

PARTIAL RESULTS REGARDING THE ACTUAL STAGE OF SPONTANEOUS SPECIES IN DANUBE DELTA, USED AS VEGETABLES AND MEDICINAL HERBS

Margareta Ordean, Victor Popescu, Ruxandra Ciofu

Key words: *alimentary and medical importance, medicinal herbs, alimentary plants*

INTRODUCTION

The corm fits flora in Danube Delta has been concerning many researchers, noting over 300 works referring to different groups of plants: swamp and water plants, ligneous plants, plants that are important for pisciculture, sand plants, etc.

According to these data, within the Delta grow 955 species of spontaneous corm fits, and their number could rise through artificial introduction of other species by human, trough his various interventions, or it could decrease trough the severe alteration of certain biotypes.

Nevertheless the environmental and relief modifications following an unscientific program of economical operation brings the necessity of continuous flora and vegetation study, with an emphasis on the research of species' yearly dynamics. Regarding their multiple ethno botanical utilizations, the studies have been less elaborated both from the fundamental and applied research point of view, on fields of traditional activity.

The vegetables and medicinal herbs are of a special importance for this field, as they have been the object of study since ancient times to the present day. Herbal therapeutics developed these days, successfully proving that medicinal herbs, regardless their origin and systematic position, own their therapeutic actions to one or many chemical materials elaborated by their cells, termed active vegetable elements.

The hereby research represents a section of the study undertaken between 2003-2004, aiming to the identification of species used as vegetables and medicinal herbs among the spontaneous flora in Danube Delta, establishment of biological features for the plants identified on field, establishment of their alimentary and medical importance and the determination of their chemical composition and their content of active elements.

MATERIAL AND METHOD

The actual research of this study was performed within fluvial delta, on the island of Sf. Gheorghe (bordered by Sulina channel and Sf. Gheorghe branch – to the Caraorman banks), a surface of 35700 hectares, within one of its sub-zones – Uzlina,

situated at a distance of only 35 km from Tulcea and 20 minutes away from Murighiol commune, placed on the left shore of Sf. Gheorghe branch, starting with km 68.

Uzlina is situated at a distance of 20 km from Mahmudia by flood, and it consists on a settlement of only a few households, part of Murighiol commune, from wich it is separated by only 6 km by flood.

Thus, field research was undertaken in 2003-2004 on Uzlina AG4 zone territory, aiming to identify, determine, gather and draw botanical and photographic material, and also to estimate the potential of resources in spontaneous plants with vegetable and medical value.

The species of plants used for vegetable and medical purposes were considered both in their natural state pharmaceutically processed out of the spontaneous flora in the studied zone.

The chosen method of field research was the itinerary study and transact method (Ivan, 1979), consisting in the identification and determination of spontaneous plants with vegetable and medicinal value. The determination of these species was done according to the specialized determination tools (SAVULESCU, 1999; CIOCARLAN, 1994; CIOCARLAN, 2000; FISHER, 2002; DRAGULESCU, 1991).

Within the method of field research - itinerary study method – field visits were taken and observations on 4 routes, covering the studied zone. The field visits were taken on different periods of vegetation in order to cover the full floral diversity, respectively from March to September.

In order to determinate the harvestable potential the transact method was used, profiling the species of vegetable and medicinal interest, per surface unit (m²).

The estimation was made visually, taking into account that this resource has no plain growth as in the case of lawns and agricultural plants (when the generalization is possible for the entire surface), encountering clusters or dispersed sites all over the field.

The determination of chemical components and content of active elements was performed in specialized laboratories within the Research Station Stejarul, Piatra Neamț, as a result of drawing fresh and dry materials from the field.

RESULTS AND DISCUSSIONS

The hereby research specifies the partial results of this above mentioned study, obtained as a result of field observation over the period 2003-2004.

Due to those researches, 30 species of medical herbs have been identified in the studied zone, out of which only 10 spontaneous plants could be used as vegetable and medicinal herbs. (table 1) This high number of medical species represents a rich floral diversity in the studied zone, taking into account the actual situation of vegetable and medicinal herbs in Romania's spontaneous flora. Within the frame of biological features, there were presented:

- Frequency (spreading degree): h. frequency – very common, freq. – common, spor. – sporadic, r. – rare, v. rare – very rare

- General spreading (area): centr.Eur. – central European, cosm. – cosmopolitan, circ – circumpolar, euras. – Eurasian, pont. –Pontus Sea side, medit. – Mediterranean

Within ecological features, there were presented: Lifetime (herbaceous plants) and types of ligneous plants.

As for regard to alimentary and medicinal importance, it has been established trough specialized determination tools (SAVULESCU, 1999; CIOCARLAN, 1994; CIOCARLAN, 2000; FISHER, 2002; DRAGULESCU, 1991).

The high content of active elements and the diverse chemical composition proves the rich floral diversity within the studied area, taking into account the actual situation of vegetable and medicinal herbs in Romania's spontaneous flora.

Table 1.

Nr. crt	Species name	Frequency	Area	Lifetime and types of ligneous plants	Flowering period	Alimentary importance	Medical importance
1.	<i>Cichorium intybus</i> L.	spor.	euras.	perennial	VII-IX	very high	very high
2.	<i>Matricaria chamomilla</i> L.	spor.	euras.	annual	V-VI	high	very high
3.	<i>Artemisia absinthium</i> L.	spor.	euras.	perennial	VII-IX	high	very high
4.	<i>Taraxacum officinale</i> Webber ex Wiggers.	spor.	euras.	perennial	IV-VI	very high	very high
5.	<i>Urtica dioica</i> L.	spor.	cosm.	perennial	VI-IX	very high	very high
6.	<i>Capsella bursa-pastoris</i> (L.) Medik	freq.	cosm.	annual, winter annual, hibernate	IV-VII	high	high
7.	<i>Equisetum arvense</i> L.	spor.	cosm.	perennial	III-V	high	very high
8.	<i>Symphytum officinale</i> L.	freq.	euras.	perennial	V-VII	very high	very high
9.	<i>Plantago major</i> L.	spor.	cosm.	perennial	V-VIII	high	very high
10.	<i>Achillea millefolium</i> L.	rare	adventive	perennial	V-VIII	very high	very high

CONCLUSIONS

These partial results prove the fact that Uzlina zone – Danube Delta is an area with rich and various flora, considering the proper climate and edaphic conditions in this area, geographical position of this territory, and its water as the main moderation and shaping agent.

The necessity of this study came into being from the establishment of wealth and variety of spontaneous medicinal and vegetable flora and also its geographical site with a view to confirm the actual presence of medicinal herbs and vegetables species, within the studied area.

At the same time we envisage the set up of protective measures meant to preserve the equilibrium and assure the regeneration of spontaneous plants resources with vegetable and medicinal value, and the need for their preservation

REZUMAT

Cercetările actuale ale acestui studiu s-au efectuat în cadrul deltei fluviale, în insula Sfintu Gheorghe, în subzona Uzlina AG4, având ca scop studiarea zonei din punct de vedere al inventarierii spectrului floristic cu importanță legumicolă și medicinală, al stabilirii caracteristicilor biologice cât și al determinării compoziției chimice și conținutului în principii active al plantelor aflate în studiu.

Observațiile în teren s-au efectuat în perioada 2003-2004, prin două metode de cercetare (metoda studiului pe itinerar și metoda transectelor), având ca rezultat identificarea 10 specii de plante spontane ce pot fi utilizate ca plante legumicole și medicinale.

Acest număr mare de specii reprezintă o diversitate floristică bogată în zona aflată în studiu, având în vedere situația actuală a plantelor legumicole și medicinale din flora spontană a României.

REFERENCES

- BELDIE AL., 1977, 1979 - Flora României, vol. I, II, Editura Academiei RSR, București.
- BOJOR OVIDIU, ALEXAN MIRCEA, 1981 - Plante medicinale – izvor de sănătate, Editura Ceres, București.
- BOJOR OVIDIU, ALEXAN MIRCEA, 1984 – Plante medicinale și aromatice de la A la Z, Editura Recoop, București.
- BUTNARIU H., PETRESCU C., POPESCU V., 1992 - Legumicultură, Editura Didactică și Pedagogică R.A., București.
- BUTURĂ V., 1979 - Enciclopedie de etnobotanică românească, Editura Științifică și enciclopedică, București.
- CIOCARLAN V., 1988 - Flora ilustrată a României, Editura Ceres, București.
- CIOCARLAN V., 1994 - Flora Deltei Dunării, Editura Ceres, București.

8. CIOCÂRLAN V., 2000 - Flora ilustrată a României, Editura Ceres, Bucureşti.
9. CRĂCIUN F., BOJOR O., ALEXAN M., 1976, 1977 - Farmacia naturii, vol. I, II, Editura Ceres, Bucureşti.
10. DRĂGULESCU C., 1991 - Plante alimentare din flora spontană a României, Editura Sport şi Turism, Bucureşti.
11. POPESCU V., 2001 - Legumicultură, vol. II Editura Ceres, Bucureşti.

AUTHORS' ADDRESS

MARGARETA ORDEAN – Eco-Museal Researches Institute, Museum of Natural Sciences “Delta Dunării”, Tulcea, Progresului Street, No 32, Tulcea, România, phone: 0240515866, e-mail: marga_or@yahoo.com

VICTOR POPESCU, RUXANDRA CIOFU, University of Agricultural Sciences and Veterinary Medicine, Mărăşti Street, No 59, sector 1, Bucureşti, România, phone: 0212242576, 0212243617.