

DAFTAR PUSTAKA

- Affandi, R., dan N. Suhenda. 2003. Teknik budidaya ikan sidat (*Anguilla bicolor bicolor*). Prosiding Sumberdaya Perikanan Sidat Tropik. UPT Baruna Jaya, BPPT. Jakarta.
- Afifi, S. H., S. Al-Thobiati, M. S. Hazaa. 2000. Bacteriological and histopathological studies on *Aeromonas hydrophila* infection of Nile tilapia (*Oreochromis niloticus*) from fish farms in Saudi Arabia. *Assiut Vet. Med. J.*, 84: 195-205.
- Afrianto, E., E. Liviawaty, Z. Jamaris, Hendi. 2015. Penyakit Ikan. Penebar Swadaya. Jakarta.
- Agius, C., and R. J. Roberts. 2003. Melano-macrophage centres and their role in fish pathology. *Journal of Fish Disease*, 26: 499-509.
- Alifuddin, M. 2001. Cara Pemeriksaan Penyakit Bakterial dalam Pelatihan Dasar Pemeriksaan Ikan Pratama Karantina Ikan. Fakultas Perikanan. Institut Pertanian Bogor. Bogor.
- Andayani, S., H. Suprastyani, I. Masfiah. 2018. Pengaruh pemberian ekstrak kasar kulit buah naga (*Hylocereus costaricensis*) terhadap histopatologi hati ikan nila (*Oreochromis niloticus*) yang terinfeksi *Aeromonas hydrophila*. *Journal of Fisheries and Marine Research*, 3(2): 149-159.
- APHA [American Public Health Association]. 1992. Standard Methods for The Examination of Water and Wastewater. American Public Health Association. Washington.
- Arai, T. 2016. Biology and Ecology of Anguillid Eels. CRC Press. London.
- Beye, M., N. Fahsi, D. Raoult, P. E. Fournier. 2017. Careful use 16s rRNA gene sequence similarity value for the identification of mycobacterium species. *New Microbes and New Infection*, 22: 24-29.
- BSN [Badan Standardisasi Nasional]. 2004. Air dan Air Limbah – Bagian 9: Cara Uji Nitrit (NO₂-N) secara Spektrofotometri. Badan Standardisasi Nasional. Jakarta.
- BSN [Badan Standardisasi Nasional]. 2005. Air dan Air Limbah – Bagian 30: Cara Uji Kadar Amonia dengan Spektrofotometer secara Fenat. Badan Standardisasi Nasional. Jakarta.
- Buxton, R. 2013. Blood Agar Plates and Hemolysis Protocols. American Society for Microbiology. Washington.
- Cai, S. H., Z. H. Wu, J. C. Jian, Y. S. Lu, J. F. Tang. 2012. Characterization of pathogenic *Aeromonas veronii* bv. *veronii* associated with ulcerative syndrome from Chinese longsnout catfish (*Leiocassis longirostris* Gunther). *Braz. J. Microbiol.*, 43(1): 382-388.
- Cullen, J. M., and M. J. Stalker. 2016. Liver and Biliary System: Hepatocellular Steatosis (Lipidosis). In: Mexie, G. M. (Ed). Jubb, Kennedy & Palmer's Pathology of Domestic Animals. Elsevier, Missouri : 273-278.

- Deelder, C. L. 1984. Synopsis of the Biological Data on the Eel *Anguilla*. FAO Fisheries Synopsis. Rome.
- Dong, H. T., C. Techatanakitarnan, P. Jindakittikul, A. Thaiprayoon, S. Taengphu, w. Charoensapsri, P. Khunrae, T. Rattanarojpong, S. Senapin. 2017. *Aeromonas jandaei* and *Aeromonas veronii* caused disease and mortality in nile tilapia, *Oreochromis niloticus* (L.). Journal of Fish Disease, 40(10): 1395-1403.
- Effendie. 2000. Biologi Perikanan. Yayasan Pustaka Nusantara. Yogyakarta.
- Effendi, H. 2003. Telaah Kualitas Air Bagi Pengelolaan Sumberdaya dan Lingkungan Perairan. Kanisius. Yogyakarta.
- El-ashram, A. M. M. 2007. Studies on parasitic disease among wild and cultured eel fish (*Anguilla anguilla*). Suez Canal Veterinary Medical Journal, 12(2): 171-198.
- Fahmi, M. R. 2015. Short communication: conservation genetic of tropical eel in indonesian waters based on population genetic study. Prosiding Seminar Nasional Masyarakat Biodiversitas Indonesia. University Club, Universitas Gadjah Mada (UGM) Yogyakarta.
- Fahmi, M. R., L. Pouyaud, P. Berrebi. 2012. Distribution of tropical eel genus *Anguilla* in Indonesia water based on semi-multiplex PCR. Indonesian Aquaculture Journal, 7(2): 139-148.
- FAO [Food and Agricultural Organization]. 2020. FAO Yearbook. Fishery and Aquaculture Statistics 2018. Rome.
- Fathima, A., J. A. Mangai, B. B. Gulyani. 2014. An ensemble method for predicting biochemical oxygen demand in river water using data mining techniques. International Journal of River Basin Management, 12(4): 357-366.
- Fernandez-Bravo, A., I. Fort-Gallifa, F. Ballester, I. Pujol, F. Gomez-Bertomeu, M. Dominguez, M. Mico, E. Alcoceba, J. M. Simo-Siso, M. J. Figueras. 2020. A case of *Aeromonas trota* in an immunocompromised patient with diarrhea. Microorganisme, 8: 1-6.
- Francis-Floyd, R., C. Watson, D. Petty, D. B. Pouder. 2009. Ammonia in aquatic systems. University of Florida, Institute of Food and Agricultural Sciences (IFAS) Extension. Gainesville.
- Guo, S. L., Q. H. Yang, J. J. Feng, L. H. Duan, J. P. Zhao. 2016. Phylogenetic analysis of the pathogenic genus *Aeromonas* spp. isolated from diseased eels in China. Microbial Pathogenesis, 101: 12-23.
- Hardi, E. H. 2015. Parasit Biota Akuatik. Mulawarman University Press. Samarinda.
- Henkel, C. V., E. Burgerhout, D. L. de Wijze, R. P. Dirks, Y. Minegishi, H. J. Jansen, H. P. Spaik, S. Dufour, F. A. Weltzien, K. Tsukamoto, G. E. E. J. M. van den Thillart. 2012. Primitive duplicate hox clusters in the european eel's genome. PLoS ONE 7(2): 1-9.
- Hickman-Brenner, F. W., K. L. MacDonald, A. G. Steigerwalt, G. R. Fanning, D. J. Brenner, J. J. Farmer III. 1987. *Aeromonas veronii*, a new ornithine decarboxylase-

- positive species that may cause diarrhea. *Journal of Clinical Microbiology*, 25(5): 900-906.
- Holt, J. G., N. R. Krieg, P. H. A. Sneath, J. T. Stanley, S. T. Williams. 1994. *Bergey's Manual of Determinative Bacteriology*. Ninth Edition. William & Wilkins. Baltimore.
- Jabal, A. R., U. Cahyaningsih, R. Tiuria. 2015. Protozoa parasitik pada ikan sidat (*Anguilla* spp.) asal Danau Lindu, Sulawesi Tengah. *Jurnal Ilmu Pertanian Indonesia (JIPI)*, 20(2): 103-107.
- Janda, J. M., and S. L. Abbott. 2010. The genus *Aeromonas*: taxonomy, pathogenicity, and infection. *Clin. Microbiol. Rev.*, 23(1): 35-73.
- Joh S. J., Kwon H. M., Kim M. J., Kang M. S., Jang H., Kwon J. H.. 2010. Characterization of *Yersinia ruckeri* isolated from the farm-cultured eel *Anguilla japonica* in Korea. *Journal Veteriner Science*, 50: 29-33.
- Joh S. J., Ahan E. H., Lee H. J., Shin G. W., Kwon J. H., Park C. G. 2013. Bacterial pathogens and flora isolated from farm-cultured eels *Anguilla japonica* and their environmental waters in korean eel farms. *Journal Beterinary Microbiology*, 163: 190-195.
- Kabata, Z. 1985. *Parasits and Diseases Of Fish Cultured in The Tropics*. Taylor and Frances. London and Philadelphia.
- Kismiyati, N., M. Iskhaq, dan J. Triastuti. 2010. Objek kesukaan untuk penempelan telur (oviposisi) ektoparasit *Argulus japonicus*. *Jurnal Ilmiah Perikanan dan Kelautan* 2(2): 165-169.
- KKP [Kementerian Kelautan dan Perikanan]. 2011. *Panduan Budidaya Sidat*. Pusat Penyuluhan Kelautan dan Perikanan, KKP RI. Jakarta.
- Kordi, M. G. H. 2004. *Penanggulangan Hama dan Penyakit Ikan*. Rineka Cipta. Jakarta.
- Kong, Y. D., Y. H. Kang, J. X. Tian, D. X. Zhang, L. Zhang, L. T. Tao, T. L Wu, Y. Li, G. Q. Wang, X. F. Shan. 2019. Oral immunization with recombinant *Lactobacillus casei* expressing FlatB confers protection against *Aeromonas veronii* challenge in common carp, *Cyprinus carpio*. *Fish & Shellfish Immunology*, 87: 627-637.
- Kuwahara, A., A. Niimi, H. Itagaki. 1974. Studies of a nematodes parasitic in the air bladder of the eel. i. description of *Anguillicola crassa* n. sp. (Philometridea, Anguillicolidae). *Japanese Journal of Parasitology*, 23: 275-279.
- Lefebvre, F., G. Fazio, A. J. Crivelli. 2012. *Anguillicoloides crassus*. In: Woo, P. T. K., Buchmann K. (Eds), *Fish Parasites: Pathobiology and Protection*. CABI. Oxfordshire, UK.
- Noga, E. J. 2010. Struktur ukuran glass eel ikan sidat (*Anguilla marmorata*) di Muara Sungai Palu, Kota Palu, Sulawesi Tengah. *Media Litbang Sulteng*, 3(2): 144-150.
- Novriadi, R., S. Agustatik, Hendrianto, Pramuanggit, dan A. Hariwibowo. 2014. *Penyakit Infeksi pada Budidaya Ikan Laut di Indonesia*. Balai Perikanan Budidaya Laut

Batam. Direktorat Jenderal Perikanan Budidaya. Kementerian Kelautan dan Perikanan. Batam.

- Park S. B., Nho S. W., Jang H. B., Cha I. S., Lee J. H., Aoki T., Jung T. S.. 2017. Phenotypic and genotypic analysis of *Edwardsiella tarda* isolated from olive flounder (*Paralichthys olivaceus*) and Japanese eel (*Anguilla japonica*). *Aquaculture*, 473: 449-455.
- Palstra, A. P., D. F. M. Heppener, V. J. T. van Ginneken, C. Szekely, G. E. E. J. M. van den Thillart. 2007. Swimming performance of silver eel is severely impaired by the swim-bladder parasite *Anguillicola crassus*. *Journal of Experimental Marine Biology and Ecology*, 352: 244-256.
- Pratama, I., S. B. Prayitno, H. Syakuri. 2019. Identification and prevalence of parasite in eel (*Anguilla bicolor*) captured along migration pathway at Serayu River, Central Java. *Omni-Akuatika*, 15(1): 81-92.
- Plumb, J. A., and L. A. Hanson. 2011. Health Maintenance and Principal Microbial Disease of Cultured Fishes. Third Edition. Wiley-Blackwell. USA.
- Radiati, L. E., R. R. Andriani, M. W. Apriliyani, P. P. Rahayu. 2019. Mikrobiologi Dasar Hasil Ternak. UB Press. Malang Jawa Timur.
- Rahmi. 2012. Identifikasi ektoparasit pada ikan nila (*Oreochromis niloticus*) yang dibudidayakan pada Tambak Kabupaten Maros. *Jurnal Ilmu Perikanan Octopus*, 1(1): 1-5.
- Royan, F., S. Rejeki, A. H. C. Haditomo. 2014. Pengaruh salinitas terhadap profil darah ikan nila. *Journal of Aquaculture Management and Technology*, 3(2): 109-117.
- Saanin, H. 1984. Taksonomi dan Kunci Identifikasi Ikan. Bina Cipta. Jakarta.
- Saha, N., and B. Ratha. 2007. Functional ureogenesis and adaptation to ammonia metabolism in Indian freshwater air-breathing catfishes. *Fish Physiol Biochem*, 33(4): 283-95.
- Sarwono, B., 2007. Budidaya Belut dan Sidat. Edisi Revisi. Penerbit Penebar Swadaya. Jakarta.
- Seo J. S., Choi J. H., Seo H., Ahn T. H., Chong W. S., Kim S. H., Cho H. S., Ahn J. C.. 2013. Comparison of major nutrients in eels *Anguilla japonica* cultured with different formula feeds or at different farms. *Fish Aquatic Science*. 16: 85-92.
- Setyawan, A. C., Sukenda, S. Nuryati. 2015. Status kesehatan ikan sidat (*Anguilla* sp.) pada perairan umum dan wadah pemeliharaan sementara. *Jurnal Riset Akuakultur*, 10(1): 69-77.
- Setyowati, D. N., N. Diniarti, S. Waspodo. 2013. Budidaya lobster (*Panulirus homarus*) dan abalon (*Haliotis* sp.) dengan sistem integrasi di Perairan Teluk Ekas. *Jurnal Kelautan*, 6(2): 137-141.
- Shameena, S. S., K. Kumar, S. Kumar, S. Kumar, G. Rathore. 2020. Virulence Characteristics of *Aeromonas veronii* biovars isolated from infected freshwater goldfish (*Carassius auratus*). *Aquaculture* 518: 1-8.

- Song, M. F., Y. H. Kang, D. X. Zhang, L. Chen, J. f. Bi, H. P. Zhang, L. Zhang, A. D. Qian, X. F. Shan. 2018. Immunogenicity of extracellular product from an inactivated vaccine against *Aeromonas veronii* TH0426 in koi, *Cyprinus carpio*. *Fish & Shellfish Immunology*, 28: 176-181.
- Sudaryono, A., S. P. Putro, dan Suminto. 2014. Tinjauan potensi pengembangan dan aplikasi teknologi budidaya sidat. *Aquacultura Indonesiana*, 15(1): 43-47.
- Sugeha, H. Y., dan S. R. Suharti. 2008. Discrimination and distribution of two tropical short-finned eels (*Anguilla bicolor bicolor* and *Anguilla bicolor pacifica*) in the Indonesia waters. *The Nagisa Westpac Congress*, 9: 1-14.
- Suitha, I. M., dan A. Suhaeri. 2008. Budidaya Sidat. Agro Media. Jakarta.
- Sun, J., X. Zhang, X. Gao, Q. Jiang, Y. Wen. L. Lin. 2016. Characterization of virulence properties of *Aeromonas veronii* isolated from diseased gibel carp (*Carassius gibelio*). *Int. J. Mol. Sci*, 17: 1-11.
- Suryono, T., dan M. Badjoeri. 2013. Kualitas air pada uji pembesaran larva ikan sidat (*Anguilla* spp.) dengan sistem pemeliharaan yang berbeda. *Limnotek*, 20(2): 169-177.
- Tsukamoto, K., S. Chow, T. Otake, H. Kurogi, N. Mochioka, M. J. Miller, J. Aoyama, S. Kimura, S. Watanabe, T. Yoshinaga, A. Shinoda, M. Kuroki, M. Oya, T. Watanabe, K. hata, S. Ijiri, Y. Kazeto, K. Nomura, H. Tanaka. 2011. Oceanic spawning ecology of freshwater eels in the Western North Pacific. *Nature Communications*, 2(179): 1-9.
- Ulfa, A. M., A. Retnaningsih, R. Aufa. 2017. Penetapan kadar asam lemak pada minyak kelapa, minyak kelapa sawit dan minyak zaitun kemasan secara alkalimetri. *Jurnal Analisis Farmasi*, 2(4): 242-250.
- van Beurden, S. J., M. A. Voorbergen-Laarmana, I. Roozenburga, A. S. Boerlagea, O. L. M. Haenena, M. Y. Engelsmaa. 2011. Development and validation of a two-step real-time RT-PCR for the detection of eel virus european x in european eel, *Anguilla anguilla*. *Journal of Virological Methods*, 171: 352-359.
- van Nieuwstadt, A. P., S. G. Dijkstra, O. L. Haenen. 2001. Persistence of herpesvirus of eel herpesvirus anguillae in farmed european eel *Anguilla anguilla*. *Disease of Aquatic Organisms*, 45: 103-107.
- Wahjuningrum, D., A. M. Hidayat, T. Budiardi. 2018. Characterization of pathogenic bacteria in eel *Anguilla bicolor bicolor*. *Jurnal akuakultur Indonesia*, 17(1): 94-103.
- Wang, B., C. Mao, J. Feng, Y. Li, J. Hu, B. Jiang, Q. Gu, Y. Su. 2021. A First report of *Aeromonas veronii* infection of the sea bass, *Lateolabrax maculatus* in China. *Front. Vet. Sci*, 7: 1-12.
- Wang, X., I. K. Jordan, L. W. Mayer. 2015. A Phylogenetic perspective on molecular epidemiology. *Molecular Medical Microbiology*, 1: 517-536.
- Williams, E.H., and L. Bunkley-Williams. 1996. Parasits Off Shore Big Game Fishes of Puerto Rico and The Western Atlantic. Pierto Rico. Departement of Natural Environmental Risourses and University of Puerto Rico, Rio Piedras.

- Woese, C. R. 1987. Bacterial evolution. *Microbiological Reviews*, 51(2): 221-271.
- Xu, J., Y. Yu, Z. Huang, S. Dong, Y. Luo, W. Yu, Y. Yin, H. Li, Y. Li, X. Zhou, Z. Xu. 2019. Immunoglobulin (ig) heavy chain gene locus and immune responses upon parasitic, bacterial and fungal infection in loach, *Misgurnus anguillicaudatus*. *Fish & Shellfish Immunology*, 86: 1139-1150.
- Zeng, Y., Y. Ma, C. Wei, N. Jiao, K. Tang, Z. Wu, J. Jian. 2010. Bacterial diversity in various coastal mariculture ponds in Southeast China and in diseased eels as revealed by culture and culture-in-dependent molecular techniques. *Aquaculture Research*, 41: 172-186.
- Zepeda-Velazquez, A. P., V. Vega-Sanchez, C. Salgado-Miranda, E. Soriano-Vargas. 2015. Histopathological findings in farmed rainbow trout (*Oncorhynchus mykiss*) naturally infected with 3 different *Aeromonas* species. *Can. J. Vet. Res*, 79(3): 250-254.
- Zhang, T. Y., P. C. Tan, Y. Xie, X. J. Zhang, P. Q. Zhang, Y. M. Gao, S. B. Zhou, Q. F. Li. 2020. The combination of trehalose and glycerol: an effective and non-toxic recipe for cryopreservation of human adipose-derived stem cells. *Stem Cell Research & Therapy*, 11(460): 1-9.