Exploring Traditional Wild Edible Plants - Book review

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Book Review

A review of Vibhor Agarwal, Sachidanand Singh, and Rahul Datta. 2025. Exploring Traditional Wild Edible Plants. CRC Press, Taylor & Francis Group. Boca Raton, Florida, USA; and Abingdon, Oxfordshire, UK. pp. 357. GBP £160.00 (hardback), ISBN 978-1-032-49886-7 (hardback), ISBN 978-1-032-49889-8 (paperback), ISBN 978-1-003-39593-5 (ebook).

The book *Exploring Traditional Wild Edible Plants* can serve as a comprehensive guide that explores the diversity and potential of wild plants in the contexts of food, ethnomedicine and pharmacology. Employing a multidisciplinary approach, it presents an in-depth discussion of ethnobotanical studies, phytochemicals, therapeutic benefits, nutritional value and toxicity aspects of wild edible plants. In addition, the book examines the sustainable utilization of wild edible plants and addresses key conservation challenges, such as overexploitation and habitat destruction.

The book is divided into fourteen chapters, each presenting a discussion of various aspects of wild edible plants.

Chapter 1 discusses the ethnobotanical assessment of wild edible plants (WEPs), highlighting their role as food and medicinal resources. In addition, the authors also discuss certain plants such as mushrooms as a source of high-nutrient foods. The final part of this chapter discusses the nutritional and anti-nutritional values of various WEPs and emphasizes the importance of understanding their customs, uses and therapeutic benefits to provide a deeper insight into local ecosystems and the close relationship between humans and nature.

Chapter 2 discusses the latest approaches to identifying edible and medicinal wild plants. The authors introduce recent methods and technologies such as DNA barcoding, dynamic polyclave, automated taxon, computer vision and machine learning tools. Although the chapter primarily focuses on modern approaches, it also briefly covers traditional identification methods and challenges involved in identifying wild edible and medicinal plants. This chapter is enlightening, as it presents recent advancements in identification techniques that facilitate the study of WEPs.

Chapter 3 examines the benefits and risks of WEPs. This chapter not only reviews the applications of wild plants as nutrient-rich sources of food, feed and medicine, but also explores some species that contain toxic substances and may pose health risks. The authors highlight nine plants that contain potentially toxic compounds, making this chapter a useful reference for the safe utilization of WEPs. The chapter also emphasizes the importance of research and conservation policies to ensure safe and sustainable use, especially amidst the threat of overexploitation and land use change to WEPs.

Chapter 4 deliberates in detail the different types of phytonutrients, bioaccessibility and bioavailability enhancement techniques and the benefits and extraction methods of WEPs. In this chapter, the authors explain phytonutrient identification techniques, such as TLC, HPLC, GC, UV-Vis, IR, MS and NMR. This chapter presents a comprehensive discussion on techniques to analyze the phytonutrient content of WEPs.

Chapter 5 explores WEPs as a source of vitamins. In this chapter, the authors highlight *the Diplazium esculentum,* a plant rich in vitamins A, C, and D, which are beneficial for health. Other plant genera discussed in this chapter include *Fumaria indica*, *Taraxacum campylodes*, *Urtica dioica* L., *Phyllanthus emblica*, *Cordia dichotoma*, *Alocasia macrorrhiza*, *Amaranthus viridis*, and *Rumex vesicarius* L.. This section helps readers recognize and utilize WEPs as a natural source of vitamins.

Chapter 6 focuses on the omega fatty acid richness of solanum and wild asparagus. The authors highlight the plants *Solanum anguivi* and *Solanum nigrum*, which have proven to be rich in essential fatty acids. The authors also introduce wild *Asparagus racemosus* L., which contains polyunsaturated fatty acids and contributes positively to health. Interestingly, this chapter not only describes the nutritional benefits, but also reviews various previous studies related to isolation techniques, identification, and analysis of omega fatty acid content in solanum and asparagus species.

Chapter 7 discusses the important role of WEPs in food security, particularly in impoverished and disaster-prone areas. The authors highlight regions such as Kitui, Kenya, and Hindu Kush Mountains, where WEPs are still utilized for food and medicinal purposes. Additionally, this chapter reviews the ecological status of WEPs, including their social and economic benefits. The final section of the chapter emphasizes the importance of management, conservation, and sustainable utilization of WEPs.

Chapter 8 focuses on the utilization of WEPs in cancer therapy. Other than that, it also discusses the challenges to be overcome, including sustainability, ethics, regulation and market accessibility in developing WEP-based cancer therapies.

Chapter 9 discusses the ethnopharmacology, phytochemicals and pharmacological activities of dandelion flowers including their potential as anticancer, antidiabetic, antioxidant, antibacterial, antifungal, antiviral and antiparasitic. This chapter emphasizes the need for further research to thoroughly understand the mechanism of action of dandelion and scientifically prove its therapeutic benefits in the treatment of modern diseases.

Chapter 10 focuses on the bioactive contents of edible mushrooms such as amino acids, fiber, unsaturated fatty acids, proteins, polysaccharides, vitamins and minerals, which have health benefits such as antioxidant, antimicrobial, anti-inflammatory, anticancer and gut microbiota modulation. In addition, this chapter also discusses the classification of mushrooms that can and cannot be consumed so that it will be a guide in the utilization of mushrooms as a food source.

Chapter 11 discusses the phytomedicine research of *Mimosa caesalpiniifolia* flower from Brazil that has anti-hypertensive properties. This chapter explores the results of research into the formulation of *Mimosa caesalpiniifolia* extract-based tablets that meet Brazilian pharmacopoeia standards in terms of hardness, friability, disintegration and dissolution using pre-gelatinized diluents and the direct compression method, which proved to be more efficient in terms of time. This chapter is interesting as it presents recent research that is useful for drug development in tablet formulations for the future.

Chapter 12 explores 70 types of WEPs in Serbia. The reviews in this chapter are invaluable as the authors review a variety of plants from different families that grow in that region. Not only that, this chapter also includes pictures of the plants, making it easier for readers to recognize the species, especially for readers outside Serbia.

Chapter 13 explains the nutritional importance of WEPs that can be consumed in the Mediterranean diet for health. In this chapter, the authors emphasize the needs of advocacy to encourage the adoption of the Mediterranean diet in the developing countries.

The last chapter, chapter 14, focuses on the wild species *Parkia speciosa* Hassk. as a medicinal plant. The authors report the distribution of this plant which can be found in Southeast Asia, such as Thailand, Indonesia, Malaysia, Singapore, Philippines and India. In addition, the chapter discusses the nutritional content, traditional uses, phytochemicals and pharmacological properties of *Parkia speciosa* including antioxidant, antidiabetic, anti-obesity, antihypertensive, anticardiac hypertrophic activity, anticancer, antimicrobial and anti-ulcer activities.

The book *Exploring Traditional Wild Edible Plants* is equipped with a comprehensive Bibliography, a list of scientific names of plants, images of phytochemical compounds, and clear photographs of plants. In addition, a detailed index is written to assist readers in finding specific information in this book.

Overall, *Exploring Traditional Wild Edible Plants* is an invaluable contribution to the fields of anthropology and ethnobotany, as it successfully highlights and documents the wealth of local knowledge on wild edible plants. Moreover, it has broad relevance to other disciplines, including ecology, food science and traditional pharmacy, making it a valuable cross-cutting reference source. With its comprehensive approach, this book broadens the horizon of understanding the potential of wild plants not only as alternative foods, but also as an integral part of cultural, health and environmental sustainability.

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