

DAFTAR PUSTAKA

- Anggraini, F.J., Oktapiani, R.R., Ilfan, F., & Rodhiyah, Z. 2021. Lichen sebagai bioindikator pencemaran udara di gerbang kota (gateway) Kota Jambi. *Jurnal Daur Lingkungan*, 4(1): 6-11.
- Ananda, T.T., Kaswinarni, F., dan Rachmawati, R.C. 2023. Keanekaragaman jenis lichenes sebagai bioindikator kualitas udara di objek wisata Wono Sreni Indah Kota Jepara. *Jurnal Ilmah Teknosains*, 9(2): 39-45.
- Ahmadjian, V. dan Hale, M.E. 1973. *The Lichens*. New York: Academic Press. Pp. 35-40. 458.
- Borge, M. & Ellis, C. J. 2024. Interactions of moisture and light drive lichen growth and the response to climate change scenarios: experimental evidence for *Lobaria pulmonaria*. *Annals of Botany*, 134: 43-57.
- Conti, M.E. dan Cecchetti, G. 2001. Biological monitoring lichens as bioindicator of air pollution assessment- a review. *Environmental Pollution*, 114: 471-492.
- Ellis, C. J., 2019. Climate change, bioclimatic models and the risk to lichen diversity. *Diversity*, 11(4): 1-23.
- Fachrul, M. F. 2008. *Metode Sampling Biekologi*. Jakarta: Bumi Aksara.
- Firdhausi, N., Wismaningsih, A., & Irianto, K. 2019. Pengenalan makroinvertebrata bentik sebagai bioindikator pencemaran perairan sungai pada siswa di Wonosalam, Mojokerto, Jawa Timur. *Agrokreatif*, 5(3): 210-215.
- GBIF.org. 2024. Global Biodiversity Information Facility (GBIF). GBIF. <https://www.gbif.org/>
- Giordani, P. 2007. Is diversity of epiphytic lichens a reliable indicator of air pollution? A case study from Italy. *Environmental Pollution*: 317-323
- Giordani, P. 2019. Lichen Diversity and Biomonitoring: A Special Issue. *Diversity*, 11(9): 171.
- Hardini, Y. 2010. *Keanekaragaman lichen di Denpasar sebagai bioindikator pencemaran udara*. Skripsi Nasional Biologi Fakultas Biologi Universitas Gadjah Mada. UGM Press. pp. 790-793.
- Hawksworth, D.L. dan Rose, F. 1976. *Lichens as pollution monitors*. Edward Arnold Ltd. London, UK.

- Isrowati, Rohyani, I.S., Ernawati, Akbar C.A., Wahyuni, E.D., dan Purnamasari, W. 2023. Keanekaragaman lumur sebagai bioindikator kualitas udara di kawasan taman wisata alam Suranadi dan ruang terbuka hijau Udayana. *Jurnal Sains Teknologi & Lingkungan*, 9(2): 318-327.
- Jovan, S. 2008. *Lichen Bioindication of Biodiversity, Air Quality, and Climate: Baseline Results from Monitoring in Washington, Oregon, and California.U.S.* Department of Agriculture: Washington.
- Kett, A., Dong, S., Andrachuck, H., dan Craig, B. 2005. *Learning with Lichens : Using Epiphytic Lichens as Bioindicators of Air Pollution.* United States: Brook University.
- Kurniasih, A., Munarti, Prasaja, D., dan Lestari, A.A. 2020. Potensi liken sebagai bioindikator kualitas udara di kawasan Sentul Bogor. *Jurnal Penelitian Ekosistem Dipterokarpa*, 6(1): 17-24.
- Koz, B., Celik, N., & Cevik, U. 2010. Biomonitoring of heavy metals by epiphytic lichen species in Black Sea region of Turkey. *Ecological Indicators*, 10(2010): 762-765.
- Le Blanc, F. dan De Sloover, J. 1970. Relation between industrialization and the distribution and growth of epiphytic lichens and mosses in Montreal. *Canadian Journal of Botany*, 48: 1485-1496.
- Markert, B., Oehlmann, J. dan Roth, M. 1997. *General aspects of heavy metal monitoring by plants and animals. In: Environmental bio-monitoring - exposure, assesment and specimen banking.* ACS Symposium series 654. Subramanian, K.S. and Iyengar, G.V. (Eds.) American Chemical Society, New York. pp. 19-29.
- Marmor, L., Torra, T., Saag, L., & Randlane, T. 2012. Spesies richness of epiphytic lichens in coniferous forests: the effect pof canopy openness. *Ann Bot Fennici*, 49: 352-358.
- Martuti, N. K. 2013. Peranan tanaman terhadap pencemaran udara di jalan protokol kota Semarang. *Biosantifika - Berkala Ilmiah Biologi*, 36-42.
- Misra, A. dan Agrawal, R.P. 197. *Lichens (A Preliminary Text).* Oxford & IBH Publishing: India.

- Naifula, L.E., Laelasari, I., Fitriani, M., dan Paramadina, A. 2021. Morfologi tipe thalus lichen sebagai bioindikator pencemaran udara di Kudus. *Bioma*, 3(1): 36-42.
- Nájera, J. M. 2019. Relative humidity, temperature, substrate type, and height of terrestrial lichens in a tropical paramo. *Biologia Tropical*, 67(1): 206-212.
- Onele, A.O., Swid, M.A., Leksin, I.Y., Rakhmatullina, D.F., Galeeva, E.I., Beckett, R.P., Minibayeva, F.V., & Valitova, J.N. 2024. Role of squalene epoxidase gene (SQE1) in the response of the lichen *Loba pulmonaria* to temperature stress. *Journal of Fungi*, 10(705): 1-15.
- Paracer, S. dan Vernon, A. 2000. *Symbiosis: An Introduction to Biological Association*. 2 nd Ed. New York: Oxford University Press, inc.
- Prasad, S., & Singh, R. (2017). Parmotrema perlatum abundance as an indicator of environmental rehabilitation in mined areas. *Journal of Environmental Rehabilitation*, 11(1): 34-41.
- Pratiwi, M. E. 2006. Kajian Lumut Kerak Sebagai Bioindikator Kualitas Udara.Studi Kasus Kawasan Industri Pulo Gadung, Arberetum Cibubur dan Tegakan Mahoni Cikabayan. *Skripsi*. Bogor: Institut Pertanian Bogor.
- Purvis, O.W., Chimonides, J., Din, V., Erotokritou, L., Jeffries, T., Jones, G.C., Louwhoff, S., Read, H., dan Spiro, B. 2003. Which factors are responsible for the changing lichen floras of London? *Science of the Total Environment*, 310: 179-189.
- Purvis, W., 2000. *Lichens*. Washington, D.C.: Smithsonian Institution Press in association with the Natural History Museum, London.
- Rindita, Sudirman, L.I., dan Koesmaryono,Y. 2015. Air quality bioindikator using the population of ephypitic macrolichens in Bogor City, West Java. *Journal of Bioscience*, 22(2): 53-59.
- Roziaty, E., Sutarno, Suntoro, & Sugiyarto. 2023. Short communication: the effects of SO₂ and NO₂ fumigation on the chlorophyll of *Parmotrema perlatum* from Mt. Lawu, Indonesia. *Biodiversitas*, 24(5): 2630-2637.
- Roziaty, E. 2016. Kajian lichen: morfologi, habitat, dan bioindikator kualitas udara ambien akibat polusi kendaraan bermotor. *Bioeksperimen*, 2(1): 54- 66.

- Roziaty, E., Kusumadhani, A.I., dan Asy'ari, M.I.B. 2021. Keanekaragaman lichen sebagai bioindikator kualitas udara di kawasan Kota Surakarta, Jawa Tengah. *Bioeksperimen*, 7(2): 66-73.
- Roziaty, E. 2016. Lichen: karakteristik anatomis dan reproduksi vegetatifnya. *Jurnal Pena Sains*, 3(1): 44-54.
- Sales, K., Kerr, L., & Gardner, J. 2016. Factors influencing epiphytic moss and lichen distribution within Killarney National Park. *Bioscience Horizons*, 9: 1-12.
- Savic, S. 1998. *Epiphytic lichens as bioindicators of air pollution in the area of Belgrade*. IAL 3. Belgrade: Verlag Alexander Just. pp. 331- 334.
- Singh, R., & Singh, S. (2020). Impact of air pollution on *Parmotrema perlatum* abundance in industrial areas. *Journal of Environmental Science and Technology*, 13(2): 123-132.
- Sett, R. & Kundu, M. 2016. Epiphytic lichen: their usefulness as bio-indicators of air pollution. *Donnish Journal of Research in Environmental Studies*, 3(3): 17-24.
- Sloof, J.E. dan Wolterbeek, H.T.H. 1991. *Patterns in trace elements in lichens*. *Water, Air and Soil Pollution*, 58: 785-795.
- Stolte, K., Mangis, D. Doty, R. dan K. Tonnessen, (Eds.) 1993. *Lichens as Bioindicators of Air Quality*. USDA-Forest Service, Rocky Mountain Forest and Range Experiment Station General Technical Report RM-224. Fort Collins, Colorado. pp. 131.
- Suharno, Hafisa, & Sufaati, S. 2024. Using the diversity lichens in Maribu Forest area, West Sentani District, Jayapura Regency as a baseline data on environmental changes. *Jurnal Ilmu Kehutanan*, 18(1): 80-89.
- Syarif, A. & Roziaty, E. 2018. Studi lichen pada berbagai tumbuhan inang di Kecamatan Serengan, Kota Surakarta. *Seminar Nasional Pendidikan Biologi dan Sainterk III*, 3(2018): 356-361.
- Thomas H. & Nash III. 1973. Sensitivity of lichens to sulfur dioxide. *The Bryologist*, 76(3): 333-339.

- Untari, L.F. 2024. *The Biology of Lichen*. In Chemistry, Biology and Pharmacology of Lichen (eds A.K. Das, A. Sharma, D. Kathuria, M.J. Ansari and G. Bhardwaj). <https://doi.org/10.1002/9781394190706.ch2>
- Wardiah, W., Ratnasari, D., Iswadi, I., Samingan, S., & Andayani, D. 2021. Composition of ascolichen in Gayo highland. *Jurnal Biotik*, 9(1): 24-34.
- Wang, S., Li, W., Wufuer, R., Duo, J., Pei, L., & Pan, X. The key role of cyclic electron flow in the recover of photosynthesis in the photobiont during rehydration of the lichen *Cladonia stellaris*. *Plants*, 12(4011): 1-14.
- Whitmore, T.C., 1984. *Tropical Rain Forests of the Far East*. 2nd ed. Oxford University Press, Oxford.
- Wolterbeek, H.Th., Garty, J., Reis, M.A., dan Freitas, M.C. 2003. *Bio-monitors in use: lichens and metal air pollution*. In: *Bio-indicators and bio-monitors*. Markert, B.A., Breure, A.M. and Zechmeister, H.G. (Eds.), Elsevier, Oxford. pp. 377-419.