Prevalensi % (Penyakit)		0,00			0,81			2,92			1,87			0,81			0,00		
Total Prevalensi (%)		6,41																	

Lampiran 15. Prevalensi penyakit karang batu pada tiga transek di Pulau Suranti

No	Karang	Penyakit/ Transek																	
		BBD			BrB			WS			UWS			GA			AtN		
		I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
1	ACB											1		1					
2	Stilopora													3					
3	Porites							1			2	3	2	2	2	1			
4	Fungia							1											
5	Patchyseris	1																	
Total Penyakit		1	0	0	0	0	0	2	0	0	2	3	3	5	3	1	0	0	0
Total Karang		219	295	232	219	295	232	219	295	232	219	295	232	219	295	232	219	295	232
Prevalensi %		0.5	0	0	0	0	0	0.9	0	0	0.91	1.02	1.29	2.28	1.02	0.43	0	0	0
Prevalensi %		0.46			0			0.91			3.22			3.73			0		
Total Prevalensi (%)		8.32																	

Lampiran 16 Data kualitas air dan prevalensi penyakit pada Kepulauan Spermonde

Lokasi	Transek	kec arus m/dtk	arah arus °	salinitas ‰	kekeruhan Ntu	pH	suhu °C	O2 mg/l	BOT mg/l	N mg/l	P mg/l	Laju sedimen gr/cm3/hr	Prev peny %	Perv Com Hlt %
P. Salemo	1	0,111	300	33	3,06	7,7	30,9	5,73	73,944	0,037	0,43	0,059	4,21	0,80
	2	0,143		34	3,03	7,63	30,9	5,41	91,64	0,091	0,41		1,19	0,34
	3	0,139		34	3,03	7,63	30,7	5,70	69,52	0,075	0,76		1,91	0,21
P. Barrang lompo	1	0,096	260	32	5,45	7,68	29,0	3,86	97,328	0,036	0,47	0,139	3,90	8,36
	2	0,100		32	5,92	7,65	29,0	5,88	96,064	0,037	0,66		6,39	7,50
	3	0,114	320	32	5,26	7,66	29,0	5,90	60,672	0,077	0,56		5,81	2,39
P. Kodingareng lompo	1	0,116	0	32	3,96	7,46	29	4,67	60,4	0,095	0,39	0,054	1,63	1,36
	2	0,106		32	2,63	7,5	29	4,53	42,976	0,696	0,49		3,23	6,99
	3	0,102		32	2,49	7,65	29,2	5,43	46,768	0,204	0,47		1,55	3,63
P. Suranti	1	0,250	310	35	1,43	7,70	29,7	5,45	60,672	0,092	0,26	0,019	4,57	9,59
	2	0,200		35	1,57	7,71	29,7	5,66	49,928	0,064	0,31		2,03	6,10
	3	0,218		35	1,56	7,76	29,7	5,63	53,720	0,145	0,27		1,72	6,47

Lampiran 17. Data kualitas air dan Perkembangan penyakit pada Pulau Barranglombo

Lokasi	Tanggal Pengamatan	penyakit					salinitas %	kekeruhan Ntu	pH	suhu ° C	O2 mg/l	BOT mg/l	N mg/l	P mg/l
		BBD	WS	GA	BrB	Unkwn								
	Transek	2	3	2	2	2								
P. Barrang lombo	17/06/2011	tag	tag			tag	35	1,07	7,30	28,9	6,52	62,52	0,25	0,21
	30/07/2011						34	0,94	7,70	29	4,61	72,53	0,08	0,36
	11/9/2011						34	0,28	7,67	29	4,11	96,06	0,04	0,66
	16/10/2011				tag		32	5,92	7,65	29,0	5,88	96,064	0,037	0,66
	22/10/2011						Data hilang							
	17/11/2011						35	0,59	6,97	29	4,79	60,04	0,24	0,45
	17/12/2011						32	1,21	7,65	29	5,90	63,20	0,08	0,56
	16/10/2011		Transek 3					32	5,26	7,66	29,0	5,90	60,672	0,077

Lampiran 18. Bakteri yang berasosiasi dengan penyakit black band disease

Karakteristik	BBD 1	BBD 2	BBD 3	BBD 4	BBD 5	BBD 6
Morfologi sel	Coccus	Coccus	Comma	Bacillus	Coccus	Bacillus
Warna koloni	Kuning	Kuning mudah	Kuning coklat	Abu-abu	Putih susu	Putih susu
Reaksi Gram stain	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif
TSI						
Butt	Asam	Asam	Netral	Asam	alkali	Asam
Gas	-	-	-	-	-	-
H ₂ S	-	-	-	-	-	-
Slant	Asam	Asam	Netral	Asam	Alkali	Asam
SIM						
Motility	-	-	+	-	-	+
Indol	-	-	-	-	-	-
H ₂ S	-	-	-	-	-	-
MR	+	+	+	+	+	+
VP	+	+	+	+	+	-
Uji O/F	F	NF	NF	F	F	F
Citrat	-	-	-	-	-	-
Urease	-	-	-	-	-	-
Glucose	+(f)	+	-	+	-	-
Lactose	+	-	-	+	-	-
Sucrose	+	+	-	+	-	-
Maltose	+	-	-	+	+	-
Catalase	-	+	+	+	+	+
Stach Hydrolysis	-	+	-	-	+	-
Casein Hydrolysis	-	+	-	-	-	-
Gelatin Hydrolysis	-	+	+	+	+	+
Lipid Hydrolysis	-	-	+	-	+	-
Oxidatif Test	-	-	-	-	-	-
Genus	Bacteroides	Ttid	Flavobacterium	Flavobacteriu m	Bacteroides	Vibrio
Spesies	Bacteroides sp		Flavobacterium . sp	F. uliginosum	Bacteroides sp	V.ordalii
Literatur	Barrow & Feltham, 1964		Austin & Austin, 1993	Breed et al., 1957	Barrow & Feltham, 1964	Austin & Austin, 1993

Lampiran 19. Bakteri yang berasosiasi dengan penyakit brown band disease

Karakteristik	BrB 1	BrB 2	BrB 3	BrB 4	BrB 5	Brb 6
Morfologi sel	Coccus	Bacillus	Bacillus	Coccus	Bacillus	Bacillus
Warna koloni	Abu-abu	Putih susu	Abu-abu	Kuning	Abu-abu	Kuning
Reaksi Gram stain	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif
TSI						
Butt	Netral	Alkali	Netral	Alkali	Asam	Netral
Gas	-	-	-	-	-	-
H ₂ S	-	-	-	-	-	-
Slant	Netral	Alkali	Netral	Alkali	Asam	Netral
SIM						
Motility	+	-	-	-	-	-
Indol	-	-	-	-	-	-
H ₂ S	-	-	-	-	-	-
MR	-	-	-	-	-	-
VP	+	+	+	+	+	+
Uji O/F	F	NF	NF	NF	NF	F
Citrat	-	-	-	-	-	-
Urease	+	-	-	-	-	-
Glucose	-	-	-	-	+	-
Lactose	-	-	-	-	-	-
Sucrose	-	-	-	-	+	-
Maltose	-	-	-	-	-	-
Catalase	+	+	+	+	+	+
Stach Hydrolysis	-	-	+	+	+	+
Casein Hydrolysis	-	-	-	-	-	-
Gelatin Hydrolysis	+	+	+	+	+	+
Lipid Hydrolysis	-	-	-	-	-	-
Oxidatif Test	-	-	-	-	-	-
Genus	Bacillus	Acinetobacter	Acinetobacter	Acinetobacter	Acinetobacter	Chytophaga
Spesies	Bacillus sp	Calcoaliticus var Iwoffii	Calcoaliticus var Iwoffii	A. Iwoffii	Acinetobacter. sp	
Literatur	Barrow & Feltham, 1964	MacFaddin, 1983	MacFaddin, 19831	Barrow & Feltham, 1964	Austin & Austin, 1993	Austin & Austin, 1993

Lampiran 20. Bakteri yang berasosiasi dengan penyakit white syndrome

Karakteristik	WS 1	WS 2	WS 3	WS 4	WS 5	WS 6	WS 7	WS 8	WS 9
Morfologi sel	Bacillus	Bacillus	Comma	Coccus	Coccus	Coccus	Coccus	Bacillus	Bacillus
Warna koloni	Abu-abu	Putih susu	Abu-abu	Abu-abu	Putih susu	Abu-abu	Putih susu	Krem	Putih susu
Reaksi Gram stain	Positif	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif
TSI									
Butt	Asam	Asam	Asam	Asam	Asam	Asam	Asam	Alkali	Asam
Gas	-	-	-	-	-	-	-	-	-
H ₂ S	-	-	-	-	-	-	-	-	-
Slant	Asam	Asam	Asam	Asam	Alkali	Asam	Alkali	Alkali	Alkali
SIM									
Motility	+	-	+	+	+	+	+	+	+
Indol	-	-	-	-	-	-	-	-	-
H ₂ S	-	-	-	-	-	-	-	-	-
MR	-	-	-	-	+	-	+	+	-
VP	-	-	-	+	-	-	+	-	-
Uji O/F	NF	NF	NF	NF	F	F	NF	NF	F
Citrat	-	-	-	-	-	-	-	-	+
Urease	-	-	-	-	-	-	-	-	-
Glucose	-	+	-	-	-	-	-	-	-
Lactose	-	-	-	+	-	-	-	-	-
Sucrose	-	-	-	-	-	-	+	-	-
Maltose	-	-	-	-	-	-	+	-	-
Catalase	+	+	+	+	+	+	+	+	+
Stach Hydrolysis	-	-	+	-	-	+	+	+	+
Casein Hydrolysis	-	-	-	-	-	-	-	-	-
Gelatin Hydrolysis	+	+	+	+	-	+	+	+	+
Lipid Hydrolysis	-	+	-	-	-	-	-	-	-
Oxidatif Test	-	-	-	-	-	-	-	-	-
Genus	Corynebacterium	Acinetobacter	Flavobacterium	Acinetobacter	Chromobacterium	Bacillus		Flavobacterium	Vibrio
Spesies	C. sp	A. sp	F sp	A. Iwoffii	Chromobacterium sp	Bacillus sp		F sp	V. ordalii
Literatur	MacFaddin, 1983	Austin & Austin, 1993	Austin & Austin, 1993	Barrow & Feltham, 1964	Barrow & Feltham, 1964	Barrow & Feltham, 1964		Austin & Austin, 1993	Austin & Austin, 1993

Lampiran 21. Bakteri yang berasosiasi dengan penyakit ulcerative white spots, white plague dan atramentous necrosis

Karakteristik	UWS 1	UWS 2	UWS 3	UWS 4	UWS 5	WP	AtN
Morfologi sel	Bacillus	Bacillus	Bacillus	Coccus	Bacillus	Coccus	Rod
Warna koloni	Putih susu	Kuning	Abu-abu	Kuning muda	Putih susu	Abu-abu	Abu-abu
Reaksi Gram stain	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif
TSI							
Butt	Netral	Asam	Asam	Asam	Asam	Asam	Netral
Gas	-	-	-	-	-	-	-
H ₂ S	-	-	-	-	-	-	-
Slant	Alkali	Asam	Asam	Asam	Netral	Asam	Netral
SIM							
Motility	-	-	-	+	+	+	-
Indol	-	-	+	-	-	-	+
H ₂ S	-	-	-	-	-	-	-
MR	-	-	+	-	-	+	-
VP	+	+	+	-	+	+	+
Uji O/F	NF	F	F	F	F	NF	F
Citrat	-	-	-	-	-	-	-
Urease	-	-	-	-	-	-	-
Glucose	-	+	-	+	+	-	-
Lactose	-	-	-	-	-	+	+
Sucrose	-	-	-	-	-	+	+
Maltose	-	-	-	-	-	+	+
Catalase	-	+	+	+	+	+	+
Stach Hydrolysis	+	-	-	+	+	-	-
Casein Hydrolysis	+	-	-	-	+	-	+
Gelatin Hydrolysis	+	+	+	+	+	+	+
Lipid Hydrolysis	-	-	-	-	+	-	+
Oxidatif Test	-	-	-	-	-	-	-
Genus	Acinotobacter	Chytophaga	Necromonas	Photobacterium	Choromobacterium	Acinetobacter	Bacteroides
Spesies	A.calcoaliticus var Iwoffii	Chytophaga	Necromonas sp	P. Leioignathi	Choromobacterium sp	A.anitratus	Bacteroides sp
Literatur	MacFaddin, 1983	Austin & Austin, 1993	Barrow & Feltham, 1964	Buller, 2004	Barrow & Feltham, 1964	Barrow & Feltham, 1964	Barrow & Feltham, 1964

Lampiran 22. Bakteri yang berasosiasi dengan penyakit growth anomaly

Karakteristik	GA 1	GA 2	GA 3	GA 4	GA 5	GA 6	GA 7	GA 8
Morfologi sel	Bacillus	Bacillus	Bacillus	Bacillus	Bacillus	Bacillus	Cocobacillus	Coccus
Warna koloni	Abu-abu	Abu-abu	Putih	Putih susu	Putih susu	Abu-abu	Kuning	Putih susu
Reaksi Gram stain	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif	Negatif
TSI								
Butt	Asam	Alkali	Asam	Asam	alkali	Asam	Asam	Asam
Gas	-	-	-	-	-	-	-	-
H2S	-	-	-	+	-	-	-	-
Slant	Asam	Asam	Alkali	Alkali	Asam	Alkali	Asam	Alkali
SIM								
Motility	-	-	+	+	-	+	-	+
Indol	-	-	-	-	-	-	-	-
H2S	-	-	+	-	-	-	-	-
MR	+	+	+	+	+	+	-	+
VP	+	-	+	+	+	+	+	+
Uji O/F	F	F	NF	NF	NF	NF	F	F
Citrat	-	+	-	-	-	+	-	-
Urease	+	-	+	+	-	-	-	+
Glucose	-	-	-	-	-	-	-	-
Lactose	+	-	-	-	-	-	-	-
Sucrose	-	-	-	-	-	-	-	+
Maltose	+	+	+	+	+	+	+	+
Catalase	-	+	+	+	+	-	-	+
Stach Hydrolysis	+	-	+	-	-	+	+	-
Casein Hydrolysis	-	-	-	-	-	-	-	-
Gelatin Hydrolysis	+	+	+	+	+	+	+	+
Lipid Hydrolysis	-	-	-	-	-	-	+	-
Oxidatif Test	-	-	-	-	-	-	-	-
Genus	Flavobacterium	Flavobacterium	Flavobacterium	Flavobacterium	Acinetobacter	Flavobacterium	Flavobacterium	Neiseria
Spesies	F. uliginosum	F. halmephilum	Flavobacterium sp	Flavobacterium sp	calcoalitica var iwoffii	Flavobacterim sp	Flavobacterium halmephilum	Neiseria sp
Literatur	Breed et al., 1957	Breed et al., 1957	Austin & Austin, 1993	Austin & Austin, 1993	MacFaddin, 1983	Austin & Austin, 1993	Breed et al., 1957	Breed et al., 1957

