New chorological data and floristic notes for Albania

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ABSTRACT: Twelve taxa belonging to five families are reported based on fieldwork in Albania from 2007 to 2010. Eleven have not been recorded for the country in the relevant volumes of Flora Europaea, Flora of Albania or the Med-Checklist. Notes on ecology and distribution are provided and all the taxa are mapped within Albania and also in neighbouring countries to show the nearest occurrences in the western part of the Balkan Peninsula. Some taxa in their natural habitat are illustrated by photographs. New localities for two sub-endemic species, Silene schwarzenbergeri and Centaurea vlachorum, are listed; these extend their known limits of distribution even further north.

Key words: Albanian flora, Balkan Peninsula, distribution, endemic, new records

During fieldwork in different parts of Albania from 2007 to 2010, ca. 2260 herbarium specimens were collected, mostly on serpentine and limestone substrate. Several taxa were discovered which have not been included in the relevant volumes of Flora Europaea, Flora of Albania, the Med-Checklist or recently published literature and they were catered for in a series of floristic contributions among which are those by Malo & Shuka 2008, Shuka 2009, Shuka & Tan 2009, Shuka et al. 2010. Some have been misidentified, e.g., Corydalis solida subsp. incisa treated erroneously as C. densiflora, others were found to be species new to science. We deal here only with twelve taxa which are new records for the country and for two of them (Silene schwarzenbergeri and Centaurea vlachorum), new localities are provided which extend their known limits of distribution further north. The families and species are grouped in taxonomic sequence following Flora Europaea.

Aristolochiaceae
Aristolochia merxmuelleri Greuter & E. Mayer (Fig. 1)
NE Albania: Kukësi district, Surroj area, 630 m, 42°02’N, 20°19’E, 7 May 2009, Shuka & Halläci 1265 & 1266 (TIR); loc. ibid., 25 June 2011, Kitt Tan & G. Vold obs. First record for Albanian flora. This species was previously known only from serpentine substrate to the left of the Mirusha River; it is a stenoendemic of Kosovo and Metohija provinces to the northeast of Albania (Mayer & Greuter 1985). The ecology and morphological characters of the plants in the Surroj area are identical to those of the Kosovo plants except for the higher elevation of 500–800 m as compared with 400-660 m in the locus classicus at Mt. Koznik. A. merxmuelleri is related to Aristolochia pallida Willd.

Caryophyllaceae
Dianthus superbus L.
NE Albania: Kukësi district, Mt Maraithit, alpine meadows above Shishtavec village, 1900-2000 m, 41°56’N, 20°37’E, 15 July 2009, Shuka 3950 & 3951 (TIR).
First record for Albania. A few individuals were observed, also near Restelica village in adjacent Kosovo. This species is common on Mt Šarplanina, very close to the Albanian border (Micevski 1993) and has a wide distribution in Europe, C and E Asia.

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**Minuartia pseudosaxifraga** (Mattf.) Greuter & Burdet (Fig. 2)

S Albania: Gjirokastra district, NW slopes and ridge of Mt Nemërçka, limestone rock crevices, 2300-2450 m, 40°07’N, 20°25’E, 20 June 2007, Shuka & Malo 3015 (TIR).

First record for Albania. Reported by Kamari (1977) as a Greek endemic based on two localities in NW Greece (Mts Timfi and Nemërçka). *M. pseudosaxifraga* resembles *M. stellata* (E.D. Clarke) Maire & Petitm., another sub-endemic species restricted to Greece and S Albania. The latter was found on Mt Çajupi, 25 km SW of Mt Nemërçka and differs from *M. pseudosaxifraga* not only by the smaller size of bracts, sepals and petals but also by the absence of dense glandular hairs and cream to reddish (not white) anthers. The new locality in the NW part of Mt Nemërçka extends the distribution area of *M. pseudosaxifraga* to S Albania as predicted (Kamari 1977).

**Heliosperma pusillum** (Waldst. & Kit.) Reichenb. subsp. *monachorum* Niketić & Stevanović (Fig. 3)

S Albania: Gjirokastra district, Mt Nemërçka, shady rock ledges and crevices, limestone, 2200-2450 m, 40°07’N, 20°24’E, 20 June 2007, Shuka & Malo 3218 (TIR), loc. ibid., Shuka & Malo 3219 & 3220 (herb. Shuka), Shuka & Malo 3221 (herb. Kit).

First record for Albania. Growing together with *Minuartia pseudosaxifraga* and replacing *Silene parnassica* Boiss. & Spruner subsp. *parnassica*, which on this mountain occurs at the lower altitudes of 1900-2230 m. Known so far from Montenegro, Republic of Macedonia, Serbia and Mt Timfi in NW Greece (Greuter 1997, Niketić et al. 2007).

**Silene lerchenfeldiana** Baumg.

NE Albania: Kukësi district, Shishtaveci area, Guri i Mëngjezit (Morning Rock), semi-shaded places and siliceous rock crevices, 1946 m, 41°56’N, 20°37’E, 15 July 2009, Shuka 3962 (TIR); Mt Kallabiku, 1850-2100 m, 41°56’N, 20°37’E, 19 June 2010, Shuka & Hallaçi 4054 (TIR), loc. ibid., Shuka & Hallaçi 4055 (herb. Shuka).

First record for Albania. *S. lerchenfeldiana* was found together with the calcifuge *S. waldsteinii* Griseb. It is mainly distributed in the mountains of East and Central Balkans; the nearest localities are Mts Šarplanina and Korab in the Republic of Macedonia (Micevski 1993). Although pink-flowered forms exist elsewhere in its distributional range, the Albanian plants were all white-flowered.

**Silene schwarzenbergeri** Halasyc

SE Albania: Erseka district, along the road from Helmës village to Qarri Pass, 1000-1200 m, 40°48’N,
20°40'E, 14 July 2010, Shuka 4087 (TIR); Korcha district, along national road from Floqi to Qarri Pass, 950–1130 m, 40°29'N, 20°40'E, 18 May 2007, Shuka 4067 (TIR), tributary on north side of old Polena village, 900–1100 m, 40°58'N, 20°39'E, 13 April 2007, Shuka 3307 (TIR), Gjergjevica valley, along the road from Hasani Bridge to Kulas, 1150–1500 m, 40°34'N, 20°34'E, 1 July 2010, Shuka 4015–4017 (TIR).

NE Albania: Mati district: Mt Mbasdeja, rocky clearings in Fagus forest, 1240 m, 41°39'N, 20°11'E, 16 July 2008, Shuka 2522 (TIR).

S. schwarzenbergeri is restricted to ophiolithic rock and scree slopes of the Pindos range in NW Greece, extending to adjacent parts of S Albania (Greuter 1997). It had been reported for Albania in only two localities, near Gjergjevica village (Alston & Sandwith 1940) and near Mborja village (Vangjeli et al. 1995), both close to Korcha city. We here report three other localities in Korcha district, one in Erseka and a fifth one in Mati district, NE Albania; the latter is surprisingly disjunct and extends the northern distribution of the species to near latitude 41°40’N. All localities are on ophiolitic substrate.

Scrophulariaceae
Cymbalaria microcalyx (Boiss.) Wettst. subsp. minor (Cuf.) Greuter (Fig. 4)

S Albania: Gjirokastra district, bank of Zhulati river (a tributary of Kardhiqi river), below Qafa e Taroninës, limestone rock crevices and cliffs of Kardhiqi valley, with Colutea arborescens abundant 10 m above river bank, 325–350 m, 40°07'N, 19°59'E, 16 May 2009, Shuka & Malo 3180 (TIR), above Kolonja village, on the left of Picari village, 590 m, 40°16’N, 20°01’E, 10 April 2008, Shuka & Malo 2672 (TIR).

First record for the Albanian flora, the nearest occurrences being the Ionian Islands and the adjacent mainland of western Greece to the south (Tan & Iatrou 2001). The population above Kolonja village represents the northernmost distribution limit of the species.

Pedicularis ernesti-mayeri Stevanović, Niketić & Lakušić
N Albania: Shkodra district, Buni i Thores, limestone rock, meadows above Fagus forest tree line, 1860 m, 42°23’N, 19°43’E, 21 July 2007, Shuka 1634 (TIR); loc. ibid., 26 June 2009, Shuka 1928 (TIR); Maja Jezerca, ann. 2000, Wraber (pers. comm. M. Niketić).

A trip was made to the northern Albanian Alps with the intention of monitoring known populations of Wulfenia baldacci Degen and Petasites doerfleri Hayek on Buni i Thores. The Pedicularis was discovered in the area, not surprising bearing in mind the not too distant locality of the Kosovo Alps (Mt Prokletije) from where it was
first described (Stevanović et al. 2001). Together with Petasites doerfleri, we observed Heliosperma macranthum (Pančić) Neumayer, Gentiana dinarica Beck., A. ottonis Orph. subsp. amaliae Strid, Pingiucula balcanica Casper, Viola calcarata subsp. zoysii (Wulfen) Merxm., Dryas octopetala L. and Salix retusa L. This locality extends the known distribution range of P. ernesti-mayeri more to the south and west.

Marjan Niketic (Belgrade) had kindly informed Kit Tan that the late Prof. Tone Wraber (Slovenia) had found P. ernesti-mayeri in N Albania much earlier, in the year 2000 and has also shown him a specimen. As far as we can ascertain this discovery had not been published nor is it known if the plant was collected from the Albanian or Kosovo part of Mt Jezerca; we include Wraber’s record here. Buni i Thores is 50-70 km further south than Mt Jezerca.

Asteraceae
Centauraea prespana Rech. fil.

SE Albania: Korcha district, watershed of Mikro Prespa Lake, calcareous rocks of the western slopes, below castle of Gradishta, 870 m, 40°40’N, 20°59’E, 15 June 2007, Shuka 451 (TIR).

New for Albania. C. prespana was first described as a yellow-flowered species restricted to NW and N Central Greece (Rechinger 1975). A pink-flowered form of C. prespana was later discovered on calcareous cliff faces and at the base of cliffs and scree walls near the edge of Lake Megali Prespa, NW of the village of Psarades and north of the frontier post of Koula (Tan et al. 2007). We now record the pink-flowered form in Albanian territory, just across the Greek-Albanian border. Although the plants were not yet in full flower, it was obvious from four capitula available, that the florets would be pink rather than yellow. We have never observed yellow-flowered C. prespana in Albania.

Centaurea alba subsp. ipecensis (Rech.fil.) Dostál

N Albania: Shkodra district, in meadows overlying hard limestone, along the path from Okol (Thehti) village to Peja Pass, 850-1100 m, 42°25’N, 19°45’E, 19 July 2007, Shuka 789 (TIR).

First record for Albania. This is a stenoendemic from Kosovo where the type material was collected, also from the Peja (Peć) area.

Centaurea vlachorum Hartvig

NE Albania: Kukësi district, Livadhet e Laskit (Meadows of Laski), along road to Qafa e Kumbullës (Prunus Pass), on serpentine substrate, 1250–1350 m, 42°00’N, 20°17’E, 15 May 2010, Shuka 4113 (TIR), loc. ibid., 20 June 2010, Shuka 4188 (TIR) & 25 June 2011, Kit Tan & G. Vold 30954 (C).

This serpentine species was recently discovered in the Lura National Park, Peshkopi district in the northeast of the country and reported as new for Albania (Shuka & Tan 2009). The new locality in the meadows of Laski represents the northernmost limit of distribution. The plants here were not yet flowering in May but had finished flowering and were in early fruit subsequent visits visit in June. The population of C. vlachorum in the Laski meadows was very large, occupying nearly the area of a football field.

Amaryllidaceae
Galanthus reginae-olgae Orph. subsp. reginae-olgae (Fig. 5)

S Albania: Delvina district, above Syri i Kalter (spring of Blue Eyes) in Bistrica valley, limestone substrate, still flowering, 230–270 m, 39°54’N, 20°11’E, 30 November 2008, Shuka 2832 (TIR); loc. ibid., fruiting, 7 April 2010, Shuka 3698 (TIR), loc. ibid., 8 April 2010, Kit Tan & al. 30880 (Copenhagen Bot. Garden), west of Dhrovjani village, above the springs in Bistrica valley, limestone substrate, fruiting, 120 m, 39°55’N, 20°08’E, 24 December 2010, Shuka 5002 (TIR).

First record for the Albanian flora. G. reginae-olgae subsp. reginae-olgae was flowering from October to
L. Shuka et al.: New chorological data and floristic notes for Albania

All the other taxa occur on limestone, flysch or siliceous substrate. The new localities for *Silene schwarzenbergeri* and *Centaurea vlachorum* in NE Albania, taxa which have previously been considered as endemic to N Pindos (NW Greece), extend substantially the distribution limits of these taxa to the north. The narrow range of five local endemics geographically isolated in the N Albanian Alps (*Pedicularis ernesti-mayeri*, *Centaurea prespana*, *Centaurea alba* subsp. *ipecensis*, *Centaurea vlachorum* and *Galanthus reginae-olgae*) are now much broadened.

**SUMMARY OF RESULTS**

Our results reveal that nine taxa, which were previously considered endemic to neighbouring countries, now also occur in Albania. *Centaurea alba* subsp. *ipecensis* is only known in one locality in each of its country of occurrence.

Regarding substrate preferences, *Aristolochia merxmuelleri*, *Silene schwarzenbergeri* and *Centaurea vlachorum* are obligate serpentinophytes, growing only on ophiolithic soils in the Albanian-Pindos mountain chain. All the other taxa occur on limestone, flysch or siliceous substrate.

The new localities for *Silene schwarzenbergeri* and *Centaurea vlachorum* in NE Albania, taxa which have previously been considered as endemic to N Pindos (NW Greece), extend substantially the distribution limits of these taxa to the north. The narrow range of five local endemics geographically isolated in the N Albanian Alps (*Pedicularis ernesti-mayeri*, *Centaurea alba* subsp. *ipecensis*, *Dukadjini* area (*Aristolochia merxmuelleri*), Prespa area (*Centaurea prespana*) and Mts Nemërçka-Timfi range (*Minuartia pseudosaxifraga*) are now much broadened.

Two taxa, *Cymbalaria microcalyx* subsp. *minor* and *Galanthus reginae-olgae* subsp. *reginae-olgae*, are East...
Mediterranean elements whereas Heliosperma pusillum subsp. monachorum and Silene lerchenfeldiana are distinctly East and Central Balkan elements.

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REFERENCES


REZIME

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