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TAXONOMICAL AND CHOROLOGICAL NOTES 4 (38–58)

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Abstract: The fourth part of the recently launched series includes miscellaneous new records of bryophytes and vascular plants from the territory of the Carpathian Basin and the Balkan Peninsula. New chorological records of four bryophytes and 15 vascular plants are provided here. One native species (*Anacamptis laxiflora*) is new for the flora of the Republic of Macedonia, Montenegro, and Serbia, and seven species (*Aconitum variegatum*, *Bupleurum affine*, *Carex atrata*, *Euphorbia phymatosperma*, *Knautia ambigua*, *Pulsatilla vernalis*, *Silene veselskyi*) and one subspecies (*Zannichellia palustris* subsp. *pedunculata*) for the flora of Albania. Two introduced species (*Euphorbia prostrata*, *Spartina versicolor*) are also newly reported from the territory of Albania and four further species (*Corynephorus articulatus*, *Jurinea consanguinea*, *Koeleria nitidula*, *Linum thracicum*) are reported for the first time from Albania based on previously collected herbarium specimens. The present occurrence of these four taxa needs recent confirmation. Two native (*Buxbaumia aphylla*, *Dicranum tauricum*) and one introduced species (*Campylopus introflexus*) are newly reported from the territory of the Somogyicum region in Hungary, one from the Mecsek Mts (*Nowellia curvifolia*), one from the Putnok Hills (*Lychnis coronaria*) and one (*Buxbaumia aphylla*) is confirmed with the second and further four records in the Börzsöny Mts.

Key words: Apiaceae, Asteraceae, Buxbaumiaceae, Caprifoliaceae, Caryophyllaceae, Cephalozia-
ceae, Cyperaceae, Dicranaceae, Euphorbiaceae, Linaeaceae, Orchidaceae, Poaceae, Ranunculaceae,
Zannichelliaceae

INTRODUCTION

This paper is the fourth part of the series launched in *Studia botanica hungarica* focusing on the new chorological records, nomenclature, and taxonomy of

plant species from algae to vascular plants and fungi (BARINA *et al.* 2015, PAPP *et al.* 2016, TAKÁCS *et al.* 2016).

NEW RECORDS WITH ANNOTATIONS

Bryophytes

(38) *Buxbaumia aphylla* Hedw. (Buxbaumiaceae)

Hungary, Somogy County, Kelet-Belső-Somogy: Barcs, Juniper Woodland, on acidic sand, by a dirt road beside a pine plantation, 45.981211° N, 17.554778° E, 129 m [0071.1]; leg. et det. Kovács D., Csiky J. & Deme J., 31.05.2016 (JPU and photodocumented).

This circumpolar boreal-montane bryophyte (HILL and PRESTON 1998) was considered to be rare in Hungary, but nowadays it is known from several locations in hilly and mountain regions, mainly in acidophilous forest communities, on acidic soil or gravel outcrops. See also below at (39).

Although during the earlier surveys, which were carried out in the Juniper Woodland Landscape Protection District (GALAMBOS 1981), this taxon was never found here. In addition, it is the first data from a lowland area in Hungary; therefore this record largely extends the potential occurrences of the species. Its closest localities are found in the Mecsek Mts, more than 40 km away. Due to the unusual habitat type, the associated vascular plant composition (*Aira caryophyllea*, *Ambrosia artemisiifolia*, *Campanula rotundifolia* agg., *Carex caryophyllea*, *Fagus sylvatica*, *Festuca vaginata*, *Hieracium pilosella*, *Hieracium umbellatum*, *Holcus mollis*, *Hypericum perforatum*, *Luzula campestris*, *Peucedanum oreoselinum*, *Rumex acetosella*, *Solidago virgaurea*, *Veronica officinalis*, *Padus serotina*, *Quercus robur*) greatly differs from the generally known (BOROS 1968). During a non-systematic survey, we have detected 50 capsules (29 well-developed or mature, 21 dead) and 28 setae in three groups, but presumably with a systematic research more stands could be found.

J. Csiky, D. Kovács and J. Deme

(39) *Buxbaumia aphylla* Hedw. (Buxbaumiaceae)

Hungary, Pest County, Börzsöny Mts: Nagybörzsöny, Nagy-Pogányhegy, on a steep slope of a boulder scree, in a small patch of an acidophilous beech forest, on acidic soil 47.938056° N, 18.888211° E, 540 m [8079.3]; leg.: J. Csiky, P. Erzberger and J. Nagy., det. J. Csiky, 30.10.2015 (JPU and photodocumented). – Hungary, Nógrád County, Börzsöny Mts: Diósjenő, Magas-hegy, in acidophilous beech forest, on acidic soil 47.95280° N, 19.00330° E, 520 m [8080.1]; leg. et det. J. Nagy, 30.03.2017 (photodocumented). – Hungary, Nógrád County, Börzsöny Mts: near Diósjenő, in acidophilous oak forest, on acidic soil 47.95386° N, 19.01886° E, 380 m [8080.1]; leg. et det.: J. Nagy, 30.03.2017 (Hb. J. Nagy and photodocumented). – Hungary, Pest County, Börzsöny Mts: Szokolya-Királyrét, Lukács-szállás, in acidophilous beech forest, on acidic soil 47.89927° N,

18.95688° E, 340 m [8179.2]; leg. et det. J. Nagy, 01.04.2017 (Hb. J. Nagy and photodocumented). – Hungary, Pest County, Börzsöny Mts: Szokolya, Kecskéhát-bérc, in acidophilous oak forest, on acidic soil 47.91830° N, 18.94855° E, 490 m [8079.4]; leg. et det.: J. Nagy, 15.04.2017 (Hb. J. Nagy and photodocumented).

Buxbaumia aphylla is a circumpolar boreal-montane moss species (HILL and PRESTON 1998) distributed in Europe (HODGETTS 2015). The species is currently registered as a vulnerable (VU) bryophyte in Hungary (PAPP et al. 2010, HODGETTS 2015). See more above at item (38).

Buxbaumia aphylla was firstly discovered by László VAJDA (1966) in the Börzsöny Mts (North Hungarian Mountains). The species was found at a single locality called Sasfészek (Kemence, Pest County) in 09.05.1959 [8079.2]. It has not been reported from the Börzsöny Mts in the last 50 years.

Five new populations (4–25 capsules/locality) were found in the Börzsöny Mts in a short period of time (in 2015 and 2017). Each of them occurred on soil in acidic forest communities. The characteristic associated bryophyte species were *Atrichum undulatum*, *Cephaloziella* sp., *Dicranella heteromalla*, *Dicranum scoparium*, *Diphyscium foliosum*, *Hypnum cupressiforme*, *Isothecium alopecuroides*, *Pogonatum aloides*, *Pogonatum nanum*, *Pohlia nutans*, *Polytrichum formosum*, *Polytrichum juniperinum*, *Polytrichum piliferum* on soil and *Grimmia muehlenbeckii*, *Grimmia ovalis*, *Hedwigia ciliata* var. *ciliata* on nearby rocks.

Since these habitat types are widespread in the Börzsöny Mts, the Bryophyte Mapping of Hungary project presumably will provide additional information on new locations in the region.

J. Nagy and J. Csiky

(40) *Campylopus introflexus* (Hedw.) Brid. (Dicranaceae)

Hungary, Somogy County, Kelet-Belső-Somogy: Darány, Juniper Woodland, on acidic sand, close to a path at a forest edge, beside a mixed pine plantation, 45.979197° N, 17.565786° E, 130 m [0071.1]; leg. Csiky J., Deme J. & Kovács D., det: Csiky J., 31.05.2016 (JPU).

This bryophyte is the most widespread invasive moss species in Europe. It is invading various habitats in Central Europe, preferably occupying anthropogenic, bare, acidic, and nutrient poor soils. Since it was found firstly in Hungary, it became a widely distributed species and has stable populations (SZÜCS *et al.* 2014). The expansion of this suboceanic temperate element (HILL and PRESTON 1998) is expected mainly in the subatlantic and submontane regions of the country, but in sites characterised by acidic soils and pine plantations as well.

During the former surveys, *C. introflexus* was noticed neither in the Juniper Woodland of Barcs nor in Belső-Somogy (Somogyicum) (GALAMBOS 1981, SZÜCS *et al.* 2014). We have found very small patches of some dm² with vegetative specimens. Locally, the species usually spreads with asexual reproduction

(fragmentation or propagula), but for long distances, spreading by spores is more important (MIKULÁŠKOVÁ *et al.* 2012). The closest localities in the Mecsek Mts are more than 40 km away, but well developed stands with sporophytes occur there. Since the dominant wind direction is northwest and the stand can be found close to the most frequently used pathway, the population in Darány was more likely initialized by carrying of stem tips rather than spores.

The appearance of an invasive moss in such a unique area, like the Juniper Woodland Landscape Protection District, can cause serious problems on its biodiversity (MEULEN *et al.* 1987), so the monitoring of the *C. introflexus* stands is strongly recommended there.

J. Csiky, D. Kovács and J. Deme

(41) *Dicranum tauricum* Sapjegin (Dicranaceae)

Hungary, Somogy County, Kelet-Belső-Somogy: Barcs, Juniper Woodland, on an 18 m long rotten *Pinus sylvestris* log being 32 cm in diameter, in an old *Quercus robur* dominated gallery forest with small *Pinus sylvestris* plantations, 45.978078° N, 17.541129° E, 128 m [0071.1]; leg. Csiky J. & Csikyné R. É., 21.05.2016, det. Csiky J. (JPU and photodocumented).

This native but expansive moss is widespread in Hungary but new for Belső-Somogy (Somogyicum). It usually occurs on bark in the lower part of the trunks in hilly and submountain regions (SZŰCS *et al.* 2013), but the largest stands in Hungary can be found on rotten pine logs in the Mecsek Mts (CSIKY *et al.* 2014). The total coverage of this species on the log in Barcs is 150 cm². Associated species are typical epixyl taxa: *Dicranum montanum*, *Herzogiella seligeri*, *Hypnum cupressiforme*, *Lophocolea heterophylla*, *Nowellia curvifolia* (large fertile patches), *Platigyrum repens*, and *Cladonia* spp.

J. Csiky

(42) *Nowellia curvifolia* (Dicks) Mitt. (Cephaloziaceae)

Hungary, Baranya County, Mecsek Mts: Komló, Barnakő, over the rocky walls on a rotten *Fagus sylvatica* log, 46.211843° N, 18.300638° E, 284 m [9775.4], leg. Erzberger, P. & Deme J., 28.03.2015, det. Csiky J. (JPU); Pécs (Patacs), Páprágy-völgy, on a 5 m long rotten *Pinus nigra* log, 46.08645° N, 18.16712° E, 333 m [9975.1], leg. et det. Csiky J., 16.06.2016 (JPU and photodocumented).

Nowellia curvifolia is a rare vulnerable (VU) epixyl species in Hungary (PAPP *et al.* 2010). It is new for the moss flora of the Mecsek Mts (Sopianicum). The closest populations are known from the Juniper Woodland Landscape Protection District (56 km away) in Hungary (GALAMBOS 1981) and in the Papuk Mts (73 km away) in Croatia (personal observation).

It is worth mentioning that both stands of *Nowellia curvifolia* were found on rotten wood in the Mecsek Mts, associated with *Dicranum tauricum*. The first

stems of the species were discovered in a *Dicranum tauricum* cushion, during the revision of *Dicranum* collections of JPU, so complete list of associated species in the case of Barnakő is not available. Associated species in the Páprágy valley (*Dicranum scoparium*, *D. tauricum*, *Herzogiella seligeri*, *Hypnum cupressiforme*, *Lophocolea heterophylla*, *Nowellia curvifolia*, *Platigyrium repens*, *Ptilidium pulcherrimum*, *Tetraphis pellucida*, and *Cladonia* sp.) were very similar to the species assemblage that was found in Barcs, by Csiky J. and Csikyné R. É. (see above), where *Tetraphis pellucida* and *Aulacomnium androgynum* were also present on nearby rotten logs. This composition resembles the *Tetraphido-Orthodicranetum stricti* Hebrard 1973, a bryophyte association of rotten logs in Central Europe (MARSTALLER 1981). These data draw our attention to the significant expansion of *Dicranum tauricum*, which potentially endangers the populations of rare epixyl mosses and liverworts in Hungary (through rapid colonisation, dense and thick cushions, drought tolerance).

J. Csiky and J. Deme

Vascular plants

(43) *Aconitum variegatum* L. (Ranunculaceae)

Albania Kukës county, ca 1.5 km SE of village Sylbice, in the valley of stream përroi i Tropojës at the side valley of Lugina e Dyshit; in flush, 42.50705°N, 20.14575°E, 1515 m; leg.: Z. Barina, A. Kovács, G. Puskás & B. Sárospataki, 08.07.2011, Nr. 19436.

Albania; District of Tropojë (Rrethi i Tropojës), above village Dobërdol, on the S slope of Mt maja e Shpatit (2205.0 m), along a brooklet, on granite, 42.55052° N, 20.05869° E, 1950 m; Z. Barina, A. Kovács, G. Puskás & B. Sárospataki, 09.07.2011, Nr. 19519.

Aconitum variegatum is a Central European species, with isolated occurrences in the mountains of S Europe. A few localities are known in the North Central region of Greece (DIMOPOULOS *et al.* 2013), in Bulgaria (ASSYOV and PETROVA 2006), and also in Montenegro (ROHLENA 1942).

The known localities in Albania are restricted to the upper valley of Tropojë river, in tall herb vegetation. The related *A. toxicum* occurs in forest communities in the eastern part of Montenegro and S Serbia STEVANOVIĆ *et al.* (1991).

Z. Barina

(44) *Anacamptis laxiflora* (Lam.) R. M. Bateman, Pridgeon et M. W. Chase (Orchidaceae)

Montenegro, Bar region, near Brijegje, close to the public road E80, 42.23898° N, 19.02228° E, 283 m; leg.: M. Óvári, 09.06.2010 (observed); Montenegro, Budva region, near Buljarica, in wet meadows, 42.18250° N, 18.97060° E, 2 m; leg.: M. Óvári, 09.06.2010 (photodocumented).

Republic of Macedonia, Mogila region, near Vasharejca, close to the public road A3, in tall-sedge beds and mesic scrub mosaic, 41.17738° N, 21.39449° E, 603 m; leg.: A. Takács & A. Molnár V., 14.05.2015 (observed).

Serbia, Pčinja district, Moravica valley, between Levošoje and Borovac, in wet meadow, 42.41776° N, 21.73639° E, 410 m; leg.: A. Takács & A. Molnár V., 14.05.2015 (photodocumented).

In the Balkan Peninsula it was so far only known from Albania, Greece, and European part of Turkey (RHAZI *et al.* 2011, GOVAERTS *et al.* 2015). It was also mentioned from former Yugoslavia (DELFORGE 2006), without listing of present states. Records of „*Orchis laxiflora*” (e.g. HAYEK 1933: 393.) from the states of former Yugoslavia (incl. Serbia, Montenegro and Macedonia) refer to *Anacamptis* (*Orchis*) *palustris-elegans* aggregate. Members of this group formerly were interpreted in subspecies rank under *O. laxiflora* (e.g. SOÓ 1980).

A. Takács, M. Óvári and A. Molnár V.

(45) *Bupleurum affine* Sadler (Apiaceae)

Albania, Korçë county; in the valley E of village Bračanaj, in dry grassland, on clay, 40.545008° N, 20.987747° E, 865 m; leg.: Z. Barina, H. Mező & L. Papp, 16.08.2016, Nr. 30511.

It is an East-Central European species, of dry, open habitats, most frequent in Hungary, Serbia, and Bulgaria, and very scattered elsewhere (SNOGERUP & SNOGERUP 2001).

The Albanian locality is in the region where many xerophytic and continental species have single occurrence in the country. The species is missing in the adjoining region of Greece (DIMOPOULOS *et al.* 2013), and has no records from Kosovo. Further occurrences are expected at most in the same region of Albania.

Z. Barina

(46) *Carex atrata* L. subsp. *aterrima* (Hoppe) Hartm. (Cyperaceae)

‘Albania: in monte Korab supra Radomir’, 1800 and 2400 m; leg.: J. Andrasovszky, 24.08.1917, Nr. BP 456093, BP 249704, BP 250072, BP 456094.

Albania, Dibër county; Korab Mts above village Radomirë, in flush, 41.781894° E, 20.52638° E, 2307 m; leg.: Z. Barina, H. Mező & L. Papp, 22.08.2016, Nr. 30614.

It is a North European species, which occurs in the mountains of C. and S Europe. It is known only in the North Central region of Greece and occurs questionably in the Northern Pindos Mts; however, it has been collected in most of the mountains neighbouring N and NE Albania (Mt. Žljeb, Mt. Koprivnik, Bjelasica Mts), including the Macedonian part of the Korab Mts (SO 33091).

Though the Korab Mts are one of the most frequently visited area by botanists, the species has not been re-collected after Andrasovszky, and the species is not included in synthetic works. It was found again in a flush in the Korab Mts in 2016, and likely, present in other (seasonally) wet habitats of the mountains.

Z. Barina

(47) *Corynephorus articulatus* (Desf.) P. Beauv. (Poaceae)

‘Perball shkambit te Kavajes, neper ranishte, 1 m’; leg. M. Demiri & Palikuqi, TIR

It is widespread in the Mediterranean region eastwards to Iran (STRID 2016). The species is apparently missing in Montenegro, but present in W Greece (DIMOPOULOS *et al.* 2013) and S Croatia (NIKOLIĆ 2015).

During the revision of the TIR herbarium, one correctly identified specimen was found, which was collected in the maritime sands and sandstone rocks at Kavajë. The occurrence has not been confirmed subsequently. It is new for the flora of Albania, but due to the large-scale urbanisation and destroy of natural coasts around Kavajë and Durrës, the species has likely been extinct.

Z. Barina

(48) *Euphorbia phymatosperma* Boiss. (Euphorbiaceae)

Albania, Gjirokastër county; Griba Mountains, ca 2.5 km south of town Tepelenë, between the Bridge Bënçë and the prison of Tepelenë, in the valley of river Bënçë, in limestone gorge, 40.26843° N, 20.00964° E, 162 m; leg.: Z. Barina & G. Király, 04.05.2005, Nr. 7735

Euphorbia phymatosperma is a species of Western North Africa, the Mediterranean Basin, and the Middle East. It is known in the S Ionian Islands in Greece (FLORA IONICA WORKING GROUP 2016).

Its single known locality is in the dolomitic area of SW Albania, further occurrences are expected in this region.

Z. Barina

(49) *Euphorbia prostrata* Aiton (Euphorbiaceae)

Albania, Shkodër county, Qafa e Çelës between villages Vau i Dejës and Gomsiqë, along main road SH5, 42.00340° N, 19.72758° E, 458 m; leg.: A. Molnár V., A. Takács, M. Óvári, T. Nagy, R. Fekete & É. Biró, 03.07.2015, s.n., BP

Albania, Shkodër county, Velipojë, in pavement gaps, 41.86245° N, 19.42486° E; leg. B. Pintér, 02.11.2014., s.n., BP

It is a North American species, naturalised in the Mediterranean countries, and present in all regions of Greece (DIMOPOULOS *et al.* 2013). It was found in the larger cities of Macedonia (MICEVSKI 1998) and in a few settlements in Montenegro (PULEVIĆ 2005).

It is likely that the species has been overlooked in Albania and turned up during the revision of accidentally collected specimens of subgen. *Chamaesyce*. Actually, two localities are known in urban habitats in the northern part of the country, close to each other, but further occurrences are expected throughout the country.

A. Takács & Z. Barina

(50) *Jurinea consanguinea* DC. (Asteraceae)

'Albania or. In rupestribus calcareis mt. Mali That, inter pag. Pojan et Podgorje, ad opp. Korce'; leg.: P. Jakucs, 16.07.1960, BP 589948.

It is an Eastern Balkan species, distributed eastwards to Kazakhstan.

Similarly to many continental and Eastern Balkan species, *J. consanguinea* occurs only in the SE part of Albania (cf. *Bupleurum affine*). As missing in the adjoining parts of Greece and in the single old collection known from Thatë Mts, it is likely an isolated occurrence and one of the westernmost populations of the species. It is new for the flora of Albania; however, a recent confirmation is necessary.

Z. Barina

(51) *Knautia ambigua* Boiss. et Orph. (Caprifoliaceae)

Albania, Shkodër county, at the foot of Mount Vila, above village Velipojë, in mountain grassland, on limestone, 42.54956° N, 19.62238° E, 1640 m; leg.: Z. Barina, D. Pifkó & H. Mezö, 03.08.2013, Nr. 23055.

It is a Balkan species distributed from N Greece to S and W Bulgaria.

It is new for the flora of Albania; the new locality extends the area of the species north-westwards, and extends also its altitudinal range.

Z. Barina

(52) *Koeleria nitidula* Velen. (Poaceae)

'Polis, kalkar, 1650 m'; leg.: ?, 10.07.1956, det.: B. Achtarov s.d. (as *Koeleria splendens* and *K. glaucovirens*), J. Ujhelyi 04.06.1969 (as *Koeleria penzesii* Ujhelyi), SOM 98574, SOM 98575.

'Guri i Topit 1800 m serpentini'; leg.: ? 28.07.1956, det.: B. Achtarov s.d. (as *Koeleria glaucovirens*), J. Ujhelyi 03.06.1969 (as *Koeleria penzesii* Ujhelyi), SOM 98573

'Montes Albaniae boreali-orientalis inter opp. Prizren et Debra jacentes: in lapidosis graminosis declivium orientalium cacuminis altissimi montes nivales Korab supra dolinam maximam supremam ad pagum Radomir, sol. calc'; leg.: J. B. Kümmerle, 24.07.1918, det.: J. Ujhelyi (as *K. penzesii* Ujhelyi), BP 19827

Koeleria nitidula is distributed from Hungary to Anatolia with a number of described taxa included.

It is new for the flora of Albania; according to the identifications of Ujhelyi, it occurs in various parts of the country. The distribution of the species in Albania is unknown and needs further studies.

Z. Barina

(53) *Linum thracicum* Degen (Linaceae)

Albania, 'Auf dem Berge Pastrik bei Prizren', 1500 m; leg.: O. Behr & E. Behr, 21.07.1936, BP 546352, BP 672605.

'Albania or. In dumetis decl. or. mt. (Mokra) Mucal, ad margines lacui Ohrid, inter pag. Pogradec et Pishkupat. In ass. Buxo-Cotinetum (A.16-18)'; leg.: P. Jakucs, 16.07.1960, BP 589975

It is a Balkan species, it has not been reported so far not from Albania.

Z. Barina

(54) *Lychnis coronaria* (L.) Desr. (Caryophyllaceae)

Hungary, North Hungarian Mts (Északi-középhegység), Putnoki-dombság micro-region, Sajógalgóc, Nagy-Pallag, in a low xerotherm wood dominated by Tatar maple, field maple and downy oak, 48.287805° N, 20.514261° E; leg. Á. Malatinszky, 25.05.2013, s.n. (photodocumented) (7789.1).

Rose campion is widespread across Southern and Central Europe, and has been reported from some countries in the western part of Asia as well. It is a characteristic species of subcontinental and submediterranean xerotherm oak woods (*Quercetalia cerris* Borhidi 1996) in Hungary. Although this taxon is known from several locations in the North Hungarian Mts, no records were found so far east of the Bükk Mts (KIRÁLY 2009), i.e. in the north-eastern areas of Hungary. Its closest localities were published by BERÁNEK (2007) from hilly areas around Ózd (Arló, Hangony, Tarnalelesz). In the herbarium collections of the Hungarian Natural History Museum (BP), its closest occurrence was reported from the Northern Bükk Mts: Varbó (Hulják 1923, BP), while Hazslinszky (without year, BP) registered its location as „Tálya”, which may refer to Andornaktálya, Kistálya, or Nagytálya in the Southern Bükk Mts, or Tállya in the Zemplén Mts. VIRÓK *et al.* (2016) consider its former data from the Gömör–Torna Karst as false. Therefore, this record extends the species' known area in Hungary towards the NE direction.

Á. Malatinszky

(55) *Pulsatilla vernalis* (L.) Mill. (Ranunculaceae)

Albania, Kukës county; Albanian Alps, region Gash, above town Tropojë, on the northern slope of mt. Callumit (2327.0 m), in mountain grassland, on granite, 42.49750° N, 20.11988° E, 2054 m; leg.: Z. Barina, G. Lunk, D. Pifkó & D. Schmidt, 07.06.2009, Nr. 15587.

Pulsatilla vernalis is distributed in N Europe and in the mountains southwards. It is very rare in S Europe and in the Balkans.

It is known in the Albanian Alps (DIKLIĆ 1992), but has not been reported previously from the Albanian part of the mountains.

Z. Barina

(56) *Silene veselskyi* (Janka) H. Neumayer (Caryophyllaceae)

Albania, Elbasan county, Jablanica Mts, on the western ridge of Mt. maja e Strapit (1974 m), c. 5.5 km south of village Steblevë; on limestone rock, 41.28732° N, 20.47357° E, 1810 m; leg.: Z. Barina, D. Pifkó & A. Vojtkó, 03.07.2008, Nr. 13871.

The species is a member of *Silene pusilla* group described from Steiermark (Austria). It is so far known in lower altitudes of the Alps.

It is new for the flora of Albania. Our new record highly extends the species' distribution to the South and also its altitudinal range.

Z. Barina

(57) *Spartina versicolor* Fabre (Poaceae)

Albania, Vlorë county, c. 4 km SW of village Dëllinjë, on maritime sand dunes, 40.63339°N, 19.33048° E, 1 m; leg.: Z. Barina, D. Pifkó & L. Lőkös, 12.10.2012, Nr. 21998

It is a N American and/or W Mediterranean species, considered to be a native or invasive species in Europe. According to the recent results, European populations are likely to be derived from an introduction of *S. patens* (BAUMEL *et al.* 2016). It is widespread in W Europe, and has recently been found also in the eastern part of Greece (DIMOPOULOS *et al.* 2013).

It is new for the flora of Albania, further occurrences in the coastal marshes are expected.

Z. Barina

(58) *Zannichellia palustris* L. subsp. *pedunculata* (Rchb.) Murb. (Zannichelliaceae)

Albania, Fier county, Marinëz oil field between villages Marinëz and Belinë, in saline puddle, 40.73458° N, 19.66439° E, 13 m; leg.: Z. Barina, D. Pifkó & G. Somogyi, 06.04.2011, det.: A. Mesterházy, Nr. 18592

Albania; District of Shkodër (Rrethi i Shkodrës), Kënetë e Gjeratit (Boksi marsh) near village Lagjja e Re, in marsh, 41.92585° N, 19.43791° E, 0 m; leg.: Z. Barina, 26.05.2010, det.: A. Mesterházy, Nr. 17421a

This subspecies is distributed in most of Europe, but its exact distribution is insufficiently known due to merging it with subsp. *palustris*.

It is new for the flora of Albania; however, its area in the country is unknown and needs further studies.

Z. Barina

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Összefoglaló: Jelen közleményünk a korábban megkezdett, regionális jelentőségű előfordulásokat és nevezéktani megjegyzéseket tartalmazó sorozat negyedik része. Ebben a részben négy mohafaj és 15 virágos növény faj adatait ismertetjük.

Közülük egy őshonos faj (*Anacamptis laxiflora*) új Macedónia, Montenegró és Szerbia flórájára, hét faj (*Aconitum variegatum*, *Bupleurum affine*, *Carex atrata* subsp. *aterrima*, *Euphorbia phymatosperma*, *Knautia ambigua*, *Pulsatilla vernalis*, *Silene veselskyi*) és egy alfaj (*Zannichellia palustris* subsp. *pedunculata*) pedig Albánia flórájára. További két faj (*Euphorbia prostrata*, *Spartina versicolor*) szintén új Albánia flórájára, ezek ottani megjelenése behurcolás eredménye. Négy további fajt (*Corynephorus articulatus*, *Jurinea consanguinea*, *Koeleria nitidula*, *Linum thracicum*) szintén elsőként közlünk Albániából herbáriumi anyagok feldolgozásának eredményeként, ezek aktuális előfordulásának igazolása az országban további vizsgálatokat igényel.

Magyarország területén 2 honos (*Buxbaumia aphylla*, *Dicranum tauricum*) és egy behurcolt fajt (*Campylopus introflexus*) jelzünk elsőként Belső-Somogy (Somogyicum) területéről, egyet a Mecsekéből (*Nowellia curvifolia*) egyet (*Lychnis coronaria*) a Putnoki-dombság területéről és egy faj (*Buxbaumia aphylla*) bürzsönyi előfordulását erősítettük meg annak 2. és további négy bürzsönyi adatával.

REFERENCES

- ASSYOV, B. and PETROVA, A. (2006): *Conspectus of the Bulgarian vascular flora*. – Bulgaria Biodiversity Foundation, Sofia, 454 pp.
- BAUMEL, A., ROUSSEAU-GUEUTIN, M., SAPIENZA-BIANCHI, C., GAREIL, A., DUONG, N., ROUSSEAU, H., CORITON, O., AMIROUCHE, R., SCIANDRELLO, S., DUARTE, B., CAÇADOR, I., CASTILLO J. M. and AINOUCHE, M. (2016): *Spartina versicolor* Fabre: Another case of *Spartina* trans-Atlantic introduction? – *Biol. Invasions* 18(8): 2123–2135.
<https://doi.org/10.1007/s10530-016-1128-z>
- BÉRÁNEK, Á. (2007): Adatok a Heves-Borsodi-dombság és az Upponyi-hegyhát flórájához I. [Data to the flora of the Heves-Borsod Hills and the Uppony Ridge]. – *Kitaibelia* 12(1): 66–72.
- BOROS, Á. (1968): *Bryogeographie und Bryoflora Ungarns*. – Akadémiai Kiadó, Budapest, 466 pp.
- CSIKY, J., ATKÁRI, B., DEME, J. and CSIKYNÉ RADNAI, É. (2014): Mohaflorisztikai érdekességek a Nyugat-Mecsekéből. – *Kitaibelia* 19(1): 29–38.
- DELFORGE, P. (2006): *Orchids of Europe, North Africa and the Middle East*. – A&C Black, London, 285 pp.
- DIKLIĆ, N. (1992): *Pulsatilla*. – In: SARIĆ, M. R. (ed.): The flora of Serbia. Vol. 1. Serbian Academy of the Sciences and the Arts, Belgrade, 429 pp.
- DIMOPOULOS, P., RAUS, Th., BERGMEIER, E., CONSTANTINIDIS, Th., IATROU, G., KOKKINI, S., STRID, A. and TZANOUDAKIS, D. (2013): Vascular plants of Greece. An annotated checklist. – *Englera* 31: 1–372.
- FLORA IONICA WORKING GROUP (2016 onwards): *Flora Ionica – An inventory of ferns and flowering plants of the Ionian Islands (Greece)*. – Published at <https://floraionica.univie.ac.at> (accessed: 19.04.2017)
- GALAMBOS, I. (1981): A Barcsi borókás tájvédelmi körzet moha flórája. – *Dunántúli Dolgozatok Természettudományi Sorozat* 2: 25–42.
- GOVAERTS R., BERNET P., KRATOCHVIL K., GERLACH G., CARR G., ALRICH P., PRIDGEON A. M., PFAHL J., CAMPACCI M.A., BAPTISTA D. H., TIGGES H., SHAW J., CRIBB P., GEORGE A., KREUZ K. and WOOD J. (2015): *World Checklist of Orchidaceae. Facilitated by the Royal Botanic Gardens, Kew*. – Published on the Internet; <http://apps.kew.org/wcsp/> (accessed 25.09.2016)
- HAYEK, A. (1933): *Prodromus florae peninsulae Balcanicae* 3. Monocotyledoneae. – *Fedde's Report., Beihefte* 30(2): 337–576.

- HILL, M. O. and PRESTON, C. D. (1998): The geographical relationships of British and Irish bryophytes. – *J. Bryol.* **20**: 127–226.
- HODGETTS, N. G. (2015): *Checklist and country status of European bryophytes – towards a new Red List for Europe*. – Irish Wildlife Manuals, No. 84. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland.
- KIRÁLY, G. (ed.) (2009): *Új magyar fűvészkönyv. Magyarország hajtásos növényei. Határozókulcsok*. – Aggteleki Nemzeti Park Igazgatóság, Jósvafő, 616 p.
- MARSTALLER, R. (1981): Zur Soziologie von *Dicranum tauricum* Sap. 10. Beitrag zur Moosvegetation Thüringens. – *Hercynia N.F.* **20**(1): 89–98.
- MEULEN, F. VAN DER, HAGEN, H. VAN DER and KRUIJSEN, B. (1987): *Campylopus introflexus*. Invasion of a moss in Dutch coastal dunes. – *Proceedings of the Koninklijke Nederlandse Academie van Wetenschappen. Series C: Biological and Medical Sciences* **90**: 73–80.
- MÍKULÁŠKOVÁ, E., FAJMONOVÁ, Z. and HÁJEK, M. (2012): Invasion of central-European habitats by moss *Campylopus introflexus*. – *Preslia* **84**(4): 863–886.
- NIKOLIĆ, T. (2015): *Flora Croatica baza podataka*. – Prirodoslovno-matematički fakultet, Sveučilište u Zagrebu, <http://hirc.botanic.hr/fcd> (accessed 19.04.2017)
- PAPP, B., ERZBERGER, P., ÓDOR, P., HOCK, Zs., SZÖVÉNYI, P., SZURDKI, E. and TÓTH, Z. (2010): Updated checklist and red list of Hungarian bryophytes. – *Studia bot. hung.* **41**: 31–59.
- RHAZI, L., GRILLAS, P., RHAZI, M., FLANAGAN, D. and RANKOU, H. (2011): *Anacamptis laxiflora*. – The IUCN red list of threatened species 2011: e.T164122A5733232. (accessed 21.02.2017)
- ROHLENA, J. (1942): *Conspetus Florae Montenegrinae*. – *Preslia* **20–21**: 1–506.
- Soó, R. (1980): *Orchis L.* – In: TUTIN, T. G., HEYWOOD, V. H., BURGESS, N. A., MOORE, D. M., VALENTINE, D. H., WALTERS, S. M. and WEBB, D. A. (eds): *Flora Europaea*. Vol. 5. Cambridge University Press, Cambridge, pp. 337–342.
- SNOGERUP, S. & SNOGERUP, B. (2001): *Bupleurum L.* (Umbelliferae) in Europe 1. The annuals, B. sect. *Bupleurum* and sect. *Aristata*. – *Willdenowia* **31**: 205–308.
- SZŰCS, P., CSIKY, J. and PAPP, B. (2014): A neophyta *Campylopus introflexus* (Hedw.) Brid. elterjedése Magyarországon. – *Kitabelia* **19**(2): 212–219.
- SZŰCS, P., NÉMETH, Cs. and ERZBERGER, P. (2013): Adatok a *Dicranum tauricum* Sapjegin hazai elterjedéséhez II. – *Bot. Közlem.* **100**(1–2): 147–154.
- STEVANOVIĆ, V., NIKETIĆ, M. and LAKUŠIĆ, D. (1991): Chorological additions to the flora of eastern Yugoslavia. – *Flora Mediterranea* **1**: 121–142.
- STRID, A. (2016): Atlas of the Aegean Flora, Part 2. – *Englera* **33**: 1–878.
- TAKÁCS, A., BARÁTH, K., CSIKY, J., CSIKYNÉ, R. É., KIRÁLY, G., NAGY, T., PAPP, V., SCHMIDT, D., TAMÁSI, B. and BARINA, Z. (2016): Taxonomical and chorological notes 3 (28–37). – *Studia bot. hung.* **47**(2): 345–357. <https://doi.org/10.17110/studbot.2016.47.2.345>
- VAJDA, L. (1966): A Börzsöny hegység mohafldrája – *Fragm. Bot.* **4**: 79–100.
- VIRÓK, V., FARKAS, R., FARKAS, T., ŠUVADA, R. and VOJTKÓ, A. (2016): *A Gömör-Tornai-karszt flórája. Enumeráció*. [Flora of the Gömör–Torna Karst. Enumeration]. ANP füzetek XIV. – Aggteleki Nemzeti Park Igazgatóság, Jósvafő, 100 pp.