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## LAMPIRAN

Lampiran 1. Pengambilan sampel di Perairan Mandalle



Lampiran 2. Proses Pengukuran morfometrik dan penimbangan bobot kerang hijau



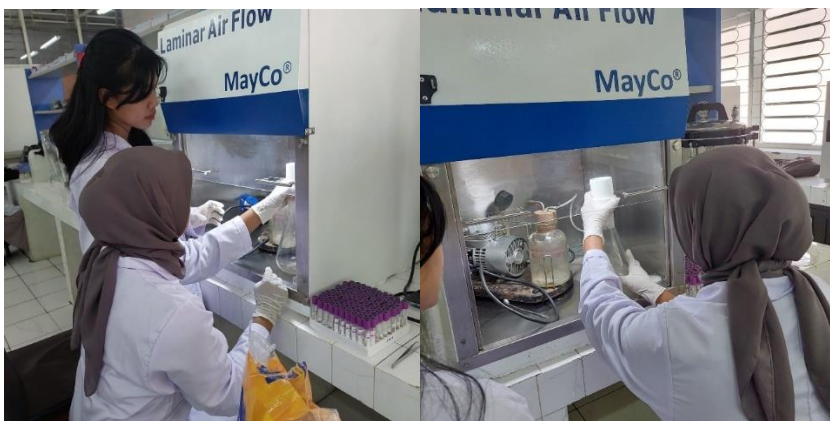


Lampiran 3. Proses pengambilan sampel hemolimfa kerang hijau





Lampiran 4. Proses filtrasi mikroplastik menggunakan pompa vakum



Lampiran 5. Proses pengamatan mikroplastik



Lampiran 6. Proses uji polimer menggunakan FTIR terhadap insang kerang hijau



Lampiran 7. Analisis Data Morfometrik Kerang Hijau (*Perna viridis*)

No	Lokasi	Berat Total (g)	Morfometrik (cm)			Volume Hemolimfa (ml)
			P	L	T	
1	MANDALLE	4.97	3.6	1.4	2.0	1
2	MANDALLE	5.16	3.7	1.4	2.2	1
3	MANDALLE	6.17	3.9	1.4	2.2	1
4	MANDALLE	5.43	3.9	1.2	2.1	1
5	MANDALLE	4.73	3.3	0.9	1.9	1
6	MANDALLE	4.74	3.4	1.2	2.1	1
7	MANDALLE	4.51	3.4	1.7	1.9	1
8	MANDALLE	6.25	3.6	1.4	2.2	1
9	MANDALLE	5.64	3.6	1.3	1.9	1
10	MANDALLE	7.43	3.9	1.5	2.3	1
11	MANDALLE	4.19	3.4	1.3	1.9	1
12	MANDALLE	4.94	3.6	1.4	2.1	1
13	MANDALLE	7.07	3.9	1.5	2.3	1
14	MANDALLE	6.14	3.8	1.4	2.1	1
15	MANDALLE	4.47	3.5	1.2	1.9	1
16	MANDALLE	6.79	3.9	1.4	2.3	1
17	MANDALLE	4.95	3.6	1.4	2.0	1
18	MANDALLE	5.21	3.7	1.2	2.2	1
19	MANDALLE	5.93	3.7	1.5	2.3	1
20	MANDALLE	5.01	3.3	1.2	2.1	1
21	MANDALLE	4.96	3.5	1.3	2.0	1
22	MANDALLE	6.80	3.9	1.5	2.1	1
23	MANDALLE	5.91	3.6	1.4	2.0	1
24	MANDALLE	6.32	3.9	1.4	2.2	1
25	MANDALLE	3.94	3.2	1.1	1.9	1
26	MANDALLE	4.93	3.5	1.3	2.2	1
27	MANDALLE	6.02	3.9	1.3	2.2	1
28	MANDALLE	4.12	3.2	1.3	1.8	1
29	MANDALLE	6.35	3.7	1.3	2.2	1
30	MANDALLE	3.74	3.6	1.4	1.9	1
31	MANDALLE	6.59	3.9	1.5	2.2	1
32	MANDALLE	8.20	3.9	1.6	2.4	1
33	MANDALLE	6.80	3.9	1.4	2.0	1
34	MANDALLE	16.09	5.6	2.0	2.9	1

35	MANDALLE	13.62	5.5	1.9	2.8	1
36	MANDALLE	11.17	5.0	1.7	2.5	1
37	MANDALLE	11.58	5.5	1.8	2.8	1
38	MANDALLE	9.50	5.0	1.8	2.8	1
39	MANDALLE	14.89	5.6	2.1	2.5	1
40	MANDALLE	17.71	5.5	2.1	2.9	1
41	MANDALLE	10.88	5.3	1.7	2.5	1
42	MANDALLE	13.65	5.6	1.9	3.0	1
43	MANDALLE	14.45	5.3	1.8	2.6	1
44	MANDALLE	17.10	5.3	1.8	2.8	1
45	MANDALLE	9.52	5.2	1.7	2.5	1
46	MANDALLE	12.89	5.2	1.7	2.9	1
47	MANDALLE	17.24	5.6	2.0	2.9	1
48	MANDALLE	14.61	5.5	2.0	2.9	1
49	MANDALLE	13.00	5.0	1.8	2.8	1
50	MANDALLE	12.99	5.1	1.8	2.7	1
51	MANDALLE	10.96	5.0	1.9	2.7	1
52	MANDALLE	16.06	5.6	1.6	2.9	1
53	MANDALLE	9.62	5.0	1.7	2.6	1
54	MANDALLE	12.06	5.3	1.8	2.5	1
55	MANDALLE	11.66	5.1	1.7	2.5	1
56	MANDALLE	12.87	5.0	1.8	2.8	1
57	MANDALLE	13.92	5.4	1.8	2.8	1
58	MANDALLE	8.00	5.2	1.8	2.8	1
59	MANDALLE	15.00	5.7	2.0	2.9	1
60	MANDALLE	11.53	5.1	1.7	2.7	1
61	MANDALLE	10.76	5.6	2.0	2.7	1
62	MANDALLE	15.80	5.9	2.0	2.8	1
63	MANDALLE	13.92	5.7	2.0	2.9	1
64	MANDALLE	11.24	5.2	1.8	2.7	1
65	MANDALLE	14.40	5.4	1.8	2.7	1
66	MANDALLE	12.58	5.2	1.9	2.7	1
67	MANDALLE	18.61	7.5	2.2	3.5	1
68	MANDALLE	17.13	7.0	1.8	3.0	1
69	MANDALLE	13.00	7.3	2.0	3.9	1
70	MANDALLE	20.00	6.8	2.1	3.1	1
71	MANDALLE	14.00	7.1	1.9	2.8	1
72	MANDALLE	17.00	6.8	2.1	3.0	1

73	MANDALLE	15.00	6.3	2.0	3.1	1
74	MANDALLE	40.40	7.8	2.6	3.6	1
75	MANDALLE	26.14	7.7	2.3	3.8	1
76	MANDALLE	18.09	6.0	2.4	2.9	1
77	MANDALLE	16.97	6.1	2.4	3.1	1
78	MANDALLE	17.23	6.1	2.1	3.1	1
79	MANDALLE	17.24	6.0	2.6	3.3	1
80	MANDALLE	24.59	6.3	2.3	3.3	1
81	MANDALLE	19.88	6.0	2.0	3.1	1
82	MANDALLE	17.58	6.4	2.0	3.0	1
83	MANDALLE	19.87	7.3	2.1	3.0	1
84	MANDALLE	17.31	7.1	1.9	3.2	1
85	MANDALLE	12.89	6.7	1.9	2.9	1
86	MANDALLE	18.24	7.8	2.9	3.0	1
87	MANDALLE	14.84	7.3	2.0	2.0	1
88	MANDALLE	14.46	6.3	2.0	3.0	1
89	MANDALLE	11.24	7.9	2.5	1.9	1
90	MANDALLE	14.42	6.3	2.0	3.0	1
91	MANDALLE	16.46	7.1	1.9	2.9	1
92	MANDALLE	14.06	6.2	1.8	2.8	1
93	MANDALLE	14.85	6.7	1.9	2.9	1
94	MANDALLE	15.29	6.4	1.6	2.6	1
95	MANDALLE	12.81	6.1	1.9	2.9	1
96	MANDALLE	14.57	6.5	1.8	2.9	1
97	MANDALLE	16.55	7.2	1.9	2.8	1
98	MANDALLE	15.28	7.8	2.0	2.9	1
99	MANDALLE	14.05	6.6	1.8	2.6	1

Lampiran 8 Analisis Data Mikroplastik pada Kelompok Ukuran Kecil Cangkang Kerang Hijau (*Perna viridis*)

No Sampel	Warna						Bentuk					Jumlah mikroplastik
	Hitam	Putih	Merah	Kuning	Biru	Hijau	Serpihan	Filam	Serat	Foam	Pellet	
s1												0
s2												0
s3		1							1			1
s4		2			1		1		2			4

s5												0
S6	1							1				1
S7												0
S8												0
S9												0
S10				1				1				1
S11	1			1				2				2
S12	2							2				3
S13												0
S14	1			2				3				4
S15												0
S16												0
S17	1			1		1		1				2
S18	1			1				2				3
S19												0
S20												0
S21	2			1		1		2				3
S22	1							1				1
S23	1							1				1
S24	1			1				2				3
S25				1				1				2
S26												0
S27	1							1				1
S28	1							1				1
S29												0
S30				1				1				1
S31				1				1				2
S32	1						1					1
S33												0

Lampiran 9. Analisis Data Mikroplastik pada Kelompok Ukuran Sedang Cangkang Kerang Hijau (*Perna viridis*)

No Sampel	Warna						Bentuk					Jumlah Mikroplastik
	Hitam	Putih	Merah	Kuning	Biru	Hijau	Serpihan	Filam	Serat	Foam	Pellet	
s1		1	1						2			2
s2		3					2		1			3

s3											0
s4											0
s5		2						2			2
S6											0
S7											0
S8											0
S9											0
S10											0
S11		2				1		1			2
S12					1			1			1
S13					1			1			1
S14											0
S15		1				1					1
S16											0
S17											0
S18											0
S19					1			1			1
S20											0
S21		1						1			1
S22											0
S23		2				1		1			2
S24		1			1			2			2
S25					1			1			1
S26											0
S27											0
S28		1				1					1
S29											0
S30											0
S31		1						1			1
S32											0
S33					1			1			1



Lampiran 11. Konsentrasi Mikroplastik pada Kelompok Ukuran Kecil Cangkang Kerang Hijau (*Perna viridis*)

No Sampel	Jumlah mikroplastik	Volume Hemolimfa	Konsentrasi Mikroplastik	Konsentrasi Mikroplastik		Konsentrasi Mikroplastik		Persentase Kontaminasi (%)
				Putih	Biru	Serpihan	Serat	
s1	0	1	0	0	0	0	0	58
s2	0	1	0	0	0	0	0	
s3	1	1	1	1	0	0	1	
s4	4	1	5	2	1	1	2	
s5	0	1	0	0	0	0	0	
S6	1	1	2	1	0	0	1	
S7	0	1	0	0	0	0	0	
S8	0	1	0	0	0	0	0	
S9	0	1	0	0	0	0	0	
S10	1	1	2	0	1	0	1	
S11	2	1	2	1	1	0	2	
S12	3	1	3	2	0	0	2	
S13	0	1	0	0	0	0	0	
S14	4	1	5	1	2	0	3	
S15	0	1	0	0	0	0	0	
S16	0	1	0	0	0	0	0	
S17	2	1	2	1	1	1	1	
S18	3	1	3	1	1	0	2	
S19	0	1	0	0	0	0	0	
S20	0	1	0	0	0	0	0	
S21	3	1	4	2	1	1	2	
S22	1	1	2	1	0	0	1	
S23	1	1	2	1	0	0	1	
S24	3	1	6	1	1	0	2	
S25	2	1	4	0	1	0	1	
S26	0	1	0	0	0	0	0	
S27	1	1	1	1	0	0	1	
S28	1	1	1	1	0	0	1	
S29	0	1	0	0	0	0	0	
S30	1	1	2	0	1	0	1	
S31	2	1	4	0	1	0	1	



S32	1	1	1	1	0	1	0	
S33	0	1	0	0	0	0	0	

Lampiran 12. Konsentrasi Mikroplastik pada Kelompok Ukuran Sedang Cangkang Kerang Hijau (*Perna viridis*)

No Sampel	Jumlah Mikroplastik	Volume Hemolimfa	Konsentrasi Mikroplastik	Konsentrasi Mikroplastik		Konsentrasi Mikroplastik			Frekuensi Kehadiran (%)
				Biru	Merah	Putih	Serpihan	Serat	
s1	2	1	2	0	1	1	0	2	45
s2	3	1	3	0	0	3	2	1	
s3	0	1	0	0	0	0	0	0	
s4	0	1	0	0	0	0	0	0	
s5	2	1	2	0	2	0	0	2	
S6	0	1	0	0	0	0	0	0	
S7	0	1	0	0	0	0	0	0	
S8	0	1	0	0	0	0	0	0	
S9	0	1	0	0	0	0	0	0	
S10	0	1	0	0	0	0	0	0	
S11	2	1	2	0	0	2	1	1	
S12	1	1	1	1	0	0	0	1	
S13	1	1	1	1	0	0	0	1	
S14	0	1	0	0	0	0	0	0	
S15	1	1	1	0	0	1	1	0	
S16	0	1	0	0	0	0	0	0	
S17	0	1	0	0	0	0	0	0	
S18	0	1	0	0	0	0	0	0	
S19	1	1	1	1	0	0	0	1	
S20	0	1	0	0	0	0	0	0	
S21	1	1	1	0	0	1	0	1	
S22	0	1	0	0	0	0	0	0	
S23	2	1	2	0	0	2	1	1	
S24	2	1	2	1	0	1	0	2	
S25	1	1	1	1	0	0	0	1	
S26	0	1	0	0	0	0	0	0	
S27	0	1	0	0	0	0	0	0	

S28	1	1	1	0	0	1	1	0	
S29	0	1	0	0	0	0	0	0	
S30	0	1	0	0	0	0	0	0	
S31	1	1	1	0	0	1	0	1	
S32	0	1	0	0	0	0	0	0	
S33	1	1	1	1	0	0	0	1	

Lampiran 13. Konsentrasi Mikroplastik pada Kelompok Ukuran Besar Cangkang Kerang Hijau (*Perna viridis*)

No Sampel	Jumlah mikroplastik	Konsentrasi Mikroplastik	Konsentrasi Mikroplastik		Konsentrasi Mikroplastik		Persentase Kontaminasi (%)
			Biru	Putih	Serpihan	Serat	
s1	0	0	0	0	0	0	52
s2	1	1	1	0	0	1	
s3	1	1	0	1	0	1	
s4	1	1	0	1	0	1	
s5	0	0	0	0	0	0	
S6	1	1	0	1	0	1	
S7	0	0	0	0	0	0	
S8	1	1	1	0	0	1	
S9	1	1	0	1	0	1	
S10	0	0	0	0	0	0	
S11	1	1	0	1	0	1	
S12	1	1	0	1	0	1	
S13	0	0	0	0	0	0	
S14	0	0	0	0	0	0	
S15	1	1	0	1	0	1	
S16	0	0	0	0	0	0	
S17	0	0	0	0	0	0	
S18	0	0	0	0	0	0	
S19	1	1	0	1	0	1	
S20	0	0	0	0	0	0	
S21	1	1	1	0	0	1	
S22	1	1	0	1	0	1	
S23	1	1	1	0	0	1	
S24	0	0	0	0	0	0	

S25	1	1	0	1	0	1	
S26	0	0	0	0	0	0	
S27	0	0	0	0	0	0	
S28	1	1	0	1	0	1	
S29	0	0	0	0	0	0	
S30	1	1	0	1	0	1	
S31	0	0	0	0	0	0	
S32	1	1	1	0	0	1	
S33	0	0	0	0	0	0	

Lampiran 14. Ukuran Mikroplastik pada Kelompok Ukuran Kecil Cangkang Kerang Hijau (*Perna viridis*)

No Sampel	Jumlah	Bentuk	Warnah	Ukuran (mm)
S3	1	Serat	Putih	0.575
S4	1	Serat	Putih	0.187
	1	Serpihan	Putih	0.089
	1	Serat	Biru	0.411
S6	1	Serat	Putih	0.625
S10	1	Serat	Biru	0.384
S11	1	Serat	Putih	1.943
	1	Serat	Biru	0.470
S12	1	Serat	Putih	1.466
	1	Serat	Putih	2.428
S14	1	Serat	Biru	0.840
	1	Serat	Putih	0.835
	1	Serat	Biru	1.110
S17	1	Serpihan	Putih	0.356
	1	Serat	Biru	0.904
S18	1	Serat	Putih	0.589
	1	Serat	Biru	2.117
S21	1	Serpihan	Putih	0.547
	1	Serat	Putih	1.871
	1	Serat	Biru	1.266
S22	1	Serat	Putih	0.738
S23	1	Serat	Putih	1.103

S24	1	Serat	Putih	1.533
	1	Serat	Biru	0.919
S25	1	Serat	Biru	2.041
S27	1	Serat	Putih	0.480
S28	1	Serat	Putih	0.832
S30	1	Serat	Biru	1.404
S31	1	Serat	Biru	0.965
S33	1	Serpihan	Putih	0.966

Lampiran 15. Ukuran Mikroplastik pada Kelompok Ukuran Sedang Cangkang Kerang Hijau (*Perna viridis*)

No Sampel	Jumlah	Bentuk	warna	Ukuran (mm)
s1	1	Serat	Putih	0.687
	1	Serat	Merah	1.599
s2	1	Serpihan	Putih	0.345
	1	Serpihan	Putih	0.181
	1	Serat	Putih	0.399
s5	1	Serat	Biru	0.903
	1	Serat	Merah	0.227
s11	1	Serpihan	Putih	0.295
	1	Serat	Putih	0.500
s12	1	Serat	Biru	0.404
s13	1	Serat	Biru	0.419
s15	1	Serpihan	Putih	1.069
s19	1	Serat	Biru	0.153
s21	1	Serat	Putih	0.270
s23	1	Serpihan	Putih	0.348
	1	Serat	Putih	0.705
s24	1	Serat	Biru	0.390
	1	Serat	Putih	0.240
s25	1	Serat	Biru	0.630
s28	1	Serpihan	Putih	0.370
s31	1	Serat	Putih	0.403
s33	1	Serat	Biru	1.811

Lampiran 16. Ukuran Mikroplastik pada Kelompok Ukuran Besar Cangkang Kerang Hijau (*Perna viridis*)

No sampel	Jumlah	Bentuk	Warna	Ukuran (mm)
s2	1	Serat	Biru	0.389
s3	1	Serat	Putih	1.028
s4	1	Serat	Putih	0.352
s6	1	Serat	Putih	2.057
s8	1	Serat	Biru	1.457
s9	1	Serat	Putih	0.360
s11	1	Serat	Putih	0.663
s12	1	Serat	Putih	2.856
s15	1	Serat	Putih	0.888
s19	1	Serat	Putih	0.509
s21	1	Serat	Biru	0.346
s22	1	Serat	Putih	0.750
s23	1	Serat	Biru	0.499
s25	1	Serat	Putih	0.946
s28	1	Serat	Putih	1.138
s30	1	Serat	Putih	0.678
S32	1	Serat	Biru	2.010

## Lampiran 17. Uji Statistik Konsentrasi Mikroplastik Toral

Number of families	1					
Number of comparisons per family	3					
Alpha	0.05					
Dunn's multiple comparisons test	Mean rank diff.	Significant?	Summary	Adjusted P Value		
A vs. B	12.26	Yes	*	0.0210	A-B	
A vs. C	21.16	Yes	****	<0.0001	A-C	
B vs. C	8.900	No	ns	0.1686	B-C	
Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z
A vs. B	36.66	24.40	12.26	19	15	2.697
A vs. C	36.66	15.50	21.16	19	17	4.817
B vs. C	24.40	15.50	8.900	15	17	1.910

Number of values	19	15	17
Minimum	1.000	1.000	1.000
Maximum	6.000	3.000	1.000
Range	5.000	2.000	0.000
Mean	2.737	1.467	1.000
Std. Deviation	1.522	0.6399	0.000
Std. Error of Mean	0.3491	0.1652	0.000

## Lampiran 18. Konsentrasi Mikroplastik Warna Putih

Number of families	1					
Number of comparisons per family	3					
Alpha	0.05					
Dunn's multiple comparisons test	Mean rank diff.	Significant?	Summary	Adjusted P Value		
PK vs. PS	-2.667	No	ns	>0.9999	A-B	
PK vs. PB	3.500	No	ns	0.5553	A-C	
PS vs. PB	6.167	No	ns	0.1209	B-C	
Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z
PK vs. PS	19.00	21.67	-2.667	15	9	0.9275
PK vs. PB	19.00	15.50	3.500	15	12	1.325
PS vs. PB	21.67	15.50	6.167	9	12	2.051

Number of values	15	9	12
Minimum	1.000	1.000	1.000
Maximum	2.000	3.000	1.000
Range	1.000	2.000	0.000
Mean	1.200	1.444	1.000
Std. Deviation	0.4140	0.7265	0.000
Std. Error of Mean	0.1069	0.2422	0.000

## Lampiran 19. Konsentrasi Mikroplastik Warna Biru

Number of families	1					
Number of comparisons per family	3					
Alpha	0.05					
Dunn's multiple comparisons test	Mean rank diff.	Significant?	Summary	Adjusted P Value		
BK vs. BS	1.000	No	ns	>0.9999	A-B	
BK vs. BB	1.000	No	ns	>0.9999	A-C	
BS vs. BB	0.000	No	ns	>0.9999	B-C	
Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z
BK vs. BS	12.00	11.00	1.000	11	6	0.8402
BK vs. BB	12.00	11.00	1.000	11	5	0.7906
BS vs. BB	11.00	11.00	0.000	6	5	0.000

Number of values	11	6	5
Minimum	1.000	1.000	1.000
Maximum	2.000	1.000	1.000
Range	1.000	0.000	0.000
Mean	1.091	1.000	1.000
Std. Deviation	0.3015	0.000	0.000
Std. Error of Mean	0.09091	0.000	0.000



## Lampiran 20. Konsentrasi Mikroplastik Bentuk Serat

Number of families	1					
Number of comparisons per family	3					
Alpha	0.05					
Dunn's multiple comparisons test	Mean rank diff.	Significant?	Summary	Adjusted P Value		
FK vs. FS	3.994	No	ns	0.7995	A-B	
FK vs. FB	9.417	Yes	*	0.0144	A-C	
FS vs. FB	5.423	No	ns	0.4082	B-C	
Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z
FK vs. FS	28.92	24.92	3.994	18	13	1.111
FK vs. FB	28.92	19.50	9.417	18	17	2.820
FS vs. FB	24.92	19.50	5.423	13	17	1.491

Number of values	18	13	17
Minimum	1.000	1.000	1.000
Maximum	3.000	2.000	1.000
Range	2.000	1.000	0.000
Mean	1.444	1.231	1.000
Std. Deviation	0.6157	0.4385	0.000
Std. Error of Mean	0.1451	0.1216	0.000

## Lampiran 21. Konsentrasi Mikroplastik Bentuk Serpihan

Table Analyzed	Serpihan
Column B	SS
vs.	vs.
Column A	SK
Mann Whitney test	
P value	>0.9999
Exact or approximate P value?	Exact
P value summary	ns
Significantly different ( $P < 0.05$ )?	No
One- or two-tailed P value?	Two-tailed
Sum of ranks in column A,B	18 , 27
Mann-Whitney U	8
Difference between medians	
Median of column A	1.000, n=4
Median of column B	1.000, n=5
Difference: Actual	0.000
Difference: Hodges-Lehmann	0.000

Number of values	4	5
Minimum	1.000	1.000
Maximum	1.000	2.000
Range	0.000	1.000
Mean	1.000	1.200
Std. Deviation	0.000	0.4472
Std. Error of Mean	0.000	0.2000