

# Current Status of Ethnobotany in Albania

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## Abstract

Traditional Ecological Knowledge (TEK) concerning the use of plants for different purposes had survival value, are embedded in culture and considered adaptive responses to environmental challenges. Albania is known for its rich linguistic, cultural and biological diversity. Albanian flora has a high considerably number of medicinal plants and they have been extensively used albeit expressed in folk medicinal knowledge and practices. Several ethnobotanical studies and extensive fieldwork have been conducted in Albania both by local and foreign scientists. In addition, ethnobotany is experiencing a theoretical and conceptual diversification. The history of ethnobotany can be at least can be traced back in 19<sup>th</sup> century. This article aims to provide an historical and theoretical review of ethnobotany in Albania and outlines possibilities for future advancements.

**Keywords:** plants, traditional ecological knowledge, ethnobotany, Albania, Balkans

## Introduction

Traditional ecological knowledge can be defined as a cumulative body of knowledge, practice and belief evolving by adaptive processes and handed down through generations by cultural transmissions, about the relationship of living beings (including humans) with one another and with their environment (Berkes, 1999). Stated differently, TEK are cultural responses to solve the many adaptive problems humans faced in their evolutionary past and still face today. The TEK concept is most closely associated with the field of ethnoecology and together with subdisciplines of ethnobotany and ethnozoology, composes the broader area of ethnobiology (Anderson, 2011). As Anderson points out (2011) ethnobiology as a scholar endeavor and an interdisciplinary field which has established relationships with various other disciplines such as biology, anthropology, cognitive psychology, ethnology, it is most closely associated with studies focused on local classification systems for biological species. Ethnoecology, in turn, is associated with local ways of understanding the relationships between humans and their natural environment, which includes ecological aspects such as soil, climate, ecological communities and other environmental factors in addition to the species themselves (Hunn, 2007). The

history of ethnobiology can be traced back in 19<sup>th</sup> century. The first period, which we might call the "preclassical," began in the last century when the foundations of the discipline were laid and its various branches, e.g., ethnobotany and ethnozoology, first designated and defined (Clement, 1998). In 1874, S. Powers coined the term "aboriginal botany" (1875) and J. W. Harsheberger (1896) used the term ethnobotany as "plants used by primitive and aboriginal people" (1896). The first studies were conducted among "aboriginal" or "primitive" people and their botanical knowledge were not considered valid, in comparison to Western Science development and use of systematic nomenclature. According to Hunn (2007) in the second phase, ethnobiology was elaborated in the cognitive/linguistic anthropology of the 1960s and the institutionalization of ethnobiology coincided with the emergence of the cognitive sciences and was entangled with more general ambitions of cognitive anthropology and ethnoscience. The main assumptions and guiding principle relied on the conception of the "psychic unity of humankind" *alias* irrespective of their cultural background, all humans have at their disposal the same cognitive toolkit (Bender & Beller, 2011). The works of B. Berlin and P. Kay (1969) and B. Berlin (1992) supported this assumption. In this framework, the evolved computational programs in the human mind are assumed to be responsible for producing a universal (that is, species typical) human nature (Tooby & Cosmides, 2005). In contrast, the influence of culture in the formation of cognitive processes is related to the organization of the brain by experience and the fact that the experience is organized by culture (Bender et al., 2010). That is, the human mind does not consist of pre-specified programs but is built via a constant interplay between the individual and its environment (Karmiloff-Smith 2009). From this view, traditional ecological knowledge is embedded in culture and considered adaptive responses to environmental challenges.

### **The role of learning: Accumulation and transmission of TEK**

The wealth of knowledge about the local environment has developed over thousands of years and been passed down through a multitude of generations in oral teachings (Berkes, Colding & Folke, 2000). Topics common to ethnobiology studies are the modes of transmission (D'Andrade, 1981) and distribution of local knowledge or TEK in a certain society (Romney and Moore 1998). Modes of transmission are enabled by social learning which includes a wide array of behaviors such as imitation, observational learning of novel foraging techniques, peer or parental influences on individual preferences, as well as outright teaching (Garipey et al., 2014). The capacity to learn from others enables humans to gradually accumulate information across generations and develop well-adapted tools, beliefs, and practices that are too complex for any single individual to invent during their lifetime (Boyd, Richerson & Heinrich, 2011). In animals, there is accruing evidence for systematic individual variation in social learning within species and reliance on cultural knowledge to solve a novel task (Mesoudi et al., 2016; Gruber et al., 2009). Close to 50 cultural variants have been reported, including subsistence behavior, tool-use, communication signals,

and grooming patterns (Horner & De Waal, 2009). Understanding when, how and why individuals learn from others is a significant challenge (Rendell et al., 2011). To make good use of learning from others (social learning), we need to learn from the right others; from agents who know better than we do (Heyes, 2016).

In addition, cultural transmission refers to the process of acquired cultural information through modes of learning, including symbolic learning. It occurs through at least three different, non-mutually exclusive paths: (1) from parents (vertical); (2) from age peers (horizontal); and (3) from older generations (oblique) (Reyes-Garcia et al., 2009). In this context, long-term pair bonds, kin recognition, exogamy, and multi-locality create ties between unrelated families, facilitating the transmission of medicinal knowledge and its fitness implications (Salali et al., 2016). Mechanisms for the intergenerational transmission of knowledge are embedded in social systems (Berkes, Colding & Folke, 2000). Many cognitive and motivational systems that originally evolved to solve non-social problems have been co-opted by evolution to contend with social challenges (Gould & Lewontin, 1979). Complementing these general-purpose mechanisms are a small set of brain areas for which there is tantalizing evidence of uniquely specialized social functions, which may have evolved in only a limited number of species that have confronted the most complex social environments (Gariepy et al., 2016).

Cultural values are an essential component of every society, and they act as checks and balances in the management of natural resources (Verschuuren et al., 2010). They are integrated and are part of the socio-cultural systems, which involve the socio-ecological system. The latest refers to the interplay between members of society and traditional ecological knowledge which are responsible for the construction of the cultural niche in that humans uniquely developed ability to learn which is crucial for human ecological success i.e adaptations to their natural habitat (Boyd et al., 2011). The advocates and the proposers of the cognitive niche hypothesis, Tooby and De Vore (1987), do not take fully in consideration the ability to learn from others, or social learning. According to Boyd et al., (2011) despite the cognitive basis for cognitive niche construction, the cultural niche construction assumes that cultural learning is cumulative, which enforce adaptations and maladaptation's. In this context, the cultural niche construction is related to environmental modification to solve the adaptive problems a society face and sometimes responses, can be as well as maladaptive. The evolutionary perspective is essential to the growth of ethnobiology as a science (Santoro et al., 2018; Bajrami and Qirjo 2019a; Bajrami and Qirjo 2019b; Bajrami, 2022).

## Methods

For the short review presented in this paper, we searched for papers cited in the Scopus, PubMed, and Web of Science. The search was performed using combination of keywords like Albania, ethnobotany, and the Balkans. A total number of 16 publications were recorded in the databases for the period 2000 to 2022. In addition,

we conducted a bibliographic search from the year 1945 to 1990 to find materials, articles and books, that have botanical data and ethnobotanical knowledge, including folk botanical names.

### **Ethnobotanical Studies in Albania**

The geographical and ecological specificity along with cultural diversity of the Balkan region has resulted in the development of a distinct diversity not only of medicinal plants but also knowledge, transmission, and use of them (Jaric et al 2018). Over the past decades several ethnobotanical studies and extensive fieldwork in the Balkan region has been conducted, including Albania.

Albania geographical position in Mediterranean and in the Balkan peninsula results in many different types of landscapes and includes 3 250 species belonging to 165 families and 910 genera of those 30 are endemic and about 180 sub-endemic (Paparisto et al., 1988; Vangjeli et al., 1995). Albania is rich in biological and landscape diversity and has a high considerably number of medicinal and aromatics plants, specifically, 310 species which belong to 62 family (Papathopulli, 1976). Albanian traditional medicine is created and developed almost like traditional medicine found in other socio-cultural systems. The use of medicinal plants and the emergence of medical system it is related not only to their own tradition but also their being part for over five centuries of the Ottoman Empire. More specifically, between 1479 and 1912, Albania was part of the Ottoman Empire.

During the medieval and early modern period in the Ottoman Empire, the medical hierarchy had three official distinguishable positions: physicians (known as *hekims* or *tabibs*), surgeons (*cerrahs*), and ophthalmologists (*kehahls*) (Shefer-Mossensohn, 2011). *Cerrahs* in Albania were specialized in one or several body organs or medical techniques and they used different parts of plants like *Sanbucus nigra*, *Hedera helix*, *Iris dalmatica*, *Hypericus perforatum*, *Urtica dioca*, *Artemisia absinthum*, *Papaver somniferum* etc. during their work (Minga, 2009). In addition, a pioneer study by Saraçi and Damo (2021) based on a review of 39 texts from 23 authors that include travelers, explorers, missionaries, naturalists, anthropologists, botanists, etc. who had written about Albania from the end of the 18<sup>th</sup> century (1796) to the first decades of the 20<sup>th</sup> century (1940) highlighted the ethnobotanical knowledge on their texts. They have collected traditional knowledge on plant uses related with magic, rites, folk, beliefs, medicine, and food (Saraçi and Damo 2021).

Traditional ecological knowledge in Albanian culture is expressed in people's perceptions and cultural practices in relation to nature. More specifically, in their perceptions and cultural practices regarding mountains, rivers, *Orët (The Hours)*, vegetations etc. (Tirta, 2004). Even after the improvement of sanitation, healthcare and building of the hospitals before and during communism period in Albania, most of the population counted on traditional medicine and traditional healers. Mainly, ethnobotanical studies were conducted by researchers working at the Institute of Folk Medicine, for the identification and study of traditional receipts and traditional

practices (Kokalari et al., 1980). Data and sources on traditional use of plants during communism can be found on the works of several Albanians botanists and ethnobotanists (Mitrushu 1952, 1953a, 1953b, 1955; Demiri 1958; Lako 1965;).

After the fall of communism, a major and rapid cultural transition was associated with the loss of long-held traditions in relation to nature, including dietary habits (Bajrami, 2019c). Additionally, the migration to major urban areas caused the further loss of medicinal plant uses and practices. Today those practices are found in somewhat isolated rural areas and the need for their conservation and sustainability is of crucial economic importance. Albania is ranked 24th World MAP exporter in 2014 and sage (*Salvia officinalis*) dominates the medicinal crops in Albania, even though, there is an observed reduced supply of wild MAPs, due to both damaged MPAs resources and a reduced labor force in mountainous areas (Imami et al. 2015).

After 2000s, there have been conducted several ethnobotanical field studies in Albania. These studies have been important in documenting traditional ecological knowledge and ethnobotanical knowledge in Albania. They were conducted mostly in north, north-eastern, east, south, and south-eastern Albania (Dinga et al. 2001; Pieroni et al., 2005; Pieroni, 2008; Pieroni, 2010; Pieroni et al., 2014a; Quave & Pieroni, 2014; Pieroni & Quave, 2014; Papajani et al. 2014; Pieroni et al., 2015; Peçi, Proko & Mullaj, 2016; Bussmann et al., 2016; Pieroni, 2017; Pieroni & Soukand, 2017; Stillo, Içka & Damo, 2018; Tomasini & Thelaide 2019a; Tomasini & Thelaide 2019b).

## Conclusions

Traditional ecological knowledge is continually evolving, are socially transmitted, and are considered as components of a particular socio-ecological system, which is included in a socio-cultural system. TEK among Albanians are expressed in their classification, perceptions and cultural practices in relation to nature. These perceptions and behaviors are responsible for the construction of the socio-ecological system as a whole. Both wild and locally cultivated plants for different purposes are still used in some part of Albania, especially in isolated and rural areas, to meet people's needs. As noted, ethnobotanical knowledge is generally under-documented for minorities such as Roma, Greek minorities and Çam population, Albanians living in the southern part of Albania and Greece. Albania represents a great potential for ethnobotanists, to help documenting and conserving the rich biocultural heritage of the entire Balkans. In the future, ethnobotanical studies among Albanians should be focused in deep south of Albania, where exists a vast amount of cultural diversity and minorities, using an evolutionary approach.

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