Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
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DAFTAR PUSTAKA

Achigan-Dako, E. G., H. Degbey, L. Hale, F. R. Blattner. 2021. Georeferenced phylogenetic analysis of a global collection of wild and cultivated *Citrullus* species. *Ecology and Evolution*, Vol. 11(4): 1918-1936. https://doi.org/10.1002/ece3.7189

AGRF, Australian Genome Research Facility. 2014. *Sanger Sequencing: Troubleshooting Guide* (GNGFM00346) v1.1. Link: https://www.ucdenver.edu/docs/librariesprovider48/facility-cores/sanger-sequencing-troubleshooting-guide-1.pdf?sfvrsn=8da250b9_4

Akashi Y, Fukuda N, Wako T, Masuda M, Kato K. 2002. Geneticvariation and phylogenetic relationships in East and SouthAsian melons, *Cucumis melo* L., based on the analysis offiveisozymes. *Euphytica*, 125(3):385-96 https://doi.org/10.1023/A:1016086206423

Álvarez I, Wendel JF. 2003. Ribosomal ITS sequences and plant phylogenetic inference. *Molecular Phylogenetics and Evolution* 29: 417–434.

Alfiyani, A dan B.S Daryono. 2018. Perakitan dan Karakterisasi Molekular Melon Hibrida (*Cucumis melo* L. 'Melona'). *Skripsi*. Universitas Gadjah Mada. Yogyakarta.

Androsiuk, P., Jastrzębski, J.P., Paukszto, Ł. *et al.* 2020. Evolutionary dynamics of the chloroplast genome sequences of six *Colobanthus* species. *Sci Rep* **10**, 11522. https://doi.org/10.1038/s41598-020-68563-5

Anggraini, N. B., A. Sholihah, E. N. Khasna., R. W. Retnaningtyas, Suharti, D. Listyorini. 2020. Genetic relationship between local rice varieties based on MatK and rbcL genes. *AIP Conf. Proc*. 2260, 020020. https://doi.org/10.1063/5.0015756

Aristya, G.R., B.S Daryono, Y. Rachmawati. 2014. Karakter Gen *CmBG1* Melon (*Cucumis melo*) pada Pengaruh Cekaman Tanah Karst. *Sains & Matematika*. Vol 3 No.1.

Bandelt, H. J., Froster, P., Röhl, A. 1999. Median-joining networks for inferring intraspecific phylogenies. *Mol Biol Evol* 16(1): 37-48.

Basith, A. 2015. Peluang Gen *rbcL* sebagai DNA Barcode Berbasis DNA Kloroplas untuk Mengungkap Keanekaragaman Genetik Pada Beras Hitam (*Oryza sativa* L.) Lokal Indonesia. *Conference: Seminar Nasional XII Pendidikan Biologi*.

Batnihi, M. A., H. Bourguiba, N. T. Farah, L. Krichen. 2019. Molecular diversity and phylogeny of Tunisian Prunus armeniaca L. by evaluating three candidate barcodes of the chloroplast genome. *Scientia Horticulturae*, Vol. 245, pp. 99-106. https://doi.org/10.1016/j.scienta.2018.09.071

Boehme, P. & J. D. Wells. 2013. Methods for Sequencing the Mitochondrial DNA A+T-Rich Region of *Cochliomyia macellaria* (Diptera: Calliphoridae) from North America. *Canadian Society of Forensic Science Journal*. Vol. 40, pp. 165-172. https://doi.org/10.1080/00085030.2007.10757157

Boster antibody and ELISA experts. PCR Principle. https://www.bosterbio.com/protocol-and-troubleshooting/pcr-principle diakses pada 6 Februari 2023.

Brinkman, F. and D. Leipe. 2001. *Phylogenetic analysis*. *In*: Bioinformatics: A Practical Guide to The Analysis of Gene and Protein. Baxevanis, A. D. and B.F.F. Quellette (Eds.). John Willey & Sons. Pp. 323-358

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Burger, Y.; Sa'ar, U.; Paris, H.S.; Lewinsohn, E.; Katzir, N.; Tadmor, Y.; Schaffer, A. 2006. Genetic variability for valuable fruit quality traits in *Cucumis melo*. *Isr. J. Plant Sci*, 54: 233–242

Cao, H., Mingxi Gong, Tingquan Wu, Changyuan Zhang, Ali Anwar, Liangliang Shi, Shiwei Song. 2024. Identification of the G2-like transcriptional factor gene family reveals their critical roles in controlling chlorophyll accumulation of melon fruit. *Scientia Horticulturae*, 328. https://doi.org/10.1016/j.scienta.2024.112925

Cavalli and L.L. Sforza. 1997. Genes, Peoples and Language. *Proc. Natl. Acad. Sci USA*. 94(15): 7719-7724

Chang, YJ., Cao, YF., Zhang, JM. *et al.* 2017. Study on chloroplast DNA diversity of cultivated and wild pears (*Pyrus* L.) in Northern China. *Tree Genetics & Genomes* **13**, 44. https://doi.org/10.1007/s11295-017-1126-z

Chen, S.L., Yao, H., Han, J.P., Liu, C., Song, J.Y., Shi, L.C., Zhu, Y.G., Ma, X.Y., Gao, T., Pang, X.H., Luo, K., Li, Y., Li, X.W., Jia, X.C., Lin, Y.L., Leon, C., 2010. Validation of the ITS2 region as a novel DNA barcode for identifying medicinal plant species. *PLoS One* 5, e8613.

Cheng, H., Wei-Ping K., Min-Min Z., Dong H. 2020. The complete chloroplast genome of *Cucumis melo L.* 'Shengkaihua' (*Cucurbitaceae*) and its phylogenetic implication. *Mitochondrial DNA Part B*, 5:2, 1253-1254, DOI: 10.1080/23802359.2020.1731364

Chesnokov, Yu V., N. V. Pochepnya, A. Börner, U. Lohwasser, E. A. Goncharova, and V. A. Dragavtse. 2008. Ecological-Genetic Organization of Plant Quatitative Traits and Mapping of the Loci Determining Agronomically Important Traits in Soft Wheat. *Doklady Biochemistry and Biophysics*, Vol. 418, pp. 36-39. DOI: 10.1134/S1607672908010092

Chiang, T.Y., Schaal, B.A & Peng, C. 1998. Universal primers for amplification and sequencing noncoding spacer between the *atp*B and *rbc*L genes of chloroplast DNA. *Botanical Bulletin of Academica Sinica*, (39), 245-250.

Chikh-Rouhou H, Gómez-Guillamón ML, González V. Sta-Baba R, Garcés-Claver A. 2021. *Cucumis melo* L. germplasm in Tunisia: Unexploited sources of resistance to FusariumWilt. *Horticulturae*, 7(8):208. DOI: 10.3390/horticulturae7080208

Choudhuri, S. 2014. Bioinformatics for Beginners: Genes, Genomes, Molecular Evolution, Databases and Analytical Tools. *Bioinformatics for Beginners: Genes, Genomes, Molecular Evolution, Databases and Analytical Tools*, 1–225.

Cortese, L.M., Honig, J., Miller, C., and Bonos, S.A. 2010. Genetic Diversity of Twelve Switchgrass Populations Using Molecular and Morphological Markers. *Bioenerg. Res*. Springer Science+Business Media. DOI 10.1007/s12155-010-9078-2.

Cui, H., Ding, Z., Zhu, Q. *et al.* 2021. Population structure, genetic diversity and fruit-related traits of wild and cultivated melons based on chloroplast genome. *Genet Resour Crop Evol* **68**, 1011–1021. https://doi.org/10.1007/s10722-020-01041-z

Cui, H., Ding, Z., Zhu, Z., Liu, S., Wang, X., Luan, F., Gao, P. 2022. Identification of major-effect QTL CmFpl3.1 controlling fruit pedicel length in melon (*Cucumis melo*). *Scientia Horticulturae*, 110717.

Dai, Xiao-Jun, Ou Li-Jun, Li Wen-Jia, Liang Man-Zhong, and Chen Liang-Bi. 2008. Analysis of rDNA Intergenic Spacer (IGS) Sequences in *Oryza sativa* L. and Their Phylogenetic Implications. *Acta Agronomica Sinica*, 34(9):1569-1573. DOI: 10.3724/SP.J.1006.2008.01569.

Daryono, B.S. 2015. Application of Molecular Biology for Identification of Virus Resistence Gene in Melon. *Indonesian Journal of Biotechnology*. 20(1): 19-33.

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
Spacer DNA Kloroplas
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Daryono, B.S. 2016. Produksi dan Pemasaran Buah serta Benih Gama Melon: Dari Inovasi Laboratorium ke Dunia Industri dan Pemberdayaan Masyarakat. Prosiding Seminar Nasional Sains dan Enterpreneurship III Tahun 2016. *Enterpreneurship*: 15-38. Semarang.

Daryono, B.S., A.R. Ibrohim, S.D. Maryanto. 2015. Aplikasi Teknologi Budidaya Melon (*Cucumis melo* L.) Kultivar Gama Melon Basket di Lahan Karst Pantai Porok Kabupaten Gunungkidul D.I. Yogyakarta. *Biogenesis: Jurnal Ilmiah Biologi*. Vol. 3(1): 39-46.

Daryono, B.S., A.S. Subiastuti, A. Fatmadanny, D. Sartika. 2019. Phenotypic and genetic stability of new Indonesian melon cultivar (*Cucumis melo* L. 'Melonia') based on ISSR markers. *Biodiversitas*, Vol. 20 (4): 1069-1075. DOI: 10.13057/biodiv/d200419

Daryono, B.S., E. Setyani, A. Alfiani and P.R. Rivaldi. 2017. Fruit characters of *Cucumis melo* L: 'Tacapa Green Black', 'Melona' and 'Meloni. Proceeding of the 2nd International Conference on Tropical Agriculture. *Life Science*, 1: 15-20. 10.29037/digitalpress.21241

Daryono, B.S., F. Husnun, D. Sartika. 2020. Genetic variation analysis of melon (*Cucumis melo* L. 'Tacapa Gold') using inter-simple sequence repeat. AIP Conference Proceedings, 2260. https://doi.org/10.1063/5.0017611

Daryono, B.S. dan Maryanto, S.D. 2017. *Keanekaragaman dan Potensi Sumber Daya Genetik Melon*. Yogyakarta: Gadjah Mada University Press.

de Almaeida, Rafael & Martin Cheek, Marco de Oliveira Pellegrini, I. Lucia de Morais. 2023. Barking up the wrong tree: the importance of morphology in plant molecular phylogenetic studies. DOI:10.1101/2023.01.30.526223

DeSalle R. 2006. Species discovery versus species identification in DNA barcoding efforts: response to Rubinoff. *Conservation Biology* .20 (5):1545–1547

Dharmayanti, N.LP. Indi. 2011. *Filogenetika Molekuler: Metode Taksonomi Organisme Berdasarkan Sejarah Evolusi*. Makalah. Balai Besar Penelitian Veteriner. Bogor.

Direktorat Jenderal Hortikultura Kementerian Pertanian. 2023. *Si Melon dari Serang*. https://hortikultura.pertanian.go.id/si-melon-manis-dari-serang/ Diakses: 29 Desember 2023.

Dong, W., Jing Liu, Jing Yu, Ling Wang, Shiliang Zhou. 2012. Highly Variable Chloroplast Marker for Evaluating Plant Phylogeny at Low Taxonomic Levels and for DNA Barcoding. *PLOS ONE*. https://doi.org/10.1371/journal.pone.0035071

Dong W, Xu C, Wu P, Cheng T, Yu J, Zhou S, Hong D-Y. 2018. Resolving the systematic positions of enigmatic taxa: manipulating the chloroplast genome data of Saxifragales. *Mol Phylogenet Evol*, 126:321–30.

Duong TT, Dung TP, Tanaka K, Nhi PTP, Shigita G, Imoh ON, Nishida H, Kato K. 2021. Distribution of two groups of melon landraces and inter-group hybridizationenhanced genetic diversity in Vietnam. *Breeding Sci*, 574: 564-574. DOI: 10.1270/jsbbs.20090

Dwivedi, M. D., S. Barfield, A. K. Pandey, H. Schaefer. 2018. Phylogeny of Zehneria (Cucurbitaceae) with special focus on Asia. *Taxon*, Vol. 67(1): 55-65. https://doi.org/10.12705/671.4

Enzellina, G., D. Suhaedi. 2022. Penggunaan Metode Principal Component Analysis dalam Menentukan Faktor Dominan. *Jurnal Riset Matematika* (JRM). Unisba Press. Vol. 2 (2): 101-110. DOI : https://doi.org/10.29313/jrm.v2i2.1192

Fatchiyah, Arumingtyas, E.L, Widyarti, S., dan Rahayu, S. (2011). *Biologi Molekular: Prinsip Dasar Analisis*. Jakarta: Penerbit Erlangga.

Fatmawati, Annis & B.S. Daryono. 2016. Detection of Powdery Mildew (*Podosphaera xanthii* (Castagne) U. Braun & N. Shiskoff) Resistance Gene in Melon (*Cucumis melo* L.) Cultivar

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
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Tacapa Green Black. *Bioengineering and Bioscience* 4(4): 51-55. DOI: 10.13189/bb.2016.040401

Fazekas AJ, Kesanakurti PR, Burgess KS, Percy DM, Graham SW, et al. 2009. Are plant species inherently harder to discriminate than animal species using DNA barcoding markers? *Molecular Ecology Resources* 9: 130–139.

Feder, A.; Burger, J.; Gao, S.; Lewinsohn, E.; Katzir, N.; Schaffer, A.A.; Meir, A.; Davidovich-Rikanati, R.; Portnoy, V.; Gal-On, A.; et al. 2015. A Kelch domain-containing F-Box coding gene negatively regulates flavonoid accumulation in muskmelon. *Plant Physiol,* 169: 1714–1726.

Feng, S., Kaili Jiao, Yujia Zhu, Hongfen Wang, Mengying Jiang, and Huizhong Wang. 2018. Molecular identification of species of *Physalis* (Solanaceae) using a candidate DNA barcode: the chloroplast *psbA–trnH* intergenic region. *Genome*. 61(1): 15-20. https://doi.org/10.1139/gen-2017-0115

Ghorbani, A., Y. Saeedi, H. J. de Boer. 2017. Unidentifiable by morphology: DNA barcoding of plant material in local markets in Iran. *PLoS ONE* 12(4): 1-15. DOI: https://doi.org/10.1371/journal.pone.0175722

Gostel MR, Kress WJ. 2022. The Expanding Role of DNA Barcodes: Indispensable Tools for Ecology, Evolution, and Conservation. *Diversity*; 14(3):213. https://doi.org/10.3390/d14030213

Govindaraghavan, S., Hennell, J.R., Sucher, N.J., 2012. From classical taxonomy to genome and metabolome: towards comprehensive quality standards for medicinal herb raw materials and extracts. *Fitoterapia* 83, 979–988.

Govindaraj, M., M. Vetriventhan, and M. Srinivasan. 2015. Importance of Genetic Diversity Assessment in Crop Plants and Its Recent Advances: An Overview of Its Analytical Perspectives. *Genetic Research International*. Hindawi Publishing Corporation. http://dx.doi.org/10.1155/2015/431487.

Griffiths, A.J.F., Miller J.H, Suzuki D.T. 2000. An Introduction to Genetic Analysis, 7th edition. New York: W.H. Freeman. Source Variation. https://www.ncbi.nlm.nih.gov/books/NBK22012/

Gu, X.; Zhu, M.; Su, Y.; Wang, T. 2022. A Large Intergenic Spacer Leads to the Increase in Genome Size and Sequential Gene Movement around IR/SC Boundaries in the Chloroplast Genome of *Adiantum malesianum* (Pteridaceae). *Int. J. Mol. Sci*, 23, 15616. https://doi.org/10.3390/ijms232415616

Guo, YY., JX. Yang, HK. Li, HS. Zhao. 2021. Chloroplast Genome of two species of Cypripedium: Expanded Genome Size and Proliferation of AT-Biased Repeat Sequences. *Front. Plant Sci*, Vol. 12. https://doi.org/10.3389/fpls.2021.609729

Guo, Zhansheng, Leng Han, Zhenlin Liang and Xuguang Hou. 2019. Comparative anlysis of the ribosomal DNA repeat unit (rDNA) of *Perna viridis* (Linnaeus, 1758) and *Perna canaliculus* (Gmelin, 1791). *Peer J*. DOI 10.7717/peerj.7644

Group, C.P.W. 2009. A DNA barcode for land plants. *Proc. Natl Acad. Sci*. USA 106, 12794–12797.

Gupta, Mohan and Sagar Aryal. 2022. *DNA Sequencing – Definition, Principle, Steps, Types, Uses*. The Biology Notes. https://thebiologynotes.com/dna-sequencing-principle-steps-types-uses/

Hamilton MB. 1999. Four primer pairs for the amplification of chloroplast intergenic regions with intraspecific variations. *Mol Ecol* 8:513-525

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
Spacer DNA Kloroplas
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Hasbullah, U. H. A., S. Supriyadi, B. S. Daryono. 2021. Volatile compounds trigger the pleasant strong aroma of new cultivar Gama Melon Parfum during growth and maturation. *Advance in Food Science, Sustainable Agriculture and Agroindustrial Engineering* (AFSSAAE), Vol. 4. No.1. DOI: https://doi.org/10.21776/ub.afssaae.2021.004.01.5

Hauvermale, Amber L and Marwa N.M.E. Sanad. 2020. *Phenological Plasticity of Wild and Cultivated Plants*. IntechOpen. doi: 10.5772/intechopen.85070

Hebert, P. D. N., Ratnasingham, S. & De, W. J. R. 2003. Barcoding animal life: Cytochrome c oxidase subunit 1 divergences among closely related species. *Proc. R. Soc. Lond. B Biol. Sci.* **270**, S96–S99.

Herlina, Lina. 2021. Yield Components and Diversity of Qualitative Characters of Fifty Accessions of Inbred Maize Lines. *E3S Web of Conferences* **316**, 2021, 03009, IConARD. https://doi.org/10.1051/e3sconf/202131603009

Hidzroh, Faridatul & B.S. Daryono. 2021. Keseragaman dan Kestabilan Karakter Tanaman Melon (*Cucumis melo* L. 'Tacapa Gold') Berdasarkan Karakter Fenotip dan *Inter-Simple Sequence Repeat*. *J. Biospecies*, Vol. 14 (2): 11-19.

Hollingsworth PM, Forrest LL, Spouge JL, Hajibabaei M, Ratnasingham S, van der Bank M, et al. 2009. A DNA barcode for land plants. *Proc Natl Acad Sci* USA; 106:12794–7.

Hollingsworth PM, Graham SW, Little DP. 2011. Choosing and Using a Plant DNA Barcode. *PLoS ONE* 6(5): e19254. https://doi.org/10.1371/journal.pone.0019254

Hoveka, L.N., M. VD. Bank, J.S. Boatwright, B.S. Bezeng, K. Yessoufou. 2016. The noncoding trnH-psbA spacer, as an effective DNA barcode for aquatic freshwater plants, reveals prohibited invasive species in aquarium trade in South Africa. *South African Journal of Botany*, 102: 208-216. http://dx.doi.org/10.1016/j.sajb.2015.06.014

Huda, I. N. 2009. Perakitan dan Pembandingan Karakter Fenotip Buah Melon (*Cucumis melo* L.) Kultivar Gama Melon Basket dengan Kultivar Melon Komersial. *Seminar*. Fakultas Biologi, Universitas Gadjah Mada. Yogyakarta.

Huda, I. N., B. S. Daryono. 2013. Analisis variasi genetik melon (Cucumis melo L.) kultivar Gama Melon Basket dengan metode Random Amplified Polymorphic DNA. *Jurnal Ilmiah Biologi Biogenesis*, Vol. 1 No. 1. https://doi.org/10.24252/bio/v1i1.446

Ilahy R, Tlili I, Rouhou HC, Siddiqui MW, MishraPM, Kuchi VS, Homa F, Hdider C, Jebari H, Lenucci MS. 2020. Determining the main agronomic traits of snake melon (*Cucumis melo* var. flexuosusL.) fruits as affected by genotypic differences. *AdvHortSci* 34(1): 113-119.DOI: 10.13128/ahsc8254.

Ishak, M.A& B.S. Daryono. 2018. Kestabilan karakter fenotip melon (*Cucumis melo* L. 'Sun Lady'hasil budidaya di dusun Jamusan, Prambanan, D.I. Yogyakarta. Paper Presentation. *Prosiding Seminar Nasional Pendidikan Biologi dan Saintek III,* Surakarta

Ishak, M.A & B.S. Daryono. 2020. Detection of Powdery Mildew Resistance Gene in Melon Cultivar Meloni Based on SCAR Markers. *Journal of Biology & Biology Education*. Biosaintifika 12(1): 76-82. DOI: http://dx.doi.org/10.15294/biosaintifika.v12i1.22198

Isola D, Bartoli F, Langone S, Ceschin S, Zucconi L, Caneva G. 2021. Plant DNA Barcode as a Tool for Root Identification in Hypogea: The Case of the Etruscan Tombs of Tarquinia (Central Italy). *Plants*. 2021; 10(6):1138. https://doi.org/10.3390/plants10061138

Izhaki, I., Tsahar, E., Paluy I., and Friedman, J. 2002. Within population variation and interrelationships between morphology, nutritional content, and secondary compounds of *Rhamnus alaternus* fruits. *New Phytologist*, 156: 217-223

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
Spacer DNA Kloroplas
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Jeffrey, C. 1980. A review of the Cucurbitaceae. *Botanical Journal Linnean Society* 81:233-247.

Jiang S, Chen F, Qin P, Xie H, Peng G, Li Y, Guo X. 2022. The specific DNA barcodes based on chloroplast genes for species identification of *Theaceae* plants. *Physiol Mol Biol Plants*, 28(4):837-848. doi: 10.1007/s12298-022-01175-7.

Joshi, Jyoti, R. K. Salar, P. Banerjee, Upasna S., M. S. Tantia, R. K. Vijh. 2013. Genetic Variation and Phylogenetic Relationships of Indian Buffaloes of Uttar Pradesh. *Asian Australas. J. Anim. Sci*, Vol. 26(9): 1229-1236. http://dx.doi.org/10.5713/ajas.2012.12669

Judd W.S., Campbell, C.S., Kellogg, E., and Stevens, P. 2008. Plant Systematics: A phylogenetic approach. *Taxon* 56(4), p.1316. DOI: 10.2307/25065934

Karim, N.A., T. Derajavan, A. Ahmad. 2022. Principal Component Analysis for Phenotypic Characterization of Sweet Potato (Ipomoea batatas (L.) Lam.) Genotypes in Malaysia. *Trends In Sciences*; 19 (12): 4612. https://doi.org/10.48048/tis.2022.4612

Kementerian Pertanian. 2017. Lampiran Surat Keputusan Menteri Pertanian Republik Indonesia Nomor: 039/Ktps/SR.120/D.2.7/4/2017, *Deskripsi Melon Varietas Meloni*. Jakarta.

Kim, J. S., Kim, H. T., and Kim, J.-H. (2015). The largest plastid genome of monocots: a novel genome type containing AT residue repeats in the slipper orchid *Cypripedium japonicum*. *Plant Mol. Biol. Rep.* 33, 1210–1220. doi: 10.1007/s11105-014-0833-y

Kim, Young-Kyu, Chong-wook Park, Ki-Joong Kim. 2009. Complete Chloroplast DNA Sequence from a Korean Endemic Genus, *Megaleranthis saniculifolia*, and Its Evolutionary Implication. *Molecules and Cells* 27(3): 365-81. DOI:10.1007/s10059-009-0047-6

Kimura M. 1980. A simple method for estimating evolutionary rate of base substitutions through comparative studies of nucleotide sequences. *Journal of Molecular Evolution* 16:111-120.

Kong BL, Park HS, Lau TD, Lin Z, Yang TJ, Shaw PC. 2021. Comparative analysis and phylogenetic investigation of Hong Kong Ilex chloroplast genomes. *Sci Rep*. 4;11(1):5153. doi: 10.1038/s41598-021-84705-9.

Korir, N.K, Han J, Shangguan L, Wang C, Kayesh E, Zhang Y, Fang J. 2012. Plant variety and cultivar identification: Advances and prospects. *Crit Rev Biotechnol* 33: 111-125.DOI: 10.3109/07388551.2012.675314

Krastev, V., D. Dimova, D. Svetleva. 2014. Inheritance of Some Quantitative Traits in Common Bean Cross. *Turkish Journal of Agricultural and Natural Sciences*, pp. 761-769.

Krawczyk, K., M. Nobis, A. Nowak, M. Szczecinska & J. Sawicki. 2017. Phylogenetic implication of nuclear rRNA IGS variation in *Stipa* L. (Poaceae). *Scientific Reports* 7: *11506* | DOI:10.1038/s41598-017-11804-x

Kress, W.J., Wurdack, J.K., Zimmer A, A.E., Weight, A.L., Janzen H, H.D., 2005. Use of DNA barcodes to identify flowering plants. *Proc. Natl. Acad. Sci*. USA 102 (23), 8369–8374.

Kumar S, Stecher G, Li M, Knyaz C, Tamura K. 2018. MEGA X: Molecular Evolutionary Genetics Analysis across Computing Platforms. *Molecular Biology and Evolution*, 35(6): 1547-1549. doi: 10.1093/molbev/msy096.

Kustanto, Heri. 2023. The phenotypic and genetic diversity test of several inbred lines on the 7th generation of melon (*Cucumis melo*). *Biodiversitas* 24(5): 2623-2629. DOI: 10.13057/biodiv/d240514

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
Spacer DNA Kloroplas
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Latifah, Y.W dan B.S Daryono. 2016. Kestabilan Karakter Fenotip dan Molekuler Melon (*Cucumis melo* L. 'Melona') Hasil Segregasi dan Seleksi Populasi. *Skripsi*. Universitas Gadjah Mada. Yogyakarta.

Lemey, P., M. Salemi and A.M. Vandamme. 2009. *The Phylogenetic Handbook A Practical Approach to Phylogenetic Analysis and Hypothesis Testing*. Cambridge University Press.

Li, Y., S. Shen, Lihong He, Pu Xu, Shan Lu. 2010. Sequence analysis of rDNA intergenic spacer (IGS) of *Porphyra haitanensis*. *J. Appl Phycol*, 22:187-193. DOI 10.1007/s10811-009-9441-x

Li, H., Xiao, W., Tong, T. *et al.* 2021. The specific DNA barcodes based on chloroplast genes for species identification of *Orchidaceae* plants. *Sci Rep* **11**, 1424. https://doi.org/10.1038/s41598-021-81087-w

Li, HT., Yang, JB., Li, DZ. *et al.* 2010. A molecular phylogenetic study of *Hemsleya* (Cucurbitaceae) based on ITS, *rpl*16, *trn*H-*psb*A, and *trn*L DNA sequences. *Plant Syst Evol* **285**, 23–32. https://doi.org/10.1007/s00606-009-0252-y

Li J, Xie D-F, Guo X-L, Zheng Z-Y, He X-J, Zhou S-D. 2020. Comparative Analysis of the Complete Plastid Genome of Five *Bupleurum* Species and New Insights into DNA Barcoding and Phylogenetic Relationship. *Plants*, 9(4):543. https://doi.org/10.3390/plants9040543

Li W, Liu Y, Yang Y, Xie X, Lu Y, Yang Z, Jin X, Dong W, Suo Z. 2018. Interspecific chloroplast genome sequence diversity and genomic resources in *Diospyros*. *BMC Plant Biol*, 18(1):210.

Li, X.W., Yang, Y., Henry, R.J., Rossetto, M., Wang, Y.T., Chen, S.L., 2015. Plant DNA barcoding: from gene to genome. *Biol. Rev*. 90, 157–166.

Liang X, Li Q, Cao L, Du X, Qiang J, Hou J, Li X, Zhu H, Yang S, Liu D, Zhu L, Yang L, Wang P, Hu J. 2023. Natural allelic variation in the EamA-like transporter, CmSN, is associated with fruit skin netting in melon. *Theor Appl Genet*, 136(9):192. doi: 10.1007/s00122-023-04443-6

Lija, M, Beevy S. S. 2021. A review on the diversity of melon. *Plant Science Today*, 8(4):995-1003. https://doi.org/10.14719/pst.1300

Lin, Ssu-Yu, Huang J-H, Wang Y-H. 2020. Morphological Diversity and Resistance to Powdery Mildew in Melon (*Cucumis melo* L.) Accessions. *Journal of Taiwan Agricultural Research*. Vol. 69(2): 169-183

Linh NN, Hang PLB, Hue HTT, Ha NH, Hanh HH, Ton ND, Hien LTT. 2022. Species discrimination of novel chloroplast DNA barcodes and their application for identification of Panax (Aralioideae, Araliaceae). *PhytoKeys* 188: 1–18. https://doi.org/10.3897/phytokeys.188.75937

Lipscomb, D. 1998. *Basics of Cladistic Analysis*. Student Guide Paper. Department of Biological Sciences. George Washington University, Washington D.C, USA. https://www2.gwu.edu/~clade/faculty/lipscomb/Cladistics.pdf

Liu JIE, Möller M, Gao L-M, Zhang D-Q, Li D-Z. 2010. DNA barcoding for the discrimination of Eurasian yews (*Taxus* L., Taxaceae) and the discovery of cryptic species. *Molecular Ecology Resources* 11: 89–100.

Maryanto, S.D. & B.S. Daryono. (2011). Perbandingan Karakter Fenotipe Buah Melon (*Cucumis melo* L.) Kultivar Melodi Gama-1, Gama Melon Basket dan Kultivar Komersial pada Uji Multilokasi dan Multimusim. *Skripsi*. Fakultas Biologi, Universitas Gadjah Mada. Yogyakarta.

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
Spacer DNA Kloroplas
Alifah Rahmi Heritiera, Prof. Dr. Budi Setiadi Daryono, M.Agr.Sc
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Maryanto, S.D., Ranis R.E., B.S Daryono. 2014. Stability phenotypic characters and the scent of gama melon perfume cultivar. *IPTEK J.Proc Ser* (1):523-5238

Meyer, C. P. and G. Paulay. 2005. DNA Barcoding: Error Rates Based on Comprehensive Sampling. *PLoS Biol* 3(12): e422. https://doi.org/10.1371/journal.pbio.0030422

Miller, J. S., Kamath, A., & Levin, R. A. 2009. Do Multiple Tortoises Equal a Hare? The Utility of Nine Noncoding Plastid Regions for Species-Level Phylogenetics in Tribe Lycieae (Solanaceae). *Systematic Botany*, *34*(4), 796–804. http://www.jstor.org/stable/40540510

Mishra P, Kumar A, Nagireddy A, Shukla AK, Sundaresan V. 2017. Evaluation of single and multilocus DNA barcodes towards species delineation in complex tree genus *Terminalia*. *PLoS ONE* 12(8): e0182836. https://doi.org/10.1371/journal.pone.0182836

Morrissey, E., Mau, R., Schwartz, E. 2017. Bacterial carbon use plasticity, phylogenetic diversity and the priming of soil organic matter. *ISME J* 11: 1890–1899. https://doi.org/10.1038/ismej.2017.43

Moura, M. D. C., L.S. Gonçalves, C.P. Sudré, R. Rodrigues, A. T. D. A. Júnior; T. N. S. Pereira. 2010. The Grower's algorithm on the estimate of genetic diversity in chili pepper germoplasm. *Horticultura Brasileira* 28: 155-161.

Mu Z, Zhang Y, Zhang B, Cheng Y, Shang F, Wang H. 2023. Intraspecific Chloroplast Genome Variation and Domestication Origins of Major Cultivars of *Styphnolobium japonicum*. *Genes*, 14(6):1156. https://doi.org/10.3390/genes14061156

Muslimah, R.N., Z. Millah, Susiyanti, A. Natawijaya. 2022. Keragaan dan Keragaman Karakter Vegetatif dan Generatif pada Empat Galur Elit Melon (*Cucumis melo* L.) Berumur Genjah. *Prosiding Seminar Nasional Peripi 2022.*

Nazar, N. and Mahmood, T. 2011. Morphological and molecular characterization of selected *Artemisia* species from Rawalakot, Azad Jammu and Kashmir. *Acta Physiol Plant* 33: 625-633. DOI: 10.1007/s11738-010-0545-3.

Nei, M. 1987. *Molecular evolutionary genetics*. New York: Colombia University Press. 512 p.

Nei, M., & Li, W.-H. 1979. Mathematical model for studying genetic variation in terms of restriction endonucleases. Proceedings of the National Academy of Sciences, 76(10), 5269–5273.

Nei, M. & S. Kumar. 2000. Molecular Evolution and Phylogenetics. Oxford University Press, New York. p. 333.

Newell, P. D., A. D. Fricker, C. A. Roco, P. Chandrangsu, S. M. Merkel. 2013. A Small-Group Activity Introducing the Use and Interpretation of BLAST. *J. Microbiol Biol Educ.*, 14(2): 238-243. doi: 10.1128/jmbe.v14i2.637

Nieto-Lugilde, Marta, Sean Robinson, Blanka Aguero, Aaron Duffy, Karn Imwattana, Kristian Hassel, Kjell Ivar Flatberg, Hans K. Stenøien, Anna V. Shkurko, Vladimir E. Fedosov, A. Jonathan Shaw. 2022. Morphological-molecular incongruence in *Sphagnum majus* ssp. *majus* and ssp. *Norvegicum*. *The Bryologist*, 125(2), 294-310

Nonić, M., Šijačić-Nikolić, M. 2019. Genetic Diversity: Sources, Threats, and Conservation. In: Leal FW, Azul A, Brandli L, Özuyar P, Wall T. (eds). Life on Land. *Encyclopedia of the UN Sustainable Development Goals*. Springer, Cham. DOI: 10.1007/978-3-319-71065-5_53-1.

Nuñez-Palenius HG, Gomez-Lim M, Ochoa-Alejo N, Grumet R, Lester G, Cantliffe DJ. 2008. Melon fruits: genetic diversity, physiology, and biotechnology features. *Crit Rev Biotechnol* 28:13–55. https://doi.org/10.1080/07388550801891111

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Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic Spacer DNA Kloroplas
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Olsson S, Giovannelli G, Roig A, Spanu I, Vendramin GG, Fady B. 2022. Chloroplast DNA barcoding genes *matK* and *psbA-trnH* are not suitable for species identification and phylogenetic analyses in closely related pines. *iForest* 15: 141-147. doi:10.3832/ifor3913-015

Paradis, E. 2018. Analysis of haplotype networks: The randomized minimum spanning tree method. *British Ecological Society* 9(5): 1308-1317.

Paran, I., D. Zamir. 2003. Quantitative traits in plants: beyond the QTL. *Trends in Genetics*. DOI: 10.1016/S0168-9525(03)00117-3

Paul, F., Otte, J., Schmitt, I. *et al.* 2018. Comparing Sanger sequencing and high-throughput metabarcoding for inferring photobiont diversity in lichens. *Sci Rep* **8**, 8624. https://doi.org/10.1038/s41598-018-26947-8

Pere K, Mburu K, Muge EK, Wagacha JM, Nyaboga EN. 2023. Molecular Discrimination and Phylogenetic Relationships of *Physalis* Species Based on ITS2 and *rbcL* DNA Barcode Sequence. *Crops*, 3(4):302-319. https://doi.org/10.3390/crops3040027

Permata, D.A. and Susandarini R. 2022. Morphological diversity and phenetic relationship of wild and cultivated *Begonia* on morphology and leaf venation. *Biodiversitas* 23 (2): 928-937. DOI: 10.13057/biodiv/d230235

Pitrat, Michel. 2016. *Plant Genetics and Genomics*: *Crops anda Models*, Melon Genetic Resources: Phenotypic Diversity and Horticultural Taxonomy. Genetics and Genomics Cucurbitaceae, pp. 25-60.

Pitrat, Michel. 2008. *Vegetables I; Cucurbitaceae; Chapter: Melon*. pp.283-315. DOI:10.1007/978-0-387-30443-4_9

Pitrat, Michel. 2013. Phenotypic diversity in wild and cultivated melons (*Cucumis melo*). *Plant Biotechnology* 30(3): 273–278. DOI: 10.5511/plantbiotechnology.13.0813a

Poczai, P., Hyvonen, J. 2010. Nuclear ribosomal spacer regions in plant phylogenetics: Problems and prospects. *Mol. Biol. Rep*, 37, 1897–1912.

Pratama, O. A., W. A. S. Tunjung, S. Sutikno, B. S. Daryono. 2019. Bioactive compound profile of melon leaft extract (*Cucumis melo* L. 'Hikapel') infected by downy mildew. *Biodiversitas*, Vol. 20(11). **DOI** https://doi.org/10.13057/biodiv/d201143

Purbasari, I., R. Pancasasti, H. A., Maulana. 2018. Pemanfaatan Golden Melon Sebagai Produk Unggulan yang Bernilai Ekonomis, Ekologi, Sosial dan Budaya Masyarakat di Provinsi Banten. *Jurnal Pengabdian Dinamika*, Vol. 5(1)

Qin, Y., M. Li, Y. Cao, Y. Gao, W. Zhang. 2017. Molecular thresholds of ITS2 and their implications for molecular evolution and species identification in seed plants. *Nature Scientific Reports*, 7: 17316. DOI:10.1038/s41598-017-17695-2

Quezada, E. T. 2023. Basic melon (*Cucumis melo* L.) physiology and morphology. VCE Publications and Educational Resources, spes-507. https://www.pubs.ext.vt.edu/content/pubs_ext_vt_edu/en/SPES/spes-507/spes-507.html

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Ramadan, A. M., Z. Millah, S. Hilal, A. Natawijaya. 2022. Evaluasi Keseragaman Genetik Empat Galur Melon (*Cucumis melo* L.) Berumur Genjah. *Prosiding Seminar Nasional Peripi 2022*.

Rini, M. V., F. Yelli, D. L. Tambunan, I. Damayanti. 2021. Morphological and molecular identifications of three native arbuscular mycorrhizal fungi isolated from the rhizosphere of Elaeis guineensis and Jatropha curcas in Indonesia. *Biodiversitas*, Vol. 22(11): 4940-4947. DOI: 10.13057/biodiv/d221128

Ritonga AW, Chozin MA, Syukur M, Maharijaya A, Sobir. 2018. Short Communication: Genetic variability, heritability, correlation, and path analysis in tomato (*Solanum Lycopersicum*) under shading condition. *Biodiversitas* 19(4):1527-1531. DOI: 10.13057/biodiv/d190445

Robinson, R.W and D. S Decker-Walters. 1997. *Cucurbits*. CAB International. New York, NY, USA.

Rodríguez-Moreno, L., V. M. González, A. Benjak, M. C. Martí, P. Puigdomènech, M. A. Aranda, J. Garcia-Mas. 2011. Determination of the melon chloroplast and mitochondrial genome sequences reveals that the largest reported mitochondrial genome in plants contain a significant amount of DNA having a nuclear origin. *BMC Genomics*, 12:424

Ruang-areerate, P., Kongkachana W, Naktang C, Sonthirod C, Narong N, Jomchai N, Maprasop P, Maknual C, Phormsin N, Shearman JR, Pootakham W, Tangphatsornruang S. 2021. Complete chloroplast genome sequences of five Bruguiera species (Rhizophoraceae): comparative analysis and phylogenetic relationships. *PeerJ* 9:e12268 DOI 10.7717/peerj.12268

Saputra, H. E., M. Syukur, W. B. Suwarno, Sobir. 2022. Diversity and similarity of melon (Cucumis melo L.) groups and determination of distinguishing morphological characters. *Biodiversitas*, Vol. 23(12): 6245-6261. DOI: 10.13057/biodiv/d231221

Saputri, A. P., W. A. Wibowo, B. S. Daryono. 2020. Phenotypical characters and biochemical compound of cucurbitacin melon (*Cucumis melo* L. 'Gama Melon Parfum') resulted from breeding. *AIP Conf. Proc*. 2260, 060006. https://doi.org/10.1063/5.0017615

Sayed, H.A., Mostafa, S., Haggag, I.M. *et al.* 2023. DNA Barcoding of *Prunus* Species Collection Conserved in the National Gene Bank of Egypt. *Mol Biotechnol* **65**, 410–418. https://doi.org/10.1007/s12033-022-00530-z

Schaefer, Hanno, S. S. Renner. 2011. Phylogenetic relationships in the order Cucurbitales and a new classification of the gourd family (Cucurbitaceae). *Taxon*, Vol. 60(1): 122-138. https://doi.org/10.1002/tax.601011

Sebastian, P., H. Schaefer, I. R. H. Telford, and S.S. Renner. 2010. Cucumber (*Cucumis sativus*) and melon (*C. melo*) have numerous wild relatives in Asia and Australia, and the sister species of melon is from Australia. *Proceedings of the National Academic of Science* (PNAS), vol. 107(32): 14269-14273. DOI: 10.1073/pnas.1005338107

Shaik, R.S., Gopurenko, D., Urwin, N.A.R. *et al.* 2015. Population genetics of invasive *Citrullus lanatus*, *Citrullus colocynthis* and *Cucumis myriocarpus* (Cucurbitace ae) in Australia: inferences based on chloroplast and nuclear gene sequencing. *Biol Invasions* **17**, 2475–2490. https://doi.org/10.1007/s10530-015-0891-6

Shaw, J., E. B. Lickey, J. T. Beck, S. B. Farmer, W. Liu, J. Miller, K. C. Siripun, C. T. Winder, E. E. Schilling, R. L. Small. 2005. The tortoise and the hare II: relative utility of 21

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
Spacer DNA Kloroplas
Alifah Rahmi Heritiera, Prof. Dr. Budi Setiadi Daryono, M.Agr.Sc
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noncoding chloroplast DNA sequence for phylogenetic analysis. *Am. J. Bot*., 92, pp. 142-166.

Shaw, Joey, E.B. Lickey, E. E. Schilling, R.L. Small. 2007. Comparison of whole chloroplast genome sequences to choose noncoding regions for phylogenetic studies in Angiosperms: The tortoise and the hare III. *Journal of Botany* 94(3): 275-288.

Shaw, Joey, H. L. Shafer, O. R. Leonard, M. J. Kovach. M. Schorr, A. B. Morris. 2014. Chloroplast DNA Sequence Utility for The Lowest Phylogenetic and Phylogeographic Inference in Angiosperms: The Tortoise and The Hare IV. *American Journal of Botany* 101(11): 1987-2004. https://doi.org/10.3732/ajb.1400398

Shen, Chang-Hui. 2023. *Dianostic Molecular Biology*. Second Edition. Chapter 7: Quantification and analysis of nucleic acids. pp. 181-208. Academic Press. Elsevier. https://doi.org/10.1016/C2020-0-01054-6

Shubhanand, N., Agrawal, M., John, K. J., Sutar, S., Yadav, S. R., Rao, S. R., & Bhat, K. V. 2015. Phylogenetic informativeness of plastid regions in inferring the species relationships among Cucumis species. *INDIAN JOURNAL OF GENETICS AND PLANT BREEDING*, *75*(02), 232–236. https://doi.org/10.5958/0975-6906.2015.00035.8

Silva, A. R. D., P. R. Cecon, C. T. D. S. Dias, M. Puiatti, F. L. Finger, A. P. S. Carneiro. 2014. Morphological phenotypic dispersion of garlic cultivars by cluster analysis and multidimentional scaling. *Scientica Agricola*. Vol. 71, p. 38-43

Simpson, M. G. 2013. *Plant Systematics*. Boston, Elsevier (Academic Press), Amsterdam. pp. 10-13, 409

Singh, A. K., S. Kumar, H. Singh, V. P. Rai, B. D. Singh, S. Pandey. 2015. Genetic diversity in Indian snapmelon (*Cucumis melo* var. momordica) accessions revealed by ISSR markers. *Plant Omics Journal* 8(1): 9-16

Singh, D., Leskovar, D.I., Sharma, S.P. *et al.* 2020. Genetic diversity and interrelationship among Indian and exotic melons based on fruit morphology, quality components and microsatellite markers. *Physiology Molecular and Biology of Plants* **26**, 985–1002. https://doi.org/10.1007/s12298-020-00814-1

Small, R. L., E. B. Lickey, J. Shaw, W. D. Hauk. 2005. Amplification of noncoding chloroplast DNA for phylogenetic studies in lycophytes and monilophytes with comparative example o relative phylogenetic utility from Ophioglossaceae. *Molecular Phylogenetics and Evolution*, Vol. 26(3): 509-522. https://doi.org/10.1016/j.ympev.2005.04.018

Sokal, R.H. and P. A. Sneath. 1963. *Principal Numerical Taxonomy*. Freeman and Co. San Fransisco. pp 60-163

Soltani F, Shajari M, Mirbehbahani GS, Bihamta MR. 2022. Assessment of melon genetic diversity based on fruit phenotypic traits and flowering habits. *Intl J Hortic Sci Technol* 9 (1): 97-116. DOI: 10.22059/ijhst.2021.313939.415

Song, Shiqiang, Kenneth. M. Cameron, Y. Wang, S. Wang, Xinjie Jin, Faiza Hina, Zhaoping Yang, Pan Li. 2023. Phylogenomics and phylogeographyof *Menispermum* (Menispermaceae). *Front. Plant Sci*., Vol. 14. https://doi.org/10.3389/fpls.2023.1116300

Steele, P. R., L. M. Friar, L. E. Gilbert, R. K. Jansen. 2010. Molecular systematics of the neotropical genus *Psiguria* (Cucurbitaceae): Implications for phylogeny and species identification. *American Journal of Botany*, Vol. 97(1): 156-173. https://doi.org/10.3732/ajb.0900192

Suhardi, A. Wibowo, W. P. B. Putra, P. Summpunn. 2023. The Phylogeny of Bornean Swamp Buffalo (*Bubalus bubalis*) Analysis Based on D-loop Mitochondrial DNA Sequence

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
Spacer DNA Kloroplas
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Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Variation. *Tropical Animal Science Journal*, 46(2): 139-145. https://doi.org/10.5398/tasj.2023.46.2.139

Sumarlina & B.S. Daryono. 2018. Karakterisasi Molekuler Melon (*Cucumis melo* L.) Grup 'Tacapa' Berdasarkan Multiple Multilocus DNA Barcodes. *Thesis*. Fakultas Biologi, Universitas Gadjah Mada. Yogyakarta

Sun J, Wang Y, Qiao P, Zhang L, Li E, Dong W, Zhao Y, Huang L. 2023. *Pueraria montana* Population Structure and Genetic Diversity Based on Chloroplast Genome Data. *Plants*, 12(12):2231. https://doi.org/10.3390/plants12122231

Sungkawati, M., L. Hidayati, B. S. Daryono, Purnomo. 2019. Phenetic analysis of Curcuma spp. in Yogyakarta, Indonesia based on morphological and anatomical characters. *Biodiversitas*, Vol. 20(8): 2340-2347. DOI: 10.13057/biodiv/d200832

Supriyadi, F. Husnun, B.S. Daryono. 2022. Sifat kimia dan kinetika degradasi termal antioksidan jus melon (*Cucumis melo* L.) kultivar Gama Melon Parfum. *Jurnal Teknologi Pertanian Andalas* 26(1): 71. DOI:10.25077/jtpa.26.1.71-83.2022

Swetha, V.P. Parvathy, V.A., Sheeja, T.E., and Sasikumar B. 2014. DNA Barcoding for Discriminating the Economically Important Cinnamomum verum from Its Adulterans. *Food Biotechnology*. 28:183-194

Tadmor, Y.; Burger, J.; Yaakov, I.; Feder, A.; Libhaber, S.E.; Portnoy, V.; Meir, A.; Tzuri, G.; Sa'ar, U.; Rogachev, I.; et al. 2010. Genetics of flavonoid, carotenoid, and chlorophyll pigments in melon fruit rinds. *J. Agric. Food Chem, 58*, 10722–10728

Tajima F. 1989. Statistical method for testing the neutral mutation hypotheses by DNA polymorphism. *Genetics* 123:585–595

Tam, N. T., M. S. Dwiyanti, Y. Koide, A. J. Nagano, H. Ky, H. Q. Tin, N. L. Hien, L. V. Dung, Y. Kishima. 2019. Profiling SNP and Nucloeptide Diversity to Characterize Mekong Delta Rice Landraces in Southeast Asian Populations. *The Plant Genome*, Vol. 12(3). https://doi.org/10.3835/plantgenome2019.06.0042

Tamura K, D. Peterson, N. Peterson, G. Stecher. M. Nei, and S. Kumar. 2011. MEGA5: Molecular Evolutionary Genetics Analysis using Maximum Likelihood, Evolutionary Distance, and Maximum Parsimony Methods. *Molecular Biology and Evolution*. 28: 2731-2739

Tanaka K., Mitsuhiro Sugiyama, Gentaro Shigita, Ryoma Murakami, Thanh-Thuy Duong, Yasheng Aierken, Anna M Artemyeva, Zharas Mamypbelov, Ryuji Ishikawa, Hidetaka Nishida, Kenji Kato. 2023. Melon diversity on the Silk Road by molecular phylogenetic analysis in Kazakhstan melons. *Breeding Science*, Volume 73(2), pp. 219-229

Tanaka K., Y. Akashi, K. Fukunaga, T. Yamamoto, Y. Aierken, H. Nishida, Chun Lin L, H. Yoshino, Yo-Ichiro Sato, Kenji Kato. 2013. Diversification and genetic differentiation of cultivated melon inferred from sequence polymorphism in the choloroplast genome. *Breeding Science* 63: 183–196. doi:10.1270/jsbbs.63.183

Tao, X. F., T. Huang, X. F Li, D. P. Peng. 2016. Application of a PCA based water quality classification method in water quality assessment in the Tongjiyan Irrigation Area, China. *International Conference on Energy and Environmental Protection* (ICEEP 2016). Atlantis Press. pp. 118-125

Tateno Y, Takezaki N, Nei M. 1994. Relative efficiencies of the maximum-likelihood, neighbor-joining, and maximum-parsimony methods when substitution rate varies with site. *Mol Biol Evol*; 11(2):261-77. doi: 10.1093/oxfordjournals.molbev.a040108.

Variasi Genetik dan Hubungan Kekerabatan Melon (Cucumis melo L.) Indonesia Berdasarkan Intergenic
Spacer DNA Kloroplas
Alifah Rahmi Heritiera, Prof. Dr. Budi Setiadi Daryono, M.Agr.Sc
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Techen, N., Parveen, I., Pan, Z., dan Khan, I.A. 2014. DNA Barcoding of Medicinal Plant Material for Identification. *Current Opinion in Biotechnology*. 25(103): 103-110

Tian, Y., Liu, X., Xu, Y. *et al*. 2023. Comparative and phylogenetic analysis of *Asparagus meioclados* Levl. and *Asparagus munitus* Wang et S. C. Chen plastomes and utility of plastomes mutational hotspots. *Sci Rep* **13**, 15622. https://doi.org/10.1038/s41598-023-42945-x

Timme RE, Kuehl JV, Boore JL, Jansen RK. 2007. A comparative analysis of the Lactuca and Helianthus (Asteraceae) plastid genomes: Identification of divergent regions and categorization of shared repeats. *Am. J. Bot.*; 94:302–312. doi: 10.3732/ajb.94.3.302.

Tjitrosoepomo, G. 1991. *Taksonomi Tumbuhan Spermatophyta*. Gadjah Mada University Press. Yogyakarta. pp 379-380.

Tjitrosoepomo, G. 2009. *Taksonomi Tumbuhan*. Gadjah Mada University Press. Yogyakarta.

Tnah, L.H., Lee, S.L., Tan, A.L., Lee, C.T., Ng, K.K.S., and Ng, C.H. 2016. Intraspecific classification of *Ficus deltoidea* Jack subsp. *Deltoidei* (Moraceae) in Peninsular Malaysia based on morphological and molecular variations. *Biochem Syst Ecol* 67: 119-128. DOI: 10.1016/j.bse.2016.06.001.

Tonti-Filippini, J.; Nevill, P.G.; Dixon, K.; Small, I. 2017. What Can We Do with 1000 Plastid Genomes? *Plant J.*, 90, 808–818.

Van Gestel J, Weissing F.J., 2018. Is plasticity caused by single genes? *Nature*, 555: 19-20.

Verma, M.K., S. Lal, N. Ahmed. 2012. PCA and genetic divergence analysis in Indian pomegranate (*Punica granatum* L.) cultivars. *Progressive Horticulture*, Vol. 44(2): 265-270.

Wahyuni, D. K., S. R. Mukarromah, P. Rakhmad, M. Ilham, G. A Rakashiwi, D. T. Indriati, B. F. Yoku, H. Purnobasuki, Junairiah, S. Prasongsuk. 2022. Morpho-anatomical characterization and DNA barcoding analysis of *Pluchea indica* (L.) Less. *Biodiversitas*, Vol. 23(8): 4272:4282. DOI: 10.13057/biodiv/d230851

Wang X, Chen X, Yang P, Wang L, Han J. 2017. Barcoding the *Dendrobium* (Orchidaceae) Species and Analysis of the Intragenomic Variation Based on the Internal Transcribed Spacer 2. *Biomed Res Int*. doi: 10.1155/2017/2734960.

Warseno, T., A. R. Chasani, B. S. Daryono. 2022. Genetic variability and phylogenetic relationships of *Begonia multangula* based on *atpB-rbcL* non-coding spacer of cpDNA sequences. *Biodiversitas* 23(10): 5491-5501. DOI: 10.13057/biodiv/d231061

Wehner, T.C., R.P. Naegele, J.R. Myers, N.P.S Dhillon, and K. Crosby. 2020. *Cucurbits* 2nd edition. CABI, Boston, MA, USA.

Wibowo, W. A., M. F. Al Rasyid, S. E. Maharani, B. S. Daryono. 2022. Genetic Stability Analysis Based on Inter-Simple Sequence Repeat and β-Carotene Content Analysis in Melon (*Cucumis melo* L. Gama Melon Parfum). *International Journal on Advanced Science Engineering and Information Technology* 12(4): 1606. DOI:10.18517/ijaseit.12.4.15641

WFO Plant List. 2022. *WFO Plant List: Snapshots of the Taxonomy*. https://wfoplantlist.org/plant-list/taxon/ . Diakses tanggal 1 Februari 2023.

Xu L, He Y, Tang L, Xu Y, Zhao G. 2022. Genetics, Genomics, and Breeding in Melon. *Agronomy*, 12(11):2891. https://doi.org/10.3390/agronomy12112891

Yan R, Gu L, Qu L, Wang X, Hu G. 2023. New Insights into Phylogenetic Relationship of *Hydrocotyle* (Araliaceae) Based on Plastid Genomes. *International Journal of Molecular Sciences*, 24(23):16629. https://doi.org/10.3390/ijms242316629

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Yang, K., A. H. Khan Robin, Go-Eun Yi, Jonghoon Lee, Mi-Young Chung, Tae-Jin Yang, Ill-Sup Nou. 2015. Diversity and Inheritance of Intergenic Spacer Sequences of 45S Ribosoomal DNA among Accessions of *Brassica oleracea* L. var. *capitata*. International *Journal of Molecular Sciences*, 16: 28783-28799. doi:10.3390/ijms161226125

Yilmaz, Nihat, H. P. Kaya, H. Pinar, F. Hanci, A. Uzun. 2021. Detailed Morphological and Molecular Characterizations of Melon (*Cucumis melo* L.) Accessions Collected from Northern Cyprus and Turkey. *Horticultural Science and Technology*, pp. 471-481. https://doi.org/10.7235/HORT.20210042

Yoo, Eunae, Mesfin Haile, Ho-Cheol Ko, Yu-Mi Choi, Gyu-Taek Cho, Hee-Jong Woo, Xiaohan Wang, Pilmo Sung, Jundae Lee, Jungu Lee, Nayoung Ro. 2023. Development of SNP markers for *Cucurbita* species discrimination. *Scientia Horticulturae*, Vol. 318. https://doi.org/10.1016/j.scienta.2023.112089

Yu, Jie, Xi Wu, Chang Liu, S. Newmaster, S. Ragupathy, W. John Kress. 2021. Progress in the use of DNA barcodes in the identification and classification of medicinal plants. *Ecotoxicology and Environmental Safety*, 208 (2021) 111691. https://doi.org/10.1016/j.ecoenv.2020.111691

Yusuf, A. F., B. S. Daryono. 2021. Studies of Genetic and Morhological Characteristics of Indonesia Melon (*Cucumis melo* L. 'Hikapel') Germplasm. *International Journal on Advanced Science Engineering Information Technology*, Vol. 11(5): 2023-2030. DOI:10.18517/ijaseit.11.5.14047

Yusuf, A. F., W. A. Wibowo, A.S. Subiastuti. 2020. Morphological studies of stability and identity of melon (*Cucumis melo* L.) 'Hikapel' and comparative cultvars. *AIP Conference Proceedings* 2260. https://doi.org/10.1063/5.0017606

Yusuf, A. F., W. A. Wibowo, B. S. Daryono. 2022. Genetic stability of melon (*Cucumis melo* L. cv. Meloni) based on inter-simple sequence repeat and phenotypic characteristics. *Biodiversitas*, Vol. 23(6): 3042-3049. DOI: 10.13057/biodiv/d230631

Yusuf, A. F., A. Alfiani, T. A. S. Salsabila, P. S. Kusnanda, I. N. Hidayati, B. S. Daryono. 2023. Assessment of maturity stage and stability of new Indonesian melon cultivar 'Melona' based on ISSR markers and morphological characteristics. *Biodiversitas*, Vol. 24(1): 308-316. DOI: 10.13057/biodiv/d240137

Zhang, C., A. S. Pratap, S. Natarajam, L. Pugalendhi, S. Kikuchi, H. Sassa, N. Senthil, and T. Koba. 2012. Evaluation of Morphological and Molecular Diversity among South Asian Germplasms of *Cucumis sativus* and *Cucumis melo*. *International Scholarly Research Notices*, vol. 2012, Article ID 134134, 11 pages, 2012. https://doi.org/10.5402/2012/134134

Zhang H., Mittal N., Leamy L.J., Barazani O., Song B-H. 2017. Back into the wild; applying untapped genetic diversity of wild relatives for crop improvement. *Evolutionary Application*, 10:5-24.

Zhang L, Lu X, Lu J, Liang H, Dai Q, Xu G-L, et al. 2012. Thymine DNA glycosylase specifically recognizes 5-carboxylcytosine-modified DNA. *Nature Chemical Biology*, 8:328-330.

Zhang X, Zhou T, Yang J, Sun J, Ju M, Zhao Y, Zhao G. 2018. Comparative Analyses of Chloroplast Genomes of Cucurbitaceae Species: Lights into Selective Pressures and Phylogenetic Relationships. *Molecules*, 23(9): 2165. https://doi.org/10.3390/molecules23092165

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Zhao, G., Lian, Q., Zhang, Z., Fu, Q., He, Y., Ma, S *et al*. 2019. A comprehensive genome variation map of melon identifies multiple domestication events and loci influencing agronomic traits. *Nature Genetics*, *51*(11), 1607-1615. https://doi.org/10.1038/s41588-019-0522-8

Zhao, YJ., Liu, J., Yin, GS. *et al.* 2023. Characteristics of plastid genomes in the genus *Ceratostigma* inhabiting arid habitats in China and their phylogenomic implications. *BMC Plant Biol* **23**, 303. https://doi.org/10.1186/s12870-023-04323-7

Zhou, C., Wang, P., Zeng, Q. *et al.* 2023. Comparative chloroplast genome analysis of seven extant *Citrullus* species insight into genetic variation, phylogenetic relationships, and selective pressure. *Sci Rep* **13**, 6779. https://doi.org/10.1038/s41598-023-34046-6

Zubaidah, Siti. 2011. *Integrasi Pendekatan Morfologi dan Molekuler DNA (Deoxyribonucleic acid) dalam Taksonomi*. Universitas Negeri Malang.