

# 1. BÖLÜM

## ETNOBOTANİKTE İLAÇ KEŞFİNE



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### 1. ETNOBOTANİK

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Etnobotanik terimi ilk olarak 1895 yılında Amerikan botanikçi Dr. John William Hershberger tarafından “yerliler tarafından kullanılan bitkiler” olarak tanımlanmıştır (Rahman, Afzal ve ark., 2019). Daha spesifik bir tanıma göre ise etnobotanikten “belirli bir bölgede yaşayan halk tarafından, yaşadıkları yörede yetişmekte olan bitkilerin farklı amaçlarla kullanılması” olarak bahsedilebilir. (Yıldırım, 2004).

Hershberger yapmış olduğu tanımı genişletirken etnobotanik teriminin “bitkileri gıda, ilaç, av silahı, çit, yakacak, kereste, zirai alet, inşaat materyali olarak ve dekorasyonda, dini törenlerde kullanan kabilelerin kültürel durumuna hitap eden bir alan” olarak kullanılmasını önermiştir (Rahman, Afzal ve ark., 2019).

Etnobotanik hızla gelişen bir bilimdir, çeşitli akademik kökene sahip olan kişileri kendine çekmektedir (MacDonald, 2009) ve aralarında botanik, biyokimya, farmakognozi, toksikoloji, tıp, beslenme, ziraat, ekoloji, evrim, karşılaştırmalı din, sosyoloji, antropoloji, dil bilim, bilişsel çalışmalar, tarih ve arkeolojinin bulunduğu pek çok alanı kapsamaktadır. Bu multidisipliner yaklaşım sayesinde bitkilerin pek çok farklı kullanımı da incelenebilmektedir (Ghorbani; Naghibi ve ark., 2006; Balick, 1996).

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Sonuç olarak, etnobotanik yüzyıllardır hayatımızdadır ve uygulamaya giren/ girecek yeni yöntemler sayesinde gelecekte de hayatımızda olmaya daha verimli bir şekilde devam edecektir.

## KAYNAKLAR

- Al Qaraghuli, M.M., Alzahrani, A.R., Niwasabutra, K. Where traditional drug discovery meets modern technology in the quest for new drugs, *Annals of Pharmacology and Pharmaceutics*, 2(11): 1061, 2017.
- Altınok Yipel, F., Yipel, M. Etnoveteriner Hekimlik (EVH), *Türk Veteriner Hekimleri Birliği Dergisi*, 1-2: 79-82, 2014.
- Bağcı, Y., Savran, A., Dural, H. Pozantı (Adana) ve çevresindeki bazı bitkilerin yerel adları ve etnobotanik özellikleri, *Selçuk Üniversitesi Fen Fakültesi Fen Dergisi*, 27: 77-82, 2006.
- Balick, M.J. Transforming ethnobotany for the new millennium, *Annals of the Missouri Botanical Garden*, 83: 58-66, 1996.
- Brendler, T., van Wyk, B-E. A historical, scientific and commercial perspective on the medicinal use of *Pelargonium sidoides* (Geraniaceae), *Journal of Ethnopharmacology*, 119: 420-433, 2008.
- Butler, M.S. The role of natural product chemistry in drug discovery, *Journal of Natural Products*, 67: 2141-2153, 2004.
- Caldeira, C.F., Giannini, T.C., Ramos, S.J. Sustainability of jaborandi in the eastern Brazilian Amazon, *Perspectives in Ecology and Conservation*, 15: 161-171, 2017.
- Chin, Y-W., Balunas, M.J., Chai, H.B. Drug discovery from natural sources, *The APPS Journal*, 8(2): E239-E253, 2006.
- Cox, P.A., Balick, M.J. The ethnobotanical approach to drug discovery, *Scientific American*, 270(6): 82-87, 1994.
- de la Parra, J., Quave, C.L. Ethnophyto-technology: Harnessing the power of ethnobotany with biotechnology, *Trends in Biotechnology*, 35(9): 802-806, 2017.
- Dey, A., Dey, A. Phytotherapy against insomnia: Extravagant claims or an alternative medicine? *Pakistan Journal of Biological Sciences*, 16(3): 148-150, 2013.
- Dias, D.A., Urban, S., Roessner, U. A historical overview of natural products in drug discovery, *Metabolites*, 2: 303-336, 2012.
- Dutfield, G. Why traditional knowledge is important in drug discovery, *Future Medicinal Chemistry*, 2(9): 1405-1409, 2010.
- Eldeen, I.M.S., Effendy, M.A.W., Tengku-Muhammad, T.S. Ethnobotany: Challenges and future perspectives, *Research Journal of Medicinal Plants*, 10(6-7): 382-387, 2016.
- Ghorbani, A., Naghibi, F., Mosaddegh, M. Ethnobotany, Ethnopharmacology and Drug Discovery, *Iranian Journal of Pharmaceutical Sciences*, 2(2): 109-118, 2006.
- Gras, A., Hidalgo, O., D'Ambrosio, U. The role of botanical families in medicinal ethnobotany: A phylogenetic Perspective, *Plants*, 10: 163, 2021. Doi: <https://doi.org/10.3390/plants10010163>.
- Gu, S., Pei, J. Innovating Chinese herbal medicine: From traditional Health Practice to Scientific Drug Discovery, *Frontiers in Pharmacology*, 8: 381, 2017. Doi: 10.3389/fphar.2017.00381.
- Heinrich, M. Ethnobotany and its role in drug development, *Phytotherapy Research*, 14: 479-488, 2000.
- Heinrich, M. (2013). Ethnopharmacology and Drug Discovery. (Jan Reedijk (Ed.). Elsevier Reference Module in Chemistry, Molecular Sciences and Chemical Engineering içinde. Waltham, MA: Elsevier.
- Ji, P-S. Ethnobotanical approaches of traditional medicine studies: Some experiences from Asia, *Pharmaceutical Biology*, 39(Suppl.): 74-79, 2001.
- Katiyar, C., Gupta, A., Kanjilal, S. Drug discovery from plant sources: An integrated approach,

- AYU, 33(1): 10-19, 2021.
- Kayalar, H., Akçiçek, E. Tıbbi bitkilerden bitkisel ilaçlara, *Sağlık Düşüncesi ve Tıp Kültürü Dergisi*, 22: 30-34, 2011.
- Kayser, O. Ethnobotany and medicinal plant biotechnology: from tradition to modern aspects of drug development, *Planta Medica*, 84: 834-838, 2018.
- Kendir, G., Güvenç, A. Etnobotanik ve Türkiye’de yapılmış etnobotanik çalışmalara genel bir bakış, *Hacettepe Üniversitesi Eczacılık Fakültesi Dergisi*, 30(1): 49-80, 2010.
- Kinghorn, A.D. Pharmacognosy in the 21<sup>st</sup> century, *Journal of Pharmacy and Pharmacology*, 53: 135-148, 2001.
- Kong, D-X., Li, X-J., Zhang, H-Y. Where is the hope for drug discovery? Let history tell the future, *Drug Discovery Today*, 14(3-4): 115-119, 2009.
- Liu, M., Quinn, R.J. Fragment-based screening with natural products for novel anti-parasitic disease drug discovery, *Expert Opinion on Drug Discovery*, 14(12): 1283-1295, 2019.
- Lone, P.A., Bhardwaj, A.K., Bahar, F.A. Study of indigenous/traditional medicinal plant knowledge – an endeavour towards new drug discovery, *African Journal of Traditional, Complementary and Alternative Medicines*, 12(2): 73-95, 2015.
- Lopez, V. Are traditional medicinal plants and ethnobotany still valuable approaches in pharmaceutical research? *Boletín Latinoamericano y del Caribe de Plantas Medicinales y Aromáticas*, 10(1): 3-10, 2011.
- MacDonald, I. Current Trends in Ethnobotany (Editorial). *Tropical Journal of Pharmaceutical Research*, 8(4): 295-296, 2009.
- McClatchey, W.C., Mahady, G.B., Bennett, B.C. Ethnobotany as a pharmacological research tool and recent developments in CNS-active natural products from ethnobotanical sources, *Pharmacology & Therapeutics*, 123: 239-254, 2009.
- Mishra, S.B., Mukerjee, A., Singh, S. (2021). Global approach for drug discovery and development from Indian traditional medicine. (Subhash C. Mandal, Raja Chakraborty, Saikat Sen (Ed) *Evidence Based Validation of Traditional Medicines: A Comprehensive Approach* içinde (s. 3-27). Singapur: Springer Singapore Motti, R. Wild plants used as herbs and spices in Italy: An ethnobotanical review, *Plants*, 10: 563, 2021. Doi: <https://doi.org/10.3390/plants10030563>.
- Murray, C.W., Rees, D.C. The rise of fragment-based drug discovery, *Nature Chemistry*, 1(3): 187-192, 2009.
- Öztürk, F., Dölarıslan, M., Gül, E. Etnobotanik ve tarihsel gelişimi, *Türk Bilimsel Derlemeler Dergisi*, 9(2): 11-13, 2016.
- Pan, S-Y., Pan, S., Yu, Z-l. New perspectives on innovative drug discovery: an overview, *Journal of Pharmaceutical Sciences*, 13(3): 450-471, 2010.
- Patwardhan, B., Vaidya, A.D.B., Chorghade, M. Ayurveda and natural products drug discovery, *Current Science*, 86(6): 789-799, 2004.
- Patwardhan, B., Mashelkar, R.A. Traditional medicine-inspired approaches to drug discovery: can Ayurveda show the way forward?, *Drug Discovery Today*, 14(15-16): 804-811, 2009.
- Popoola, O. K., Adekeye, K.A., Akinbinu, E.D. Ethnobotanical plants and their tradomedicinal values: a review, *World Journal Biology Pharmacy and Health Sciences*, 5(1): 66-88, 2021.
- Popovic, Z., Matic, R., Bojovic, S., ve ark., Ethnobotany and herbal medicine in modern complementary and alternative medicine: An overview of publications in the field of I&C medicine 2001-2013, *Journal of Ethnopharmacology*, 181: 182-192, 2016.
- Porras, G., Chassagne, F., Lyles, J.T. Ethnobotany and the role of plant natural products in antibiotic drug discovery, *Chemical Reviews*, 121: 3495-3560, 2020.
- Quave, C.L., Pordo-de-Santayana, M., Pieroni, A. Medical ethnobotany in Europe: from field ethnography to a more culturally sensitive evidence-based CAM?, *Evidence-Based Complementary and Alternative Medicine*, Article ID 156846, 17 pages, 2012. Doi: 10.1155/2012/156846, 2012

- Qureshi, R., Ghazanfar, S.A., Obied, H. Ethnobotany: A living science for alleviating human suffering (Editorial), *Evidence-Based Complementary and Alternative Medicine*, Volume 2016, Article ID 9641692, 3 pages, 2008. Doi: <https://doi.org/10.1155/2016/9641692>
- Rahman, I.U., Afzal, A., Iqbal, Z. Historical perspectives of ethnobotany, *Clinics in Dermatology*, 37: 382-38, 2019.
- Rishton, G.M. Natural products as a robust source of new drugs and drug leads: Past successes and present day issues, *The American Journal of Cardiology*, 101(suppl): 43D-49D, 2008.
- Samy, R.P., Gopalakrishnakone, P. Therapeutic potential of plants as anti-microbials for drug discovery, *eCAM*, 7(3): 283-294, 2008.
- Sargin, S.A. Plants used against obesity in Turkish folk medicine: A review, *Journal of Ethnopharmacology*, 270: 113841, 2021.
- Seidel, V. Plant-derived chemicals: A source of inspiration for new drugs (Editorial), *Plants*, 9: 1562, 2020.
- Shelley, B.C.L. Ethnobotany & the process of drug discovery: A laboratory exercise, *The American Biology Teacher*, 71(9): 541-547, 2009.
- Su, X-z., Miller, L.H. The discovery of artemisinin and Nobel Prize in physiology or medicine, *Science China Life Sciences* 58(11): 1175-1179, 2015.
- Surh, Y-J. Reverse pharmacology applicable for botanical drug development – inspiration from the legacy of traditional wisdom, *Journal of Traditional and Complementary Medicine*, 1(1): 5-7, 2011.
- Süntar, İ. Importance of ethnopharmacological studies in drug discovery: role of medicinal plants, *Phytochemistry Reviews*, 19: 1199-1209, 2020.
- Tempeste, M.S., King, S.R. (1994). Ethnobotany as a source for new drugs. James A. Bristol (Ed.) *Annual Reports in Medicinal Chemistry volume 29* içinde: (s. 325-330, USA: Academic Press.
- Wangheirakpam, S. (2018). Traditional and folk medicine as a target for drug discovery. Subhash C. Mandal, Vivekananda Mandal, (Ed.) *Natural Products and Drug Discovery An Integrated Approach* içinde (s. 29-56). USA: Elsevier.
- Xu, X. New concepts and approaches for drug discovery based on traditional Chinese medicine, *Drug Discovery Today: Technologies*, 3(3): 247-253, 2006.
- Yeung, K., S., Gubili, J., Cassileth, B. Evidence-based botanical research: Applications and challenges, *Hematology/Oncology Clinics of North America*, 22: 661-670, 2008.
- Yıldırım, Ş. Etnobotanik ve Türk etnobotaniği, *Kebikeç*, 17: 175-193, 2004.
- Zhao, X., Zhang, X., Fan, T-P. A novel drug discovery strategy inspired by traditional medicine philosophies, *Science*, 347(6219 Suppl.): S38-S40, 2015.