# On the distribution of *Cerastium smolikanum* (*Caryophyllaceae*) and *Centaurea vlachorum* (*Asteraceae*) in the Balkan Peninsula

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**Abstract.** *Cerastium smolikanum* (*Caryophyllaceae*) and *Centaurea vlachorum* (*Asteraceae*) are reported for the first time in C and NE Albania. These two taxa were previously considered serpentine endemics restricted to a few localities in NW Greece and the extension to their distribution ranges in the Balkan Peninsula is noteworthy. Their total distributions are mapped and the Albanian taxa illustrated by several photographs.

**Key words:** Albania, Balkan Peninsula, distribution, *Centaurea*, *Cerastium*, Greece, serpentine endemic

### ***Cerastium smolikanum*** Hartvig (Fig. 1)

*Cerastium smolikanum* was described by Hartvig in 1979 based on a collection made on 27 July 1977 from the summit area of Mt Smolikas in N Pindos, NW Greece. Since then, several collections have been made from serpentine rocks and screes at 2300–2500 m, all from the same mountain and the species was considered a local Greek endemic. A collection by Shuka from C Albania was recently sent to Kit Tan for identification. With some surprise she found it matched *C. smolikanum* perfectly. Thus this taxon is no longer endemic to Greece but is now recorded as a Balkan endemic and new for the Albanian flora.

#### Albania (specimens seen):

C Albania. Valamara (a 2200–2370 m high mountain range located between the three districts of Korça, Pogradeci and Gramshi, 40°46'N, 20°26'E): Mt Lenie, above the village of Lenie, NE side of Black Lake, 2198 m, 08.07.2007, *Shuka* 1058 (herb. Shuka); Mt Valamara, eastern rocky slopes near summit, 2350 m, 08.07.2007, *Shuka* 1059 &1060 (herb. Shuka), *Shuka* 1061 (herb. Kit).

The distribution in Albania and Greece is indicated in Fig. 2.

### ***Centaurea vlachorum*** Hartvig (Figs. 3-4)

*Centaurea vlachorum* was described in 1981 based on a specimen collected on 23 July 1976 from Mt Milea (Salatoura), 12 km N of Metsovon in N Pindos, growing on serpentine substrate. It was also collected on Mt Aftiá which is c. 15 km NW of Metsovon, also on serpentine substrate. The achenes (which were immature in the type specimen) were noted to be c. 2.5 mm long with a 1.5 mm pappus. There have been a few more gatherings from the same area, and some of these collections provided ripe achenes for the description to be completed by Gamal-Eldin & Wagenitz (1991). The following description is prepared from Albanian plants and the *italics* are for features noted as deviating from the Greek plants, the most conspicuous being the branched stems, the more numerous and larger basal leaves, the less numerous cilia on each side of the appendage, the longer achenes with proportionally shorter pappus. Nevertheless, we believe the species is very variable both in vegetative and floral characters and the indicated differences have no great taxonomical significance. Mt Milea and Mt Aftia, N of the Katara Pass in N Pindos, represent the southernmost limits of the distribution range and the species should

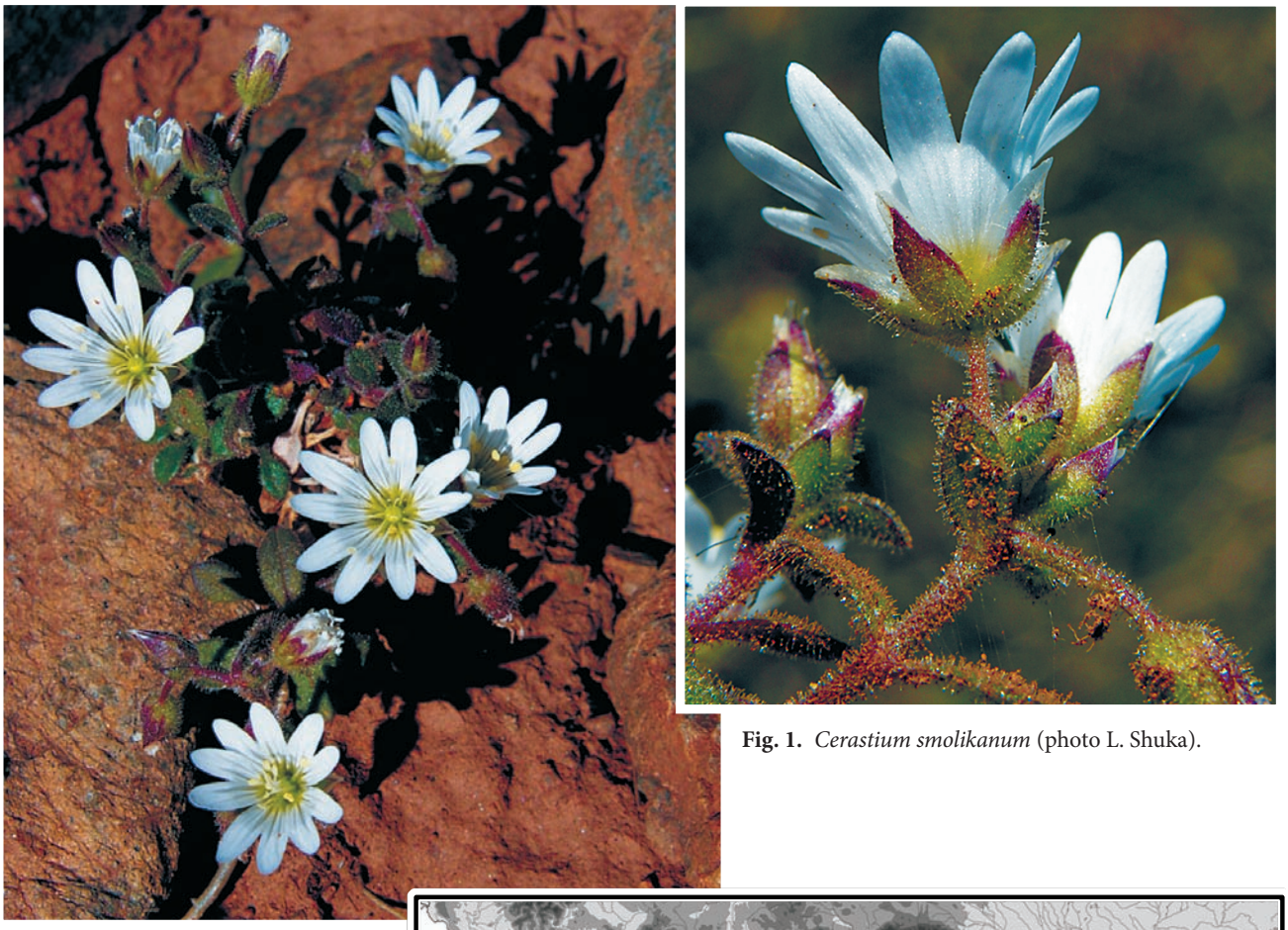

**Fig. 1.** *Cerastium smolikanum* (photo L. Shuka).

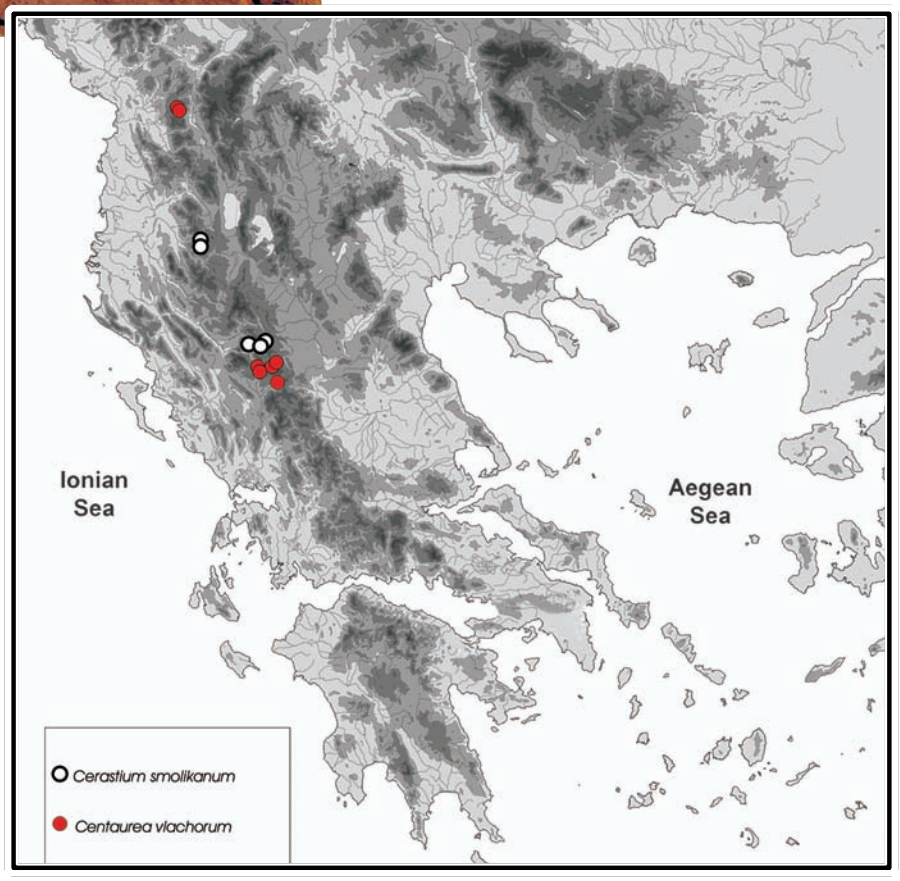


**Fig. 2.** Distribution of *Cerastium smolikanum* and *Centaurea vlachorum* in Albania and Greece.

**Fig. 3.** *Centaurea vlachorum* (photo L. Shuka).


**Fig. 4.** *Centaurea vlachorum* capitula and achenes: **A**, with triangular appendages **C**, with narrowly triangular appendages (photo L. Shuka).

be looked for on other serpentine massifs in Albania further north.

The etymology as originally published by Hartvig (1981), referring to the "vlachs" as migrants from Romania is a popular misconception and deserves correction. They are a pastoral people living in the area but are not of Romanian origin.

## Description of Albanian plants

Perennial with a short, creeping rhizome bearing 2–3 flowering stems and 1–3 sterile leaf rosettes. Stems 20–50 cm, ascending to erect, arachnoid-tomentose, sulcate, leafy to apex, thickened to 4 mm below capitulum, simple *or with* 3–5 *branches in upper half, each branch terminating in a single capitulum*. Leaves green, slightly arachnoid-tomentose, with sessile glands and multicellular hairs on both surfaces. Basal rosette leaves up to 12, with slender 8–16 cm long petiole; lamina *broadly elliptic* to oblanceolate, 12–30 × 3–6.5 cm**,** remotely and shallowly dentate. Cauline leaves 8–11, gradually decreasing in size above, lower and middle leaves petiolate to shortly petiolate, 6.5–12 × 1.5–3.5 cm, simple, dentate to denticulate or lyrate with 1–3 (–4) pairs of linear-lanceolate lobes in basal part; upper leaves sessile, usually simple, elliptic to linear-lanceolate, dentate to irregularly dentate. Involucre ovoid to subglobose, 1.3–2.1 × 1.3–2 cm. Involucral bracts (phyllaries) 4–5-seriate, pale green to stramineous, smooth, shiny, faintly striate; middle ones oblong, 6–9 × 3–3.5 mm. Appendages *triangular or narrowly triangular,* 4–5 × 3–3.5 mm at base (excl. cilia), semi-lunate, decurrent to almost middle of bracts, pectinate-ciliate, blackish-brown. Cilia 8-15 on each side, 2-3 mm long, *silvery*-stramineous. Corolla pinkish-violet, glabrous. Inner florets 19 mm long, lobes half as long as tube, 5-veined; marginal outer florets 25–30 mm, lobes nearly as long as tube, sterile, strongly radiant. Anther-tube reddish-purple, glabrous. Stigma 3–3.5 mm. Achenes oblong, 4.5–5.5 mm, shiny, blackish-brown at maturity, pubescent; pappus short, 1–1.5 (–2) mm, dirty white, inner series short.

*Centaurea vlachorum* is a very distinct species without close relatives and easily recognized by its leaf shape, indumentum, thickened stem below capitulum and the semi-lunate, decurrent, lacerate-pectinate appendages. It was placed in sect. *Jacea* (Miller) DC. [subgen. *Jacea* (Miller) Hayek] by Hartvig but here it is anomalous as the pappus is usually absent or not well-developed in sect. *Jacea*. It was previously known from only two mountains near each other in the N Pindos, and thought to be endemic to Greece. Our Albanian plants differ from Greek material in the characters marked above. They resemble those from Mt Aftia in their silvery cilia, differing from the plants from Mt Milea (*locus classicus*) which have blackish-brown cilia.

In Albania, *C. vlachorum* was always found on the ophiolithic substrate harzburgite at altitudes of 1600–2000 m. This most common ultramafic igneous rock originating from the Jurassic period is a form of peridotite consisting mainly of the two minerals olivine and low-calcium pyroxene. The habitat was east or north-facing mountain slopes with open *Fagus sylvatica* and *Pinus heldreichii* var. *leucodermis* forest. Observed populations were local but abundant and luxuriant (Fig. 3) and there appears no threat to the plant's existence in Albania. Flowering is from late July and ripe achenes were collected towards the end of August.

**Albania (specimens seen):**

NE Albania. District of Peshkopi, Mt Kunora e Lurës, 5 km SW of the village of Fushë-Lurë, N- or E-facing rocky slopes near summit, 1930 m, 41°46'N, 20°11'E, 25.07.2005, *Shuka* 1995 (TIR, herb. Shuka); *loc. ibid*., 25.07.2005, *Shuka* 2003, 2011-2016 (TIR), *Shuka* 2004-2007, 2009 & 2010 (herb. Kit); 2.5 km W of the village of Gurrë-Lurë, near Lake of Flowers, 1585 m, 41°44'N, 20°11'E, 23.08.2006, *Shuka* 2017-2020 (TIR).

The distribution in Albania and Greece is indicated in Fig. 2.

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