

DAFTAR PUSTAKA

- Ackermann. H. 1999. Tailed Bacteriophage: The Ordo Caudovirales. Academic Press. Quebec. Canada
- Albarella. D., P. Dall'Ara., L. Rossi., L. Turin. 2025. Bacteriophage therapy in freshwater and saltwater aquaculture species. *Microorganisms*. 13. 831. 1-32
- Andreoni. F., dan M. Magnani. 2014. Photobacteriosis: prevention and diagnosis. *Journal of Immunology Research*. 1. <https://doi.org/10.1155/2014/793817>
- Azeredo. J., dan S. Sillankorva. 2018. Bacteriophage therapy: from lab to clinical practice, methods in molecular biology. Vol 1693. Humana Press, New York, NY. https://doi.org/10.1007/978-1-4939-7395-8_7
- B Guttman. 2013. Lysogeny. *Brenner's Encyclopedia of Genetics*; Second Edition. <https://doi.org/10.1016/B978-0-12-374984-0.00892-5>
- Badan Pusat Statistika. 2026. Produksi perikanan budidaya menurut komoditas utama (Ton) 2024. Jakarta
- Churchard. N., N. Chongprachavat., W. Suanploy., L. Kitsanayangyong., P. Phansawat., A. Keetanon., P. Wimanhaemin., T. Rairat. 2024. Investigation of pale shrimp disease in pacific white shrimp (*litopenaeus vannamei*) caused by *photobacterium damsela* subsp. *damsela* in low salinity culture cinditions. *Aquaculture Reports*. 39. 102416
- Cieslik. M., N. Baginska., E. Jonczyk-Matysiak., A. Wegrzyn., G. Wegrzyn., A. Gorski. 2021. Temperate bacteriophages—the powerful indirect modulators of eukaryotic cells and immune functions. *Viruses*. 13. 1013. <https://doi.org/10.3390/v13061013>
- Dong. H. T., S. Taengphu., P. Sangsuriya., W. Charoensapsri., K. Phiwsaiya., T. Sornwatana., T. Rattanarojpong., S. Senapin. 2017. Recovery of *Vibrio harveyi* from scale drop and muscle necrosis disease in farmed barramundi, *Lates calcarifer* in Vietnam. *Aquaculture*. 473. 89-96
- Duerkop. B., K. Palmer., M. Horsburgh., M. Gilmore., D. Clewell., Y. Ike., N. Shankar. 2014. Enterococcal bacteriophages and genome defense. *Enterococcal bacteriophages and genome defense*. National Library of Medicine.
- Eissa. I. A. M., H. I. Mona Ismail., M. El-Lamie., A. Desuki., H. Elsheshtawy. 2017. Bacteriological and histopathological studies on photobacteriosis in *tilapia zillii* and *mugi seheli*. *Suez Canal Veterinary Medicine Journal SCVMJ*. 22(2). 223-234
- Emencheta. S., C. Olovo., C. Kalu., D. Berebon., E. Onuigbo., M. Vila., V. Balcao., A. Attama. 2023. The role of bacteriophages in the gut microbiota: implications for human health. *Pharmaceutics*. 15.2416
- Eroglu. A. E. E., dan I. Yasa. 2025. Genomic overview of the N4-like TEMp-D1 phage and the efficacy of antibiotic-phage synergy for the biocontrol of *Photobacterium damsela* subsp. *Damsela*. *Aquaculture International*. 33: 72. <https://doi.org/10.1007/s10499-024-01723-w>

- Essam, H. M., G.S. Abdellrazeq., S. I. Tayel., H. A. Torky., A. H. Fadel. 2016. Pathogenesis of *Photobacterium damsela* subspecies infections in sea bass and sea bream. Microbial Pathogenesis. 99. 41-50. <http://dx.doi.org/10.1016/j.micpath.2016.08.003>
- FAO (Food and Agriculture Organization of the United Nations). 2009. *Lates calcarifer*. In Cultured Aquatic Species Fact Sheets.
- FAO (Food and Agriculture Organization of the United Nations). 2020. The State of World Fisheries and Aquaculture. Blue Transformation in Action.
- Ganesh. G., A. C. Rao., S. Gora., G. S. Prasad. 2023. Effect of stocking density on growth performance and survival of brackish water fish seabass (*Lates calcarifer*) in floating net cages. Biological Forum- An Internasional Journal. 15(6). 603-609
- Gouife. M., S. Chen., K. Huang., M. Nawaz., S. Jin., R. Ma., Y. Wang., L. Xue., J. Xie. 2022. *Photobacterium damsela* subsp. *damsela* in mariculture. Aquaculture Internasional. 30(2): 1-28. <https://doi.org/10.1007/s10499-022-00867-x>
- Hillary. V. E., dan S. A. Ceasar. 2022. A review on the mechanism and applications of CRISPR/Cas9/Cas12/ Cas13/Cas14 proteins utilized for genome engineering. Molecular Biotechnology. 65(3): 311-325. <https://doi.org/10.1007/s12033-022-00567-0>
- Hyman. P. 2018. Phages for phage therapy: isolation, characterization, and host range breadth. Pharmaceuticals . 12.35.1-23
- Istiqomah. I., A. Isnansetyo., Murwantoko., D. P. Handayani., Y. N. A. Lestari., A. Taslihan., I. G. N. Permana., E. Wijayanti. 2023. Antibiotic resistance of emerging pathogenic bacteria of hybrid grouper farming in Indonesia. Biodiversitas. 24(5). 2493-2501. <https://doi.org/10.13057/biodiv/d240565>
- Jun. J., Kim. J., Han. J., Shin. S., K. Gomez. D., C. Choresca., K. Oh., S. Park. 2010. Isolation of *photobacterium Damsela* Subsp. *Damsela* from the giant grouper, *Epinephelus Lanceolatus*. Journal of veterinary Clinics. 27(5). 618-621.
- KKP. Direktorat Jendral Perikanan Budidaya. 2021. KKP terus Optimalkan Potensi Marikultur. <https://www.kkp.go.id/djpb/kkp-terus-optimalkan-potensi-marikultur65c30089adc59/detail.html>
- KKP. Direktorat Jendral Perikanan Budidaya. 2025. Volume produksi perikanan budidaya pembesaran per komoditas utama (Ton).
- Kropinski, A.M., Mazzocco, A., Waddell, T.E., Lingohr, E., and Johnson, R.P. 2009 Enumeration of bacteriophages by double agar overlay plaque assay. Methods Mol Biol 501, 69–76.
- Lal. T., M. Sano., J. Ransangan. 2016. Genome characterization of a novel vibriophage Vpkk5 (Siphoviridae) specific to fish pathogenic strain of *Vibrio parahemolyticus*. Journal Basic Microbiol. 56. 872-888
- Leonara. F. H. S., V. Boonyarat., J. Pugoy., A. Chiong., M. A. Polido IV., C. M. A. Caipang. 2024. Bacteriophages in the fish mucosa: updates on their biology, interactions,

- Leprince. A., and J. Mahillon. 2023. Phage adsorption to gram-positive bacteria. *Viruses*. 15(1). 196. <https://doi.org/10.3390/v15010196>
- Li. X., L. Yuan., K. Huang., S. Chen., S. Zhou., R. Ma., J. Jiang., J. Xie. 2024. Isolation and characterization of a bacteriophage for biological control of *Photobacterium damsela* subsp. *damsela* in silver pomfret mariculture. *Aquaculture*. 582. <https://doi.org/10.1016/j.aquaculture.2023.740539>
- Liu. Y., Z. Zhang., Y. Wang., Y. Zheng., X.H. Zhang. 2016. *Enterovibrio pacificus* sp. nov., isolated from seawater, and emended descriptions of *Enterovibrio coralii* and the genus *Enterovibrio*. *International Journal of Systematic and Evolutionary Microbiology*. 66. 319-325
- Mahardika. K., I. Mastuti., I. G. N. Permana., A. Muzaki., W. Hardanu., Zafran... R. Gustiano. 2025. Pathological investigation of *Photobacterium damsela* causing big belly disease in barramundi *Lates calcarifer* (Bloch 1790): case study and experimental infection. *Brazilian Journal of Biology*. 85. <https://doi.org/10.1590/1519-6984.290179>
- Martha R. J. Clokie, Andrew M. Kropinski. 2009. *Bacteriophages: Methods and Protocols, Volume 1: Isolation, Characterization, and Interactions*, vol. 501, Humana Press https://doi.org/10.1007/978-1-60327-164-6_2
- Misol. G., C. Kokkari., P. Katharios. 2020. Biological and genomic characterization of a novel jumbo bakteriofage, vB_VhaM_pir03 whit broad host lytic activity against *Vibrio harveyi*. *Pathogens*. 9 (12). 1051
- Morick. D., Y. Maron., N. Davidovich. Z. Zemah-Shamir., Y. Nachum- Biala., P. Itay., N. Wosnick., D. Tchernov., S. Harrus. 2023. Molecular identification of *photobacterium damsela* in wild marine fish from the eastern mediterranean sea. *Fishes*. 8(2). 60. <https://doi.org/10.3390/fishes8020060>
- Novianty., I. Rusmana., dan S. Budiarti. 2014. Lytic Bacteriophage for *Photobacterium damsela* isolated from water environment. *International Journal of Innovative Research in Science & Engineering*. 2347-3207
- Novriadi. R., S. Agustatik., Hendrianto., R. Pramuanggit., A. H. Wibowo. 2014. Penyakit Infeksi Pada Budidaya Ikan Laut di Indonesia. Balai Perikanan Budidaya Laut Batam.
- Osorio. C., A. Vences., X. Matanza., M. Terceti. 2018. *Photobacterium damsela* subsp. *Damsela*, a generalist pathogen with unique virulence factors and high genetic diversity. *Journal of Bacteriology*. 200(15). 1-15
- Ouyang. R. V. Ongenae., A. Muok., D. Claessen., A. Briegel. 2024. Phage fibers and spikes: a nanoscale swiss army knife for host infection. *Current Opinion in Microbiology*. 77: 102429. <https://doi.org/10.1016/j.mib.2024.102429>
- Rajnovic. D., X. Munoz-Berbel., J. Mas. 2019. Fast phage detection and quantification: an optical density based approach. *Plos One*. 14(5).1-14

- Rakhuba. D. V., E.I Kolomietes., E. Szwajder Dey., G.I. Novik. 2010. Bacteriophage receptors, mechanisms of phage adsorption and penetration into host cell. Polish Journal of Microbiology. 59(3). 145-155.
- S. Abdelsattar. A., A. Dawooud., N. Rezk., S. Makky., A. Safwat., P. J. Richards., A. El-Shibiny. 2021. Biologics. How to train your phage: the recent efforts in phage training. 1(2). 70-88. <https://doi.org/10.3390/biologics1020005>
- Singaravel. V., Gopalakrishnan. A., Dewangan. N.K. 2020. *Photobacterium damsela* subsp. *damsela* associated with bacterial myonecrosis and hepatopancreatic necrosis in broodstock Pacific white leg shrimp, *Litopenaeus vannamei* (Boone, 1931). Aquaculture Internasional. 28: 1593-1608. <https://doi.org/10.1007/s10499-020-00545-w>
- Takwin. B.A., D. Wahjuningrum., W. Widanarni., H. Nasrullah. 2024. The potential of bacteriophage for controlling *Vibrio parahaemolyticus* as in-vitro. Jurnal Akuakultur Indonesia. 23(2). 122-133. <https://doi.org/10.19027/jai.23.2.122-133>
- Tumban.E. 2024. Bacteriophages: Methods and Protocols, Methods in Molecular Biology, vol. 2738, https://doi.org/10.1007/978-1-0716-3549-0_9
- Utama, dan Junianto. 2021. Mariculture potential in Indonesia: a review. Global Scientific Journal. 9.1. 956-964
- Veyrand- Quiros. B., B. Gomez-Gil., C. O. Lomeli-Ortega., C. Escobedo-Fregoso... E. Quiroz-Guzman. 2020. Use of bacteriophage vB_Pd_PDCC-1 as biological control agent of *Photobacterium damsela* subsp. *damsela* during hatching of longfin yellowtail (*Seriola rivoliana*) eggs. Journal Appl Microbiol. 129(6). 1497-1510. <https://doi.org/10.1111/jam.14744>
- Wang. Z., C. Shi., H. Wang., X. Wan., Q. Zhang., X. Song., G. Li., M. Gong., S. Ya., G. Xie., J. Huang. 2020. A novel research on isolation and characterization of *photobacterium damsela* subsp. *Damsela* from pacific white shrimp, *penaeus vannamei*, displaying black gill disease cultured in china. Journal of Fish Diseases. 1-9. <https://doi.org/10.1111/jfd.13153>
- Xie. J., H. Mei., S. Jin., L. Bu., X. Wang., C. Wang., Q. Zhao., R. Ma., S. Zhou. 2021. First report of *Photobacterium damsela* subsp. *damsela* infection in the mud crab *Scylla paramamosain* cultured in China. Aquaculture. 530.15. <https://doi.org/10.1016/j.aquaculture.2020.735880>
- Yamaki. S., Y. Kawai., dan K. Yamazaki. 2015. Characterization of a novel bacteriophage, PhdA1, infecting the histamine-producing *photobacterium damsela* subsp *damsela*. J. Appl Microbiol. 118 (6): 1541-1550. <https://doi.org/10.1111/jam/12809>
- Zhang. K., T. F. Young., L. Zeng. 2020. Bacteriophage P1 does not show spatial preference when infecting *Escherichia coli*. Virology. 542: 1-7. <https://doi.org/10.1016/j.virol.2019.12.012>
- Zhang. M., T. Zhang., M. Yu., Y. Chen., M. Jin. 2022. The Life Cycle Transitions of Temperate Phages: Regulating Factors and Potential Ecological Implications. Viruses. 14(9). 1904. <https://doi.org/10.2290/v14091904>