

# A historical overview of ethnobotanical data in Albania (1800s-1940s)

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## ABSTRACT

This paper is an historical review of ethnobotanical notes about wild and cultivated edible plants collected through texts from the end of the 18th century (1796) to the first decades of the 20th century (1930) in the area of Albania under European Turkey, which included parts of today North Macedonia and Kosovo. Albania is an Eastern European country, which has been little studied from historical ethnobotany point of view. For this reason, this paper is focused on foreign authors' works containing data on the use of plants for economic, medicinal, food purposes, and discussing mythological, religious and magical explanations for them. The study is not intended to be an exhaustive review of all materials on this subject, but includes the texts known to us that contain ethnobotanical knowledge. Further scientific research can be carried out in other studies on historical ethnobotany not only by foreign authors but also by Albanians.

**Keywords:** Historical Ethnobotany; Folk Beliefs; Medicinal Plants; Traditional Knowledge; Albanian Plant Names.

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## SIGNIFICANCE STATEMENT

This manuscript is original and it shows a review on ethnobotanical notes collected through texts from the end of the 18th century to the first decades of the 20th century in Albania. We analyzed the plant uses and their names from the works of foreign authors who have written about history, geography, anthropology, ethnography of Albania, where have also included ethnobotanical knowledge. The review presents a valuable historical material on the use of plants in Albania characterized as a country with the early traditions of use of plants, reflecting the coexistence of botany with magic, rites, folk beliefs, religious and social symbols as well as medicinal and food use of plants. Our review can contribute to the understanding of the past, current and future state of relationships between people and plants, representing a starting point for further research to fulfil the local map of ethnobotanical traditional knowledge in Albania.

## INTRODUCTION

The plants are an integral component of everyday life and culture in all over the world for centuries. Plants provide people with food, medicines, as well as materials for construction and the manufacture of crafts and tools and many other products like fuel, paints and poisons. Plants often have a ritual character and/ or are used because of their hallucinogenic character. The plant use is a relevant component of local ecological knowledge and should be looked at as a complex phenomenon, covering historical, geographical, cultural, cross-cultural, economic, and social aspects (Sõukand and Kalle 2011). Awareness of traditional plant knowledge systems can play a key role in the exploitation of natural plant resources.

The ethnobotanical knowledge emerges from the interaction of a given culture or society with a local biophysical environment (Reyes-García et al. 2007). Ethnobotany reflects congruence with our human efforts to understand our place in the world and its cognitive dimension is relevant to understanding interrelations between language, thought, and memory in human societies (Nolan and Turner 2011).

The content of the knowledge that human groups have of their local environment has attracted the interest of researchers since the beginning of the 19th century focusing on documenting the knowledge itself (Reyes-García et al. 2007).

The rural regions of South-eastern Europe represent a unique social and environmental context for ethnobotanical studies (Tsioutsiou et al. 2019), which still possess an extraordinary treasure of Traditional Environmental Knowledge (TEK) related to wild plants. Geographically, the Western Balkans represents a unique biocultural landscape, featuring extensive biological, cultural, and linguistic diversity, despite its area is relatively small (Hajdari et al. 2018). In order to maintain this knowledge, comprehensive approach and collaboration are needed to maintain historical records on plants use in favour of human beings, before they are destroyed forever (Jamshidi-Kia et al. 2018). Traditional use of plants was well studied and reviews of archival ethnographic studies have been published in nineteenth- and early

twentieth-century in some European countries, as Belarus (Łuczaj et al. 2013), Bulgaria (Nedelcheva 2012), Croatia (Dolina et al. 2016), Czech Republic (Simkova and Polesny 2015), Estonia (Kalle and Sõukand 2011; Kalle and Sõukand 2012; Sõukand and Kalle 2012; Kalle, 2017), Hungary (Dénes et al. 2012), Herzegovina in Bosnia–Herzegovina (Łuczaj and Dolina 2015), Italy (Pieroni and Quave 2014a), Poland (Łuczaj and Szymański, 2007; Łuczaj 2010), Slovakia (Łuczaj 2012), Spain (Pardo-de-Santayana et al. 2014) and Sweden (Svanberg 2012).

Unfortunately, little information has been published on the traditional use of plants in Albania, although they have been and are an integral part of Albanian everyday life. A large number of species are used in various purposes. Due to the difficult economic conditions of rural communities coupled with poor agricultural development, Albanian peasants have known how to survive using wild plants. Albanian local botanical knowledge has rarely been documented and is generally poorly recognized. A small part of this knowledge has reached us, thanks to the writings mainly of early foreign authors. Only a few studies have explored the traditional uses of plants and their products in Albania, while the interpretation of historical documents on the use of plants of past centuries and ethnobotanical historical reviews, part of the occupations of historical ethnobotany are almost non-existent.

For over one century (19th and early 20th century) Albania was treated as an enormously interesting, primitive and archaic and place, as a territory under ideal conditions to conduct ethnographic research. As a cross point from West to East, Albania has been an interesting place to be observed by travellers, historians, geographers, military, geologists, and botanists.

The aim of this study is to offer a review of the works of the great early authors who have written about Albania in the period between 1800 and 1940 (from 1796-1940), where in their texts of historical, geographical, political, anthropological, ethnographical, etc. subjects have also included ethnobotanical knowledge. The main objective is to identify, collect, document and dissemination of the available ethnobotanical data related to traditional plant uses and the

plant names evidenced in texts of this period in Albania, an area that still conserves some of these traditional uses of plants, under a rapid rhythm of urbanization and acculturation.

## MATERIAL AND METHODS

### Study area

Albania, a small country in Southeast Europe, covers an area of 28 748 km<sup>2</sup>. At the end of 2016, it had a population of 2.9 million inhabitants (UN 2018). The Albanian relief is mostly hilly and mountainous. The climate shows both Mediterranean and Central European influences, with mean January temperatures ranging from 10° to -3°C, mean July temperatures from 25° to 17°C, while rainfall shows wide variation, from 600 mm to over 3000 mm (Barnes and Hoda 2001). The country has a remarkable diversity of habitats, from the extended coastal areas and the lowlands, through the narrow belt of hills to the mountain ranges of the Dinaric Alps and the Pindus (Barina et al. 2014). Albania also enjoys maritime ecosystems, coastal zones, lakes, rivers, evergreen and broadleaf bushes, broadleaf forests, pine forests, alpine and subalpine pastures and meadows, and high mountain ecosystems (UN 2018). The geographical position and diversity, climate, complex topography, hydrographic network, different geological composition, soil types and the high diversity of ecosystems and habitats offers a rich species variety of plants.

The Albanian flora is closely linked with the flora of the Mediterranean region and the flora of the mountains of Southern Europe (UN 2018). The country is known to host 3629 species of plants (Meço and Mullaž 2015; Meço et al. 2017; Pacifici et al. 2018;) belonging to 960 genera and 175 families, comprising so nearly 30% of European flora (Meço and Mullaž 2015; Meço et al. 2017). However, these figures are likely to increase, since some areas in Albanian are largely unexplored, especially in the north- and south-eastern parts of the country (Pacifici et al. 2018). The Excursion Flora of Albania (Vangjeli 2015), which also covers the cultivated plants of the country, lists 4560

taxa.

The territorial relief of Albania is conducive to the existence and conservation of a number of endemic and sub-endemic species (Rakaž 2009). About 30 species and 10 subspecies are local endemics of Albania (found only in Albania), 42 taxa are endemic to the Balkans, while 43 species and 14 subspecies are sub-endemic, i. e. found in Albania and also in neighbouring countries (Rakaž et al. 2013). There are 800 protected areas covering a surface of 477,566 ha or 16.61 per cent of the whole national territory of Albania, the highest percentage of all countries in South-East Europe (UN 2018).

The Northern Albanian Alps region is one of the most isolated mountainous areas in Europe (Pieroni et al. 2005) and represents an area with richer flora than any other region in Albania. It belongs to Dinaric Mountain transitional eco-region and is characterized mainly by Alpine relief, alpine karst hydrography, as well as by very rich flora with numerous endemics and Alpine plant species (Rakaž 2009). This mountain region due to unique history of the past centuries represents also a reservoir of ethnobotanical knowledge. It has represented during the past two centuries and still represents today a fascinating place for travellers and scholars to visit and offers also for ethnobiologists what they would probably call a “paradise” (Pieroni and Quave 2014b).

### Data collection and analysis

For the review presented in this paper, we conducted a bibliographic search on written historical sources from the end of the 18<sup>th</sup> century (1796) to the first decades of the 20<sup>th</sup> century (1940) to find materials that have botanical and ethnobotanical knowledge. This paper is based on a review of 39 texts of different types from 23 authors that include travellers, explorers, missionaries, naturalists, anthropologists, botanists, etc. (Baldaci 1894, 1896, 1901, 1917, 1927, 1933; Boué 1840; Chopin 1856; Cozzi 1909, 1914; De Gubernatis 1878, 1882; Doda and Nopcsa 2007; Durham 1909, 1910, 1928; Hahn 1854; Heuzy 1886; Hobhouse 1813, 1858; Holland 1815; Hughes 1820; Jungg 1895; Leake 1814, 2006; Markgraf 1931, 1932;

Meyer 1891; Miklosich 1870; Nopcsa 1929; Pedersen 1895; Pouqueville 1820, 1820-1821; 1826-1827, 1827; Reinhold 1855; Vaudoncourt 1816; Veith 1920; Weiss 1866).

The study period coincides mainly with the pre-classical phase of ethnobiology according to the classification of Clément (1998) and Hunn (2007), which was characterized by studies focused on determining the economic potential of biological species used by local populations. Pre-modern or pre-classical ethnobiology, as Hunn (2007) pointed out, has begun as an academic discipline with “ethnobotany” in 1895 (or as a recognizable scholarly activity, at least as early as the 16<sup>th</sup> century) and extended until the mid-twentieth century. The study approach of this period was used to produce lists of names of plants and their use by the populations under study and a utilitarian perspective guided most ethnobiological studies (Prado and Murrieta 2015).

In every ancient culture with a written language people have recorded useful knowledge about animals, plants, and environment (Svanberg et al. 2011). Written language is strongly connected to the alphabet. The Albanian language was not written, nor possessed of a known alphabet (Vaudoncourt 1816), but had always relied on the Greek or Latin alphabet up until the beginning of the 20<sup>th</sup> century (1908) when would finally realize a national alphabet.

That is one of the reasons why very little written texts have survived prior to the 20<sup>th</sup> century. Lumo Skendo (alias Mit’hat Frashëri – 1880-1949), one of the main figures of the Albanian national culture, has emphasized: “The lack of writing has made us today have no trace of the years and centuries left by our ancestors. They have survived and died, suffered and rejoiced, struggled and fought without the need to regulate their relationships, to strike a balance in their acts, and to alert generations to come. So, if it were not for the few things said by foreigners, all the past life of Albania would create a thick darkness for us” (our translation) (Skendo 1928). For this, in this paper were referred only fragments of ethnobotanical information gleaned from written texts and notes of the Western foreign authors that have visited Albania. It should be noted that Albania, with

its impassable mountains, broken by deep and precipitous ravines, the footways of torrents, has been visited only by those few travellers who have had enough courage and adventurous spirit to penetrate into its fastnesses (Pool 1878:62). Albania was always a mysterious part of Europe, as Ferenc Nopcsa described it in “The Darkest Europe” in 1911 (Barina 2017). Explorations of the nature and culture were adventurous and very intriguing in the 19<sup>th</sup> century for many of the European travellers and scholars; therefore, Albania acquired a place in nineteenth-century European literature. In these texts are recorded emic data like local names and information on traditional knowledge of plants use. In a simple way, an emic category is internal, produced and contemplated within the culture that is the view of the participants of that culture (Albuquerque et al. 2017).

Between 1479 and 1912, Albania was a part of the Ottoman Empire and some of the authors have written about it as part of this Empire and some others have described it as an interesting place to know before travelling to Greece. For the purposes of this review, written texts refer to the area of Albania under European Turkey, which included parts of today North Macedonia and Kosovo too.

All the available publications containing data on wild and cultivated plant use were included. Information perceived by different authors contained also mythological and religious discourses and magical explanations (through legends, tales and narratives). The botanical knowledge developed by any society combines myths, divinities, spirits, chants, dances, and rites, so that the natural and the supernatural are part of a single reality (Albuquerque et al. 2017). We discuss this because the ethnobotanical knowledge that is passed from generation to generation through oral tradition, has served as mechanism for understanding the relationship between people and plants, along with food, medicine, and magic.

Although this study aimed to provide an extensive literature review of how historical ethnobotany studies have been presented, it is not intended to be an exhaustive review all of materials on this subject. The list of texts is certainly not exhaustive, but includes all the texts known to us that had studied variations

in individual ethnobotanical knowledge and met the aims of our study.

## A short history of floristic research in Albania

The ethnobotany has been linked to botanical exploration, and its history has run parallel to the evolution of both systematic and economic botany (Cornish and Nesbitt, 2014). The documentation of traditional plant use in Albania began along with the start of documentation of Albanian flora. The territory of Albania as one of the highest plant diversities in Southeast Europe has attracted the interest of researchers and botanists since the beginning of the 19th century.

The first list of Albanian edible plants with scientific name was published by French diplomat, writer, explorer, physician, anthropologist and historian François Pouqueville (1770-1838) in his work “Voyage de la Grèce. Tome 6” (Pouqueville 1827), where are mentioned about 98 plants according to the summary list provided by Baldacci (1927). François Pouqueville was named as the first of Albanian botany (Zojzi 1937b), the father of Albanian botany (Anonymous 1936b) or the baptizer of Albanian flora (Baldacci 1927).

The German-Austrian geographer Ami Boué, Emanuel Ritter von Friedrichsthal who had travelled with the geologist Boué, Viquesnel, Schwar, Dr. Branković were among the first scholars that have conducted botanical surveys in many areas of Albania on the years 1836-1838 (Engler and Drude 1901). In 1839 August Grisebach undertook a journey through the interior of the Balkan Peninsula (Strid 2000), including and North Albania (Engler and Drude 1901; Strid, 2000). “Spicilegium Florae Rumelicae et Bithynicae” of Grisebach (1843-1844), where he also involved the first floristic data for North Albanian flora (Rakaj 2009), was primarily based on Grisebach’s own collections, but also on examinations of material collected by others, especially Friedrichsthal, Frivaldszky and Pestalozza (Strid 2000). In the mid-19th century Grisebach’s expeditions were followed by the Austrians H. Neumayer, A. Burgerstein (Hashani et al. 2015).

Emanuel Weiss, perhaps also one of the first botanists to write specifically about Albanian flora (Barnes and Hoda, 2001), during the years 1864-1865 travelled to some Albanian coastal areas, where he collected important plant collections (Weiss 1866; Engler and Drude 1901). Pharmacist Carl Grimus travelled in 1871 to Scutari and around (Grimus 1871; Engler and Drude, 1901) and included all the taxa collected on this trip in a paper with the title “Beiträge zur Flora Albaniens” (Grimus 1871; Barina et al. 2013). Ascherson and Kanitz (1877), based on the work of Grimus (1871) have compiled one of the earliest checklists of the Albanian flora (Barina et al. 2013).

The serious work on the flora and vegetation of Albania began only towards the end of the nineteenth century and in the first part of the XX century. In this period stood out studies conducted by foreign botanists such as Wettstein (1892), Haláscý (1892), Baldacci (1894, 1896, 1901, 1917), Formánek (1895), Degen and Dörfler (1897), Beck (1904), Adamović (1907), Košanin (1912, 1939), Pampanini (1915), Hayek (1917, 1924), Janchen (1916, 1920), Kümmerle (1922), Jávorka (1921, 1926), Javorka, Kümmerle and Csiki (Csiki et al. 1926), Fiori (1928), Markgraf (1931, 1932), Bornmüller (1933), Rechinger (1934, 1935), Lemperg (1937), Rohlena (1937), Alston and Sandwith (1940), etc.

Much more significant was the work of Baldacci, which is called founder of Albanian flora (Anonymous 1938:242). Zojzi (1937b:259-261), has distinguished Baldacci and Dörfler from the other authors because they both continued botanical research work for many years to discover Albanian botanical resource. Baldacci himself (1933), had said that Nopcha’s work “Geologie und Geographie Nordalbaniens” (Geology and Geography of northern Albania) (1929), deserves special attention from the point of view of botanical geography, and this work, together with Grisebach’s works, will serve as a foundation for any subsequent research.

During the period of Communist regime (1946 – 1990) the exploration by foreign botanists became almost impossible and botanical study have made mainly by Albanian botanists. After this period,

floristic researches were carried out in collaboration between Albanian and foreign botanists.

## RESULTS AND DISCUSSION

In Albania, in spite of its very rich plant folklore, few ethnobotanical studies were made and they have only been over the two past decades. According to Pieroni et al. (2005) and Pieroni (2010), up until the study conducted during the summers of 2004 and 2005 in the village of Lëpushë, in the Northern Albanian Alps, no ethnobotanical research has been carried out in Albania; the only existing reference was a linguistic literature survey on botanical folk names in diverse areas of the Albanian-speaking Balkans (Sejdiu 1984). As a matter of fact, older ethnographic and historical literature contains notes on vernacular plant names and the use of the plants of certain species. Some of the first evidences on phytonymic reports by local authors are “Names of trees, flowers and herbs” (Avrami 1899) and a manuscript of a small botanical dictionary of Ndre Mjeda (1866-1937). In this manuscript the author has marked folk names of 312 plants, just as have been found in the explored areas, 120 of which mentioned for the first time in Albania (Quku 1984). The data on traditional use of medicinal plants in Albania are earlier (Demiri 1958), as well there are other earlier literature sources on botanical folk names in Albania (Mitrushi 1952, 1953a, 1953b; Lako 1965).

Pieroni et al. (2013) compared information on plant use among Macedonian Albanians using some notes recorded a century earlier and was written in the first decade of the 20<sup>th</sup> Century by Bajazid Elmaz Doda, the personal assistant of one of the most famous scholars in the field of Albanian studies: the Hungarian paleontologist Baron Franz Nopcsa. Doda finalized a manuscript in 1914, but this manuscript remained unpublished until the albanologist Robert Elsie found it in the Austrian National Library and edited it in 2007 (Doda and Nopcsa 2007).

The earliest known information of wild plants use comes from the period of the civil war between Caesar and Pompey, in the siege of Dyrrachium (modern Durrës in Albania) in 48 BC when the food crisis

became increasingly grim on both sides and Caesar’s supply of wheat ran out. The soldiers turned to barley and legumes as a substitute, but when these began to fail too (Dery 1996), Caesar’s troops discovered a kind of wild root that Julius Caesar called *chara*, which could be mixed with milk and baked into a sort of bread (Heuzey 1886; Dery 1996).

French archaeologist and historian Léon Alexandre Heuzey (1831– 1922) pointed out that plant of *chara* has become a topic of discussion for science (Heuzey 1886). He proved that by the Albanian peasants this wild root is called *kelkass* [këlkazë] that seems to be *Arum byzanticum* (Heuzey 1886). Also, Heuzey (1886) narrates that a reliable person has told him that he has sawed and tasted in Scutari [modern Shkodra in Albania], in 1847, bread of this *kelkass*; they were nutritious, but pungent in flavour, which caused a slight burn in the throat and this was precisely the cause which forced the soldiers of Caesar to eat *chara*’s bread with milk.

Veith (1920) pointed out that Heuzey assumed that *kelkass* was a very common type of the *Arum* in Albania and he made a precise description of this plant. He also replenished that this *Arum*, which is growing massively in Albania, is not, as Heuzey writes, *Arum byzanticum* (correctly *A. byzantinum* Schott.), but *A. italicum* Mill. The same opinion has also expressed Dalby (2003:28) while emphasizing that it was probably *Arum italicum* (Aaron’s rod or Italian arum).

According to Skendo (1927:127), Heuzey is the first to find that *chara* is *këlkaza* and highlighted that this plant is still eaten in times of famine in Durrës, Tirana and in the Highlands. Majer (2007:237) writes that *këlkazë* is a type of herb, roots of which is liked from pigs and is used for treatment of rabies.

Nowadays Albanians use yet this wild plant, although in different ways by the olden times. In some of today’s studies, the uses of this plant are related to ritual purposes in spring festival (Pieroni et al. 2014b:184), for some medicinal uses as infusion for arthritis (Pieroni et al. 2014a:13) and in topical applications for rheumatic pains in form of fried fruits with olive oil (Papaiani et al. 2014:125). According to Pieroni (2017:84) aerial parts of *Arum italicum* are

applied against snake bites. The culture of consuming directly as food or better as famine food seems to have been lost in Albania, but is still conserved in Albanian in North Macedonia (Rexhepi et al. 2018:52).

One of the authors that gave us complete information on the Albanian history, language and ethnicity, in general, and the first ethnobotanical information is British colonel, writer, topographer, diplomat and great Balkanologist William Martin Leake (1777-1860) in his work: "Researches in Greece" (Leake 1814, 2006). The ethnobotanical information is included in the smallest dictionary that is what Leake reproduced as "Pentagloss Exercises" on pages 383-402 of his work "Researches in Greece". This dictionary was based on the first dictionary of four Balkan languages (Greek, Albanian, Aromanian and Bulgarian) of Daniel Moscopolites, published in 1794 (Spala 1870; Qafëzezi 1938) having added his own English translation. He mentioned some of the wild and cultivated plant's names and what is more important he has described some traditional uses of them. For example, a sick man has to eat almonds, pears and apples to be cured, but not walnuts, nuts, chestnuts, cucumbers, melons, water-melons, while onions, leeks soften the throat and warm the body (Leak 1814:389, 2006:266). When a person hurts eyes, mouth, chest, navel, knees, pulp and heel, garlic should not be eaten (Leak 1814:393 2006:266). According to Leak the bay laurel and cedar serves to not be enchanted by spells and to drive away the misfortunes (Leak 1814:393, 2006:271-272), the wormwood keeps fleas away (Leak 1814:394, 2006:273), and drinking nutmeg mixed with warm water makes you healthier if you have a cold (Leak 1814:397, 2006:277-278).

British physician and writer, Henry Holland (1788-1873) were among the first that has listed a catalogue of medicinal plants met on some Albanian territories in his work "Travel in the Ionian Islands, Albania, Thessaly, Macedonia, etc., during the years 1812 - 1813" (Holland 1815).

Vaudoncourt (1816), a French general, writer and military historian, has pointed out mainly cultivated plants, and rarely mentioned wild plants in his descriptions of some areas of South Albania where he has travelled (Vaudoncourt 1816).

French physician, historian and diplomat François Charles Pouqueville (1770-1838) remained in Epirus from 1806 to 1815 as General Consul of France in Ioannina. The book "Travels in Epirus, Albania, Macedonia, and Thessaly" (Pouqueville 1820) offers a detailed description of southern Albania in early 1806. The descriptions give the data, though scarce, for the flora associated sometimes with the plant use such as: "the only vegetation consisting in a few sweet acorns, the *Rhamnus paliurus* [*Paliurus spina-christi* Mill.], and the evergreen oak [*Quercus ilex* L.], which produces the kermes used in dyeing scarlet" (Pouqueville 1820:14).

In his five-volume "Voyage dans la Grèce" (1820-21), later expanded and republished in six volumes as "Voyage de la Grèce" (1826-27), Pouqueville has described his journey, giving dates for Albanian territory's climate, demographics, crops, animal husbandry, waters, products and flora. The first three books of six volumes edition (1826-1827) give information about Albanian flora, mentioning trees, shrubs, and cultivated plants, and rarely are remembered wild herbs. The author has used for them only the French name along with Latin corresponding name and sometimes he has given the Albanian local name. The most important contribution for flora comes out in chapters II and III of special part of Book XXI (Vol. VI) (Baldacci 1927).

Chapter II has an introduction for the list of forest trees of mountains, plains, sea coasts, and gardens. In this chapter, he mentions some traditional plant uses, as e.g. bladder senna [Baguenaudier, *Columba arborescens*] was used as a purgative by peasants (Pouqueville 1827:347) or from lentils berries [Lentisques, *Pistacia lentiscus*] is extracted a good oil, that was used by the poor to season their food, also it is locally used as an excellent remedy against rheumatic pain when it is three years old (Pouqueville 1827:350). Whereas, in chapter III, the author has listed separately, among others, the medicinal plants used by the people and plants suitable for economic purposes, but without giving any concrete uses of those.

Another western author that has made Albania part of his journey and editions is British scholar, his-

torian and travel writer Thomas Smart Hughes (1786-1847). Albania is described in his work published in two-volume “Travels in Sicily, Greece and Albania” (London 1820) and in second edition of this work, published in 1830 under the title “Travels in Greece and Albania”. Unfortunately, Hughes as the most of other travellers who visited Albania has been mainly interested in the cultural and social aspects of Albanian folk culture and has been little interested in practical use of plants. Therefore, the data on the subject are fragmentary and scarce. Among different ethnographic descriptions are found data of uses of plants in folk beliefs or as social symbols, as e.g. in description of an Albanian wedding given by Hughes (1820:44; 1830:44-45): “On arriving at the house, the father of the bride receives her in his arms at the door, and while she is apparently forced to enter, throws a pomegranate against the wall as an omen of fertility; the mother of the bridegroom presents her with honey, corn and oil, and winding a shawl round them both”.

In 1813 British traveller and writer John Cam Hobhouse (1786-1869), who later took the title and the name of Lord Broughton and who had accompanied Lord Byron in Albania, published his book (Hobhouse 1813), describing the places that he had visited. This book was republished as a new edition, revised and corrected in 1858 (Hobhouse 1858). Among Hobhouse’s descriptions is found the data which show aspects of traditional use of food plants. He underlined that many foods are very palatable to an English taste, as e.g. a dish of shopped mutton, rolled up with rice highly seasoned, called *yaprák* [Albanian synonyms: *sarma*, *kuware*, *dollma*; for *sarma* see Dogan et al. 2015] and a large thin pasty of fowl, or spinach sprinkled with sugar. Further he noted that sherbet is only sweet water used as liquor, sometimes coloured with marigold flowers [*Tagets erecta*], and a few blanched almonds [*Prunus amygdalus*] swimming on the top of it (Hobhouse 1858:83). Hobhouse pointed out that both Albanian Mahommedans and Christians drink wine, as also an ardent spirit extracted from grape husks and barley, called *rackee* [*raki*] (Hobhouse 1858:130).

The German-Austrian geographer, Ami Boué (1794-1881), travelled throughout Europe, in Ger-

many, Austria and Balkan. He published one of the most important works in four-volume (Boué 1840). Ami Boué, with Emanuel Ritter von Friedrichsthal, Viquesnel, Schwar, Dr. Brankovic, was probably the first scholars to make botanical observations in Albania from 1836-1838 (Engler and Drude 1901:23). They went to Peja and after in Pristina, Prizren and Shkodra, further visiting Lezha, Kruja, Tirana, Elbasan, Berat, Tepelena, Përmet and Ioannina. Chapter III of the first volume is a detailed description of flora and vegetation of European Turkey, including Albania. In this chapter he gives data on several plants from Albania and their geographical distribution with scientific name.

In the chapter V of the third volume, Boué mentioned some cultivated plants such as olive tree, tobacco, vineyard maize, wheat, apples, pears, prunes and other useful plants that were important at that time. Boué pointed out that the apples, pears and prunes are the most qualitative fruits in Albania (1840 III:15). He mentioned in particular pears with highest values of their soft and juicy fruits (1840, III:15), or very qualitative vineyard, which, when treated well, give very good red wine (Boué 1840 III:25).

Johann Georg von Hahn (1811 – 1869) was an Austrian diplomat, philologist and specialist in Albanian history, language and culture. From 1844 to 1847 he represented the Prussian consulate in Athens, and then transferred to the Austrian vice-consulate in Ioannina, where he came into contact with the Albanians and began learning Albanian. During his years in Ioannina, Hahn travelled around Albania gathering information on Albanian history, philology and folklore. This vast amount of material was published in the seminal three-part “Albanesische Studien” (Albanian Studies), Jena 1854, which laid the foundations for multidisciplinary Albanian studies.

Hahn gives a panorama of Albania’s main economic resources at XIX century, highlighting mainly plant exports and their products. He emphasizes, in particular, tobacco quality and tradition of processing, at the same time briefly describes the way to its fermentation. He also mentions Albanian naming for the good and bad quality of Valonia oak acorn (*Quercus macrolepis* Kotschy), respectively *kamada*

and *kokla* (Hahn 1854: 59) and the use of citrons (*Citrus medica* L.) to prepare jam.

In his notes on some rites and celebrations in the province of Riza, Hahn relies on the stories of the inhabitants. In some notes we find ethnobotanical data related to superstitions or rites about the use of plants. So, a pregnant woman, underlined he, should not eat pomegranate, which in other cases is considered a sign of fertility, or after the burial rituals, boiled wheat, wine and brandy (*raki*) are distributed to people, which express their condolences saying *Ndjesë paste* “May he rest in peace” [Tag of respect added to the name of someone dead] (Hahn 1854:148).

One of the strange beliefs of Albanians is related with the power of unspoken water [Alb. *ujë i pafolur* “the water that is filled in the spring without saying any word”]. If one is sick from evil eye, three branches of nettle [*Urtica dioica* L.] are immersed in this water and sprinkled him with it. At the same time, the sick ate three mulberry buds, because this tree protects against the evil eye, as the unspoken water protects women who have recently given birth (Hahn 1854:157). Unspoken water is used to heal someone hit by ghosts, separating and wearing with clean clothes. He must drink rose’s water (Alb. “*gurpujë*”) without saying anything and after three days he must wash with unspoken water where sweet leaves (quince, pomegranate, apple, rose and nettle leaves), and heavy leaves (laurel, cypress, common ivy and other evergreen leaves) are boiled (Hahn 1854:159). Also, in the beliefs of Albanians, the garlic has the power against evil power (Hahn 1854:159).

Some months, due to the climatic conditions, are closely related to different agricultural processes, which according to Hahn’s notes are associated with certain superstitions.

On the first day of September, considered as the beginning of the year, every good or bad event of the day is seen as a pre-sign for the whole year and a fresh sourdough made from unripe grapes, is used all year round (Hahn 1854:154). The evil spirits have tremendous power and become dangerous during the period November 15 - January 6 (which includes Christmas and Epiphany), so as long as the fruit (corn) is still

in the field and the grapes are hanging on the plant, they lose the power (Hahn 1854:154). Hahn mentions that three partially burned cherry branches on the night of the 23rd December, 1<sup>st</sup> January and 6<sup>th</sup> January are thrown in the vineyards together with the ashes collected in the three nights when they burned (1854:154).

In the day of purification of Virgin Mary at 2 February, all kinds of legumes and cereals are cooked in a pot together, and this stew is called “*karkashina*” (Hahn 1854:55). This name is mentioned by Mayer in the same manner and date as Hahn (Meyer 2007:231), and by Kamsi as ritual to celebrate (on 6<sup>th</sup> of January), the Night before Epiphany, putting on boil a pot with maize, wheat, lentils and many, even broad beans, and a little butter and cheese; this stew is named *gurrëgoxhë* (Kamsi 1928:35).

On the first of March, people burn butcher’s-broom leaves (Alb. “*rrushkull*”) [*Ruscus aculeatus* L.] and say a person’s name for each leaf. If the leaves make noise when burning, this is a good sign for the person mentioned, otherwise it is bad. At dinner on this date, they place a patch mound of new grass in the front of the door that seems to add to the milk of the cows. While on the first day of March, in the morning, people and livestock are hit with a wild cherry branch because it does well for health. In the same month, the vines should not be burned because this is bad for the vine trunks (Hahn 1854:155).

On April 23rd, St. George’s Day, people decorate their heads with a wreath of flowers, and their belts with a plant called old man’s beard (Alb. “*kulpër*”) [*Clematis vitalba* L.]; one protecting them from headache, the other from abdominal cramps. On this day they also collect hellebore (Alb. “*shpendër*”) [*Helleborus odorus* Waldst. et Kit.] which is very valuable for eye diseases (Hahn 1854:156).

On May 1<sup>st</sup>, the adults get up early to eat quickly a clove of garlic before hearing donkey’s bray with empty stomach, otherwise they believes that they are defeated by the donkey, and the job is not going well; on the same day everyone comes out to collect flowers to adorn the doors (Hahn 1854:156). To protect the vineyards from insects, people go there three Sundays of June month and throw wood ash. In the morning

after St. John's Night every family blesses a bush of walnut leaves and fragrant herbs, which are placed on the granary to protect grain against the ants (Hahn 1854:156).

Despite the fact that superstitions are often defined as irrational or false beliefs and mainly rooted in history, culture and myths that affect individuals' behaviour, they are still witnessed in Albanian modern society to achieve spiritual release, to cure evil eye, to bring happiness to the child, and so on (Rexhepi et al. 2018).

Until the middle of the 19<sup>th</sup> century, uses of plants in calendrical rites, folk beliefs, religious and social symbols and for economic purposes have not been studied so thoroughly and classified as J. G. Hahn.

Some authors have contributed to recording a number of plant local names that have been considered of great importance in the history of the Albanian language. One of them is Karl Heinrich Theodor Reinhold (1834-1880), a German physician and Albanologist who worked as the physician-in-chief in the Greek Navy, came into contact with the Arvanite sailors, especially from the islands of Poros, Hydra and Spetsai. He collected a rich folklore material (tales, folksongs, riddles, etc.) which he published in a small volume in 1855, known as "Noctes Pelasgicae" (Pelasgian nights) (Reinhold 1855). He has listed over 25 plant names in Arvanitic dialect (an archaic dialect of Albanian) in the book's glossary. In this list we can identify two plants, the name of which is related to their medical use, such as: *bari i etheve* "fever grass", St. Anthony's turnip - *Ranunculus bulbosus* L.; *bari i balsamoit* "balsam grass", St John's Wort - *Hypericum perforatum* L.].

The absence of corresponding names in Latin binomial form in this glossary makes plant identification quite difficult. However, the data without Latin names of plants can use for plant identification with widely known names or when has a very similar modern local name, as are, for example, the names of the following plants in Krasniqi et al. (2003): *badhër*, [asphodel - *Asphodelus* L.]; *bathëze* [bush vetch - *Vicia sepium* L.]; *bythëqiqër* [birthwort - *Aristolochia clematidis* L.]; *xinxife* [jujube - *Ziziphus jujube* L.]; *Juniperus* [*dëllinjë*, juniper]; *qepë* [onion - *Allium*

*cepa* L.]; *krekez* [Montpellier maple - *Acer monspesulanum* L.]; *kukumaçe* [1.strawberry tree - *Arbutus unedo* L.; 2.Grecian strawberry tree - *Arbutus andrachne* L.]; *kallamoq* [*kallamoç*, miser, maize - *Zea mays* L.]; *klokëzë* [catchfly - *Silene* L.]; *kulpër* [kürpën, old man's beard - *Clematis vitalba* L.]; *qershî* [cherry - *Prunus avium* L.]; *gjuhe e lopese* [bugloss - *Anchusa* L.]; *kungull* [pumpkin - *Cucurbita pepo* L.]; *hudhër* [garlic - *Allium sativum* L.]; *mandragùre* [*madërgonë*, *matërgonë*, mandrake - *Mandragora officinarum* L.].

The Reinhold's work is the first and the only plant name registry in Arvanitic dialect from such an early period and can serve as a historical source for studies of plant names in dialects, which according to Svanberg et al. (2011) have a long tradition in Europe.

Another author that has contributed to recording of plant names is Jean-Marie Chopin, a French-Russian explorer and linguist. He has published some historical works, one of them is "Provinces danubiennes et roumaines: Bosnie, Servie, Herzégovine, Bulgarie, Slavonie, Illyrie, Croatie, Dalmatie, Monténégro, Albanie" (Chopin and Ubcini 1856). At the end of the chapter on Albania written by Chopin, the author gives a table of Albanian idioms translated into French by Hahn's work as well as a comparative table of some Albanian words with their correspondents in some Indo-European languages. This table also contains some Albanian plant names as: *kepe* [*qepë*, onion - *Allium cepa* L.]; *drithë* [*drithë*, *grurë*, wheat - *Triticum aestivum* L.]; *kersi* [*qershî*, cherry - *Prunus avium* L.]; *phik* [*fik*, fig - *Ficus carica* L.]; *kiparis* [*qiparis*, Italian cypress - *Cupressus sempervirens* L.]; *sinapi* [*sinapi*, black mustard - *Sinapis nigra* L.]; *selin* [*selino*, celery - *Apium graveolens* L.]; *karpous* [*karpus*, *pjepër*, melon - *Cucumis melo* L.]; *phischia* [*pisha*, pine - *Pinus* sp.] (Chopin and Ubcini 1856:148-151).

The study of common plant names, as an old branch in ethnobotany, is connected with comparative historical linguistics and philological studies of singular languages (Šeškauskaitė and Gliwa 2006). In his work "Albanesische Forschungen. I. Die slavischen Elemente im Albanesischen" (1870), Austrian philologist Franz Miklosich (1813-1891) examined the Slav elements in Albanian language, where has also dis-

cussed and some Slavic plant names in Albanian. For easier identification of the plant he has given plant name equivalents in Latin: *borika* - *Pinus silvestris*; *bosiljak* - *Ocimum basilicum*; *božur* - *Paeonia officinalis*; *groša, groše* - *Phaseolus vulgaris*; *kopar, kóper* - *Anethum graveolens*; *krastavac, krastavéts, kastravéts* - *cucumis*; *krompir, krtola, patata* - *Solanum tuberosum*; *ljubičica, viola* - *Viola odorata*; *lubenica* - *anguria, Cucurbita citrullas*; *morač, meraj* - *foeniculum*; *pasulj* - *Phaseolus*; *rogós, rogózi, rokóz* - *Typha latifolia*; *topola* - *Populus alba*; *višnja* - *Cerasum apronianum*. From an ethnobotanical point of view this linguistic work is the oldest source in Albania where the folk names can be unmistakably related to plant species.

Folklorist, orientalist, and literary historian, Angelo De Gubernatis (1840-1913), has compiled a two-volume plant mythological dictionary (De Gubernatis 1878, 1882). In the books preface he emphasizes that man, in his natural state, has always found such an intimate analogy between the vegetable kingdom and the animal kingdom, and especially between the life of plants and that of men, that he always assumed a kind of fatal correspondence between the one and the other (De Gubernatis 2004a:19). His notes about some uses and beliefs on plants in Albania are based on his brother letters when he was consul in Italy and Ioannina. According to his brother's letter, in Albania it is generally believed that the shade of trees is harmful and especially causes swelling and pain in the extremities. The Albanians say that the trees have the *aëricô*, i. e. an aerial demon. Certain plants are more frequently visited: such as, for example, fig, walnut, wild plum, mulberry, sycamore, chickweed, willow, and, in general, all fruit trees (but especially cherry) when they age and stop producing. To cure *aëricô*, is mainly used *bardan* [*burdock* - *Arctium lappa* L.], soaking bread in wine, spreading over the broad-leaved burdock and reading by a priest the Gospel, to exorcise the devil. Burdock grass here seems to fulfil the same role as Indian sacrifice grass; bread soaked in wine is also symbolic of a divine sacrifice (De Gubernatis 1882:34; 2004:36).

Every culture that knows trees seems to have a sacred tree or a set of tree myths (Anderson 2011:5).

De Gubernatis mentioned as sacred the cherry tree. According to him the Albanians burn cherry branches on the night of December 23-24, the night of January 1 and the night of January 6, that is to say in the three nights devoted to the new sun, and the ashes of these branches are kept to fertilize the vine, by this act, they burn the demons hidden in the tree that prevented the vegetation (De Gubernatis 1882:57; 2004b:58).

Gustav Meyer (1850-1900), a German linguist and Indo-European scholar considered as one of the most important Albanologists, has published an Albanian Etymologic Dictionary (1891) that contains about 5140-word units. His dictionary contains many plant names, but only a few are accompanied with ethnobotanical notes as *këlkazë* (Meyer 1891:186) treated with above, *levandë* [*levander* - *Lavandula angustifolia* Mill.], *maráj* [*fennel* - *Foeniculum officinale* All.] and *shpendrë* [*hellebore* - *Helleborus odoratus* Waldst. et Kit.]. The following explanations are given for these plants: *levand* [*levandë*] is derived by *lavare* "to wash", because is used for bath (Meyer 1891:242; 2007:283); *maráj* [*maraj*], *morajë* "fragrant herb by means of which the snake washes its eyes and manages to see after lethargic sleep (Meyer 2007:304); *shpendrë* [*shpendrë*] "harmful root to trees" (Meyer 2007:477).

In 1893, Holger Pedersen (1867 – 1953), a Danish linguist, travelled to Corfu in the company of prof. Karl Brugmann, where he stayed 6 months to study Albanian and undertook also a short trip in Epirus. Subsequently, Pedersen published a volume of Albanian texts (fairy tales, riddles, folk beliefs and songs), mainly collected on this journey (Pedersen 1895). Most of the folk beliefs given in this publication are very interesting from ethnological point of view. From them, we separate a folk belief about the special magical powers of the four-leaf clover [*Trifolium* sp.], to open chains with which the horses are tied, when the clover touches them. This plant is also used to change the mind of a girl to fall in love with a boy by putting the clover on girl's head, after this plant has been left in a church for forty days.

The four leafed clover's reputation for luck and magic is yet preserved and is linked with the belief that it brings good luck (Dinga et al. 2001:189).

According to some studies, *Trifolium* sp. is used

widely nowadays. For instance, sucked flowers are consumed as a snack (Pieroni et al. 2005), fresh aerial parts are used to stop bleeding, while as tea are used for cardio-vascular troubles related to the blood pressure (Rexhepi et al. 2013). The infusion of *Trifolium arvense* L. is used as anti-rheumatic (Mustafa et al. 2015) and flower's decoction of *Trifolium repens* L. as anti-diarrhoeal (Mustafa et al. 2012b). The squeezed leaves juice of *Trifolium pratense* L. is used for stomach disorders (Mustafa et al. 2012b), whereas infusion of the flowers is used as antiseptic for oral cavity, as anti-rheumatic and appetizing, its inhalation is used for lung disorders and as an antitussive (Mustafa et al. 2012a).

Medicinal uses of this plant, as well as some other plants mentioned in this study, are not found in the consulted old texts, therefore further exploration of historical texts may lead to rediscovery of forgotten ethnobotanical knowledge or underexploited for years to the present day, representing a starting point for other research.

It should be noted that Pedersen, like many others who have written about Albania, have been interested in its customs, traditions and culture. As a result, his notes on plant use as the majority of the available historical sources contain isolated references to the ethnobotanical use of plants, however Pedersen's merit lies in the fact that he has presented this biocultural heritage written in Albanian.

Father Giacomo Jungg (1837-1899), represents the figure of a dedicated priest who served for many years in Shkodra. He is known as the author of several volumes for Albania, among which is "Fjaluer i vogël Shqip-Latinisht", 1895 (A short Albanian-Latin Dictionary). This Dictionary contains some plants names designated for their use as: *kungullesh* "pumpkin to eat" (Jungg 1895:64) or *duhan* "tobacco to smoke" (Jungg 1895:25). Some cooking denominations are based on plant ingredient as: *bukfike* "fig bred" (Jungg 1895:12) or *laknuur* "pie made of herbs" (Jungg 1895:67). The other plant names are explained with Italian or Latin name and some of them are designated as a kind of plant without specifications such as: *herdhagen* "a kind of plant" [*Euonymus europaeus* L.] (Jungg 1895:46); *marai*, *morai*, *murai*

"wild and toxic fennel" [*Foeniculum officinale* All.] (Jungg 1895:75). It can be said that its contribution, however small, is significant evidencing the names of plants in Albanian.

Phonetic changes of folk plants names have occurred over time, some have appeared recently, others have disappeared or remained unchangeable. So, the lexical background of Albanian names of plants found in the texts of Jungg (1895), Meyer (1891), Miklosich (1813), Chopin and Ucinini (1856), Reinhold (1855) etc. constitutes a valuable basis for more in-depth ethnolinguistic studies.

Antonio Baldacci (1867-1950), botanist and geographer, can be considered the Albanologist with the largest number of studies on Albania. His interest in Albania began in 1888, while his visit in 1902 to the border area between Albania and Montenegro is also considered as the first Italian scientific mission in the region. Baldacci has discovered for the first time many plant species in Albania, among them forsythia (*Forsythia europaea* Degen et Baldacci). Baldacci (1901:541) has pointed out that forsythia is an endemic plant, because it is found native in Albania and even has an Albanian name *bôster* [*boshtër*]. Botanist Nicola Lako agreed with Baldacci for the Albanian name of forsythia (Anonymous 1937:26). Zojzi thinks that this plant is called *boshter* because it has twigs, which are hollow or have a wide pith (spongy tissue) inside as those of the elder [*Sambucus nigra* L.] (Anonymous 1937:26), for this reason this plant is used for zumare (a kind of flute) (Anonymous 1936a:531; Zojzi 1937b:264). Dr. Fritz Lemperg, an Austrian physician and botanist that has explored extensively the north and south of Albania states that the Albanian name *boshter* of forsythia has the origins of Indo-European (busch, gebüsch, bosco, bush, buisson, buys, etc.) (Zojzi 1937a:261). When Baldacci inquired about her name in Albanian, he learned that Mirdita linked the forsythia with two legends. One of them pointed out that forsythia and cornelian cherry [*Cornus mas* L.] were cursed plants. In another legend the forsythia gained the blessing of Christ because its rods were broken when the soldiers of Pontius Pilate beat him, then the soldiers beat him with cornelian cherry rods which were not broken, so it

was cursed plant (Zojzi 1937b:264). His contribution is very important for the flora of Albania and also gives us some very valuable ethnobotanical and ethnolinguistic data.

The mountains of northern Albania had fascinated travellers, scholars, ethnologists and writers of Europe as did their unique tribal culture. One of the most important contributions to the ethnobiology of Albanian people is the work of Ernesto Cozzi (1870-1926), an Italian Catholic missionary and ethnologist who lived for several years as a missionary among the Gheg tribes of the Northern Albanian Mountains.

Durham (1928:121) has pointed out that Ernesto Cozzi told her that they [Albanian tribesmen] have a number of curious pagan beliefs for which they not wish to speak.

In one of the most celebrated works, titled “Malattie, morti, funerali nelle Montagne d’Albania (Diseases, deaths, funerals in the Albanian Mountains), Vienna 1909, Cozzi has treated some diseases, medicines and antidotes, death and burial, funeral-songs, etc., mourning-customs, funeral-rites, burial-ground, etc. Among the most commonly used medicines, he had observed the copper sulphate for the treatment of wounds and ulcers in general; ranunculus [buttercups] for blisters, mallow or a mixture of onion, oil and soap boiled as emollients; the bark of the wild pomegranate for tapeworms; iron sulphate for ophthalmias; sheep’s wool ash as a haemostatic, the homemade brandy (*rakia*) as an antiseptic for rinsing wounds, ulcers etc.; bloodletting is the panacea for all ills (Cozzi 1909:908). For the bites of snakes or rabid dogs take in equal parts tobacco, onion and salt; put the mixture on the bite by tying the limb above the wound, and the outcome is always surprising (Cozzi 1909:908). Rosemary is the antidote par excellence against all contagious diseases (Cozzi 1909:909).

Beliefs and superstitions are an important part of the tribes’ intangible cultural heritage of northern Albania. They are guided for the most part by mysterious superstitions and beliefs hidden in the recesses of its soul (Durham 1910).

Cozzi’s paper “Credenze e superstizioni nelle montagne dell’Albania (Beliefs and superstitions in Alba-

nia mountains) Vienna, 1914, is based on oral histories, describing customs, beliefs, superstitions, psychological and moral elements of the inhabitants of the Northern Albania. He has emphasized that Albanian highlanders boast of recognition of the properties of certain herbs, or of composing filters to make women fertile, or men impotent; to do abort, or for giving birth to a male child; to relieve fevers and in general to heal all people and animals’ illness (Cozzi 1914:462). According to these narrative sources, when highlanders taste for the first time some new fruit or harvest, they use to congratulate the fruit by saying: *Me shnet, hàna jasht; zëmra na i dasht, e zoti na i fal* “with health, and with the new moon; the heart desires it, and the Lord gives it to us”; on the contrary, when they eat the foods most necessary for subsistence as grains, beans, cabbage, etc. they use this wishing when the moon is going down (*me hàn pah*), so they don’t feel their taste too much, otherwise the harvest would end too soon; this is not for fruit leathers which they don’t take into consideration (Cozzi 1914:470). Pregnant women also need to take many precautions and know different rules to ensure a happy birth e.g. she should not eat peppers, because the child will become choleric (Cozzi 1914:473).

As Durham (1910) has pointed out, writing has, it appears, always been an art unknown to the tribesman [tribes of the Northern Albanian Mountains], consequently he possesses an extraordinary memory, and has handed down quantities of oral traditions, most of which remain to be collected. Therefore, in lack of written documentations, Cozzi chose to travel in fascinated Albanian mountains, accessible only by narrow mule tracks, to gather this cultural and spiritual extraordinary memory rich to myths, divinities, beliefs, superstitions, rites and practices, as a natural and supernatural part of their way of living.

British artist, anthropologist and travel writer Mary Edith Durham (1863-1944) has travelled in Balkan from 1900-1914, in some expeditions. She spent many years of her life traveling around Albania, writing down various aspects of local culture and ethnographic traditions. She also noted local knowledge about plants, with many references to their medicinal, magical and food use. All these materials

were published later in her book “Some Tribal Origins, Laws and Customs of the Balkans” (Durham 1928), a useful compendium of now extinct folk beliefs and rituals. As ethnographer, she was the first that dedicated two chapters only for trees and fruits, plant names and their medicinal or magical applications and some etymologic explanations for some Albanian toponyms derived from phytonyms. The book can be considered as the oldest systematic documentation of knowledge and practices of plant use in Albania, kept alive through oral tradition for centuries.

For Durham, trees are so all-important, that they should give their names to places. So, in Albania are found Arnje (the larches); Brenishti (pine-tree place; “bre” a pine); Blinishti (lime-tree place); Shkoza (hornbeam); Chereti (“cherr” or “charr” beech); Kashnjeti (“kashnja” chestnut); Rapsha and Rapishti (plane-tree); Arra (walnut, which greatly flourishes) and Arramadhe (great walnut-tree); Lethia and Lethiste (hazel-nut); Mola and Molat (apple); Kumula (plum); Than (cornel); Shtog (elder) and Dardhe (pear), or variants of these names, in many places (Durham 1928:234).

These place names (phyto-toponyms) are still found today, reflecting the human perception of natural elements used to his convenience, so can be hypothesized that both natural and social variables play a role on the location and diversity patterns of these names (Fagúndez and Izco 2016:24).

Based on Albanian statement “Every herb has its disease; every disease has its herb” (Durham 1928:263), Durham has described some medical uses of plants. As Durham has noted, magic and disease are so closely connected, that magic and medicine are naturally intertwined also. One of these uses is described as a practice performed by a Moslem wise man on a Christian child, tying some red wool round the child and some yellow wool round a red rose in the garden, and after ordering the red to go out of the rose into the child, and the yellow to go out of the child into the rose. In a few days the rose wilted and yellowed and the child recovered its rosy cheeks, so the efficacy of the cure seemed undoubted (Durham 1928:252).

To cure the *Sciatica*, Durham mentions some prac-

tices, e.g., the limb is beaten with stinging-nettles till blistered, a counter-irritant, or it is rubbed with a paste of roasted onions boiled in oil. Pounded onions are also commonly used for dressing contusions where the skin is broken in Albania, and appear to have a soothing effect. A great variety of herbs and leaves as ferns (*Ceterach* and *Trichomanes nigra*) with wild peppermint, are valued as “cures” when parboiled, and applied hot to sprains, contusions, abscesses, boils, etc. (Durham 1928:264).

Pound up wall pellitory [*Parietaria officinalis*], squeeze out the juice and mix with salt is used for weak eyes (Durham 1909:115; 1928:264), while a decoction of wild-sage leaves [*Salvia* sp.] boiled with honey is used for cough, and the leaves of the wild sage dried and made into “tea” make a very pleasant drink used in Albania (Durham 1928:264).

Durham has mentioned as the favourite remedy for the pulmonary form a drink made of the root of “bader” (*Iris dalmatica*), for diarrhoea a decoction of oak bark, and opium “tea” [*Papaver somniferum*] made by boiling haphazard a handful of poppy-seed, was given recklessly to stop pain and it was common to give a small dose nightly to infants to keep them quiet (Durham 1928:265). A preparation of buckthorn [*Rhamnus* sp.] is given for intestinal worms (Durham 1928:266).

As Durham underlined, the Albanian tribesmen were far cleverer with wounds than with sickness. A wound must be thoroughly well washed out with *rakia* (brandy distilled from grapes) and after it must be dressed with an ointment made from white wax, olive oil, pine resin, and a decoction of the bark of green elder twigs [*Sambucus nigra* L.] (Durham 1928:266).

Another medical use of plant is a dressing for slight wounds with olive oil in which a quantity of pounded leaves of the common St. John’s wort (*Hypericum perforatum*) had been macerated in the sun and this plant is still used for similar purposes by Homeopaths (Durham 1909:115; 1928:267-268).

The information present in Durham’s book is very interesting and some current studies testify for similar or different uses of the plants mentioned by her. The data can complement contemporary ethnobotanical studies or to serve for comparative ethnobotanical

studies. For example, tea of *Salvia officinalis* L. is used to treat sore throats and the cough (Pieroni et al. 2005; Pieroni and Sõukand, 2017), the flu, tonsillitis, it is good for the health, to strengthen the stomach and is used digestive (Pieroni et al. 2005), cardiogenic and liver protective (Pieroni and Sõukand 2017). *Salvia verticillata* L. is used as cicatrizing, to treat wound healing of humans and snake bites and skin inflammations in animals (Pieroni et al. 2014b).

The aerial parts (branches and bark) or bark of *Sambucus nigra* mixed with butter and lime water are applied for treating burns (Pieroni and Sõukand 2017). While flowers are used to treat wounds and fresh cambium with honey is applied externally for skin inflammations (Pieroni et al. 2015). Decoction mixed with sheep fat or bee wax is used to treat burns and wounds (Pieroni et al. 2014b). Tea of flowering aerial parts of St. John's Wort (*Hypericum perforatum* L.) is used as digestive and stomach-ache (Pieroni et al. 2015, Pieroni et al. 2014a), is used topically to skin inflammations (Pieroni et al. 2014b) and for treating wounds (Pieroni 2017; Pieroni et al. 2015). St. John's Wort tea is used for sore throat and as diuretic, it is also considered healthy for the blood circulation and for anemia (Pieroni et al. 2014a). Maidenhair spleenwort (*Asplenium trichomanes* L) is used as diuretic and for back pain (Pieroni et al. 2015).

Durham's work discussing the tradition of using medicinal plants on Albania, can qualify as pioneering ethnobotanical studies in Albania.

The German botanist, Friedrich Markgraf (1897-1987) travelled to Albania in 1924 and 1928 where he studied and collected the plants of the country. In his scientific work "Pflanzen aus Albanien, 1928" (Plants from Albania, 1928) (Markgraf 1931), among many plants, documented with Latin scientific name, he also marked the local Albanian names of about 70 plants, just as they were found in the explored areas from north to south-east of Albania. Noteworthy than though seldom, some of them were cited also as synonyms or under Gheg and Tosk dialect names, as for example: *Carpinus orientalis* Mill. "shkozë, shkëllzë"; *Sedum serpentini* Janch. "rrush guresh", (= *rrush lepurit*), (= *rrush qyqës*); *Sorbus domestica* L. - "vorrtha", "varsh" (Gheg.), "vadh" (Tosk.);

*Paliurus spina* Christi Mill. "therë, therë e drizë, therë mërrizë". Thus, Markgraf has contributed to recording plant local names, as well as in preservation of linguistic diversity concerning this phenomenon.

This dialectal variety of phonetic forms and names of plants is not only interesting for botanists, but also for philologists and linguists; they can investigate among other linguistic aspects their etymology, their structure and word-formation, as well as their meaning and motivation.

## CONCLUSION

The history of collecting materials of Albanian ethnobotany goes back early, when the first European travellers, explorers, botanists, anthropologists, missionaries, etc. started to take interest in Albanian culture. There have been active studies especially in 1800-1940's period, both in studying Albania flora and documenting the ethnographic traditions of Albania.

This review presents a valuable historical material on the use of plants in Albania which is characterized as a country where the traditions of use of plants are early. The first researches on the names of plant were carried out by European scholars with an interest in botany as Baldacci and Markgraf. In general, the botanists were more concerned studying present flora in Albania than their native denomination. Nevertheless, many authors from various scientific fields have collected traditional knowledge on plant uses related with magic, rites, folk beliefs, religious, medicine and food.

The data of this review reflect the coexistence of botany with magic, rites, folk beliefs, religious and social symbols as well as medicinal and food use of plants as a result of interaction of Albanian culture and society with the local biophysical environment. Such a large number of ethnographical and botanical notes is related with the work of a number of botanists, linguists, geographers, ethnographers, etc., who have studied the flora of Albania, evidencing at the same time some important ethnobotanical knowledge.

The study of process of plants naming provides not

only valuable information for the development of language today, but also contributes to promoting and conserving the linguistic heritage of local communities. Discussion of the emic data on edible plants in Albanian cultural settings of studied period is important to map local perceptions on nature and living conditions. The study of plants use in Albania, as an important component of traditional knowledge is part of historical, geographical, cultural, cross-cultural and economic phenomena and contributes to the understanding of the past, current and future state of relationships between people and plants.

## DATA AVAILABILITY

The data used to support the findings of this study are available from the corresponding author upon reasonable request.

## CONFLICT OF INTEREST

The authors have no conflicts of interest regarding the publication of this article.

## CONTRIBUTION STATEMENT

Conceived of the presented idea: AS and RD.

Carried out the data analysis: AS and RD.

Wrote the first draft of the manuscript: AS and RD.

Review and final write of the manuscript: AS and RD.

Supervision: AS and RD.

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