

DAFTAR PUSTAKA

- Achmad, A., Ngakan, P. O., & Umar, A. (2013). Potensi Keanekaragaman Satwaliar Untuk Pengembangan Ekowisata Di Laboratorium Lapangan Konservasi Sumberdaya Hutan Dan Ekowisata Hutan Pendidikan Unhas. *Jurnal Penelitian Kehutanan Wallacea*, 2(2), 79-92. doi.org/10.18330/jwallacea.2013.vol2iss2pp79-92
- Ajibola-James, O. O., Awotoye, O. O., Sonibare, J. A., & Oroboade, J. G. (2024). Assessing the ecological impact of industrial noise pollution on wildlife behavior in Okomu Forest Reserve, Nigeria. *Discover Environment*, 2(1), 58. doi.org/10.1007/s44274-024-00092-8
- Alhadi, F., Kaprawi, F., Hamidy, A., & Kirschey, T. (2021). *Amfibi Pulau Jawa: panduan bergambar dan identifikasi*. Perkumpulan Amfibi Reptil Sumatera.
- Almeida, A. P., de Oliveira, G. R., de Oliveira Bastos, D. F., dos Santos Faraulo, M., de Abreu Junior, P. B., & Zina, J. (2025). Complex courtship of *Bokermannohyla capra* (Anura: Hylidae), a treefrog that inhabits lotic environments. *Phyllomedusa*, 24(1):67–82. http://dx.doi.org/10.11606/issn.2316-9079.v24i1p67-82
- Amini, A. A., & Suriadi, I. (2023). Pengaruh pariwisata alam terhadap kesejahteraan masyarakat, studi kasus pada wisata alam di kelurahan Tanjung Karang Kota Mataram. *Journal of Economics and Business*, 9(1), 23-34. doi.org/10.29303/ekonobis.v9i1.128
- Andini, S. W., Prasetyo, Y., & Sukmono, A. (2018). Analisis sebaran vegetasi dengan citra satelit sentinel menggunakan metode NDVI dan segmentasi. *Jurnal Geodesi Undip*, 7(1), 14-24. doi.org/10.14710/jgundip.2017.19295
- Arifin, U., Chan, K. O., Smart, U., Hertwig, S. T., Smith, E. N., Iskandar, D. T., & Haas, A. (2021). Revisiting the phylogenetic predicament of the genus *Huia* (Amphibia: Ranidae) using molecular data and tadpole morphology. *Zoological Journal of the Linnean Society*, 193(2), 673-699. doi.org/10.1093/zoolinnean/zlaa158
- Arini, K., Noer, M. I., Wulandari, A., Amalia, R., & Auliandina, T. (2016, June). Temporal and spectral variation in advertisement call of males *Microhyla achatina* (Tschudi, 1838) are sufficient for individual discrimination. In *AIP Conference Proceedings*, 1744(10), 020032. AIP Publishing LLC. doi.org/10.1063/1.4953506

- Arista, A., Winarno, G. D., & Hilmanto, R. (2017). Keanekaragaman jenis amfibi untuk mendukung kegiatan ekowisata di Desa Braja Harjosari Kabupaten Lampung Timur. *Biosfera*, 34(3), 103-109. doi.org/10.20884/1.mib.2017.34.3.458
- Azahra, S. D. (2024). *Konservasi Satwa Liar di Kawasan Perkotaan*. PT. Sonpedia Publishing Indonesia.
- Bahia, R., Lambertucci, S. A., & Speziale, K. L. (2024). Anthropogenic city noise affects the vocalizations of key forest birds. *Biodiversity and Conservation*, 1-17. doi.org/10.1007/s10531-024-02862-5
- Balirante, M., Lefrandt, L. I., & Kumaat, M. (2020). Analisa tingkat kebisingan lalu lintas di jalan raya ditinjau dari tingkat baku mutu kebisingan yang diizinkan. *Jurnal Sipil Statik*, 8(2), 249-256. <https://ejournal.unsrat.ac.id/v2/index.php/jss/article/view/28723>
- Baloch, Q. B., Shah, S. N., Iqbal, N., Sheeraz, M., Asadullah, M., Mahar, S., & Khan, A. U. (2023). Impact of tourism development upon environmental sustainability: a suggested framework for sustainable ecotourism. *Environmental Science and Pollution Research*, 30(3), 5917-5930. doi.org/10.1007/s11356-022-22496-w
- Bee, M. A. (2012). Sound source perception in anuran amphibians. *Current Opinion in Neurobiology*, 22(2), 301-310. doi: 10.1016/j.conb.2011.12.014.
- Bee, M. A., Suyesh, R., & Biju, S. D. (2013). Vocal behavior of the Ponmudi Bush Frog (*Raorchestes graminirupes*): repertoire and individual variation. *Herpetologica*, 69(1), 22-35. doi.org/10.2307/23352104
- Berkhout, B. W., Budria, A., Thieltges, D. W., & Slabbekoorn, H. (2023). Anthropogenic noise pollution and wildlife diseases. *Trends in parasitology*, 39(3), 181-190. doi.org/10.1016/j.pt.2022.12.002
- Berman, J. J. (2016). *Data simplification: taming information with open source tools*. Morgan Kaufmann. doi.org/10.1016/B978-0-12-803781-2.00004-7
- Bernardy, J. V., Melo, I., Llusia, D., Diniz-Filho, J. A. F., & Bastos, R. P. (2024). Female preferences for dominant frequency in frogs: constraints and impact on sexual size dimorphism. *Behavioral Ecology and Sociobiology*, 78(1), 4. doi.org/10.1007/s00265-023-03418-3
- Boonman, A., & Kurniati, H. (2011). Evolution of high-frequency communication in frogs. *Evolutionary Ecology Research*, 13(2), 197-207.

- Bosak, K. (2019). "The tourism system," in *A Research Agenda for Sustainable Tourism*, McCool, S. F., and Bosak, K. (eds). Northampton: Edward Elgar Publishing.
- Boullhesen, M., Vaira, M., Barquez, R. M., & Akmentins, M. S. (2021). Evaluating the efficacy of visual encounter and automated acoustic survey methods in anuran assemblages of the Yungas Andean forests of Argentina. *Ecological Indicators*, 127, 107750. doi.org/10.1016/j.ecolind.2021.107750
- Brandon, K. E., & Wells, M. (1992). Planning for people and parks: design dilemmas. *World Dev.* 20, 557–570. doi.org/10.1016/0305-750x(92)90044-v
- Brown, C., Wilkinson, L. R., Wilkinson, K. K., Tunstall, T., Foote, R., Todd, B. D., & Vredenburg, V. T. (2019). Demography, habitat, and movements of the Sierra Nevada Yellow-legged Frog (*Rana sierrae*) in streams. *Copeia*, 107(4), 661-675. doi.org/ 10.1643/CE-19-196
- Burivalova, Z., Orndorff, S., Truskinger, A., Roe, P., & Game, E. T. (2021). The sound of logging: Tropical forest soundscape before, during, and after selective timber extraction. *Biological Conservation*, 254, 108812. doi.org/10.1016/j.biocon.2020.108812
- Caballero-Gini, A., Bueno-Villafañe, D., Ferreira, M., Romero, L., Cañete, L., Laino, R., ... & Silla, F. (2021). Seasonal habitat preferences and response to water quality parameters of tree frog species in a neotropical wetland. *Wetlands*, 41(5), 63. doi.org/10.1007/s13157-021-01452-3
- Campos-Cerqueira, M., Mena, J. L., Tejeda-Gómez, V., Aguilar-Amuchastegui, N., Gutierrez, N., & Aide, T. M. (2020). How does FSC forest certification affect the acoustically active fauna in Madre de Dios, Peru?. *Remote Sensing in Ecology and Conservation*, 6(3), 274-285. doi.org/10.1002/rse2.120
- Candolin, U., & Wong, B. B. (2019). Mate choice in a polluted world: consequences for individuals, populations and communities. *Philosophical Transactions of the Royal Society B*, 374(1781), 20180055. doi.org/10.1098/rstb.2018.0055
- Caorsi, V. Z., Both, C., Cechin, S., Antunes, R., & Borges-Martins, M. (2018). Effects of traffic noise on the calling behavior of two Neotropical hylid frogs. *PloS one*, 12(8), e0183342. doi.org/10.1371/journal.pone.0197632
- Carral-Murrieta, C. O., García-Arroyo, M., Marín-Gómez, O. H., Sosa-López, J. R., & MacGregor-Fors, I. (2020). Noisy environments: untangling the role

of anthropogenic noise on bird species richness in a Neotropical city. *Avian Research*, 11(1), 32. doi.org/10.1186/s40657-020-00218-5

Carvajal-Castro, J. D., Vargas-Salinas, F., Casas-Cardona, S., Rojas, B., & Santos, J. C. (2021). Aposematism facilitates the diversification of parental care strategies in poison frogs. *Scientific Reports*, 11(1), 19047. doi.org/10.1038/s41598-021-97206-6

Chen, Z., Wiens, J.J. The origins of acoustic communication in vertebrates. *Nat Commun* 11, 369 (2020). doi.org/10.1038/s41467-020-14356-3

Cronin, A. D., Smit, J. A., & Halfwerk, W. (2022). Anthropogenic noise and light alter temporal but not spatial breeding behavior in a wild frog. *Behavioral Ecology*, 33(6), 1115-1122. doi.org/10.1093/beheco/arac077

Cronin, A. D., Smit, J. A., Muñoz, M. I., Poirier, A., Moran, P. A., Jerem, P., & Halfwerk, W. (2022). A comprehensive overview of the effects of urbanisation on sexual selection and sexual traits. *Biological Reviews*, 97(4), 1325-1345. doi.org/10.1111/brv.12845

Cumming, G. S., and Allen, C. R. (2017). Protected areas as social-ecological systems: Perspectives from resilience and social-ecological systems theory. *Ecol. Appl.* 27, 1709–1717. doi.org/10.1002/eap.1584

Dalpaz, L., Paro, A. D., Daura-Jorge, F. G., Rossi-Santos, M., Norris, T. F., Ingram, S. N., & Wedekin, L. L. (2021). Better together: analysis of integrated acoustic and visual methods when surveying a cetacean community. *Marine Ecology Progress Series*, 678, 197-209. doi.org/10.3354/meps13898

Deichmann, J. L., Acevedo-Charry, O., Barclay, L., Burivalova, Z., Campos-Cerqueira, M., d'Horta, F., ... & Mitchell Aide, T. (2018). It's time to listen: there is much to be learned from the sounds of tropical ecosystems. *Biotropica*, 50(5), 713-718. doi.org/10.1111/btp.12593

Demartín, R. P., Ghirardi, R., & López, J. A. (2025). Influence of Natural and Artificial Habitats and Microhabitats on Urban Amphibian Diversity and Behavior. *Diversity*, 17(4), 292. doi.org/10.3390/d17040292

Doherty, T. S., Hays, G. C., & Driscoll, D. A. (2021). Human disturbance causes widespread disruption of animal movement. *Nature Ecology & Evolution*, 5(4), 513-519. doi.org/10.1038/s41559-020-01380-1

Eldridge, A., Guyot, P., Moscoso, P., Johnston, A., Eyre-Walker, Y., & Peck, M. (2018). Sounding out ecoacoustic metrics: Avian species richness is

predicted by acoustic indices in temperate but not tropical habitats. *Ecological Indicators*, 95, 939-952. doi.org/10.1016/j.ecolind.2018.06.012

Emerson, S. B., & Boyd, S. K. (1999). Mating vocalizations of female frogs: control and evolutionary mechanisms. *Brain behavior and evolution*, 53(4), 187-197. doi.org/10.1159/000006594

Evans, M. J., Scheele, B. C., Westgate, M. J., Yebra, M., Newport, J. S., & Manning, A. D. (2020). Beyond the pond: Terrestrial habitat use by frogs in a changing climate. *Biological Conservation*, 249, 108712. doi.org/10.1016/j.biocon.2020.108712

Farina, A. (2014). Soundscape ecology. *Principles, Patterns, Methods and Applications*.

Fennell, D. (2020). *Ecotourism 5th Edition*. London: Routledge.

Francis, C. D., Ortega, C. P., & Cruz, A. (2011). Noise pollution filters bird communities based on vocal frequency. *PLoS one*, 6(11), e27052. doi.org/10.1371/journal.pone.0027052

Fuller, S., Axel, A. C., Tucker, D., & Gage, S. H. (2015). Connecting soundscape to landscape: Which acoustic index best describes landscape configuration?. *Ecological indicators*, 58, 207-215. doi.org/10.1016/j.ecolind.2015.05.057

Gascon, M., Cirach, M., Martínez, D., Dadvand, P., Valentín, A., Plasència, A., & Nieuwenhuijsen, M. J. (2016). Normalized difference vegetation index (NDVI) as a marker of surrounding greenness in epidemiological studies: The case of Barcelona city. *Urban Forestry & Urban Greening*, 19, 88-94. doi.org/10.1016/j.ufug.2016.07.001

Geffroy, B., Sadoul, B., & Ellenberg, U. (2017). *Physiological and Behavioral Consequences of Human Visitation* (pp. 9–27). Springer, Cham. https://doi.org/10.1007/978-3-319-58331-0_2

Gerhardt, H. C. (1994). The evolution of vocalization in frogs and toads. *Annual review of ecology and systematics*, 293-324. doi.org/10.1146/annurev.ecolsys.25.1.293

Gillard, G. L., & Rowley, J. J. L. (2023). Assessment of the acoustic adaptation hypothesis in frogs using large-scale citizen science data. *Journal of Zoology*, 320(4), 271-281. doi.org/10.1111/jzo.13088

- Gregory, R. D., Gibbons, D. W., & Donald, P. F. (2004). Bird census and survey techniques. *Bird ecology and conservation*, 17-56. doi.org/10.1093/acprof:oso/9780198520863.003.0002
- Guerra, V., de Queiroz Costa, N., Llusia, D., Márquez, R., & Bastos, R. P. (2020). Nightly patterns of calling activity in anuran assemblages of the Cerrado, Brazil. *Community Ecology*, 21(1), 33-42. doi.org/10.1007/s42974-020-00013-8
- Halfwerk, W., Blaas, M., Kramer, L., Hijner, N., Trillo, P. A., Bernal, X. E., ... & Ellers, J. (2019). Adaptive changes in sexual signalling in response to urbanization. *Nature ecology & evolution*, 3(3), 374-380. doi.org/10.1038/s41559-018-0751-8
- Halfwerk, W., Lea, A. M., Guerra, M. A., Page, R. A., & Ryan, M. J. (2016). Vocal responses to noise reveal the presence of the Lombard effect in a frog. *Behavioral Ecology*, 27(2), 669-676. doi.org/10.1093/beheco/arv204
- Hanifa, B. F., Baihaqi, A. P., Ahmad, M., Kiptiyah, K., & Hasyim, M. A. (2023). Herpetofauna in the Ledok Ombo natural tourism area, Malang district, East Java. *Al-Hayat: Journal of Biology and Applied Biology*, 5(2), 127-138.
- Hasanuddin, N. R., Sembiring, I. A., Irawati, E., Asmara, A. H., & Lomboan, V. Y. P. (2025). Uji Daya Hambat Larutan Madu Lebah Barat (*Apis Mellifera*) Terhadap Pertumbuhan Bakteri *Prevotella Intermedia*. *Indonesian Journal of Public Health*, 3(1), 145-150.
- Hayes, T. B., Falso, P., Gallipeau, S., & Stice, M. (2010). The cause of global amphibian declines: a developmental endocrinologist's perspective. *Journal of Experimental Biology*, 213(6), 921-933. doi.org/10.1242/jeb.040865
- Heinen-Kay, J. L., Kay, A. D., & Zuk, M. (2021). How urbanization affects sexual communication. *Ecology and Evolution*, 11(24), 17625-17650. doi.org/10.1002/ece3.8328
- Hending, D. (2025). Cryptic species conservation: a review. *Biological Reviews*, 100(1), 258-274. doi.org/10.1111/brv.13139
- Herder, L., Ellers, J., & Halfwerk, W. (2023). Adaptive Choice of Reproductive Microhabitat and Its Potential for Sexual Conflict in Túngara Frogs. *Ichthyology and Herpetology*, 111(3), 353-359. doi.org/10.1643/h2022014

- Heyer, R., Donnelly, M. A., Foster, M., & McDiarmid, R. (Eds.). (2014). *Measuring and monitoring biological diversity: standard methods for amphibians*. Smithsonian Institution.
- Hoffmann, E. P., Williams, K., Hipsey, M. R., & Mitchell, N. J. (2021). Drying microclimates threaten persistence of natural and translocated populations of threatened frogs. *Biodiversity and Conservation*, 30(1), 15-34. doi.org/10.1007/s10531-020-02064-9
- Honey, M. (2008). *Ecotourism and Sustainable Development: Who Owns Paradise?* (2nd ed.). Washington, DC: Island Press.
- Hopkins, G. R., Gaston, K. J., Visser, M. E., Elgar, M. A., & Jones, T. M. (2018). Artificial light at night as a driver of evolution across urban–rural landscapes. *Frontiers in Ecology and the Environment*, 16(8), 472-479. doi.org/10.1002/fee.1828
- Hutto, Jr. D., & Barrett, K. (2021). Do urban open spaces provide refugia for frogs in urban environments?. *PLoS One*, 16(1), e0244932. doi.org/10.1371/journal.pone.0244932
- Iskandar, D. T., & Erdelen, W. R. (2006). “Conservation of amphibians and reptiles in Indonesia: issues and problems. *Amphibian and reptile Conservation*, 4(1), 60-87. doi.org/10.1514/journal.arc.0040016
- Izza, Q., & Kurniawan, N. (2014). Eksplorasi Jenis-Jenis Amfibi di Kawasan OWA Cagar dan Air Terjun Watu Ondo, Gunung Welirang, TAHURA R. Soerjo. *Biotropika: Journal of Tropical Biology*, 2(2), 103-108. https://biotropika.ub.ac.id/index.php/biotropika/article/view/248
- Jiayi, L. U., Yinran, X. I. A. O., & Yuhan, S. H. A. O. (2025). Research on the Comprehensive Noise Reduction Effectiveness of Plant Communities in Urban Green Spaces. *Landscape Architecture Frontiers*, 13(1). doi.org/10.15302/J-LAF-0-020027
- Justicia, Schlippe L., Fouilloux, C. A., & Rojas, B. (2023). Poison frog social behaviour under global change: potential impacts and future challenges. *acta ethologica*, 26(3), 151-166.
- Kaiser, K., Devito, J., Jones, C. G., Marentes, A., Perez, R., Umeh, L., ... & Saltzman, W. (2015). Effects of anthropogenic noise on endocrine and reproductive function in White's treefrog, *Litoria caerulea*. *Conservation physiology*, 3(1), cou061. doi.org/10.1093/conphys/cou061

- Kamila, H. H. (2024). Konservasi Keanekaragaman Hayati dalam Islam. *Es-Syajar: Journal of Islam, Science and Technology Integration*, 2(1), 160-166. doi.org/10.18860/es.v2i1.18126
- Kath, H., Serafini, P. P., Campos, I. B., Gouvêa, T. S., & Sonntag, D. (2024). Leveraging transfer learning and active learning for data annotation in passive acoustic monitoring of wildlife. *Ecological Informatics*, 82, 102710. doi.org/10.1016/j.ecoinf.2024.102710
- Kawamuna, A., Suprayogi, A., & Wijaya, A. P. (2017). Analisis kesehatan hutan mangrove berdasarkan metode klasifikasi NDVI pada citra Sentinel-2 (Studi kasus: Teluk Pangpang Kabupaten Banyuwangi). *Jurnal Geodesi Undip*, 6(1), 277-284.
- Kempnaers, B., Borgström, P., Loës, P., Schlicht, E., & Valcu, M. (2010). Artificial night lighting affects dawn song, extra-pair siring success, and lay date in songbirds. *Current biology*, 20(19), 1735-1739. doi.org/10.1016/j.cub.2010.08.028
- Kirono, S., Kusri, M. D., & Mulyani, Y. A. (2016). Album Suara (Repertoire) Katak Serasah *Leptobrachium Hasseltii* Tschudi, 1883 di Situ Gunung. *Media Konservasi*, 20(3), 231-257. doi.org/10.29244/medkon.20.3.%p
- Kleist, N. J., Fristrup, K. M., Buxton, R. T., McKenna, M. F., Job, J. R., Angeloni, L. M., ... & Wittemyer, G. (2023). Anthropogenic noise events perturb acoustic communication networks. *Frontiers in Ecology and Evolution*, 11, 1149097. doi.org/10.3389/fevo.2023.1149097
- Kok, A. C., Berkhout, B. W., Carlson, N. V., Evans, N. P., Khan, N., Potvin, D. A., ... & Wascher, C. A. (2023). How chronic anthropogenic noise can affect wildlife communities. *Frontiers in Ecology and Evolution*, 11, 1130075. doi.org/10.3389/fevo.2023.1130075
- Kurniati, H. (2011). Vocalization of Asian striped tree frogs, *Polypedates leucomystax* (Gravenhorst, 1829) and *P. iskandari* Riyanto, Mumpuni & McGuire, 2011. *Treubia*, 38, 1-13. doi.org/10.14203/treubia.v38i0.543
- Kurniati, H., & Hamidy, A. (2016). Variasi Dan Degradasi Suara Panggilan Kodok Jangkrik [*Hylarana Nicobariensis* (Stoliczka, 1870)] Asal Pulau Enggano (Anura: Ranidae)[Variation and Degradation on Advertisement Calls of Cricket Frog, *Hylarana Nicobariensis* (Stoliczka, 1870) From Enggano Island]. *Berita Biologi*, 15(3), 690-699. Doi.org/10.14203/beritabiologi.v15i3.2293

- Kurniati, H., Sumadijaya, A., Boonman, A., & Laksono, W. T. (2010). Ecology, Distribution and Bio-acoustic of Amphibians in Degraded Habitat. Research Center for Biology Indonesian Institute of Sciences (LIPI), 1-12.
- Kusrini, M. D. (2013). Panduan bergambar identifikasi amfibi Jawa Barat. *Bogor: Fakultas Kehutanan IPB dan Direktorat Konservasi Keanekaragaman Hayati*.
- Lapp, S., Wu, T., Richards-Zawacki, C., Voyles, J., Rodriguez, K. M., Shamon, H., & Kitzes, J. (2021). Automated detection of frog calls and choruses by pulse repetition rate. *Conservation Biology*, 35(5), 1659-1668. doi.org/10.1111/cobi.13718
- Latifi, M., Fakheran, S., Moshtaghi, M., Ranaie, M., & Tussi, P. M. (2023). Soundscape analysis using eco-acoustic indices for the birds biodiversity assessment in urban parks (case study: Isfahan City, Iran). *Environmental Monitoring and Assessment*, 195(6), 629. doi.org/10.1007/s10661-023-11237-2
- LeBien, J., Zhong, M., Campos-Cerqueira, M., Velez, J. P., Dodhia, R., Ferres, J. L., & Aide, T. M. (2020). A pipeline for identification of bird and frog species in tropical soundscape recordings using a convolutional neural network. *Ecological Informatics*, 59, 101113. doi.org/10.1016/j.ecoinf.2020.101113
- Ludhfiyah, A., Bahri, S., & Firdausi, N. (2025). Struktur Komunitas Spesies Katak dan Kodok Anggota Ordo Anura di Taman Nasional Bromo Tengger Semeru, Jawa Timur. *Manilkara: Journal Of Bioscience Учредители: Universitas Terbuka*, 3(2), 99-108. doi.org/10.33830/manilkara.v3i2.10655.2025
- Luedtke, J. A., Chanson, J., Neam, K., Hobin, L., Maciel, A. O., Catenazzi, A., ... & Stuart, S. N. (2023). Ongoing declines for the world's amphibians in the face of emerging threats. *Nature*, 622(7982), 308-314. doi.org/10.1038/s41586-023-06578-4
- Luna-Naranjo, D., Martinez-Vargas, J. D., Sánchez-Giraldo, C., Daza, J. M., & López, J. D. (2024). Quantifying and mitigating recorder-induced variability in ecological acoustic indices. *Ecological Informatics*, 82, 102668. doi.org/10.1101/2023.10.16.562620
- Luyt, Z., & Merwe, P. van der. (2022). The potential of frogging as an ecotourism product for South African National Parks. *Koedoe*, 64(1). https://doi.org/10.4102/koedoe.v64i1.1725

- Machlis, G. E., and Tichnell, D. L. (1985). *The state of the world's parks: an international assessment for resource management, policy, and research*. Boulder, CO. Westview Press.
- Manthey, U., & Denzer, W. (2014). Südostasiatische Anuren im Fokus, Spezies der Gattung *Huia* (sensu lato) Yang, 1991 (Amphibia: Anura: Ranidae). *Sauria*, 36(4), 31-48.
- Mausberg, N., Dausmann, K. H., & Glos, J. (2023). In search of suitable breeding sites: Habitat heterogeneity and environmental filters determine anuran diversity of western Madagascar. *Animals*, 13(23), 3744. doi.org/10.3390/ani13233744
- Melo, I., Llusia, D., Bastos, R. P., & Signorelli, L. (2021). Active or passive acoustic monitoring? Assessing methods to track anuran communities in tropical savanna wetlands. *Ecological Indicators*, 132, 108305. doi.org/10.1016/j.ecolind.2021.108305
- Miller, A. B., Cox, C., & Morse, W. C. (2023). Ecotourism, wildlife conservation, and agriculture in Costa Rica through a social-ecological systems lens. *Frontiers in Sustainable Tourism*, 2, 1179887. doi.org/10.3389/frsut.2023.1179887
- Milto, K. D. (2025). Underestimated Herpetodiversity of Gunung Gede Pangrango National Park, West Java, Indonesia. *Russian Journal of Herpetology*, 32(1), 60-72. doi.org/10.30906/1026-2296-2025-32-1-60-72
- Muñoz, M. I., & Halfwerk, W. (2020). Amplification of frog calls by leaf substrates: implications for terrestrial and arboreal species. *bioRxiv*, 2020-11. doi.org/10.1101/2020.11.02.361840
- Muzzi, G. M., Duarte, M. H., Braga, N. O., Bastos, R. P., & Nascimento, L. B. (2023). Acoustic monitoring of anuran communities in road noise disturbed soundscapes. *Herpetological Journal*, 33(2), 34-42. doi.org/10.33256/33.2.3442
- Nakamura, D. Y. M., Escalona, M., & Pinheiro, P. D. P. (2024). Body size, habitat, and sexual selection affect call evolution in Cophomantini treefrogs (Anura: Hylidae: Hylinae). *Biological Journal of the Linnean Society*, blae036. doi.org/10.1093/biolinnean/blae036
- Napier, T., Ahn, E., Allen-Ankins, S., Schwarzkopf, L., & Lee, I. (2024). Advancements in preprocessing, detection and classification techniques for ecoacoustic data: A comprehensive review for large-scale passive acoustic

monitoring. *Expert Systems with Applications*, 124220. doi.org/10.1016/j.eswa.2024.124220

- Narins, P. M., & Feng, A. S. (2007). Hearing and sound communication in amphibians: prologue and prognostication. *Hearing and Sound Communication in Amphibians*, 1–11. doi.org/10.1007/978-0-387-47796-1_1
- Oliveira, J. C., Winck, G. R., Pereira-Ribeiro, J., & Rocha, C. F. D. (2017). Local environmental factors influence the structure of frog communities on the sandy coastal plains of Southeastern Brazil. *Herpetologica*, 73(4), 307–312. doi.org/10.1655/Herpetologica-D-16-00075.1
- Oliver, R. Y., Ellis, D. P., Chmura, H. E., Krause, J. S., Pérez, J. H., Sweet, S. K., ... & Boelman, N. T. (2018). Eavesdropping on the Arctic: Automated bioacoustics reveal dynamics in songbird breeding phenology. *Science Advances*, 4(6), eaaq1084. doi.org/10.1126/sciadv.aaq1084
- Oosterzee, P. (2000). Ecotourism and Biodiversity Conservation - Two Way Track. *Pacific Conservation Biology*, 6(2), 89–93. https://doi.org/10.1071/PC000089
- Othman, M. S., Khonsue, W., Kitana, J., Thirakhupt, K., Robson, M. G., & Kitana, N. (2011). Reproductive mode of *Fejervarya limnocharis* (Anura: Ranidae) caught from Mae Sot, Thailand based on its gonadosomatic indices. *Asian Herpetological Research*, 2(1), 41. doi.org/ 10.3724/SP.J.1245.2011.00041
- Ow, L. F., & Ghosh, S. (2017). Urban cities and road traffic noise: Reduction through vegetation. *Applied Acoustics*, 120, 15–20. doi.org/10.1016/j.apacoust.2017.01.007
- Pantur, V. H., Sukarno, A., & Zairina, A. (2024). Keanekaragaman Spesies Ular Di Resort Rowo Bendo Taman Nasional Alas Purwo. *Journal of Scientech Research and Development*, 6(1), 56–64. doi.org/10.56670/jsrd.v6i1.293
- Park, J. K., & Do, Y. (2022). Wind turbine noise behaviorally and physiologically changes male frogs. *Biology*, 11(4), 516. doi.org/10.3390/biology11040516
- Paz, A., Hernandez, L., Melo, L. S., Lyra, M., Haddad, C. F., & Carnaval, A. C. (2022). Extreme environments filter functionally rich communities of Atlantic Forest treefrogs along altitudinal and latitudinal gradients. *Ecography*, 2022(9), e06138. doi.org/10.1111/ecog.06138

- Pieretti, N., Farina, A., & Morri, D. (2011). A new methodology to infer the singing activity of an avian community: The Acoustic Complexity Index (ACI). *Ecological indicators*, 11(3), 868-873. doi.org/10.1016/j.ecolind.2010.11.005
- Pillay, R., Fletcher Jr, R. J., Sieving, K. E., Udell, B. J., & Bernard, H. (2019). Bioacoustic monitoring reveals shifts in breeding songbird populations and singing behaviour with selective logging in tropical forests. *Journal of Applied Ecology*, 56(11), 2482-2492. doi.org/10.1111/1365-2664.13492
- Pratama, F. E., Irwan, S. N. R., & Rogomulyo, R. (2021). Fungsi Vegetasi sebagai Pengendali Iklim Mikro dan Pereduksi Suara di Tiga Taman Kota DKI Jakarta. *Vegetalika*, 10(3), 214-222. doi.org/10.22146/veg.39112
- Putra, I. S., Rombang, J. A., & Nurmawan, W. (2018). Analisis kemampuan vegetasi dalam meredam kebisingan. *Eugenia*, 24(3). doi.org/10.35791/eug.24.3.2018.22660
- Putri, D. N., Kurnia, S. T., Shalihat, A. K., & Apriansyah, M. (2025). Analisis Perubahan Lahan Vegetasi di Sekitar Gunung Marapi Sebelum dan Sesudah Terjadinya Letusan Gunung Marapi Menggunakan Metode NDVI (Studi Kasus Kabupaten Agam dan Kabupaten Tanah Datar). *Journal Of Plano Studies*, 2(1), 1-9.
- Pyron, R. A. (2018). Global amphibian declines have winners and losers. *Proceedings of the National Academy of Sciences*, 115(15), 3739-3741. doi.org/10.1073/pnas.1803477115
- Qurniawan, T. F., Asti, H. A., & Eprilurahman, R. (2010). Studi awal komunitas ordo anura di kawasan ekowisata Sawangan, Magelang, Jawa Tengah. *Biofera*, 27(3), 119-125. doi.org/10.20884/1.MIB.2010.27.3.201
- Rahmawati, Y., & Wulandari, F. T. (2024). Analysis of Vegetation's Ability to Reduce Noise in Udayana Urban Forest. *Jurnal Biologi Tropis*, 24(2b), 303-314. doi.org/10.29303/jbt.v24i2b.8157
- Rajiv, N. V., & Das, A. (2025). Frogs in sight and sound: Passive acoustics and visual surveys reveal complementary species detection in tropical rainforest anurans. *ARPHA Preprints*, 6, e168862. doi.org/10.3897/arphapreprints.e168862
- Ramalho, W. P., With, K. A., de Sousa Mesquita, G., de Arruda, F. V., Guerra, V., Ferraz, D., ... & do Prado, V. H. M. (2022). Habitat fragmentation rather than habitat amount or habitat split reduces the diversity and abundance of

ground-dwelling anurans within forest remnants of the Brazilian Cerrado. *Journal for Nature Conservation*, 69, 126259. doi.org/10.1016/j.jnc.2022.126259

Ramesh, V., Hariharan, P., Akshay, V. A., Choksi, P., Khanwilkar, S., DeFries, R., & Robin, V. V. (2023). Using passive acoustic monitoring to examine the impacts of ecological restoration on faunal biodiversity in the Western Ghats. *Biological Conservation*, 282, 110071. doi.org/10.1016/j.biocon.2023.110071

Regolin, A. L., Ribeiro, M. C., Martello, F., Melo, G. L., Sponchiado, J., Campanha, L. F. D. C., ... & Caceres, N. C. (2020). Spatial heterogeneity and habitat configuration overcome habitat composition influences on alpha and beta mammal diversity. *Biotropica*, 52(5), 969-980. doi.org/10.1111/btp.12800

Riede, K. (1993). Monitoring biodiversity: analysis of Amazonian rainforest sounds. *Ambio*, 546-548. https://www.researchgate.net/publication/235225730

Ross, S. R. J., O'Connell, D. P., Deichmann, J. L., Desjonquères, C., Gasc, A., Phillips, J. N., ... & Burivalova, Z. (2023). Passive acoustic monitoring provides a fresh perspective on fundamental ecological questions. *Functional Ecology*, 37(4), 959-975. doi.org/10.1111/1365-2435.14275

Ryan, Michael J. (2001). *Anuran communication*. Smithsonian Institution Press

Samal, R., & Dash, M. (2023). Ecotourism, biodiversity conservation and livelihoods: Understanding the convergence and divergence. *International Journal of Geoheritage and Parks*, 11(1), 1-20. doi.org/10.1016/j.ijgeop.2022.11.001

Samitra, D., & Rozi, Z. F. (2021). Amphibian Diversity in the Waterfall of Lubuklinggau City, South Sumatra. *Jurnal Biota*, 7(1), 10-16. doi.org/10.19109/Biota.v7i1.6412

Sena, Vitor M.A. Araújo, Júlia R. Machado, Ricardo B. (2023). Frogs in conserved and altered soundscapes an urban matrix in Central Brazil. *Research Square*, 1-21. doi.org/10.21203/rs.3.rs-2982762/v1

Senzaki, M., Kadoya, T., & Francis, C. D. (2020). Direct and indirect effects of noise pollution alter biological communities in and near noise-exposed environments. *Proceedings of the Royal Society B*, 287(1923), 20200176. doi.org/10.1098/rspb.2020.0176

- Serrano, J. M., & Ochoa-Ochoa, L. M. (2024). Aircraft noise modifies acoustic signals and social interactions of a microendemic frog from Mexico City. *Urban Ecosystems*, 27(3), 941-951. doi.org/10.1007/s11252-023-01497-8
- Setiawan, D., Yustian, I., & Prasetyo, C. Y. (2016). Studi pendahuluan: inventarisasi amfibi di kawasan hutan lindung bukit cogong II. *Jurnal Penelitian Sains*, 18(2), 55-58. doi.org/10.56064/jps.v18i2.24
- Shannon, G., Larson, C. L., Reed, S. E., Crooks, K. R., & Angeloni, L. M. (2017). *Ecological Consequences of Ecotourism for Wildlife Populations and Communities* (pp. 29–46). Springer International Publishing. https://doi.org/10.1007/978-3-319-58331-0_3
- Shannon, G., McKenna, M. F., Angeloni, L. M., Crooks, K. R., Fristrup, K. M., Brown, E., ... & Wittemyer, G. (2016). A synthesis of two decades of research documenting the effects of noise on wildlife. *Biological Reviews*, 91(4), 982-1005. doi.org/10.1111/brv.12207
- Shen, J. X., & Xu, Z. M. (2016). The Lombard effect in male ultrasonic frogs: Regulating antiphonal signal frequency and amplitude in noise. *Scientific reports*, 6(1), 27103. doi.org/10.1038/srep27103
- Silveira, P., Iop, S., dos Santos, J. S., Lima, E. L., Martello, F., Ribeiro, M. C., ... & Collevatti, R. G. (2023). Amount and isolation of aquatic habitat drive anuran diversity in agricultural landscapes in the Brazilian Cerrado. *Landscape Ecology*, 38(9), 2261-2275. doi.org/10.1007/s10980-023-01693-z
- Stronza, A. L., Hunt, C. A., and Fitzgerald, L. A. (2019). Ecotourism for conservation?. *Annu. Rev. Environ. Resour.* 44, 229–253. doi.org/10.1146/annurev-environ-101718-033046
- Stronza, A., and Hunt, C. (2012). Visions of tourism: From modernization to sustainability. *Practic. Anthropol.* 34, 19–22. doi.org/10.17730/praa.34.3.0203vv87563xt730
- Sueur, J., Pavoine, S., Hamerlynck, O., & Duvail, S. (2008). Rapid acoustic survey for biodiversity appraisal. *PloS one*, 3(12), e4065. doi.org/10.1371/journal.pone.0004065
- Sugai, L. S. M., & Llusia, D. (2019). Bioacoustic time capsules: Using acoustic monitoring to document biodiversity. *Ecological Indicators*, 99, 149-152. doi.org/10.1016/j.ecolind.2018.12.021

- Sugai, L. S. M., Silva, T. S. F., Ribeiro Jr, J. W., & Llusia, D. (2019). Terrestrial passive acoustic monitoring: review and perspectives. *BioScience*, 69(1), 15-25. doi.org/10.1093/biosci/biy147
- Sukamdani, H. B., Sulistyadi, Y., Sukwika, T., Sukamdani, N. B., & Eddyono, F. (2024). Decision making factors in an ecotourism visit in the Situ Gunung Natural Tourism Park West Java. *Journal of Applied Management Research*, 4(1), 45-54. doi.org/10.36441/jamr.v4i1.2212
- Sukwika, T., & Rahmatulloh, F. (2021). Penilaian taman wisata alam situ gunung Sukabumi: Penerapan TCM. *Jurnal Khatulistiwa Informatika*, 8(2), 80-89. doi.org/10.31294/par.v8i2.10427
- Swaddle, J. P., Francis, C. D., Barber, J. R., Cooper, C. B., Kyba, C. C., Dominoni, D. M., ... & Longcore, T. (2015). A framework to assess evolutionary responses to anthropogenic light and sound. *Trends in ecology & evolution*, 30(9), 550-560. doi.org/10.1016/j.tree.2015.06.009
- Syadean, D. F., Fadhillah, C. D., Wardati, M. A., Farida, A. Z., Dinaoktiani, F., & Maruddani, D. A. I. (2024). Pembentukan portofolio saham menggunakan mean-semivariance dan var cornish-fisher berdasarkan korelasi pearson. In *Prosiding Seminar Nasional Sains Data*, 4(1):1149-1157. doi.org/10.33005/senada.v4i1.383
- Tanjung, R., Jayanthi, S., Wardania, S., Sitakar, S. M., Sari, M. T., Zahara, A. S., ... & MZ, R. J. (2025). Sosialisasi Pengenalan Fauna Endemik yang Langka di Indonesia untuk Meningkatkan Pemahaman Peserta Didik Dalam Menjaga Kelestarian Keanekaragaman Hayati di SMP Negeri 9 Langsa. *Jurnal Pengabdian Magister Pendidikan IPA*, 8(2), 440-444. doi.org/10.29303/jpmpi.v8i2.11217
- Tennessen, J. B., Parks, S. E., & Langkilde, T. (2014). Traffic noise causes physiological stress and impairs breeding migration behaviour in frogs. *Conservation Physiology*, 2(1), cou032. doi.org/10.1093/conphys/cou032
- Thomé, M. T. C., Martins, M., & Brasileiro, C. A. (2021). Higher diversity in open Cerrado supports the role of regional processes in shaping anuran assemblage in southeastern Brazil. *South American Journal of Herpetology*, 19(1), 1-7. doi.org/10.2994/SAJH-D-18-00039.1
- Tiberti, R., Buchaca, T., Cruset, E., Iacobelli, L., Maini, M., Osorio, V., ... & Ventura, M. (2022). Evaluation of visual encounter surveys as a method for the rapid assessment of fish presence and relative density in high mountain lakes. *Aquatic Conservation*, 32(9).

- Tsuji, H. (2004). Reproductive ecology and mating success of male *Limnonectes kuhlii*, a fanged frog from Taiwan. *Herpetologica*, 60(2), 155-167. doi.org/10.1655/02-10
- Turin, R. A., & Nali, R. C. (2024). Movement or plasticity: acoustic responses of a torrent frog to stream geophony. *Behavioral Ecology*, 35(1), arad117. doi.org/10.1093/beheco/arad117
- Ulloa, J. S., Hauptert, S., Latorre, J. F., Aubin, T., & Sueur, J. (2021). Scikit-maad: An open-source and modular toolbox for quantitative soundscape analysis in python. *Methods in Ecology and Evolution*, 12(12), 2334-2340. https://doi.org/10.1111/2041-210X.13711
- Utami, L. G. S., Dwipayana, M., Sumadyanti, U. V., & Mardiana, O. (2025). Analisis Spasial Kerapatan Vegetasi di Kabupaten Tabanan. *Jurnal ENMAP (Environment and Mapping)*, 6(01). ejournal.undiksha.ac.id/index.php/ENMAP/article/view/93387
- Velasco, I. G., & Nunes, I. (2024). Testing the efficiency of passive acoustic monitoring and active monitoring in anuran community in lotic environments in Itinguçu State Park, Peruíbe-SP. *Anais da Academia Brasileira de Ciências*, 96(2), e20231057. doi.org/10.1590/0001-3765202420231057
- Villanueva-Rivera, L. J., B. C. Pijanowski, J. Doucette, and B. Pekin. 2011. A primer of acoustic analysis for landscape ecologists. *Landscape Ecology*, 26: 1233-1246. doi.org/10.1007/s10980-011-9636-9
- Villaseñor, N. R., Escobar, M. A., & Hernández, H. J. (2021). Can aggregated patterns of urban woody vegetation cover promote greater species diversity, richness and abundance of native birds?. *Urban Forestry & Urban Greening*, 61, 127102. doi.org/10.1016/j.ufug.2021.127102
- Wang, H. Xu, Y. Yu, Y. Lin, Y. & Ran, J. (2022). An Efficient Model for a Vast Number of Bird Species Identification Based on Acoustic Features. *Animals*. 12(18):2434. doi.org/10.3390/ani12182434
- Watson, A. S., & Castillo, L. (2022). Are protected areas working for endangered frogs in the Peruvian Andes?. *Biodiversity and Conservation*, 31(7), 1847-1866. doi.org/10.1007/s10531-022-02406-9
- Wei, P., Luo, X., Pie, M. R., Sucharitakul, P., Zhou, W., & Yuan, Z. (2025). Global Diversity Patterns in Anurans Are Determined by Terrestrial and Arboreal Species. *Integrative Zoology*. doi.org/10.1111/1749-4877.13032

- Yadav, S., Rab, S., Wan, M., Yadav, D., & Singh, V. R. (2023). *Sound Communication in Nature*. In *Handbook of Vibroacoustics, Noise and Harshness* (pp. 1-26). Singapore: Springer Nature Singapore.
- Yan, Y., Jarvie, S., Zhang, Q., Han, P., Liu, Q., Zhang, S., & Liu, P. (2023). Habitat heterogeneity determines species richness on small habitat islands in a fragmented landscape. *Journal of Biogeography*, 50(5), 976-986. doi.org/10.1111/jbi.14594
- Yang, Y., Chen, Y., Ye, Z., Song, Z., & Xiong, Y. (2024). Springtime spatio-temporal distribution of bird diversity in urban parks based on acoustic indices. *Global Ecology and Conservation*, 53, e02995. doi.org/10.1016/j.gecco.2024.e02995
- Zaffaroni, M., Zamberletti, P., Creed, I. F., Accatino, F., De Michele, C., & DeVries, B. (2019). Safeguarding wetlands and their connections within wetlandscapes to improve conservation outcomes for threatened amphibian species. *JAWRA Journal of the American Water Resources Association*, 55(3), 641-656. doi.org/10.1111/1752-1688.12751
- Zaffaroni-Caorsi, V., Both, C., Márquez, R., Llusia, D., Narins, P., Debon, M., & Borges-Martins, M. (2023). Effects of anthropogenic noise on anuran amphibians. *Bioacoustics*, 32(1), 90-120. doi.org/10.1080/09524622.2022.2070543
- Zahorik, P., & Kelly, J. W. (2007). Accurate vocal compensation for sound intensity loss with increasing distance in natural environments. *The Journal of the Acoustical Society of America*, 122(5), EL143-EL150. doi.org/10.1121/1.2784148
- Zhao, J., Yu, L., Newbold, T., & Chen, X. (2025). Trends in habitat quality and habitat degradation in terrestrial protected areas. *Conservation Biology*, 39(2), e14348. doi.org/10.1111/cobi.14348
- Zhong, M., Taylor, R., Bates, N., Christey, D., Basnet, H., Flippin, J., ... & Ferres, J. L. (2021). Acoustic detection of regionally rare bird species through deep convolutional neural networks. *Ecological Informatics*, 64, 101333. doi.org/10.1016/j.ecoinf.2021.101333
- Zwerts, J. A., Stephenson, P. J., Maisels, F., Rowcliffe, M., Astaras, C., Jansen, P. A., ... & van Kuijk, M. (2021). Methods for wildlife monitoring in tropical forests: Comparing human observations, camera traps, and passive acoustic sensors. *Conservation Science and Practice*, 3(12), e568. doi.org/10.1111/csp2.568