

SPECIES FROM SPONTANEOUS FLORA OF TULCEA COUNTY, WITH ORNAMENTAL VALUE

SPECII CU VALOARE ORNAMENTALĂ DIN FLORA SPONTANĂ A JUDEȚULUI TULCEA

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Abstract. The current paper present five species with ornamental value identified in the spontaneous flora of Tulcea County, as follows *Allium flavum*, *Allium saxatile*, *Echinops ruthenicus*, *Silene compacta*, *Silene supina*. Identification and gathering of the species was effectuated in the vegetation period of 2010 (May-October), from Turcoaia and Babadag localities, Tulcea County. To study these taxons in crop conditions were established experimental plots and the biologic material was represented by seeds, bulbs, function of specie. Taxonomic nomenclature and botanic description was in according with the one proposed by Ciocârlan V. and Flora Europaea.

Key words: spontaneous flora, ornamental value, biodiversity, Tulcea County.

Rezumat. În lucrarea de față sunt prezentate cinci specii cu valoare ornamentală identificate în flora spontană a județului Tulcea și anume: *Allium flavum*, *Allium saxatile*, *Echinops ruthenicus*, *Silene compacta*, *Silene supina*. Identificarea și colectarea acestor specii s-a făcut în perioada de vegetație a anului 2010 (mai-octombrie), din locațiile Turcoaia și Babadag, județul Tulcea. Pentru studierea acestor taxoni în condiții de cultură s-au înființat câmpurile experimentale, iar materialul biologic utilizat a fost reprezentat, în funcție de specie, de semințe, bulbi. Nomenclatura taxonomică și descrierea botanică utilizată a fost după Ciocârlan V. și Flora Europaea.

Cuvinte cheie: flora spontană, *Allium*, *Echinops*, *Silene*, valoare ornamentală, județul Tulcea.

INTRODUCTION

The spontaneous flora of Romania has over 3000 species (Ciocârlan V., 2000) and constitutes a valuable source of plants with decorative potential.

Dobrogea represent a Romanian area with a mild climate, a characteristic geo-morphology (Burcea Nela, 2008) and a specific spontaneous flora (Dihoru, G., Doniță, N., 1970; Doniță N. et al., 2007; Făgăraș M., 2010). Meadows and forests from Dobrogea have species with a remarkable botanic value (Sârbu Anca et al., 2009). Some of them presents decorative features and could be a germplasm source to enrich the ornamental assortments, which could be used both in the south-east part of Romania and also in other areas.

Research regarding morphological characterisation of the plants and cultivation possibilities of species from spontaneous flora, with ornamental

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potential, were realised both on national level (Manda Manuela et al., 2009; Chelariu Elena Liliana et al., 2010; Draghia Lucia et al., 2010) and international one (Uysal I., 1992; Fritsch R. M. et al., 2002; Heywood V., 2003; Fritsch R. M. et al., 2008; Ouzounidou Georgia, 1994, 1995).

The current paper aimed on the characterisation of five spontaneous species with ornamental features (*Allium flavum*, *Allium saxatile*, *Echinops ruthenicus*, *Silene compacta*, *Silene supina*), identified in Tulcea County and which could contribute to the enrichment of ornamental plants assortment.

MATERIAL AND METHOD

Research was carried out in year 2010, during vegetation period (May – October). To elaborate the current paper were studied, gathered and recorded five taxons from spontaneous flora of Tulcea County, Turcoaia and Babadag areas (fig. 1).

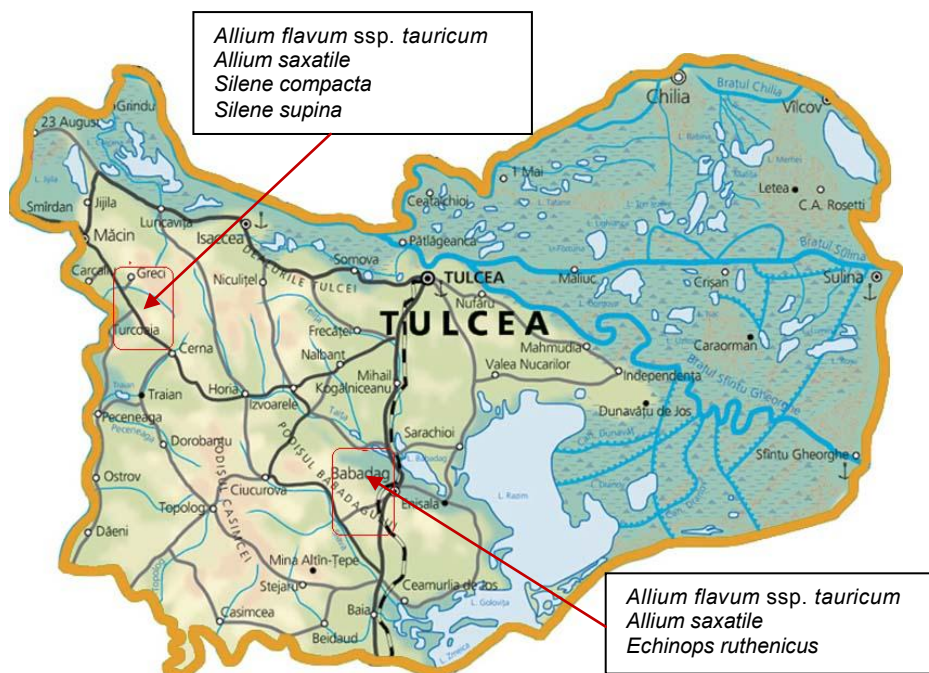


Fig. 1 – Map of Tulcea County – the natural habitat of the studied species

Having in view the biological particularities of plants (life time cycle, phenol-phase) or sozologic category in which are placed some taxons for establishing the experimental field we gathered different biological materials such as: seeds and bulbs (table 1).

Table 1

Species identified and gathered from the spontaneous flora of Tulcea County

Nr. crt.	Specie	Biologic gathered material	Natural habitat
1	<i>Allium flavum</i> ssp. <i>tauricum</i> (Besser ex Rchb.) Stearn	seeds bulbs, bulblet	Turcoaia Babadag
2	<i>Allium saxatile</i> Bieb.	seeds	Turcoaia Babadag
3	<i>Echinops ruthenicus</i> (Fischer) Bieb	seeds	Babadag
4	<i>Silene compacta</i> Fischer.	seeds	Turcoaia
5	<i>Silene supina</i> Bieb.	seeds	Turcoaia

Also at some species, at which were identified populations in different areas, were gathered material from each population to be able to compare morphologic characters, multiplication and adaptability capacities.

The taxonomic nomenclature is the one adopted by Ciocărlan V. and *Flora Europaea* (Tutin T.G., colab., (eds.) 1964-1980 & 1993).

Study method consists in observations on the main morphological and ecological characteristics of the species, specifying areas within the spread of taxa in Romania (Oprea A., 2005).

RESULTS AND DISCUSSIONS

Research regarding cultivation potential in ornamental purposes of some spontaneous species from Romanian flora was carried out in the South-East part of the country, respectively in Tulcea.

The studied taxons are presented below, underlining the main biological, morphological and ecological features, spreading area, the place from where the material was gathered and characters of ornamental interest.

***Allium flavum* ssp. *tauricum* (Besser ex Rchb.) Stearn** (yellow onion, ornamental onion, small yellow onion), **Alliaceae** family (fig. 1), is a geophytes perennial specie with bulbs. It is rarely met in Romania, in arid and rocky places, on meadows and bushes from silvo-steppe area till beech level. Specie blooms in summer (July – August) and decorates through small and yellow flowers, grouped in umbelliform inflorescences.

Biological material (bulbs, bulblets, seeds), used to settled up the crops are from Turcoaia and Babadag localities, Tulcea County.

Specie prefers sunny places, sandy soils, well drained, with a neutral pH. Requires moderate water quantities, resists to negative temperatures and tolerates draught.

Ornamental features of plant could be put in light in landscape designs of rocks-shape, groups and massive types, but also as cut flowers.

***Allium saxatile* Bieb.** (golden garlic), **Alliaceae** family (fig. 2), is a geophytes perennial specie which presents bulbs in soil, it is original from Pontic-Balkans. In Romania is a rare species and could be found on rocky hills from Dobrogea steppe and silvo-steppe. It decorates by white-pink small

flowers grouped in umbelliform inflorescences. It blooms, in summer –autumn (June – September).

Biologic material which is represented by seeds was gathered from to populations from Turcoaia and Babadag areas.

It grows well in sunny places, on sandy soils, well drained, with a neutral pH. Requires moderate water quantities, resists to negative temperatures and tolerates draught.

Plants could be used in landscape designs such as rock-shape, groups, massive, colour spots, mixed borders or as fresh cut flowers to realise small bunches.



Fig. 1 - *Allium flavum* ssp. *tauricum*



Fig. 2 - *Allium saxatile*

***Echinops ruthenicus* (Fischer) Bieb, Asteraceae** family (fig. 3,) is hemi-cryptophytes specie, original from Pontic-Pannonia-Balkans area. In Romania is rarely found from the steppe area till beech level, on sunny meadows. Specie is decorative through blue flowers which are grouped in small globular inflorescences.

It is a sub-thermophile specie, which resist at long or moderate draught periods and could capitalize the lands with a low content in nutritive elements.

Biologic material represented by seeds was gathered from Babadag area, Tulcea County.

Present interest from ornamental point of view due to the flowers and could be recommended to landscape designs such as groups, massive but also as cut flower, used in dry state (immortelle).



Fig. 3 - *Echinops ruthenicus*

***Silene compacta* Fischer.**, **Caryophyllaceae** family (fig. 4), is an annual or perennial specie, therophyte, of a Pontic-Mediterranean origin. In Romania is a rare specie, endangered, are could be found in the north of Dobrogea on the rocky slopes.

Specie is decorative by its pink flowers grouped in a dense, head less, inflorescence. It blooms in summer (June – August).

The biologic material represented by seeds was gathered from a population from Turcoaia area.

It grows in sunny places, on sandy soils, well drained, with a neutral-alkali pH. Have moderate water requests and tolerates the draught periods.

The decorative value of the plant could be enlightened in landscape designs such as groups and massive type, spot of colours, rondos mixed and stoned landscapes.

***Silene supina* Bieb. (sin. *S. spergulifolia* (Willd.) Bieb.),** **Caryophyllaceae** family (fig. 5), is a perennial specie with a Continental Eurasian origin, rare in Romania and could be found in the rocky areas of Tulcea, Mehedinți, Caraș-Severin Counties. It has stains more or less crawling, small and linear leaves and white flowers. It blooms in summer (July – August).

Specie was recorded in Turcoaia area, Tulcea County and was gathered seeds as biological material for multiplication.

Prefers sunny places, rocky and sandy lands, with less fertile soils and well drained.

Specie could be used in alpine gardens, groups and mixed borders.



Fig. 4 - *Silene compacta*



Fig. 5 - *Silene supina*

CONCLUSIONS

1. The studies effectuated in Tulcea County allowed us to identify 5 species, *Allium flavum* ssp. *tauricum* (Besser ex Rchb.) Stearn, *Allium saxatile* Bieb., *Echinops ruthenicus* (Fischer) Bieb., *Silene compacta* Fischer. and *Silene supina* Bieb., which could be recommended for cultivation as ornamental plants.

2. To establish the crop technologies and the usage modalities will be take into account the specific biologic and ecologic particularities.

3. Function of ornamental features capitalization of the studied taxons could be made either in different type of vegetal compositions and also as cut flowers (fresh or dry).

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