ETHNOBOTANY AS A TOOL FOR THE SUPPORT OF THE EDUCATION AND THE RECREATION OF THE ELDERLY

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https://doi.org/10.11118/978-80-7701-025-2/0099

Abstract
Ethnobotany offers an opportunity to use local vegetation to promote active movement for the elderly in recreation and education. A walk through selected habitat, combined with plant identification, helps to train concentration and stimulate a human mind. Identifying plant species involves the senses of sight, touch and smell. The use of multiple senses increases sensitivity and interest in the environment while encouraging the natural need to move and discover new information. Correct identification of plant species provides valuable information that is relevant and interesting according to individual preferences of the elderly. Aesthetically attractive and medicinal plants are particularly popular with elderly. Physical exercise, knowledge of plant characters, and the use of the senses motivate memory and recall. The combination of exercise and education is an interesting and valuable recreational option for the elderly.

Key words: vegetation, cultural functions, South Moravia, medicinal plants, active aging

Introduction

The interconnection of biodiversity and human health has been increasingly integrated into a wide range of higher education institutions and educational programmes around the world. Further integration of the bonds between biodiversity and health can be achieved through interdisciplinary collaboration (Cianfagna et al., 2021, Nowysz et al. 2022). In academic curricula, biodiversity is typically included in biology and ecology courses, but also in economics and anthropology (Lewis, Maslin, 2015, Winkler et al. 2022). Educational programmes and courses focused on health can be found in faculties of veterinary medicine, public health, human medicine and applied sciences (Sikkema, Koopmans, 2016).

Learning to identify plant species requires time, patience, and a professional mentor who provides feedback and facilitates an improvement in the given activity (Pearson et al., 2011). Various mobile applications stimulate interest of people in easier plant identification which is also one of their main goals – to motivate the general population to be interested in the environment and its protection (Bonnet et al., 2020). Field teaching confronts students and mentors with different conditions, such as vegetation phenology and seasonal appearance of plant species (Pernat et al., 2023).

In the education of elderly people, the emphasis is placed not only on their needs and interests, but also on their specific desires, concerns, lack of previous experience or physical limitations. Awareness about these needs and motivations is essential during the process of formation of the study programmes. It is also important to create sustainable and long-term implementation of programmess for older adults in subsequent years (Schirmer et al., 2023). The aim of the work was to list plant species that are part of the vegetation of selected vineyards and are interesting for the elderly people involved in the education.

Materials and methods

Selected vineyards, where the fieldwork was performed, are located in Žabčice, situated about 25 km south of the city of Brno in the Brno – rural district. Žabčice is a wine-growing village in the Velkopavlovická wine subregion (vineyard routes: Staré vinohrady; Horní díly; Koválov; Čtvrtky and Zahrádky). The average altitude is 184 m above sea level. The long-term average precipitation is 480 mm. The average annual temperature is 9.2 °C.

The vegetation assessment was carried out using a floristic inventory of the found species. The assessment took place in June 2024. In the selected area of the wine routes, passage routes through the vineyards were determined, and the plant species within these passage routes were recorded.
The Ethnobotany lesson which took place in selected vineyards in June 2024 was given to 35 elderly students. Information was obtained through interviews with the present students. During the lesson, the plant species that aroused the students' interest were noted, as well as the reason why those evoked the interest.

Results

A total of 96 plant species were found on the vineyard routes. The interviews with elderly students provided the information that several groups of plant species were determined as more interesting. These were species as weeds, species with aesthetic flowers, medicinal species, invasive species and also endangered species.
The weed group included: *Ballota nigra, Convolvulus arvensis, Digitaria sanguinalis, Echinochloa crus-galli, Chenopodium album, Portulaca oleracea,*
Setaria pumila.
The following species with aesthetic flowers were included in the group: *Anagallis arvensis, Berteroa incana, Consolida orientalis, Datura stramonium, Dianthus carthusianorum, Echium vulgare, Eryngium campestre, Galium album, Lappula squarrosa, Papaver argemone, Poa bulbosa, Trifolium arvense, Trifolium campestre.*
Following species were included to the medicinal plant species: *Achillea millefolium, Elytrigia repens, Galium verum, Lamium amplexicaule, Plantago lanceolata, Polygonum aviculare, Potentilla erecta, Rosa canina, Rubus* sp.*, Taraxacum* sect. *Taraxacum, Viola arvensis.*
Following species were included to the invasive plant speciesgroup: *Amaranthus retroflexus, Arrhenatherum elatius, Bromus hordeaceus, Bromus sterilis, Bromus tectorum, Calamagrostis epigeos, Cirsium arvense, Conyza canadensis, Dysphania pumilio, Epilobium ciliatum, Erigeron annuus, Robinia pseudacacia, Tripleurospermum inodorum.*
The group of endangered species includes: *Cynoglossum montanum, Filago vulgaris, Lappula squarrosa*, *Melica transsilvanica.*

Discussion

Higher species diversity of vegetation creates a prerequisite for a successful provision of these functions. Vegetation is part of vineyards and performs ecosystem functions, but also cultural services (Fagerholm et al. 2016, Winkler et al. 2023). Vineyard management can change ecosystem services (Winkler et al., 2018, Kopta et al. 2024). The plant species composition of orchard vegetation is crucial for ensuring ecosystem functions (Vignozzi et al. 2019; Pfiffner et al. 2019; Denan et al. 2020; Sofo et al. 2020). Important ecosystem functions in traditionally managed vineyards include the protection of native and rare plant species (Von Hase et al., 2010).
Vineyards represent an ecosystem with fragmented habitats that allow a growth of heterogeneous vegetation. During the aging of vineyards, vegetation changes occur and the dynamics of vineyard ecosystems are evident. Vineyard vegetation serves as a means against the homogenization of the agricultural landscape and enables a permanent coexistence of winemaking and species-rich ecosystems (Hurajová et al. 2024).
Vegetation in the vineyard represents a very interesting educational and recreational space for the education of elderly students. Human senses such as sight, touch and smell are used to identify plant species. From the perspective of elderly peoply, attractive plant species are weeds, invasive species, medicinal plant species and also endangered plant species. Physical movement, learning about plant characteristics and using human senses motivate human memory and evoke memories. Multifaceted stimulation enables a better memorization of new information. Identifying the vegetation of vineyards provokes diverse interactions that are very important in the education of elderly students. The combination of movement and education represents an interesting option for the recreation of elderly people.

Conclusion

Vineyards and wine cellars in South Moravia are frequent destinations for tourists. Interest in wine tourism has been constantly growing, which contributes to the development of tourism and services. However, the diverse vegetation of vineyards also brings new potential to education. Ethnobotany of vineyards offers the possibility of using local vegetation to support active movement of elderly people in recreation and education. Walking through selected sites, combined with recognizing the plants, contributes to training concentration and stimulates human mind.

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Acknowledgement
This research was created within the project: „Mezigenerační STEAM univerzita 2024-2-SK01-KA210-ADU-000285975“

Souhrn
Etnobotanika nabízí možnost využití místní vegetace k podpoře aktivního pohybu seniorů v rámci rekreace a vzdělávání. Procházka vybranými stanovišti, spojená s poznáváním rostlin, přispívá k trénování soustředění a stimulaci lidské mysli. K identifikaci rostlinných druhů jsou zapojeny smysly, jako je zrak, hmat a čich. Zapojení více smyslů zvyšuje vnímavost a zájem o okolí, zároveň podporuje přirozenou potřebu pohybu a objevování nových informací. Správná identifikace rostlinných druhů poskytuje cenné informace, které jsou pro seniory zajímavé a důležité podle jejich individuálních preferencí. Mezi seniory jsou obzvlášť populární esteticky atraktivní a léčivé rostliny. Fyzický pohyb, získávání znalostí o znacích rostlin a využívání smyslů motivuje paměť a vyvolává vzpomínky. Kombinace pohybu a vzdělávání tak představuje zajímavou a hodnotnou variantu rekreace pro seniory.

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