



New records for the Albanian flora

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ABSTRACT: Based on field work and herbarium studies, several new plant records from Albania are presented. *Anthemis tomentosa*, *Malcolmia graeca* subsp. *bicolor*, *Orobanche rechingeri*, *Polypogon maritimus*, *Quercus calliprinos* and *Scirpus setaceus* are reported as new for the Albanian flora. They are not included in the relevant volume of *Flora of Albania* and not mentioned in *Flora Europaea* or queried there as doubtful (indicated by ?Al). Full specimen citations, comments concerning previous known distributions, and taxonomic notes are presented for the species. Extensions to the known distribution of *Arbutus andrachne* and *Viola raunsiensis* are also provided.

Key words: Albania, flora, new records, plant distribution

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INTRODUCTION

Approximately 200 species have been added to the inventory of vascular plants since the publication of the four volumes of *Flora of Albania* (PAPARISTO *et al.* 1988; QOSJA *et al.* 1992, 1996; VANGJELI *et al.* 2000). Contributions have been made by TAN *et al.* (1999, 2004), TAN & MULLAJ (2000a, 2000b, 2000c, 2001), RAKAJ (2006), STEVANOVIĆ & VUKOJIČIĆ (2006), IMERAJ (2007), BARINA & PIFKÓ (2008a, 2008b, 2008c), SHUKA & TAN (2009), MULLAJ & TAN (2010) and SHUKA *et al.* (2010). However, the vascular flora of the country is still incompletely known. Several regions are difficult to access and remain botanically unexplored. The distribution and ecology of many species require further investigation. The inclusion of taxa from neighbouring countries, e.g., Greece and R. Macedonia, is to be expected.

To increase our knowledge of the flora of Albania, various floristic regions were systematically investigated by the authors between the years 2000 and 2010. In this paper eight new records are presented of which six have

not previously been recorded for the country. Voucher specimens are deposited in Tirana herbarium (TIR). The distributions of the species are mapped and observations on site habitat and associated species provided. Continued floristic investigation will surely result in some interesting discoveries.

RESULTS

Asteraceae

Anthemis tomentosa L. (Figs. 1 & 6)

C Albania. Kavaja district: sand dunes at Spille beach, sea level, 17 May 2009, Imeraj & Mullaj (photo).

S Albania. Vlora district: sandy beach at Himare, 15 June 1975, Xh. Qosja s.n. (TIR); Dhermi, 20 May 1986, Mullaj & Tartari s.n. (TIR); Saranda district: sand dunes at Ksamil, 21 May 1986, Mullaj & Tartari s.n. (TIR).

Sand dunes of the Albanian coast, occurring together with the widely distributed species *Echinophora spinosa*, *Eryngium maritimum*, *Euphorbia paralias*, *Salsola kali*, etc.

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It is not recorded in *Flora Europaea* (TUTIN *et al.* 1976) as occurring in Albania and also not mentioned in the relevant volume of the Albanian Flora (VANGJELI *et al.* 2000).

Brassicaceae

Malcolmia graeca Boiss. & Spruner subsp. ***bicolor*** (Boiss. & Heldr.) Stork (Figs. 2 & 6)

S Albania. Vlora district: S-facing slopes of Qafa e Llogorasë, limestone, 990 m, 40°11'N, 19°36'E, 24 April 2006, *Mullaj & Shehu* (photo).

According to GEORGIU (2002: 160) this taxon is a Greek endemic. Although it had been reported from Albania material collected by Kit Tan (seen by Georgiou) belonged to *M. maritima* and *M. orsiniana* subsp. *serbica*.

Ericaceae

Arbutus andrachne L. (Fig. 6)

S Albania. Skrapari district: Osumi river valley, near Koprencka village, 15 July 2009, *Mullaj* (photos); Përmeti District, Vjosa river valley, 350–400 m, 40°06'42"N, 20°32'17"E, 2008, *Mullaj* (photos).

Arbutus andrachne is an erect evergreen shrub 1.5–3 m tall although it can reach a height of up to 10 m. It flowers in winter to spring and in Albania occurs mainly on sandy flysch. Until 2008, it was thought to be restricted to the Greek-Albanian border in S Albania. This was the most western and northern limits of its distribution in Europe. During fieldwork in July 2009, areas covered by *Arbutus andrachne* were observed further north. The northernmost limit of distribution in Albania and Europe is now the Osumi valley. In both river valleys *Arbutus andrachne* is a component of macchie regularly accompanied by the Mediterranean species *Arbutus unedo*, *Bituminaria*

bituminosa, *Brachypodium ramosum*, *Carpinus orientalis*, *Cercis siliquastrum*, *Cistus salvifolius*, *Colutea arborescens*, *Cotinus coggygria*, *Dorycnium pentaphyllum*, *Fraxinus ornus*, *Juniperus oxycedrus*, *Origanum vulgare*, *Pistacia lentiscus*, *Phillyrea latifolia*, *Quercus ilex* and *Spartium junceum*.

Fagaceae

Quercus calliprinos (Webb) Holmboe (Figs. 3 & 6)

Albania. Vlora district: calcareous S-facing slopes of Qafa e Llogorasë, 750 m, 11 July 2006, *Mullaj & Shehu* (photo).

ZOHARY (1961) treats *Q. calliprinos* as distinct from the variable *Q. coccifera* L. and in S Albania at least, it seems possible to distinguish between the two taxa. It is not mentioned in the *Flora of Albania* (QOSJA *et al.* 1988) but included in synonymy of *Q. coccifera* in *Flora Europaea* (TUTIN *et al.* 1964) and treated as subsp. *calliprinos* (Webb) Schwarz in the revised edition (TUTIN *et al.* 1993). Recent studies show that “calliprinos” is best regarded as a morphotype of *Q. coccifera* (TOUMI & LUMARET 2010).

Orobanchaceae

Orobanche rechingeri Gilli (Figs. 4 & 6)

S Albania. Gramshi district: rocky serpentine slope at Dushku Lake, 1200–1300 m, 20 May 2010, *Mullaj & Shehu* s.n. (TIR).

Parasitic on the serpentine species *Alyssum murale* and *A. markgrafii* which are well-known nickel hyperaccumulators. *O. rechingeri* is recorded from serpentine substrate in SW Anatolia, C and NW Greece. Its occurrence in Albania extends the known distribution westwards. It is the only parasitic flowering plant in Europe which is an obligate serpentinophyte.



Fig. 1. *Anthemis tomentosa* from Spille, Kavaja district (photo A. Imeraj).



Fig. 2. *Malcolmia graeca* subsp. *bicolor* from Qafa e Llogorasë, Vlora district (photo A. Mullaj).



Fig. 3. *Quercus calliprinos* from Qafa e Llogorasë, Vlora district (photo A. Mullaj).



Fig. 4. *Orobanche rechingeri* parasitic on *Alyssum murale* at Dushku lake, Gramshi district (photo J. Shehu).

Violaceae

Viola raunsiensis W. Becker & Kosanin (Figs. 5 & 6)

N Albania. Kukës district: serpentine rocks along main road from the villages of Kolsh to Surroj, 1050 m, 42°02'43"N, 20° 20'10"E, 12 October 2001, Mullaj s.n. (TIR).

V. raunsiensis was first discovered on Mt Runes in Albania by Becker and Kosanin in 1928. In *Flora Europaea* (TUTIN *et al.* 1968: 278) this was queried as a species requiring further investigation. In 2001, seventy-three years later, the species was discovered in Kukës district by A. Mullaj. The habitat where the species occurs is poor and stony, dry shallow soil overlying serpentine rock in degraded *Pinus nigra* forest. *Aster albanicus* subsp. *albanicus*, *Buxus sempervirens*, *Erica herbacea*, *Fagus sylvatica*, *Festucopsis serpentini*, *Forsythia europaea*, *Genista hassertiana*, *Iberis sempervirens*, *Juniperus oxycedrus*, *Pteridium aquilinum*, *Quercus cerris*, *Q. pubescens* and *Q. trojana* were among the species noted. *V. raunsiensis* is endemic to Albania.

Cyperaceae

Scirpus setaceus L. [Syn: *Isolepis setacea* (L.) R. Br.] (Fig. 6)

C Albania. Durrësi district: sand dunes near Hamallaj village, Lalzi Bay, 25 June 2007, Imeraj, Mullaj & Shehu s.n. (TIR).

A small tufted annual with filiform leaves and stems up to 10 cm, bearing a single dark, ovate-acute spikelet. Its presence in Albania was queried as doubtful in *Flora Europaea* (TUTIN *et al.* 1980) and it is not included in the relevant volume of the *Flora of Albania* (VANGJELI *et al.* 2000). Occurring in damp humid depressions in sand dunes at low altitude, together with *Anagallis arvensis*, *Blackstonia perfoliata*, *Crepis setosa*, *Lagurus ovatus*, *Oenothera biennis*, *Psilurus incurvus*, *Tamarix dalmatica*

and *Xanthium italicum*. The small size of the populations of *Scirpus setaceus* and sparse vegetation reflect the human pressure exerted on the area.

Poaceae

Polypogon maritimus Willd. subsp. *maritimus* (Fig. 6)

C Albania. Durrësi district: near Rrushkull village, Lalzi Bay, 1 June 2009, Imeraj, Mullaj & Shehu s.n. (TIR).

N Albania. damp places near Mati river delta, 24 June 2008, Mullaj & Shehu s.n. (TIR); Shkodra district: moist sandy depressions near Viluni lagoon, 1 June 2009, Shehu & Mullaj s.n. (TIR).

Annual with stems up to 25 cm, found in damp depressions behind sand dunes, often accompanied by *Centaureum pulchellum*, *Juncus acutus*, *J. bufonius*, *J. compressus*, *Lepturus filiformis*, *Parapholis incurva*, *Saccharum ravennae*, *Schoenus nigricans*, *Scirpus holoschoenus* and *Tamarix dalmatica*. It is not mentioned in *Flora Europaea* (TUTIN *et al.* 1980) or in the relevant volume of the Albanian Flora (VANGJELI *et al.* 2000) as occurring in the country.

CONCLUSION

Based on herbarium specimens and recent collections made in the last few years, we have found some new and interesting species. Of these, *Anthemis tomentosa*, *Malcolmia graeca* subsp. *bicolor*, *Orobanche rechingeri*, *Polypogon maritimus*, *Quercus calliprinos* and *Scirpus setaceus* have not previously been recorded for the Albanian flora.

New records for *Arbutus andrachne* represent the northernmost localities of this species in Europe. This East



Fig. 5. *Viola raunsiensis* from Kukës district, N Albania (photo A. Mullaj).

Mediterranean element of the Albanian flora was reported previously from the Vjosa river valley at the Greek border, at altitudes between 300 and 700 m. The new record from the Osumi gorge is from south-facing slopes situated 70 km further north at altitudes between 400 and 500 m. Solitary individuals were found growing along forest roads in the macchie.

Viola raunsiensis was first discovered on Mt Runes in Albania by Becker and Kosanin in 1928 (type in BEO). In 2001, seventy-three years later, the species was discovered in a different region by A. Mullaj - on serpentine rocks at 1050 m, along the main road from the villages of Kolsh to Surroj in Kukësi district.

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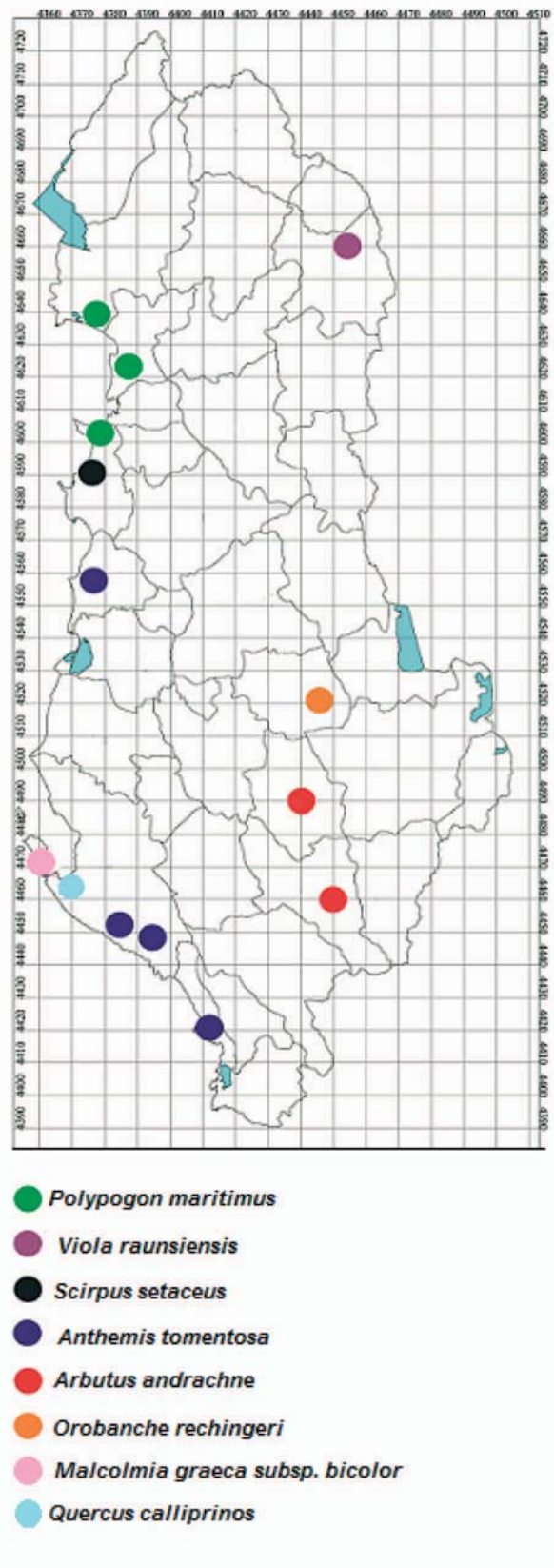


Fig. 6. Distribution map of the species enumerated.

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REZIME

NASLOV

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Navode se nekoliko novih nalaza za Albaniju, baziranih na terenskim istraživanjima i istraživanjima u herbaru. *Anthemis tomentosa*, *Malcolmia graeca* subsp. *bicolor*, *Orobanche rechingeri*, *Polypogon maritimus*, *Quercus calliprinos* i *Scirpus setaceus* navode se kao novi za floru Albanije. Oni nisu uključeni u odgovarajuće volumene *Flora of Albania* niti se pominju u *Flora Europaea* ili se pominju kao krajnje sumnjivi (označeni sa ?Al). U radu se razmatra ranija poznata distribucija za navedene vrste i taksonomski problemi. Takođe se navodi proširenje za ranije poznate areale vrsta *Arbutus andrachne* i *Viola raunsiensis*.

Ključne reči: Albanija, flora, novi nalazi, rasprostranjenje biljaka