10th Conference on Medicinal and Aromatic Plants of Southeast European Countries

Medicinal plants in the intensively managed agricultural landscape in Pazardzhik-Plovdiv region of Bulgaria

Ina Aneva[1], Ekaterina Kozuharova[2], Peter Zhelev[3], Simeon Lukanov[1], Mariya Peneva[4]

[1]Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Science

[2]Deapartment of Pharmacognosy, Faculty of Pharmacy, Medical University of Sofia, Bulgaria

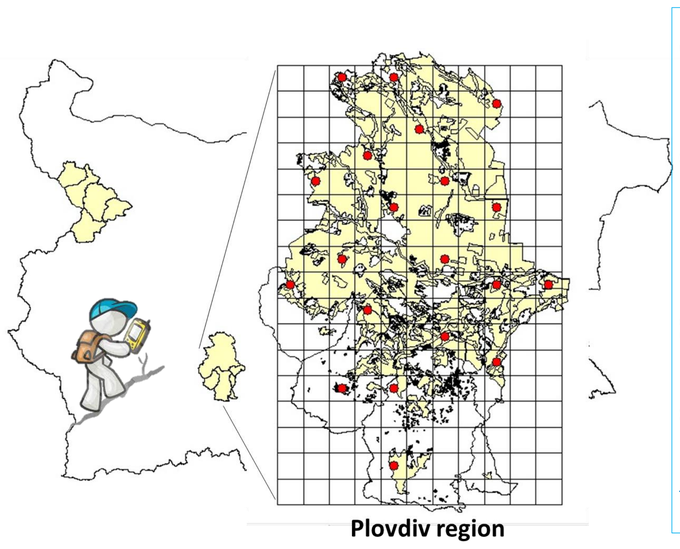
[3]University of Forestry, 10 Kliment Ohridsky blvd., 1756 Sofia, Bulgaria

[4]University of National and World Economy, Sofia

Introduction and aim

Agricultural landscape represents a mosaic of many elements. It is a complex assemblage of agricultural, semi-natural and rural areas. The trend of conversion of the semi-natural areas into agricultural fields, combined with other peculiarities of large-scale agriculture, including using of pesticides, possess a serious threat to the biodiversity in agricultural areas. The objective of present study was to assess the diversity of medicinal plants in the agricultural fields and their peripheral parts in the region of Pazardzhik-Plovdiv. Different types of landuse were included in the study ranging from cereal crops (the predominant type) through horticultural fields to dirt roads.

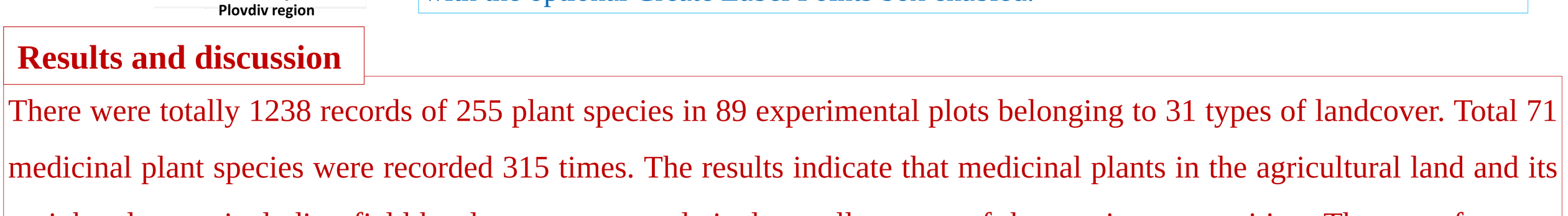
Material and methods



The field survey covered representative parts of Plovdiv-Pazardzhik region (plain and hilly area, situated close to the northern slopes of Rhodopes Mts). The field survey included record in the current situation of land use, its intensity, habitat diversity. Medicinal plant species composition was determined after 1km transects in 20 case study in the region. The case study areas were measured into a 3 km grid selected using the Create Fishnet tool with the optional Create Label Points box enabled.

Results and discussion

There were totally 1238 records of 255 plant species in 89 experimental plots belonging to 31 types of landcover. Total 71 medicinal plant species were recorded 315 times. The results indicate that medicinal plants in the agricultural land and its peripheral parts, including field borders, represent relatively small percent of the species composition. The most frequent were 41 species found in 10% or more of the transects. Only about 22% of these species are medicinal plants. The highest diversity of medicinal plants was recorded in the remnants of woody vegetation (Solitary trees and small groups of trees/bushes), and in fruit tree orchards, representing places that are not subjected to regular soil cultivation. However, the diversity of medicinal plant species in the studied land can be evaluated as relatively low.



One of the most frequent medicinal plants in the studied region: **A.** *Agrimonia eupatoria*; **B.** *Digitalis lanata*; **C.** *Chelidonium majus*; **D.** *Arctium lappa*; **E.** *Alliaria petiolata*; **F.** *Galium verum*; **G.** *Geranium sanguineum*; **H**. *Clinopodium vulgare*, I. *Primula veris*.

Besides the low level of species diversity in the agricultural land, using of pesticides possess a serious obstacle to the use of these species for medicinal purposes.

Acknowledgements:

The support provided by the International Project "BIOGEA" is very much appreciated.