

**DAFTAR PUSTAKA**

- Abdulla, H., May, E., Bahgat, M., Dewedar, 2008, Characterization of actinomycetes isolated from ancient stone and their potential for deterioration, *Polish J Microbiol*, **57**:213-220
- Afsahi, B., Kazemi, A., Kheirloom, A., Nejati, S., 2007, Immobilization of Cellulase on Non-Porous Ultra Fine Silica Particels, *Scientia Iranica*, **Vol. 14** (4): 379-383
- Ambarwati, A., Sembiring, L., Soegihardjo, C., J., 2011, Antibiotic produced by streptomycetes associated with rhizosphere of purple nut sedge (*Cyperus rotundus* L.) in Surakarta, Indonesia, *Afr J Biotechnol*, **6**:52-52
- Akbar, Aulia, R., Riyandini, D., Kusharyati, D., F., 2017, Potensi Aktinomisetes Asal Tanah Perakaran Mangrove Segara Anakan Cilacap Sebagai Penghasil Anti-fungi Terhadap *Candida albicans*, *J. Trop. Biodiv. Biotech.*, **Vol. 2**: 39-44
- Ambriyanto, K., S., 2010, *Isolasi dan Karakterisasi Bakteri Aerob Pendegradasi Selulosa dari Serasah Daun Rumput Gajah (Pennisetum purpureum schaum)*, Jurusan Biologi, Fakultas Matematika dan Ilmu Pengetahuan Alam, Institut Teknologi Sepuluh November, Surabaya
- Arief, A., 2003, *Hutan Mangrove, Fungsi dan Manfaatnya*, Kanisius, Yogyakarta
- Arrizal, Syafruddin, Rachmadiarti, Fida, Yuliani, 2014, Identifikasi Rhizobakteri pada Semanggi (*Marsilea crenata* Presl.) yang Terpapar Logam Berat Timbal (Pb), *Jurnal Lentera Bio*, ISSN: 2252-3979
- Arunachalam, R., Wesely, E., G., George, J., Annadurai G., 2010, Novel approach for identification of *Streptomyces noboritoensis* TBG-V20 with cellulase production, *Curr Res Bacteriol*, **3**:15-26
- Badan Pusat Statistik Provinsi Jawa Timur, 2010, *Jawa Timur Dalam Angka 2010*, BPS Provinsi Jawa Timur
- Bengen, D., G., 2002, *Sinopsis Ekosistem dan Sumberdaya Alam Pesisir dan Laut serta Prinsip Pengelolahannya*, Pusat Kajian Sumberdaya Pesisir dan Lautan (PKSPL), IPB, Bogor

- BPS Kabupaten Tuban, 2013, *Buku Putih Sanitasi Kabupaten Tuban*, Badan Pusat Statistik Tuban, Tuban
- Brown-Elliott, B., A., Brown, J., M., Coville, P., S., Wallace, R., J., Jr., 2006, Clinical and laboratory Features of the *Nocardia* sp. Based on Current Molecular Taxonomy, *Clin Microbiol Rev*, **19**(2): 59-82
- Campbell, N., A., Reece, J., B., Mitchell, L., G., 2002, *Biologi*, Alih Bahasa, Jilid Pertama, Edisi ke-5, Erlangga, Jakarta
- Cappuccino, J., G., Sherman, N., 1992, *Microbiology a Laboratory Mannual*, The Benjamin/Cummings Publish, USA, 458 hlm
- Cappuccino, J., Sherman, N., 2013, *Microbiology: A Laboratory Manual (7th ed.)* Pearson Education, San Francisco, CA, 145-146, 151 and 271
- Crueger, W., Crueger, A., 1984, *Biotechnology, A Text Book of Industrial Microbiology*, Sinaeur Associates, Inc, Sunderland
- Dahuri, R., 2003, *Keanekaragaman Hayati Laut*, Aset Pembangunan Berkelanjutan Indonesia, Jakarta, PT Gramedia Pustaka Utama
- Darmayasa, I., B., G., 2008, Isolasi dan Identifikasi Bakteri Pendegradasi Lipid (Lemak) pada Beberapa Tempat Pembuangan Limbah dan Estuari DAM Denpasar, *Jurnal Bumi Lestari*, **8**: 122-127
- Dhanasekaran, Jiang, 2016, *Basic and Biotechnical Applications*, Ave4eva Movimix Records
- Fan, L., T., Lee, Y., H., Gharpuray, M., M., 1982, The Nature of Lignocellulosics and Their Pretreatment for Enzymatic Hydrolysis, *Advances in Biochemical Engineering*, **23**: 158-187
- Gerber N., N., H., A., Lechevalier, 1965, Geosmin, an Earthy-Smelling Substance Isolated from Actinomycetes, Institute of Microbiology, Rutgers The State University New Brunswick New Jersey, **Vol. 13**, No. 6
- Ghufran, M., Kordi, K., M., 2012, *Ekosistem Mangrove: potensi, fungsi, dan pengelolaan*, Rineka Cipta, Jakarta
- Goodfellow, M., P., Kämpfer, H., J., Busse, M., E., Trujillo, K., Suzuki, W., Ludwig, W., B., Whitma (Eds), 2012, *Bergey's Manual of Systematic Bacteriology Second Edition*, **Vol 5**. The Actinobacteria. 1-34 Whitman Springer, New

- York Gordon, R.E., and J.M., Mihm, 1962b, The type species of the genus *Nocardia*, *J. Gen. Microbiol.*, **27**: 1–10
- Goto, M., Furukawa, K., Hayashida, S., 1992, An avicel-affinity site in an aviceldigesting exocellulase from a *Trichoderma viride* mutant, *Biosci Biotech Biochem.*, **56**:1523-1528
- Hardjo, S., S., Indrasti, Bantacut, T., 1989, *Biokonversi Pemanfaatan Limbah Industri Pertanian*, PAU, Pangan dan Gizi IPB, Bogor
- Hasanah, N., Fitrah., dkk., 2012, Karakterisasi Metabolit Sekunder Bakteri Simbion Gastropoda *Conus miles* dengan Metode GC-MS Sebagai Antibakteri MDR (Multi Drug Resistant), *Journal Of Marine Research*, (1)2: 197-202
- Hardjowigeno, S., 1986, *Genesis dan Klasifikasi Tanah*, Jurusan Tanah, Fakultas Pertanian IPB, Bogor
- Hofkin, B., V., 2011. *Living In A Microbial World*. *Garland Science*, Madison Avenue, NY, 195 pp
- Ibrahim, A., S., S., El, Diwany, A., I., 2007, Isolation and identification of new cellulases producing thermophilic bacteria from an egyptian hot spring and some properties of the crude enzyme, *Aust J Appl Sci*, **1**:473-478
- Ikram, ul-haq, M., M., J., Tehmina, S., K., Zafar, S., 2005, Cotton Saccharifying Activity of Cellulases Produced by Co-Cultur of *Aspergillus niger* and *Trichoderma viride*, *Res. J. Agric. & Biol. Sci.*, **1**(3): 241-245
- Imada, C., S., Masuda, T., Kobayashi, N., H., Sato, T., Nakashima, 2010, Isolation and Characterization of Marine and Terrestrial Actinomycetes Using a Medium Supplemented with NaCl, *Actinomycetologica*, **24**(1): 12–17
- Immanuel, G., Dhanusa, R., Prema, P., Palavesa, A., 2006, Effects of different growth parameters on endoglucanase enzyme activity by bacteria isolated from coir retting effluents of estuarine environment, *Internatiomal Journal Environ Science Technique*, **3**:2534
- Jiang, C., L., L., .H., Xu, 1985, Isolation methods for study of actinomycete population, *Microbiology*, **12**: 218-220

- Jiang, C., L., L., H., Xu., G., Y., Guo., 1988, The investigation on actinomycete population and resources in some areas in Yunnan, V, The actinomycetes in the frigid mountains, *Acta Microbiologica Sinica*, **28**:198-205
- Kavya, D., Solomon, S., Nagalakshmi, D., 2012, Isolation and Screening of *Streptomyces* sp. from Coringa Mangrove Soils for Enzyme Production and Antimicrobial Activity, *IJPCBS*, **2**(1): 110-116
- Khanna, M., R., Solanski, R., Lal., 2011, Selective Isolation of Rare Actinomycetes Producing Novel Antimicrobial Compound, *International Journal of Advanced Biotechnology and Research*, **2**(3): 357-375
- Kim, S., K., 2013, *Marine microbiology: bioactive compounds and biotechnological applications*, Weinheim: Wiley-VCH
- Kulp, K., Ponte, J., G., Jr., 1984, *Handbook of Cereal Science and Technoligy*, 2nd edition, Marcel Dekker, Inc, USA
- Kusmahadi, S., K., 2008, Watak dan Sifat Fisik Tanah Areal Rehabilitasi Mangrove Tanjung Pasir, Tangerang, *Jurnal Vis Vitalis*, **Vol.1**(1)
- Lay, B., W., 1994, *Analisis Mikroba di Laboratorium*, PT, Raja Grafindo Persada, Jakarta
- Lehninger, A., L., 1993, *Dasar-Dasar Biokimia*, Ed, Ke-3, Terjemahan Maggy Thenawidjaya, Jakarta, Erlangga
- Locci, R., 1976, *Developmental morphology of actinomycetes*, In *Actinomycetes: The Boundary Microorganisms (edited by Arai)*, Toppan, Tokyo, pp, 249–297
- Naikpatil, S., V., J., L., 2011, Antimicrobial and Cytotoxic Activity of Actinomycetes from Karwar Coast, West Coast of India, *World Journal of Science and Technology*, **1**(1): 07-10
- Nanjwade, B., K., Chandrashekhara, S., Goudanavar, P., S., Shammarez, A., M., Manvi, F., V., 2010, Production of Abtibiotics from Soil – Isolated Actinomycetes & Evaluation of their Antimicrobial Activities, *Tropical Journal of Pharmaceutical Research*, **9**(4):373 – 377
- Nesterenko, O., A., E., I., Kvasnikov, S., A., Kusumova, 1978b, Properties and taxonomy of some spore-forming *Nocardia*, *Zentralbl Bakteriol Parasitenkd Infektionskr Hyg Abt 1 Suppl*, **6**: 253–260

- Nurkanto, Arif, 2008, *Teknik Isolasi Actinomycetes*, Bidang Mikrobiologi Puslit Biologi, Lembaga Ilmu Pengetahuan, Bogor
- Nurkanto A, Julistiono H, 2014, Screening and Study of Antifungal Activity of leaf litter Actinomycetes Isolated from Ternate Island, Indonesia, *Asian Pacific Journal of Tropical Medicine*, **7**:S238-S243
- Nurkanto, Agusta, 2015, Identifikasi Molekular dan Karakterisasi Morfo-Fisiologi Actinomycetes Penghasil Senyawa Antimikroba (Molecular Identification and Morpho-Physiological Characterization of Actinomycetes with Antimicrobial Properties, *Jurnal Biologi Indonesia*, **11**(2): 192-203
- Madigan, M., T., J., M., Martiko, J., Parker, 2003, *Biology of Microorganisms, Tenth Edition*, Pearson Education, Inc, USA
- Mahmudi, M., 2008, Laju Dekomposisi Serasah Mangrove dan Kontribusinya Terhadap Nutrien di Hutan Mangrove Reboisasi, *Jurnal Penelitian Perikanan*, **11**(1): 107-117
- Maldonado, L., J., V., Hookey, A., C., Ward, M., Goodfellow, 2000, The *Nocardia salmonicida* clade, including descriptions of *Nocardia cummidelensis* sp. nov., *Nocardia fluminea* sp. nov. and *Nocardia soli* sp. nov. *Antonie van Leeuwenhoek*, **78**: 367–377
- Mangamuri, U., K., V., Muvva, S., Poda, S., Kamma, 2012, Isolation, Identification and Molecular Characterization of Rare Actinomycetes from Mangrove Ecosystem of Nizampatnam, *Malaysian Journal of Microbiology*, **8**(2): 83-91
- Montalto, M., Curigliano, L., Santoro, Vastola, Manna, Cammarota, Gasbarinni, 2006, Management and Treatment of Lactose Malabsorption, *World Journal of Gastroenterology*, **12**:187-191
- Marganingtyas, D., 2011, Potensi Bakteri Selulolitik Indigenous Mangrove Terhadap Komposisi Limbah Tambak Udang, *Skripsi*, Universitas Brawijaya, Malang
- Meryandini, Anja, 2009, Isolasi Bakteri dan Karakterisasi Enzimnya, *Makara Sains*, **13**: 33-38
- Megiandari, A, 2009, Isolasi Dan Pencirian Enzim Protease Keratinolitik Dari Usus Biawak Air, *Tesis Jurusan Kimia FMIPA*, IPB, Bogor
- Mendes, R., Garbeva, P., Raaijmaker, J., M., 2013, The rhizosphere microbiome: significance of plant beneficial, plant pathogenic, and human pathogenic

- microorganisms, *Federation of European Microbiological Societies*, **37**: 634-663
- Palmer, T., 1991, *Understanding Enzyme Third Edition*, Ellis Horwood Limited, England
- Page, D., S., 1997, *Prinsip-prinsip Biokimia Terj. Principles of Biological Chemistry oleh R. Soendono*, Erlangga, Jakarta
- Persita, A., M., Linda, T., Devi, S., 2017, Seleksi dan Aktivitas Enzim Selulase Aktinomisetes Lokal Riau pada Media Lignoselulosa Ampas Tebu, *Jurnal Riau Biologia*, **2**(1): 8 - 13
- Poedjiadi, A., Supriyanti, F., M., T., 2009, *Dasar-Dasar Biokimia*, Penerbit Universitas Indonesia, Jakarta
- Prijono, A., Dwi, O., 2013, *Memintal Pelestarian di Tanah Jawa*, National Geographic Indonesia
- Qinyuan, L., X., Chen, Y., Jiang, Chenglin, J., 2016, *Morphological Identification of Actinobacteria*, Yunnan Institute of Microbiology, School of Life Science, Yunnan University, Kunming, P. R, China
- Rao, N., S., Subba, 1994, *Mikroorganisme Tanah dan Pertumbuhan Tanaman*, UI Press, Jakarta
- Ravikumar, S., Samuel, J., I., Muthu, U., Sankaran, R., P., Andy, R., Margaret, B., B., 2010, Diversity Of Endophytic Actinomycetes From Karangkadu Mangrove Ecosystem And Its Antibacterial Potential Against Bacterial Pathogens, *Journal of Pharmacy Research* 2011, **4**(1):294-296
- Real, R., Vargas, J., M., 1996, The probabilistic basis of Jaccard's Index of Similarity, *Systematic Biology*, **45**: 380-385
- Rollins, D., M., Joseph, S., W., 2000, *Actinomycetes Summary*, University of Maryland
- Sahoo, K., N., K., Dhal, 2008, Potential Microbial Diversity in Mangrove Ecosystema, A Review, *Indian Journal of Marine Science*, **Vol. 38**(2): 249-256

- Saraswati, R., Erny, Y., H., Kurniawan, 2010, *Pengembangan Teknologi DSA untuk percepatan pengomposan kurang dari 10 hari*, Laporan Akhir Shinta, Balit-tanah, BBSDLP, Bogor-Indonesia
- Sastrahidayat, I., Rochdjatun, 2014, *Peranan Mikroba bagi Kesehatan Tanaman dan Kelestarian Lingkungan*, Universitas Brawijaya Press
- Silva, R., E., S., Lago, C., W., Merheb, M., M., Machione, Y., K., Park, E., Gomes, 2005, Production of Xylanase and CMCase on Solid State Fermentation in Different Residues by *Thermoascus Auranticus* Brazilian, *Journal Microbiology*, **36**(3): 235-241
- Sugiyono, 2010, *Metode Penelitian Pendidikan Pendekatan Kuantitatif, kualitatif, dan R&D*, Bandung, Alfabeta
- Sukumaran, R., K., Singhanian, R., R., Mathew, G., M., Pandey, A., 2005, Cellulase Production Using Biomass Feed Stock and Its Application in Lignocelluloses Saccharification for Bio-Ethanol Production, *Renew Energy*, **34**(12): 421–424
- Sumardjo, D., 2009, *Pengantar Kimia Buku Panduan Kuliah Mahasiswa Kedokteran dan Program Strata I Fakultas Bioeksakta*, Jakarta, EGC
- Supriharyono, 2000, *Pelestarian dan Pengelolaan Sumber Daya Alam di Wilayah Pesisir Tropis*, Jakarta, Gramedia
- Suthindhiran, K., Jayasri, M., A., Kannabiran, K., 2009, Alpha Glucosidase and Alpha Amylase Inhibitory Activity of *Micromonospora* sp., *IJIB*, **6**: 115-120
- Tamburini, E., Perito, B., Mastromei, G., 2004, Growth phase-dependent expression of an endoglucanase encoding gene (eglS) in *Streptomyces rochei* A2, *Microbiol Lett*, **237**:267-272.
- Toelle, N., Neliyani., Lenda, Victor., 2014, Identifikasi dan Karakteristik *Staphylococcus* sp. dan *Streptococcus* sp. dari Infeksi Ovarium Pada Ayam Petelur Komersial, *Jurnal Ilmu Ternak*, Juni 2014, **1**(7), 32 – 37, Politeknik Negeri Kupang, Kupang
- Toha, Abdul Hamid, 2001, *Biokimia, Metabolisme Molekul*, Alfabeta, Bandung
- Trikurniadewi, Nastiti, 2018, Analisis Komunitas Bakteri Dalam Biodegradasi Hidrokarbon Penyusun Lumpur Minyak, *Tesis*, Universitas Airlangga, Surabaya

- Ventura, M., C., Canchaya, A., Tauch, G., Chandra, G., Fitzgerald, K., F., Chater, D., Sinderen, 2007, Genomics of Actinobacteria: Tracing the Evolutionary History of an Ancient Phylum, *Microbiology and Molecular Biology Reviews*, **71**(3): 495-548
- Wahyuni, S., 2001, Mempelajari Karakteristik Fisik dan Kimia Edible Film dari Gelatin Tulang Domba dengan Plasticizer Gliserol, *Skripsi*, Jurusan Ilmu Produksi Ternak, Fakultas Peternakan, Institut Pertanian Bogor
- Williams, S., T., G., P., Sharples, J., A., Serrano, A., A., Serrano, J., Lacey, 1976, The micromorphology and fine structure of nocardioform organisms, In *The Biology of Nocardiae* (edited by Goodfellow, Brownell and Serrano), *Academic Press*, London, pp, 102–104
- Yulvizar, Cut., 2013, Isolasi dan Identifikasi Bakteri Probiotik pada *Rastrelliger* sp, *Biospecies*, **Vol. 6**, No.2, Juli 2013, hal. 1-7
- Zaldivar, J., J., Nielsen, L., Olsson, 2001, Fuel ethanol production from lignocellulose: A challenge for metabolic engineering and process integration, *Appl Microbiol Biotechnol*, **56**: 17–34
- Zhang, P., Y., H., Himmel, M., E., Mielenz, J., R., 2006, Outlook for cellulase improvement: Screening and selection strategies, *Biotechnol Adv*, **24**:452-481
- Zhi, X., Y., W., J., Li, E, Stackebrandt, 2009, An Update of the Structure and 16S rRNA gene Sequence-based Definition of Higher Ranks of the Class Actinobacteria, with the Proposal of Two New Suborders and Four New Families and Emended Descriptions of the Existing Higher Taxa, *International Journal of Systematic and Evolutionary Microbiology*, **59**: 589–608