

New floristic records in the Balkans: 10*

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Abstract: New chorological data are presented for 117 species and subspecies from Bulgaria (reports no. 1-3, 23-30, 38-74, 90-117), Greece (9-22, 75-89) and Turkey-in-Europe (4-8, 31-37). The taxa belong to the following families: *Adoxaceae* (23), *Amaryllidaceae* (13), *Apiaceae* (52, 96, 111), *Asclepiadaceae* (53, 54), *Asteraceae* (9-11, 17-22, 24, 31-38, 55, 75, 97), *Athyriaceae* (4, 5), *Berberidaceae* (76), *Boraginaceae* (77-79), *Brassicaceae* (25, 46, 56), *Campanulaceae* (39, 57, 90), *Cannabaceae* (58), *Caprifoliaceae* (59), *Caryophyllaceae* (26, 60, 98), *Chenopodiaceae* (12), *Cupressaceae* (1), *Cyperaceae* (65-67, 92), *Dipsacaceae* (61), *Dryopteridaceae* (6, 51), *Euphorbiaceae* (40), *Fabaceae* (80, 81, 99, 100, 112, 113), *Gentianaceae* (82), *Guttiferae* (101, 114), *Hypolepidaceae* (7), *Iridaceae* (42), *Isoetaceae* (8), *Lamiaceae* (83, 84), *Liliaceae* s.l. (43, 44, 104), *Onagraceae* (85), *Orchidaceae* (3, 30, 45, 68-71, 89, 95), *Paeoniaceae* (2, 27), *Poaceae* (14-16, 47-50, 72-74, 93, 94, 105-109, 116, 117), *Rosaceae* (28, 41, 62, 102, 115), *Rubiaceae* (63), *Saxifragaceae* (64), *Scrophulariaceae* (86), *Solanaceae* (87, 88), *Thymeleaceae* (29), *Valerianaceae* (103) and *Vitaceae* (91).

A new combination is made: *Hieracium schmidtii* Tausch subsp. *samoethracis* (Ade & Schack) Gottschl. (22).

The publication includes contributions by A. Asenov (1-3), N. Başak, N. Güler & F. Dane (4-8), B. Biel & Kit Tan (9-16), G. Gottschlich, B. Biel & Kit Tan (17-22), Y. Marinov (23-30), Ç. Meriç, G. Yılmaz, K. Alpınar & F. Dane (31-37), A.S. Petrova, Y. Marinov, R. Vasilev & D. Venkova (38-45), H. Pedashenko, K. Vassilev & V. Goranova (46-50), A.S. Petrova, G. Trifonov, D. Venkova & M. Ivanova (51-74), Kit Tan, G. Sfikas, G. Vold & T. Lafranchis (75-89), A. Tashev (90-94), G. Trifonov (95), K. Vassilev (96-110), K. Vassilev & H. Pedashenko (111-117).

This is the tenth report in a series dealing with the new chorological data of vascular plants in the Balkans. For details on the presentation of information see *Phytologia Balcanica*, vol. 12(1), pp. 107-108 and vol. 12(2), p. 279.

* Reports for Bulgaria have been reviewed by V. Vladimirov, for Greece by Kit Tan and for Turkey-in-Europe by F. Dane.

Reports 1-3

Asen Asenov

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Cupressaceae

1. *Juniperus sibirica* Burgst.

Bu Znepole Region: Mt Zemenska, close to Silni Vrah area, limestone, on an open ridge area at 1100 m, FN-30, 21.06.2008, coll. A. Asenov (SO 105070).
New for Znepole Region.

Paeoniaceae

2. *Paeonia mascula* (L.) Mill.

Bu Znepole Region: Mt Zemenska, close to peak Tichak area, 950 m, FN-30, 25.05.2006, coll. A. Asenov (SO 104309).

A small group of several specimens growing in mixed *Fagus sylvatica*/*Carpinus betulus* forest on the northern limestone slope. So far known from Mt Konyavska in Znepole Region (Velchev 1984; Andreev 1992).



Fig. 1. Albino form of *Cephalanthera damassonium* (photo A. Asenov).

Orchidaceae

3. *Cephalanthera damassonium* (Mill.) Druce (Fig. 1)

Bu Znepole Region: Mt Zemenska, close to Silni Vrah area, beech forest on limestone bedrock, ca. 1100 m, FN-30, 18.06.2008, coll. A. Asenov (SO 105571).

This is the first report of a true albino (without pigments in all plant's parts) *Cephalanthera* from Bulgaria. Several albino plants were observed. They were 20-25 cm high, of the same height as the other plants of this species nearby. True albino plants are occasionally found in the orchid genera *Cephalanthera* and *Epipactis*. Such plants are able to survive because of mycorrhizis (Delforge 1995).

Acknowledgements. The author is grateful to Dr. Antoaneta Petrova, Botanical Garden, Bulgarian Academy of Sciences for the consultation on the *Cephalanthera* plant.

Reports 4-8

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Athyriaceae

4. *Athyrium filix-foemina* (L.) Roth

Tu(E) A1(E) Kırklareli: Dereköy, 475 m, 41°55'45"N, 27°21'57"E, 25.05.1986, coll. N. Başak, det. O.N. Tüysi (EDTU 418); Istraga, 475 m, 41°55'45"N, 27°21'57"E, 18.06.1986, coll. N. Başak, A. Asan & G. Dalgıç, det. O.N. Tüysi (EDTU 472).

New for A1(E) Kırklareli in European Turkey.

5. *Cystopteris fragilis* (L.) Bernh.

Tu(E) A1(E) Edirne, Center: Edirne to Süleoğlu, 1.5 km, 131 m, 41°41'24"N, 26°35'35"E, 23.03.1989, coll. N. Başak, det. N. Başak (EDTU 3079); Saksagan village, among rocks under the forest, 195 m, 41°53'00"N, 26°36'10"E, 19.04.1992, coll. N. Başak, det. N. Başak (EDTU 4844); Hüseyinakpınar village, under the *Quercus* sp. scrubs, 190 m, 41°53'55"N, 26°35'43"E, 26.04.1992, coll. N. Başak, det. N. Başak (EDTU 4845); Lalapaşa: Kalkansöğüt village, on hills, near stream, 420 m, 41°58'17"N, 26°48'50"E, 08.05.1988, coll. N. Başak & G. Dalgıç, det. N. Başak (EDTU 2020); Hacıdanişment village, 440 m, 41°54'39"N, 26°49'24"E, 19.04.1992, coll. N. Başak, det. N.

Başak (EDTU 4842); Hanlıyenice village, among rocks, 255 m, 41°52'29"N, 26°41'04"E, 19.04.1992, coll. *N. Başak*, det. *N. Başak* (EDTU 4843); Süleoğlu: Süleoğlu barrage, 210 m, 41°47'40"N, 26°55'33"E, 04.04.1990, coll. *A. Akıncı*, det. *N. Başak* (EDTU 4298).

- A1(E) Kırklareli, Center: Kırklareli to Dereköy, 6 km, 265 m, 41°47'00"N, 27°16'07"E, 10.06.1987, coll. *N. Başak*, det. *O.N. Tüysi* (EDTU 1209); Kırklareli to Dereköy, 15 km, 370 m, 41°49'26"N, 27°19'16"E, 11.04.1989, coll. *N. Başak* (EDTU 4445); Yoğuntaş, 348 m, 41°49'58"N, 27°04'07"E, 06.05.1988, coll. *N. Başak* & *G. Dalgıç*, det. *N. Başak* (EDTU 2000); Kofcaz: Kofcaz to Elmacık, 3 km, under forest, 450 m, 41°55'14"N, 27°10'00"E, 10.06.1987, coll. *N. Başak*, *C. Yarcı* & *G. Dalgıç*, det. *O.N. Tüysi* (EDTU 1221).

New for A1(E) Edirne and Kırklareli in European Turkey.

Dryopteridaceae

6. *Polystichum setiferum* (Forssk.) Woytar

Tu(E) A1(E) Kırklareli, Pınarhisar: Yeniceköy, under forest, 460 m, 41°44'14"N, 27°38'08"E, 13.04.1986, coll. *G. Dalgıç* & *F. Dane*, det. *O.N. Tüysi* (EDTU 293).

New for A1(E) Kırklareli in European Turkey.

Hypolepidaceae

7. *Pteridium aquilinum* (L.) Kuhn

Tu(E) A1(E) Edirne, Lalapaşa: Lalapaşa to Donköy, 1 km, 180 m, 41°51'07"N, 26°44'35"E, 06.06.1987, coll. *N. Başak* & *H. Arda*, det. *N. Başak* (EDTU 952).

- A1(E) Kırklareli, Center: Kayalıdere barrage, 270 m, 41°47'10"N, 27°07'00"E, 06.05.1988, coll. *G. Dalgıç* & *N. Başak*, det. *N. Başak* (EDTU 2007); Dereköy: near Dereköy, 475 m, 41°55'45"N, 27°21'57"E, 10.06.1987, coll. *N. Başak* & *G. Dalgıç*, det. *O.N. Tüysi* (EDTU 1172); Demirköy: Velika, 530 m, 41°46'54"N, 27°42'23"E, 22.06.1986, coll. *N. Başak* & *F. Başak*, det. *N. Başak* (EDTU 536); Limanköy, 10 m, 41°53'16"N, 27°03'16"E, 22.06.1986, coll. *N. Başak* & *F. Başak*, det. *N. Başak* (EDTU 537); Vize: Saka Lake, 0 m, 41°47'56"N, 27°59'39"E, 30.08.1989, coll. *S. Yurtsever*, det. *N. Başak* (EDTU 3944).

- A1(E) Tekirdağ, Center: Tekirdağ to Istanbul, 4 km, at the roadside, near the sea, 1 m, 40°59'40"N, 27°37'50"E, 28.05.1988, coll. *E. Düzalan*, det. *O.N. Tüysi* (EDTU 2589); Saray: Saray to Güngörmez,

3 km, 300 m, 41°30'55"N, 28°00'50"E, 21.06.1986, coll. *N. Başak* & *F. Dane*, det. *N. Başak* (EDTU 496).
New for A1(E) Edirne, Kırklareli and Tekirdağ in European Turkey.

Isoetaceae

8. *Isoetes hystrix* Bory

Tu(E) A1(E) Edirne, Enez: Center, 20 m, 40°43'26"N, 26°05'00"E, 26.06.2000, coll. & det. *N. Başak* (EDTU 7969).

New for A1(E) Edirne in European Turkey.

Reports 9-16

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This is the eighth report of new plant-records for the island of Samothraki (N Aegean islands, Nomos Evrou, Eparchia Samothrakis) based on fieldwork carried out in June and November 2008 as well as February 2009. The records listed are all new to the island and when specifically stated, to the floristic region N Aegean (NAe) as circumscribed in *Flora Hellenica* (Strid & Tan 1997). The distribution on the other N Aegean islands is also provided.

Asteraceae

9. *Centaurea samothracica* Strid & Kit Tan, *nom. prov.* (Figs. 2-4)

Gr Samothraki: E of Pachia Ammos beach, agglomerated granitic gravel on coastal cliff, *ca.* 50 m, 40°23'44"N, 25°35'35"E, 13.06.2008, *Biel* 08.172 & photo; *loc. ibid.*, 02.11.2008, *Biel* 08.321 & photo; N-NE of Pachia Ammos beach, W bank of the Vatos river mouth, on granitic rocks in open *Quercus ilex* woodland, *ca.* 30 m, 40°23'43"N, 25°36'13"E, 13.06.2008, *Biel* obs.; E-NE of Pachia Ammos beach, E of the Vatos river mouth along new path leading to Kipos beach, steep slope with granitic rocks, 100 m, 40°24'10"N, 25°37'09"E, 11.02.2009, *Biel* 09.035 & photo (ungrazed leafy rosettes out of reach of goats). Another population was noted along the same path, 1 km to the west and a further location at the eastern margin of Vatos beach, at 6 m altitude and well within 12 m distance from the coastal spray.



Fig. 2. *Centaurea samothracica* habit (photo B. Biel).



Fig. 3. *Centaurea samothracica* capitulum (photo B. Biel).



Fig. 4. *Centaurea samothracica* basal leaf rosette (photo B. Biel).

This is an undescribed new species of *Centaurea* (subgen. *Acrolophus*) first collected by Strid in 1998 (ATH, G, herb. Strid) and 2005 (ATH, G, LD, herb. Strid, herb. Kit) in a different site on Samothraki, above the chapel of Panagia Kremniotissa which is situated ca. 300 m above sea level, N of Pachia Ammos beach. It is a perennial 25-50 cm tall with purplish-pink florets. The inner pappus bristles are nearly twice as long as the body of the achene, thus differentiating it, among other characters, from *C. chalcidicaea* Hayek, an endemic of Mt Athos. The latter has the pappus only ca. half as long as the achene and was treated as a subspecies of *C. affinis* by Georgiadis (1980).

Centaurea samothracica is very local, so far only known from these six small populations which are out of reach of the untended flocks of goats and sheep on the island. *Anchusa samothracica*, *Ballota acetabulosa*, *Pyrus spinosa* and *Silene samothracica* were found in the first locality cited (E of Pachia Ammos). *Centaurea affinis* subsp. *affinis*, although new for the N Aegean islands (see Biel & Tan 2008), is not uncommon on Samothraki. Eleven different sites were noted and it was also discovered near the second locality (N-NE of Pachia Ammos). A recent visit in February 2009 revealed several plants of *C. samothracica* on the steep cliffs fringing Vatos beach and the steep slopes above the new coastal path to Akr. Kipos and it is predicted the new species will be

found on at least some of the sheer rock walls of the uninhabited southeast of the island.

10. *Galinsoga parviflora* Cav.

Gr Samothraki: ruderal roadside with shrubs in village of Therma, 50 m, 40°29'38"N, 25°36'31"E, 03.11.2008, *Biel* 08.360; Anomeria-Isomata, field margins near dirt road, on basalt and porphyritic substrate, 130 m, 40°26'43"N, 25°40'13"E, 04.11.2008, *Biel* 08.377a.

An introduced annual originating from South America. Easily distinguished by the 3 lobed marginal florets, small and separate from each other. It is much less hairy than *G. ciliata*, the other species of *Galinsoga* naturalized in Greece. New for the N Aegean islands.

11. *Tolpis virgata* (Desf.) Bertol.

Gr Samothraki: W-SW of Palaeopolis, damp coastal meadow with small stream and wet ditches, 3 m, 40°29'59"N, 25°31'32"E, 12.06.2008, *Biel* 08.156 (det. *G. Gottschlich* 2008).

Recorded from the islands of Ag. Evstratios, Limnos and Thasos in the N Aegean.

Chenopodiaceae

12. *Chenopodium opulifolium* Schrad. ex W.D.J. Koch & Ziz

Gr Samothraki: SW of Kamariotissa, dirt road margins and fields near chapel, coastal limestone, 10 m, 40°28'12"N, 25°27'39"E, 01.11.2008, *Biel* 08.314.

Once observed by Kit Tan & al. at Skala Prinon on the island of Thasos (no collection made), otherwise the record is new for the N Aegean islands.

Amaryllidaceae

13. *Galanthus reginae-olgae* Orph. (Figs. 5 & 6)

Gr Samothraki: W of Xiropotamos, east bank of Xiropotamos stream with *Platanus*, 70 m, 40°26'26"N, 25°31'13"E, 09.02.2009, *Biel* 09.003; NW of Xiropotamos village, foot of wet slope with *Juglans* adjacent

to *Platanus* alluvial forest, 80 m, 40°26'33"N, 25°31'26"E, 09.02.2009, *Biel* 09.004 (Fig. 5); NE of Therma, large damp area with *Platanus* and *Alnus*, 3 m, 40°29'57"N, 25°37'23"E, 10.02.2009, *Biel* 09.043; E of Therma, along the banks of the Tsivdogianni stream, gravelly sand, 50 m, 40°29'39"N, 25°36'35"E, 10.02.2009, *Biel* 09.048 (flowering in thousands, see Fig. 6); SE of Anomeria, fenced area above alluvial forest of the Agistros stream, on sand and gravel, 20 m, 40°27'37"N, 25°40'55"E, 12.02.2009, *Biel* 09.081.

Other localities are an alluvial forest near Isomata and along the banks of the Fonias stream near



Fig. 5. *Galanthus reginae-olgae* from Xiropotamos (photo B. Biel).



Fig. 6. *Galanthus reginae-olgae* in their thousands from Therma (photo B. Biel).

Therma where they were also flowering in thousands.

These photographs taken in February 2009 (as well as flowering voucher specimens for all localities cited) refute our first records of *G. elwesii* Hook. which were identified in fruiting state (Biel & Tan 2006). The plants have well developed leaves and with their spring-flowering habit may be treated as subsp. *vernalis* Kamari. New not only for Samothraki, but certainly an interesting discovery far from its known distribution range of western Greece, Republic of Macedonia, Albania and Sicily. We are grateful to Sırrı Yüzbaşıoğlu (Istanbul University, Turkey) for his help in our identification and for confirming that the species does not occur in Turkey.

Poaceae

14. *Digitaria ischaemum* (Schreb.) Muhl.

Gr Samothraki: NE of Therma, heavily grazed and seasonally inundated coastal area bordered by *Vitex agnus-castus*, 3 m, 40°29'57"N, 25°37'23"E, 03.11.2008, *Biel* 08.343.

Together with *Cynodon dactylon*, *Digitaria sanguinalis*, *Echinochloa colonum*, etc. A relatively recent introduction within the last 35 years with a few widely scattered reports in Greece. New for the N Aegean islands.

15. *Elymus pungens* subsp. *campestris* (Godron & Gren.) Melderis

[Syn: *Agropyron campestre* Godron & Gren., *Elytrigia campestris* (Godron & Gren.) Kerguélen ex Carreras Martínez]

Gr Samothraki: SW of Kamariotissa, gravelly coastal limestone slope, open phrygana, 10 m, 40°28'09"N, 25°27'33"E, 25.06.2007, *Biel* 07.236; S of Kamariotissa, seasonally wet field near Livadia, 10 m, 40°27'09"N, 25°28'15"E, 16.06.2008, *Biel* 08.223 (both specimens identified by *H. Scholz*).

Very few collections of this species, which is stated to have a distribution from NW France to Portugal, are known from Greece. It has been reported from Sterea Ellas and the North East. New for the N Aegean islands.

16. *Eragrostis cilianensis* (All.) Janch.

Gr Samothraki: Kamariotissa, gravelly beach and park at sea front, 2 m, 40°28'34"N, 25°28'25"E, 03.11.2008, *Biel* 08.330.

Recorded as *E. major* from the island of Thasos by

Stojanov & Kitanov (1945: 256), otherwise new for the N Aegean.

Paspalum paspalodes (Michx.) Scribn. (Syn.: *P. distichum* auct. non L. (1759) (03.11.2008, *Biel* 08.335) and *Setaria verticillata* (L.) P. Beauv. (03.11.2008, *Biel* 08.362) were recollected on Samothraki but from other localities, thus confirming their earlier reports as new for the N Aegean islands (see Biel & Tan 2007).

All cited vouchers are provisionally kept in the private herbarium of B. Biel at Höchberg (herb. Biel).

Reports 17-22

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This is the ninth report of new plant-records for the island of Samothraki (N Aegean islands, Nomos Evrou, Eparchia Samothrakis) based on fieldwork carried out during June 2007 and 2008, and also November 2008. The records listed have all been determined or re-determined by G.G. in 2008. They are new to Samothraki and when specifically stated, to the floristic region N Aegean (NAe) as circumscribed in *Flora Hellenica* (Strid & Tan 1997).

Asteraceae

17. *Hieracium leucopsilon* Arv.-Touv.

[Syn.: *H. macranthum* auct. non Ten.] (Figs. 7 & 8)

Gr Samothraki: SW of Therma, open *Quercus* slope, 610 m, 40°28'59"N, 25°35'46"E, 26.06.2007, *Biel* 07.241a; *loc. ibid.*, steep rocky slope with *Juniperus* and *Berberis*, on basalt and porphyry, 1100 m, 40°28'17"N, 25°35'08"E, 17.06.2008, *Biel* 08.243; N-NE of Pachia Ammos, rocky slopes above Kousianda stream, granite, 960 m, 40°25'55"N, 25°36'15", 19.06.2008, *Biel* 08.272.

New for the N Aegean islands. *Hieracium leucopsilon* is included in synonymy of *H. hoppeanum* Schult. (= *Pilosella hoppeana* (Schult.) F.W. Schultz & Sch.Bip.) by many authors. Ade & Rechinger (1938: 140) reported the latter from Mt Fengari. The material was determined by Schack as *H. h.* subsp. *anatolicum* Naeg. & Peter and *H. h.* var. *pseudosmanicum* Zahn. For rejection of the epithet *macranthum*, see Gottschlich (2009).

18. *Hieracium heldreichii* Boiss.

(Fig. 9)

Gr Samothraki: SW of Therma, steep rocky slope with *Juniperus* and *Berberis*, 1280 m, 40°28'06"N, 25°34'59"E, 26.06.2007, *Biel* 07.263.



Fig. 7. *Hieracium leucopsilon* (photo B. Biel).



Fig. 8. *Hieracium leucopsilon* capitulum (photo B. Biel).

New for the N Aegean islands. This Greek endemic is scattered in Sterea Ellas (mountains of Attikis and Parnassos with an outlying locality on Akarnanika Ori in the western part of mainland Greece) and also recorded from the Levka Ori in W Crete. The type, collected by Heldreich in 1848, was from an area near Lake Feneous at the foot of Mt Killini in N Peloponnese. The surprisingly disjunct locality on Samothraki would be geographically closer to the Rhodopi Mts in NE Greece from whence a record of *H. heldreichii* has also been cited (Tsiripidis & Athanasiadis 2003: 282).

19. *Hieracium bauhini* Schult.

[Syn: *Pilosella bauhini* (Schult.) Arv.-Touv.]

Gr Samothraki: SW of Therma, steep rocky slopes of valley with two small streams, phrygana on basalt and granite, 1050 m, 40°28'25"N, 25°35'05"E, 26.06.2007, *Biel* 07.251; E of Alonia, open *Quercus* forest, on schist and basalt, 360 m, 40°27'42"N, 25°31'53"E, 18.06.2007, *Biel* 07.077 (reported by Biel & Kit Tan 2008: 293).

20. *Hieracium olympicum* Boiss.

Gr Samothraki: N-NE of Pachia Ammos, open phrygana with *Juniperus*, 620 m, 40°25'07"N, 25°35'47"E, 24.06.2007, *Biel* 07.218. Confirming literature record by Ade & Rechinger (1938: 140) and a more recent collection by Schuler in 1999 (*Schuler* 99/1339).

21. *Hieracium racemosum* Willd.

Gr Samothraki: S of Therma, village slopes and stream banks with *Platanus*, 60 m, 40°29'33"N, 25°36'31"E, 03.11.2008, *Biel* 08.355. Ade's collection from oak forest and the higher altitude of 800-1000 m on Fengari had also been determined as *H. racemosum* Willd. by H. Schack (Ade & Rechinger 1938:140).



Fig. 9. *Hieracium heldreichii* (photo B. Biel).

22. *Hieracium schmidtii* Tausch subsp. *samothraxis* (Ade & Schack) Gottschl., **comb. nova**

[Basionym: *Hieracium pallidum* subsp. *tossicum* var. *samothraxis* Ade & Schack in Repert. Spec. Regn. Veg. Beih. 100: 140 (1938)] (Fig. 10)

Gr Samothraki: SW of Therma, Fengari, cushion phrygana on rocky ridge at summit, 1580 m, 40°27'48"N, 25°35'04"E, 26.06.2007, Biel 07.274.

Zahn described *H. pallidum* subsp. *tossicum* based on *Sintenis* 4468 p.p. which was collected near Tossia (Tosya) in Paphlagonia (N Anatolia). In 1919 he regarded it (in schedae, JE!) as an intermediate species "*sparsum-murorum* – *pallidum*" but later, in Engler's *Conspectus*, he published it as *H. murorum* (Zahn 1921). Ade & Schack placed it under *H. pallidum* without any explanation for the new combination. The difference in leaf shape and distribution is quite



Fig. 10. *Hieracium schmidtii* subsp. *samothraxis* (photo G. Gottschlich).

distinct from *H. schmidtii* subsp. *schmidtii* and therefore subspecific ranking is more appropriate than treatment at variety level.

All cited vouchers are provisionally kept in the private herbarium of B. Biel at Höchberg (herb. Biel).

Reports 23-30

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This contribution presents new chorological data from the area of Balgarka Nature Park, situated on the north slopes and crests of Shipka and Tryavna divides of the Central Balkan Range, above Gabrovo, Plachkotsi, Tryavna (Gabrovo district) and Maglizh (Stara Zagora district) towns. The studied territory is about 22 000 ha and includes the upper watershed of river Yantra and its main tributaries between 360-1524 m alt. Northern, northeastern and northwestern expositions prevailed. The vegetation cover formed on diverse bedrock (marble – limestone, dolomites and siliceous rocks) is varied, deciduous forests dominate. The single comprehensive study of the regional flora dates 100 years back (Neichev 1908).

Adoxaceae

23. *Adoxa moschatellina* L.

Bu Balkan Range (*Central*): Uzana region, on steep rocky, N-facing slope, NE of the Edelvais Recreation Home, in a beech forest, growing together with mosses, among *Ribes alpinum* shrubs, 1200 m, 42°45'33.3"N, 25°14'57.6"E, LH-53, with flowers, 08.05.2008, coll. Y. Marinov (SOM 164410).

The species is given for the Central Balkan Range (Markova 1995) but is omitted in the later sources (Delipavlov 2003; Assyov & Petrova 2006). It is confirmed for this floristic sub-region. The locality is possibly one of the easternmost in the country.

Asteraceae

24. *Inula aschersoniana* Janka

Bu Balkan Range (*Central*): Gabrovo region, SW slope of peak Malusha, dry, S-facing limestone ridges, 1251 m, 42°44'55.6"N, 25°16'46.1"E, with flowers, 30.08.2005, coll. Y. Marinov (SOM 164412).

Confirmed (see Assyov & Petrova 2006) for the floristic subregion of the Central Balkan Range. Usually this

Balkan endemic is distributed in areas below 1000 m but the present locality is at a higher altitude.

Brassicaceae

25. *Kernera saxatilis* (L.) Rchb. (Fig. 11)

Bu Balkan Range (*Central*): on S- and W-facing limestone ridges in the Mahnatite Skali locality, above Stoevtsi village, Tryavna municipality, 1200-1280 m, 42°45'59.6"N, 25°27'18.9", with flowers, 27.07.2006, coll. Y. Marinov (SOM 164407).

The population is in the area of the Mahnatite Skali natural highlight, on almost vertical limestone ridges with northern exposition, situated in a century-old (140-150 years) beech forest. The population has a mosaic spatial structure, on an area approximately 1000 m² and numbers 50-60 individuals. The plants are on small screes and rock crevices, often with the Bulgarian endemic *Micromeria frivaldszkyana* (Degen) Velen.

Kernera saxatilis is a rare plant in Bulgaria (Rusakova 1984). Formerly, the species was known only from the Pirin Mts (*Northern*) and only recently it was collected in the Rhodopi Mts (*Central*) floristic region (SOM 160395 & 161748, coll. D. Stoyanov).

Caryophyllaceae

26. *Minuartia verna* (L.) Hiern

Bu Balkan Range (*Central*): limestone rocky places

at peak Malusha, Gabrovo region, at about 1300 m alt., 42°45'08.1"N, 25°17'16.3"E, with flowers, 11.07.2004, coll. Y. Marinov (SOM 164414).

Reported by Neichev (1908, sub *Alsine verna* Bartl.) for the Triglav massive, Uzana area and Ispolin, Malusha and Stoletov peaks, but omitted for the Central Balkan Range in recent Floras and Field Guides. The species is common in the Balgarka Nature Park, on dry stony grassy slopes with different exposition, between 1100-1500 m.

Paeoniaceae

27. *Paeonia mascula* (L.) Mill.

Bu Balkan Range (*Central*): in shady places in a deciduous forest at river Kozya (Kozheshtitsa) valley, S of Radetski area of Gabrovo town, 980 m, 42°46'34.4"N, 25°17'41.9"E, with fruits, 10.09.2008, coll. Y. Marinov (SOM 164415).

A new species for the Balkan Range. The population numbers 10 plants, scattered on area of 300 m², on a slope with eastern exposition. Middle-Triassic limestone forms the bedrock.

Rosaceae

28. *Crataegus pentagyna* Waldst. & Kit. ex Willd.

Bu Balkan Range (*Central*): stony places with southern exposition in the river Belitsa valley, SW of Vlasatili village, Tryavna region,



Fig. 11. *Kernera saxatilis* (photo Y. Marinov).

532 m, 42°48'20.0"N, 25°34'54.9"E, with fruits, 11.09.2007, coll. Y. Marinov (SOM 164411).

Zieliński & al. (2002) reported the species with scattered distribution in most floristic regions of the country (without specifying) but it is not given for the Central Balkan Range in the Bulgarian Floras and Field Guides.

Thymelaeaceae

29. *Daphne blagayana* Freyer

Bu Balkan Range (*Central*): Mahnatite Skali nature highlight above Stoevtsi village, Tryavna district, 42°46'01.3"N, 25°27'16.6"E, with flowers, 30.04.2005, coll. Y. Marinov (SOM 164413).

A rare, protected species, which in Bulgaria was found only in the Central Balkan Range, but known only from the Troyan divide of the mountains (Markova 1984). In the Mahnatite Skali locality the species grows on grassy plates of the limestone ridges, as well as in shady grassy places at the edges of beech forests, more often in *Sesleria latifolia* communities. The rocky ridges are surrounded by well preserved century-old beech forests. The population has a good density, scattered on about 2000 m² and numbers about 1000 individuals.



Fig. 12. *Goodyera repens* (photo Y. Marinov).

Orchidaceae

30. *Goodyera repens* (L.) R. Br. (Fig. 12)

Bu Balkan Range (*Central*): on steep slopes with northern exposition above Stoevtsi village, 1240 m, 42°45'59.8"N, 25°27'18.4"E, with flowers, 27.07.2006, coll. Y. Marinov (SOM 164217).

A Tertiary relic rare for the Bulgarian flora, legally protected by the Biodiversity Act, Annex 3. So far known from few localities in the Central Rhodopi Mts (Petrova & al. 1998). The present population is small, on 2 m² and numbers 15-20 individuals. During the three years of observation, 4-5 individuals used to form inflorescences. The plants grow among mosses and tufts of the local endemic *Festuca balcanica* subsp. *neicheffii*. The population is within the Mahnatite Skali nature highlight, in humid places, in a century-old (140-150 years) beech forest at the foot of limestone cliffs.

Reports 31-37

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Asteraceae

31. *Carduus nutans* subsp. *leiophyllus* (Petr.) Stoj. & Stef.

Tu(E) A1(E) Edirne, Lalapasa: Sinankoy village, pasture, 181 m, 41°48'00"N, 26°43'00"E, 20.05.2005, coll. Ç. Meriç, det. K. Alpinar (EDTU 9468).

New for A1(E) Edirne in European Turkey.

32. *Carduus pycnocephalus* L. subsp. *pycnocephalus*

Tu(E) A1(E) Edirne, Center: around Faculty of Medicine, 26 m, 41°40'28"N, 26°33'39"E, 18.05.2005, coll. Ç. Meriç, det. K. Alpinar (EDTU 8588).

New for A1(E) Edirne in European Turkey.

33. *Cirsium creticum* (Lam.) d'Urv.

Tu(E) A1(E) Edirne, Center: around Faculty of Medicine, near stream, 26 m, 41°40'28"N, 26°33'39"E, 18.08.2004, coll. & det. Ç. Meriç (EDTU 8532).

New for A1(E) Edirne in European Turkey.

34. *Cirsium vulgare* (Savi) Ten.

Tu(E) A1(E) Edirne, Center: around Faculty of Medicine, near stream, 26 m, 41°40'28"N, 26°33'39"E, 18.08.2004, coll. & det. Ç. Meriç (EDTU 8531).

New for A1(E) Edirne in European Turkey.

35. *Jurinea consanguinea* DC.

Tu(E) A1(E) Edirne, Meric: Subasi village, around pasture, 50 m, 41°08'00"N, 26°22'00"E, 26.05.2004, coll. Ç. Meriç, det. K. Alpınar (EDTU 8555).

New for A1(E) Edirne in European Turkey.

36. *Silybum marianum* (L.) Gaertn.

Tu(E) A1(E) Edirne, Center: around Faculty of Medicine, near stream, 26 m, 41°40'28"N, 26°33'39"E, 15.05.2005, coll. & det. Ç. Meriç (EDTU 9460).

New for A1(E) Edirne in European Turkey.

37. *Tyrimnus leucographus* (L.) Cass.

Tu(E) A1(E) Edirne, Center: around Faculty of Medicine, 26 m, 41°40'28"N, 26°33'39"E, 30.05.2005, coll. Ç. Meriç, det. K. Alpınar (EDTU 9467).

New for A1(E) Edirne in European Turkey.

Reports 38-45

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A short visit to Vitata Stena locality near Gabrovo town resulted in observation and collection of some unreported plants for the Forebalkan (*Eastern*) region in the recent Floras. Vitata Stena is the westernmost limestone ridge of the Strazhata karst plateau, situated between Gabrovo, Sevlievo and Dryanovo towns. This attractive curved limestone rocky ridge (Fig. 13) has a southwestern exposition and is covered

with chasmophytic and open vegetation, with remarkable population of *Seseli degenii* Urum. The slopes (400-700 m alt.) are mostly woody, with oak, oriental hornbeam and mixed deciduous forests. A small part in the northeast is covered with a beech forest. There are meadows and pastures and a small lake Bilyakovets.

Asteraceae

38. *Carduus personata* (L.) Jacq.

Bu Forebalkan (*Eastern*): Glozhene, KH-76, coll.

I. Urumov (SOM 82940); NW slopes of Vitata Stena, Gabrovo district, near Byalata Voda water fountain, LH-55, 22.06.2008, with flowers, observed by A.S. Petrova.

A species more common for the mountainous areas. At Vitata Stena, it participates in tall forbs tickets along a small streamlet on the northern slopes.

Campanulaceae

39. *Campanula sibirica* L.

Bu Forebalkan (*Eastern*): Vitata Stena locality,

Gabrovo district, above Zdravkovetz village,

LH-55, 22.06.2008, coll. A.S. Petrova & D.

Venkova (SOM 164230), also 31.05.1931, coll. A.

Yurkovsky (SOM 75168); Tsareva Livada village,

LH-75, 02.06.1927, coll. A. *Yurkovsky* (SOM

75166); on rocks near Veliko Tarnovo, LH-96,

05.05.1906, coll. *I. Neichev*, also 20.05.1976, coll.

P. Ivanova (Cent. II. 1079, SOM 139232), etc.

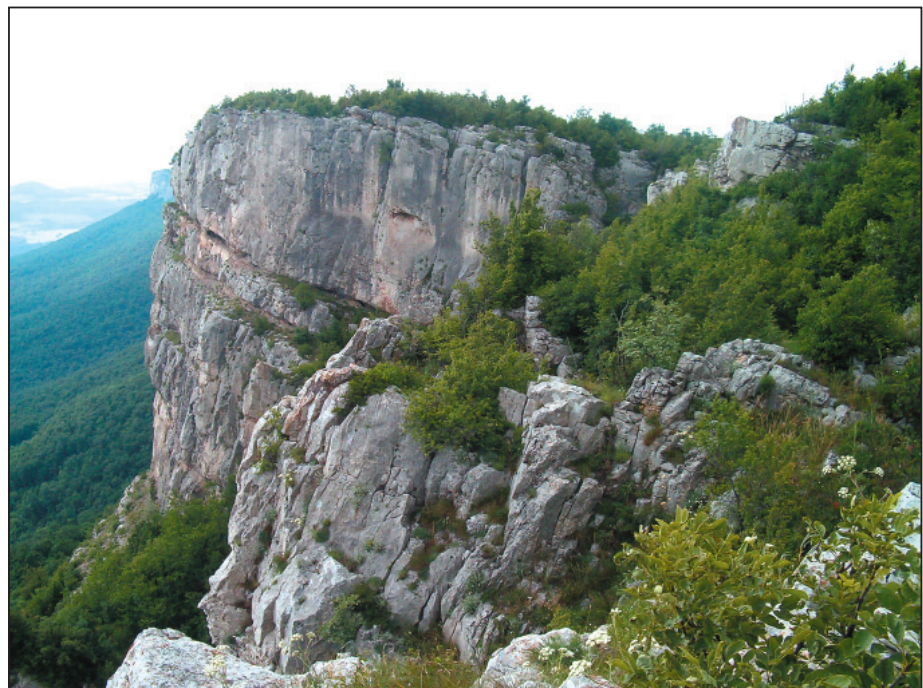


Fig. 13. A view of the western slopes of Vitata Stena ridge (photo Y. Marinov).

- Balkan Range (*Central*): slopes of the peak Sveti Nikola (now Stoletov), LH-63, 29.07.1905, coll. A. Yavashov (SOM 75202), also 06.1903, coll. I. Neichev (SOM 75197); Korudere, LH-53, 26.07.1902 and 06.1904, coll. I. Neichev (SOM 75173 & 75185); Troyan Divide – Kozyata Stena locality, KH-93, coll. S. Grancharov, rev. M. Anchev (SOM 75199).

The species grows in dry stony grasslands. It was not reported for these regions in the recent general sources on the Bulgarian flora, despite the repeated collections. According to Anchev (1992), the vertical distribution is up to 700 m. Some of the above-mentioned localities are at about 1600 (1700) m. There have been recent observations by the second author of an abundant population on the southern limestone slopes of peak Ispolin (1523 m).

Euphorbiaceae

40. *Euphorbia myrsinites* L.

- Bu** Forebalkan (*Eastern*): Vitata Stena locality, Gabrovo district, dry limestone terrain above Zdravkovets village, LH-55, 02.05.2006, coll. Y. Marinov (SOM 164708); also 22.06.2008, observed by R. Vassilev & A.S. Petrova; hills south of railway station Veliko Tarnovo, LH-96, coll. N. Vichodtsevski (SO 48619).

Confirmation of the species for this region. Kuzmanov (1979) reported it for the surroundings of Lovech, Veliko Tarnovo and Gabrovo towns in the Forebalkan (*Eastern*). Possibly due to lack of herbarium specimens, it was omitted in the later Floras and Field Guides.

Rosaceae

41. *Potentilla pirotensis* (Borbás) Markova

- Bu** Forebalkan (*Eastern*): Vitata Stena locality, Gabrovo district, above Zdravkovetz village, LH-55, 22.06.2008, coll. A.S. Petrova & D. Venkova (SOM 164226).

First record for this floristic region.

Iridaceae

42. *Iris sintenisii* Janka

- Bu** Northeast Bulgaria: Hamaslaka locality, Silistra district, 18.05.1894, coll. S. Georgiev (SO 13599); Yabalkovo (Almalie) village, Dobrudza, NJ-42, coll. S. Georgiev (SO 13603); Karakuz forest, Silistra district, NJ-15, 1952, coll. N. Stoyanov, B. Kitanov & V. Velchev (SO 32480); forest glades near Prilep village, Dobrich district, NJ-70, 1975, coll. I. Penev & B. Kitanov (SO 67654).

- Danubian Plain: Ostrata Mogila hill, near Yasen village, Pleven district, KJ-91, 24.05.1998, coll. R. Tzonev (SO 99628); near Gorni and Dolni Dabnik villages, Pleven district, KJ-91, 11.05.1899, coll. S. Georgiev (SO 13595).
- Forebalkan (*Eastern*): dry grasslands above Kostenkovtsi village, Gabrovo district, LH-65, 26.07.2008, coll. Y. Marinov & A.S. Petrova (SOM 164308); Veliko Tarnovo area, LH-96, 14.05.1915, coll. I. Mrkvichka (SOM 14137), also 1901 & 1902; coll. I. Urumov (SOM 14142 & 14171), also 1897, coll. I. Stamboliev (SOM 14172); *in pratis Bulgariae borealis*, Sevlievo, LH-46, 05.1901, coll. I. Neichev (SOM 13994).

The distribution of the species is incomplete in the recent Floras and Field Guides (Petrova 1992; Delipavlov 2003; Assyov & Petrova 2006). Not given for the floristic regions of the Danubian Plain, Northeast Bulgaria and Eastern Forebalkan, although earlier sources correctly gave it as distributed in East Bulgaria, reaching as far as the Lovech district to the west (Stoyanov & all. 1966). Besides the herbarium specimens, there have been reports for the Danubian Plain: Balgarene and Karaisen villages, Pleven district (Urumov 1928); Northeast Bulgaria: Shumen, Provadia, Silistra, Targovishte, Dobrich, etc. (Davidov 1904; Urumov 1901a, 1904, 1906); Eastern Forebalkan: Veliko Tarnovo, Polikraishte, Belyakovets, Balvan, Gorsko Slivovo, etc. (Urumov 1901b, 1928).

Liliaceae

43. *Allium saxatile* M. Bieb.

- Bu** Forebalkan (*Eastern*): Vitata Stena locality, Gabrovo district, above Zdravkovets village, LH-55, 22.06.2008, coll. A.S. Petrova (SOM 164218). First record of the species for the region.

44. *Asphodeline lutea* (L.) Rchb.

- Bu** Northeast Bulgaria: Mt Preslavska, MH-77, 23.04.1905, coll. B. Davidov (SOM 11618); dry hills near Targovishte, MH-68, 1901, coll. I. Urumov (SOM 11628).
- Forebalkan (*Eastern*): Vitata Stena locality, Gabrovo district, above Zdravkovets village, LH-55, 02.05.2008, coll. Y. Marinov (SOM 164709); also 22.06.2008, observed by A.S. Petrova & D. Venkova.

An Eastern Mediterranean floristic element found locally in the country. For Northeast Bulgaria reported from the Madara Plateau (Meshinev & Nikolov 1994).

Orchidaceae**45. *Epipactis microphylla* (Ehrh.) Sw. (Fig. 14)**

Bu Forebalkan (Eastern): Vitata Stena locality, Gabrovo district, above Zdravkovets village, LH-55, 22.06.2008, observed by A.S. Petrova, Y. Marinov, D. Venkova & R. Vassilev.

First report of a true albino plant of *Epipactis* in Bulgaria. A single plant was observed in a population of about 10 plants in a shady *Carpinus orientalis* grove. The albino plant was only 10 cm high, but all plants in the population were small, possibly because of the dry area. Full albinism is known for plants of the genera *Cephalanthera* and *Epipactis* and is connected to the strong action of symbiotic fungi (Delforge 2006).

Reports 46-50**Hristo Pedashenko*, Kiril Vassilev & Valentina Goranova**

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Fig. 14. *Epipactis microphylla* – true albino form (photo R. Vassilev).

Brassicaceae**46. *Erysimum diffusum* Ehrh.**

Bu Valley of River Mesta: on slopes above the public mineral baths at Marchevo village, Gotse Delchev district, GM-31, 20.06.2008, coll. K. Vassilev, H. Pedashenko & V. Goranova (SOM 164531); on open stony places around river Mesta, N of Gospodintsi village, Gotse Delchev district, GM-21, 22.06.2008, coll. K. Vassilev, H. Pedashenko & V. Goranova (SOM 164530); at the area of Godeshevo village, Hadzhidimovo district, on open stony places, KF-59, 21.06.2008, coll. K. Vassilev, H. Pedashenko & V. Goranova (SOM 164532).

Erysimum diffusum belongs to *Erysimum diffusum* group, which comprises two more species: *E. crassistylum* C. Presl and *E. welchevii* Urum. (Ančev 2007). According to Popova (2003), this species is spread all over the country, whereas Assyov & Petrova (2006) and Ančev (l.c.) have mentioned none of the species of the *Erysimum diffusum* group for the Valley of River Mesta. This is a confirmation of the occurrence of the species in this floristic region.

Poaceae**47. *Achnatherum bromoides* (L.) P. Beauv.**

Bu Valley of River Mesta: on slopes above the public mineral baths at Marchevo village, Gotse Delchev district, GM-31, 20.06.2008, coll. K. Vassilev, H. Pedashenko & V. Goranova (SOM 164535).

First record of the species from this floristic region.

48. *Elymus elongatus* (Host) Runemark

Bu Valley of River Mesta: on open rocky places around Bukovo village, Gotse Delchev district, GM-22, 22.06.2008, coll. K. Vassilev, H. Pedashenko & V. Goranova (SOM 164536).

First record of the species for this floristic region.

49. *Festuca rupicola* Heuff.

Bu Valley of River Mesta: on open rocky places between Godeshevo and Tuhovishta villages, Hadzhidimovo district, KF-59, 21.06.2008, coll. K. Vassilev, H. Pedashenko & V. Goranova (SOM 164537).

New species for this floristic region.

50. *Melica ciliata* L.

Bu Valley of River Mesta: in the area of Godeshevo village, Hadzhidimovo district, in open stony places, KF-59, 21.06.2008, coll. K. Vassilev, H. Pedashenko & V. Goranova (SOM 164533);

on slopes above the public mineral baths at Marchevo village, Gotse Delchev district, GM-31, 20.06.2008, coll. K. Vassilev, H. Pedashenko & V. Goranova (SOM 164534).

First report of the species for this floristic region.

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Reports 51-74

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New chorological data from the Eastern Balkan Range (Sinite Kamani Nature Park and Kotel town area) and Tundzha Hilly Country (Gabarevo village) are presented. Due to geological history, orographic and hydrological factors, there are refugia of boreal and Sub-Atlantic floristic elements in wetland vegetation in the western part of Kazanluk valley: fens, wet meadows and inundated forests (e.g.

Jordanov & all. 1972, 1974; Hájek & all. 2005). Boreal elements are found here at low altitudes unusual for the country (400-550 m). So far localities of such refugia were reported for the vicinities of Dunavtsi, Yasenovo, Manolovo, Alexandrovo, Tarnichane villages in the region. Elaka locality W of Gabarevo village is a complex of elder (*Alnus glutinosa*) forests (Fig. 15) along a branched set of small rivers and meadows of different size between the

forest belts. The forests are with the participation of *Fraxinus excelsior*, *Salix fragilis* and diverse shrubby species, with *Frangula alnus* as the most common among them. In the northern part, near a dam known as Ribnitsa, there are some calcium rich-fens. Examples of boreal and sub-boreal floristic elements found here are *Dryopteris carthusiana*, *Carex lepidocarpa*, *C. paniculata*, *Eleocharis quinqueflora*, *Parnassia palustris*, *Triglochin palustris*, *Gratiola officinalis*, etc.

Dryopteridaceae

51. *Dryopteris carthusiana* (Vill.) H.P. Fuchs

Bu Tundzha Hilly Country: shady elder forest W of Gabarevo village, Elaka locality, LH-41, 31.07.2008, coll. A.S. Petrova & G. Trifonov, det. D. Ivanova (SOM 164704).

A new for the region boreal element, which grows in wet habitats.

Apiaceae

52. *Peucedanum alsaticum* L.

Bu Balkan Range (*Eastern*): Sinite Kamani Nature Park, forest glade near Mecha Polyana locality, MH-42, 12.06.2008, coll. A.S. Petrova (SOM 164214).

This confirms the species for the Eastern Balkan Range. Despite the literature data by Urumov (1909), Kuzmanov & Andreev (1982) did not give this species for the region. A rare species with possibly wider distribution in the country.



Fig. 15. *Alnus glutinosa* forest (photo A.S. Petrova).

Asclepiadaceae**53. *Asclepias syriaca* L.**

Bu Tundzha Hilly Country: W of Gabarevo village, near Elaka locality, 42°37'34"N, 25°09'24"E, LH-41, 31.07.2008, with young fruits, coll. A.S. Petrova & G. Trifonov (SOM 164323).

Alien species, found locally in different regions. Here it forms a dense population (about 100 m²) and the plants are over 2 m high. According to the second author, the population has existed at least for 40 years.

54. *Vincetoxicum hirundinaria* subsp. *nivale*

(Boiss. & Heldr.) Markgr.

Bu Balkan Range (*Eastern*): Sinite Kamani Nature Park, Karakyutyuk locality, shrubby places, MH-42, 12.06.2008, coll. A.S. Petrova (SOM 164214).

A new species for this floristic region.

Asteraceae**55. *Erigeron annuus* (L.) Pers.**

Bu Vitosha Region: Mt Vitosha, at roadsides waste hips near Dragalevtsi, 06.08.2008, coll. A.S. Petrova (SOM 164321).

— Sredna Gora Mts (*Western*): a meadow above Hisarya town, as well as in the park area of the town, 29 & 30.05.2002, 420-450 m, LH-10, observed by A.S. Petrova.

— Tundzha Hilly Country: a pasture at Ribnika locality, near Gabarevo village, LH-41, 15.06.2008, with flowers, coll. A.S. Petrova (SOM 164315).

A North American species introduced in Europe more than 200 years ago. It gets easily naturalized in open, disturbed habitats and, at least in some countries, it seems to become invasive. In Bulgaria it was reported for the first time in 1974 (sub *Stenactis annuus* (L.) Nees.) for Omurtag town region, Northeast Bulgaria (Yordanov & al. 1974). Peev (1992) reported it for four regions, Assyov & Petrova (2006) for eight regions. Even bearing in mind that recording of alien species in Bulgaria is not thorough, a clear tendency is observed for enhancement of its distribution. Observations in the area of Botanical Garden, BAS (at the foothills of Vitosha), where the first plants were registered in 2002, show an increase in the first years and comparatively stable population in the last three years.

Brassicaceae**56. *Lunaria rediviva* L.**

Bu Balkan Range (*Eastern*): rocky places in a beech

forest in Suhoika River valley, near Dryanovska cave, W of Kotel town, MH-54, 14.06.2008, coll. A.S. Petrova & D. Venkova (SOM 164244); Karaborun (now Cherni Vrach), Shumen district, NH-16, 22.05.1969, coll. H. Kochev (SOM 152412).

The species is not reported for the Balkan Range (*Eastern*) in Ančev (2007), although there are old literature data for the Zheravna village region (Urumov 1909).

Campanulaceae**57. *Campanula cervicaria* L.**

Bu Northeast Bulgaria: Mt Preslavska, MH-77, 10.08.1898, coll. & det. B. Davidoff, rev. M. Anchev (SOM 74127).

— Balkan Range (*Eastern*): Sinite Kamani Nature Park, forest glade near Mecha Polyana locality, MH-42, 12.06.2008, coll. A.S. Petrova (SOM 164235).

This is a confirmation of the species for these two regions. There are early literature data for Kotel (Velenovský 1891) and Zheravna (Urumov 1909) in the Eastern Balkan Range and Uzunorman near Targovishte town in Northeast Bulgaria (Urumov 1904).

Cannabinaceae**58. *Cannabis sativa* L.**

Bu Tundzha Hilly Country: W of Gabarevo village, N of Elaka locality, LH-41, 31.07.2008, with flowers, coll. A.S. Petrova & G. Trifonov (SOM 164322).

An anthropophyte with poorly documented distribution in Bulgaria.

Caprifoliaceae**59. *Viburnum opulus* L.**

Bu Tundzha Hilly Country: W of Gabarevo village, Elaka locality, LH-41, 31.07.2008, with young fruits, observed by A.S. Petrova & G. Trifonov.

First record for this floristic region. Markova (1995) maintained that the species was not found in three floristic regions in the country: Tundzha Hilly Country, Danubian Plain and Black Sea Coast. Individuals were observed in different places at Elaka locality, on the margins of elder forests.

Caryophyllaceae**60. *Cerastium fontanum* Baumg.**

Bu Tundzha Hilly Country: wet meadow at Ribnika locality, near Gabarevo village, 42°37'44"N, 25°09'27"E, LH-41, 15.06.2008, coll. A.S. Petrova (SOM 164231).

Species of this genus are often neglected in floristic

and vegetation surveys and this is the reason for the incomplete distribution data on some widespread *Cerastium* species in Bulgaria, as is the case of *C. fontanum*.

Dipsacaceae

61. *Succisa pratensis* Moench

Bu Tundzha Hilly Country: wet meadow at Ribnika locality, near Gabarevo village, ca. 450 m, 42°37'44"N, 25°09'27"E, LH-41, 15.06.2008, coll. A.S. Petrova (SOM 164313).

Found also in some other wet meadows at Elaka locality, comparatively rare. The species is usually found above 1000 m alt. but here it grows at much lower altitude.

Rosaceae

62. *Filipendula ulmaria* (L.) Maxim.

Bu Tundzha Hilly Country: wet meadow at Ribnika locality, near Gabarevo village, 42°37'44"N, 25°09'27"E, LH-41, 23.07.2008, coll. A.S. Petrova (SOM 164310).

Yordanov & al. (1972) reported it for meadows of the neighboring Tarnichane village, but this report was neglected in the later Floras and Field Guides.

Rubiaceae

63. *Galium rivale* (Sm.) Griseb.

Bu Tundzha Hilly Country: wet meadow at Ribnika locality, near Gabarevo village, 42°37'44"N, 25°09'27"E, LH-41, 15.06.2008, coll. A.S. Petrova (SOM 164223).

First record for the region.

Saxifragaceae

64. *Parnassia palustris* L.

Bu Tundzha Hilly Country: wet meadow at Ribnika locality, near Gabarevo village, LH-41, 23.07.2008, coll. A.S. Petrova (SOM 164312).

New for the floristic region. Grows at unusually low altitudes (450 m) for Bulgaria.

Cyperaceae

65. *Carex vesicaria* L.

Bu Tundzha Hilly Country: low inundated meadows near Tarnichane and Pavel Banya villages, LH-41, LH-51, 22.06.1971, coll. S. Denchev & N. Nikolov (SOM 125246, 125247; SO 29988); wet meadows near Gorno Alexandrovo village, MH-62, 04.06.1990, coll. M. Stoeva (SOM 159826).

Despite the above-cited collections, apparently omitted in the recent Floras and Field Guides.

66. *Eleocharis quinqueflora* (Hartm.) O. Schwartz.

Bu Tundzha Hilly Country: inundated places in a wet meadow at Ribnica locality, near Gabarevo village, 42°37'44"N, 25°09'27"E, LH-41, 15.06.2008, coll. A.S. Petrova (SOM 164234).

A calcifilous species, comparatively rare in Bulgaria, known for the Danubian Plain, Sofia Region, Vitosha Region, Pirin Mts and Rhodopi Mts (Western) (Assyov & Petrova 2006). Here, at Elaka and Ribnica localities, it forms small populations, growing close to *Eriophorum latifolium*, *Juncus articulatus*, *Eleocharis uniglumis*, *Eleocharis palustris*, *Schoenus nigricans*, *Parnassia palustris*, *Carex flacca*, *C. hirta*, etc.

67. *Eleocharis uniglumis* (Link) Schult.

Bu Balkan Range (Eastern): Sinite Kamani Nature Park, wet places at Karakyutyuk locality, MH-42, 12.06.2008, coll. A.S. Petrova (SOM 164220).

New species for the region.

Orchidaceae

68. *Dactylorhiza kalopissii* E. Nelson

Bu Balkan Range (Eastern): Sinite Kamani Nature Park, wet places at Karakyutyuk locality, 880 m, 42°44'27"N, 26°17'46"E, MH-42, 12.06.2008, coll. A.S. Petrova, D. Venkova & M. Ivanova (SOM 164222) (Figs. 16 & 17).

— Tundzha Hilly Country: a glade at Elaka locality, near Gabarevo village, 450 m, 42°37'46"N, 25°09'20"E, LH-41, 15.06.2008, coll. A.S. Petrova, D. Venkova & G. Trifonov (SOM 164216).

Dactylorhiza kalopissii is a Balkan endemic species, with a local distribution in NW Greece, R Macedonia (Delforge 2006) and Bulgaria, where until recently only one locality was known in the Rhodopi Mts (Central) (Linding & Linding 1991). The taxon is typical for calcicole fens and along river habitats, with a high conservation status, included in the Annexes to the Directive 92/43 EEC and the Bern Convention.

The population in Sinite Kamani Nature Park numbers about 30 plants, 21 of them flowering. It is spread along a small brook, where two spots with areas of 100 m² and 30 m² are formed in small flat depressions. Vegetation is dominated by sedges (*Cyperus sylvaticus*, *Carex hirta*, *C. panicea*, *C. palescens*, *C. muricata*, *Eleocharis uniglumes*, etc.) and rushes (*Juncus effusus*, *J. bufonius*).

The locality near Gabarevo village is a glade in an *Alnus glutinosa* forest, with a set of small brooks with running water (from nearby springs). For many



Fig. 16. *Dactylorhiza kalopissii* habitat (photo M. Ivanova).



Fig. 17. *Dactylorhiza kalopissii* (photo M. Ivanova).

years there has not been any land management and grass vegetations is quite dense. Common species are *Eriophorum latifolium*, *Schoenus nigricans*, *Juncus inflexus*, *J. effusus*, *Carex lepidocarpa*, *C. muricata*, *C. flacca*, *Equisetum* spp., *Cirsium creticum*, *Potentilla erecta*, *Ranunculus acris*. Other orchid species are *Epipactis palustris*, *Platanthera chlorantha*, *Dactylorhiza saccifera*. Formerly (1994-1995), *Liparis loeselii* was observed in this glade (Trifonov 2009). There is an abundant cover of mosses. The observed population numbers 14 plants. *Dactylorhiza kalopissii* is a plant of open, sunny places. Here it grows in partial shade and compared with the populations in Dobrostan (Rhodopi Mts) and Sinite Kamani locality, the plants are more gracile, inflorescences have a visibly smaller number of flowers, paler in colour and with insignificant dots.

69. *Epipactis atrorubens* (Hoffm.) Besser

Bu Balkan Range (*Eastern*): Sinite Kamani Nature Park, stony limestone places along the road to Karandila locality, MH-42, 12.06.2008, observed by A.S. Petrova & D. Venkova; 03.07.2008, coll. M. Ivanova (SOM 164307).

A species new for the region.

70. *Epipactis palustris* (L.) Crantz

Bu Tundzha Hilly Country: wet meadows at Ribnika and Elaka localities, near Gabarevo village, 42°37'46"N, 25°09'20"E and 42°37'45"N,

25°09'21"E, LH-41, 15.06.2008, coll. A.S. Petrova, D. Venkova & G. Trifonov (SOM 164219).

A locally distributed species, which has lost many of its former stands and is considered Endangered in the country (Petrova 2009). Data have been reported from the Tundzha Hilly Country, from the vicinity of Dunavtsi village: coll. Jurkovski, 1937 (SOM 15281) and a small population observed by A.S. Petrova in 1991 (Petrova, Venkova & Gerasimova, personal database on *Orchidaceae* species in Bulgaria). The population near Gabarevo village is a numerous one, possibly with more than 250 individuals.

71. *Orchis laxiflora* Lam. s.str.

Bu Balkan Range (*Eastern*): Sinite Kamani Nature Park, wet places at Karakyutyuk locality, 890 m, 42°44'30"N, 26°17'52"E, MH-42, 12.06.2008, coll. A.S. Petrova, D. Venkova & M. Ivanova (SOM 164221).

The common species of the *O. laxiflora* group in Bulgaria is *O. elegans* Heuff., which has predominantly Balkan distribution. *Orchis laxiflora* s. str. is a Mediterranean-Atlantic floristic element (Delforge 2006), which occurs in Southeast Bulgaria (Assyov & Petrova 2006), mostly in the lowlands but there are some localities above 800 m in the upper Arda River valley. This locality is the northernmost for the country. The observed population is small, with only nine plants.

Poaceae**72. *Festuca gigantea* (L.) Vill.**

Bu Tundzha Hilly Country: shady forest W of Gabarevo village, Elaka locality, LH-41, 31.07.2008, coll. A.S. Petrova & G. Trifonov (SOM 164319).

Comparatively common in the elder forest at Elaka locality. Yordanov & al. (1972) reported it from the neighboring Tarnichane village, but this report was omitted in the general sources for the Bulgarian flora.

73. *Festuca rubra* L.

Bu Tundzha Hilly Country: wet meadow at Ribnika locality, near Gabarevo village, 42°37'44"N, 25°09'27"E, LH-41, 15.06.2008, coll. A.S. Petrova (SOM 164314).

A common meadow species, with underestimated distribution in the country (Kozhuharov 1992).

74. *Molinia arundinacea* Schrank

Bu Tundzha Hilly Country: wet meadow at Ribnika locality, near Gabarevo village, 42°37'44"N, 25°09'27"E, LH-41, 15.06.2008, coll. A.S. Petrova (SOM 164318).

Not reported for the region by Kozhuharov (1992) and Assyov & Petrova (2006). It was also observed in other wet places in the Elaka locality, usually with few individuals or forming small patches, up to 5 m².

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Reports 75-89**Kit Tan¹, George Sfikas², Gert Vold³ & Tristan Lafranchis⁴**

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Continuing a series of new plant-records based on further floristic investigations in Greece. The floristic regions adopted follow those circumscribed in *Flora Hellenica* (Strid & Tan 1997).

Asteraceae**75. *Leucanthemum vulgare* subsp. *pallens* (Gay) Briq.**

Gr Nomos Ioanninon, Eparchia Konitsis: Mt Smolikas, N-facing slope above Drakolimni, 2400 m, *Lafranchis* s.n. (photo, det. Kit Tan 2009). New for Mt Smolikas in N Pindos. Distinct by its large solitary capitulum and entire linear leaves. Locally common, flowering in late July to early August. *Leucanthemum vulgare* subsp. *praecox* (Horvatić) Horvatić is the other Greek member of the *L. vulgare* complex and mostly occurs at the lower altitudes of 900-1500 m. A specimen from Mt Smolikas determined as *L. vulgare* Lam. (Hartvig & al. 7258, ATH, n. v.) may also represent *L. v.* subsp. *pallens*.

Berberidaceae**76. *Gymnospermium altaicum* subsp. *peloponnesiacum* Phitos (Fig. 18)**

Gr Nomos Achaia, Eparchia Kalavriton: Mt Rouskio, 1450 m, 38°09'N, 22°07'E, 15.03.2008, *Lafranchis* (photo); Mt Skepasto, stony meadows, 1300 m, 38°05'N, 22°04'E, 12.05.2007 (fruiting), *Lafranchis* obs.; Mt Chelmos, Xerokambos, 1650 m, 37°58'N, 22°12'E, 13.04.2004 & 12.04.2005 & 11.04.2006, *Lafranchis* obs.

These are all new records for the above named mountains in northern Peloponnese.



Fig. 18. *Gymnospermium altaicum* subsp. *peloponnesiacum* (photo T. Lafranchis).

Boraginaceae

77. *Anchusa officinalis* subsp. *intacta* (Griseb.) Selvi & Bigazzi

Gr Nomos Xanthis, Eparchia Xanthis: Central Rhodopi Mts, E of Livaditis, ca. 1350 m, 41°18'N, 24°41'E, 19.06.1996, *Sfikas* 10672 (herb. Sfikas; det. *Kit Tan* 2008).

New for nomos and eparchia Xanthis in phytogeographical region North East.

78. *Onosma visianii* Clementi

Gr Nomos Arkadias, Eparchia Mandinias: Mt Menalon, 1800-1900 m, 37°39'N, 22°13'E, 23.06.2002, *Lafranchis* (photo).

New for Mt Menalon. The only other occurrence in the Peloponnese is from Mt Taigetos to the west.

79. *Paraskevia cesatiana* (Fenzl & Friedr.) W. & G. Sauer [Syn.: *Pulmonaria cesatiana* (Fenzl & Friedr.) Selvi & al.] (Fig. 19)

Gr Nomos Achaïas, Eparchia Kalavriton: Mt Rouskio, shrubby slopes on the north side, 1100 m, 38°09'N, 22°07'E, 13.05.2004, *Lafranchis* (photo); Nomos Achaïas, Eparchia Egialias: Mt Klokos, open *Abies cephalonica* forest, 1450 m, 38°10'N, 22°04'E, 21.03.2004, *Lafranchis* (photo).

New for Mt Rouskio and Mt Klokos in northern Peloponnese.

Fabaceae

80. *Securigera varia* (L.) Lassen

Gr Nomos Arkadias, Eparchia Mandinias: Mt Menalon, limestone rocks above road to Kardaras, 13-16 km from Levidi to Ski Centre, 1240-1350 m, 37°38'N, 22°17'E, 09.07.1991,



Fig. 19. *Paraskevia cesatiana* (photo T. Lafranchis).

Kit Tan & *G. Vold* 10161 (herb. Kit; det. *Per Lassen* 1995 and reconfirmed November 2008).

New for the Peloponnese. The distribution of this species is probably influenced by man and a disturbed habitat is possibly the reason for this outlying location so far south in Greece.

81. *Trigonella spruneriana* Boiss.

Gr Nomos Achaïas, Eparchia Kalavriton: stony slopes 19 km from Ski Centre of Kalavrita along road to Megaspoleon, 720 m, 38°04'N, 22°09'E, 03.05.1991, *Kit Tan* & *G. Vold* 9336 (herb. Kit; det. *Per Lassen* 1995 and reconfirmed November 2008).

New for the north Peloponnese. The only other record for the Peloponnese is an old literature record of a collection made by Haussknecht in 1894 from the coastal town of Nafplion in East Peloponnisis (Nomos Argolidos).

Gentianaceae

82. *Centaurium maritimum* (L.) Fritsch

Gr Nomos Evrou, Eparchia Orestiadis: S of Petrotta, 41°42'N, 26°05'E, 06.06.1997, *Sfikas* 11595 (herb. Sfikas).

New for eparchia Orestiadis in northeast Greece (Thrace).

Lamiaceae

83. *Stachys annua* L.

Gr Nomos Kozanis, Eparchia Voiou: Mt Siniatsikon, between Siatista and Bara, 750-1000 m, 40°16'N, 21°34'E, 13.08.1996, *Sfikas* 10640 (herb. Sfikas; det. *Kit Tan* 2008).

New for Mt Siniatsikon and eparchia Voiou in North Central.

84. *Stachys palustris* L.

Gr Nomos Kastorias, Eparchia Kastorias: Kastoria, 700-900 m, 40°34'N, 21°14'E, 28.06.1997, *Sfikas* 11215 (herb. Sfikas; det. *Kit Tan* 2008).

New for nomos and eparchia Kastorias in North Central.

Onagraceae

85. *Epilobium angustifolium* L.

Gr Nomos Lakonias, Eparchia Lakedemonas: Mt Parnonas, track in *Abies* forest, 1500-1600 m, 37°15'N, 22°35'E, 27.06.2002, *Lafranchis* obs.

Confirming the record published as new for the Peloponnese (Tan & al. 2007).

Scrophulariaceae**86. *Digitalis lanata* Ehrh. × *D. viridiflora* Lindl.**

(Fig. 20)

Gr Nomos Dramas, Eparchia Dramas: Elatia forest, NW of Skaloti, Rhodopi Mts, 1250 m, 41°28'N, 24°19'E, 19.07.2008, *Lafranchis* s.n. (herb. Kit; det. *Kit Tan* 2009).

New for the Rhodopi Mts. *Digitalis lanata* has larger, 20-30 mm long, yellowish-white corollas conspicuously veined purplish-brown, and with the lower lip far projecting beyond the upper. Its existence in the Rhodopi is here reported for the first time (*Lafranchis* s.n., herb. *Lafranchis*). *Digitalis viridiflora* has smaller, 12-18 mm long, tubular, downwardly-curved, pale yellow corollas and short upper and lower lip. It is widespread in woodland areas in northern Greece. This is the first report of a hybrid between the two species; the single plant, perfectly intermediate in character, was found growing between two plants of *D. viridiflora* in a forest clearing.

Solanaceae**87. *Atropa belladonna* L.**

Gr Nomos Attikis, Eparchia Attikis: Mt Parnitha, Carambóla the highest peak, 1413 m, 38°11'N, 23°43'E, 15.07.2008, *Sfikas* s.n. (herb. *Sfikas*).

New for the botanically well-explored Mt Parnitha north of the city of Athens and for nomos Attikis in Sterea Ellas.

88. *Physalis ixocarpa* Hornem.

Gr Nomos Etolias-Akarnanias, Eparchia Trichonidos: Lake Trichonida, edge of field near Mataraga, 20 m, 38°33'N, 21°26'E, 08.08.2002, *Lafranchis* s.n. (herb. *Lafranchis* & photo); Lake Lysimachia, near Klisorevmata and Dokimi, 38°35'N, 21°22'E, 10.08.2002, *Lafranchis* (photo).

New for eparchia Trichonidos in Sterea Ellas.

Orchidaceae**89. *Ophrys bombyliflora* Link**

Gr Nomos Chiou, Eparchia Chiou: Emborios, olive groves, 38°12'N, 26°01'E, 07.04.2008, *Taylor* (photo).

New for the East Aegean island of Chios. The *Ophrys* from Chios are well known with at least three recent publications but *O. bombyliflora* has never been mentioned.

We are grateful to Mike Taylor for this communication of a first record.



Figs. 20. *Digitalis lanata* × *D. viridiflora* (photo T. Lafranchis).

Reports 90-94**Alexander Tashev**

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Campanulaceae**90. *Campanula patula* L. subsp. *patula***

Bu Rhodopi Mts (*Eastern*): on a meadow near the road between the villages Gorno Lukovo and Cherna Cherkva, ca. 300 m, MF-27, 11.05.2000, coll. *A. Tashev* (SOM 164076).

First record for this floristic region.

Vitaceae**91. *Vitis bulgarica* Kovačev**

Bu Thracian Lowland: in the vicinity of Harmanli, in the Prikazkite locality, on a rocky southern slope, 95 m, 41°55'01.0"N, 25°53'09.1"E, MG-

04, 04.08.2007, with fruits, coll. A. Tashev (SOM 164073, 164074).

Several individuals were recorded as climbing on *Acer monspessulanum*. This rare species has been known so far from Mt Strandzha (Kovachev 2003).

Cyperaceae

92. *Carex humilis* Leyss.

Bu Mt Sredna Gora (*Western*): Ihtimanska Sredna Gora, NE from Belovo, on calcareous rocks with southwestern exposition, 380 m, 42°13'26.8"N, 23°59'59.3"E, KG-57, 30.04.1998, coll. A. Tashev (SOM 164065).

A new species for this floristic region.

Poaceae

93. *Stipa eriocaulis* Borbás

Bu Mt Sredna Gora (*Western*): Ihtimanska Sredna Gora, NE from Belovo, on calcareous rocks with southern exposition, 380 m, 42°13'28.0"N, 23°59'58.5"E, KG-57, 01.05.1998, coll. A. Tashev (SOM 164069); 11.05.2008, coll. A. Tashev (SOM 164658, 164659; SO 105622)).

First record for this floristic region.

94. *Sesleria robusta* Schott, Nyman & Kotschy

Bu Mt Sredna Gora (*Western*): Ihtimanska Sredna Gora, NE from Belovo, on calcareous rocks with southern exposition, 380 m, 42°13'26.4"N, 24°00'01.1"N, KG-57, 01.05.1998, coll. A. Tashev (SOM 164067, 164068); 11.05.2003, coll. A. Tashev (SOM 164066).

A new species for this floristic region.

Report 95

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Orchidaceae

95. *Liparis loeselii* (L.) Rich.

Bu Tundzha Hilly Country: Elaka locality (W of Ribnica football field) near Gabarevo village, Stara Zagora district, 42°37'44.9"N, 09°49'21.0"E, LH-41, 23.05.1994, coll. G. Trifonov (SOM 164711).

Liparis loeselii was found for the first time in Bulgaria at the end of the 19th century, in the district of Sofia, and subsequently in 1950, at the foot of Mt Belasitsa (Kodzhaorman locality near Eleshnitsa village), with

a single specimen (Stojanov & Achtarov 1951). In the *Red Data Book of Bulgaria* (Stanev 1984) the species was recorded as extinct.

The author has observed it twice in the location at Gabarevo village: on 23.05.1994 with only one specimen (of the above-mentioned sample) and at the end of May 1995 with two specimens (with flowers and vegetative, at the same place); then during several successive explorations he could not find it. The exploration in 2008 also yielded no results.

The location was a marshy clearing in a forest of *Alnus glutinosa*, with brooks of running water (from the adjacent springs). The vegetation was typically hygrophilous, dominated by *Eriophorum vaginatum*, *Shoenus nigricans*, *Juncus* sp. div., *Carex flacca*, *Carex lepidocarpa*, with the participation of *Triglochin palustris*, *Platanthera bifolia*, *Epipactis palustris*, *Potentilla erecta*, *Galium rivale*, and shrubs of *Frangula alnus*, etc. The discovered plants of *L. loeselii* were in young tufts of *Shoenus nigricans*. Delforge (2006) noted that *L. loeselii* is a pioneering species which disappears after thickening of the communities. Overgrowing of the tufts of acidophilous grasses and accumulation of dead matter is a probable reason for disappearance of the species from the location at Gabarevo village.

Reports 96-110

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Apiaceae

96. *Laserpitium siler* L.

Bu Sofia Region: in open rocky places above Bezden village, Kostinbrod district, 42.90348°N, 23.08168°E, FN-74, 28.05.2008, coll. K. Vassilev (SOM 164478, 164460).

A new species for this floristic region.

Asteraceae

97. *Centaurea chrysolepis* Vis.

Bu Sofia Region: in open rocky places above Bezden village, Kostinbrod district, 42.89365°N, 23.08956°E, FN-74, 28.05.2008, coll. K. Vassilev (SOM 164469).

A new record for this floristic region.

Caryophyllaceae**98. *Cerastium petricola*** Pančić

Bu Znepole Region: in open rocky places on the southern slopes of Tri Ushi Hill, Dragoman district, 42.90689°N, 22.99899°E, FN-65, 14.06.2008, coll. *K. Vassilev* (SOM164473); on calcareous slopes above Yardzhilovtsi village, Pernik district, 42.62798°N, 22.89940°E, FN-52, 24.05.2008, coll. *K. Vassilev* & *H. Pedashenko* (SOM 164475); on dry grasslands above Kosacha village, Kovachevtsi district, 42.57483°N, 22.91730°E, FN-51, 24.05.2008, coll. *K. Vassilev* & *H. Pedashenko* (SOM 164474); Mt Chepan, in calcareous rocky places under peak Petrovski Krast, 29.05.2006, coll. *D. Dimitrov* (SOM 163763); in calcareous rocky places under peak Petrovski Krast, 29.05.2006, coll. *D. Dimitrov* (SO 104524).

First record of this Balkan endemic from this floristic region.

Fabaceae**99. *Medicago bondevii*** Kožuharov

Bu Znepole Region: in rocky places on Mt Zemen, Zemen district, 42.47997°N, 22.68970°E, FN-40, 07.06.2008, coll. *K. Vassilev* (SOM 164526).

A new record for this floristic region.

100. *Trigonella striata* L.

Bu Sofia Region: on calcareous slopes above Bezden village, Kostinbrod district, 42.88988°N, 23.08979°E, FN-74, 29.05.2008, coll. *K. Vassilev* (SOM 164472); on the southern slope above Bezden village, Kostinbrod district, FN-74, 23.05.2008, coll. *K. Vassilev* (SOM 164471).

First record of the species for this floristic region.

Guttiferae**101. *Hypericum linarioides*** Bosse

Bu Znepole Region: in open rocky places on Mt Lyubasha, above Lyalintsi village, Tran district, 42.76575°N, 22.74826°E, FN-43, 10.07.2008, coll. *K. Vassilev* & *V. Goranova* (SOM 164464); on the southeast slope of Mt Strazhata, Tran district, 42.77209°N, 22.74822°E, FN-43, 09.07.2008, coll. *K. Vassilev* (SOM 164463); in open rocky places on Mt Paramunska, Tran district, 42.79343°N, 22.74261°E, FN-43, 09.07.2008, coll. *K. Vassilev* & *V. Goranova* (SOM 164465).

First record of the species for this floristic region.

Rosaceae**102. *Filipendula ulmaria*** (L.) Maxim.

Bu Znepole Region: on wet grasslands after Zavala village, Mt Zavalska, Breznik district, FN-44, 22.06.2008, coll. *K. Vassilev* (SOM 164461); on the left side of the road before Gorno Melna village, Tran district, FN-23, 21.06.2008, coll. *K. Vassilev*, *H. Pedashenko* & *V. Goranova* (SOM 164462); Mt Paramunska, 04.07.1961, coll. *D. Jordanoff* & *A. Janev* (SO 92311).

Not reported for this floristic region so far.

Valerianaceae**103. *Valerianella lasiocarpa*** (Steven) Betcke

Bu Sofia Region: on rocky slopes above Bezden village, Kostinbrod district, 42.88896°N, 23.10927°E, FN-74, 23.05.2008, coll. *K. Vassilev* (SOM 164470).

First record for this floristic region.

Liliaceae**104. *Lilium jankae*** A. Kern.

Bu Sofia Region: in pot-holes between Bezden and Ponor villages, Kostinbrod district, FN-74, 22.06.2008, coll. *K. Vassilev* (SOM 164476).

The species has not been reported for the region so far.

Poaceae**105. *Avenula compressa*** (Heuff.) W. Sauer & Chmel.

Bu Znepole Region: in open stony places on Mt Konyavska, Zemen district, 42.43528°N, 22.73461°E, FN-40, 11.07.2008, coll. *K. Vassilev* & *V. Goranova* (SOM 164486); on rocky slope of Mt Lyubasha, above Lyalintsi village, 42.76463°N, 22.74902°E, FN-43, 10.07.2008, coll. *K. Vassilev* & *V. Goranova* (SOM 164484); in open stony places on Mt Zemenska, Zemen district, 42.47669°N, 22.69495°E, FN-40, 07.06.2008, coll. *K. Vassilev* (SOM 164485); *Ad pagum Dragoman*, 13.06.1892, coll. *S. Georghieff* (SO 5121).

First record for this floristic region.

106. *Bromus moesiacus* Velen.

Bu Sofia Region: in rocky places, above Bezden village, Kostinbrod district, 42.92286°N, 23.11858°E, FN-74, 04.06.2008, coll. *K. Vassilev* (SOM 164467); in rocky places, above Bezden village, Kostinbrod district, 42.92725°N, 23.11344°E, FN-74, 04.06.2008, coll. *K. Vassilev* (SOM 164467).

Not reported from this floristic region so far.

107. *Festuca pseudodalmatica* Krajina ex Domin
Bu Sofia Region: in calcareous grasslands above Bezden village, Kostinbrod district, 42.89881°N, 23.08701°E, FN-74, 29.05.2008, coll. K. Vassilev (SOM 164480); in rocky places above Bezden village, Kostinbrod district, 42.90117°N, 23.08564°E, 29.05.2008, coll. K. Vassilev (SOM 164479).

Not reported for the region so far.

108. *Phleum montanum* K. Koch

Bu Znepole Region: in rocky places, Tri Ushi Hill, Dragoman district, 42.90689°N, 22.99899°E, FN-65, 14.06.2008, coll. K. Vassilev (164468).

First record of this species from the region.

109. *Sesleria rigida* Heuff. ex Rchb.

Bu Sofia Region: in open stony places above Bezden village, Kostinbrod district, 42.90348°N, 23.08168°E, FN-74, 28.05.2008, coll. K. Vassilev (SOM 164488, 164487).

First record from this floristic region.

110. *Stipa tirsia* Steven

Bu Znepole Region: above Zavala village, Mt Zavalska, Breznik district, 42.86284°N, 22.78677°E, FN-44, 22.06.2008, coll. K. Vassilev (SOM 164483).

Not reported for the region in the recent major floristic sources (Kozhuharov 1992; Delipavlov 2003; Assyov & Petrova 2006).

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Apiaceae

111. *Pimpinella tragiium* Vill.

Bu Balkan Range (*Western*): in xerothermic calcareous grasslands, Mt Ponor, 43.08379°N, 23.28529°E, FN-78, 12.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164500).

Not reported for the region so far.

Fabaceae

112. *Corothamnus procumbens* (Waldst. & Kit.) C. Presl

Bu Balkan Range (*Western*): in xerothermic calcareous grasslands, Mt Ponor, 43.07447°N,

23.27767°E, FN-78, 10.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164498); in open calcareous places, Mt Ponor, 43.07611°N, 23.19072°E, FN-77, 10.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164497); in rocky places, Mt Ponor, 43.08632°N, 23.21497°E, FN-77, 13.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164496); Mt Ponor, above Iskrets village, FN-78, 05.2001, coll. B. Krastanov & D. Stoyanov (SO 101997).

First record for the region.

113. *Lupinus polyphyllus* Lindl.

Bu Balkan Range (*Western*): in mesophilous grasslands, Mt Ponor, FN-77, 14.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164492).

A North American species widely used as ornamental plant in the country (Terziiski 2003) and often escaping from gardens (Kuzmanov 1976).

Guttiferae

114. *Hypericum rumeliacum* Boiss.

Bu Balkan Range (*Western*): in open calcareous places, Mt Ponor, 43.08379°N, 23.28529°E, FN-78, 10.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164499); Petrohan – Gintsi – Buchino – Kostinbrod, 30.05.1899, coll. St. Gheorghieff & S. Kazandžieff (SO 51453).

A Balkan endemic, not reported from the region so far.

Rosaceae

115. *Sorbus austriaca* (Beck) Hedl.

Bu Balkan Range (*Western*): in rocky calcareous places, Mt Ponor, FN-77, 13.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164489).

So far not reported for the region.

Poaceae

116. *Bromus barcensis* Simonk.

Bu Balkan Range (*Western*): in open calcareous grasslands, Mt Ponor, 43.08851°N, 23.20730°E, FN-77, 10.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164503); in xerophitic calcareous grasslands, Mt Ponor, 43.07670°N, 23.20835°E, FN-77, 11.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164502).

Not reported for the region so far.

117. *Stipa pennata* L.

Bu Balkan Range (*Western*): in open stony places, Mt Ponor, 43.08946°N, 23.21773°E, FN-77, 11.07.2008, coll. K. Vassilev & H. Pedashenko (SOM 164504); in calcareous grasslands, Mt Ponor,

43.08851°N, 23.20730°E, FN-77, 10.07.2008, coll.

K. Vassilev & H. Pedashenko (SOM 164501).

New species for this floristic region.

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