

DAFTAR PUSTAKA

- Allemand, D., M. Gostan, D. Pontual, H. Boeuf, P. Payan. 2007. *Handbook of Biomineralization: Biological Aspects and Structure Formation*. Wiley-VCH Verlag GmbH. Weinheim.
- Atmaja, S.B., B. Sadhotomo. 2005. Study on the reproduction of "layang deles" shortfin scad (*Decapterus macrosoma*) in the Java Sea. *Journal of Indonesian Fisheries Research*. 11: 9-19.
- Ayu, P., D. Wijayanto, F. Kurohman. 2016. Analisis kelayakan finansial usaha perikanan tangkap (gillnet) di pelabuhan Perikanan Pantai (PPP) Sadeng Kabupaten Gunungkidul. *Journal of Fisheries Resources Utilization Management and Technology*. 6(4): 301-309.
- Bani, A., S. P.V.M. Tuset. 2013. Comparative morphology of the sagittal otolith in three species of south *Caspian gobies*. *Journal of Fish Biology*. 82(4): 1321–1332.
- Bappeda Gunungkidul. 2016. Informasi Pembangunan Daerah Kabupaten Gunungkidul Tahun 2016.
- Baweleng S., F.B. Manginsela, J.R.R. Sangarai. 2018. Studi otolith ikan layang, *Decapterus akaadsi* abe 1958 dari perairan Teluk Amurang. *Jurnal Ilmiah Platax*. 6(2): 66-77.
- Baxendale, S., T.T. Whitfield. 2014. Zebrafish Inner Ear Development and Function. <<https://www.sciencedirect.com/topics/agricultural-andbiologicalsciences/otolith>>. Diakses pada 10 Oktober 2022.
- Breder, C.M., D.E. Rosen. 1966. *Modes of Reproduction in Fishes*. T.F.H. Publications Neptune City. New Jersey.
- Brothers, E.R., C.P. Mathews, R. Lasker. 1976. Daily growth increments in otoliths from larval and adult fishes. *Journal of Fish Bull*. 74:1-8.
- Campana, S.E., dan J.D. Neilson. 1985. Microstructure of fish otoliths. *Journal of Fisheries dan Aquatic*. 42:1014-1032.
- Campana, S. E., C.M. Jones. 1992. Otolith microstructure examination and analysis. *Canadian Special Publication of Fisheries and Aquatic Sciences*. 117: 73-100.
- Chahyadi, E., Windarti. 2015. Studi pola lingkaran pertumbuhan otolith pada ikan katung (*Pristolepis grooti*) yang ditangkap di hilir Sungai Siak Provinsi Riau. *Jurnal Perikanan dan Kelautan*. 20(2): 67-77.
- Chan, W., F. Talbot and P. Sukhavisidh, 1974. Carangidae. In W. Fischer and P.J.P. Whitehead (eds.) *FAO Species Identification Sheets for Fishery Purposes*. Eastern Indian Ocean (Fishing Area 57) and Western Central Pacific (Fishing Area 71): Volume 1. FAO. Rome.
- Chang, S.K., Y.T. Chou, S.D. Hoyle. 2022. Length weight relationship and otolith based growth curves for brushtooth lizardfish of Taiwan with observation of region and aging material effects on global growth estimates. *Journal Frontiers in Marine Science*. 9:1-15.

- Djumanto. 2020. Fish length and otolith size relationship of the *Channa striata* in Lake Rawa Pening, Central Java, Indonesia. *AACL Bioflux Journal*. 12(4): 1917-1924.
- Effendi, M.I. 2002. *Biologi Perikanan*. Yayasan Pustaka Nusantara. Yogyakarta.
- Fadhil R., Z.A. Muchlisin, W. Sari. 2016. Hubungan panjang - berat dan morfometrik ikan julungjulung (*Zenarchopterus dispar*) dari perairan pantai utara Aceh. *Jurnal Ilmiah Mahasiswa Kelautan dan Perikanan Unsyiah*. 1(1):146-159.
- Fischer, W., I. Sousa, C. Silva, A. de Freitas, J.M. Poutiers, W. Schneider, T.C. Borges, J.P. Feral, A. Massinga. 1990. *FAO Identification Sheets of Species for Fishing Activities*. FAO. Roma.
- Fishbase. 2022. *Decapterus macrosoma* Bleeker, 1851. <<https://www.fishbase.se/country/CountryList.php?ID=1938&GenusName=Decapterus&SpeciesName=macrosoma>> Diakses pada 8 Oktober 2022.
- Fishider. 2022. *Decapterus macrosoma*. <<https://fishider.org/id/guide/osteichthyes/carangidae/decapterus/decapterus-macrosoma>>. Diakses pada 1 Oktober 2022 pukul 19.04.
- Gauldie, R.W., J.S. Crampton. 2002. An ecomorphological explanation of individual variability in the shape of the fish otolith: comparison of the otolith of *Hoplostethus atlanticus* with other species by depth. *Jornal of Fish Biology*. 60: 1204-1221.
- Ginting, D. W., P. W. Purnomo, A. Ghofar. 2013. Potensi dan pengelolaan sumberdaya ikan pora-pora (*Mystacoleucus padangensis* Bleeker) di Danau Toba Sumatera Utara. *Jurnal of Maquares*. 2(4): 28-37.
- Ginting, J. Y., R.D.C. Pamikiran, K.W.A. Masengi, H.V. Dien, A. Luasunaung, L. Manu. 2022. Pendugaan musim penangkapan ikan layang (*Decapterus* spp) dengan pukot cincin di laut sulawesi berbasis data hasil tangkapan. *Jurnal Ilmiah Platax*. 10(2): 301-307.
- Green, B.S., B.D. Mapstone, G. Carlos, G.A. Begg. 2009. *Tropical Fish Otoliths: Information for Assessment, Management and Ecology*. Springer Science Business Media. Berlin.
- Gulland, J.A. 1983. *Fish Stock Assesment. A Manual of Basic Methods*. John Wiley and Sons.Inc. New York.
- Hidayat, D., Sasanti, A., D. 2013. Kelangsungan hidup, pertumbuhan dan efesiensi pakan ikan gabus (*Channa striata*) yang diberi pakan berbahan baku tepung keong mas (*Pomacea sp.*). *Jurnal Akuakultur Rawa Indonesia*. 1(2): 161-172.
- Hoie, H., A. Folkvord, H. Mosegaard, L. Li, L.A.W. Clausen, B. Norberg, A.J. Geffen. 2008. Restricted fish feeding reduces cod otolith opacity. *Journal of Applied Ichthyology*, 24: 138-143.
- Holden, M. J., D.F.S. Rait. 1974. *Manual of fisheries science. Part 2: Methods of Resource Investigation and their Application*. FAO. Roma.

- Hsieh, C.H., T.S. Chiu. 2002. Summer spatial distribution of copepods and fish larvae in relation to hydrography in the northern Taiwan Strait. *Zoological Studies*. 41(1):85-98.
- Keputusan Kepala Badan Karantina Ikan Pengendalian Mutu dan Keamanan Hasil Perikanan No.67/KEP-BKIPM/2015 tentang Petunjuk Teknis Pemetaan Sebaran Jenis Agen Hayati yang Dilindungi, Dilarang dan Invasif di Indonesia.
- Keputusan Kepala Dinas Kelautan dan Perikanan DIY Nomor 188 Tahun 2018 Tentang Pembentukan Tim Penyusun Rencana Strategis Perubahan Dinas Kelautan dan Perikanan Daerah Istimewa Yogyakarta.
- Kuiter, R.H., T. Tonozuka. 2001. Pictorial guide to Indonesian reef fishes. Part 1. Eels-Snappers, Muraenidae - Lutjanidae. Zoonetics. Australia.
- Leguá, J., G. Plaza., D. Pérez, A. Arkhipkin. 2013. Otolith shape analysis as a tool for stock identification of the southern blue whiting. *Journal of Micromesistius Australis*. 41(3): 479-489.
- Mamangkey, J. 2002. Hubungan perkembangan otolith dengan pertumbuhan ikan terbang (*Cypselurus poeciloterus*) di perairan teluk manado. *Jurnal Iktiologi Indonesia*. 2 (1): 15 19.
- Manginsela, F.B., G.E. Mamuaya, R.M. Rompas, L.JL. Lumingas. 2020. the size and the shape of sagittal otolith of redbill scud, *Decapterus kurroides* Bleeker 1855 from Kema Bay, North Minahasa Regency, North Sulawesi, Indonesia. *Jurnal Omni-Akuatika*. 16(3): 99-110.
- Manginsela, F.B., G.E. Mamuaya, R.M. Rompas, L.JL. Lumingas. 2020. Otolith size and shape index of mackerel scud *Decapterus macarellus* (Cuvier, 1833) from Manado Bay and Kema Bay, North Sulawesi, Indonesia. *AACL Bioflux Journal*. 13(3): 1723-1734.
- Mendoza, R.P. 2006. Otoliths and Their Applications in Fishery Science. Coden Ribaeg Article. 64(3):89-102.
- Moksness, E., V.G. Wespestad. 1989. Ageing and back-calculating growth rate of Pacific herring (*Clupea harengus pallasii*) larvae by reading daily otolith increments. *Fishery Bulletin U.S.* 87: 509-513.
- Mosegaard, H., H. Svedang, K. Taberman. 1988. Uncoupling of somatic and otolith growth rates in Arctic char (*Salvelinus alpinus*) as an effect of differences in temperature response. *Canadian Journal of Fisheries and Aquatic Sciences*. 45: 1514-1524.
- Morales, N., Panfili, B. 2000. Review of the growth regulation processes of otolith daily increment formation. *Fish Research*. 46(3): 53-67.
- Mulligan, T.J., F.D. Martin, R.A. Smucker, D.A. Wright. 1987. A method of stock identification based on the elemental composition of striped bass *Morone saxatilis* (Walbaum) otolith. *Journal Exp Marine Biology Ecology*. 114: 241-248.
- Mundy, B.C. 2005. Checklist of the fishes of the Hawaiian Archipelago. *Bulletin in Zoology Bishop Museum Press Honolulu*. (6):1-704.

- Myers, R. F. 1999. Micronesian reef fishes: a comprehensive guide to the coral reef fishes of Micronesia, 3rd revised and expanded edition. Coral Graphics. Barrigada. Guam.
- Nontji, A. 2002. Laut Nusantara. Penerbit Djambatan. Jakarta.
- Osman, Y.A.A., K. Mahe, S.M. El-Mahdy, A.S. Mohammad, S.F. Mehanna. 2021. Relationship between body and otolith morphological characteristics of sabre squirrelfish (*Sargocentron spiniferum*) from the Southern Red Sea: difference between right and left otoliths. Oceans Journal. 2: 624-633.
- Popper, A.N., J. Ramcharitar, S.E. Campana. 2005. Why otoliths? insights from inner ear physiology and fisheries biology. Marine and Freshwater Research. 56(5): 497–504.
- Popper, A.N., R.R. Fay. 2011. Rethinking sound detection by fishes. Jurnal Hearing Research. 273: 25–36.
- Popper, A.N., Z. Lu. 2000. Structure-function relationships in fish otolith organs. Fisheries Research. 46: 15-25.
- Polanunu, A., S. Umasugi, dan M. C. B. Umanailo. 2020. Pertumbuhan dan sebaran frekuensi panjang ikan layang (*Decapterus sp*) hasil tangkapan di perairan dalam dan luar Teluk Bara Kabupaten Buru – Maluku. Jurnal Agribisnis Perikanan. 13(2): 310-317.
- Prihartini, A. 2006. Analisis tampilan biologis ikan layang (*Decapterus spp*) hasil tangkapan purse seine yang didaratkan di PPN Pekalongan. Universitas Diponegoro. Program Studi Magister Manajemen Sumberdaya Pantai. Tesis.
- Royce, W. F. 1972. Introduction to The Fishery Sciences Academic Press. New York.
- Saanin, H. 1984. Taksonomi dan Kunci Identifikasi Ikan. Binacipta. Jakarta.
- Schulz-Mirbach, Tanja, M. Heb, M. Plath. 2011. Inner ear morphology in the Atlantic molly *Poecilia mexicana*-first detailed microanatomical study of the inner ear of a cyprinodontiform species. Public Library of Science One Journal. 6(11): 1-14.
- Secor, D. H., J. M. Dean, E. H. Laban. 1991. *Manual for Otolith Removal and Preparation for Microstructural Examination*. The Electric Power Research Institute and the Belle W Baruch Institute for Marine Biology and Coastal Research. Columbia.
- Senen, B., Sulistiono, I. Muchsin. 2011. Beberapa aspek biologi ikan layang deles (*Decapterus macrosoma*) di perairan Banda Neira, Maluku. Jurnal Pengembangan Pulau-Pulau Kecil. 52-60.
- Shiraishi, T., H. Tanaka, S. Ohishimo, H. Ishida, N. Morinaga. 2010. Age, growth and reproduction of two species of scad, *Decapterus macrosoma* and *D. macarellus* in the Waters off Southern Kyushu. Journal of Japan International Research Center for Agricultural Sciences. 44(2): 197-206.
- Silooy, F.D., A. Tupamahu, O.T.S Ongkers. D.D.P. Matruty. 2019. Size distribution and growth mackerel scad (*Decapterus macarellus*) in the Ambon Waters.

International Journal of Environment, Agriculture and Biotechnology. 4(2): 505-509.

- Simbolon, D. 2011. Bioekologi dan Dinamika Daerah Penangkapan Ikan. Departemen Pemanfaatan Sumberdaya Perikanan. Fakultas Perikanan dan Ilmu Kelautan. Bogor. Institut Pertanian Bogor.
- Situmorang, T.E., D. Efizon, Efawani. 2019. Pola lingkaran pertumbuhan pada otolith ikan barau (*Hampala macrolepidota* Kuhl and Van Hasselt, 1823) di Sungai Kampar Kiri Desa Mentulik Kecamatan Kampar Kiri Hilir Kabupaten Kampar Provinsi Riau. Jurnal Fakultas Perikanan dan Kelautan Universitas Riau. 1-11.
- Sparre, P., dan S.C. Venema. 1999. Introduksi Pengkajian Stok Ikan Tropis. Pusat Penelitian dan Pengembangan Perikanan Badan Peneitian dan Pengembangan Pertanian. Jakarta.
- Sirois, P., F. Lecomte, J.J. Dodson. 1998. An otolith-based back-calculation method to account for time-varying growth rate in rainbow smelt (*Osmerus 51 mordax*) larvae. Jurnal Canadian Fisheries and Aquatic Sciences. 55: 2662- 2671.
- Smith-Vaniz, W.F. & Williams, I. 2016. *Decapterus macrosoma* (errata version published in 2017). The IUCN Red List of Threatened Species 2016: e.T20431518A115379160. <https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T20431518A65927864.en>. Diakses pada 24 January 2023.
- Stransky, C., A.G. Murta, J. Schlickeisen, dan J. Zimmermann. 2008. Otoith shape analysis as a tool for stock separation of mackerel (*Trachurus trachurus*) in The Northeast Atlantic and Mediterranean. Fish. Res. 89: 159-166.
- Sunarjo. 1990. Analisa parameter pertumbuhan ikan layang deles (*Decapterus macrosoma* Blkr) di Perairan Laut Jawa Bagian Timur. Fakultas Peternakan. Universitas Diponegoro Semarang. Skripsi.
- Triantini, S.A.N.P., I.W. Arthana, M.A. Pratiwi. 2021. Pendugaan potensi lestari ikan layang (*Decapterus spp*) yang didaratkan di PPN Pengambangan. Current Trends in Aquatic Science. 4(1):10-17.
- Tuset, V.M., P.L. Rosin, A. Lombarte. 2006. Sagittal otolith shape used in the identification of fishes of the genus Serranus. Fisheries Research. 81: 316–325.
- Tuset, V.M., A. Lombarte, J.A. González, J.F. Pertusa, M.J. Lorente. 2003. Comparative morphology of the sagittal otolith in Serranus spp. Journal of Fish Biology. 63: 1491–1504.
- Umar, Y., F.B. Manginsela, R. Moningkey. 2019. Otolit dan pola pertumbuhan ikan layang, *Decapterus Muroadsi* Temminck & Schlegel, 1844 di Teluk Manado. Jurnal Ilmiah Platax. 7(1):27-34.
- Wahju, R. I., Zulkarnain, K. P. S. Mara. 2011. Estimasi musim penangkapan layang (*Decapterus spp*) yang didaratkan di PPN Pekalongan, Jawa Tengah. Buletin PSP. 19(1): 105-113.
- Widodo, J. 1991. Maturity and spawning of shortfin scad (*Decapterus macrosoma*) (Carangidae) of the Java Sea. Asian Fish. Science. 4:245-252.

- Wright, P. J. 1991. The influence of metabolic rate on otolith increment width in Atlantic salmon parr, *Salmo salar* L. *Journal of Fish Biology*. 38: 929-933.
- Wright, P. J., J. Panfili, B. Morales-Nin, A.J. Geffen. 2002. *Types of calcified structures. In Manual of Fish Sclerochronology A. Otoliths*. Plouzane. France.
- Wujdi, A., M. Agustina, I. Jatmiko. 2017. Indeks bentuk otolit ikan cakalang, *Katsuwonus pelamis* (Linnaeus, 1758) dari Samudra Hindia. *Jurnal Ikhtiologi Indonesia*. 18(2): 151-163.
- Wujdi, A., Prihatiningsih, Suwarso. 2016. Karakteristik morfologi dan hubungan morfometrik otolith dengan ukuran ikan lemuru (*Sardinella Lemuru* Bleeker, 1853) di Selat Bali. *Jurnal Bawal*. 8(3): 159-172.
- Zar, J. H., 1984. *Biostatistical Analysis*. Department of Biological Sciences Northern Illinois University.
- Zhang, F., W. Cai, Z. Sun, J. Zhang. 2008. Regular variations in organic matrix composition of small yellow croaker (*Pseudociaena polyactis*) otoliths: an insitu Raman microspectroscopy and mapping study. *Journal of Anal Bioanal Chemistry*. 390: 777–782.
- Zengin, M., S. Saygin, N. Polat. 2015. Otolith shape analyses and dimensions of the anchovy *Engraulis encrasicolus* L. in the Black and Marmara Seas. *Journal of Sains Malaysiana*. 44(5): 657-662.
- Zischke M.T., L. Litherland, B.R. Tilyard, N.J. Stratford, E.L. Jones, Y. Wang. 2016. Otolith morphology of four mackerel species (*Scomberomorus* spp.) in Australia: Species differentiation and prediction for fisheries monitoring and assessment. *Fisheries Research*. 176: 39–47.