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***Leontodon saxatilis* (Asteraceae) a new species for the Bulgarian flora**

Abstract

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Leontodon saxatilis is reported as new to the Bulgarian flora. The species has been found in two localities in North-West Bulgaria, the Balkan Foothills floristic region. It grows in mezophytic meadows of secondary herbaceous communities belonging to *Chrysopogono-Danthonion* Kojic 1957. Chromosome number $2n = 8$ has been established. A key for the identification of the Bulgarian species of the genus *Leontodon* is provided in the article.

Introduction

So far the genus *Leontodon* L. has been represented by five species in the Bulgarian flora: *L. autumnalis* L., *L. cichoraceus* (Ten.) Sanguin., *L. crispus* Vill., *L. hispidus* L. and *L. rilaensis* Hayek (Peev 1992). Although *L. saxatilis* Lam. has been reported from several Balkan countries (Albania, Croatia, Greece, Romania, Slovenia and Turkey-in-Europe), it has never been found in Bulgaria. According to Kupicha (1975) this species is distributed in South, West and Central Europe and North-West Africa.

During a floristic study in North-West Bulgaria *L. saxatilis* was found in several localities in Balkan foothills floristic region. Information about its morphology, habitat and karyotype features is reported in this paper.

Key to the species of *Leontodon* in Bulgaria:

1. Plants with slender tubers; achenes with a thin beak about as long as the body ***L. cichoraceus***
- 1*. Plants without tubers; achenes without or with a beak shorter than the body **2**
2. Leaves glabrous or with occasional simple eglandular hairs; stems thickened at apex; capitula erect before anthesis **3**
- 2*. Leaves with at least some stellate or 2- to 7-fid hairs or glabrous but then stems not thickened at apex and capitula nodding before anthesis **4**

3. Leaves entire to denticulate; stems unbranched; stygmata yellow *L. rilaensis*
- 3*. Leaves sinuate-dentate to deeply pinnatifid; stems usually branched; stigmas discoloured *L. autumnalis*
4. Outer achenes partly enclosed in the involucre bracts, with a pappus of c. 1 mm long, scarios scales; involucre 7-11 × 4-9 mm; involucre bracts with dark brown to blackish membranaceous margin *L. saxatilis*
- 4*. Outer achenes not enclosed in the involucre bracts, with pappus of hairs more than 5 mm long; involucre 10-25 × 6-14 mm; involucre bracts without dark membranaceous margin 5
5. Leaves glabrous or hairy; stems not distinctly thickened at apex, with 1-2 (3) bracts; involucre bracts in 3-4 rows, not regularly imbricate, the inner about two times longer than the middle, all with membranaceous hairless margin; achenes 5-8 mm *L. hispidus*
- 5*. Leaves hairy; stems thickened at apex, with 2-8 bracts; involucre bracts in 4-5 rows, regularly imbricate, gradually increasing in size from the outer to the inner rows, at least the outermost and the upper stem bracts with rigid branched white hairs on the margin; achenes 7-12 mm *L. crispus*

Leontodon saxatilis Lam. Fl. Fr. 2: 115 (1780); *L. taraxacoides* (Vill.) Mérat, Ann. Sci. Nat. ser. 1, 22: 108 (1831); *Hyoseris taraxacoides* Vill., Prosp. Pl. Dauph. 33 (1779).

Perennial, with a short, praemorse rhizome. Indumentum of long-stalked 2-fid hairs. Stems 6 - 17 cm, unbranched, ± ebracteate. Leaves 35 - 55 mm long, 5 - 6 mm wide, oblanceolate in outline, tapering at base, subentire to distantly serrate or lobed, sparsely hispid. Involucre hemispherical, 2 - 3 seriate, 6 - 9 mm long; phyllaries with dark brown to blackish membranaceous margins, glabrous, flat in fruit. Outer achenes narrowed at apex but scarcely beaked, coronate; inner achenes beaked, with yellowish pappus (Fig. 1).

Distribution in Bulgaria

The typical *Leontodon saxatilis* has been found in two localities in North-West Bulgaria:

— Balkan Foothills floristic region (western); north - north-west of Spanchevtsi village, 43°11'41" N, 23°13'52" E; hay meadows at c. 500 m alt.; 30 June 2002; with flowers and fruits; coll. D. Dimitrova & V. Vladimirov; SOM 157868, 157869, 159059, 159060, 159061.

— Balkan Foothills floristic region (western); east of the town of Varshetz, near Botunya river, 43°12'22" N, 23°18'15" E; hay meadows at c. 400 m alt.; 1 July 2002; with flowers and fruits; coll. D. Dimitrova & V. Vladimirov; SOM 157870, 157871.

A survey of the Bulgarian herbaria SO, SOA and SOM has shown that no herbarium specimens of this species are available from the country. This can be due firstly to the fact that the genus *Leontodon* has been floristically poorly investigated in NW Bulgaria and secondly that *L. saxatilis* has not been distinguished from *L. hispidus* with whom it grows sympatrically.

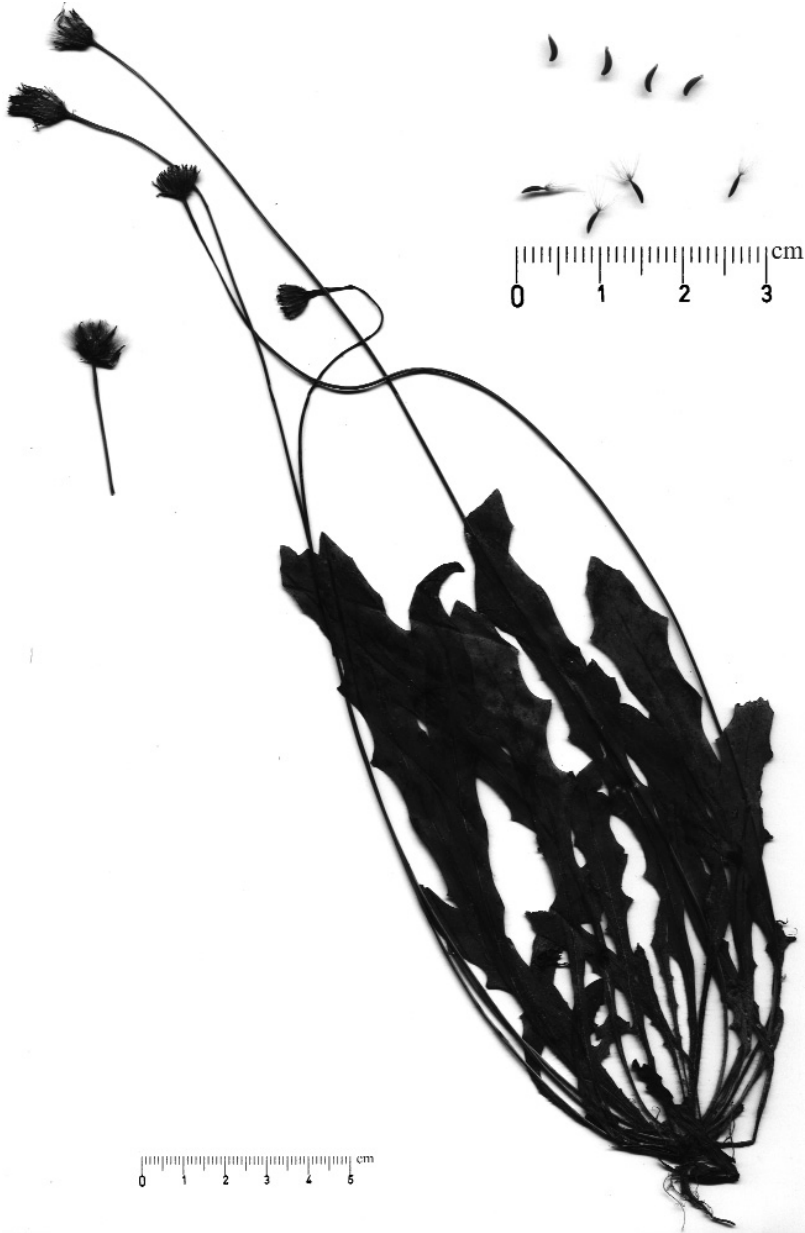


Fig. 1. Herbarium specimen of *Leontodon saxatilis* from Bulgaria.

Habitat

In both Bulgarian localities *L. saxatilis* grows in mezophytic hay meadows at 400 - 500 m alt. The soils are sandy and moderately humid. The habitat of *L. saxatilis* falls within the zone of the potential vegetation of *Quercion frainetto* Horvat 1954. The native forests in this zone were replaced by secondary herbaceous communities that in the studied region mostly belong to *Chrysopogono-Danthonion* Kojic 1957. This alliance has been described from Serbia and can be treated as typical for the Balkan Peninsula. According to Horvat, Glavac & Ellenberg (1974) the most frequent plant community within this alliance is *Agrostio-Chrysopogonetum grylli* Kojic 1959 with characteristic species *Agrostis capillaris* L., *Briza media* L., *Leucanthemum vulgare* Lam. Besides these characteristic species more than 85 vascular plants were recorded in the two localities of *Leontodon saxatilis* among which more abundant are *Anthoxanthum odoratum* L., *Chrysopogon gryllus* (L.) Trin., *Dorycnium herbaceum* Vill., *Filipendula vulgaris* Moench, *Gratiola officinalis* L., *Hypochoeris radicata* L., *Leontodon hispidus* L., *Lotus corniculatus* L., *Moenchia mantica* (L.) Bartl., *Muscari comosum* (L.) Mill., *Ononis arvensis* L., *Orchis coriophora* L., *Polygala comosa* Schkuhr, *Potentilla erecta* (L.) Raeusch, *Prunella laciniata* (L.) L., *Rosa gallica* L., *Sanguisorba minor* Scop., *Sieglingia decumbens* (L.) Bernh., *Stachys officinalis* (L.) Trevis., *Stellaria graminea* L., *Trifolium arvense* L., *T. campestre* Schreb., *T. montanum* L., *T. pratense* L.

Chromosome number and morphology

Chromosome number $2n=8$ has been established from the Bulgarian accessions. It confirms the results of Bartolo & al. (1978), Buttler (1984), Huber & Baltisberger (1992), Izuzquiza & Feliner (1991), Lago & Castroviejo (1993), Morton (1977), Van der Brand & al. (1979), Vogt & Oberprieler (1993). The karyotype of *L. saxatilis* can be described with

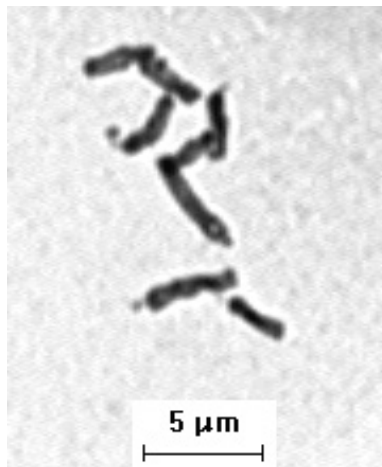


Fig. 2. Mitotic metaphase plate of *Leontodon saxatilis*, $2n = 8$. - Scale bar = 10 μm .

the following formula: $2n = 2x = 2sm + 2sm-sat + 4st-sat = 8$ (Fig. 2). The chromosomes of *L. saxatilis* are distinctly smaller than these of the other Bulgarian *Leontodon* species (Dimitrova, unpublished data). According to Stebbins (1971) the karyotype can be classified as asymmetric with one of the pairs conspicuously longer than the others.

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