

Editorial

Forest, Foods, and Nutrition

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Abstract: Forest ecosystems are an important biodiversity environment resource for many species. Forests and trees play a key role in food production and have relevant impact also on nutrition. Plants and animals in the forests make available nutrient-rich food sources, and can give an important contributions to dietary diversity, quality, and quantity. In this context, the Special Issue, entitled “Forest, Food and Nutrition”, is focused on the understanding of the intersection and linking existing between forests, food, and nutrition.

Keywords: forest; tree; edible forest products; non-edible forest products; nutritional value; biologically active compounds; food composition databases; dedicated databases; novel food; sustainable agriculture; biodiversity

This Special Issue is addressed on understanding of the intersection and crosslinks existing between forests, food, and nutrition. Forest ecosystems represent relevant biodiverse environment resources of species. Forests and trees have a key role in food production and nutrition. Plants and animals in forests make available nutrient-rich food sources and can give an important contributions to dietary diversity, quality, and quantity. Moreover, forests are a relevant resource for new potentially active vegetal origin active compounds which may have a relevant impact on the diet and also contribute for functional foods, novel foods, and nutraceuticals.

Reimagining forests as an ecosystems able to support sustainable food production, allows to set a new horizon to explore. In this context, sustainable agriculture and forest vegetal resources represent a new aspect in the expansion of agricultural forest landscapes. Rediscovering the contributions of forests to food and nutrition area is leading to a relevant transition in the global food systems [1]. Firstly, the development and implementation of sustainable management of forest, as well as the optimization of yields of wild foods and fodder was here treated. As instance, the study of Kwon et al. [2] is focused on the control of fungal diseases and implementation in yields of Jujube Fruit (*Zizyphus jujuba* Miller var. *inermis* Rehder) orchard by means of *Lysobacter antibioticus* HS124. research on the promotion and valorization of foods from forests were discussed.

The nutritional value of forest foods has been exploited and promoted, throughout the evaluation of wild foods, to be addressed to a responsible human consumption and sustainable use of natural resources [3]. The identification, isolation, and quantification of compounds with nutritional and nutraceutical character are here outlined. The description of the main components and an assessment of their interactions, in relation particularly to factors, i.e., cultivar, weather, soil, and others have been discussed [4,5]. As instance, the geographical distribution and environmental correlation of eleutherosides and isofraxidin in *Eleutherococcus senticosus* from natural populations in the forests at Northeast of China were studied by Guo et al. [4]. The need of an updated overview, classification,

and cataloguing of edible and non-edible forest products is emerging and triggering the interest of research.

Conventional and emerging procedures, with particular regards to green technologies have been reported. Innovative analytical techniques, i.e., multi-elemental analysis, isotopic ratio mass spectrometry, infrared spectroscopy, and nanotechnologies, joined with chemometrics, have been discussed [6,7]. In this context, it is worth mentioning the innovative research of Zhang et al. [8] on transcriptome analysis of Elm (*Ulmus pumila*) fruit in order to identify genes and pathways associated phytonutrients.

The nutritional implications and the benefits of forest products have been outlined addressing the role of food forests in human nutrition. The discussion of the role of forest foods rich in compounds with nutrients and biologically active compounds to complement people's diet and the contribution of forest foods to a healthy diet has been exploited, adding information to the area of interest. The beneficial potential of medicinal plants and herbs has been investigated in different papers [9–12]. Functionally, extracts and biologically active components [13–18] from forest products are experiencing great interest for both research and potential application in nutraceutical, pharmaceutical, and cosmetic fields [19,20]. Fernández-Cervantes et al. [20] studied the essential oils of *Chamaemelum fuscatum* (Brot.) Vasc. from Spain and promoted and reinforced its ethnobotanical use. Furthermore, an application of nutraceuticals in plant defense is described throughout the case study of sage on a spontaneous Mediterranean plant to control phytopathogenic fungi and bacteria [21].

The elucidation of the role of forests for food security and nutrition was assessed, with attention to the contribution of wild and forest foods to nutrient intake among local communities. Moreover, the social and economic impact was investigated in several papers.

For instance, the study of Dejene et al. [22] attempted to provide and document Wild Edible Fruit Tree Species in Ethiopia as implementation of management strategy for sustainable utilization of natural resource. Aye et al. [23] described how mangrove forest contributes to the livelihood and dietary habits of local communities in Ayeyarwaddy Region, in Myanmar.

The ethnomycological knowledge was increased throughout semi-structured interviews with the Amhara, Agew, and Sidama ethnic groups in Ethiopia, as reported by Zeleke et al. [24]. Vlad et al. [25] studied and promoted blackberry as a traditional nutraceutical food resource from an area with high anthropogenic impact. Agúndez et al. [26] studied local preferences for production of shea nut and butter in Northern Benin. Darr et al. [27] mapped the diversity of baobab (*Adansonia digitata* L.) products in Malawi by studying the preferences of consumers and examining the major attributes on their market price.

In the food policy scenario, the work of Xie et al. [28] studied the possible constraints to the implementation of urban edible landscapes in China.

This Special Issue end points have been to contribute to the growth of this area of research, trigger research interest on forest food and its implications and impact on food security and nutrition, sustainability, novel food sources and their use, by adding information scientifically substantiated with new data.

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