

THE MEADOWLANDS FROM THE MIDDLE AND INFERIOR BASIN OF CRIȘUL NEGRU RIVER

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Abstract

The meadowlands from the middle and inferior basin of Crisul Negru river form an area with rich flora and vegetation suitable for a complex fitocenological research and an ecologic and bio-economical study of the floor vegetation. Also, based on these area research results, after carrying out the floristic and fitocenological study of the meadowlands, the possibility to reevaluate their productive potential will be established.

Key words: meadowlands, vegetation, fitocenoses, vegetal associations

INTRODUCTION

The territory chosen for research – the meadowlands from the middle and inferior basin of Crisul Negru river – haven't been thoroughly studied by the floristic and fitocenological specialists, thus there aren't so many scientific releases or communications about the area in discussion.

At the same time, my intention is to establish the possibility to reevaluate the productive potential of the lawns situated in the middle and inferior basin of Crisul Negru river, by repeating fertilizations for a period of 2-3 years, observing how the land responds to the fertilizers used, increasing production by using organic fertilizers and the results obtained, researches related to chemical composition of the biomass in some fitocenoses and mixing the nitrogen, phosphorus and potassium based mineral fertilizers.

MATERIAL AND METHODS

A complex fitocenological research implies a series of materials and equipment for field work in order to obtain as exact data as possible.

The materials and equipment most used in a fitocenological research are the following:

1. A special pattern docket or a field notebook, writing instruments (pencil, eraser) and a digital camera very useful in recording data obtained out in the field.

2. Lay out maps, tourist maps and topographic maps of the surveyed territory, an altimeter, an inclinometer and a compass for orientation purposes.
3. Waste bags and a chisel for taking out the plants used for collection and keeping of the vegetal material.
4. Magnifying glass and soil thermometer for determining the microclimatic profiles.

In cases of vegetation studies, observations and data gathered during field trips constitute the foundation of all future processing and interpretations, reason of which the methods of preparing and developing them must be complex, thorough, scientific and objective.

The methods of vegetation studying are those elaborated by J. Braun-Blanquet (1964), adapted to the particulars of the vegetation from the surveyed zone.

In what the execution of surveys and notations on the analyzed fitocenoses' structure is concerned, both quantitative and qualitative criteria were considered, according to authors Al. Borza and N. Boşcaiu (1965). The quantitative criteria were abundance and dominance according to the combined system of J. Braun-Blanquet, J. Pavillard (1928), supplemented by R. Tüxen (1955) and H. Ellenberg (1963).

After the field research the list of species is drawn up grouped by classes, order, families and ranges alphabetically, specifying the place and habitat where they vegetate, the locality and an ecological summary (bioforms, geo-elements, ecological clues and economic importance). The taxons identified in the field will be harvested and put away for conservation (herborized) and identified by specialty catalogues (acc. to the volumes "Flora României"/Romania's Flora 1952-1976 and "Flora ilustrată a României"/Romania's Illustrated Flora 2003 by V. Ciocârlan, etc.).

Then the fitocenological and bio-economical study of the vegetation from the Crisul Negru river basin will be carried out, by describing the vegetal associations from the mezofile, mezo-higrofite and xero-mezofile lawns from the degraded and sinantropic meadowlands.

The systematic ranging of the fitotaxons from the researched area will be done together with establishing the ecological analysis and the fodder value of each of the species (F₁, F₂, F₃, F₄).

As experiences regarding the productive potential of the meadowlands will be the results obtained in different vegetal associations (e.g. *Anthoxantho-Agrostietum capillaris*, *Agrostietum stoloniferae*, *Agrostio-Festucetum valesiacaе*, *Filagini-Vulprietum*, *Agrostieto stoloniferae-Festucetum pratensis*, *Holcetum lanati*, etc.).

RESULT AND DISCUSSION

During the summer season of 2009 there were 110 surveys carried out in the field on meadowlands vegetation, out of which 81 were done on sunny slopes, 11 on riverside coppices vegetation, 10 on marshes and 8 surveys on bush vegetation.

A number of 280 taxons have been identified, belonging to 50 families (e.g.: *Poaceae*, *Asteraceae*, *Juncaceae*, *Fabaceae*, *Lamiaceae*, *Scrophulariaceae*, *Rubiaceae*, *Apiaceae*, *Convolvulaceae*, *Polygonaceae*, *Ranunculaceae*, *Plantaginaceae*, etc.), respectively to 120 ranges (e.g.: *Agrostis*, *Alopecurus*, *Calamagrostis*, *Bromus*, *Cynosurus*, *Festuca*, *Achillea*, *Lotus*, *Mentha*, *Veronica*, *Galium*, *Seseli*, *Eryngium*, *Polygonum*, *Rumex*, *Ranunculus*, *Plantago*, *Verbascum*, *Daucus*, *Trifolium*, etc.)

CONCLUSIONS

Following the floristic inventory the list of species will be drawn up, containing the identified cormophytes within the chosen geographic territory.

After the fitocenological, ecological and bio-economical study of the floor vegetation from the searched area, a summary of the vegetal associations will be made specifying the characteristics of cenotaxons and the dynamics and succession of the vegetal formations from the meadowlands of the middle and inferior basin of Crisul Negru river.

After completion of floristic and fitocenological study of the lawns, their productive potential development possibilities will be established, together with the specification of the species, fitocenoses and rare ecosystems' protection measures.

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