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DAFTAR PUSTAKA

Adrian-kalchhauser, I., Svensson, O., Kutschera, V. E., Rosenblad, M. A., Pippel, M., Winkler, S., Schloissnig, S., Blomberg, A., dan Burkhardt-holm, P. 2017. The mitochondrial genome sequences of the round goby and the sand goby reveal patterns of recent evolution in gobiid fish. *BMC Genomics*, 18 (177), 12–14.

Aji, K. W., dan Arisuryanti, T. 2021. Molecular identification of mudskipper fish (*Periophthalmus* spp.) from Baros Beach, Bantul, Yogyakarta. *Journal of Tropical Biodiversity and Biotechnology*, 6(3), 1–13.

Akihary, C. V., dan Kolondam, B. J. 2020. Pemanfaatan gen *16S* rRNA sebagai perangkat identifikasi bakteri untuk penelitian-penelitian di indonesia. *PHARMACON*, 9(1), 16–22.

Arisuryanti, T., Agiestina, P., Fajar, I., dan Firdaus, N. U. N. 2020. *16S* Mitochondrial sequence characterization of striped snakehead (*Channa striata* Bloch, 1793) from Ogan River, South Sumatra. *AIP Conference Proceedings*, 2260(020002), 1–8.

Arisuryanti, T., Hasan, R. L., dan Koentjana, J. P. 2018. Genetic identification of two mudskipper species (Pisces: Gobiidae) from Bogowonto Lagoon (Yogyakarta, Indonesia) using *COI* mitochondrial gene as a dna barcoding marker. *AIP Conference Proceedings*, 2002(1), 1–7.

Arisuryanti, T., Nikmah, B. U., Kasayev, T., dan Hakim, L. 2020. Determination of species boundaries of Selais fish from Arut River, Central Kalimantan based on *16S* mitochondrial gene using Bayesian approach. *BIO Web of Conferences*, 28(01003), 1–4.

Arisuryanti, T., Pratama, G. A., Hakim, L., Koentjana, J. P., dan Nazira, F. K. 2019. Genetic characterization of kissing gourami (*Helostoma temminckii* Cuvier, 1829) in Ogan River, South Sumatra inferred from *16S* rRNA and *COI* Mitochondrial genes. *Indonesian Fisheries Research Journal*, 25(1), 37–44.

Arisuryanti, T., Ulum, S., dan Hakim, L. 2022. Species identification and molecular analysis of Terubuk Fish from Bengkalis Strait (Riau, Indonesia) using *COI* mitochondrial gene as a barcoding marker. *Genetika*, 54(2), 575–587.

Arisuryanti, T., Waskito Aji, K., Nur Shabrina, F., Febriyanti, D., Setiadi Daryono, B., dan Sendi Priyono, D. 2024. Phylogenetic and genetic variation of common mudskippers (*Periophthalmus kalolo* Lesson, 1831) from the southern coast of Java, Indonesia inferred from the *COI* mitochondrial gene. *Journal of Genetic Engineering and Biotechnology*, *22*(1), 100335.

Asyabil, A., Risjani, Y., dan Liao, L. M. 2023. Nucleotide composition of the *rbcL* Gene sequence on cultivated *Kappaphycus alvarezii* in East Java – Indonesia. *Jurnal Penelitian Pendidikan IPA*, 9(11), 9487–9493.

UNIVERSITAS
GADJAH MADA
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Bohlin, J., dan Pettersson, J. H. 2019. Evolution of genomic base composition : from single cell microbes to multicellular animals. *Computational and Structural Biotechnology Journal*, 17, 362–370.

Chan, K. O., Hertwig, S. T., Neokleous, D. N., Flury, J. M., dan Brown, R. M. 2022. Widely used, short *16S* rRNA mitochondrial gene fragments yield poor and erratic results in phylogenetic estimation and species delimitation of amphibians. *BMC Ecology and Evolution*, 22(37), 1–9.

Cortázar-chinarro, M., Lattenkamp, E. Z., Meyer-lucht, Y., Luquet, E., Laurila, A., dan Höglund, J. 2017. Drift, selection, or migration ? Processes affecting genetic differentiation and variation along a latitudinal gradient in an amphibian. *BMC Evolutionary Biology*, 17(189), 1–14.

Dailami, M., Yuniarti, A., Saleky, D., dan Toha, A. H. A. 2024. Identifikasi genetik ikan gabus asal merauke dengan menggunakan fragmen gen Sitokrom Oksidase Sub Unit I. *Bioscientist Jurnal Ilmiah Biologi*, 12(1), 1252–1262.

Darriba, D., Taboada, G.L., Doallo, R. dan Posada, D. 2012. jModelTest 2: more models, new heuristics and parallel computing. *Nat Methods*, 9(772).

Dianiputri, U., Aji, K. W., dan Arisuryanti, T. 2022. Polimorfisme gen mitokondria *16S* Ikan Baung (*Hemibagrus nemurus valenciennes*, 1840) dari Sungai Progo, Magelang, Jawa-Tengah. *Berkala Ilmiah Biologi*, 13(1), 40–47.

Febrianti, D., Aji, K. W., Priyono, D. S., dan Arisuryanti, T. 2023. Genetic identification of two mudskipper species (Oxudercidae: Periophthalmus) from Kulon Progo, Special Region of Yogyakarta, Indonesia. *Journal of Tropical Biodiversity and Biotechnology*, 8(2), 1–15.

Gao, X., Lin, H., Revanna, K., dan Dong, Q. 2017. A Bayesian taxonomic classification method for *16S* rRNA gene sequences with improved species-level accuracy. *BMC Bioinformatics*, 18(247), 1–10.

Garg, R. K., dan Mishra, V. 2018. Molecular insights into the genetic and haplotype diversity among four populations of *Catla catla* from Madhya Pradesh revealed through mtDNA *cyto b* gene sequences. *Journal of Genetic Engineering and Biotechnology*, 16(1), 169–174.

Ghanbarifardi, M., Gut, C., Gholami, Z., Esmaeili, H. R., Gierl, C., dan Reichenbacher, B. 2020. Osteology of the posterior vertebral column and caudal skeleton of marine amphibious gobies (mudskippers) (Teleostei: Gobioidei). *Journal of Applied Ichthyology*, 36(5), 713–723.

Hebert, P. D. N., Cywinska, A., Ball, S. L., dan Jeremy, R. de W. 2003. Biological identifications through DNA barcodes. *The Royal Society*, 270, 313–321.

Hidayat, T., dan Pancoro, A. 2008. Kajian filogenetika molekuler dan peranannya dalam menyediakan informasi dasar untuk meningkatkan kualitas sumber genetik

UNIVERSITAS
GADJAH MADA
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Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

anggrek. *Jurnal AgroBiofgen*, 4(1), 35–40.

Hidayaturrahmah, H., dan Muhamat, M. 2013. Habitat Ikan Timpakul (*Periophthalmodon schlosseri*) di Muara Sungai Barito. *Enviro Scienteae*, 9, 134–139.

Ishimatsu, A., Takeda, T., Tsuhako, Y., Gonzales, T. T., dan Khoo, K. H. 2009. Direct evidence for aerial egg deposition in the burrows of the Malaysian mudskipper, *Periophthalmodon schlosseri. Ichthyological Research*, 56(4), 417–420.

Jaafar, Z., Lim, K. K. P., dan Loke, M. C. 2006. Taxonomical and morphological notes on two species of mudskippers, *Periophthalmus walailakae* and *Periophthalmodon schlosseri* (Teleostei: Gobiidae) from Singapore. *Zoological Science*, 23(11), 1043–1047.

Kadarsah, A., Krisdianto, K., dan Susilawati, I. O. 2019. Kajian morfologi Ikan Timpakul (Famili Gobiidae) dari dua tipe ekosistem mangrove yang berbeda. *Jurnal Al-Azhar Indonesia Seri Sains Dan Teknologi*, 5(1), 43–49.

Karimah, K. 2017. Peran ekosistem hutan mangrove sebagai habitat untuk organisme laut. *Jurnal Biologi Tropis*, 17(2), 51–58.

Kombong, C. B. S., dan Arisuryanti, T. 2018. The *16S* and *COI* Mitochondrial DNA Nucleotide Composition of Stripped Snakehead (*Channa striata* Bloch,1793) from Lake Sentani, Jayapura, Papua. *Jurnal Perikanan Universitas Gadjah Mada*, 20(2), 57–62.

Kumaraguru, A., Mary, R. C., dan Saisaraswathi, V. 2020. A review about fish walking on land. *Journal of Threatened Taxa*, 12(17), 17276–17286.

Kusuma, R. O., Dadiono, M. S., Kusuma, B., dan Syakuri, H. 2021. Keragaman genetik Ikan Uceng (Nemacheilus) di Sungai Wilayah Banyumas berdasar sekuen gen *Cytochrome Oxidase Subunit I* (*COI*). *Jurnal Perikanan*, 23(2), 89–94.

Maddison, W.P., and Maddison, D.R. 2023. *Mesquite: a modular system for evolutionary analysis. Version 3.81.* Accessed at https://www.mesquiteproject.org/

Maghfirah, L., Latuconsina, H., dan Prasetyo, H. D. 2023. Inventarisasi komunitas Ikan Gelodok (Mudskipper) pada habitat berbeda di Pantai Bahak Indah, Probolinggo – Jawa Timur. *Jurnal Pengelolaan Perikanan Tropis*, *7*(1), 1–9.

Maturbongs, M. R., Elviana, S., Sunarni, S., dan DeFretes, D. 2018. Studi keanekaragaman ikan gelodok (Famili: Gobiidae) pada muara Sungai Maro dan Kawasan Mangrove Pantai Kembapi, Merauke Mudskipper. *Jurnal Ilmu-Ilmu Perairan, Pesisir, Dan Perikanan*, 7(2), 177–186.

McCraney, W. T., Thacker, C. E., dan Alfaro, M. E. 2020. Supermatrix phylogeny resolves goby lineages and reveals unstable root of Gobiaria. *Molecular Phylogenetics and Evolution*, 151(May), 106862.

UNIVERSITAS
GADJAH MADA
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Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Mubarok, H., Handayani, N. S. N., Maryanto, I., dan Arisuryanti, T. 2023. Phylogenetic and genetic variation analysis of lesser short-nosed fruit bat *Cynopterus brachyotis* (Müller 1838) on Java island, Indonesia, inferred from mitochondrial D-loop. *Journal of Genetic Engineering and Biotechnology*, 21(1), 1–10.

Muhala, V., Costa, A. G., Rick, A., Silva, B., Rabelo, L. P., Carneiro, J., Macate, I. E., Watanabe, L., Balcázar, O. D., Gomes, G. E., Vallinoto, M., dan Sampaio, I. 2024. Comparative mitochondrial genome brings insights to slight variation in gene proportion and large intergenic spacer and phylogenetic relationship of mudskipper species. *Scientific Reports*, 14(3358), 1–17.

Muhtadi, A., Ramadhani, S. fi, dan Yunasfi, Y. 2016. Identifikasi dan tipe habitat Ikan Gelodok (Famili: Gobiidae) di Pantai Bali Kabupaten Batu Bara Provinsi Sumatera Utara. *Biospecies*, 9(2), 1–6.

Palumbi, S.R. 1996. *Nucleid acids II : The Polymerase Chain Reaction. in: Molecular Systematic*, (Eds.) D.M. Hillis, C. Moritz, B.K. Mable, Sinauer Associates. Sunderland. Massachusetts.

Paradis, E. 2018. Analysis of haplotype networks : The randomized minimum spanning tree method. *Methods in Ecology and Evolution*, 9(January), 1308–1317.

Peakall, R., dan Smouse, P. E. 2012. GenAlEx 6.5 : genetic analysis in Excel . Population genetic software for teaching and research — an update. *Bioinformatics*, *28*(19), 2537–2539.

Pearson, T., Hornstra, H. M., Sahl, J. W., Schaack, S., Schupp, J. M., Beckstrom-Sternberg, S. M., O'Neill, M. W., Priestley, R. A., Champion, M. D., Beckstrom-Sternberg, J. S., Kersh, G. J., Samuel, J. E., Massung, R. F., dan Keim, P. 2013. When outgroups fail; Phylogenomics of rooting the emerging pathogen, Coxiella burnetii. *Systematic Biology*, 62(5), 752–762.

Pormansyah, P., Iqbal, M., Setiawan, A., Yustian, I., dan Zulkifli, H. 2019. A review of recent status on mudskippers (Oxudercine Gobies) in Indonesian Waters. *Oceanography & Fisheries Open Access Journal*, 9(4), 1–5.

Pramunandar, N., Tamti, H., dan Wulandari, S. 2023. Kelimpahan ikan glodok (*Boleophthalmus boddarti* Pallas 1770) pada ekosistem mangrove di ekowisata Lantebung Kota Makassar. *Agrokompleks*, 23(1), 62–69.

Pratama, M. Z. M., Rohmah, Z., dan Arisuryanti, T. 2023. Genetic variation within four Captive Chital (*Axis axis*) Populations in Indonesia. *Journal of Tropical Biodiversity and Biotechnology*, 8(1), 1–10.

Quang, D. M. 2016. Growth and body condition variation of the giant mudskipper *Periophthalmodon schlosseri* in dry and wet seasons. *Tap Chi Sinh Hoc*, 38(3), 352–358.

UNIVERSITAS
GADJAH MADA
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Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Rahman, A., Budi, S., Sembiring, M., dan Wijaya, D. 2018. Karakteristik genetik Lobster Mutiara (*Panulirus ornatus fabricius*, 1798) berdasarkan marka *Cytochrome Oxydase Subunit I (COI)*. *Zoo Indonesia*, 27(1), 1–11.

Rambaut, A. 2019. *'FigTree v 1.4.4.', in Molecular Evolution, Phylogenetics and Epidemiology*. Accessed at http://tree.bio.ed.ac.uk/software/figtree/.

Sadler, D. E., Watts, P. C., dan Uusi-heikkilä, S. 2023. The riddle of how fisheries influence genetic diversity. *Fishes*, 8(510), 1–14.

Sangur, K., Leiwakabessy, F., Tuaputty, H., Tuwankotta, L. V., Samloy, S. V., Ratila, C., Salakory, O. B., Matulessy, C., dan Rumahlatu, D. 2021. Mudskipper as an indicator species for lead, cadmium and cuprum heavy metal pollution in the Mangrove, Ambon, Indonesia. *Journal of Ecological Engineering*, 22(4), 1–19.

Sari, R., Halili, H., dan Asriyana, A. 2021. Pola pertumbuhan dan faktor kondisi ikan gelodok (*Periopthalmus argentilineatus*) di Perairan Desa Mekar Sama Tampo Kecamatan Napabalano Pulau Muna Sulawesi Tenggara. *Jurnal Manajemen Sumber Daya Perairan*, 6(3), 173–184.

Semagn, K., Bjørnstad, Å., dan Ndjiondjop, M. N. 2006. Principles, requirements and prospects of genetic mapping in plants. *African Journal of Biotechnology*, 5(25), 2569–2587.

Sinaei, M., dan Mashinchian, A. 2014. Polycyclic aromatic hydrocarbons in the coastal sea water, the surface sediment and mudskipper *Boleophthalmus dussumieri* from coastal areas of the Persian Gulf: Source investigation, composition pattern and spatial distribution. *Journal of Environmental Health Science and Engineering*, 12(59), 1–11.

Singh, A., Yadav, R. P., dan Singh, A. 2025. Conservation of fish species: safeguarding the aquatic diversity. *International Journal for Research Trends and Innovation*, 10(2), 5–8.

Suchard, M.A., Lemey, P., Baele, G., Ayres, D.L., Drummond, A.J. dan Rambaut, A. 2018. Bayesian phylogenetic and phylodynamic data integration using BEAST 1.10. *Virus Evol*, 4(1), 1–5.

Sujono, P. A. W., dan Muzaki, F. K. 2021. Analisis korelasi kelimpahan ikan gelodok (Mudskipper) dengan konsentrasi karbon organik tanah pada Hutan Mangrove Desa Labuhan, Kecamatan Sepulu, Kabupaten Bangkalan, Madura. *Jurnal Teknik ITS*, 10(2), 1–8.

Sukandar, S., Harsindhi, C. J., Handayani, M., Dewi, C. S. U., Maulana, A. W., Supriyadi, S., dan Bahroni, A. 2016. Profil Desa Pesisir Provinsi Jawa Timur Volume 1 (Utara Jawa Timur). *Dinas Perikanan Dan Kelautan Provinsi Jawa Timur*, 1(9), 1–151.

Tamura, K., Stecher, G., dan Kumar, S. 2021. MEGA11: Molecular evolutionary

UNIVERSITAS GADJAH MADA
**Keragaman Genetik Ikan Glodok, Periophthalmodon schlosseri (Pallas, 1770), dari Pantai Bahak Indah,
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Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

genetic analysis version 11. *Molecular Biology and Evolution*, 38(7): 3022-3027.

Teama, S. (2018). *DNA Polymorphisms : DNA-Based molecular markers and their application in medicine*. In Y. Liu (Ed.), Genetic Diversity and Disease Susceptibility, IntechOpen.

Vences, M., Patmanidis, S., Schmidt, J., Matschiner, M., dan Renner, S. S. 2024. Genetics and population analysis hapsolutely : a user-friendly tool integrating haplotype phasing , network construction , and haploweb calculation. *Bioinformatics Advances*, 00(June), 1–6.

Wang, Y., Sun, F., Lin, W., dan Zhang, S. 2022. PloS computational biology ac-pcoa : Adjustment for confounding factors using principal coordinate analysis. *PloS Computational Biology*, *18*(7), 1–21.

Wu, Z., Xu, X., Zhang, J., Wiegleb, G., dan Hou, H. 2019. Influence of environmental factors on the genetic variation of the aquatic macrophyte *Ranunculus subrigidus* on the Qinghai-Tibetan Plateau. *BMC Evolutionary Biology*, 19(228), 1–11.

Yi, Y., Zhang, K., Chen, J., Ruan, Z., You, X., dan Shi, Q. 2016. The complete mitochondrial genome sequence of the giant mudskipper, *Periophthalmodon schlosseri* (Perciformes : gobiidae). *Mitochondrial DNA Part B: Resources*, 1(1), 599–600.

You, X., Bian, C., Zan, Q., Xu, X., Liu, X., Chen, J., Wang, J., Qiu, Y., Li, W., Zhang, X., Sun, Y., Chen, S., Hong, W., Li, Y., Cheng, S., Fan, G., Shi, C., Liang, J., Tom Tang, Y., … Shi, Q. 2014. Mudskipper genomes provide insights into the terrestrial adaptation of amphibious fishes. *Nature Communications*, 5(1), 1–8.

Zamroni, A., dan Suwarso, S. 2018. Genetic Diversity Of Mackerel Scads, *Decapterus macarellus* (Cuvier, 1833) In The Indian Ocean. *Indonesian Fisheries Research Journal*, 23(2), 89–96.

Zhang, R., Jia, G., dan Diao, X. 2023. geneHapR : an R package for gene haplotypic statistics and visualization. *BMC Bioinformatics*, 24(199), 1–13.