RESEARCH ON THE VASCULAR FLORA FROM VIIŞOARA MARE AREA - DOLJ (ROMANIA)

CERCETĂRI ASUPRA FLOREI VASCULARE DIN ZONA VIIȘOARA MARE – DOLJ (ROMANIA)

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Abstract*: The studied area is situated at a distance of about 40 km from the city of Craiova, having the following coordinates: N 44*^{0}*14'553" and E 24*^{0}*08'549". In terms of geomorphology, Viişoara Mare locality is situated in the central southern part of the Getic Plateau, at the south-western limit with the Olteț piedmont, at its contact with the Olt corridor. Most of the area is formed of relief units resulted from the action of the hydrographic network and especially of the Teslui stream. A wide variety of flora is present in the studied area due mainly to the variety of soil types in this area. Among the many vascular species there are also rare taxa in the Romanian flora, such as: Lathyrus sphaericus, Oenanthe aquatica, Camelina rumelica, Thlaspi alliaceum and Valerianella lasiocarpa. Muscari neglectum var. sparsiflora is a new variety that was recently described for the science in this part of the country.*
Keywords: flora, rarities, Viişoara Mare, Romania.

Rezumat*: Teritoriul cercetat este situat la o distanță de circa 40 km de municipiul Craiova, având următoarele coordonate: N 44*^{0}*14'553" și E 24*^{0}*08'549". Din punct de vedere geomorfologic, teritoriul localității Viişoara Mare se află aşezat în partea central sudică a podişului Getic, la limita sud-vestică a piemontului Olteţului, în zona de contact a acestuia cu culoarul Oltului. Cea mai mare parte a suprafeței este ocupată de unitați de relief rezultate în urma acțiunii rețelei hidrografice şi în special a pârâului Teslui. Prezența în teritoriul cercetat a unei flore foarte variate se datorează în principal varietății tipurilor de sol din această zonă. Printre numeroasele specii vasculare se numără și taxoni rari în flora României: Lathyrus sphaericus, Oenanthe aquatica, Camelina rumelica, Thlaspi alliaceum și Valerianella lasiocarpa. Tot din această parte a ţării a fost descris de curând o varietate nouă pentru ştiință: Muscari neglectum var. sparsiflora.*
Keywords: floră, rarități, Viișoara Mare, Romania.

INTRODUCTION

The flora and vegetation studies are missing in this part of Oltenia. The main reason for studying this area was the lack of botanical researches and the presence in the Herbarium of the University of Craiova (CRA) of some sheets with rare plants (*Camelina rumelica*, *Oenanthe aquatica* etc.) from this locality, collected by the illustrious professor Al. Buia.

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In terms of geomorphology, Viișoara Mare locality is situated in the central southern part of the Getic Plateau, at the south-western limit with the Olteț piedmont, at its contact with the Olt corridor (Posea, 2002). It has the following coordinates: N 44 ° 14'611 "; E 24 ° 08'155" and 170 m.

The locality is crossed by the Teslui stream in the east, a tributary of the Olt River. This stream has a permanent flow, being near the agricultural land.

Under the influence of environmental conditions, the following soil types were formed and evolved in Viișoara Mare locality: *reddish -brown*, scattered in high fields forming the terrace of the Teslui stream and *brown clay illuvial soils*, scattered together with the *reddish -brown* soils on the interfluvial peaks. There are alluvial soils and alluviums in the floodplain.

MATERIAL AND METHOD

As in any research of this type, the first step was the documentation on the territory that was to be studied. When the literature data are absent, as in this case, there have been studied papers that presented similar areas to that investigated by us (Buia et al., 1952, Cârțu et al., 1972, Dihoru et al., 1970, Păun, 1965, Păun et al., 1980).

After the documentation, numerous field trips were made in different time intervals to capture the vegetation in all phases and to collect suitable material to allow subsequently an accurate identification.

The identification was made using the Romanian and foreign literature (Beldie 1977, 1979, Ciocârlan, 2009, Tutin et al., 1972). The authors' abbreviations of the identified species in the studied area were made after Brummitt and Powell (1992).

RESULTS AND DISCUSSIONS

Following the researches performed in the Viișoara Mare area a floristic list formed of 141 vascular species was constituted. Some of them are characteristic to the cerris and Hungarian oak forest on the plateau of the studied area, others to the meadows and shrubs situated nearby and other category to the cultivated lands in the floodplain of the Teslui stream that crosses this area.

Their presentation is made in alphabetical order to ease the finding of a taxon by those who are interested, the systematic classification is known from the literature:

Acer campestre L. – Field Maple, Ph., Eur.; *Acer tataricum* L. – Tatarian Maple, Ph., Euras. cont.; *Adonis aestivalis* L. Summer pheasant's-eye, T., Euras. cont.; *Agrimonia eupatoria* L. H., Euras.; *Agrostemma githago* L. – Common corncockle, T., Cosm.; *Ajuga reptans* L. – Common bugle, H., Eur.; *Alopecurus pratensis* L. subsp. *pseudonigricans* O. Schwarz – H., Euras.; *Alyssum alyssoides* (L.) L. – Pale alyssum, T.-Ht., Euras. cont.; *Anthemis austriaca* Jacq. – T., Centr. eur. pont.; *Arabidopsis thaliana* (L.) Heynh. – Mouseear cress, T.-Ht. Cosm.; *Arctium lappa* L. Ht., Euras.; *Arenaria serpyllifolia* L. – T., Circ.; *Arum orientale* M. Bieb. – G., Pont.-pan.-balc.; *Asparagus tenuifolius* Lam. – Asparagus, G., Pont.-medit.; *Brachypodium sylvaticum* (Huds.) Beauv. – H., Euras. (submedit.).; *Camelina rumelica* Velen. – T., Pont.-medit.; *Cardaria draba* (L.) Desv. – H., Euras. (medit.); *Carex brizoides* L. – G., Centr. eur.; *Carex caryophyllea* Latourr.

–Spring Sedge. G., Euras. (submedit.); *Carex tomentosa* L. – G., Euras.; *Carlina vulgaris* L. – Carline thistle, Ht., Euras.; *Centaurea apiculata* Ledeb. subsp. *spinulosa* (Rochel) Dostál – H., Centr. and SE Eur.; *Centaurea cyanus* L. – Garden cornflower, T.-Ht., Medit., nowadays Cosm.; *Cephalaria transylvanica* (L.) Roem. et Schult. – Ht., Pont.-medit.; *Cerastium glomeratum* Thuill. – T., Cosm.; *Cerasus avium* (L.) Moench.- Sweet cherry, Ph., Submedit.; *Cerinthe minor* L. – T.-Ht., Centr. eur. medit.; *Chamaecytisus albus* (Hacq.) Roth. – Drob. Ph., Pont. pan. balc.; *Cirsium arvense* (L.) Scop. – Canada thistle, G., Euras.; *Clinopodium vulgare* L. – H., Circ.; *Conyza canadensis* (L.) Cronquist – T., Adv. (North Am.); *Convolvulus arvensis* L. – G.(H.), Cosm.; *Cornus sanguinea* L. subsp. *australis* (C.A.Mey.) Jáv. – Bloodtwig dogwood, Ph., Daco.-balc.-pan.; *Cornus mas* L. – European Cornel, Ph., Pont.-medit.; *Corydalis solida* (L.) Clairv. – G., Eur.; *Crataegus monogyna* Jacq. – Oneseed hawthorn, Ph., Euras.; *Cruciata laevipes* Opiz – Smooth bedstraw, H., Euras.; *Cruciata pedemontana* (Bellardi) Ehrend. T., Submedit.; *Cydonia oblonga* Mill. – Quince, Subspontan. Ph., SW As.; *Descurainia sophia* (L.) Webb ex Prantl – Herb Sophia, T.-Ht., Euras.; *Digitalis lanata* Ehrh. – Grecian foxglove, Ht.-H., Balc.-pan.; *Dorycnium herbaceum* Vill. Ch., Centr and SE Eur..; *Draba muralis* L. - T.-Ht., Eur.; *Erigeron annuus* (L.) Pers. subsp. *strigosus* (H.L. Muhl. ex Willd.) Wagenitz – T., Ht., H., Adv. (North Am.); *Erodium cicutarium* (L.) L'Hérit – T., Cosm.; *Eryngium campestre* L. – Field eryngo. H., Pont.-medit.; *Euphorbia cyparissias* L. – H., Euras.; *Euphorbia salicifolia* Host – H., Pont.-pan.; *Euphorbia virgata* Waldst. et Kit. – H., Euras.-cont.; *Falcaria vulgaris* Bernh. – Sickleweed Ht. (T., H.), Euras. (submedit.); *Festuca heterophylla* Lam. - H., Centr.-eur.-submedit.; *Fragaria vesca* L. – Wild strawberries, H., Euras.; *Fragaria viridis* (Duchesne) Weston – Woodland strawberry, H., Euras.; *Fraxinus ornus* L. – South European Flowering Ash, Ph., Submedit.; *Galium aparine* L. – Stickywilly T., Circ.; *Galium glaucum* L. – H., Centr.-eur.-submedit.; *Galium rubioides* L. – European Bedstraw gaillet, H., Centr.-eur.; *Galium verum* L. Yellow Spring, bedstraw Lady's Bedstraw, H., Euras.; *Genista tinctoria* L. – Dyer's greenweed, Ch., Euras.; *Geranium dissectum* L. – T., Euras.; *Geum urbanum* L. – Wood Avens, H., Circ.; *Glechoma hirsuta* Waldst. et Kit. – H. (Ch.), Pont.-medit.-centr.-eur.; *Hieracium bauhinii* Schult. – H., Central and Eastern Eur.; *Hypericum perforatum* L. - St. John's wort, H., Euras.; *Lamium purpureum* L. – Purple deadnettle, T., Euras.; *Lathyrus niger* (L.) Bernh. – G., Central Eur.; *Lathyrus pratensis* L. – Meadow pea, H., Euras.; *Lathyrus sphaericus* Retz. T., Medit.; *Lepidium campestre* (L.) R. Br. – Field Pepperwort, T.-Ht., Eur.; *Ligustrum vulgare* L. – Ph., Eur. (submedit.).; *Linaria genistifolia* (L.) Mill. – H., Cont.-euras.; *Lithospermum arvense* L. – Field gromwell, T., Euras.; *Lithospermum purpurocaeruleum* L. – Purple gromwell, H.-G., Submedit-centr. Eur.-centr.-submedit.; *Lychnis coronaria* (L.) Desr. – Rose campion, H., Centr. SE Eur.; *Lysimachia nummularia* L. – Creeping jenny, Ch., Euras. North Am.; *Matricaria perforata* Merat –Scentless Chamomile, T.-Ht., Euras.; *Medicago minima* (L.) L. – T., Submedit.; *Muscari neglectum* Guss. ex Ten. var. *sparsiflora* Răduțoiu – G., Submedit.; *Myosotis stricta* Link ex Roem. et

Schult. T., Euras.; *Nonea pulla* (L.) DC. — H., Central and South Eastern Eur.; *Oenanthe aquatica* (L.) Poir. – fineleaf waterdropwort, Hd., Euras.; *Ornithogalum boucheanum* (Kunth) Asch. – G., Pont.-pan.-balc.; *Ornithogalum umbellatum* L. – G., Submedit.-centr.-eur.; *Papaver dubium* L. – Opium poppy, T., Eur.; *Plantago media* L. – H., Euras.; *Poa bulbosa* L. – Bulbous bluegrass T.-H., Cosm.; *Poa nemoralis* L. – H., Circ.; *Poa pratensis* L. – H., Circ. (nowadays Cosm.); *Polygonatum latifolium* (Jack.) Desf. – G., Pont.-pan.-balc.; *Potentilla argentea* L. – Silver cinquefoil, H., Euras.; *Potentilla micrantha* Ramond ex. DC. – H., Centr.-eur.-submedit.; *Potentilla recta* L. – Sulphur cinquefoil, H., Euras.; *Prunella vulgaris* L. – H., Cosm.; *Prunus spinosa* L. – Ph., Eur.; *Pyrus pyraster* (L.) Burgds. – Wild pear, Ph., Eur.; *Quercus cerris* L. – Cerris, Ph., Submedit.; *Quercus frainetto* Ten. – Hungarian Oak, Ph., Balc.; *Ranunculus arvensis* L. – Corn buttercup, T., Euras.; *Rorippa sylvestris* (L.) Bess. – Creeping yellow cress, H., Euras.; *Rosa canina* L. – Ph., Eur.; *Rosa gallica* L. – French rose, Ph., Pont.-medit.; *Rubus canescens* DC. - Ph., Centr.-eur.-medit.; *Salvia nemorosa* L. – Woodland sage, H., Pont.-medit.-centr.-eur.; *Sambucus ebulus* L. – Dwarf elderberry, H., Euras. (submedit.); *Sanguisorba minor* Scop. – Small burnet, H., Euras.; *Scorzonera cana* (C.A. Mey.) Hoffm. – G., Pont.-medit.; *Scutellaria altissima* L. – Tall skullcap, H., Pont.-medit.; *Sedum maximum* (L.) Hoffm. – Stonecrop, H., Eur.; *Senecio vernalis* Waldst. et Kit. – T., Euras.-cont.; *Silene vulgaris* (Moench) Garcke – H., Euras.; *Sisymbrium altissimum* L. – T.-Ht., Euras.-cont.; *Stellaria media* (L.) Vill. –Common chickweed, T.-Ht., Cosm.; *Tanacetum corymbosum* (L.) Sch.-Bip. –Corymbflower tansy, H., Euras.; *Taraxacum officinale* Weber ex. F.H. Wigg. - H., Euras.; *Teucrium chamaedrys* L. – Wall germander, Ch., Central Submedit Eur.; *Thlaspi arvense* L. – T.-Ht. Euras.; *Thlaspi perfoliatum* L. – T.-Ht. Euras.; *Thesium dollineri* Murb. T.-H. Balc.-pan.; *Thymus pulegioides* L. – Ch., Eur. (mont.); *Tilia tomentosa* Moench - Ph., Balc.-pan.; *Ulmus glabra* Huds. – Wych elm, Ph., Euras.; *Valerianella lasiocarpa* (Steven) Betcke (Oprea A., 2005) – T. Balc.-pan.-anat. (fig. 1);

Fig. 1 - *Valerianella lasiocarpa* (Steven) Betcke - a detail of the inflorescence (orig.)

Valerianella locusta (L.) Laterr. em. Betcke – T., Eur.; *Verbascum phlomoides* L. – Ht., Central and South Eastern Eur.; *Verbascum phoeniceum* L. – Purple mullein, H., Euras. cont.; *Verbascum nigrum* L. – Black mullein, H., Euras.; *Veronica arvensis* L. – T., Euras.; *Veronica chamaedrys* L. – Germander

speedwell, H.-Ch., Euras.; *Veronica hederifolia* L. – Ivyleaf speedwell, T., Euras.; *Veronica jacquinii* Baumg. – H., Pont.-centr.-eur.-medit.; *Veronica polita* Fr. – T., Euras.; *Veronica serpyllifolia* L. – H., Cosm.; *Vicia grandiflora* Scop. – T., Pont.-balc.-cauc.; *Vicia lathyroides* L. – T.-Ht., Eur.; *Viola arvensis* Murray – European field pansy, – T., Cosm.; *Viola canina* L. subsp. *ruppii* (All.) Schübl. et G. Martens – H., Euras.; *Viola elatior* Fr. – H., Euras.; *Viola tricolor* L. var. *lutea* Peterm. – T.-Ht., Euras.; *Xanthium italicum* Moretti – Canada cocklebur, T., South Eur.; *Xeranthemum cylindraceum* Sibth. et Sm. – T., Pont.-medit.

After the spectrum analysis of geoelements there can be seen the high percentage of southern elements (Pontic, Mediterranean and Balkan), and the Eurasian species (fig. 2).

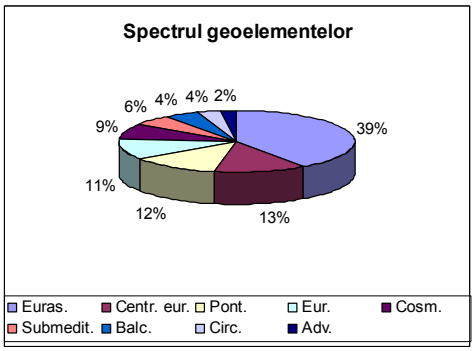

Fig. 2 - The geoelements spectrum (orig): Euras. – Eurasian, Centr. Eur. - Central Europe, Pont. - Pontic, Eur. – European, Cosm. - Cosmopolite, Submedit. - Submediterranean, Balc. - Balkan, Circ. - Circumpolar, Adv. - Adventive

The high percentage of hemicriptophytes (H) is explained by their presence in large numbers in meadows, plus those within the forest. The good representation of annual species is due to the presence of cultivated and heathed lands near the Teslui stream (fig. 3).

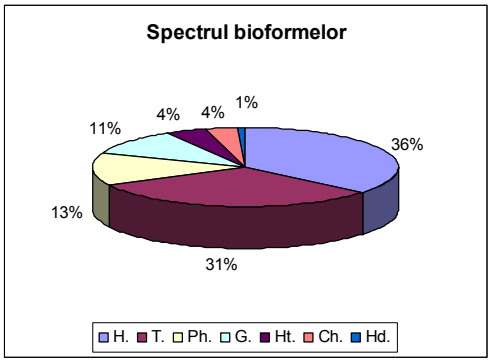

Fig. 3 - The bioforms spectrum (orig): H. - hemicryptophytes, T. - terophytes, Ph. - Fanerophytes, G. - geophytes, Ht. - Hemiterophytes, Ch - camephytes, Hd. - Hydrophytes.

Unlike other regions of the country where although the number of fanerophytes (Ph.) is low, in this area they give the physiognomy of those places by the large number of specimens, the fanerophytes having a good representation both in number of species and specimens compared to the studied surface.

CONCLUSIONS

The studied area has a high floristic diversity (141 species). This is explained by the presence of cerris and Hungarian oak forest on the plateau, of hawthorn and blackthorn shrubs on slopes and of xeric meadows and cultivated and heathed lands situated near the main water source area (the Teslui stream).

The aim of our researches represented by filling in a gap on the floristic map of Oltenia and to make additions to the knowledge of the area of some taxa, was fulfilled.

A new taxon *Muscari neglectum* Guss. ex Ten. var. *sparsiflora* (Răduțoiu, 2011) for science was identified in this part of the country.

Numerous specimens of rare species were also found in the flora of Romania: *Lathyrus sphaericus*, *Camelina rumelica*, *Oenanthe aquatica*, *Valerianella lasiocarpa* and new chorological data are added to some taxa of which the growing area is not known in this part of the country (*Alopecurus pratensis subsp. pseudonigricans, Nonea pulla and Thesium dollineri*).

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