

Traditional Ecological Knowledge and the Cultural Significance of Plants in Hungarian Communities in Slovenia

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Abstract: Traditional ecological knowledge of plants is an important aspect of scholarship in relation to land use and contributes to the sustainable use and management of natural resources as well as to the monitoring of changes in the natural environment. The aim of the present paper was to examine traditional ecological knowledge in Hungarian communities in Slovenia in connection with knowledge of the plants growing in the region, their local names, and their uses. We quantified the earlier role of the utilized plant species in order to determine the former significance of certain species. We carried out structured interviews with a total of 20 individuals in three studied settlements. In the Hungarian communities in Slovenia, we uncovered knowledge of a total of 130 folk taxa. Of these, 123 taxa have local names. The majority of the folk taxa can be correlated with a single biological species. A significant proportion of the known species were utilized in some way, most of them as medicinal plants, wild edible plants, or ornamental plants. As in other farming communities, the most important species are mainly woody plants, which include the common hornbeam, the common juniper, and the silver birch. Among the herbaceous plants, utilization of the dandelion, nettle, and bulrush was significant. Members of the older generations living in the Hungarian communities in Slovenia still retain knowledge of plants that were once used on a daily basis, along with their local names and the traditional ecological knowledge connected with their earlier use.

Keywords: ethnobotany, Northeastern Slovenia, traditional ecological knowledge, use value index, salience

INTRODUCTION

Traditional ecological knowledge related to the natural flora is an important aspect of environmental knowledge in communities that directly depend on natural resources and ecosystem services. Ecosystem services necessitate a knowledge of numerous plant species. Firstly, knowledge of species is valuable from the point of view of the direct

utilization of ecosystem services (e.g. gathering of edible or medicinal plants), while secondly, it ensures the botanical knowledge necessary for the management of natural resources (BABAI – MOLNÁR 2014; GLASENAPP – THORNTON 2011). Thirdly, through the use of local, mainly species-based indicators, it contributes to the monitoring of changes in the natural environment (BERKES 2012).

In relation to folk plant knowledge, it is difficult to predict which part of the natural flora is covered by the plant knowledge of a given community. In the words of Ferenc Móra: “I believe that the Hungarians gave special names only to those plants that they made use of or suffered because of, or those that had some very striking peculiarity, while the rest were summarized under the names weeds, pests, and wild flowers” (MÓRA 1960). Ethnobiologists, in line with Móra’s observation, established four determining characteristics with respect to plant knowledge: 1) morphological distinctiveness (phenotypic salience); 2) striking morphological features (e.g. vividly colored flowers) (perceptual salience); 3) ecological traits (e.g. habitat indicator) (ecological salience); and 4) cultural utilization (e.g. medicinal plants) (cultural salience) (GOSLER 2017; HUNN 1999).

In its long history, ethnobotanical research in the Carpathian Basin has focused primarily on studies of plant species that have been utilized in some way. Research of this kind has been carried out in numerous regions of the Carpathian Basin, including Somogy (KÓCZIÁN 1988, 2014); the Great Hungarian Plain (Alföld) (GRYNAEUS – SZABÓ 1993; MOLNÁR 2011); the North Hungarian Mountains (KÓCZIÁN 1984); and Southern Slovakia (Felvidék) (KÓCZIÁN – SZABÓ 1990); and in particular in many regions of Transylvania (review: PAPP et al. 2014a). In relation to wild edible plants, data on 236 species in the Carpathian Basin that are also biologically accurately identifiable have been published to date (review: DÉNES et al. 2012), although other types of use have also been well documented: timber use (e.g. PÉNTEK – SZABÓ 1985; TARISZNYÁS 1978), and the utilization of wetland vegetation, such as species of bulrush (*Typha* spp.) (e.g. MOLNÁR 2011; SZŰCS 2003:125–126).

The principal aim of our research was to explore surviving traditional ecological knowledge — and within this, knowledge of plants — in the oral memory of Hungarian-speaking communities in Slovenia, and to examine the utilization of plants and the cultural role of environmental knowledge. We consider the documentation of environmental knowledge, as a little-researched aspect of Hungarian folk culture, to be similarly important from the point of view of the preservation of intangible cultural heritage. To the best of our knowledge, little research has been undertaken in this region to date from this particular perspective: László Kardos (1943) published ethnobotanical data in connection with folk nutrition in the Őrség region, and János Bödei (1943) published data on food gathering in Göcsej, while Enikő Bazsika (2010) has published a list of folk plant names, likewise from Göcsej.

We aimed to answer the following main questions in the course of our research: 1) Which plant species growing in the wild are known and named by the Hungarian-speaking communities in the villages of Northeastern Slovenia?; 2) How are the known plant species utilized?; and 3) Which were the most important species in the region, and which species were used most diversely?

MATERIAL AND METHODOLOGY

Study area

The studied area belongs to the Goričko region, in Northeastern Slovenia. The research was carried out in the settlements of Prosenjakovci (Pártosfalva), Motvarjevci (Szentlászló), and Središče (Szerdahely). The landscape here is typically hilly (Figure 1). The region has a temperate, continental climate, with an average annual temperature of 9.6°C and annual average precipitation of between 750 and 820 mm (KALIGARIČ et al. 2008; PAUŠIČ et al. 2017:112). Fifty-seven percent of the territory is covered with mixed deciduous forests (sessile oak–hornbeam: *Quercus petraea*–*Carpinetum*; and beech: *Fagion illyricum*) or with planted pine stands, while the remainder is covered with anthropogenic hay meadows formed from cleared woodland (in dry habitats: *Hypochoerido*–*Festucetum rupicolae*, *Ranunculo bulbosi*–*Arrhenatheretum elatioris*; in mesophile habitats: *Alopecuro*–*Arrhenatheretum*, *Anthyllido*–*Festucetum rubrae*; and in valley bottoms: *Molinion caeruleae*) (15%) and arable land (9%) (COUSINS et al. 2014:3; PAUŠIČ et al. 2017:112). This cultivated landscape is home to a rich flora, which has been protected as a nature conservation area since the foundation of the Goričko Natural Park in 2003. The number of vascular plant species discovered to date in this territory is around 1,100.



Figure 1. Characteristic landscape – a mosaic of arable land, species-rich mesophile hay meadows, and deciduous forests. Središče (Szerdahely), Slovenia, 2019. (Photo by Dániel Babai)

A quarter of the households in the region's settlements (25.9%) are engaged in agricultural activities exclusively on small plots (the average size of a holding is 1.59 ha, while the average number of plots is 26.7). Apart from agriculture, the majority of people are employed in the industrial and service sectors in Austria, Hungary, and other regions of Slovenia (60.7%) (KLADNIK – REPOLUSK 1993:238). The Hungarian population is permanently decreasing in terms of both size and proportion (KLADNIK – REPOLUSK 1993:238–239).

Methods

In those communities in which extensive land use is on the decline, only a small proportion of the population are engaged in this type of agriculture, and in these communities it is primarily members of the older generations who retain memories of earlier folk plant knowledge. Based on their traditional ecological knowledge and practical experience, they know the local names of certain species, as well as the earlier ways in which they were used. For this reason, we examined the plant knowledge of the older members of the 394-strong Hungarian-speaking population of the three studied Slovenian villages mentioned above. Using the snowball sampling method, we conducted 31 semi-structured and structured interviews with a total of 20 individuals (7 men and 13 women). The participants had an average age of 73 (the oldest interviewee was 91 and the youngest was 54). Prior informed consent was verbally obtained from all participants, and we made audio recordings only where we had prior permission. The interviews were conducted in Hungarian.

We selected 250 species from among the approximately 1,100 vascular plant species found in the region. The selected species included both woody and herbaceous species of forest, grassland, and weed vegetation. The structured interviews were based on color photographs of the species (cf. NEWING 2010). One disadvantage of this method was that it was unsuitable for questions concerning, for example, grasses (Poaceae) and sedges (Cyperaceae). We asked about these species during the growing season, as other species characteristic of the given season. We also organized field walks with local farmers, in order to verify the photograph-based plant identifications.

In evaluating the role played by folk taxa in the life of the local community, we took into account an index based on the diversity of use, and on the frequency and exclusivity of use, drawing on the work of Turner (1988), partly adjusted to the local circumstances: the use-value index, or UVI. In relation to each individual use variable, we determined the significance of the type of use (U, on a five-point scale, weighted for significance of use – Table 1), frequency of use (F, on a five-point scale), and the exclusivity of the species (E, on a three-point scale). The total obtained after multiplying the individual variables gives a numerical value representing the former significance of the species (the UVI):

$$UVI = U_1 \times F_1 \times E_1 + U_2 \times F_2 \times E_2 + \dots + U_n \times F_n \times E_n$$

In the following, we indicate the local names of the folk taxa, as well as the scientific names, in italics. With respect to the scientific names of the plants, we rely on the work of Király et al. (2009). Similarly, we indicate in italics the more important interview excerpts, which are quoted word for word.

Table 1. Use categories and their significance (U, five-point scale, weighted for significance of use) (cf. TURNER 1988:280–281)

Use categories	Use value (U)
Wild edible plants – e.g. roots, bulbs, tubers eaten	4
Wild edible plants – e.g. stems, leaves, sprouts eaten	4
Wild edible plants – e.g. flowers, fruits, seeds, nuts eaten	4
Wild edible plants – e.g. children’s snacks, herbs	3
Wild edible plants – beverages (e.g. liquor, syrup)	4
Wild edible plants – food preparation, preserving – e.g. smoking	3
Medicinal plants – human – general medicine	3
Medicinal plants – human – medicine for colds, coughs, etc.	3
Medicinal plants – human – stomach and digestive ailments	3
Medicinal plants – human – kidney and urinary ailments	3
Medicinal plants – human – musculoskeletal diseases – rheumatism, muscular aches	3
Medicinal plants – human – wounds, burns	3
Medicinal plants – human – unspecified	3
Medicinal plants – veterinary	3
Primary materials – building material	5
Primary materials – furniture wood	5
Primary materials – firewood	5
Primary materials – timber	5
Farming implements – tool handles	5
Farming implements – wood-splitting tools	5
Farming implements – cart parts	5
Farming implements – other, unspecified implements (e.g. broom, willow basket)	4
Household items – kitchen tools	2
Cultural significance – ritual decoration (e.g. wedding ceremonies, Christmas)	2
Cultural significance – ornamental (everyday use)	2
Cultural significance – children’s games	2
Animal fodder and bedding	2
Weeds – arable weeds	3
Weeds – garden weeds	2
Agricultural plant protection	3
Indicator species (e.g. indicators of harvesting)	3
Other use types (e.g. resin, fruit tree inoculation)	3
Plant species is recognised but not used specifically	1

RESULTS

Characteristic features of plant knowledge

The interviewees identified 130 plants, among which the local names of 122 folk taxa exist to this day in oral memory (Table 2). Ninety percent (110) of the named folk taxa can be identified unambiguously with a single biological species. In 10% of cases (12), the folk taxa were identified with species groups (for the most part comprising two species). The list contains a total of 17 tree species, 13 species of shrubs, 2 species of dwarf shrubs, 97 herbaceous plant species, and 1 species of liana. The known species belong to 54 families: most of them belong to the Asteraceae (15 species), Rosaceae (14 species), and Poaceae (9 species) families (Table 2).

Table 2. Folk taxa known in Hungarian communities in Slovenia, the extent to which they are known, the ways in which they are used, and their use value index (UVI). (In the case of folk taxa with several names, the names are given according to the frequency with which they were mentioned, in descending order. The number of mentions is in brackets.) Alongside the names, we have indicated the further sources of local names published in four ethnobotanical studies carried out in the region: BE: BAZSIKA (2010) (Göcsej); BJ: BÖDEI (1943) (Göcsej); KL: KARDOS (1943) (Órség); and TA: TÓTH (2009) (Órség). The utilization categories are given in the penultimate column in the table. Abbreviations: MED=medicinal plants, EDI=wild edible plants, HERB=aromatic herbs, BEV=plants used in the preparation of beverages, ORN=ornamental plants, FIRE=firewood, CMAT=construction materials, TIMB=sawn timber, GAME=children's games, HI=household implements, FI=farming implements, HABI=species that form mushroom habitats, FODD=fodder plants, AWE=arable weeds, GWE=garden weeds, RIT=ritual use, PPRO=plant protection, DYE=plants used for dyes, TRAP=species used to prepare traps. Where the number of data is fewer than 5, we have not calculated a percentage value.

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Achillea collina</i> / <i>A. millefolium</i>	egérfarkú (3), cickafark (2) ^{BJ, BE} , egérfarkú füj ^{BJ} / kóró / virág (2/1/1), pulykafarok (1)	Asteraceae	11	91	82	MED, ORN, BEV	31
<i>Agrimonia eupatoria</i>	bojtorján (3) ^{TA} , pulman (1), cigánbua (1)	Rosaceae	7	71	57	MED	18
<i>Agrostemma githago</i>	konku (5) ^{BE} , piros konku (1), konkoly (1), konkó ^{TA}	Caryophyllaceae	8	88	75	AWEED, ORN	14

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Alnus glutinosa</i>	egerfa (8) ^{BJ, TA} , berekfa (2) ^{BE, TA} , beregfa ^{BJ}	Betulaceae	9	100	100	FIRE, CMAT	44
<i>Alopecurus pratensis</i>	-	Poaceae	5	80	0	GAME, ORN	7
<i>Amaranthus</i> sp.	disznóparaj (1), disznóparéj (1)	Amaranthaceae	4	-	-	GWE, AWE	7
<i>Ambrosia artemisifolia</i>	ambrozia (1)	Asteraceae	2	-	-	GWE, AWE	5
<i>Anacamptis (Orchis) morio</i>	kukukkvirág (5) ^{TA} , kukukkfű (2)	Orchidaceae	8	88	88	ORN	12
<i>Anagallis arvensis</i>	- (esűvirág ^{TA})	Primulaceae	2	-	-	MED, GWE	4
<i>Anemone nemorosa</i>	csibevirág (2), csillagvirág (1), vadhóvirág (1)	Ranunculaceae	10	100	40	ORN	4
<i>Apera spica-venti</i>	héla (6) ^{BE, TA}	Poaceae	6	100	100	AWE	12
<i>Arctium lappa</i>	lapulevél (3) ^{BE, TA} , cigántetű (2), bojtorján (1), bogács (1), bojtergyán ^{BJ}	Asteraceae	6	100	83	GAME, MED	11
<i>Bellis perennis</i>	pipitér (5) ^{BJ, TA} , Istenvirág (2), (margaretta) (1)	Asteraceae	8	88	75	MED, EDI, BEV, ORN	21
<i>Betonica officinalis</i>	-	Lamiaceae	2	-	-	-	1
<i>Betula pendula</i>	nyírfa (10)	Betulaceae	10	100	100	HI, FI, MED, ORN, FIRE, BEV	76
<i>Bidens</i> spp. (perhaps <i>Lappula squarrosa</i>)	cigánbua (3), ragadács ^{BE}	Asteraceae	3	-	-	AWE, GAME	14
<i>Briza media</i>	Mária könyve (5) ^{BJ} , máriakönyv ^{BE} , didergővirág ^{BJ} , poloskafűj ^{BJ} , remegőfűj ^{BJ} , remete ^{BJ} , tavaszi zörgőfűj ^{BJ} , rezgőfűj ^{BE}	Poaceae	5	100	100	ORN	20

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Bromus secalinus</i> (?)	vaduc (3)	Poaceae	3	-	-	AWE, EDI	8
<i>Calluna vulgaris</i>	vadzám (6) ^{TA} , (nyúlkóró) (1)	Ericaceae	7	86	86	ORN, HABI	15
<i>Caltha palustris</i>	gólyahír (2) ^{TA} , sárga virág (1)	Helleboraceae	9	100	22	ORN	4
<i>Calystegia sepium</i>	győjtény (6), gyótin (1) ^{BE, TA} nagy győjtény (1)	Convolvulaceae	8	88	88	GWE	8
<i>Campanula</i> sp. (<i>C. patula</i>)	harangvirág (3) ^{TA}	Campanulaceae	6	67	50	ORN	1
<i>Capsella bursa-pastoris</i>	lapátlopú fűjj (1), vadrepce (1)	Brassicaceae	6	67	17	GWE, MED	5,5
<i>Carlina acaulis</i>	-	Asteraceae	5	80	0	-	2
<i>Carex</i> spp. (<i>C. acuta</i> , <i>C. buekii</i> , <i>C. elata</i>)	sás (6) ^{TA} , sásfűjj (1)	Cyperaceae	7	100	100	FI, FODD	7,5
<i>Carex brizoides</i>	selemszás (1)	Cyperaceae	1	-	-	HI	3
<i>Carpinus betulus</i>	gyertyánfa (7) ^{TA} , gyertyán (2) ^{TA}	Corylaceae	9	100	100	FIRE, FI, TIMB	84
<i>Carum carvi</i>	kömin (1) ^{BJ, BE} , kömény (1)	Apiaceae	2	-	-	HERB	12
<i>Centaurea cyanus</i>	búzavirág (6) ^{TA} , kék konku (1) ^{BE} , búzakékje (1)	Asteraceae	7	100	100	AWE, ORN	8
<i>Centaurium erythraea</i>	ezerjófűjj (1) ^{TA} , ezerjófű (6), ezerfűjj ^{BJ}	Gentianaceae	8	88	88	MED, BEV	30
<i>Cerasus avium</i>	vadcseresnye (6) ^{BJ} apró cseresnye (1)	Rosaceae	6	100	100	EDI, CMAT	18
<i>Chelidonium majus</i>	cinaduna (3) ^{BJ, BE} , tejes fűjj (1)	Papaveraceae	7	71	43	MED	12
<i>Chenopodium album</i>	laboda (4), loboda (2), kaszterva (1)	Chenopodiaceae	5	100	100	GWE, AWE	12
<i>Cichorium intybus</i>	hatökör-rántó fűjj (2), ökörfarkú kóró (1), cikória (1), katánkóru ^{BE}	Asteraceae	6	100	67	MED	3
<i>Cirsium arvense</i>	aszott (6), aszottüske ^{BE}	Asteraceae	6	100	100	AWE, GWE	14
<i>Colchicum autumnale</i>	kikircs (2), őszi kikircs (1)	Colchicaceae	11	82	27	-	2
<i>Conium maculatum</i>	bürök (2)	Apiaceae	2	-	-	-	4

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Consolida regalis</i>	szarkaláb (1)	Helleboraceae	2	-	-	-	1
<i>Convallaria majalis</i>	gyöngyvirág (7), szengyörgyvirág ^{BE}	Convallariaceae	7	100	100	ORN, MED	15
<i>Convolvulus arvensis</i>	győjtény (6), gyötín (1) ^{BE, TA} , apró győjtény (1)	Convolvulaceae	7	100	100	GWE	16
<i>Corylus avellana</i>	mogyoru (3), magyaru (2) ^{BE, KL} , mogyorufa (1), magyarufa (1)	Corylaceae	6	100	100	FI, EDI, ORN, GAME, HI	37
<i>Crataegus monogyna</i>	galagonya (4), sárga geregenye ^{BJ} , geregőnye ^{BE} , gelegenye ^{KL}	Rosaceae	9	78	44	MED, EDI	6
<i>Cuscuta campestris</i>	kosz (1) ^{BE}	Cuscutaceae	5	40	20	-	1
<i>Dactylis glomerata</i>	-	Poaceae	1	-	-	FODD	3
<i>Daphne mezereum</i>	rókaszelence (2)	Thymelaeaceae	7	57	29	ORN	1
<i>Dianthus carthusianorum</i>	vadszegfű (2), vadtörökszegfű (1)	Caryophyllaceae	4	-	-	ORN	1
<i>Dianthus superbis</i>	vadszegfű (1)	Caryophyllaceae	3	-	-	ORN	2
<i>Dryopteris</i> spp. (és <i>Pteridium aquilinum</i>)	pápráng (9), páfrány (2) ^{BJ, TA} , paprat (1)	Dryopteridaceae s. l. (Dennstaedtiaceae)	12	100	100	ORN, FODD, FI	18
<i>Elymus repens</i>	pörgye (6) ^{BE} , pörje (1)	Poaceae	6	100	100	GWE, AWE	18
<i>Equisetum arvense</i>	békarokka (9) ^{BJ, BE, TA}	Equisetaceae	9	100	100	MED, FODD	27
<i>Eriophorum latifolium</i> , <i>E. angustifolium</i>	pamukfű (1), pamacsfű (1), sásfű (1)	Cyperaceae	8	75	38	ORN	4
<i>Erythronium dens-canis</i>	vadcikám (1), vadciklámen (1)	Liliaceae	6	33	17	ORN	2
<i>Fagus sylvatica</i>	bükkfa (10) ^{TA}	Fagaceae	10	100	100	FIRE, FI, TIMB, FODD, CMAT	41,5

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Fragaria vesca</i>	epörgye (5) ^{KL} , erdei epör (1), eper (2), epörke (1), vadeper (1), epörje ^{KL}	Rosaceae	8	100	100	EDI	30
<i>Fragaria viridis</i>	hársépör (1), fürtös epör (1)	Rosaceae	5	80	40	EDI	18
<i>Galanthus nivalis</i>	igazi hóvirág (2), rendes hóvirág (2), valódi hóvirág (1)	Amaryllidaceae	5	100	100	ORN	1
<i>Galeobdolon luteum</i>	vadcsalán (1)	Lamiaceae	5	40	20	-	1
<i>Galinsoga parviflora</i>	paprikafűj (1) ^{BE}	Asteraceae	1	-	-	GWE	4
<i>Galium aparine</i>	-	Rubiaceae	4	-	-	GWE	1
<i>Gentiana pneumonanthe</i>	encián (1)	Gentianaceae	10	70	10	ORN	6
<i>Hemerocallis lilio-asphodelus</i>	lilium (1), réti lilium (1), sárgalilium ^{TA}	Hemerocallidaceae	9	56	22	ORN	4
<i>Humulus lupulus</i>	komló (3), vadkomló (2), gyöplümazzag ^{BE}	Cannabaceae	5	80	80	MED	4
<i>Hypericum perforatum</i>	csillagvirág (3), vasvirág (1)	Hypericaceae	6	100	67	MED	9
<i>Iris pseudacorus</i>	sárga lilium (6), lilium (1), vízililium ^{BE}	Iridaceae	10	90	70	ORN	4
<i>Iris sibirica</i>	írisz (2), kéklilium (2), vadírisz (1)	Iridaceae	8	63	63	ORN	2
<i>Juncus effusus</i>	zsombék (4), zsombik (2) ^{BE, TA}	Juncaceae	6	100	100	GAME, ORN, HI	18
<i>Juniperus communis</i>	pattagu (9), boróka (3), pattogó borosin ^{BI, BE} , pattogu borosán ^{KL} , borosánfenyű ^{KL}	Cupressaceae	9	100	100	HERB, FI, MED, BEV	89
<i>Lamium purpureum</i>	vadcsalán (6), árvadcsalán (2), vadcsalánt ^{TA}	Lamiaceae	8	100	75	EDI, GWE, MED	12,5
<i>Leucanthemum vulgare</i>	margaréta (4), vadpipitér (1)	Asteraceae	4	-	-	MED	1,5

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Leucojum verum</i>	hóvirág (10), tőzike (4), gyöngyvirág (1)	Amaryllidaceae	11	100	100	ORN, IND	22
<i>Ligustrum vulgare</i>	vadorgona (1)	Oleaceae	4	-	-	ORN	1
<i>Linaria vulgaris</i>	vizestetű (1), vadtátika (1) ^{BE} , vizestetűfüj ^{BJ}	Scrophulariaceae	5	100	20	MED	1,5
<i>Lotus corniculatus</i>	szarvaskeret (3), vadszarvas (1), szarvaskerep- lucerna (1)	Fabaceae	5	100	100	FODD	24
<i>Lychnis flos-cuculi</i>	fecskevirág (6) ^{BE, TA} , fecskefarkú (2), fecskefü (1)	Caryophyllaceae	11	100	82	ORN	6
<i>Lycopodium clavatum</i>	judapor (8), variláb (1), nyúlmadzag (1)	Lycopodiaceae	11	100	82	MED, GAME	32
<i>Lythrum salicaria</i>	kígyópásztorfüj (1)	Lythraceae	9	78	11	ORN	1
<i>Malus sylvestris</i>	vadalma (4) ^{BJ}	Rosaceae	5	80	80	EDI, HERB	22
<i>Malva neglecta</i> , <i>M. sylvestris</i>	papsajtú füj (1), papsajtűfüj ^{KL}	Malvaceae	5	60	20	EDI	3
<i>Matricaria recutita</i> (ritkán <i>M. discoidea</i>)	pipitér (2), kamilla ^{TA}	Asteraceae	2	-	-	MED	6
<i>Myosotis nemorosa</i> , <i>M. palustris</i>	nefejejs (6), kéknefejejs (3)	Boraginaceae	6	100	100	ORN	16
<i>Nardus stricta</i>	sörtél (1), drótfű (1)	Poaceae	4	50	50	-	6
<i>Padus avium</i>	szelence (4) ^{KL} , szelencefa (2), vadszelence (1) ^{KL}	Rosaceae	7	100	100	MED, ORN, EDI	10
<i>Papaver rhoeas</i>	pipacs (6) ^{BJ, TA}	Papaveraceae	6	100	100	AWE, ORN	13
<i>Persicaria maculosa</i>	käserűfüj (2), köserűfüj (1)	Polygonaceae	3	-	-	AWE, GWE	8
<i>Petasites hybridus</i>	-	Asteraceae	3	-	-	GAME	1
<i>Phragmites australis</i>	nád (1) ^{BJ, TA}	Poaceae	1	-	-	-	1

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Picea abies</i>	bürkösfenyő (4), bürkösfű (4), fürtös fenyő (2), karácsonyfű (1) ^{TA} , lucfenyő ^{TA}	Pinaceae	9	100	100	RIT, FODD, ORN, MED	35
<i>Pinus sylvestris</i>	fenyőfa (7), fenyő (1) ^{TA} , erdei fenyő (1) ^{TA}	Pinaceae	9	100	100	CMAT, MED, ORN, TIMB	55
<i>Plantago lanceolata</i>	kígyónyelvű füj (4) ^{BJ, BE} , szűklevelű útifűj (1)	Plantaginaceae	8	100	63	MED	6
<i>Plantago major</i>	útifűj (5) ^{TA}	Plantaginaceae	5	100	100	MED, GAME	20
<i>Polygonatum latifolium</i>	sarkantyűfű (1), sarkantyűvirág (1)	Convallariaceae	6	67	17	-	2
<i>Polygonum aviculare</i>	porcogós fű (1), kövecsfűj (1)	Polygonaceae	4	-	-	GWE, FODD	8
<i>Populus tremula</i>	nyárfű (3), vadnyárfű (2), fekete nyár (1)	Salicaceae	6	100	83	FIRE, HI	16
<i>Primula vulgaris</i>	sipulóvirág (10) ^{BE, TA} , zsibavirág ^{BE}	Primulaceae	10	100	100	MED, GAME, BEV	27
<i>Prunus spinosa</i>	gereginye- tüske (8), kőkény (5) ^{BJ} , kökin ^{KL}	Rosaceae	8	100	100	EDI, MED, FI	21
<i>Pteridium aquilinum</i> és <i>Dryopteris</i> spp.	páprág (9), páfrány (2) ^{BJ, TA} , paprat (1)	Denn staedtiaceae (Dryopteridaceae s.l.)	12	100	100	ORN, FODD, FI	18
<i>Pulmonaria officinalis</i>	tüdővirág (1)	Boraginaceae	2	-	-	ORN	2
<i>Pyrus pyraeaster</i>	vadkörte (5) ^{BJ}	Rosaceae	5	100	100	EDI, BEV	12
<i>Quercus petraea</i> agg., <i>Q. robur</i>	tölgyfa (8) ^{TA} , tölfa (3) ^{BE} , csepefa ^{BJ, BE}	Fagaceae	10	100	100	FODD, EDI	64
<i>Ranunculus acris</i> , <i>R. repens</i>	sárga virág (3)	Ranunculaceae	8	100	38	IND, FODD	16
<i>Robinia pseudoacacia</i>	agácfű (4) ^{BJ, BE} , agác (2), akácfű (2)	Fabaceae	7	100	100	FIRE, FI, MED, EDI, BEV, FODD	60

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Rosa canina</i> agg.	csipkebogyó (6), tüskebogyó (3), vadtüskerózsa (2), vadrózsa (2), seggibugya (2) ^{BE} , csipkebogyu (2), csicskenye ^{BE}	Rosaceae	9	100	89	MED, EDI, GAME	32
<i>Rosa gallica</i>	törpe vadtüskerózsa (1), vadtüskerózsa (1), csicskenye ^{BJ, KL} csipkénye ^{KL}	Rosaceae	3	-	-	ORN	2
<i>Rubus fruticosus</i> agg.	tüskeszeder (7) ^{KL} , vadszeder (1), tüskisszeder ^{BE} , szedernye ^{KL}	Rosaceae	8	100	100	EDI, BEV	15
<i>Rubus idaeus</i>	vadmálna (1), málna ^{KL} , himpier ^{KL}	Rosaceae	3	-	-	EDI	3
<i>Rumex obtusifolius</i>	kásás fűj (4), lósóska (4) ^{BE} , nyúlsóska (2), köserű fűj (1)	Polygonaceae	8	100	88	MED, FODD	15
<i>Salix alba</i>	sípfá (2), sípfabokor (1), cicamaca (1), fűzfa (1)	Salicaceae	4	-	-	-	2
<i>Salix caprea</i>	rakodla (2), lakotla (1), lakotla-bokor (1), cicamacuka (1), cicamaca ^{BE} , zсібásmacuka ^{BE} (a barka), rakottlafa ^{BJ} , rakotla ^{BE}	Salicaceae	6	67	67	HI	6
<i>Salix fragilis</i>	fűzfa (4), sípfá (1)	Salicaceae	4	-	-	ORN, GAME	4
<i>Salix viminalis</i>	szíjács (3), vidra (1), vidrabokor (1)	Salicaceae	5	100	100	HI	32
<i>Sambucus ebulus</i>	földi bodza ^{BJ}	Caprifoliaceae	1	-	-	-	2
<i>Sambucus nigra</i>	bodza (3) ^{BJ, BE, TA} , bozda (1)	Caprifoliaceae	4	-	-	MED, EDI, BEV	12
<i>Sanguisorba officinalis</i>	birkabogározó fű (1), (pénzesfű) (1)	Rosaceae	12	75	8	GAME	4

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Setaria viridis</i>	mohár (1), kásás fűj (1)	Poaceae	2	-	-	-	1
<i>Stellaria media</i>	tikhúr (5) ^{BJ, TA}	Caryophyllaceae	5	100	100	GWE, EDI, FODD	12
<i>Symphytum officinalis</i>	nadálytő (1)	Boraginaceae	5	80	40	EDI, PPRO	3
<i>Tanacetum vulgare</i>	feketekoró (2) ^{BJ} , kóró (1), grádicskóró ^{BE} , mogyekóru ^{BE}	Asteraceae	4	-	-	ORN	2
<i>Taraxacum officinale</i> agg.	kákics (6) ^{BJ, KL, TA} , gyermekláncfű (4) ^{KL} , láncfű (2),	Asteraceae	7	100	86	EDI, MED, FODD, GAME	49
<i>Tilia cordata</i>	hársfa (2) ^{BJ, TA}	Tiliaceae	2	-	-	MED	3
<i>Trifolium pratense</i>	piros lóher (3), fekete lóher (1), lúher (1), vadlóher ^{TA}	Fabaceae	4	-	-	FODD, MED	21
<i>Trifolium repens</i>	fehér lóher (7), vadlóher (1) ^{TA} , lóher (1)	Fabaceae	8	100	100	FODD, PPRO	18
<i>Typha latifolia</i>	botika (4) ^{BE} , gyékény (3) ^{TA} , gyékén (3), sás (3), nád (1)	Typhaceae	7	100	100	ORN, FI	36
<i>Urtica dioica</i>	csalán (6), csollán ^{BJ}	Urticaceae	6	100	100	MED, EDI, PPRO	39
<i>Vaccinium myrtillus</i>	farkasszőlő (1)	Ericaceae	2	-	-	MED, BEV	6
<i>Viburnum opulus</i>	farkascseresnye (1)	Caprifoliaceae	2	-	-	ORN	2
<i>Vicia cracca</i>	vadlencse (4), lucerna (1), bükkönyvirág (1)	Fabaceae	6	83	67	AWE	3
<i>Vinca minor</i>	metring (6) ^{TA} , zöld metring (1), téliződ ^{BE}	Apocynaceae	7	100	100	ORN, MED	15
<i>Viola arvensis</i>	vadárvácska (6)	Violaceae	6	100	100	-	2
<i>Viola odorata</i>	szagos ibolya (6), ibolya (1) ^{BE} , rendes ibolya (1)	Violaceae	8	100	100	ORN, BEV, DYE	16

Scientific name	Local name	Family	Number of data	Extent to which the species known%	Extent to which name is known	Type of use	UVI
<i>Viola reichenbachiana</i> , <i>Viola</i> spp.	vadibolya (5), ibolya (5) ^{BE} , kékibolya (2)	Violaceae	10	100	100	MED, ORN, BEV	15
<i>Viscum album</i> / <i>Loranthus europaeus</i>	fagyöngy (6)	Loranthaceae (incl. Viscaceae)	6	100	100	MED, ORN, TRAP	19

The most important uses of the known species

In terms of knowledge of folk taxa and biological species, there is a significant emphasis on utilization. With respect to the 130 known folk taxa, a total of 218 data items referring to utilization were mentioned during the interviews. In relation to most species, utilization as ornamental plants (in vases or bouquets) (46 species), use of medicinal plants for human and animal health (39 species), and the consumption of wild edible plants (39 species) were mentioned. In the case of 11 of the mentioned folk taxa, based on the currently available data there was no information regarding utilization (e.g. *Galeobdolon luteum*, *Phragmites australis*, *Viola arvensis*) (Table 3).

Table 3. Folk taxa used in Hungarian communities in Slovenia. The number of times they were mentioned is given in brackets

Type of use	Number of species	Most important species
Medicinal plants	39	e.g. <i>Lycopodium clavatum</i> (11), <i>Achillea</i> spp., <i>Rosa canina</i> agg. (7-7), <i>Centaurium erythraea</i> , <i>Equisetum arvense</i> , <i>Viscum album</i> (5-5), <i>Agrimonia eupatoria</i> , <i>Chelidonium majus</i> , <i>Hypericum perforatum</i> , <i>Plantago major</i> , <i>Urtica dioica</i> (4-4).
Wild edible plants	39	e.g. <i>Fragaria vesca</i> (8), <i>Rosa canina</i> (5), <i>Rubus caesius</i> (6), <i>Taraxacum officinale</i> agg. (5), <i>Fragaria viridis</i> , <i>Prunus spinosa</i> (4-4).
Timber products	3	<i>Carpinus betulus</i> , <i>Fagus sylvatica</i> , <i>Pinus sylvestris</i>
Firewood	6	<i>Alnus glutinosa</i> , <i>Betula pendula</i> , <i>Carpinus betulus</i> , <i>Fagus sylvatica</i> , <i>Populus tremula</i> , <i>Robinia pseudo-acacia</i> .
Fodder plants	15	e.g. good for fodder: <i>Quercus</i> spp. (6), <i>Lotus corniculatus</i> (5), <i>Trifolium repens</i> és <i>T. pratense</i> (3-3), <i>Robinia pseudoacacia</i> , <i>Picea abies</i> , <i>Taraxacum officinale</i> , <i>Stellaria media</i> (1-1); bad for fodder: <i>Equisetum arvense</i> , <i>Carex</i> spp., <i>Ranunculus</i> spp. (1-1).
Farming implements	10	<i>Carpinus betulus</i> (5), <i>Betula pendula</i> (4), <i>Corylus avellana</i> (3), <i>Dryopteris</i> spp., <i>Fagus sylvatica</i> , <i>Robinia pseudoacacia</i> (1-1)
Household implements	10	<i>Betula pendula</i> (7), <i>Juniperus communis</i> (5), <i>Salix viminalis</i> (5), <i>Salix caprea</i> , <i>Typha angustifolia</i> (3) <i>Corylus avellana</i> , <i>Populus tremula</i> , <i>Carex</i> spp. <i>Juncus effusus</i> , <i>Prunus spinosa</i> (1-1).
Ornamental plants	46	e.g. <i>Briza media</i> (5), <i>Myosotis</i> sp. (5), <i>Leucjum vernalis</i> , <i>Typha angustifolia</i> , <i>Vinca minor</i> , <i>Viola odorata</i> (4-4).
Ritual use	1	<i>Picea abies</i> (4), <i>Betula pendula</i> (1)

The most important and most diversely utilized folk taxa

Based on the use-value index (UVI) of the 130 folk taxa, and taking into account 1) the diversity; and 2) frequency of their utilization; and 3) the exclusivity of the species' utilization, the most important species (key cultural species) for the Hungarian communities in Slovenia were woody plants (the first six of the species with the highest UVI were woody species). The most important of the woody key species in the region were: the common hornbeam (*Carpinus betulus* [UVI: 84]); the common juniper (*Juniperus communis* [79]), and the silver birch (*Betula pendula* [74.5]). Among the herbaceous plants, the dandelion (*Taraxacum officinale* agg. [UVI: 49]), the common nettle (*Urtica dioica* [39]), and the broadleaf cattail (bulrush) (*Typha latifolia* [36]) were the most important (Table 4).

Other important and valuable uses

Information connected to therapeutic uses in humans and in veterinary health was mentioned in relation to 39 species. Some species were collected in large quantities for selling in bulk, and this was typically a source of income for children. Occasionally, species that were not even used locally were collected, such as lilies of the valley (*Convallaria majalis*), for example: “when I was a little girl, we used to collect the leaves, after it had flowered, and take them home in a wheelbarrow. They could be sold. / BD: Did you use them at home as well? / Well, maybe in a vase at home, or at the cemetery, otherwise no.”¹

Children would eat the nectar from the flowers of the white deadnettle (*Lamium album*) as a treat: “when we were little, we used to pick the flowers and suck them, they were so sweet.”²

Decorative uses (bouquets, dried flowers) were mentioned in connection with 46 species. Among the grass species, mention was made of the use of quaking grass (*Briza media*) as a dried flower, while in the course of our fieldwork we saw purple moor-grass (*Molinia caerulea*) in a vase (no local name) (Figure 2c).

Numerous species of colorful meadow flowers were picked to put in vases. Among them, the use of various species of *Myosotis* can be highlighted: these were not only picked for vases, but were used to create specific arrangements: “you put some cold water in a plate, then you arrange them, one by one, round the edge. Then they stand up by themselves. You can put a smaller vase of forget-me-nots in the middle... It's really pretty.”³

¹ Interviewee G (woman, 1941, Prosenjakovci [Pártosfalva]). Interview was conducted by Daniel Babai (13 08 2019).

² Interviewee A (woman, 1943, Motvarjevci [Szentlászló]). Interview was conducted by Daniel Babai (13 08 2019).

³ Interviewee L (woman, 1933, Motvarjevci [Szentlászló]). Interview was conducted by Daniel Babai (13 08 2019).

Table 4. The 15 most important species in the studied communities with the highest UVI score. In the case of the three most important woody plants (*Carpinus*, *Juniperus*, *Betula*) and the three most important herbaceous plants (*Taraxacum*, *Urtica*, *Typha*), we provide details of the types of use and the UVI calculation. Columns: UV: use value; F: frequency; E: exclusivity; UVI: use-value index (Interview data: letters from A to K: personal codes of the interviewees / gender of participants: F: female, M: male / date of birth / locality / name of the interviewer: BD (Daniel Babai (first author)/date of the interview)

No.	Scientific name	Types of use	UV	F	E	UVI
1.	common hornbeam (<i>Carpinus betulus</i>)	A) Firewood: "the wood's as hard and valuable as beech for burning" (Interview: A/F/1943/Motvarjevci [Szentlászló]/BD/27 09 2019)	4	4	2	32
		B) Farming implements (tool handle): "it had no seam in it. It makes it better for mattock handles and ax handles; in the past, ax handles were always made from hornbeam, rather than other kinds of wood." (Interview: B/M/1950/Prosenjakovci [Pártosfalva]/BD/15 08 2019)	4	4	2	32
		C) Farming implements (wood-splitting tools): "when you need to split beech or hornbeam, and when you set to with the cleaving ax you don't strike it with the other ax, because it ends up deformed. You cut a club from the hornbeam, then you drill a hole in the middle, and you push the handle into it..." (Interview: C/F+M/1957+1950/Szredišće [Szerdahely])/BD/14 08 2019)	4	3	1	12
		D) Sawn timber: "it was also used for planks. It's dreadfully hard to work with if it's dry. It has so many twigs sprouting from it, it's not as smooth as beech." (Interview: A/F/1943/Motvarjevci [Szentlászló]/BD/13 08 2019)	4	2	1	8
Total						84

No.	Scientific name	Types of use	UV	F	E	UVI
2.	common juniper (<i>Juniperus communis</i>)	A) Flavoring for food, special treats (e.g., spices): “the berries were gathered and used in wintertime, at the pig slaughtering; when they made the marinade for the meat, they’d usually add some berries.” (Interview: B/M/1950/Prosenjakovci [Pártosfalva]/BD/15 08 2019)	3	4	2	24
		B) Meat processing (smoking): “lots of people cut it so when they smoked meat in the winter, they could put the meat on it at the end, and the meat would have such a wonderful aroma.” (Interview: D/F/1955/Szediőce [Szerdahely]/BD/16 08 2019)	3	4	2	24
		C) Farming implements (tool handles, especially whip handles): “it would bend without breaking. We used it at home, too, I can still remember. We made whip handles from it...” (Interview: B/M/1950/Prosenjakovci [Pártosfalva]/BD/15 08 2019)	3	4	2	24
		D) Beverage production (homemade liquor): “I make my own Jägermeister. You have to pick the green berries for that.” (Interview: D/F/1955/Szediőce [Szerdahely]/BD/16 08 2019)	3	2	1	6
		E) Medicinal use in humans (for digestive complaints): “It’s a kind of medicinal plant, it’s good for the stomach.” (Interview: A/F/1943/Motvarjevci [Szentlászló]/BD/27 09 2019)	3	1	1	3
Total						81

No.	Scientific name	Types of use					UVI
		UV	F	E		UVI	
3.	silver birch (<i>Betula pendula</i>)	A) Farming implements (twig brooms) (Figure 2a): "it was collected from abandoned places for broom making (...) it made such good brooms" (Interview: D/F/1955/Središće [Szerdahely]/BD/16 08 2019)	3	5	2	30	
		B) Firewood: "it was used for burning in the hearth, so it didn't make any smoke." (Interview: E/F+M/1953+1946/ Prosenjakovci [Pártosfalva]/BD/12 08 2019)	4	1	2	8	
		C) Farming implements (parts for carts): "it was sometimes used to make the shaft for the cart... It's not a hard wood, but it's tough." (Interview: C/F+M/1957+1950/Središće [Szerdahely]/BD/14 08 2019)	4	2	1	8	
		D) Beverage production (birch water): "some kind of dish would be held there for it to flow into. Or the branch would be cut off and some kind of bottle would be hung there." (Interview: E/F+M/1953+1946/ Prosenjakovci [Pártosfalva]/BD/12 08 2019)	4	1	2	8	
		E) Ritual uses (wedding decorations): "if there was a wedding, then thin strands would be plaited and used as a decoration; the leaves were so pretty, it looked so lovely." (Interview: F/F/1933/ Prosenjakovci [Pártosfalva]/BD/12 08 2019)	2	2	2	8	
		F) Household implements (kitchen tools): "it can be used for anything; it was ideal for making cooking spoons." (Interview: G/F/1941/Prosenjakovci [Pártosfalva]/BD/13 08 2019)	2	2	1	4	
		G) Ornamental plant: "when there was a celebration, the trees would be cut to make a kind of decorative archway" (Interview: F/F/1933/Prosenjakovci [Pártosfalva]/BD/12 08 2019)	2	2	1	4	
		H) Other uses (cart lubricant): "otherwise they talked about how they used to make cart grease from the bark. They boiled it somehow because the bark is full of resin." (Interview: C/F+M/1957+1950/ Središće [Szerdahely]/BD/14 08 2019)	3	1	1	3	
		I) Medicinal use in humans (kidney and urinary tract disorders): "the leaves were picked in the spring to make tea for kidney complaints" (Interview: E/F+M/1953+1946/ Prosenjakovci [Pártosfalva]/BD/12 08 2019)	3	1	1	3	
		Total					76

No.	Scientific name	Types of use	UV	F	E	UVI
4.	sessile oak <i>Quercus petraea</i>	Construction wood, firewood, wood for implements, animal fodder (acorn gathering): “they’d gather them, take them home, then use them to feed the pigs in the winter, so the pigs would get fat on them. They’d produce more fatty bacon that way” (Interview: H/F/1965/Prosenjakovci [Pártosfalva]/BD/14 08 2019), animal fodder (leaf fodder), famine food.				67
5.	black locust <i>Robinia pseudo-acacia</i>	Firewood, wood for implements (grape vine stakes), wild edible plants (flowers in pancake batter), medicinal plants, ingredient for beverages (homemade liquor), animal fodder (leaf fodder): “when there was a big drought, when it wasn’t possible to scythe the grass, every day I’d cut some up for the goats, so they’d get a bit of green. I’d cut up the tips of the black locust.” (Interview: E/F+M/1953+1946/ Prosenjakovci [Pártosfalva]/BD/12 08 2019)				60
6.	Scots pine <i>Pinus sylvestris</i>	Construction wood (roofing): “it’s used for construction, for doorposts. For roofing. (...) Down at the bottom too, and the rafters, battens, you know, that hold the roof tiles. That’s all made from pine wood, the whole lot” (Interview: I/F/1944/ Prosenjakovci [Pártosfalva]/BD/14 08 2019), timber, farming implements, use of the resin, medicinal plant: “when those little sap crystals appear in the spring, I pick them off and put them in a jar, like sugar. When the jar’s full, I pour in some fruit brandy. We use it in the winter, to treat coughs” (Interview: A/F/1943/Motvarjevci [Szentlászló]/BD/27 09 2019), for decoration (pine cones at Christmas).				55
		A) Wild edible plants (spring leaves as a vegetable): “The leaves are good to eat, really tasty.” (Interview: D/F/1955/Središće [Szerdahely]/BD/16 08 2019)	3	4	2	24
		B) Medicinal plants for human use (respiratory infections): “you can make honey from the flowers: you boil the flowers and add some sugar, and it’s just like honey.” (Interview: A/F/1943/Motvarjevci [Szentlászló]/BD/27 09 2019)	3	3	2	18
7.	common dandelion <i>Taraxacum officinale</i> agg.	C) Medicinal plants for human use (other uses): “the roots can be used to make tea, and it’s also good if you’re losing your hair.” (Interview: A/F/1943/Motvarjevci [Szentlászló]/BD/27 09 2019)	3	1	1	3
		D) Children’s games: “we mostly used to make necklaces from it, when it flowered.” (Interview: D/F/1955/Središće [Szerdahely]/BD/16 08 2019)	3	1	1	3
		E) Fodder plant: “it’s used mostly for feeding rabbits.” (Interview: B/M/1950/Prosenjakovci [Pártosfalva]/BD/15 08 2019)	2	1	1	1
		Total				50

No.	Scientific name	Types of use	UV	F	E	UVI
8.	<i>common nettle</i> <i>Urtica dioica</i>	A) Wild edible plant (spring leaves as a vegetable): “when it starts to come up in the spring, I make a cream soup from it.” (Interview: A/F/1943/Motvarjevci [Szentlászló]/BD/27 09 2019)	3	3	2	18
		B) Plant protection: “I chop them up [the leaves of the <i>Symphytum officinalis</i>] and soak them in water with the nettles, and it’s really good for watering the plants.” (Interview: E/F+M/1953+1946/Prosenjakovci [Pártosfalva]/BD/12 08 2019)	3	2	2	12
		C) Medicinal plants for human use (other uses): “I pick the nettle leaves to make tea.” (Interview: A/F/1943/Motvarjevci [Szentlászló]/BD/27 09 2019)	3	3	1	9
		D) Medicinal plants for human use (mobility disorders): “you’d pick it, then when you went to bed you’d first hit your legs with the nettles. Of course, when it stung you didn’t feel any pain.” (Interview: C/F+M/1957+1950/Središče [Szerdahely])/BD/14 08 2019)	3	1	1	3
		E) Medicinal plants for human use (other uses): “you have to cook the roots, then if your hair is falling out, you mix it with dandelion and rub it into your scalp.” (Interview: A/F/1943/Motvarjevci [Szentlászló]/BD/27 09 2019)	3	1	1	3
		Total				45
9.	<i>common alder</i> <i>Alnus glutinosa</i>	Construction wood: “it was used in the past for the beams and joints in pigsties. It was cut down, then shaped a little, then put in place as it was, and it would last for ages” (Interview: J/M/1941/Motvarjevci [Szentlászló]/BD/14 08 2019), firewood				44
10.	<i>European beech</i> <i>Fagus sylvatica</i>	Firewood: “it’s best used as firewood; it’s the main wood fuel” (Interview: B/M/1950/Prosenjakovci [Pártosfalva]/BD/15 08 2019), wood for furniture, timber, tool handles, animal fodder (acorns — used very rarely)				41,5
11.	<i>common hazel</i> <i>Corylus avellana</i>	Farming implements (basket weaving): “nice-looking pieces were cut, ones that had no twigs, and it was smoothed (...) and split, and while it was still fresh it was nicely woven. That’s what they called the <i>siřinga</i> [circle] basket” (Interview: C/F+M/1957+1950/Središče [Szerdahely])/BD/14 08 2019), wild edible plants (forest fruits), children’s games, ornamental plant				37

No.	Scientific name	Types of use	UV	F	E	UVI
12.	<i>broadleaf cattail</i> <i>Typha latifolia</i>	Farming implements (other): “the stem is layered inside, so when the wine makers harvested them, they cut them while green, then dried them, and when they siphoned the wine from the barrels, they took out the „window,” then they cut wadding from it, from the bulrushes. The inside was spongy, so they could use it as wadding.” (Interview: C/F+M/1957+1950/Središće [Szerdahely])/BD/14 08 2019) Ornamental plant: “we’d take it inside, and eventually it would burst open, then it would go all over the room.” (Interview: D/F/1955/Središće [Szerdahely])/BD/16 08 2019)	3	4	2	24
		Total				36
13.	<i>Picea abies</i>	Ritual use (Christmas tree), ornamental plant (wreath making): “when wreaths were made, or when we made them, we’d gather the branches. Only they weren’t so good for this, because the needles soon drop” (Interview: G/F/1941/Prosenjakovci [Pártosfalva]/BD/13 08 2019), medicinal plants, animal fodder (leaf fodder)				35
	<i>Lycopodium clavatum</i>	Medicinal plants for human use (wound powder) (Figure 2b): “when my mother was alive, I remember we used to go into the forest just to gather it. We took paper bags with us to put it in, and by the time we got home with it, there’d be a layer of powder at the bottom of the bag. (...) I remember we used to put it on wounds. It was a yellow powder, club moss powder” (Interview: E/F+M/1953+1946/Prosenjakovci [Pártosfalva]/BD/12 08 2019), children’s games: “in the past, all of us children would bring it home and make circlets for our heads. We’d stretch it out until it was about a meter long, then we’d play with it.” (Interview: G/F/1941/Prosenjakovci [Pártosfalva]/BD/13 08 2019)				32
14.	<i>Rosa canina</i>	Medicinal plants for human use, wild edible plants (fruit), children’s games: “we used to gather the rosehips and squeeze them, before they were ripe, you broke them open, smeared it on yourself, and it would sting. Children used to play with them, for example: one child would smear it on another child’s neck.” (Interview: C/F+M/1957+1950/Središće [Szerdahely])/BD/14 08 2019)				32
	<i>Salix viminalis</i>	Farming implements (basket weaving): “at one time, of course, they used to plant it in groves next to the streams for making baskets, when baskets like that were still in use...” (Interview: K/F/1939/Prosenjakovci [Pártosfalva]/BD/13 08 2019)				32
15.	<i>Achillea</i> spp.	Medicinal plants (disorders of the digestive system): “I used to pick it to make tea; the tea’s very bitter, but it’s good for the stomach, so they say” (Interview: C/F+M/1957+1950/Središće [Szerdahely])/BD/14 08 2019), ornamental plant (in vases)				31



Figure 2a. Broom made from birch (*Betula pendula*), Motvarjevci (Szentlászló), Slovenia, 2019. (Photo by Dániel Babai)

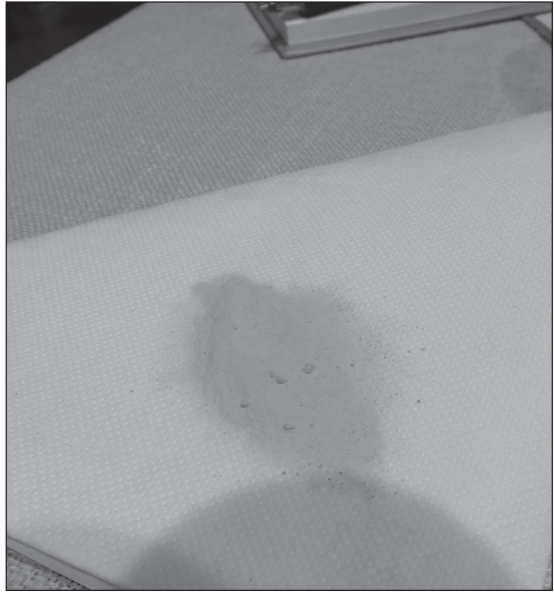


Figure 2b. Spores of the club-moss (*Lycopodium clavatum*), which were once gathered in large quantities for use as wound powder. Središče (Szerdahely), Slovenia, 2018. (Photo by Viktor Ulicsni)



Figure 2c. *Molinia caerulea* used as dried flowers in a home. Prosenjakovci (Pártosfalva), Slovenia, 2019. (Photo by Dániel Babai)

DISCUSSION

Characteristics of traditional ecological knowledge of plants

In the studied region, the number of folk taxa identified to date is relatively low, compared to the flora as a whole (see MOLNÁR – BABAI 2009; MOLNÁR 2011; PÉNTEK – SZABÓ 1985). The reason for this may be methodological (we did not ask about every single species), or it may be due to the erosion of plant knowledge (having conducted interviews with 20 interviewees, it appears that the species knowledge curve is becoming saturated: no new local names were mentioned in response to repeated questions). Based on the interviews, as well as the known ethnobotanical data from the wider region (BAZSIKA 2010; BÖDEI 1943; KARDOS 1943; TÓTH 2009), we estimate that between 80 and 85% of the folk taxa that are still preserved in living memory may have been mentioned.

Forest vegetation was well known — both the vast majority of tree species that form a canopy layer (interestingly, with the exception of maple species, which were known in Göcsej: BAZSIKA 2010; BÖDEI 1943); and species belonging to the shrub layer. Information related to several shrub species was not (yet?) mentioned: species of *Euonymus* and *Cornus sanguineus* (known in Göcsej: BAZSIKA 2010; BÖDEI 1943). Among the species of the herbaceous layer, *Lycopodium clavatum* was well known. Members of the Slovenian population dried and ground not only the spores, but also the above-ground parts of the plant, and used them as wound powder (MLAKAR 2015:89, 364). Most of the interviewees mentioned the dwindling of this species. Both overexploitation and changes in land use were mentioned as reasons for its disappearance. In the botanical literature, the discontinuation of forest litter collection and the resulting changes in the forest soils are primarily blamed for the drastic decrease in the populations of the species (GRUBER et al. 2015:15).

The flora of hay meadows was less well known compared to the plant knowledge of smallholders in Ghimeş (Gyimes), Romania, who are engaged in similar agricultural activities (animal husbandry, hay cultivation) (cf. BABAI et al. 2014; BABAI – MOLNÁR 2016; MOLNÁR – BABAI 2009). The dominant, narrow-leaved species of top grass were not known on species level in either region (in terms of hay making, there is no practical importance in differentiating between species that are ecologically similar). In Ghimeş, the various different top grasses (around 21 species) are classified under one taxon (species group) under the name of *imola* (BABAI et al. 2014; BABAI – MOLNÁR 2016). In the studied villages, the taxon of top grasses has a separate name: *fűj*. Only one species is remarkable from a perceptual point of view — quaking grass (*Briza media*), which has been given a local name in both regions (*poloskafű* [bug grass] in Ghimeş, and *Máriakönnye* [Mary's tears]) in the study area, and is given a distinct name in Trei Scaune (Háromszék) and Gheorgheni (Gyergyó) as well (cf. BABAI et al. 2014; MOLNÁR – BABAI 2009; PÉNTEK – SZABÓ 1976; RAB 2001:208). It was used in Göcsej as a medicinal plant, as well as for predicting a woman's future husband (BÖDEI 1943:81), while in Gheorgheni it was also used as a dried flower (RAB 2001:125, 208). Among the striking flowered species growing in hay meadows, the ragged robin (*Lychnis flos-cuculi*) and the green-winged orchid (*Anacamptis morio*) were well known. The name “*sárga virág*” [yellow flower] for the meadow buttercup (*Ranunculus acris*), which typically grows in large numbers, seems to be fairly consistent (not merely as an adjectival construction), and is an indicator

species forecasting the quantity of hay. Almost everyone was familiar with the great burnet (*Sanguisorba officinalis*), a highly valued fodder plant in the Őrség region, a conspicuous plant that grows in large quantities at the end of the summer, at the time of the second mowing, although it has no name (there was only one mention of a name — *birkabogározó fíjj* — which was not confirmed by any of the other interview subjects).

The weeds associated with arable lands and kitchen gardens were well known. Some of the species (corncockle: *Agrostemma githago*; cornflower: *Centaurea cyanus*; common poppy: *Papaver rhoeas*) were used as ornamental plants (in vases). These species were well known, despite the fact that, because of the intensification of agriculture and the increased use of herbicides, they disappeared almost entirely from arable land decades ago (ŠILC – ČARNI 2005).

Culturally salient species

Interviewees listed the utilization of the 130 folk taxa in a great variety of ways. A significant proportion of the uses are similar to data published in other regions of the Carpathian Basin. The cultural keystone species, as in other, essentially agricultural communities that pursue wild plant gathering merely as a complementary activity, are primarily woody plants, due to the importance of the utilization of timber (PÉNTEK – SZABÓ 1985:159–160; RAB 2001:123–124). The wood of the common hornbeam, silver birch, beech, or oak played a very important role in tool making, as firewood, and as construction materials, etc. in the daily lives of households and farms. With respect to the common juniper (*Juniperus communis*), there were several exclusive uses, where juniper could not be substituted by other species (e.g. the use of Juniper berries as a spice for marinating meats, and the use of the wood for smoking meat or for making whip handles). Its use as a spice and as a medicinal plant was also typical among the Slovenian population (MLAKAR 2015). The silver birch (*Betula pendula*) was utilized with remarkable diversity, having as many as six different uses earlier. Among the farming implements, the making of twig brooms remains important even today. The diversity of its use was also typical of other regions in the Carpathian Basin, such as Transylvania (cf. PAPP et al. 2014b; PÉNTEK – SZABÓ 1985:209; TARISZNYÁS 1978:30–31), while the Slovenians primarily used its sap (MLAKAR 2015; NOVAK 1957). The role played by tree species in medicine and nutrition (e.g. the consumption of the fresh, spring leaves) may have been smaller in the Hungarian communities in Slovenia than in other regions of the Carpathian Basin (DÉNES et al. 2012: 384; PÉNTEK – SZABÓ 1985:112).

The herbaceous plants that played the most important role in the everyday life of the Hungarian community in Slovenia — the common dandelion (*Taraxacum officinale* agg.) and the common nettle (*Urtica dioica*) — were species that were also frequently and diversely used in other regions in the Carpathian Basin (e.g. wild edible plants, medicinal plants, fiber crops) (e.g. GRYNÆUS – SZABÓ 2002:211; HALÁSZ 2010), and were also used by the neighboring Slovenian population (MAKAROVIČ 1988; MLAKAR 2015; PAPEŽ 2010). The importance of the broadleaf cattail (or bulrush: *Typha latifolia*) had increased due to the utilization of its spongy, insulating properties (as in Göcsej — BAZSIKA 2010). In other regions, it was mentioned for its role in the weaving of household implements, as famine food, or in extensive pig rearing (BENCSEK 1973).

The number of species used as ornamental plants was extremely high. The methods used to create arrangements from forget-me-not species (*Myosotis* spp.) are especially interesting for their complexity. The number of medicinal and wild edible plant species is also high (39 in each case) (cf. BABAI et al. 2014; PAPP – HORVÁTH 2013; PÉNTEK – SZABÓ 1976, 1985; RAB 2001). The use of medicinal plants that are still considered important today in the living memory (e.g. species of yarrow [*Achillea* spp.]; common centaury [*Centaureum erythrae*]; and stag’s-horn clubmoss [*Lycopodium clavatum*]) is similar to the official methods of application in the case of *Achillea* (digestive complaints), *Centaureum* (appetite stimulant), and *Betula* (kidney complaints) (cf. DÉNES et al. 2014). Besides these species, in Kardos’s Őrség collection (1943: 82), linden (*Tilia* sp.), caraway (*Carum carvi*), and elder (*Sambucus nigra*) are also highly important medicinal plants. However, we found only sporadic information concerning the medicinal use of these species. On the basis of the accessible regional scientific literature there is no significant change in terms of species of wild edible plants. Among the edible species of the folk taxa that we also explored, Kardos (1943:9–10) mentions in his research in the Őrség region primarily forest fruits (*epörgye* – wild strawberry [*Fragaria vesca*]; *málna* – raspberry [*Rubus idaeus*]; *tüskeszeder* – blackberry [*Rubus fruticosus*]; *seggibugya* [called *csipkénye* by Kardos] rosehip [*Rosa canina* agg.]; *gereginye-tüske* [called *kökin* by Kardos] – blackthorn [*Prunus spinosa*]; *vadalma* – crabapple [*Malus sylvestris*]; *vadkörte* – wild pear [*Pyrus pyraster*]; and *magyaru* – common hazel [*Corylus avellana*]). The use of the bird cherry (*Prunus padus*) and common juniper (*Juniperus communis*) for making fruit brandy (*pálinka*) was not mentioned (cf. KARDOS 1943:10). The single-seeded hawthorn (*Crataegus monogyna*) was not widely known in the Hungarian settlements in Slovenia. At the same time, according to Kardos’s research (1943:10), the red berry of the *Crataegus* (*galagonya*) was known by the name *geleginye* in settlements in the Őrség region, while Bazsika (2010) mentions it by the name of *geregénye* in Gőcsej. In the Hungarian communities in Slovenia, this name (in the form *gereginye*) refers unambiguously and consistently to the blackthorn (*kökény* [*Prunus spinosa*]) (while the name *kökény* is also known), often with a reference to the color: *the gereginye has black or dark blue berries. It’s very sour: it’s only good if it’s been slightly frozen.*⁴

Since a significant proportion of the members of those generations that still possess traditional ecological knowledge no longer have any direct and active connection with the natural environment, it follows that knowledge of plant species, local names, and often the precise ways in which species were once used have been lost from memory. Extensive land use, which György Nemesnépi Zakál referred to in his work on the Őrség region, is now a thing of the past: “I have often observed these ‘Students of Nature,’ who gather seeds, grasses, and roots” (quoted in KARDOS 1943:10). The significance of this lies in the fact that in folk plant knowledge, the examination and observation that take place in the course of practical use give rise to sound species knowledge (among the 122 named taxa found in our documentation, in only 11 cases no information concerning practical use was mentioned) (PÉNTEK – SZABÓ 1976:222).

⁴ Interviewee D (woman, 1955, Središče [Szerdahely]). Interview was conducted by Daniel Babai (16 08 2019).

CLOSING THOUGHTS

While knowledge of nature is fading in human communities with the disappearance of experience and abandonment of land use, the vegetation and the species themselves are changing with changes in land use, and the region's biodiversity is being restructured. However, there are some very knowledgeable people who are willing to help us document that segment of Hungarian folk culture that is becoming a thing of the past, and to contribute to an understanding of our connections with land use and vegetation, preserving the memory of earlier relationships between the landscape and the human population.

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