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# THE SUB-PANNONIC STEPPIC GRASSLANDS FROM LIPOVU (DOLJ), ROMANIA

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## ABSTRACT

*The present paper proposes the phytosociological framing of the vegetation of grassland from Lipovu (Dolj County) and the attribution of the occupied surfaces to habitats of community importance, brings the necessary arguments for the protection of this grassland and management proposals. Also, indicates the presence of a rare species from Romania's flora (Colchicum arenarium) in this phytosociological context.*

## INTRODUCTION

We researched the area to identify the plant context in which the species *Colchicum arenarium* grows.

In Romania, *Colchicum arenarium* species is present in the following localities:

- Lipovu, Dolj County, collected by I. Serbanescu in 1965, described by Zahariadi (1966) and mentioned again in Doltu et al. 1983 and Morariu et al. 1969. Over 48 years, Alexandru Bădărău identifies the species immediately to the east from the Lipovu de Sus village, on the upper part of Desnățui river terrace (27th and 28th of September 2013) (Flora virtualis Romaniae-Flora of Romania on-line).

- Moldova Veche (on the Movilă), island in the Danube, Caraș-Severin County, indicated by Morariu et al. (1969). Alexandru Badarau checked this location in September 2013 but did not find the species (Flora virtualis Romaniae-Flora of Romania on-line).

- Desa-Nebuna, Dolj County, to the SSE, near Popii Lake close to the Danube shore according to Negrean 1979 (Dihoru & Negrean 2009), Negrean 2004 (Oprea 2005).

The paper presents new data on the vegetation in the area. For this, we recorded the current species composition of the xerophilous communities and assigned the relevés to plant associations, which in turn we assigned to a Natura 2000 habitat.

The 6240* Sub-pannonic steppic grasslands - R3414 Ponto-Pannonian grasslands of *Festuca valesiaca* - according to the classification PAL.HAB: 34.911 Pannonic loess steppes. Gafta et al. (2008), place R3414 both at 6240* and at 6250 Pannonic loess steppic grasslands, habitat with uncertain presence in Romania.

Ponto-Pannonian grasslands of *Festuca valesiaca* are very widespread in Oltenia and in Romania - occupying surfaces spread out in all regions of the country, on flat land as well as with a slight incline, sometimes even on steep slopes.

## MATERIAL AND METHODS

We carried out the research on the inventory of natural habitats in the period 2014-2024.

We identified plant species using the specialized guidebooks in the country (Ciocârlan 2009, Săvulescu 1952-1976, Sârbu et al. 2013).

The plant nomenclature follows Euro+Med (2006- ).

I studied vegetation using the of Central-European geobotanical school of surveying the vegetation [Braun-Blanquet Central European School/School Zürich-Montpellier (Braun-Blanquet 1964)]. The phytocoenological framing of the vegetation mainly according to Coldea et al. 2012 and Chifu (ed.) et al. 2014.

Analyzing the flora of each wetland, we classified the vegetation in the Romanian habitat type (Doniță et al. 2005, 2006); then we assigned these habitats to a Natura 2000 habitat (Gafta & Mountford 2008).

**The studied area**

The researched area is located in the Desnătuiului Plain, a plain formed almost entirely from the Danube terraces. The investigated slope is located between Lipovu de Sus and DJ561F. This slope is in a moderate-strong erosion stage due to surface erosion and fluvial erosion.

Loessoid deposits cover the gravels and sands of the Frătești formation.

The soils in the area are reddish-brown argilloiluvial, weakly podzolized. The meadows in the area are secondary, strongly stepped.

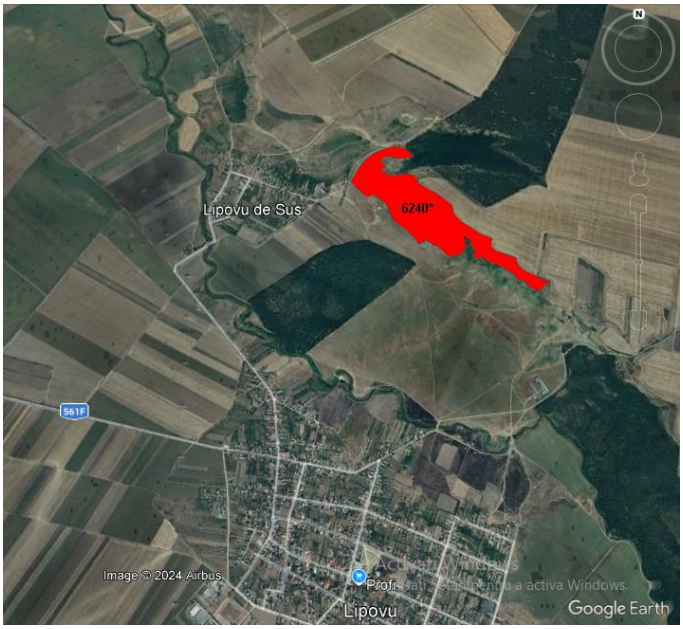


Figure 1. Survey area and 6240* habitat location

## RESULTS AND DISCUSSIONS

**List of species**: *Achillea millefolium*, *A. setacea, Artemisia campestris* subsp. *campestris*, *Adonis vernalis*, *Ajuga chamaepitys* subsp. *chia*, *Anchusa officinalis, Arenaria serpyllifolia, Artemisia pontica, Asparagus tenuifolius, Asperula cynanchica*, *Astragalus onobrychis*, *Atriplex tatarica, Berteroa incana*, *Botriochloa ischaemum*, *Carduus acanthoides*, *Carthamus lanatus*, *Centaurea solstitialis, Centaurea stoebe*, *Chrysopogon gryllus*, *Cirsium arvense*, *C. creticum* subsp. *creticum*, *Clinopodium acinos*, *Colchicum arenarium*, *Consolida regalis* subsp. *regalis*, *Convolvulus cantabrica*, *Crataegus laevigata*, *Cynodon dactylon*, *Daucus carota* subsp. *carota*, *Eragrostis minor* subsp. *minor*, *Echinops exaltatus*, *Equisetum telmateia*, *Eryngium campestre*, *Euphorbia cyparissias*, *Festuca valesiaca*, *Fragaria vesca*, *Galium verum* subsp. *verum*, *Helleborus odorus* subsp. *odorus*, *Heliotropium europaeum*, *Hypericum perforatum* subsp. *perforatum*, *Linaria genistifolia* subsp. *genistifolia*, *Lomelosia argentea*, *Medicago minima*, *Odontites vernus*, *Onopordum acanthium*, *Pimpinella saxifraga*, *Plantago lanceolata*, *Portulaca oleracea*, *Pulicaria dysentherica*, *Salsola tragus* subsp. *tragus*, *Salvia aethiopis*, *Scleranthus annuus* subsp. *annuus*, *Securigera varia*, *Setaria verticillata*, *Solanum nigrum* subsp. *nigrum*, *Sonchus asper* subsp. *asper*, *Stipa capillata*, *Teucrium capitatum* subsp. *capitatum*, *T. chamaedrys* subsp. *chamaedrys*, *Thymus pulegioides* subsp. *pannonicus*, *Trifolium arvense*, *T. fragiferum*, *Taraxacum officinale*, *Taeniatherum caput-medusae* subsp. *asperum*, *Verbascum speciosum* subsp. *speciosum*, *Xanthium spinosum*, *X. strumarium*, *Xeranthemum annuum*.

**The habitat of community interest** in which vegetation from the researched area falls is 6240* Sub-pannonic steppic grasslands - R3414 Ponto-Pannonian grasslands of *Festuca valesiaca* - represented by ass. Medicagini minimae - Festucetum valesiacae Wagner 1941.

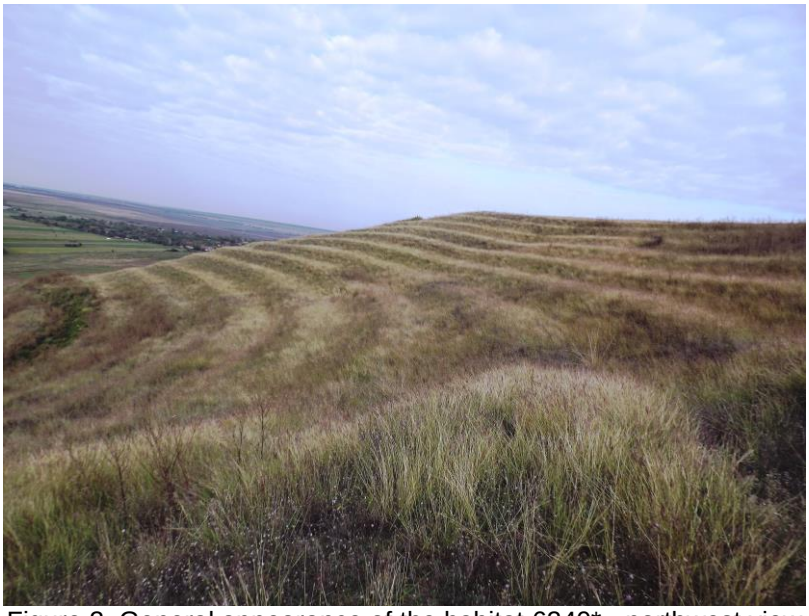

Figure 2. General appearance of the habitat 6240* - northwest view

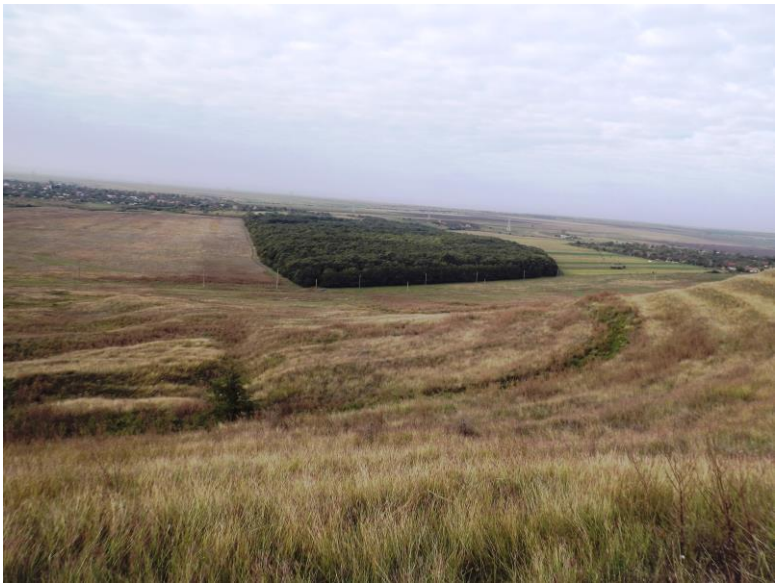

Figure 3. General appearance of the habitat 6240* - central area

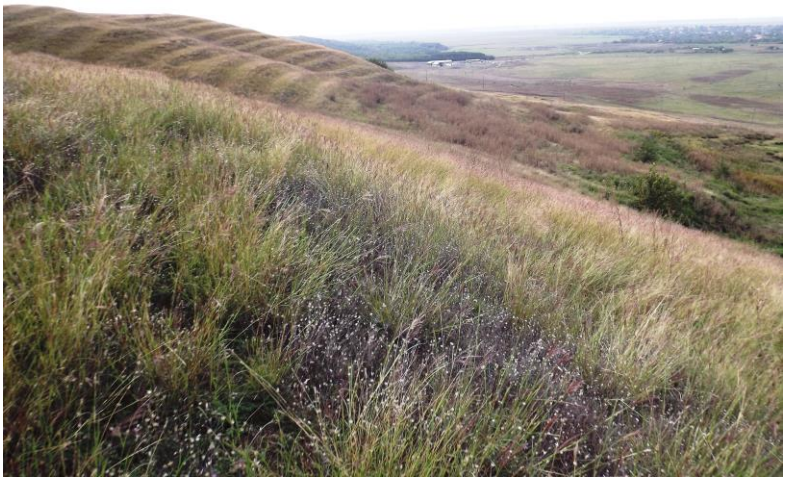

Figure 4. General appearance of the habitat 6240* - southeast view

Coldea et al. (2012) synonymized the ass. Medicagini minimae - Festucetum valesiacae Wagner 1941 with Botriochloetum ischaemi Pop 1941, association that builds the habitat R3415 Ponto-Balcanic grasslans of *Botriochloa ischaemum* and *Festuca valesiaca*, habitat that Doniță et al. (2025) do not assign it to any Natura 2000 habitat due to the fact that the building association is anthropogenic.

On the largest analyzed surface, vegetation has degraded due to grazing and, in addition, the action of the slope torrents. This reason, the pressures on habitat 6240 are as follows:

A04.02.05. Non-intensive mixed livestock grazing.

I01 Non-native invasive species (allogeneic): *Atriplex tatarica. Portulaca oleracea, Xanthium strumarium, Xanthium spinosum.*

I02 Problematic native (indigenous) species: *Carduus acanthoides*, *Cirsium arvense*, *Daucus carota* subsp. *carota, Onopordum acanthium*.

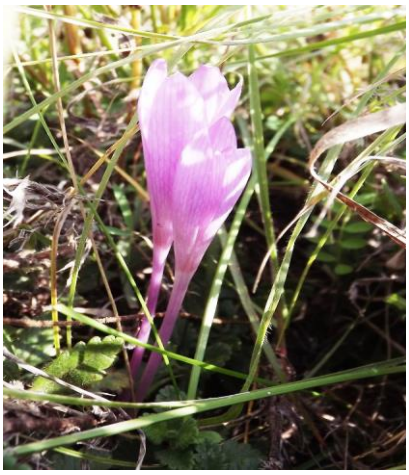

Figure 5. *Colchicum arenarium* – an autumn appearance

*Colchicum arenarium* (Sand saffron) is a perennial flowering plant species endemic to Pannonian region, especially to Hungaria, with only single localities in Slovakia. 1–3 localities reported from Romania (Continental region) and according to the EU Red List the situation similarly in Ukraine, Moldova, Serbia and Croatia. Sand saffron is assessed Least Concern (LC) in the EU Red List (Report under the Article 17 of the Habitats Directive).

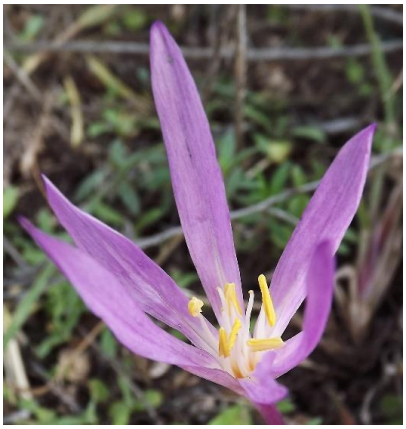

Figure 6. Flower detail

Figure 7. Capsule detail

## CONCLUSIONS

The described area conserves:

- a significant population of *Colchicum arenarium*, species present only in Caraș-Severin County (Ostrovul Modova Veche, at Movilă) and Dolj County: Lipovu, at Desnățuiului Valley; south-southeast from Desa, near Lacul Popii, close to the Danube;
- a habitat of community interest: 6240* Sub-pannonic steppic grasslands.

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