

# **IRIS APHYLLA L. SSP. HUNGARICA CRITICALLY ENDANGERED TAXON IN EUROPA**

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## **Abstract**

*Iris* is a genus of 250-300 species of flowering species. It is a genus commonly known as „stânjenci”. It is one of 85 genera of the family *Iridaceae*. The genus *Iris* includes 24 species spread across all continents. There are 16 species of *Iris* in Romania. *Iris aphylla* ssp. *hungarica* is a vulnerable plant in Romania. It was found in three types of habitat. One of these (40A0\*) is the habitat of Community interest.

*Key words:* *Iridaceae*, vascular, perennial, vulnerable plant

## **1. INTRODUCTION**

The conservation of species, particularly those in danger of extinction, forms one of the basic elements of biodiversity conservation. The life of a species is not unlimited. Over a period of millions of years, species are disappearing in changing environment or to develop new forms distinct. It is assumed that under natural conditions a year at least one species becomes extinct purely natural reasons (Shaffer 1990). This situation changed rapidly today, with people changing biosphere and pushing a countless number of species to extinction.

The *Iridaceae* is an ornamental plant family of about 1500 species and 85 genera, has been reported to contain volatile oils and can be used for medicinal purposes, with has an almost worldwide distribution (Harborne and Williams, 2000).

Romania has a unique and high level of biodiversity and intact ecological systems, as a consequence of its geographical location and evolution of the human society in the region.

In Romania, *Iris* is considered as a wild perennial herbaceous plant that subjected to strict protection. Species whose conservation requires the designation of special conservation – Government Emergency Ordinance no 57 of 20 June 2007 on the protected natural areas, natural habitats, wild flora and fauna (Annex 3b, MO no. 442/29 June).

## **2. MATERIAL AND METHOD**

The investigation carry on *Iris aphylla* ssp. *hungarica* species, which are presented in this paper, were based on personal research and using the work of some authors (Alexiu, 2003; Ciocârlan, 2009). The fenotip of the species was identified by direct observation on morphological aspects, in its natural habitat. For taxonomical integration and synonymy setting it has been used *Flora Europaea* (Tutin, 1978) and *Flora ilustrată a României* (Ciocârlan, 2009). The species habitat was characterized by using synthetic works, such as: *Habitatele din România* (Donita et al., 2005) and *Manual de interpretare a habitatelor Natura 2000 din România* (Gafta & Mountford, 2008).

## **3. RESULTS AND DISCUSSIONS**

**Scientific name:** *Iris aphylla* L. ssp. *hungarica* Hegi (figure 1)

**Syn.:** *Iris hungarica* Waldst. et Kit., *Iris hungarica* subsp. *dacica* (Beldie) Prod. et Nyár., *Iris melzeri* Prod., *Iris gurtleri* (Prodan) Prodan.

**Scientific classification:**

**Kingdom:** *Plantae*, **Phylum:** *Spermatophyta*, **Division:** *Magnoliophytina*, **Class:** *Liliopsida*, **Order:** *Liliales*, **Family:** *Iridaceae*, **Genus:** *Iris*



**Figure 1**  
*Iris aphylla* ssp. *hungarica* (Stânjenel), fam. *Iridaceae* (original)

**Description:** Geophyte species, xeromesophilous, euriterm. It flowers in May-June, often the second time in August-September. Species with long rhizome of 18-22 mm diameter and 20-30 cm tall stems. Leaves curved, acuminate, 2-3 cm wide, with 5-6 ± elongated ribs. Flowers 2-4, dark purple, often tinted purple, 4-5 mm long and 18-22 mm wide. Perigonal lacinia, ovate elongated. Thre-edged ovary, deeply 3-streaked with rust grains, elongated ovoid, 4-5 mm long and 3 mm wide.

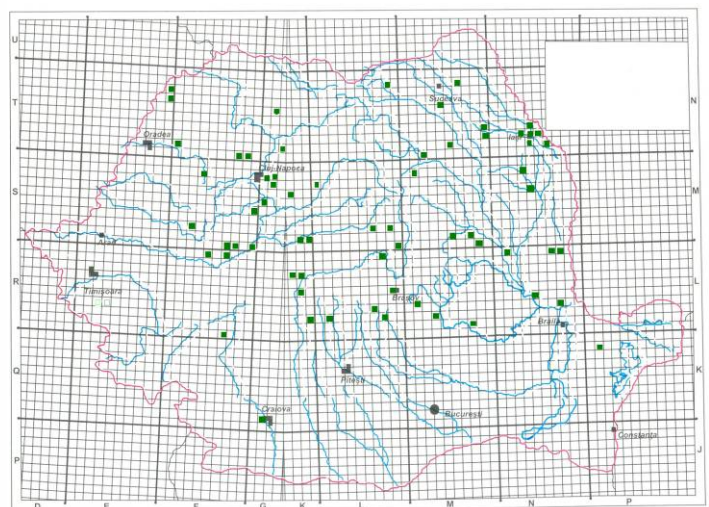
Multiply vegetatively by rhizomes, where leaves forming rosettes with high density and by sexual reproduction. Pollination is entomophylous, sometimes male organs develop before female organs. Fruit and seeds spread carried by the wind.

**Bio-geographical regions:** Alpine, Continental, Pannonic, Steppic

**Geographical distribution in Europe (figure 2):** Albania, Czech Republic, France, Germany, Hungary, Italy, Serbia and Montenegro, Poland, Romania, Russia



**Figure 2**  
*Iris aphylla* ssp. *hungarica* in Europe



**Figure 3**  
Geographical distribution in Romania

**Geographical distribution in Romania (figure 3):** **MM:** Preluca Massif; **CJ:** Nature Reserve “Turzii Gorges”, Cluj-Napoca, Cojocna, Gherla and Boju, Nature Reserve “Fânațele Clujului”; **MS:** Sălard Valley, Nature Reserve Zau de Câmpie; **HR:** Odorheiul Secuiesc, Brăduț, Darjiu and Merești; **CV:** Tg. Secuiesc to Rușeni; **BV:** Brașov on the hill Stejărișul Mare, Tâmpa Mountain, Racoșu de Jos on the hill Tipeiului; **SB:** Zackel Hill, Dumbrăveni, Gușterița, Mediaș, Merghindeal, Podu Olt, Roșia, Slimnic, Șura Mare, Tâlmaciu, Târnava and Târnăvioara; **AB:** Feneș Valley, Rimetea, Poiana Aiudului and Alba Iulia on the hill Bilac; **HD:** Crăciunești Gorges, Cibul Gorges and Băcăia Valley; **SM:** Scărișoara Nouă, Sanislau and Ciumești, Câmpia Nirului, Batarci, Turulung -Vii and Foieni; **BH:** Nature Reserve “Defileul Crișului Repede” on the hill Măgurii, Bratca; **AR:** Hălmațiu, Hălmațel, between Iosasel and Baltele, Tăuroi and Gorgana hill; **DJ:** Craiova to Simnic and Breasta; **AG:** Dâmbovița Gorges; **BZ:** Nature Reserve “Pâclele”; **GL:** Reditu Vasilache Forest to Jorăști, Pechea, Bălțatu Forest to Slobozia Conachi, Suceveni, Gârboavele-Galați Forest); **VN:** Domnești; **VS:** Nature Reserve “Fânațurile Glodeni” and Nature Reserve “Pădurea Bălteni”; **NT:** Nature Reserve “Munticelu- Șugău Gorges”, Bicz Gorges; **IS:** Nature Reserve „Valea lui David”- Miroslava, Valea Lungă, Fânațurile Bârca, Cristești, Vulturi, Mârzești, Aroneanu, Ungheni, Cucuteni, Dumești, Hoisești, Stâncă, Coadă Stâncii, Stroești și Tg. Frumos; **BT:** Pădureni and Rașca hill, Călărași; **SV:** Nature Reserve “Ponoare” Bosanci, Ipotești, Strâmbu hill, Climăuți, Bălcăuți, Botoșanița and Găinești; **TL:** Florești-Horia; **Trascău Mountains** on „Piatra Urdașului”; **Bihar-Vlădeasa Mountains** in Someș Gorges; **Bucegi Mountains:** Zănoaga-Lucăcila, Colții lui Barbeș, Vânturiș, Dobrești and Clăia cu Brazi; **Cozia Massif:** between Turneanu and Armăsar Valley; **Hășmaș Mountains** to Suhard Mountain; **Nemira Mountains;** **Ghițu Mountains:** Viaduct to the dam Vidraru (figure 4).



**Figure 4**  
*Iris aphylla* ssp. *hungarica* in Argeș Gorges, to Vidraru

It can be found in the following Natura 2000 Habitats:

**91Q0** (Western Carpathian calcicolous *Pinus sylvestris* forests) which includes

R4217 (South-East Carpathian forests with *Pinus sylvestris* and *Daphne blagayana*);

**40A0\*** (Subcontinental peri-Pannonian scrub R3131 (Ponto-Pannonian scrubs of *Amygdalus nana*);

**6150** (Siliceous alpine and boreal grasslands) that integrates R3604 (South-East Carpathian grasslands of *Festuca supina* and *Potentilla ternata*)

#### 4. CONCLUSIONS

*Iris aphylla* ssp *hungarica* is capable to develop in environments with large temperature oscillations, steppe zone to the mountain on the rocks.

Habitat loss, resulting from infrastructure development encroaching up mountain valleys as well as improper practices in forestry, including clear cuts and artificial rejuvenation of forests with spruce mono-cultures.

Necessary measures for its protection:

Keeping the meadows for mowing grassland; prohibition of grazing; prohibition of building different objectives; prohibiting collection.

Habitat loss, resulting from infrastructure development encroaching up mountain valleys as well as improper practices in forestry, including clear cuts and artificial rejuvenation of forests with spruce mono-cultures.

*Iris aphylla* ssp *hungarica* species is listed in: Berne Convention, Habitats Directive 92/43/EEC and Government Emergency Ordinance no 236/2000, Annex 3b.

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