

DAFTAR PUSTAKA

- Abdullah Abbas, M. *Et Al.* (2022) 'Study Of Green Mussel Eating Habits (*Perna Viridis*) In Aleu Naga Waters, Banda Aceh', *Jurnal Kelautan Dan Perikanan Indonesia*, 2(3), Pp. 189–200. Available At: <https://doi.org/10.24815/jkpi.v2i3.29698>.
- Arifin, M.S., Suprijanto, J. And Ridlo, A. (2023) 'Keberadaan Mikroplastik Pada Kerang Darah (*Anadara Granosa*) Dari Tpi Tambak Lorok, Semarang', *Journal Of Marine Research*, 12(3), 447–454. <https://doi.org/10.14710/jmr.v12i3.36448>.
- Astuti, A.D. *Et Al.* (2020) 'Kajian Pendirian Usaha Biji Plastik Di Kabupaten Pati, Jawa Tengah', *Jurnal Litbang: Media Informasi Penelitian, Pengembangan Dan Iptek*, 16(2), Pp. 95–112. Available At: <https://doi.org/10.33658/jl.v16i2.204>.
- Börgerc, T. *Et Al.* (2019) 'Global Ecological, Social And Economic Impacts Of Marine Plastic', 142, Pp. 189–195.
- Browne, M.A. *Et Al.* (2008) 'Ingested Microscopic Plastic Translocates To The Circulatory System Of The Mussel, *Mytilus Edulis* (L.)', *Environmental Science And Technology*, 42(13), Pp. 5026–5031. <https://doi.org/10.1021/es800249a>.
- Claessens, M. *Et Al.* (2013) 'New Techniques For The Detection Of Microplastics In Sediments And Field Collected Organisms', *Marine Pollution Bulletin*, 70(1–2), Pp. 227–233. Available At: <https://doi.org/10.1016/j.marpolbul.2013.03.009>.
- Cordova, M.R. And Wahyudi, A.J. (2016) 'Microplastic In The Deep-Sea Sediment Of Southwestern Sumatran Waters', *Marine Research In Indonesia*, 41(1), Pp. 27–35. Available At: <https://doi.org/10.14203/mri.v41i1.99>.
- Eggermont, M. *Et Al.* (2020) 'The Blue Mussel Inside: 3d Visualization And Description Of The Vascular-Related Anatomy Of *Mytilus Edulis* To Unravel Hemolymph Extraction', *Scientific Reports*, 10(1). 1–16. <https://doi.org/10.1038/s41598-020-62933-9>.
- Eriksen, M. *Et Al.* (2013) 'Microplastic Pollution In The Surface Waters Of The Laurentian Great Lakes', *Marine Pollution Bulletin*, 77(1–2), Pp. 177–182. Available At: <https://doi.org/10.1016/j.marpolbul.2013.10.007>.
- Ermawati, R. (2011) 'Konversi Limbah Plastik Sebagai Sumber Energi Alternatif Converting Of Plastik Waste As A Source Of Energy Alternative'. Balai Besar Kimia Dan Kemasan, Kementrian Perindustrian, Pp. 257–263.
- Feng, Z. *Et Al.* (2020) 'Spatio-Temporal Features Of Microplastics Pollution In Macroalgae Growing In An Important Mariculture Area, China', *Science Of The Total Environment*, 719, <https://doi.org/10.1016/j.scitotenv.2020.137490>.
- Gesamp (2016) 'Sources, Fate And Effects Of Microplastics In The Marine Environment: Part 2 Of A Global Assessment. *Gesamp*, No. 93, 96 P., 93.
- Gianazza, E. *Et Al.* (2021) 'Hemolymph Proteins: An Overview Across Marine Arthropods And Molluscs', *Journal Of Proteomics*, 245, P. 104294. Available At: <https://doi.org/10.1016/j.jprot.2021.104294>.
- Gosling, E. (2021) *Marine Mussels Ecology, Physiology, Genetics And Culture*, Galway-Mayo Institute Of Technology, Ireland.
- Hiwari, H. *Et Al.* (2019) 'Kondisi Sampah Mikroplastik Di Permukaan Air Laut Sekitar Kupang Dan Rote , Provinsi Nusa Tenggara Timur Condition Of Microplastic Garbage In Sea Surface Water At Around Kupang And Rote, East Nusa Tenggara Province', 5, 165–171. <https://doi.org/10.13057/psnmbi/M050204>.
- Hollman, P.C.H., Bouwmeester, H. And Peters, R.J.B. (2013) 'Microplastics In The

- Aquatic Food Chain', *Chemosphere*, 248 (February), Pp. 1–17. <https://doi.org/10.1016/j.watres.2019.114870>
- Iman Mujiarto (2023) 'Sifat Dan Karakteristik Material Plastik Dan Bahan Aditif', *Uin-Suska.Ac.Id*, 3(2). Available At: <http://repository.uin-suska.ac.id/26740/1/HakiBukuGenealogiIntelektualMelayuTradisiPemikiranIslamAbadKe19DiKerajaanRiauLingga.Pdf>.
- Indrawan, G.S. (2019) 'Pemanfaatan Kerang (Bivalvia) Dan Peranannya Di Ekosistem Laut', *Universitas Udayana Press*, Pp. 1–47.
- Jayanti, A.S. (2015) 'Hemosit (Differential Haemocyte Count) Tiram (Crassostea Iredalei) Yang Tercemar Logam Berat Pb, Hg, Cd Dari Perairan Pantai Dalegan Dan Pantai Ujung Pangkah Kabupaten Gresik Jawa Timur'. Malang.
- Joesidawati, M.I. (2018) 'Pencemaran Mikroplastik Di Sepanjang Pantai Kabupaten Tuban', *Seminar Nasional Hasil Penelitian Dan Pengabdian Masyarakat 3*, (3), Pp. 7–15.
- Khoironi, A., Anggoro, S. And Sudarno, S. (2018) 'The Existence Of Microplastic In Asian Green Mussels', *Iop Conference Series: Earth And Environmental Science*, 131(1), Pp. 1–6. <https://doi.org/10.1088/1755-1315/131/1/012050>.
- Li, J., A, Z.W. And Rotchell, J.M. (2021) 'Di Mana Kita ? Menuju Pemahaman Tentang Akumulasi Selektif Mikroplastik Pada Kerang', 286(April).
- Li, Q. *Et Al.* (2021) 'Sciencedirect Microplastics In Shellfish And Implications For Food Safety', *Current Opinion In Food Science*, 40, Pp. 192–197. Available At: <https://doi.org/10.1016/j.cofs.2021.04.017>.
- Lihui An, Qing Liu, Yixiang Deng, Wennan Wu, Yirao Gao, And W.L. (2021) 'Sources Of Microplastikc In The Environment', (March), Pp. 1–12. Available At: <https://doi.org/10.1007/698>.
- Louis Cohen, Lawrence Manion, Keith Morrison (2007) *Research Methods In Education, Research Methods In Physical Activity And Health*. Available At: <https://doi.org/10.4324/9781315158501-17>.
- Lusher, A., Hollman, P. And Mendozal, J. (2017) *Microplastics In Fisheries And Aquaculture: Status Of Knowledge On Their Occurrence And Implications For Aquatic Organisms And Food Safety, Fao Fisheries And Aquaculture Technical Paper 615*. Available At: <https://doi.org/978-92-5-109882-0>.
- Mandala, W.F. (2016) 'Kendala Dan Strategi Pengelolaan Sampah Pulau Barrang Lompo', *The Journal Of Fisheries Development*, 2(2), Pp. 61–68. Available At: <http://jurnal.uniyap.ac.id/index.php/perikanan/article/view/252/242>.
- Mauludy, M.S., Yunanto, A. And Yona, D. (2019) 'Microplastic Abundances In The Sediment Of Coastal Beaches In Badung, Bali', *Jurnal Perikanan Universitas Gadjah Mada*, 21(2), P. 73. Available At: <https://doi.org/10.22146/jfs.45871>.
- Mohamed Nor, N.H. And Obbard, J.P. (2014) 'Microplastics In Singapore's Coastal Mangrove Ecosystems', *Marine Pollution Bulletin*, 79(1–2), Pp. 278–283. Available At: <https://doi.org/10.1016/j.marpolbul.2013.11.025>.
- Von Moos, N., Burkhardt-Holm, P. And Köhler, A. (2012) 'Uptake And Effects Of Microplastics On Cells And Tissue Of The Blue Mussel *Mytilus Edulis* L. After An Experimental Exposure', *Environmental Science And Technology*, 46(20), Pp. 11327–11335. Available At: <https://doi.org/10.1021/es302332w>.
- Muhammad Lutfi, Akas Yekti Pulih Asih, Satria Wijaya, M.I. (2023) 'Literatur Review: Mikroplastik Pada Berbagai Jenis Kerang Serta Dampak Terhadap Kesehatan', *Comprehensive Science*, 2(5), Pp. 1325–1334.

- Nayli, Z. (2018) 'Keanekaragaman Bivalvia Pada Kawasan Ekosistem Mangrove Kecamatan Kuta Raja Kota Banda Aceh Sebagai Penunjang Praktikum Ekologi Hewan', *Skripsi* [Preprint].
- Noaa (2013) 'Programmatic Environmental Assessment (Pea) For The Noaa Marine Debris Program (Mdp). Noaa. Maryland (Us).', *Angewandte Chemie International Edition*, 6(11), Pp. 951–952.
- Peter Kershaw, Alexander Turra, F. Galgani (2019) *Guidelines For The Monitoring And Assessment Of Plastic Litter In The Ocean: Gesamp Joint Group Of Experts On The Scientific Aspects Of Marine Environmental Protection, Rep. Stud. Gesamp*. Available At: [Http://Www.Gesamp.Org](http://www.gesamp.org)
- Pramiati Purwaningrum (2016) 'Upaya Mengurangi Timbulan Sampah Plastik', *Upayah Mengurangi Timbulan Sampah Plasti K Di Lingkungan*, 8(2), Pp. 141–147.
- Purba, N.P. *Et Al.* (2019) 'Lintasan Sampah Mikro Plastik Di Kawasan Konservasi Perairan Nasional Laut Sawu, Nusa Tenggara Timur', *Depik*, 8(2), Pp. 125–134. Available At: [Https://Doi.Org/10.13170/Depik.8.2.13423](https://doi.org/10.13170/depik.8.2.13423).
- Putri Liliandari, A. (2013) 'Kecepatan Filtrasi Kerang Hijau *Perna Viridis* Terhadap *Chaetoceros Sp* Dalam Media Logam Tercemar Kadmium', *Sains Dan Seni Pomits*, 2(2), Pp. 2337–3520.
- Ramli, R., Yaqin, K. And Rukminasari, N. (2021) 'Microplastics Contamination In Green Mussels *Perna Viridis* In Pangkajene Kepulauan Waters, South Sulawesi, Indonesia', *Akuatikisle: Jurnal Akuakultur, Pesisir Dan Pulau-Pulau Kecil*, 5(1), Pp. 1–5. Available At: [Https://Doi.Org/10.29239/J.Akuatikisle.5.1.1-5](https://doi.org/10.29239/j.akuatikisle.5.1.1-5).
- Rosmianto (2020) 'Studi Habitat Kerang Hijau (*Perna Veridis*) Di Perairan Danau Tanabamban Kecamatan'.
- Rukanah, S. (2019) *Keanekaragaman Kerang (Bivalvia) Di Sepanjang Perairan Pantai Panjur Punduh Pidada Kabupaten Pesawaran, Repository Uin Raden Intan Lampung*.
- Sari Dewi, I., Aditya Budiarsa, A. And Ramadhan Ritonga, I. (2015) 'Distribusi Mikroplastik Pada Sedimen Di Muara Badak, Kabupaten Kutai Kartanegara', *Depik*, 4(3), Pp. 121–131. [Https://Doi.Org/10.13170/Depik.4.3.2888](https://doi.org/10.13170/depik.4.3.2888).
- Van Seville, E. *Et Al.* (2015) 'A Global Inventory Of Small Floating Plastic Debris', *Environmental Research Letters*, 10(12). [Https://Doi.Org/10.1088/1748-9326/10/12/124006](https://doi.org/10.1088/1748-9326/10/12/124006).
- Stafford, C. (2019) 'Polusi Mikroplastik Laut', (April).
- Strand, J. And Tairova, Z. (2016) 'Microplastic Particles In North Sea Sediments 2015', *Dce - Danish Centre For Environment And Energy*, (178), Pp. 1–24. Available At: [Http://Dce.Au.Dk/En](http://dce.au.dk/en).
- Sulistiyarningsih, E. And Arbi, U.Y. (2020) 'Aspek Bio-Ekologi Dan Pemanfaatan Kerang Marga Anadara (Mollusca: Bivalvia: Arcidae)', *Oseana*, 45(2), Pp. 69–85. Available At: [Https://Doi.Org/10.14203/Oseana.2020.Vol.45no.2.95](https://doi.org/10.14203/Oseana.2020.Vol.45no.2.95).
- Tantanasarit, C. *Et Al.* (2013) 'Influence Of Size And Density On Filtration Rate Modeling And Nutrient Uptake By Green Mussel (*Perna Viridis*)', *Marine Pollution Bulletin*, 68(1–2), Pp. 38–45. [Https://Doi.Org/10.1016/J.Marpolbul.2012.12.027](https://doi.org/10.1016/j.marpolbul.2012.12.027).
- Untoro Budi, S. (2018) 'Berbagai Metode Konversi Sampah Plastik Menjadi Bahan Bakar Minyak', *Jurnal Envirotek*, 9(2), Pp. 32–40.
- Wahdani, A. *Et Al.* (2020) 'Konsentrasi Mikroplastik Pada Kerang Manila *Venerupis Philippinarum* Di Perairan Maccini Baji, Kecamatan Labakkang, Kabupaten

- Pangkajene Kepulauan, Sulawesi Selatan', *Maspri Journal: Marine Science Research*, 12(2), Pp. 1–14. <https://doi.org/10.56064/Maspri.V12i2.12809>.
- Wardatul Fadhilah, Mega Sari Juane Sofiana, I.S. And Kushadiwijayanto, A.A. (2023) 'Abundance Of Microplastics In The Waters Of Temajo Island Mempawah West Kalimantan', *Jurnal Laut Khatulistiwa*, 6(3), Pp. 2614–8005. Available At: <http://jurnal.untan.ac.id/index.php/lk>.
- Warlani, L. (2019) 'Pengelolaan Sampah Plastik Untuk Mitigasi Bencana Alam', *Seminar Nasional Fst Universitas Terbuka* [Preprint].
- Widianarko, B. And Hantoro, I. (2018) *Mikroplastik Dalam Seafood Seafood*. Available At: www.unika.ac.id.
- Wulan Sari, F. (2021) 'Analisis Bentuk Mikroplastik Pada Kerang Hijau (*Perna viridis*) Di Alue Naga Kecamatan Syiah Kuala Kota Banda Aceh', *Jurnal Jeumpa*, 8(2), Pp. 558–564. <https://doi.org/10.33059/jj.v8i2.4400>.
- Yaqin, K. (2014) 'Apakah Variasi Ukuran Panjang Cangkang Memengaruhi Konsentrasi Logam Timbal Di Dalam Daging Kerang Hijau *Perna viridis* (May 2014). <https://www.researchgate.net/publication/323078649>.
- Yaqin, K. (2021) 'Mikroplastik: Isu Pencemaran Dan Ketahanan Pangan Laut', *British Dental Journal*, 231(4), P. 207. Available At: <https://doi.org/10.1038/S41415-021-3384-2>.
- Yaqin, K., Nirwana, N. And Rahim, S.W. (2022) 'Konsentrasi Mikroplastik Pada Kerang Hijau (*Perna viridis*) Di Perairan Mandalle Pangkajene Kepulauan, Sulawesi Selatan', *Jurnal Akuatiklestari*, 5(2), Pp. 52–57. Available At: <https://doi.org/10.31629/akuatiklestari.V5i2.4204>.

LAMPIRAN

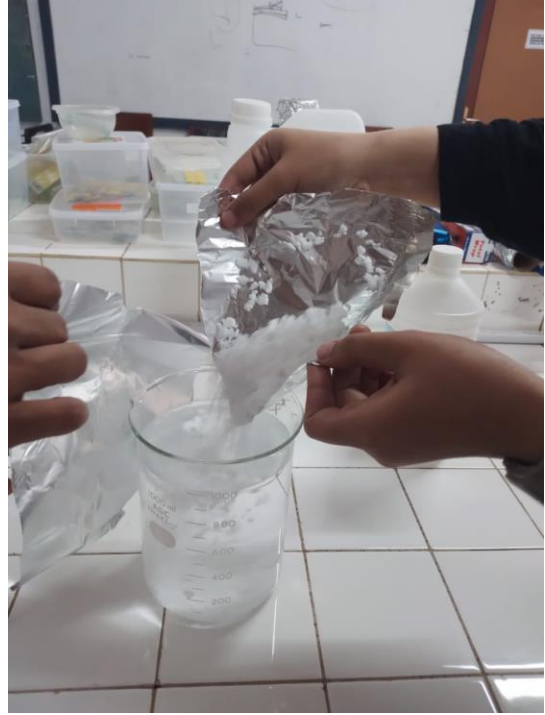
Lampiran 1. Dokumentasi Penelitian



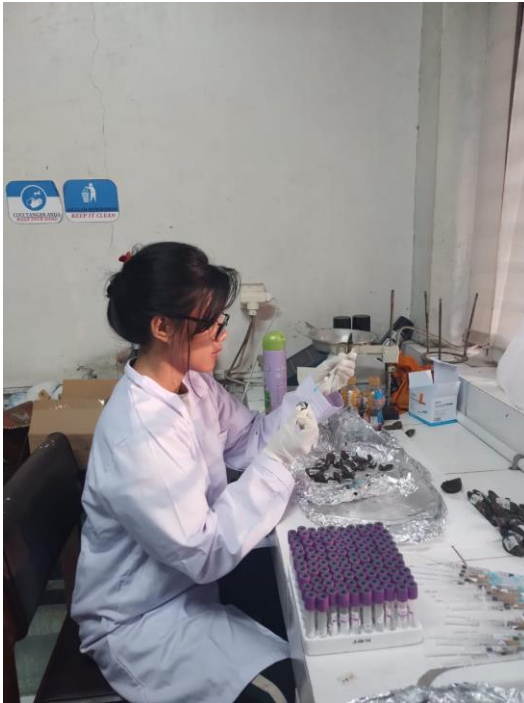
a. Pengambilan sampel di perairan labakkang



b. Pengukuran Sampel



c. Proses Pembuatan Larutan KOH



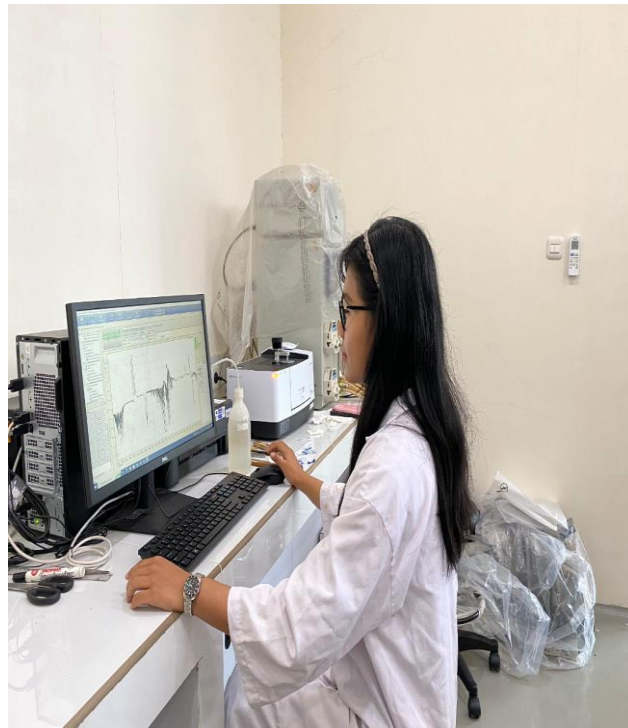
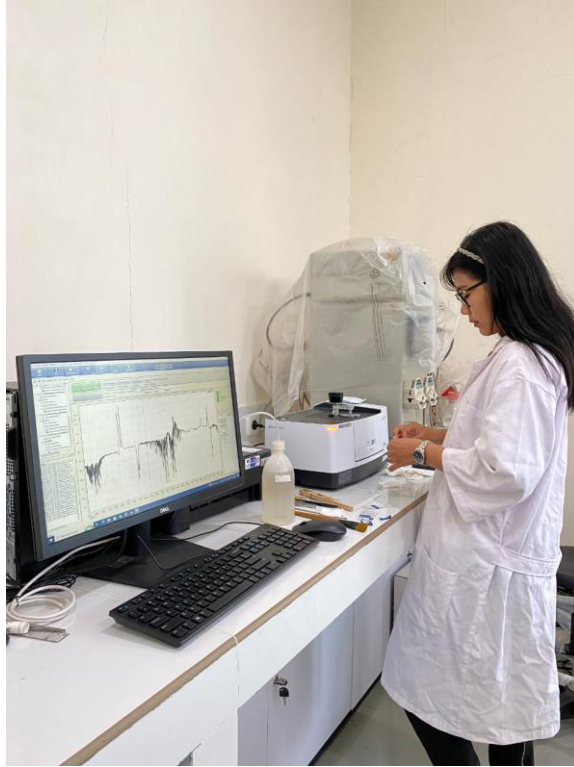
d. Pengambilan Hemolimfa Kerang Hijau (*perna viridis*)



e. Proses mengvakuman hemolimfa kerang hijau (*perna viridis*)



f. Proses pengamatan partikel mikroplastik menggunakan laminar air flow



g. Proses uji polimer *FTIR* terhadap hemolimfa kerang hijau (*perna viridis*)



h. Tali rapih yang melekat pada byssus kerang



i. Kondisi perairan

Lampiran 2. Analisis Data

a. Ukuran Kecil

Hasil data pengukuran panjang cangkang kecil, jumlah partikel, volume hemolimfa dan konsentrasi mikroplastik dapat dilihat pada table berikut :

Sam pel	Panjang Cangkang	Jumlah Partikel	Vol. Hemolimfa	Konsentrasi						FK
				Hemolimfa	Biru	Merah	Putih	Fragment	Fiber	
1	3.8	4	1	4.000	0.000	0	2.000	3.000	1.000	61 %
2	3.4	0	1	0.000	0.000	0	0.000	0.000	0.000	
3	3.9	0	1	0.000	0.000	0	0.000	0.000	0.000	
4	3.6	3	1	3.000	2.000	0	0.000	2.000	1.000	
5	3.8	3	1	3.000	0.000	0	3.000	2.000	1.000	
6	3.8	2	1	2.000	1.000	0	1.000	1.000	1.000	
7	3.7	2	1	2.000	1.000	0	1.000	1.000	1.000	
8	3.9	2	1	2.000	1.000	0	1.000	2.000	0.000	
9	3.9	0	1	0.000	0.000	0	0.000	0.000	0.000	
10	3.7	0	1	0.000	0.000	0	0.000	0.000	0.000	
11	3.8	0	1	0.000	0.000	0	0.000	0.000	0.000	
12	3.5	2	1	2.000	0.000	0	2.000	0.000	2.000	
13	3.7	3	1	3.000	1.000	0	2.000	0.000	3.000	
14	3.5	0	1	0.000	0.000	0	0.000	0.000	0.000	
15	3.8	1	1	1.000	0.000	0	1.000	1.000	0.000	
16	3.9	2	1	2.000	1.000	0	1.000	0.000	2.000	
17	3.7	4	1	4.000	0.000	0	4.000	1.000	3.000	
18	3.9	0	1	0.000	0.000	0	0.000	0.000	0.000	
19	3.7	0	1	0.000	0.000	0	0.000	0.000	0.000	
20	3.9	2	1	2.000	0.000	0	1.000	2.000	0.000	
21	3.4	1	1	1.000	0.000	0	1.000	0.000	1.000	
22	3.4	2	1	2.000	0.000	0.5	1.000	1.000	1.000	

23	3.6	0	1	0.000	0.000	0	0.000	0.000	0.000
24	3.0	0	1	0.000	0.000	0	0.000	0.000	0.000
25	3.6	2	1	2.000	0.000	0	2.000	1.000	1.000
26	3.5	2	1	2.000	1.000	0	1.000	0.000	2.000
27	3.4	2	1	2.000	0.000	0	2.000	0.000	2.000
28	3.9	0	1	0.000	0.000	0	0.000	0.000	0.000
29	3.9	0	1	0.000	0.000	0	0.000	0.000	0.000
30	3.2	0	1	0.000	0.000	0	0.000	0.000	0.000
31	3.2	3	1	3.000	1.000	0	2.000	1.000	2.000
32	3.3	2	1	2.000	1.000	0	1.000	0.000	2.000
33	3.5	1	1	1.000	0.000	0	1.000	0.000	1.000

b. Ukuran Sedang

Hasil data pengukuran panjang cangkang sedang, jumlah partikel, volume hemolimfa dan konsentrasi mikroplastik dapat dilihat pada table berikut :

Sam pel	Panjang Cangkang	Jumlah Partikel	Vol. Hemolim fa	Konsentrasi						FK
				Hemol imfa	Bi ru	Mer ah	Pu tih	Frag ment	Fib er	
1	4.6	2	1	2	0	0	2	2	0	45 %
2	4.6	1	1	1	0	0	1	0	1	
3	5.7	2	1	2	0	1	1	2	0	
4	5.4	4	1	4	0	0	4	4	0	
5	4.7	0	1	0	0	0	0	0	0	
6	5.2	0	1	0	0	0	0	0	0	
7	4.4	1	1	1	0	0	1	1	0	
8	5.2	0	1	0	0	0	0	0	0	
9	5.2	0	1	0	0	0	0	0	0	
10	5.1	1	1	1	1	0	0	0	1	
11	4.5	0	1	0	0	0	0	0	0	
12	4.7	0	1	0	0	0	0	0	0	
13	4.4	2	1	2	2	0	0	0	2	
14	4.9	0	1	0	0	0	0	0	0	
15	4.8	1	1	1	1	0	0	0	1	
16	4.6	0	1	0	0	0	0	0	0	
17	5.2	0	1	0	0	0	0	0	0	
18	4.7	0	1	0	0	0	0	0	0	

19	4.6	1	1	1	1	0	0	0	1
20	5.1	0	1	0	0	0	0	0	0
21	5.2	0	1	0	0	0	0	0	0
22	5.1	1	1	1	0	0	1	0	1
23	5.0	2	1	2	1	0	1	1	1
24	5.0	0	1	0	0	0	0	0	0
25	5.6	2	1	2	1	0	1	1	1
26	4.9	0	1	0	0	0	0	0	0
27	5.5	0	1	0	0	0	0	0	0
28	5.6	1	1	1	1	0	0	0	1
29	5.7	0	1	0	0	0	0	0	0
30	4.7	1	1	1	1	0	0	0	1
31	4.9	0	1	0	0	0	0	0	0
32	5.2	0	1	0	0	0	0	0	0
33	5.3	1	1	1	2	0	0	0	1

c. Ukuran Besar

Hasil data pengukuran panjang cangkang besar jumlah partikel, volume hemolimfa dan konsentrasi mikroplastik dapat dilihat pada table berikut :

Sam pel	Panjang Cangkang	Jumlah Partikel	Vol. Hemolim fa	Konsentrasi						FK
				Hemol imfa	Bir u	Mer ah	Put ih	Frag ment	Fib er	
1	10.1	2	1	2.000	1.000	1.000	0.000	2.000	0.000	45 %
2	9.5	2	1	2.000	0.000	0.000	2.000	1.000	1.000	
3	8.1	2	1	2.000	0.000	1.000	1.000	0.000	2.000	
4	7.3	2	1	2.000	1.000	0.000	1.000	1.000	1.000	
5	8.6	2	1	2.000	0.000	0.000	2.000	2.000	0.000	
6	6.1	0	1	0.000	0.000	0.000	0.000	0.000	0.000	
7	6.8	0	1	0.000	0.000	0.000	0.000	0.000	0.000	
8	6.4	1	1	1.000	0.000	0.000	1.000	0.000	1.000	
9	6.0	1	1	1.000	0.000	0.000	1.000	1.000	0.000	
10	6.1	0	1	0.000	0.000	0.000	0.000	0.000	0.000	
11	6.1	0	1	0.000	0.000	0.000	0.000	0.000	0.000	

12	6.1	0	1	0.000	0.000	0.000	0.000	0.000	0.000
13	6.1	1	1	1.000	0.000	0.000	1.000	0.000	1.000
14	6.0	0	1	0.000	0.000	0.000	0.000	0.000	0.000
15	6.2	0	1	0.000	0.000	0.000	0.000	0.000	0.000
16	6.0	1	1	1.000	0.000	0.000	1.000	0.000	1.000
17	6.5	0	1	0.000	0.000	0.000	0.000	0.000	0.000
18	6.1	0	1	0.000	0.000	0.000	0.000	0.000	0.000
19	6.4	0	1	0.000	0.000	0.000	0.000	0.000	0.000
20	6.0	0	1	0.000	0.000	0.000	0.000	0.000	0.000
21	6.3	1	1	1.000	1.000	0.000	0.000	0.000	1.000
22	6.0	1	1	1.000	1.000	0.000	0.000	0.000	1.000
23	6.2	1	1	1.000	0.000	0.000	1.000	0.000	1.000
24	6.1	0	1	0.000	0.000	0.000	0.000	0.000	0.000
25	6.9	0	1	0.000	0.000	0.000	0.000	0.000	0.000
26	6.0	0	1	0.000	0.000	0.000	0.000	0.000	0.000
27	6.0	1	1	1.000	0.000	0.000	1.000	0.000	1.000
28	6.0	2	1	2.000	2.000	0.000	0.000	0.000	2.000
29	6.0	0	1	0.000	0.000	0.000	0.000	0.000	0.000
30	7.4	0	1	0.000	0.000	0.000	0.000	0.000	0.000
31	6.1	0	1	0.000	0.000	0.000	0.000	0.000	0.000
32	6.1	0	1	0.000	0.000	0.000	0.000	0.000	0.000
33	6.0	2	1	2.000	1.000	0.000	1.000	0.000	2.000

Lampiran 3. Analisis Statistik Pada Kontaminasi

Hasil data pada uji *Kruskal wallis* dapat dilihat sebagai berikut :

a. Analisis data statistik konsentrasi hemolimfa

Dunn's multiple comparisons test	Mean rank diff.	Significant?	Summary	Adjusted P Value			
Kecil (2-3.9) vs. Sedang (4-5,9)	12.94	Yes	*	0.0136			A-B
Kecil (2-3.9) vs. Besar (6-7.9)	12.64	Yes	*	0.0167			A-C
Sedang (4-5,9) vs. Besar (6-7.9)	-0.3000	No	ns	>0.9999			B-C
Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z	
Kecil (2-3.9) vs. Sedang (4-5,9)	33.18	20.23	12.94	20	15	2.839	
Kecil (2-3.9) vs. Besar (6-7.9)	33.18	20.53	12.64	20	15	2.773	
Sedang (4-5,9) vs. Besar (6-7.9)	20.23	20.53	-0.3000	15	15	0.06156	
Number of values	20	15	15				
Minimum	1.000	1.000	1.000				
Maximum	4.000	4.000	2.000				
Range	3.000	3.000	1.000				
Mean	2.250	1.533	1.467				
Std. Deviation	0.8507	0.8338	0.5164				
Std. Error of Mean	0.1902	0.2153	0.1333				

b. Analisis data statistik konsentrasi fragment

Dunn's multiple comparisons test	Mean rank diff.	Significant ?	Summary	Adjusted P Value			
Kecil (2-3.9) vs. Sedang (4-5.9)	-1.417	No	ns	>0.9999			A-B
Kecil (2-3.9) vs. Besar (6-7.9)	0.5500	No	ns	>0.9999			A-C
Sedang (4-5.9) vs. Besar (6-7.9)	1.967	No	ns	>0.9999			B-C
Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z	
Kecil (2-3.9) vs. Sedang (4-5.9)	11.75	13.17	-1.417	12	6	0.473	4
Kecil (2-3.9) vs. Besar (6-7.9)	11.75	11.20	0.5500	12	5	0.172	6
Sedang (4-5.9) vs. Besar (6-7.9)	13.17	11.20	1.967	6	5	0.542	7

c. Analisis data statistik konsentrasi fiber

Dunn's multiple comparisons test	Mean rank diff.	Significant ?	Summary	Adjusted P Value		
Kecil (2-3.9) vs. Sedang (4-5.9)	7.920	No	ns	0.0865		A-B
Kecil (2-3.9) vs. Besar (6-7.9)	4.897	No	ns	0.4963		A-C
Sedang (4-5.9) vs. Besar (6-7.9)	-3.023	No	ns	>0.9999		B-C

Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z
Kecil (2-3.9) vs. Sedang (4-5.9)	24.15	16.23	7.920	17	11	2.186
Kecil (2-3.9) vs. Besar (6-7.9)	24.15	19.25	4.897	17	12	1.387
Sedang (4-5.9) vs. Besar (6-7.9)	16.23	19.25	-3.023	11	12	0.773 3
Minimum	1.000	1.000	1.000			
Maximum	3.000	2.000	2.000			
Range	2.000	1.000	1.000			
Mean	1.588	1.091	1.250			
Std. Deviation	0.7123	0.3015	0.4523			
Std. Error of Mean	0.1728	0.09091	0.1306			

d. Analisis data statistik konsentrasi biru

Dunn's multiple comparisons test	Mean rank diff.	Significant ?	Summary	Adjusted P Value		
Kecil (2-3.9) vs. Sedang (4-5.9)	-1.118	No	ns	>0.9999	A- B	
Kecil (2-3.9) vs. Besar (6-7.9)	-0.4792	No	ns	>0.9999	A- C	
Sedang (4-5.9) vs. Besar (6-7.9)	0.6389	No	ns	>0.9999	B- C	
Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z
Kecil (2-3.9) vs. Sedang (4-5.9)	11.44	12.56	-1.118	8	9	0.516 3
Kecil (2-3.9) vs. Besar (6-7.9)	11.44	11.92	-0.4792	8	6	0.199 1
Sedang (4-5.9) vs. Besar (6-7.9)	12.56	11.92	0.6389	9	6	0.272 0
Minimum	1.000	1.000	1.000			
Maximum	2.000	2.000	2.000			
Range	1.000	1.000	1.000			
Mean	1.125	1.222	1.167			
Std. Deviation	0.3536	0.4410	0.4082			
Std. Error of Mean	0.1250	0.1470	0.1667			

e. Analisis data statistik konsentrasi merah

Dunn's multiple comparisons test	Mean rank diff.	Significant ?	Summary	Adjusted P Value		
Kecil (2-3.9) vs. Sedang (4-5.9)	-2.000	No	ns	0.4719	A- B	
Kecil (2-3.9) vs. Besar (6-7.9)	-2.000	No	ns	0.3074	A- C	
Sedang (4-5.9) vs. Besar (6-7.9)	0.000	No	ns	>0.9999	B- C	
Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z

Kecil (2-3.9) vs. Sedang (4-5.9)	1.000	3.000	-2.000	1	1	4	1.41
Kecil (2-3.9) vs. Besar (6-7.9)	1.000	3.000	-2.000	1	2	3	1.63
Sedang (4-5.9) vs. Besar (6-7.9)	3.000	3.000	0.000	1	2	0	0.00

Minimum	0.5000	1.000	1.000
Maximum	0.5000	1.000	1.000
Range	0.000	0.000	0.000
Mean	0.5000	1.000	1.000
Std. Deviation	0.000	0.000	0.000
Std. Error of Mean	0.000	0.000	0.000

f. Analisis data statistik konsentrasi putih

Dunn's multiple comparisons test	Mean rank diff.	Significant ?	Summary	Adjusted P Value	A-	B	A-	B-	C
Kecil (2-3.9) vs. Sedang (4-5.9)	2.273	No	ns	>0.9999					
Kecil (2-3.9) vs. Besar (6-7.9)	0.9105	No	ns	>0.9999					
Sedang (4-5.9) vs. Besar (6-7.9)	-1.363	No	ns	>0.9999					
Test details	Mean rank 1	Mean rank 2	Mean rank diff.	n1	n2	Z			
Kecil (2-3.9) vs. Sedang (4-5.9)	17.21	14.94	2.273	19	8	0.671			0
Kecil (2-3.9) vs. Besar (6-7.9)	17.21	16.30	0.9105	19	5	0.225			4
Sedang (4-5.9) vs. Besar (6-7.9)	14.94	16.30	-1.363	8	5	0.297			4

Minimum	1.000	1.000	1.000
Maximum	4.000	4.000	2.000
Range	3.000	3.000	1.000
Mean	1.579	1.500	1.400
Std. Deviation	0.8377	1.069	0.5477
Std. Error of Mean	0.1922	0.3780	0.2449