

## ***IRIS PONTICA* ZAPAL. IN MOLDOVA’S FLORA (ROMANIA)**

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**Abstract:** The paper points out the presence of *Iris pontica* Zapal. in Moldova’s territory (Romania), tracking at the same time the species distribution in Romania, using herbarium materials and existing bibliographic sources. The plant association in wich *I. pontica* had been identified is Taraxaco serotinae – Festucetum valesiacaе.

**Keywords:** *Iris pontica*, rare species, chorology, Moldova, SCI Movila lui Burcel.

### **Introduction**

*Iris pontica* Zapal. (*Iris humilis* M. Bieb., non Georgi) is a perennial (geophyte), with a simple stem, 1-4 cm long (without the flower). Bazal leaves 10-45 cm x 2-5 mm. Membranaceous spathes. Flowers solitary, purplish, variegated with white, yellow, or brown. Falls 45-55 x 15-18 mm; limb obovate-orbicular; claw spathulate, as wide as the limb. Standards 35-50 x 8-12 mm, oblanceolate. The upper portion of the ovary, sterile, forming a rostrum 18-25 mm long. Ellipsoidal capsule, with six inconspicuous longitudinal ridges (Webb and Chater, 1980).

It is a heliophytic species, xeromezophytic, growing on dry neutral soils, on sunny meadows from the oak floor to the sessile oak floor (Dihoru and Negrean, 2009; Ciocârlan, 2009; Sârbu et al., 2013).

*I. pontica* is a Pontic, continental element, the geographical area of this species spreading from Transylvania (Romania) to Central and South-Western Asia (Webb and Chatter, 1980; Dihoru and Negrean, 2009). It is mentioned on the Moldova Republic’s territory (Webb and Chatter, 1980; Negru et al., 2002 - as endangered species), Ukraine’s territory (Webb and Chatter, 1980; Mosyakin and Feredonchuk, 1999 - as vulnerable species). It is also considered vulnerable in the South-Western Russia (Stavropol Territory - Shevchenko, 2002).

In Romania’s flora, *I. pontica* is a rare species (Oprea, 2005; Ciocârlan, 2009), found in the Red list of superior plants from Romania (Oltean et al., 1994), placed in the rare and vulnerable zoological category (V/R) as well as in the Red book of vascular plants from Romania (Dihoru and Negrean, 2009), in the critically endangered category (CR).

On Romania’s territory, *I. pontica* had been signaled only in Transylvania, in Bistrița-Năsăud, Cluj, Mureș and Sibiu counties (Oprea, 2005; Dihoru and Negrean, 2009).

From the phytocoenological point of view, it is a steppic species, typical of Festuco-Brometea Class, Festucetalia valesiacaе Order (Sanda et al., 2003; Kryts’ka et al., 2009; Sârbu et al., 2013).

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### Materials and methods

The identification of the taxa has been done using the following papers: *Flora R.S.R., vol. XI*; *Flora Europaea, vol. 5*; *Flora României, vol. II* (Beldie, 1977); *Flora ilustrată a României – Pteridophyta et Spermatophyta* (Ciocârlan, 2009); *Plante vasculare din România: determinant ilustrat de teren* (Sârbu et al., 2013).

In order to identify the vegetal association in which *I. pontica* is present, we used the central-european phytosociological school method (Cristea et al., 2004; Chifu et al., 2006).

The distribution of *I. pontica* species in Romania, had been made based on datas from the herbarium collections (BUCA, CL, I, IASI) (Thiers, 2012) and also different bibliographycal sources.

The collected material was registered and stored in „Alexandru Ioan Cuza” University’s Herbarium (I), from Iași.



Figure 1. *Iris pontica*

## Results and discussions

The species had been identified in the botanical reservation Movila lui Burcel (Miclești commune, Vaslui county), in the upper hill area, at a altitude of 270-272 m, on the N-NW slope (46°50'52"N, 27°48'07"E – 46°50'54"N, 27°48'07"E), the population spreading on a small area (7 points). The species was first noticed in may 2005 and then reconfirmed in 2013 (Fig. 1). The area was previously studied, floristically and phytocoenologically (Dobrescu and Leocov, 1982; Blaj, 2003), but *I. pontica* was not recorded, maybe by confusion with *I. graminea* L. (*I. graminea*, *I. pumila* L., *I. aphylla* L. were described by Dobrescu and Leocov).

The Movila lui Burcel reservation had been declared a Site of Community Importance in Natura 2000 Network (**ROSCIO117**). The site preserves a rest of western-Pontic steppic meadow (Habitat 62C0\* - Ponto-Sarmatic steppes), having a high conservation value (Mănoiu and Brânzan, 2013).

Phytocoenologically, *I. pontica* had been included in the Taraxaco serotinae-Festucetum valesiaca (Burduja et al. 1956, Răvăruț et al. 1956) Sârbu, Coldea et Chifu 1999 association (Table 1).

Table 1. Taraxaco serotinae-Festucetum valesiaca (Burduja et al. 1956, Răvăruț et al. 1956) Sârbu, Coldea et Chifu 1999

Survey no.	1
Altitude (m.o.s.)	270
Exposure	N-NW
Slope (°)	8
Surface (m <sup>2</sup> )	15
General cover of vegetation (%)	95
<b>Association's characteristics</b>	
Festuca valesiaca	4
Taraxacum serotinum	+
<b>Jurineo arachnoideae-Euphorbinenion nicaeensis</b>	
Artemisia austriaca	+
Astragalus dasyanthus	+
Euphorbia glareosa	+
Phlomis tuberosa	+
<b>Festucion valesiaca</b>	
Adonis volgensis	+
Agropyron cristatum ssp. pectinatum	+
Cleistogenes serotina	+
<b>Iris pontica</b>	+
Marrubium peregrinum	+
Phlomis herba-venti ssp. pungens	+
Salvia nemorosa	+
Teucrium polium ssp. capitatum	+
Viola ambigua	+
<b>Festucetalia valesiaca</b>	
Achillea setacea	+
Adonis vernalis	+
Astragalus onobrychis	+

Campanula sibirica	+
Elymus hispidus ssp. hispidus	1
Fragaria viridis	+
Minuartia setacea	+
Onobrychis viciifolia	+
Oxytropis pilosa	+
Poa bulbosa	+
Stachys recta	+
Stipa capillata	+
Teucrium chamaedrys	+
Verbascum phoeniceum	+
<b>Stipion lessingianae</b>	
Salvia nutans	+
<b>Festuco-Brometea</b>	
Acinos arvensis	+
Arenaria serpyllifolia	+
Asperula tenella	+
Berteroa incana	+
Eryngium campestre	+
Filipendula vulgaris	+
Galium mollugo	+
Galium verum	+
Medicago falcata	+
Myosotis stricta	+
Phleum phleoides	+
Plantago media	+
Salvia pratensis ssp. pratensis	+
Thalictrum minus	+
Trifolium campestre	+
<b>Molinio-Arrhenatheretea</b>	
Dactylis glomerata	+
Elymus repens	+
Lotus corniculatus	+
Prunella vulgaris	+
<b>Stellarietea mediae</b>	
Convolvulus arvensis	+
Lappula squarrosa	+
Nigella arvensis	+
Papaver rhoeas ssp. rhoeas	+
Viola arvensis	+
<b>Variae syntaxa</b>	
Agrimonia eupatoria	+
Carex michelii	+
Elaeagnus angustifolia	+
Erysimum repandum	+
Robinia pseudoacacia	+
Rosa canina	+

Place and data of the survey: Movila lui Burcel Hill, 22.06.2013

The species distribution in Romania is shown in Table 2.

Table 2. Distribution of *Iris pontica* in Romania

County	Locality	Source
<b>Alba</b>	Alecuş, SV, dealul Vârful Zăpodii	24.05.1962 , leg. & det. ? (I 67664, 67667, 67668, 67669, 67670, 67671, 67672)
	Medveş, SV, coastă	23.05.1962, leg. & det. ? (I 39945, 39946, 67663)
	Pănade, NV, coastă SV pe Dealul Mărtineşti	21.05.1962 , leg. & det. ? (I 39947, 39948)
	Valea Sadului, N, coastă ± uscată	11.07.1962 , leg. & det. ? (I 67665)
<b>Bistriţa-Năsăud</b>	Başa	(FRSR, Dihoru et Negrean, 2009
<b>Cluj</b>	Exs. In graminosis montis Ciuha, supra pagum Apahida, alt. cca 370 m s. m.	22.05.1924, leg. & det. I. Prodan, (CL 445489, 623539; I 32984, 47165 IASI 9608) FRSR, Dihoru et Negrean, 2009
	Bonţida (pe dl. „Urieşul”)	Oprea, 2005
	Cătina	1868, leg. V. Janka (CL 7813)
	Iclod , N, coastă pe Dealul Mărtineşti	21.05.1962, leg. & det. ? (I 67666, 67673, 67674, 67675)
	Iuriu de Câmpie pe dl. „La Cărligaţi”	Oprea, 2005
	Jucu pe dl. Techeneu	Oprea, 2005
	Năsal	(FRSR, Dihoru et Negrean, 2009
	Puini	(FRSR, Dihoru et Negrean, 2009
	Suatu	1917, leg. M. Peterfi (CL 79546, 119774) FRSR, Dihoru et Negrean, 2009
	Sucutard	1876, leg. V. Janka (CL 97590)
	Ţăgşor	(FRSR, Dihoru et Negrean, 2009
	Turda	1887, leg. J. Wolff (CL 120307), 1899, leg. J. Wolff (CL 15142) FRSR, Dihoru et Negrean, 2009
	Turda pe dl. Gorgan	leg. J. Wolff (CL 130433), FRSR, Dihoru et Negrean, 2009
	Văleni, S, dl. Seleşului	(Puşcaş Mihai, 2010)
	Viişoara	(Dihoru et Negrean, 2009
	Între Cojocna şi Boju pe dl. Codorestea	Oprea, 2005
Între Straja Mică şi Crairât Halău	Oprea, 2005	

	Între Căianu și Sutu pe dl. Văratice	Oprea, 2005
	Între Sucutard și Cătina	(FRSR, Dihoru et Negrean, 2009)
	Între Geaca și Mociu	(FRSR, Dihoru et Negrean, 2009)
	Între Agărbici și Luncani	(FRSR, Dihoru et Negrean, 2009)
<b>Mureș</b>	Zau de Câmpie	(FRSR, Dihoru et Negrean, 2009)
<b>Sibiu</b>	Benești	(FRSR, Oprea, 2005)
<b>Vaslui</b>	Miclești-Movila lui Burcel  Rezervația Movila lui Burcel, 46°50'53,8" N, 027°48'07,5" E	29.05.2005, leg. I. Blaj, det. I. Blaj & C. Mânzu (I 120728) 19.05.2013, leg. & det. I. Irimia (I 181695)

### Conclusions

This is the first record of *Iris pontica* in Moldova (Romania), in Movila lui Burcel reservation. Also, after processing the herbarium materials, we recorded the species in Alba county (Transylvania).

As a result of our observations, we consider *Iris pontica* as a threatened species in this site, mainly because of the presence of *Elaeagnus angustifolia* and *Robinia pseudoacacia*, species cultivated for stabilizing the land.

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