

Lesser Hawkbit, *Leontodon saxatilis* (Compositae): a new species in the flora of Bosnia and Herzegovina

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Abstract. Lesser Hawkbit *Leontodon saxatilis* is reported as new to the flora of Bosnia and Herzegovina. The species has been found in several localities in Central Bosnia. The paper presents a short morphological description and photographs of the species based mainly on the collected specimens, as well as the distribution of the taxon.

Key words: Bosnia and Herzegovina, *Compositae*, distribution, *Leontodon*, morphology

Introduction

The genus *Leontodon* L. (*Compositae*) is represented by 18 species in the European flora (Greuter 2006). In the flora of Bosnia and Herzegovina, only four species of the genus *Leontodon* have been recorded so far: *L. crispus* Vill., *L. hispidus* L., *L. incanus* (L.) Schrank and *L. tuberosus* L. (Beck-Mannagetta & al. 1983; Greuter 2006). According to Beck-Mannagetta & al. (1983), two more species in the flora of Bosnia and Herzegovina belong to this genus (*L. autumnalis* L. and *L. illyricus* K. Maly), but according to recent data they are included in the genus *Scorzoneroides* Moench. (Greuter & al. 2006). *Leontodon saxatilis* Lam. was found during fieldwork conducted in Central Bosnia in 2018. *Leontodon saxatilis* has been reported in most of the Balkans: Albania, Croatia, Greece (Hayek & Markgraf 1929), Montenegro (Rohlena 1942), Romania (Săvulescu 1965), Serbia (Šarić & Diklić 1986), and Slovenia (Martinčič & al. 1999). Recently, it was found in Bulgaria (Dimitrova & al. 2005), but never before it has been found in Bosnia and Herzegovina. According to Kupicha (1975) and Greuter (2006), this species is distributed in South, West and Central Europe and in Northwest Africa.

Material and methods

Digital photographs and GPS coordinates were taken in the field. The specimens have been identified according to Finch & al. (1975), Kupicha (1975) and Pittoni (1982). Nomenclature follows the Euro-Med checklist (Euro+Med 2006). Herbarium specimens of *L. saxatilis* collected during field studies are deposited in the Herbarium of the National Museum of Bosnia and Herzegovina (SARA).

Results and discussion

Leontodon saxatilis Lam., in Fl. Franç. 2: 115. 1779 (Mar.) (synonym: *Leontodon taraxacoides* (Vill.) Mérat in Ann. Sci. Nat. (Paris) 22: 108. 1831).

For identification of this new species, an adjusted key is offered, according to Finch & al. (1975) and Zidorn (2012).

1. Inner and outer achenes different, outer achenes with a reduced pappus to a short cartilaginous crown, inner achenes with a hairy pappus..... 2
1. Inner and outer achenes similar, both with a hairy pappus. 3

2. Plant with several fusiform tubers*L. tuberosus*
2. Plant with a short praemorse rhizome, without tubers*L. saxatilis*
3. Plants with a long, strong vertical taproot, achenes 7–12 mm, either with or without short rigid hairs at the top 4
3. Plants with an oblique or transversal, usually branched, truncate stock, achenes 5–8 mm, more or less muricate but not bearing short rigid hairs*L. hispidus*
4. Leaves velvety pilose, leaf hairs with (3)4–5(6) branches, hair branches as long as, or longer than the stalk, achenes 7–9 mm*L. incanus*
4. Leaves hairy but not with a velvety indumentum, leaf hairs stellate with 2–3(4) branches, branches shorter than the stalk, achenes 7–12 mm*L. crispus*

Leontodon saxatilis (Fig. 1) is a perennial with a short praemorse rhizome. Stems few to numerous, 15–25 cm, unbranched, ascending to erect, glabrous, or with white forked eglandular hairs. Leaves numerous, 20 × 3 cm, oblanceolate, entire or remotely sinuate-dentate, nearly glabrous, or with few to numerous, white forked eglandular hairs on both surfaces and the margins. Capitula 10–20 mm in diameter, solitary, drooping in bud. Involucral bracts in several, imbricate rows, 5–11 × 1.0–1.5 mm, olive-green, linear-lanceolate, glabrous, or with few to numerous, white forked eglandular hairs (Fig. 1d). Florets 10–14 mm, all ligulate, the ligules golden-yellow, the outermost with a greyish-violet stripe on outer face, shallowly 5-lobed at apex. Receptacle flat, pitted, without scales. Achenes of 2 kinds (Fig. 1c), the outer pale-brown,

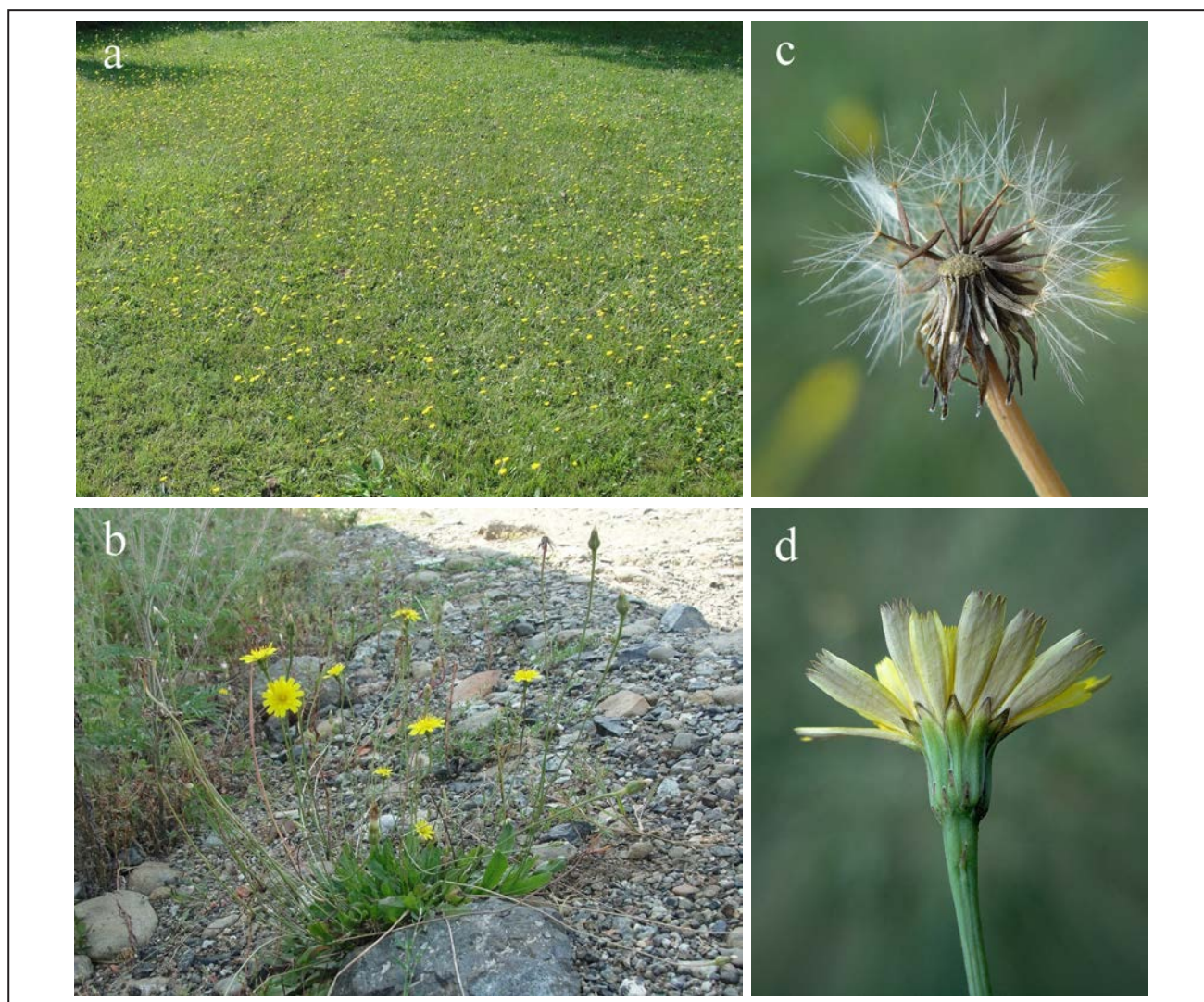


Fig. 1. *Leontodon saxatilis* in the central part of the town of Banovići: **a.** Habitat; **b.** Entire plant; **c.** Outer and central achenes; **d.** Flower head (Photo by Šemso Šarić).

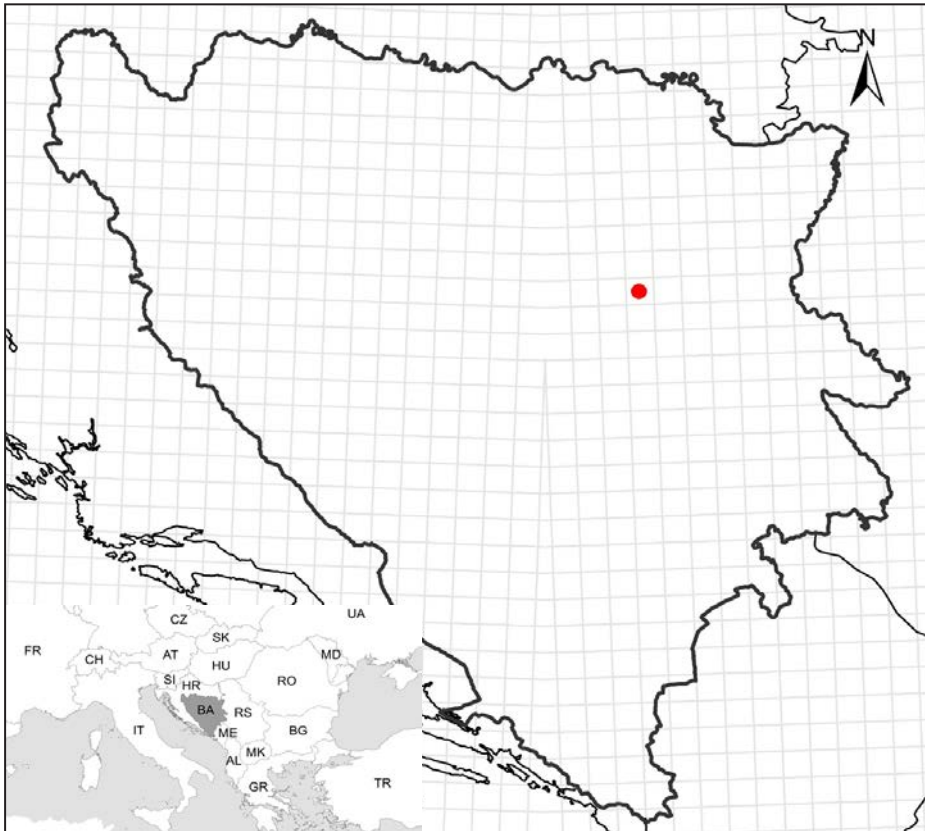


Fig. 2. Distribution of *Leontodon saxatilis* in Bosnia and Herzegovina.

curved, surmounted by a cup of small, scarious scales and unbeaked, the inner about 5 mm, chestnut-coloured, shortly beaked, straight, with strongly muricate, longitudinal ribs and brownish-white pappus of plumose hairs. Flowers VI–IX (Sell & Murell 2006). Chromosome numbers, $2n=8$ (Dimitrova & al. 2005).

Leontodon saxatilis is a member of the Suboceanic Southern–Temperate element (Sell & Murell 2006). The first finding of this species in Bosnia and Herzegovina came from Central Bosnia, at the beginning of August 2018, in the central part of the town of Banovići (44°24'23.04"N; 18°31'38.00"E; elevation 334 m) (Fig. 2). The species has been identified in six localities, in different parts of the town and in different habitat types. It was recorded at roadsides, in lawns, arable fields, or in cracks in the paving. Some populations are huge, especially those that grow in lawns, and encompass thousands of plants (Fig. 1a). In the central part of the town of Banovići, *L. saxatilis* was accompanied by *Achillea millefolium* L., *Ambrosia artemisiifolia* L., *Cynodon dactylon* (L.) Pers., *Elytrigia repens* (L.) Nevski, *Lolium perenne* L., *Plantago lanceolata* L., *Polygonum aviculare* L., *Taraxacum officinale* Weber., *Trifolium campestre* Schreb., *Trifolium fragiferum* L., and *Trifolium repens* L.

Considering the fact that the species is present in all surrounding countries, it could be concluded that it was already present in Bosnia and Herzegovina but remained unnoticed. Considering the territory occupied by the species and the number of individuals in some populations, it could be inferred that *L. saxatilis* was present in Bosnia and Herzegovina at least for several years. Probably, it was already occurring in the country on a wider scale than the new records indicate, but most likely it was overlooked by collectors because of its similarity to other *Leontodon* taxa, especially *L. hispidus*. According to Sell & Murell (2006), the pappus of the outer achenes is the only character that will always distinguish this species from *L. hispidus*.

The origin and distribution of this species in Bosnia and Herzegovina is not clear. It is difficult to determine whether *L. saxatilis* is native to Bosnia and Herzegovina or is introduced. Such an estimate is particularly difficult, because in Bosnia and Herzegovina the genus *Leontodon* has not been systematically explored for a long time. Further findings of this rare species could be expected in similar habitats in the country.

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