ETHNOBIOLOGY LETTERS

Reviews

Ethnobotany and Biocultural Diversities in the Balkans: Perspectives on Sustainable Rural Development and Reconciliation. Edited by Andrea Pieroni and Cassandra L. Quave. 2014. Springer, New York. 255 pp.

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Received July 22, 2016
Accepted August 15, 2016

OPEN ACCESS
DOI 10.14237/ebl.7.1.2016.748

Do local plant use traditions matter in spite of globalization—and what role do they have to play in the 21st century? *Ethnobotany and Biocultural Diversities in the Balkans* takes us into southeast Europe, into farms, kitchens, and pastures to understand the biological and cultural diversity of the region and how it can play a role in rural economic development. The book is divided into three parts: I. From Folk Medicine to the Medicinal Plant Trade; II. Balkan Traditional Plant-Based Foods; and III. Building Small-scale, Environmentally and Socially Sustainable Economies. The motivation behind the publication is, partly, the Bosnian War (1992–1995). Pieroni and Quave's introduction, and many chapters of the book, reinforce the idea that local ecological knowledge can contribute not only to survival in times of war but also socio-economic change.

Ethnobotany and Biocultural Diversities is timely for three reasons. First, it touches upon recent interest in 'biocultural diversity' in anthropology, geography, and international development (Lyver et al. 2015; Parrotta and Trosper 2011). The focus here isn't on defining biocultural diversity; indeed, a clear definition of the term is never given. However, the *applied* nature encompassed in the term is clearly emphasized in the book. A number of chapters focus on how local plants could be exploited economically. For example, Menković et al. (Chapter 11) argue that certain abundantly-available medicinal plants (e.g., *Vaccinium myrtillus* L., *Juniperus communis* L. subsp. *alpina*, *Achillea millefolium* L.) could be collected by locals and sold commercially while Stevanović et al. (Chapter 12) propose that regional cuisines and plant breeding programs could make greater use of local plant genetic resources (e.g., apple and tomato cultivars), many of which are endemic. This interdisciplinary focus on biocultural diversity coincides with increased interest in the European Union and United States in developing national 'bioeconomies.' A bioeconomy uses and manipulates biological resources to meet the needs of society and to solve global problems such as food security and sustainable energy production (EC 2006; Karp et al. 2015). The bioeconomy emphasizes rural landscapes and rural development and using the natural resources found there to create jobs and the raw materials needed for innovation. By tapping into recent interest in the bioeconomy, ethnobotany, the economy, and biodiversity conservation could potentially become more closely linked—and mutually perpetuating—in the future.

Second, the book highlights local medicinal plant uses and their potential role in natural product development. This was most striking in Chapter 2, where Ferrier et al. analyze the plants used by the Lukomir Highlanders of Bosnia and Herzegovina to treat symptoms of diabetes. They demonstrate that *Vaccinium myrtillus* and *Vaccinium vitis-idaea* contain high levels of phenolics and saponins. They propose that pharmaceutical research could develop these plants as new treatments for diabetes. One of the merits of this study is the combination of ethnobotanical research with analytical methods from chemistry (e.g., high-performance liquid chromatography mass spectrometry). It serves as a reminder to ethnobotanists that without 'hard evidence' our research is often dismissed as anecdotal. To increase the impact of our

research, and to do a service to the communities we work with, we need to move more in this direction, combining the physical sciences with anthropology. Providing this type of data is probably the best way to ensure collaboration with others working in natural product development (e.g., chemists and pharmacologists) and even new biocontrol solutions (e.g., plant scientists).

Third, the volume highlights the connection between the landscape, natural resource availability, and plant use. For example, Redžić and Ferrier (Chapter 9) highlight the biogeography of wild plant use in the Western Balkans during the Bosnian War, demonstrating that local groups collected the majority of their wild plants from deciduous forests and grasslands. Observations like these on the cultural value of specific ecosystems can inform conservation objectives and priorities. For example, in many parts of Europe grassland biodiversity is under threat as many are abandoned or converted to intensive arable cultivation (Hodgson et al. 2005). Highlighting the cultural, nutritional, and economic value of these landscapes provides a powerful argument to underpin calls to conserve the biological diversity of these landscapes (e.g., for their crop wild relatives, birds, ecosystem services, etc.).

The main contribution of *Ethnobotany and Biocultural Diversities in the Balkans* is to applied ethnobotany. We need more studies like this to show that the cultural use of plants matter: the traditions, stories, and myths people hold are intimately connected to the natural environment and can still have a role in the present (and future). The chapters are well-written and the figures (many of which are in color) enhance the text. Students of ethnobotany and botanists of the Balkans will find the book to be of great use. Hopefully, we will see the applied projects hinted at in the text developed in future publications by the contributors.

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