



DAFTAR PUSTAKA

- American Public Health Association. 1984. Compendium of Methods for the Microbiological Examination of Foods, 2nd ed. APHA, Washington, DC
- Akter, T. Md, Javed, F., Mahbubul, A., Rakib, E., Sulav, I. P., Farhanam M., Muhammad A. B. S., Alfred, C. Y. T., Ravi, F., Sanjay, K. G., & Tofazzal, I. 2020. Involvement of *Enterococcus* species in *streptococcosis* of Nile tilapia in Bangladesh. *Aquaculture*. 390(735790):1-8. doi: <https://doi.org/10.1016/j.aquaculture.2020.735790>
- Astiyani, W. P. 2014. Penggunaan Teknik T-RFLP (Terminal Restriction Fragment Length Polymorphism) untuk Deteksi Keragaman Bakteri Pada Ginjal Lele Dumbo (*Clarias sp.*). *Skripsi*. Fakultas Pertanian, Universitas Gadjah Mada, Yogyakarta
- Bairagi, A., Keka, S. G., Sukanta, K. S. & Arun, K. R. 2002. Enzyme producing bacterial flora isolated from fish digestive tracts. *Aquaculture International*, 10(2002):109-121.
- Bereded, N. Getachew, B. A., Solomo, W. F., Manuel, C., Herwig, W., Harald, M., & Konrad J. D. 2022. The gut bacterial microbiome of Nile tilapia (*Oreochromis niloticus*) from lakes across an altitudinal gradient. *BMC Microbiology*. 22(87):1-14. doi:<https://doi.org/10.1186/s12866-022-02496-z>.
- Berg, G., Daria, R., Doreen, F., Tomislav, C., Marie-Christin, C. V., Trevor, C., Xiaoyulon, C., Luca, C., Kellye, E., Gema, H. C., Maria, K., Linda, K., Lene, L., Nelson, L., Alexander, L., James A. A., Emmanuelle, M., Tim, M., Ryan, M., Birgit, M., Matthew, R., Inga, R., Hauke, R., Bettina, S., Hugo, R., G. Seghal, R., Joseph, S., Rafael, S. C. S., Leo van, O., Brajesh K. S., Michael, W., Aaron, W., Angela, S. & Michael, S. 2020. Microbiome definition re-visited: old concepts and new challenges. *Microbiome*. 8(103):1-22. doi: <https://doi.org/10.1186/s40168-020-00875-0>.
- Bledsoe, J. W. Geoffrey, C. W., Kelly, S. S., Brian, C. P., & Brian, C. S. 2018. Comparison of Channel Catfish and Blue Catfish Gut Microbiota Assemblages Shows Minimal Effects of Host Genetics on Microbial Structure and Inferred Function. *Frontiers in Microbiology*. 9(1073):1-15 doi: <https://doi.org/10.3389/fmicb.2018.01073>
- Champagin, P., Brock, A., Beth, M. C., Donald, M. W., & Mohamed, S. 2019. Analysis of the fecal microbiota of fast- and slow-growing rainbow trout (*Oncorhynchus mykiss*). *BMC Genomics*. 20(788):1-11. doi: <https://doi.org/10.1186/s12864-019-6175-2>



- Davies, O. A., Tawari, C. C., & Kwen, K. I. 2013. Length-Weight Relationship, Condition factor and Sex ratio of *Clarias gariepinus* juveniles reared in concrete tanks. *International Journal of Scientific Research in Environmental Sciences*, 1(11):324-329
- Davila A.M., Blachier F., Gotteland M., Andriamihaja M., Benetti P.H., Sanz Y., & Tomé D. 2013. Intestinal luminal nitrogen metabolism: Role of the gut microbiota and consequences for the host. *Pharmacological Research*. 68(1):95–107. doi: <https://doi.org/10.1016/j.phrs.2012.11.005>
- Dinas Kelautan dan Perikanan Kabupaten Gunung Kidul. 2019. Pembenihan Ikan Lele di Kolam Terpal. <https://dkp.gunungkidulkab.go.id/berita-164/grading-sangat-penting-dalam-budidaya-lele.html>. Diakses 17 November 2023.
- Clay, D. 1981. Utilization of plant materials by juvenile African catfish (*Clarias gariepinus*) and its importance in fish culture. *Journal of the Limnological Society of Southern Africa*. 7 (2): 47-56
- Das, S., Mondal, K., Pal, A., & Sengupta, C. 2021. Evaluation of the probiotic potential of *Streptomyces antibioticus* and *Bacillus cereus* on growth performance of freshwater catfish *Heteropneustes fossilis*. *Aquaculture Reports*.20(100752):1-12. doi: <http://dx.doi.org/10.1016/j.aqrep.2021.100752>.
- Duan, Y. Wang, Y., Liu, Q., Xiong, D., & Zhang, J. 2019. Transcriptomic and microbiota response on *Litopenaeus vannamei* intestine subjected to acute sulfide exposure. *Fish Shellfish Immunology*. 88: 335-343
- Fisher, M. M., & Triplett, E. W. 1999. Automated approach for ribosomal intergenic spacer analysis of microbial diversity and its application to freshwater bacterial communities. *Application of Environmental Microbiology*. 65: 4630-4636.
- Gao, X., Zhou, J., Sun, X., Li, X., & Zhou, Y. 2018. Diversity analysis of subgingival microbial bacteria in peri-implantitis in Uygur population. *Medicine*, 97(5):1-7. doi: <https://doi.org/10.1097/MD.00000000000009774>
- Greenland, D. C., Walter R. R., & Scott, H. N. 1983. Size Variation of Ungraded and Graded Channel Catfish Reared in Cages, *Journal of the Arkansas Academy of Science*.37(10):34-35
- Y.T. Hao, S.G. Wu, I. Jakovlić, H. Zou, W.X. Li, G.& Wang, T.. 2017. Impacts of diet on hindgut microbiota and short-chain fatty acids in grass carp (*Ctenopharyngodon idellus*). *Aquaculture Research*, 48 (11): 5595-5605
- Hariati, A. M., Happy, N., Endang, Y. W., Ating, Y., & Dewa, G. R. K. 2020. Modul Budidaya Ikan Lele: Hibah Pengabdian kepada Masyarakat Dosen Fakultas Perikanan dan Ilmu Kelautan. Universitas Brawijaya, Malang.



- He, S., Zhou, Z., Banerjee, G., Ringoe, E. & Ray, A. 2016. Bacterial diversity in the digestive tracts of four Indian air-breathing fish species investigated by denaturing gradient gel electrophoresis. *Brazilian Archives of Biology and Technology*. 59:1-11. doi: <http://dx.doi.org/10.1590/1678-4324-2016160332>.
- Hiergeist, A. Joachin, G. Udo, R., & Andre, G. 2015. Analyses of Intestinal Microbiota: Culture versus Sequencing. *ILAR Journal*. 56(2):228-240.
- Jany, J. & Georges, B. Culture-independent methods for identifying microbial communities in cheese. *Review: Food Microbiology*. 25(7):839-848
- Kementrian Kelautan dan Perikanan. 2020. Laporan Kinerja Kementerian Kelautan dan Perikanan Tahun 2019
- Kim, M., Mark, M., & Zhongtang, Y. 2011. Evaluation of different partial 16S rRNA gene sequence regions for phylogenetic analysis of microbiomes. *Journal of Microbiological Methods*. 84(1):81-87.
- Kim, P. Na-Ri, S., Jae-Bong, L., Min-Soo, K., Tae, W.W., , Dong-Wook, H., Ji-Hyun, Y., Mi-Ja, J, Joon, Y.K. & Jin-Woo, B. 2021 Host habitat is the major determinant of the gut microbiome of fish. *Microbiome*. 9(166):1-16. doi: <https://doi.org/10.1186/s40168-021-01113-x>
- Kim, H.S. Tae, W.W., Hojun, S., Yun-Seok, J., Eun S. J., Na-Ri, S., Dong-Wook, H., Pil, S. K., June-Young, L., Choong, H. L. & Jin-Woo, B. 2021. Longitudinal evaluation of fecal microbiota transplantation for ameliorating calf diarrhea and improving growth performance. *Nature Communication*. 12(161): 1-16. doi: <https://doi.org/10.1038/s41467-020-20389-5>.
- Klemetsen, T., Nils, P. W., & Christian, R. K. 2019. Full-length 16S rRNA gene classification of Atlantic salmon bacteria and effects of using different 16S variable regions on community structure analysis. *Microbiology*. 8(10). 1-16.
- Kormas, K., Nikouli, E., Kousteni, V. & Dimitrios, D.. 2023. Midgut Bacterial Microbiota of 12 Fish Species from a Marine Protected Area in the Aegean Sea (Greece). *Microbial Ecology*. 86:1405–1415. doi: <https://doi.org/10.1007/s00248-022-02154-x>
- Kovacs, A., Keren, Y., & Uri, G. 2010. A systematic assessment of automated ribosomal intergenic spacer analysis (ARISA) as a tool for estimating bacterial richness. *Research in Microbiology*. 161(3):192-197
- Li, X., Yan, Q., Xie, S., Hu, W., Yu, Y., & Hu, Z. 2013. Gut microbiota contributes to the growth of fast-growing transgenic common carp (*Cyprinus carpio* L.). *PloS one*, 8(5):5150-5163. doi: <https://doi.org/10.1371/journal.pone.0064577>



- Liu, H., Guo, X., Gooneratne, R. Ravi, G., Ruifang, L., Cong, Z., Fanbin, Z., & Weimin, W. 2016. The gut microbiome and degradation enzyme activity of wild freshwater fishes influenced by their trophic levels. *Scientific Report*. 6(1):1-12. doi: <https://doi.org/10.1038/srep24340>
- Y. Liu, X. Li, J. Li, & Chen, W. 2021. The gut microbiome composition and degradation enzymes activity of black Amur bream (*Megalobrama terminalis*) in response to breeding migratory behavior. *Ecology and Evolution*, 11(10):5150-5163, doi: <https://doi.org/10.1002/ece3.7407>
- Michl, S. C., Ratten, J. M., Beyer, M., Hasler, M., LaRoche, J., & Schulz, C. 2017. The malleable gut microbiome of juvenile rainbow trout (*Oncorhynchus mykiss*): Diet-dependent shifts of bacterial community structures. *PLoS one*. 12(5):1-21. doi: <https://doi.org/10.1371/journal.pone.0177735>
- Metcalf, D., Avery, B. P., Janecko, N., Matic, N., Reid-Smith, R., & Weese, J. S. 2011. Clostridium difficile in seafood and fish. *Anaerobe*. 17(2):85–86. doi: <https://doi.org/10.1016/j.anaerobe.2011.02.008>
- Moawad, U. S. Ashraf, S. A., & Mohamed, G. T. 2017. Histomorphological, histochemical, and ultrastructural studies on the stomach of the adult African catfish (*Clarias gariepinus*). *Journal of Microscopy and Ultrastructure*. 5(3):155-166
- Nie, Z., Xiaotong X., Nailing S., Jian H., Pengfa L., Pao X., Jiawen H., Wei Q., Baozhan W., & Gangchun X. 2023. Integrative analysis of microbiome and metabolome reveals the linkage between gut microbiota and carp growth. *Environmental Research*. 220(2023):1-9. doi: <https://doi.org/10.1016/j.envres.2022.115133>.
- Nofyan, E. 2005. Pengaruh Pemberian Pakan dari Sumber Nabati dan Hewani Terhadap Berbagai Aspek Fisiologi Ikan Gurami (*Osphronemus Gouramy* L.). *Jurnal Iktiologi Indonesia*. 5(1):19-23
- Ofek, T., Lalar, M., Laviad-Shitrit, S., Izhaki, I., & Halpern, M. 2021. Comparative Study of Intestinal Microbiota Composition of Six Edible Fish Species. *Frontiers in microbiology*. 12(760266):1-9 doi: <https://doi.org/10.3389/fmicb.2021.760266>
- Park, J., & Kim, E. B. (2021). Insights into the Gut and Skin Microbiome of Freshwater Fish, Smelt (*Hypomesus nipponensis*). *Current microbiology*, 78(5):1798–1806. doi: <https://doi.org/10.1007/s00284-021-02440-w>
- Ramirez, R. & Dixon, B. 2003. Enzyme production by obligate intestinal anaerobic bacteria isolated from oscar (*Astronotus ocellatus*), angelfish (*Pterophyllum scalare*) and southern flounder (*Paralichthys lethostigma*). *Aquaculture*. 227(4):417-426.



- Raut, M.P., Couto, N., Karunakaran, E. Chaterine, A. B., & Phillip, C.W. 2019. Deciphering the unique cellulose degradation mechanism of the ruminal bacterium *Fibrobacter succinogenes* S85. *Scientific Report*.9(16542):1-15 doi: <https://doi.org/10.1038/s41598-019-52675-8>.
- Rosenau, S., Oertel, E., Mott, A. C., & Tetens, J. 2021. The Effect of a Total Fishmeal Replacement by *Arthrospira platensis* on the Microbiome of African Catfish (*Clarias gariepinus*). *Life (Basel, Switzerland)*, 11(6): 1-15. doi: <https://doi.org/10.3390/life11060558>
- Saanin, H. 1984. Taksonomi dan Kunci Identifikasi Ikan. Volume I dan II. *Bina Cipta*, Jakarta.
- Sepehri, S. Kotlowski, R. Bernstein, C. N. & Krause, D. O. 2007. Microbial diversity of inflamed and noninflamed gut biopsy tissues in inflammatory bowel disease. *Inflammatory Bowel Disease*.13(6):675-683 doi: <https://doi.org/10.1002/ibd.20101>
- Singh, B. K., & Trivedi, P. 2017. Microbiome and the future for food and nutrient security. *Microbial Biotechnology*. 10(1): 50–53. doi: <https://doi.org/10.1111/1751-7915.12592>
- Song, W., Lingzhi, L., Hongliang, H., Keji, J., Fengying, Z., Xuezhong, C., Ming, Z., & Lingbo, M. 2016. The Gut Microbial Community of Antarctic Fish Detected by 16S rRNA Gene Sequence Analysis. *BioMed Research International*. 2016(3241529):1-7.
- Sugita, C. Miyajima, Y. & Deguchi. 1991. The vitamin B12-producing ability of the intestinal microflora of freshwater fish. *Aquaculture*.92(1991):267-276
- Tasyah, N. N., Mulyono, M., Farchan, M., Panjaitan, A. S., & Thaib, E. A. 2020. Performa budidaya ikan lele sangkuriang (*Clarias gariepinus*) sistem bioflok dengan intervensi grading. *Jurnal Agroqua: Media Informasi Agronomi Dan Budidaya Perairan*. 18(2):168-174.
- Wijayanti, K. & Istiqomah, I. & Murwantoko. 2021. Bacterial abundance and community composition in green, brown and red water from intensive catfish (*Clarias sp.*) culture ponds in Yogyakarta, Indonesia. *Biodiversitas Journal of Biological Diversity*. 22(9): 3677-3684
- Xu, Y., Li, Y., Xue, M., Xiao, Z., Fan, Y., Zeng, L., & Zhou, Y. 2022. Effects of Dietary *Enterococcus faecalis* YFI-G720 on the Growth, Immunity, Serum Biochemical, Intestinal Morphology, Intestinal Microbiota, and Disease Resistance of Crucian Carp (*Carassius auratus*). *Fishes*, 7(18):1-14. doi: <http://dx.doi.org/10.3390/fishes7010018>
- Yu, Z., & Mohn, W. W. 2001. Bacterial diversity and community structure in an aerated lagoon revealed by ribosomal intergenic spacer analyses and 16S ribosomal DNA sequencing. *Applied and environmental microbiology*.



67(4):1565–1574. doi: <https://doi.org/10.1128/AEM.67.4.1565-1574.2001>

- Yukgehnaish, K., Praveen, K., Parimannan, S., Kasi, M., Aziz, A., Bilal, A. P. & Jesu, A. 2020. Gut microbiota metagenomics in aquaculture: factors influencing gut microbiome and its physiological role in fish. *Review in Aquaculture*. 12(3):1-25. doi: <https://doi.org/10.1111/raq.12416>
- Zahran, E. Hebatallah A. M., Fatma A, Jean-Rémy S., & Engy R. 2019. Experimental pathogenesis and host immune responses of *Enterococcus faecalis* infection in Nile tilapia (*Oreochromis niloticus*). *Aquaculture*. 512(734319):1-14. doi: <https://doi.org/10.1016/j.aquaculture.2019.734319>.
- Zhang, J, Yuntao, W., Jiahui, L., Wenxuan, X., Zhaoyan, Y., Yongtao, L., Zhen W., Ye G., Chuanwei, Y., Kangse, M., & Qinghui A. 2023. Effects of fecal bacteria on growth, digestive capacity, antioxidant capacity, intestinal health of large yellow croaker (*Larimichthys crocea*) larvae. *Aquaculture*. 562(738796):1-12. doi <https://doi.org/10.1016/j.aquaculture.2022.738796>
- Zhang, Y., Bin W., Micah A. D., Jian-Zhong G., & Zai-Zhong C. 2021. Comparative analysis of intestinal microbiota of discus fish (*Symphysodon haraldi*) with different growth rates. *Aquaculture*. 540(736740):1-11. doi <https://doi.org/10.1016/j.aquaculture.2021.736740>.
- Zhao, Y., Li, S., Lessing, D. J., Guo, L., & Chu, W. 2023. Characterization of *Cetobacterium somerae* CPU-CS01 isolated from the intestine of healthy crucian carp (*Carassius auratus*) as potential probiotics against *Aeromonas hydrophila* infection. *Microbial pathogenesis*, 180(106148):1-6. doi. <https://doi.org/10.1016/j.micpath.2023.106148>
- Zeng, A., Tan, K., Gong, P. Ping, L, Zhaohu, G., Shengping, W., Shufen, G., Yinghua, Z., Yan, S, Xiaoling, Z., Dong, M., Fajiao, Z. & Huizhi, L. 2020. Correlation of microbiota in the gut of fish species and water. *3 Biotech*.10.(472):1-10. doi <https://doi.org/10.1007/s13205-020-02461-5>.
- Zhou, C., Ge, X., Niu, J., Lin, H., Huang, Z., & Tan, X. 2015. Effect of dietary carbohydrate levels on growth performance, body composition, intestinal and hepatic enzyme activities, and growth hormone gene expression of juvenile golden pompano, *Trachinotus ovatus*. *Aquaculture*. 437(2015):390-397.