

DAFTAR PUSTAKA

- Aliviyanti, D., Amalia, S. H. N., Dailami, M., Prihanto, A. A., Sari, S. H. J., Djamaludin, H., & Wiratno, E. N. (2025). Plankton diversity around Sempu Strait, Indonesia, revealed by eDNA metabarcoding. *Biodiversitas*, 26(11), 5848–5856. <https://doi.org/10.13057/biodiv/d261141>
- Annisa, Febrianto, T., & Nugraha, A. H. (2024). Struktur komunitas Bivalvia pada ekosistem lamun dengan tutupan berbeda di Perairan Pulau Bintan. *Buletin Oseanografi Marina*, 13(1), 41–51. <https://doi.org/10.14710/buloma.v13i1>
- Anderson, D. M., Burkholder, J. M., Cochlan, W. P., Glibert, P. M., Gobler, C. J., Heil, C. A., Kudela, R. M., Parsons, M. L., Rensel, J. E. J., Townsend, D. W., Trainer, V. L., & Vargo, G. A. (2008). Harmful algal blooms and eutrophication: Examining linkages from selected coastal regions of the United States. *Harmful Algae*, 8(1), 39–53. <https://doi.org/10.1016/j.hal.2008.08.017>
- Adl, S. M., Bass, D., Lane, C. E., Lukes, J., Schoch, C. L., Smirnov, A., Agatha, S., Berney, C., Brown, M. W., Burki, F., Cardenas, P., Cepicka, I., Chistyakova, L., del Campo, J., Dunthorn, M., Edvardsen, B., Eglit, Y., Guillou, L., Hampl, V., . . . Zhang, Q. (2019). Revisions to the classification, nomenclature, and diversity of eukaryotes. *Journal of Eukaryotic Microbiology*, 66(1), 4–119. <https://doi.org/10.1111/jeu.12691>
- Andalia, N., Adriani, Wardani, A. H., Sahli, Yunus, R., Solfaine, R., Nikmatullah, N. A., Meri, Rusdin, A., & Safitri, N. M. (2023). *Biologi molekuler*. PT Global Eksekutif Teknologi
- Andriyono, S., Alam, M. J., & Kim, H.W. (2021). Marine fish detection by environmental DNA (eDNA) metabarcoding approach in the Pelabuhan Ratu Bay, Indonesia. *International Journal on Advanced Science, Engineering and Information Technology*, 11(2), 2088–5334.
- Anisa, A., Jaya, A. K., & Sunarti. (2016). Analisis Hidden Markov Model untuk Segmentasi Barisan DNA. *Jurnal Matematika, Statistika dan Komputasi*, 13(1), 55–65. <https://doi.org/10.20956/jmsk.v13i1.3484>
- Apsari, G. R., Adawiyah, R., Linatari, M. A., Rahmayadi, D., & Pradana, M. S. (2023). *Bioinformatika: Analisis pensejajaran sequence*. Universitas Islam Darul Ulum. <https://repository.unisda.ac.id/1097/1/Buku%20Pensejajaran%20Sequence.pdf>
- Asril, M., Simarmata, M. M. T., Sari, S. P., Indarwati, Setiawan, R. B., Arsi, Afriansyah, & Junairiah. (2022). Keanekaragaman hayati. Yayasan Kita Menulis.
- Azzura, M.R.F.B., Riniatsih, I., & Santosa, G.W., 2022. Kajian Kondisi Padang Lamun di Pulau Kelapa Dua Taman Nasional Kepulauan Seribu. *Journal of Marine Research*, 11(4):720-728. DOI: <https://doi.org/10.14710/jmr.v11i4.33929>.
- Bae, S., Kim, P., Yi, C. H., (2023). Biodiversity and spatial distribution of ascidian using environmental DNA metabarcoding. *Marine Environmental Research*, Vol (185), 105-893.
- Bokulich, N. A., Kaehler, B. D., Rideout, J. R., Dillon, M., Bolyen, E., Knight, R., Huttley, G. A., & Caporaso, J. G. (2018). Optimizing taxonomic

- classification of marker-gene amplicon sequences with QIIME 2's q2-feature-classifier plugin. *Microbiome*, 6(1), 1–17. <https://doi.org/10.1186/s40168-018-0470-z>
- Bolyen, E., Rideout, J. R., Dillon, M. R., Bokulich, N. A., Abnet, C. C., Al-Ghalith, G. A., Alexander, H., Alm, E. J., Arumugam, M., Asnicar, F., Bai, Y., Bisanz, J. E., Bittinger, K., Brejnrod, A., Brislawn, C. J., Brown, C. T., Callahan, B. J., Caraballo-Rodríguez, A. M., Chase, J., Caporaso, J. G. (2019). Reproducible, interactive, scalable and extensible microbiome data science using QIIME 2. *Nature Biotechnology*, 37(8), 852–857. <https://doi.org/10.1038/s41587-019-0209-9>
- Bynum, N. (2025). *Biodiversity*. LibreTexts.
- Callahan, B.J., McMurdie, P.J., & Holmes, S.P. (2017). Exact sequence variants should replace operational taxonomic units in marker-gene data analysis. *The ISME Journal*, 11, 2639–2643.
- Chen, S., Zhou, Y., Chen, Y., & Gu, J. (2018). fastp: an ultra-fast all-in-one FASTQ preprocessor. *Bioinformatics*, 34(13), i884–i890. <https://doi.org/10.1093/bioinformatics/bty560>
- Dharma, A., Lestari, F., & Susiana. (2019). Struktur komunitas dan sebaran bintang laut di Perairan Desa Pengudang, Kabupaten Bintan. *Jurnal Akuatiklestari*, 3(1), 31–35. <https://doi.org/10.31629/akuatiklestari.v3i1.973>
- Dharmayanti, N. L. P. I. (2011). Filogenetika Molekuler: Metode Taksonomi Organisme Berdasarkan Sejarah Evolusi. *Wartazoa*, 21(1), 1-10. <https://repository.pertanian.go.id/server/api/core/bitstreams/07e56f32-c182-44ca-b62f84e9019019c0/content>.
- Dube, T., Pinceel, T., De Necker, L., Wepener, V., Lemmens, P., & Brendonck, L. (2019). Lateral hydrological connectivity differentially affects the community characteristics of multiple groups of aquatic invertebrates in tropical wetland pans in South Africa. *Freshwater Biology*, 64(12), 2189–2203.
- Ewing, B. and P. Green. (1998). Base-calling of automated sequencer traces using phred. II. Error probabilities. *Genome Res.* (this issue).
- Felsenstein, J. (1985). Confidence Limits on Phylogenies: An Approach Using the Bootstrap. *Evolution*, 39(4), 783–791.
- Fietri, W. A., Rasak, A., & Ahda, Y. (2021). Analisis Filogenetik Ikan Tuna (*Thunnus* spp) di Perairan Maluku Utara Menggunakan COI (Cytocrome Oxydase I). *BIOMA: Jurnal Biologi Makassar*, 6(2), 3139. <https://journal.unhas.ac.id/index.php/bioma/article/view/14053>.
- Firil, N. A. S., Endrawati, H., & Riniatsih, I. (2024). Kajian kondisi kesehatan padang lamun di Perairan Desa Wabula dan Desa Karya Jaya Kabupaten Buton. *Journal of Marine Research*, 13(3), 522–532. <https://ejournal3.undip.ac.id/index.php/jmr>
- GeeksforGeeks. (2025). *Diagram of Eukaryotic Cell*. <https://www.geeksforgeeks.org/biology/diagram-of-eukaryotic-cell/>
- Gielings, R., Fais, M., Fontaneto, D., Creer, S., Costa, F.O., Renema, W., & Macher, J.N. (2021). DNA metabarcoding methods for the study of marine benthic meiofauna: A review. *Frontiers in Marine Science*, 8, 730063.
- Guillou, L., Bachar, D., Audic, S., Bass, D., Berney, C., Bittner, L., Boutte, C., Burgaud, G., de Vargas, C., Decelle, J., Del Campo, J., Dolan, J. R.,

- Dunthorn, M., Edvardsen, B., Holzmann, M., Kooistra, W. H. C. F., Lara, E., Le Bescot, N., Logares, R., Christen, R. (2013). The Protist Ribosomal Reference database (PR2): A catalog of unicellular eukaryote small sub-unit rRNA sequences. *Nucleic Acids Research*, 41(D1), D597–D604. <https://doi.org/10.1093/nar/gks1160>
- Hermawati, D., Suryani, N., & Tarigan, R. (2023). Diatom diversity in Lombok waters: Challenges in tropical reference databases. *Biodiversitas Journal of Biological Diversity*, 24(5), 2450–2460. <https://doi.org/10.13057/biodiv/d240529>
- Harjuna, R. A., Riniatsih, I., Suryono, C. A., (2020). Kondisi Padang Lamun Di Pulau Panjang Dan Pulau Lima, Banten Conditions Of Seagrass In Panjang Island And Lima Island, Banten. *Journal of Tropical Marine Science*. 3. 2. 89-93.
- Hidayat, T., & Pancoro, A. (2008). Ulasan Kajian Filogenetika Molekuler dan Peranannya dalam Menyediakan Informasi Dasar untuk Meningkatkan Kualitas Sumber Genetik Anggrek. *Jurnal AgroBiogen*, 4(1), 35-40.
- Hutami, A. T., Utami, A. T., Ramadhanti, D., Sari, D. A. K., Faiqah, J. A., Indriani, L. D., ... & Fitriana, N. (2022). Keanekaragaman Jenis Burung di Taman Kota Spatodea dan Tabebuya, Jakarta Selatan. *BIOMA: Jurnal Biologi Indonesia*, 18(1), 32-41. [https://doi.org/10.21009/Bioma18\(1\).5](https://doi.org/10.21009/Bioma18(1).5).
- Harrison, J. B., Sunday, J. M., & Rogers, S. M. (2019). Predicting the fate of eDNA in the environment and implications for studying biodiversity. *Proceedings of the Royal Society B: Biological Sciences*, 286(1915), Article 20191409. <https://doi.org/10.1098/rspb.2019.1409>
- Irianto, M. A., Aulya, M., Cahyani, N. K. D., Gell, P., & Soeprbowati, T. R. (2025). Protist community diversity using the environmental DNA (eDNA) method with the 18S rRNA gene in Balekambang Lake sediment, Dieng, Central Java. *BIO Web of Conferences*, 196, 03001. <https://doi.org/10.1051/bioconf/202519603001>
- Jalaluddin, M., Octaviyani, I. N., Putri, A. N. P., Octaviyani, W., & Aldiansyah, I. (2020). Padang Lamun Sebagai Ekosistem Penunjang Kehidupan Biota Laut di Pulau Pramuka, Kepulauan Seribu, Indonesia. *Jurnal Geografi Gea*, 20(1). <https://ejournal.upi.edu/index.php/gea>
- Kandaurova, E. (2023). *Metabarcoding and environmental sequencing projects* [Tesis, Charles University]. Charles University. <https://dspace.cuni.cz/bitstream/handle/20.500.11956/181044/130357611.pdf?sequence=1&isAllowed=y>.
- Kers, J. G., & Saccenti, E. (2022). The Power of Microbiome Studies: Some Considerations on Which Alpha and Beta Metrics to Use and How to Report Results. *Frontiers in Microbiology*, 12(796025), 1-18. <https://doi.org/10.3389/fmicb.2021.796025>.
- Kim, M. *et al.* (2013). Analytical Tools and Databases for Metagenomics in the Next-Generation Sequencing Era. *Genomics & Informatics*, 11(3), p. 102. <https://doi.org/10.5808/GI.2013.11.3.102>.
- Kumar, R. (2021). Evaluation of prokaryotic and eukaryotic cell. *Asian Journal of Pharmaceutical Research*, 11(3).

- Kumar, S., Stecher, G., & Tamura, K. (2022). MEGA11: Molecular evolutionary genetics analysis version 11. *Molecular Biology and Evolution*, 38(7), 3022–3027. <https://doi.org/10.1093/molbev/msab120>
- Lee, S. B., Kim, B. Y., Jung, W. J., Cho, H. S., Cho, K., Kim, H., & Park, S. C. (2025). Distribution analysis of the finless porpoises (*Neophocaena* sp.) and oceanic dolphins (*Delphinidae*) in the Korean Sea using environmental DNA. *PloS one*, 20(5), e0322148.
- Lubis, K. (2014). Cara Pembuatan Pohon Filogeni. *Jurnal Pengabdian Kepada Masyarakat*, 20(75), 66-69. <https://jurnal.unimed.ac.id/2012/index.php/jpkm/article/view/4812/4238>.
- Margareta, A. (2023). Wawasan Bioinformatika Next Generation Sequencing dalam Sampel Metagenomik Mikrobioma Usus. *Journal Medical Laboratory*, 2(1), 41-57. <https://doi.org/10.57213/medlab.v2i1.151>.
- Martin, M. (2011). Cutadapt Removes Adapter Sequences from High-Throughput Sequencing Reads. *EMBNet: journal Bioinformatics in Action*, 17(1), 10-12. <https://doi.org/10.14806/ej.17.1.200>.
- Mbareche, H., Dumont-Leblond, N., Bilodeau, G. J., & Duchaine, C. (2020). An Overview of Bioinformatics Tools for DNA Meta-Barcoding Analysis of Microbial Communities of Bioaerosols: Digest for Microbiologists. *Life (Basel)*, 10(185), 1-20. <https://doi.org/10.3390/life10090185>.
- Miya, M. (2022). Environmental DNA metabarcoding: A novel method for biodiversity monitoring of marine communities. *Annual Review of Marine Science*, 14, 161–185.
- Miya, M., Sato, Y., Fukunaga, T., Sado, T., Poulsen, J. Y., Sato, K., Minamoto, T., Yamamoto, S., Yamanaka, H., Araki, H., Kondoh, M., & Iwasaki, W. (2015). MiFish, a set of universal PCR primers for metabarcoding environmental DNA from fishes: Detection of more than 230 subtropical marine species. *Royal Society Open Science*, 2(7), 150088. <https://doi.org/10.1098/rsos.150088>
- Nugraha, A. H., Ramadhani, P., Karlina, I., Susiana, & Febrianto, T. (2021). Sebaran Jenis Dan Tutupan Lamun Di Perairan Pulau Bintan. *Jurnal Enggano*, 6(2), 323–332. DOI: <https://doi.org/10.31186/jenggano.6.2.323-332>
- Pangsuma, N., & Hidayat, T. (2023). The Urgency of Understanding Taxonomy in Learning Biology. *BIODIK: Jurnal Ilmiah Pendidikan Biologi*, 9(4), 95110. <https://online-journal.unja.ac.id/biodik/article/view/31092>.
- Pawlowski, J., Apothéloz-Perret-Gentil, L., & Altermatt, F. (2022). Environmental DNA metabarcoding for benthic monitoring: A review of sediment sampling and DNA extraction methods. *Science of the Total Environment*, 818, 151783.
- Pebdika, A., Herdiana, R., & Solihudin, D. (2023). Klasifikasi Menggunakan Metode Naive Bayes untuk Menentukan Calon Penerima PIP. *JATI (Jurnal Mahasiswa Teknik Informatika)*, 7(1), 452-458. <https://ejournal.itn.ac.id/index.php/jati/article/view/6303/3706>.
- Pranata, B., Kusuma, A. B., Sabariah, V., Kim, H. W., & Andriyono, S. (2022). Environmental DNA metabarcoding reveals biodiversity marine fish diversity of a small island at Manokwari District, West Papua, Indonesia. *Biodiversitas*, 23(11), 5982–5988. <https://doi.org/10.13057/biodiv/d231152>

- Pratomo, A., Bengen, D. G., Zamani, N. P., & Madduppa, H. H. (2022). Environmental DNA metabarcoding reveals the eukaryotes diversity in Marine Protected Area of Lombok Island, Indonesia. *Omni-Akuatika*, 18(2), 137–152. <http://dx.doi.org/10.20884/1.oa.2022.18.2.1009>
- Priyono, D. S., Reza, A., Eprilurahman, R., Yudha, D. S., Mufti, F., Fauzy, N. H., Triyono, R. B., Adhi, P. K. (2022). Aquatic biodiversity in a pond on the airport landside areas through environmental DNA Metabarcoding: Implementation for Aviation Security Management. *Biodiversitas*, 23(7), <https://doi.org/10.13057/biodiv/d23074136>
- Pavaux, A.-S., Berdalet, E., & Lemée, R. (2020). Chemical ecology of the benthic dinoflagellate genus *Ostreopsis*: Review of progress and future directions. *Frontiers in Marine Science*, 7, 498. <https://doi.org/10.3389/fmars.2020.00498>
- Purnomo, H. K., Yusniawati, Y., Putrika, A., Handayani, W., & Yasman. (2017). Keanekaragaman spesies lamun pada beberapa ekosistem padang lamun di Kawasan Taman Nasional Bali Barat. *Prosiding Seminar Nasional Masyarakat Biodiversitas Indonesia*, 3(2), 236–240. <https://doi.org/10.13057/psnmbi/m030213>
- Rahmadina, R., Nasution, A. M., Rezi, D. F., Pulungan, A. A., Az Zahra, F., Sativa, S. O., & Munthe, Y. A. (2024). Teori sel prokariotik, eukariotik dan penyusun membran sel. *Best Journal of Biology Education Science and Technology*, 7(2), 36–42.
- Ramadhani, F. S., Riniatsih, I., & Susanto, A. B. (2025). Potensi keanekaragaman biota asosiasi sebagai daya tarik pengembangan ekowisata bahari berbasis ekosistem lamun di Kawasan Pantai Prawehan, Jepara. *Journal of Marine Research*, 14(4), 801–815. <https://ejournal3.undip.ac.id/index.php/jmr>
- Riskasari, M., & Taru, P. (2024). Studi Kelimpahan Perifiton Pada Daun Lamun *Thalassia Hemprichii* Di Perairan Dusun Tihi-Tihi Kota Bontang Kalimantan Timur. *Jurnal Tropical Aquatic Sciences*, 3(2), 188–196. <https://doi.org/10.30872/tas.v3i2.1317>
- Rodil, I. F., Lohrer, A. M., Attard, K. M., Hewitt, J. E., Thrush, S. F., & Norkko, A. (2021). Macrofauna communities across a seascape of seagrass meadows: Environmental drivers, biodiversity patterns and conservation implications. *Biodiversity and Conservation*, 30, 3023–3043.
- Saleky, D., & Dailami, M. (2021). Konservasi genetik ikan kakap putih (*Lates calcarifer*, Bloch, 1790) melalui pendekatan DNA barcoding dan analisis filogenetik di Sungai Kumbe Merauke Papua. *Jurnal Kelautan Tropis*, 24(2), 141–150. <https://doi.org/10.14710/jkt.v24i2.10760>
- Sarinawaty, P., Idris, F., & Nugraha, A. H. (2020). Karakteristik morfometrik lamun *Enhalus acoroides* dan *Thalassia hemprichii* di Pesisir Pulau Bintan. *Journal of Marine Research*, 9(4), 474–484.
- Sawh, S. K., Merabet, S., Higazy, N., Béji, M., Sørensen, J. M., Range, P., Alqudah, A. M., & Daly Yahia, M. N. (2025). Environmental DNA metabarcoding in marine ecosystems: Global advances, methodological challenges, and applications in the MENA region. *Biology*, 14, 1467. <https://doi.org/10.3390/biology14111467>
- Tasma, I. M. (2015). Pemanfaatan Teknologi Sekuensing Genom Untuk Mempercepat Program Pemuliaan Tanaman. *Jurnal Penelitian dan*

- Pengembang Pertanian*, 34(4), 159-168.
<https://www.neliti.com/id/publications/30950/pemanfaatan-teknologi-sekuensing-genom-untuk-mempercepat-program-pemuliaan-tanam>.
- Tindi, M., Mamangkey, N. G. F., & Wullur, S. (2017). DNA Barcode dan Analisis Filogenetik Molekuler Beberapa Jenis Bivalvia Asal Perairan Sulawesi Utara Berdasarkan Gen COI. *Jurnal Pesisir dan Laut Tropis*, 5(2), 32-38. <https://doi.org/10.35800/jplt.5.2.2017.15050>.
- Tillmann, U., Soehner, S., Nézan, E., & Krock, B. (2012). First record of the genus *Azadinium* (Dinophyceae) from the Shetland Islands, including the description of *Azadinium polongum* sp. nov. *Harmful Algae*, 20, 142–155. <https://doi.org/10.1016/j.hal.2012.10.001>
- Vaulot, D., Mahé, F., Balzano, S., Audic, S., Bass, D., Bittner, L., Boutte, C., Christen, R., Claverie, J. M., Decelle, J., Dolan, J. R., Dunthorn, M., Edvardsen, B., Kooistra, W. H. C. F., Logares, R., Romac, S., Santini, S., Siano, R., de Vargas, C., & Guillou, L. (2022). Eukaryotic plankton diversity in the PR2 database. *Nucleic Acids Research*, 50(D1), D597–D604.
- Wardhani, N. (2023). Deoxyribonucleic Acid (DNA): Struktur, Fungsi, dan Kelainan DNA. *Haibunda*. <https://www.haibunda.com/bundapedia/20230214003129-210-297249/deoxyribonucleic-acid—dna->
- Whitman, W.B.; Coleman, D.C.; Wiebe, W.J. Prokaryotes: The unseen majority. *Proc. Natl. Acad. Sci. USA* (1998). 95, 6578-6583.
- Yudha, D. S., Salsabila, S., & Priyono, D. S. (2024). Keanekaragaman jenis ikan di Hulu Sungai Opak menggunakan Environmental DNA (eDNA) Metabarcoding. *Biota: Jurnal Ilmiah Ilmu-Ilmu Hayati*, 9(3), 238–246. <https://doi.org/10.24002/biota.v9i3.7864>