

TRADITIONAL USE OF PLANTS BY THE DISAPPEARING CZECH DIASPORA IN ROMANIAN BANAT*

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Most of the ethnobotanical research is dedicated to food and medicinal plants, while the other categories, such as plants used as materials, veterinary remedies or fodder remain neglected. This trend dominates in East Europe where linguistic approach prevails, while ethnographical one stays under-explored, though the heritage of the 19th century was impressive. Field data were collected through in-depth individual semi-structured interviews with the last remaining ethnic Czechs living in Romanian Banat and triangulated with extensive participant observation. The aims of this study were to document and preserve local knowledge pertaining to the use of traditional cultivated and wild plants. The study focused on under-documented use categories, hence, food and medicinal plants were excluded. In total, 56 plant species were cited by informants. The paper also highlights vernacular names, phytonyms, and particularly interesting uses of plant resources or related aspects not described previously or under-reported in the literature. The authors conclude that the ethnobotanical knowledge still survives as a part of the cultural heritage of the Czech diaspora. However, several interesting uses are only practiced by elderly people, the knowledge is ageing, and is likely to vanish fairly soon.

agrobiodiversity; Balkans; ethnic minorities; ethnobotany; traditional knowledge



doi: 10.1515/sab-2015-0016

Received for publication on October 15, 2014

Accepted for publication on February 1, 2015

INTRODUCTION

Through Europe, migration and integration patterns are important topics as the intensity of population movements is increased (Kaczmarsky, Okolski, 2005). Consequently, the traditional knowledge about the uses of plant resources is rapidly disappearing from traditional communities, particularly due to the context of linguistic and cultural erosion (Alexides, 2003). In last decades, most of the ethnobotanical research is dedicated to food and medicinal plants, while the other categories, such as plants used as materials, veterinary or for social uses, remains neglected.

Banat is a very interesting region for ethnobotanists, due to the fact that since the 18th century it has been influenced by the traditional way of life of local inhabitants (Romanians, Serbians, and Hungarians) and by other 50 ethnic communities that have been encountered in this region. Although several ethnobotanical studies have been realized in Banat (Nedelcheva et al., 2007; Dogan et al., 2008a; Tita et al., 2009; Antal, 2010; Redzic, 2010; Pieroni et al., 2011, 2015), to our knowledge, the ethnobotany of ethnic minorities has not been reported yet.

The aim of this study was to collect and collate ethnobotanical knowledge of the Czech diaspora about the use of cultivated and wild gathered plants.

* Supported by the Czech Science Foundation, Project No. 521/09/P589, Hlavka Foundation, grant provided by the Faculty of Tropical AgriSciences of the Czech University of Life Sciences Prague (CULS) through "Program support for international mobility of university students", and the Internal Grant Agency of the Faculty of Tropical AgriSciences, CULS (IGA, Project No. FTZ 20155016).

Fig. 1. Location of the study area



MATERIAL AND METHODS

The research was conducted in three out of six ethnically Czech villages: Svatá Helena, Rovensko, and Gerník in Romanian Banat (Figure 1), where the diaspora under review has been settled since 1820s. The livelihood of respondents is based mainly on agrotourism and agricultural activities. Thermophilous flora of northern Mediterranean occurs in lowlands along the Danube, while the mountainous terrain favours a beechwood forest of temperate climate of Central Europe (K v a c e k et al., 2009).

A multidisciplinary approach (M a r t i n, 1995) combining botanical inventories, collection of plant specimens, semi-structured interviews, and classic anthropological participant observation were used. The data were collected during the period 2009–2012. The surveyed villages are significantly depopulated, thus, despite all the effort, data were collected only from 30 informants (14 male and 16 female, aged 29–80 years) who were willing to contribute to this survey. Interviews were carried out in Czech. Plant uses were categorized according to Economic Botany Data Collection Standard (C o o k, 1995). As the study focused on under-documented use categories, the food and medicinal plants were excluded. Voucher specimens of the cited plants were deposited in Herbarium at the Czech University of Life Sciences Prague.

RESULTS

In total, 67 vernacular names associated with 56 plant species belonging to 48 genera and 28 fami-

lies were documented (Table 1). Out of these species, 27 species were collected from the wild, particularly from meadows and forests, while 23 species were cultivated in home gardens, fields, or orchards. Six species were semi-domesticated. A wide spectrum of plant life-forms was documented. Of the 56 species, 22 were trees, 2 shrubs, while majority were herbaceous plants such as forbs and graminoids, represented by 23 and 4 species, respectively. Further, 5 species were vines.

The most represented families encountered within this research were Rosaceae, Asteraceae, Poaceae, and Leguminosae. The most frequently reported species included onion (*Allium cepa*), garlic (*Allium sativum*), apples (*Malus domestica*), potatoes (*Solanum tuberosum*), walnut (*Juglans regia*), and maize (*Zea mays*).

The encountered species were grown or collected for multiple purposes, of which the most reported categories included plants used as fodder and fuelwood, followed by materials, veterinary medicine, and social uses.

DISCUSSION

Approximately 30% of total species were directly cited by informants to be used as fodder. However, apart from these, other plants can be grazed by animals in pastures. The respondents keep various livestock, including cattle (dairy cows), poultry (including chicken broilers, hens, and turkeys), pigs, goats, horses and rarely rabbits, fowls, and pigeons. Interestingly, none of the respondents raised sheep, even though the sheep are very popular in Romanian farms (G i u r c a, 2008).

Table 1. Ethnobotany of plant species encountered in the study area - Part 1

Botanical name	Family	Vernacular name(s)	English name	Life form	Ecological status	Parts used	Local use(s)	Citations (%)
<i>Acer campestre</i> L.	Aceraceae	babyka	Field maple	tree	W	wood heartwood	FUELWOOD MATERIALS: furniture	13.33
<i>Achillea millefolium</i> L.	Asteraceae	řebíček bilej	Yarrow	forb	W	flowers	VETERINARY: infusion, for cattle, pigs, drunk to treat roundworm infection	60.00
<i>Allium cepa</i> L.	Alliaceae	cibule, cibul	Onion	forb	C	bulbs (external parts)	DYES/PIGMENT COLOURS: brown	90.00
<i>Allium sativum</i> L.	Alliaceae	česnek	Garlic	forb	W/SD/C	bulbs	VETERINARY: tincture, for pigs, poultry, drunk to treat intestinal parasites VETERINARY: boiled with milk and sugar, for pigs, drunk to treat roundworm infection	80.00
<i>Allium ursinum</i> L.	Alliaceae	medvědí česnek	Wild garlic	forb	W	leaves	VETERINARY: tincture, for pigs, poultry, drunk to treat intestinal parasites	13.33
<i>Aristolochia clematitis</i> L.	Aristolochiaceae	popovo mldo, farářovy kulky	Birthwort	forb	W	aerial parts	VETERINARY: raw, for poultry, to combat infestation (poultry mite)	3.33
<i>Bassia scoparia</i> (L.) A.J. Scott	Chenopodiaceae	košťata	Burningbush	forb	C	aerial parts	MATERIALS: brooms	6.67
<i>Beta vulgaris</i> L. subsp. <i>vulgaris</i> conv. <i>vulgaris</i> var. <i>crassa</i>	Chenopodiaceae	dobyřtí řípa, kravská řípa	Fodder beet roots	forb	C	leaves roots	FODDER: for poultry FODDER: for cattle	6.67
<i>Beta vulgaris</i> L. subsp. <i>vulgaris</i> conv. <i>vulgaris</i> var. <i>vulgaris</i>	Chenopodiaceae	řípa červená	Beetroots	forb	C	leaves	FODDER: for cattle, pigs	26.67
<i>Betula pubescens</i> Ehrh.	Betulaceae	bříza	Birch	tree	W	branches	MATERIALS: brooms	6.67
<i>Calendula officinalis</i> L.	Asteraceae	měsíček, valašky	Marigold	forb	W/SD	flowers aerial parts flowers	VETERINARY: heated in animal fat, for cattle, goats, sheep. applied externally on wounds SOCIAL USES: religious (magic) SOCIAL USES: religious	26.67
<i>Carpinus betulus</i> L.	Corylaceae	habr	Hornbeam	tree	W	wood	FUELWOOD	13.33
<i>Carpinus orientalis</i> Mill.	Corylaceae	habřík	Oriental Hornbeam	tree	W	branches	MATERIALS: brooms	3.33
<i>Castanea sativa</i> Mill.	Fagaceae	kaštan	Sweet chestnut	tree	C	fruits	FODDER: for pigs	3.33
<i>Chelidonium majus</i> Lour.	Papaveraceae	vlaštovičník, lišejová tráva	Swallow wort	forb	W	aerial parts	VETERINARY: mixed with fodder, for cattle, consumed to treat infections NOS	10.00
<i>Chrysanthemum indicum</i> L.	Asteraceae	římababa	Chrysanthemum	forb	C	flowers	SOCIAL USES: ritual (religion)	10.00

Table 1. Ethnobotany of plant species encountered in the study area - Part 2

Botanical name	Family	Vernacular name(s)	English name	Life form	Ecological status	Parts used	Local use(s)	Citations (%)
<i>Clematis vitalba</i> L.	Ranunculaceae	rejvák	Traveller's Joy	vine	W	aerial parts branches	FODDER: for goats SOCIAL USES: smoking materials	3.33
<i>Coronilla</i> sp.	Leguminosae	vořeška	Coronilla	forb	W	seeds	FODDER: for goats	6.67
<i>Corylus avellana</i> Thunb.	Corylaceae	líška	Common hazel	tree	W	branches wood	MATERIALS: basketry FUELWOOD	10.00
<i>Cotinus coggygria</i> Scop.	Anacardiaceae	skumpina	Smoke tree	shrub	W	heartwood	DYES/PIGMENT COLOURS: brown	23.33
<i>Cucurbita</i> sp.	Cucurbitaceae	turky	Pumpkin	vine	C	fruits	FODDER: for pigs	16.67
<i>Echium vulgare</i> L.	Boraginaceae	beraní vocas	Viper's Bugloss	forb	W	flowers	VETERINARY: infusion, for pigs, drunk to treat diarrhoea	10.00
<i>Fagus sylvatica</i> L.	Fagaceae	buk	European beech	tree	W	wood wood	FUELWOOD FUELWOOD	60.00
<i>Fraxinus ornus</i> L.	Oleaceae	jasan	Manna ash	tree	W	stem bark	VETERINARY: decoction, for poultry, drunk to treat infections NOS	13.33
<i>Hedera helix</i> L.	Araliaceae	zimolez	English ivy	vine	W	leaves	SOCIAL USES: ritual (magic)	6.67
<i>Helianthus annuus</i> L.	Asteraceae	slunečnice	Sunflower	forb	C	achenes	FODDER: for poultry	3.33
<i>Helleborus purpurascens</i> Waldst. & Kit.	Ranunculaceae	zatravovací kořínek	Purple hellebore	forb	C	roots	VETERINARY: raw, for cattle, pigs, inserted in the outer ear to treat inflammation	10.00
<i>Hosta</i> sp.	Hostaceae	kytky panny Marie	Hosta	forb	C	aerial parts	SOCIAL USES: religious	6.67
<i>Juglans regia</i> L.	Juglandaceae	ořešák	Walnut	tree	C	aerial parts fruits husks	ENVIRONMENTAL: shade/shelter SOCIAL USES: religious (ritual) DYES/PIGMENT COLOURS: yellow, brown	73.33
<i>Lagenaria siceraria</i> Standl.	Cucurbitaceae	tragule, hever	Bottle gourd	vine	W	fruits	MATERIALS: wine thieves	6.67
<i>Malus domestica</i> Borkh.	Rosaceae	jabka, jablka	Apple	tree	C	wood	FUELWOOD	80.00
<i>Matricaria recutita</i> L.	Asteraceae	heřmáněk	Camomile	forb	W	aerial parts	VETERINARY: dried, for cattle, consumed to treat coughs	26.67
<i>Medicago sativa</i> L.	Leguminosae	vojteška	Alfaalfa	forb	C	aerial parts	FODDER: for cattle, goats, horses, pigs	60.00
<i>Morus alba</i> L.	Moraceae	maruše bílá	Mulberry	tree	C	heartwood heartwood leaves wood	FOOD ADDITIVES: meat dishes MATERIALS: casks FODDER: for pigs FUELWOOD	33.33
<i>Prunus avium</i> (L.) L.	Rosaceae	třešně, plátanice	Wild cherry	tree	W/SD/C	fruits branches	FODDER: for pigs SOCIAL USES: ritual (magic)	43.33

Table 1. Ethnobotany of plant species encountered in the study area - Part 3

Botanical name	Family	Vernacular name(s)	English name	Life form	Ecological status	Parts used	Local use(s)	Citations (%)
<i>Prunus cerasifera</i> Ehrh.	Rosaceae	slivý modrý	Cherry plum	tree	C	wood	FUELWOOD	60.00
<i>Prunus domestica</i> L.	Rosaceae	švestky	Plum	tree	C	wood	FUELWOOD	40.00
<i>Pyrus communis</i> L.	Rosaceae	hrušky	European pear	tree	C	wood	FUELWOOD	53.33
<i>Pyrus pyraeaster</i> Medik.	Rosaceae	planičky	Wild pear	tree	W	wood	FUELWOOD	6.67
<i>Quercus frainetto</i> Ten.	Fagaceae	dub	Oak	tree	W	heartwood wood	MATERIALS: floors FUELWOOD	16.67
<i>Robinia pseudoacacia</i> L.	Leguminosae	agát	Black locust	tree	W	pollen	BEE PLANTS	16.67
<i>Salix caprea</i> L.	Salicaceae	kočičky, jiva	goat willow/ pussy willow	tree	W	branches	SOCIAL USES: religious (magic)	6.67
<i>Salvia</i> sp.	Lamiaceae	hluchánky	Sage	forb	W	aerial parts	FODDER: for cattle	3.33
<i>Sambucus ebulus</i> L.	Caprifoliaceae	chebdinky	Dwarf elder	forb	W	fruits	DYES/PIGMENT COLOURS: blue, purple	36.67
<i>Sambucus nigra</i> L.	Caprifoliaceae	bez, bezinky, bezinky	European Elder	shrub	W/SD	pollen	BEE PLANTS	43.33
<i>Secale cereale</i> L.	Poaceae	žito	Rye	graminoid	C	aerial parts	MATERIALS: ropes	3.33
						grains (caryopsis)	FODDER: for pigs, horse	
<i>Solanum tuberosum</i> L.	Solanaceae	brambory	Potato	forb	C	tubers	FODDER: for cattle	76.67
<i>Sorbus torminalis</i> (L.) Cranz	Rosaceae	břek	Wild service tree	tree	W	wood	FUELWOOD	3.33
<i>Sorghum</i> sp.	Poaceae	tatar	Sorghum	graminoid	C	inflorescences grains (caryopsis)	MATERIALS: brooms FODDER: cattle	3.33
<i>Staphylea</i> sp.	Staphyleaceae	klokočí	Bladderhut	tree	W	branches	MATERIALS: brooms	3.33
<i>Taraxacum officinale</i> F.H. Wigg.	Asteraceae	pampeliška	Common dandelion	forb	W	pollen	BEE PLANTS	20.00
<i>Tilia tomentosa</i> Moench	Tiliaceae	lípa	Silver lime	tree	W/SD/C	wood	FUELWOOD	63.33
<i>Trifolium pratense</i> L.	Leguminosae	jetel	Red clover	forb	W/SD	aerial parts	FODDER: for rabbits	23.33
<i>Triticum</i> spp.	Poaceae	pšenice	Wheat	graminoid	C	grains (caryopsis)	FODDER: for cattle, poultry	50.00
<i>Vitis vinifera</i> L.	Vitaceae	rožňiki	Grapevine	vine	C	aerial parts	ENVIRONMENTAL: shade/shelter	53.33
<i>Zea mays</i> L.	Poaceae	kukuřice	Maize	graminoid	C	aerial parts husk leaves aerial parts seeds	MATERIALS: brooms MATERIALS: ropes, basketry FODDER: for cattle FODDER: for cattle, pigs, poultry	73.33

C = cultivated, SD = semi-domesticated (not cultivated) but in some way "managed", W = wild, NOS = not otherwise specified

As is common in plants used by humans, also the distinction between animal food and veterinary medicine is not very clear, with many species being used at the same time for both purposes (Bonet, Valles, 2007). Nevertheless, none of the fodder species were found to have ethnoveterinary value in Banat.

In total, 11 herbal remedies for treating animal health disorders were recorded in the study area. Most of them were used for the treatment of various infections and infestations (7), inflammation, injuries, and digestive and respiratory disorders (each represented by 1 species).

Zatravovací kořínek (*zatravovací* – probably derived from *trávit*, ‘to poison’, *kořínek* ‘little root’) denotes *Helleborus purpurascens*, a species traditionally used both by the Czech diaspora as well as in the Romanian folk veterinary medicine (Bogdan et al., 1990). In the words of the locals, *zatravovací kořínek* ‘chases out any infection from the body by poisoning it’. The small piece of root is transcutaneously implanted into the dewlap (cattle) or ear lobe (pigs) and covered by an adhesive plaster to provoke leucocytosis or neutrophils with the aim to activate chronic diseases for better healing (Bogdan et al., 1990). The skin is perforated with a thick needle and the root is left *in situ* for 3 days. Subsequently the applied root together with matter is removed. Though this method is more than 100 years old (Bogdan et al., 1990), it is under-documented in the literature. So far, the same use has been observed also with other species of the genus *Helleborus*. Pieroni et al. (2014) pointed out that the root of *H. odorus* Waldst. & Kit. ex Willd. is inserted on the horse’s ear as a panacea, roots of *Helleborus* spp. are inserted into horse’s breast for treating muscular blocks, particularly to animals not able to be ridden anymore (Pieroni et al., 2013) or inserted into animal’s ear to treat all diseases (Pieroni et al., 2011).

Pieroni (2000) also documented the use of stem bark decoction of *Fraxinus ornus* in the treatment of poultry infections. In other territories, flowers of *Fraxinus* are administered to cows as a purgative (Di Sanzo et al., 2013), and to treat poultry diseases (Guarrera et al., 2005).

Aerial parts of *Chelidonium majus* were mixed with fodder to treat intestinal infections in cattle. Idolo et al. (2010) described that the plant decoction is given to cattle to expel placenta; while Redžić (2010) pointed out that the concerned plant can be used for the treatment of any sickness.

Antihelminthic use of *Allium sativum* is well documented both in medical and veterinary applications (Idolo et al., 2010), while *Achillea millefolium* was found to be vermifuge only in humans (Tita et al., 2009). Veterinary use of *Allium ursinum* is quite rare and so far, previous fieldwork has recorded helminthiasis and vermifuge properties only in humans (Tita et al., 2009). We recorded macerated

leaves used for controlling intestinal parasites in poultry and pigs.

The interviewed informants put aerial parts of *Aristolochia clematitis* to henhouse to control the poultry mite. *Aristolochia* has already been noted in herbal lore to be used in veterinary medicine (Scarborough, 2011; Bahmani, Eftekhari, 2013), nevertheless, the concerned use seems to be unknown in literature. Notable is also its vernacular name *popovo mûdo* (lit. ‘pop’s scrotum [+archaic]’) or the alternate version *farářovy kulky* (lit. ‘parson’s balls’). Apart from the physical resemblance of the round fruits of the plant and the testicles, the name is probably based on the conception of parson as a symbol of purity, which can be transferred to the poultry.

According to Pirvutiu, Popescu (2011), by the year 2007, the number of beekeepers accounted 34 971 people with an average apiary size of 31.05 beehives. Bee plant species identified included *Robinia pseudoacacia*, *Sambucus nigra*, and *Taraxacum officinale*. Although honey was appreciated by respondents, the rising trend of beekeeping was not observed in the study area. Currently, only 3 respondents keep honey bees. Likewise in the study from Bosnia and Herzegovina (Sarić-Kundalić et al., 2010), honey played an outstanding role in local cuisine particularly as sweetener in teas. In addition, bee wax was used for preparation of balms in traditional medicine.

Several plant species were documented being used exclusively for social usage. These included forgotten Czech traditions, magic and ritual applications, such as the use of *Calendula officinalis* to protect people and property against visiting strangers and pussy willow (*Salix caprea*) protecting the household from harm from lightning. Furthermore, two species were recorded for spiritual or religious purposes, such as *Hosta* sp. (*kytky panny Marie*, lit. ‘Virgin Mary’s flowers’) which are offered to Virgin Mary on the day of her feast day (September 8th). Furthermore, *Chrysanthemum indicum* and *Calendula officinalis* are used for decoration of graves on All Souls’ Day on November 1st. Nevertheless, the most important holiday for the Banatian Czechs is Easter, the celebration of springtime and renewal, as majority of them adhere to Christians (Pavlašek, 2010). On Easter day, groups of carolers walk from house to house with rattles, singing Easter carols and receive eggs, sweets or walnuts from landlords. *Pomlázka* – a braided whip made from twigs of *Salix caprea* or *Prunus avium* – is therefore used by caroling boys to symbolically whip girls on the legs.

Dried branches of *Clematis vitalba*, the common infesting weed in the study area, were often smoked as a tobacco substitute, particularly during the fieldwork. So far, dried leaves of *Clematis vitalba* smoked as a weak hallucinogen have been identified in an ethnobotanical study in southern Italy (Scherre et al., 2005).

Cleanliness in household and in the surroundings was one of the most important values for respondents. Hence, brooms made out of plants were still used as cleaning implements. For this purpose, 6 species were identified and most of these species were previously described to be commonly used in several south and south-eastern European countries (Nedelcheva et al., 2007; Dogan et al., 2008b): *košťata* (lit. ‘brooms’) denoting *Bassia scoparia*, *Betula pubescens*, *Staphylea* sp., and *Carpinus orientalis*. Furthermore, aerial parts of maize (*Zea mays*) locally called *tuluzina* and panicles of *Sorghum* sp. are used. Making brooms is a male craft, and is rarely done by women.

Typical handicrafts or artifacts included casks made of heartwood of *Morus alba*, which are claimed to contribute to the distinctive taste of alcoholic drinks (Dogan et al., 2008a). Interestingly, *Lagenaria siceraria* is used by respondents as wine thief. Two expressions denoting this plant were registered during the fieldwork: *tragule* originating in Romanian *trăgula* and *hever* (lit. ‘a jack’, cf. German *heber*, ‘lifter’ and Slovak *hever* denoting the Czech *košťár*, used to ‘lift the wine up’ from the barrel).

Furthermore, we found that the heartwood of white mulberry (*Morus alba*) is used as meat tenderizer. In literature, well documented meat tenderizers are made up of proteolytic enzymes that attack the protein structure of meat and thus make it less tough. Such enzymes are present for instance in papaya (*Carica papaya* L.) (Ansari et al., 2014), or pineapple (*Ananas comosus* (L.) Merr.) (Chadhuri, Dey, 2013). Nevertheless, the use of mulberry heartwood as meat tenderizer is not documented.

CONCLUSION

The information collected in Romanian Banat shows that the knowledge regarding the traditional uses of plants used in under-documented use categories (other than food and medicinal) still survives as a part of the cultural heritage of the Czech diaspora. The most frequently reported categories included plants used as fodder and fuelwood, followed by materials, veterinary medicine, and social uses. All 56 plant species encountered in the study area continue to play an important role, and it was found out that many people retain a rich knowledge about the use of these plants. However, several interesting uses are only practiced by elderly people. Currently, more than a half of the houses in the ethnically Czech villages are empty, as young people massively re-emigrate back to the Czech Republic. Consequently, the traditional knowledge about the plants is ageing, and is likely to vanish fairly soon. Furthermore, a notable adaptation of the community is evident from the folk botanical nomenclature; for some species unique plant names were created, while for others loan words from Romanian

(particularly Banatian variety) and also from other languages were used.

Acknowledgement

Special thanks are due to all the respondents who participated in this study.

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