

## Traditional Use of Medicinal Plants for Respiratory Diseases in Transylvania

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Inhabitants of some Transylvanian farms in Romania have a valuable archaic knowledge of the medicinal plants because of their isolation and insufficiency of official medical treatment. In this work we present several ethnobotanical data about the use of medicinal plant taxa for various respiratory diseases in the villages Lövéte and Nagybacon. People were interviewed with dictaphone, plants were documented by herbaria and photos with the vernacular name, drug part and medicinal use. Among the drug parts the aerial part, flower, cone, leaf, bark, root, bulb, sap, essential oil, fruit and seed were applied in the form of tea, syrup, vinegar, gargle, rinse, liniment or cataplasm for various respiratory diseases. Altogether 34 plant taxa were documented in Lövéte and 26 species in Nagybacon with 15 concordant data of the villages and several unique ethnobotanical values in the settlements, e.g. the fruit vinegar of *Malus silvestris* as cataplasm for cough in Lövéte, or the flower tea of *Rosa gallica* for sore throat in Nagybacon. Our collection work plays an important role in documentation of the disappearing indigenous medical information of the villages.

**Keywords:** respiratory diseases, medicinal plants, Lövéte, Nagybacon, ethnobotanical survey

Traditional ethnobotanical health systems feature special curative methods in several regions of the world. People collect and use plants, animals, human materials and minerals in their environment for various diseases treated with unique methods and terminology [1]. Ethnobotanical surveys summarize and detail the human-plant and human-environment relationships based on the collected data of traditional healing knowledge [2].

Medicinal plants play an important role in the therapy in Transylvania, which has been part of Romania for a long time. The taxa are used for the treatment of various diseases with traditional healing methods by specialists of the country. The first ethnobotanical data about various plants were reported in the 19<sup>th</sup> century from various regions of Transylvania, but only with the vernacular names and habitats of the species, without their traditional usage in the folk medicine. In the middle of the 20<sup>th</sup> century several ethnobotanical studies were launched with data collections presenting numerous scientific descriptions about the Transylvanian plant species with the vernacular and scientific names, used parts and application ways in human and veterinary medicine of the different regions [3-8]. The inheritance of this knowledge about indigenous healing systems is based on two types of transmission. In the vertical type the data are inherited from parent to child opposite to the horizontal

transmission, which can take place among any individuals of the same generation [9].

In Transylvania people speak Hungarian as well as Romanian, which facilitated communication and interaction during our work in spite of the fact of the local dialect. Moreover, they apply several unique formulas, phrases and verbs in the course of plant usage which are unknown in Hungary. The vernacular plant names were applied sometimes to more than one species [10], or to other scientific taxa than in Hungary, necessitating field-based correct plant identification by botanists and special works [11].

In this study ethnobotanical data were collected about the local healing methods involving several medicinal plants in the villages Lövéte [12] and Nagybacon in Transylvania.

In the popular plant nomenclature people often use certain names of habitats, animals, special morphological characters and various illnesses in both villages. They possess a knowledge about the detailed and exact description of plant habitats, which often appears in plant names, e.g. *kőrózsza* – rock rose (*Sempervivum tectorum* L.) or *erdei zsálya* – forest sage (*Salvia glutinosa* L.). In the plant nomenclature names of the affected human organs, e.g. *tiüdőfű* – lung grass (*Agrimonia eupatoria* L.), or

names of animals were found according to use as fodder beside the medicinal effect, such as *tyúkvirág* – hen flower (*Taraxacum officinale* Weber ex Wiggers). In some cases in the local ethnoclassification they apply special characters (colour, shape, odor or taste) of the taxa, e.g. *ragodály* or *kesevűlapi* – sticky or bitter grass (*Arctium*

*lappa* L.) with sticky inflorescence and special taste of leaf, *kék katáng* – blue katáng (*Cichorium intybus* (L.) Spreng.) with blue flowers, *veres kánya* – red kánya (*Viburnum opulus* L.) with red berries, *hegyes* and *széles útilapi* – pointed and wide road grass (*Plantago lanceolata* L., *P. major* L.) according to the leaf shape.

**Table 1:** Medicinal plants used for respiratory diseases in the studied villages

Collection place	Scientific plant name	Hungarian vernacular plant name	Used drug part	Application form	Traditional use
L	<i>Aloe barbadensis</i>	<i>doktorlapi, doktorvirág</i>	leaf sap	in raw form	cough
L	<i>Arctium lappa</i> L.	<i>ragodály, keserűlapi</i>	seed	tea	cough
L	<i>Betula pendula</i> Roth.	<i>nyír</i>	sap ( <i>virics</i> )	drink	cough
L	<i>Brassica oleracea</i> L.	<i>káposzta</i>	leaf sap	in raw form	pneumonia
L	<i>Cichorium intybus</i> (L.) Spreng.	<i>kék katáng</i>	herb	tea	cough
L	<i>Citrus aurantium</i> L.	<i>narancs</i>	essential oil	in raw form	on sugar for cough
L	<i>Citrus limon</i> (L.) Burm.	<i>citrom</i>	essential oil	in raw form	on sugar for cough
L	<i>Dipsacus laciniatus</i> L.	<i>szamártövís</i>	herb	tea	cough
L	<i>Galanthus nivalis</i> L.	<i>hóvirág</i>	flower	tea	with <i>Convallaria majalis</i> for pneumonia
L	<i>Lavandula angustifolia</i> Mill.	<i>levendula</i>	essential oil	in raw form	on sugar with <i>C. limon</i> for cough
L	<i>Malus silvestris</i> (L.) Mill.	<i>vadalma</i>	fruit vinegar	cataplasm	cough
L	<i>Matricaria recutita</i> L.	<i>kamilla</i>	flower	tea	cough
L	<i>Potentilla anserina</i> L.	<i>libapimpó</i>	leaf	tea	cough
L	<i>Quercus cerris</i> L.	<i>cserefa</i>	bark	gargle	throat inflammation
L	<i>Rumex acetosella</i> L.	<i>lósóska, lósódsi, kabalasódsi</i>	herb	cataplasm	pneumonia
L	<i>Satureja hortensis</i> L.	<i>csombor</i>	herb	tea	sore throat
L	<i>Sempervivum tectorum</i> L.	<i>kőrözsa</i>	leaf sap	drink	with <i>Malus silvestris</i> and honey for sore throat
L	<i>Viburnum opulus</i> L.	<i>kányafa, veres kánya</i>	fruit	tea	pneumonia
L	<i>Vitis</i> sp.	<i>szőlő</i>	sticky sap	drink	pneumonia
N	<i>Crataegus monogyna</i> Jacq.	<i>galagonya</i>	flower	tea	cough
N	<i>Daucus carota</i> L. ssp. <i>sativus</i> Hoffm.	<i>murok</i>	root	in raw form	with <i>Armoracia</i> and honey for lung
N	<i>Equisetum arvense</i> L.	<i>fentőfű, zsúrlófű</i>	herb	rinse	throat inflammation
N	<i>Juniperus communis</i> L.	<i>borsika</i>	fruit	tea	asthma
N	<i>Malva neglecta</i> Wallr.	<i>papsajt</i>	herb	tea	larynx inflammation
N	<i>Pinus nigra</i> L.	<i>fekete fenyő</i>	cone	syrup	with sugar for cough
N	<i>Pinus silvestris</i> L.	<i>lucfenyő</i>	cone	syrup	with sugar for cough
N	<i>Plantago lanceolata</i> L.	<i>hegyes útilapi</i>	leaf	tea	cough
N	<i>Rosa gallica</i> L.	<i>selyemrózsa, fátyolrózsa</i>	flower	tea	sore throat
N	<i>Salvia glutinosa</i> L.	<i>erdei zsálya</i>	herb	tea	throat inflammation
N	<i>Tussilago farfara</i> L.	<i>martilapi</i>	flower	tea	asthma
L, N	<i>Agrimonia eupatoria</i> L.	<i>tüdőfű</i>	herb	tea	cough
L, N	<i>Allium cepa</i> L.	<i>piroshagyma</i>	bulb scale	tea	cough
L, N	<i>Armoracia lapathifolia</i> Usteri	<i>torma</i>	root	in raw form	with honey for lung and cough
L, N	<i>Convallaria majalis</i> L.	<i>gyöngyvirág</i>	flower	tea	pneumonia
L, N	<i>Eryngium planum</i> L.	<i>szúrós kotáng/kék tilinkó</i>	herb	tea	cough
L, N	<i>Juglans regia</i> L.	<i>dió</i>	cotyledon	in raw form	cough
L, N	<i>Laurus nobilis</i> L.	<i>babér</i>	leaf	tea	cough
L, N	<i>Origanum vulgare</i> L.	<i>ezerjófű/szűfű</i>	herb	tea	sore throat
L, N	<i>Picea abies</i> (L.) H. Karst.	<i>vörösfenyő/veresfenyő</i>	cone	syrup	with sugar for cough
L, N	<i>Plantago major</i> L.	<i>útilapi/széles útilapi</i>	leaf	tea	cough
L, N	<i>Raphanus sativus</i> L. var. <i>niger</i> J. Kern.	<i>fekete retek</i>	root	in raw form	with honey or sugar for cough
L, N	<i>Salvia pratensis</i> L.	<i>zsálya</i>	flower	tea	throat inflammation
L, N	<i>Sambucus nigra</i> L.	<i>bodza, bojzafa</i>	flower	tea	cough
L, N	<i>Taraxacum officinale</i> Weber ex Wiggers	<i>cikória, láncvirág/tyúkvirág</i>	flower	syrup	cough
L, N	<i>Thymus serpyllum</i> L.	<i>vadcsombor</i>	herb	tea	cough

Collection places: (L) Lövéte, (N) Nagybacon.

Altogether 143 plant taxa were described in Lövété and 169 in Nagybacon, used for various illnesses in the everyday life of people. For different respiratory problems the inhabitants of Lövété use 34 species in the form of tea, syrup, vinegar, gargle, rinse, cataplasm and liniment, as opposed to 26 taxa in Nagybacon for the same diseases and same application forms except of vinegar. The aerial parts, flower, cone, leaf, bark, root, bulb, sap, essential oil, fruit and seed of the plants are used in the villages (Table 1).

From the species applied in the two villages, the following plant taxa can be found also in European Pharmacopoeia 6<sup>th</sup>: *Agrimonia eupatoria*, *Aloe barbadensis*, *Betula pendula*, *Citrus aurantium*, *Citrus limon*, *Crataegus monogyna*, *Equisetum arvense*, *Juniperus communis*, *Lavandula angustifolia*, *Matricaria recutita*, *Origanum vulgare*, *Pinus silvestris*, *Plantago lanceolata*, *Sambucus nigra*, *Taraxacum officinale* and *Thymus serpyllum*. The usage of plants that are not included in the official pharmacopoeia is based on ethnobotanical data reported in several publications with phytochemical and pharmacological results.

In conclusion, we presented 15 concordant data from two Transylvanian villages, as well as 19 unique ethnobotanical values that were documented in Lövété opposite to only 11 unique healing methods in Nagybacon. The usage of medicinal plants as herbal remedies is due to the traditional folk medicinal system in mountains of Transylvania. The local people of the studied villages have a big affinity towards home herbal treatment against different illnesses. The archaic knowledge and medical skills are most likely to disappear in the near future, attributed to the young generation's moving to cities in Transylvania. They leave behind their ancestral practices with plants due to the change of lifestyle and culture, preferring mostly the modern phytotherapeutic methods, so the indigenous knowledge of medicinal plant usage is continuously degrading.

This collection work has a significant role in conservation and documentation of the valuable indigenous curative information of the settlements.

## Experimental

### Collection places

The studied villages in Romania were the following: Lövété in Homoród-valley has about 3500 „székely” inhabitants, its own post office, some shops, one pharmacy and permanent medical service, too. Still, elderly inhabitants know and collect the medicinal plants of their environment from the local flora. Nagybacon with about 2000 inhabitants has had a pharmacy and permanent human and veterinary medical service for about 20 years, but the people use the plants and ancestral practices beside the modern phytotherapeutic methods in their everyday life.

### Plant materials

Medicinal plants and drug parts were collected in the course of several field trips, during which local inhabitants identified the plants according to their traditional knowledge. Plant taxa were identified as species but in some cases only at generic level with the identification key of Király [13], and documented by preparing herbaria [14,15] and about 3000 photos. Voucher specimens of each species have been deposited at the Department of Pharmacognosy at the University of Pécs.

### Data collection and documentation

Altogether 70 inhabitants were interviewed in summers 2008-2010 with dictaphone (Olympus VN-4100 PC, China) in the villages. During the interviews (80 hours) the vernacular names taking into consideration the folk nomenclatural formulas, drug parts, curative power, correct detailed methods of plant usage and the origin of the medical knowledge (e.g. studied, read or heard data) were described in form of handwritten notes according to the „home prescriptions” of the people. The popular names of the plants were written in *italics* according to the special terminology of the inhabitants. Besides the old and valuable knowledge, people read several books on medicinal plants, too. We tried to separate these data from each other and only the elements of inherited knowledge were documented.

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