

New floristic records in the Balkans: 20*

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Abstract: New chorological data are presented for 244 species and subspecies from Bulgaria (1, 65-72, 118-122, 142-162, 167-197), Greece (18-64, 89-117, 123-141, 206-244) and Turkey-in-Europe (2-17, 73-88, 163-166, 198-204). The taxa belong to the following families: *Aceraceae* (78, 79), *Alliaceae* (40, 115, 194, 239), *Amaranthaceae* (18, 19), *Amaryllidaceae* (41), *Apiaceae* (44, 91, 123, 167), *Apocynaceae* (124), *Aspleniaceae* (65), *Asteraceae* (20-22, 45, 46, 92-97, 125-129, 142, 177-180, 206-208, 216-220), *Balsaminaceae* (181), *Berberidaceae* (163), *Betulaceae* (130), *Boraginaceae* (1, 23, 47, 143), *Brassicaceae* (24, 25, 98-100, 204, 205, 221), *Buddlejaceae* (182), *Campanulaceae* (101-103), *Caprifoliaceae* (104), *Caryophyllaceae* (12, 48, 68, 69, 131, 144, 145, 148-150, 168, 189, 190, 222), *Celastraceae* (209), *Chenopodiaceae* (26-28, 49, 118-122, 132, 183, 184), *Cistaceae* (13), *Colchicaceae* (42, 139, 212), *Convolvulaceae* (223), *Crassulaceae* (29, 105, 106, 133, 224, 225), *Cupressaceae* (66, 176), *Cyperaceae* (60, 61, 140, 240, 241), *Elaeagnaceae* (165), *Ephedraceae* (90), *Euphorbiaceae* (185), *Fabaceae* (2-11, 50, 70, 107, 134, 146, 164, 169-172, 186, 226-228), *Fagaceae* (210), *Gentianaceae* (229), *Geraniaceae* (191), *Grossulariaceae* (108), *Iridaceae* (195, 196, 213, 214), *Juncaceae* (62, 188), *Lamiaceae* (14, 30, 31, 109-111, 173, 230), *Liliaceae* s.l. (43, 72, 198-200), *Linaceae* (151), *Moraceae* (161), *Nyctaginaceae* (32), *Oleaceae* (201-203), *Onagraceae* (112), *Orchidaceae* (141), *Orobanchaceae* (113, 231), *Oxalidaceae* (33, 51, 232, 233), *Papaveraceae* (234), *Phytolaccaceae* (34), *Pinaceae* (160), *Plumbaginaceae* (35), *Poaceae* (63, 64, 116, 117, 154-158, 175, 197, 242-244), *Polygalaceae* (174, 192), *Polygonaceae* (52, 53, 135, 211, 235, 236), *Polypodiaceae* (215), *Primulaceae* (15, 54, 86-88), *Pteridaceae* (89), *Punicaceae* (166), *Ranunculaceae* (16, 17, 55, 56, 73-77, 80-83), *Resedaceae* (57), *Rhamnaceae* (162), *Rosaceae* (58, 136, 137, 147, 152, 159, 187, 193), *Scrophulariaceae* (36, 37, 138, 237, 238), *Solanaceae* (38, 39, 84, 85), *Taxaceae* (67), *Ulmaceae* (59), *Urticaceae* (114) and *Valerianaceae* (71, 153).

First report for a country is: Bulgaria – *Chenopodium album* subsp. *pedunculare* (118).

The publication includes contributions by: A. Asenov (1), M. Aybeke (2-8), M. Aybeke & al. (9-11), M. Aybeke & C. Yarıcı (12-17), E. Baliasis & Kit Tan (18-43), B. Biel & Kit Tan (44-64), D. Borisova (65-72), F. Dane & M. Aybeke (73-77), F. Dane & al. (78-79), F. Dane & G. Yılmaz (80-83), F. Dane & al. (84-85), F. Dane & al. (86-88), K. Giannopoulos & al. (89-117), N. Grozeva (118-122), K. Polymenakos & Kit Tan (123-141), D. Sopotlieva & al. (142-147), J. Stoyanov & al. (148-158), S. Stoyanov & N. Apostolova-Stoyanova (159), A. Tashev & al. (160-162), S. Tütüncü Konyar (163-164), S. Tütüncü Konyar & al. (165-166), K. Vassilev & al. (167-175), V. Vladimirov (176-188), V. Vladimirov & al. (189-197), G. Yılmaz & al. (198-200), G. Yılmaz & al. (201-203), G. Yılmaz & al. (204-205), G. Zarkos & al., V. Christodoulou & Kit Tan (206-214), M. Zarikou & P. Trigas (215-244).

This is the twentieth report in a series dealing with the new chorological data on 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.

Report 1

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Boraginaceae

1. *Echium russicum* J.F. Gmel.

Bu Znepole Region: Mt Zemenska, on limestone terrain, in open-ridge grassy places, under peak Glamen, 1140 m, FN-30, 11.11.2012, coll. A.

Asenov (SO 107459).

These are two new sites for this species evaluated as ‘Vulnerable’ at national level (Petrova 2009). This is so far the largest discovered subpopulation in Mt Zemenska and probably in Bulgaria. The first locality is at 44°29'08"N, 22°41'40"E and covers 500 m², with irregular density of plants. It comprises 180 vegetative and 60 generative plants. The subpopulation is located on a grassy northern slope with inclination of 20°. The second site is not far away from the first, at 42°29'11"N, 22°41'35"E, situated on the northern slope of peak Glamen, at the same altitude. It is smaller but has higher density: 120 vegetative and 40 generative plants on 150 m².

Reports 2–8

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Fabaceae

2. *Lathyrus annuus* L.

Tu(E) A1(E) Edirne: Centre, between Tayakadin–Karakasım, 29 m, 41°31'00"N, 26°38'00"E, 09.06.1987, coll. G. Dalgıç & F. Dane, det. F. Güneş (EDTU 1016); Centre, between Orhaniye–Elçili, 99 m, 41°31'00"N, 26°39'00"E, 09.06.1987, coll. N. Başak & al., det. F. Güneş (EDTU 1158); Centre, Doyran village, at the roadside, 15 m, 41°29'04"N, 26°36'22"E, 06.05.1994, coll. Ç. Meriç, det. F. Güneş (EDTU 6186); Enez, Yeniceköy, Kepirler locality, in a wheat field, 69 m, 41°20'41"N, 26°46'05"E, 21.05.1994, coll. M. Kireç, det. M. Kireç (EDTU 7030); Keşan, Mecidiye, 156 m, 40°41'20"N, 26°27'49"E, 10.06.2000, coll. G. Dalgıç, det. M. Aybeke (EDTU 7943).

— A1(E) Kırklareli: Lüleburgaz, DSİ houses, 89 m, 41°24'24"N, 27°21'19"E, 12.05.1995, coll. V. Bayar, det. M. Aybeke (EDTU 3124).

New for A1(E) Edirne and Kırklareli in European Turkey. So far the species has been known from Çanakkale and Istanbul (Davis 1970).

3. *Lathyrus cicera* L.

Tu(E) A1(E) Çanakkale: Eceabat, Anafartalar locality, 40°41'20"N, 26°27'49"E, 10.05.1987, coll. F. Dane, det. F. Güneş, conf. M. Aybeke (EDTU 635).

— A1(E) Edirne: Koyunyeri village, 38 m, 40°50'00"N, 26°26'00"E, 07.05.1987, coll. F. Dane, det. F. Güneş, conf. M. Aybeke (EDTU 691); Centre, Faculty of Medicine, 26 m, 41°40'28"N, 26°33'39"E, 11.05.1987, coll. F. Dane, det. F. Güneş, conf. M. Aybeke (EDTU 692); Centre, Yıldırım cemetery, 40°41'20"N, 26°27'49"E, 15.04.1989, coll. F. Dane, det. M. Aybeke (EDTU 2980); Centre, Kutlutaş locality, 41°40'28"N, 26°33'39"E, 30.04.1988, coll. F. Dane, det. F. Güneş, conf. M. Aybeke (EDTU 2995).

New for A1(E) Edirne and Çanakkale in European Turkey. So far the species has been known from Tekirdağ and Istanbul (Davis 1970).

4. *Lathyrus digitatus* (M. Bieb.) Fiori

Tu(E) A1(E) Çanakkale: Eceabat, Anafartalar, 40°41'20"N, 26°27'49"E, 10.05.1987, coll. F. Dane, det. M. Aybeke (EDTU 629, 646).

— A1(E) Edirne: Süloğlu, Süloğlu dam hillside, 156 m, 41°46'02"N, 26°54'43"E, 08.05.1986, coll. G. Dalgıç, det. F. Güneş (EDTU 348); Centre, between Hatıpköy and Çömlekköy, in shrubbery, 41°49'00"N, 26°34'00"E, 13.04.1988, coll. G. Dalgıç & N. Başak, det. M. Aybeke (EDTU 1938); Lalapaşa, Kalkansöğüt, 41°56'31"N, 26°52'23"E, 06.05.1988, coll. N. Başak, det. M. Aybeke (EDTU 2012).

New for A1(E) Edirne and Çanakkale.

5. *Lathyrus laxiflorus* (Desf.) Kuntze subsp. *laxiflorus*

Tu(E) A1(E) Edirne: Uzunköprü, Uzunköprü–Çöpköy, 56 m, 41°13'11"N, 26°49'22"E, 25.04.1987, coll. F. Dane, det. F. Güneş, conf. M. Aybeke (EDTU 624); Keşan, Mercan pool, 72 m, 40°44'00"N, 26°36'00"E, 11.06.1987, coll. N. Başak & A. Asan, det. F. Güneş, conf. M. Aybeke (EDTU 1284) & 01.05.1988, coll. G. Dalgıç & N. Polat, det. M. Aybeke (EDTU 1963); Centre, between Edirne and

Hüseyinpinar village, at the roadside, 41°44'00"N, 26°41'00"E, 11.05.1988, coll. G. Olgun & al., det. M. Aybeke (EDTU 2035); Uzunköprü, between Harmanlı and Çöpköy, 106 m, 41°05'58"N, 26°44'53"E, 25.04.1989, coll. F. Dane & N. Polat, det. M. Aybeke (EDTU 3499); Keşan, Gökçetepe, 190 m, 40°39'50"N, 26°37'53"E, 10.05.1998, coll. G. Dalgıç, det. G. Dalgıç, conf. M. Aybeke (EDTU 4370); Lalapaşa, Donköy, 334 m, 41°56'00"N, 26°42'00"E, 02.06.1992, coll. N. Başak & F. Dane, det. F. Güneş, conf. M. Aybeke (EDTU 5081).

— A1(E) Tekirdağ: Saray, Bahçeköy, Kastro coast, in a forest, 41°20'57"N, 27°53'10"E, 24.04.1999, coll. N. Güler, det. M. Aybeke (EDTU 7907).

New for A1(E) Edirne and Tekirdağ in European Turkey. So far the species has been known from A1(E) Kırklareli (Davis 1970).

6. *Lathyrus sphaericus* Retz.

Tu(E) A1(E) Edirne: Centre, Medicinal Faculty, at the roadside, 151 m, 41°29'00"N, 27°52'00"E, 06.06.1987, coll. E. Düzalan, det. F. Güneş (EDTU 1111).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Tekirdağ and A2(E) Istanbul (Davis 1970).

7. *Medicago orbicularis* (L.) Bartal.

Tu(E) A1(E) Edirne: Lalapaşa, Çomlekakpınar pasture, 152 m, 41°50'00"N, 26°39'00"E, 16.06.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 183); Centre, Hidiraga pasture, 123 m, 41°44'00"N, 26°41'00"E, 09.06.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 1119); Suloglu, Kerametlin pasture, 188 m, 41°47'00"N, 26°58'00"E, 02.06.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 1215); Meric, Subasi pasture, 48 m, 41°09'47.3"N, 26°23'37.6"E, 26.05.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 1444); Lalapaşa, Uzunbayir pasture, 198 m, 41°55'00"N, 26°36'00"E, 16.06.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 1477); Meric, Yakupbey pasture, 107 m, 41°15'06.8"N, 26°32'46.3"E, 26.05.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 1511); Uzunkopru, Yenikoy pasture, 80 m, 41°20'41"N, 26°46'05"E, 02.06.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 1541).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Çanakkale and A2(E) Istanbul (Davis 1970). In ILDIS website (ILDIS 2005) the taxon is reported for European Turkey, but not for A1(E) Edirne.

8. *Vicia sativa* L. subsp. *sativa* var. *segetalis* (Thuill.) DC.

Tu(E) A1(E) Edirne: Kesan, Beykoy pasture, 65 m, 41°16'00"N, 26°51'00"E, 05.05.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 89); Uzunkopru, Eskikoy pasture, 62 m, 41°20'00"N, 26°38'00"E, 26.05.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 976); Kesan, Koruklu, 40°39'N, 26°25'E, 05.05.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 1254).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Kırklareli (Davis 1970).

Acknowledgements. Fieldwork on *Medicago* and *Vicia* was carried out in 2003–2006, under project TAGEM /04/04/01/002.

Reports 9-11

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Fabaceae

9. *Melilotus albus* Medik.

Tu(E) A1(E) Edirne: Lalapaşa, Kalkansogut pasture, 41°56'31"N, 26°52'23"E, 17.07.2003, coll. C. Kurt & A. Semerci, det. M. Aybeke (TTAE 1154).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Tekirdağ to Malkara (Chamberlain 1970). In ILDIS website (ILDIS 2005) the taxon is reported for European Turkey, but not for A1(E) Edirne.

10. *Melilotus officinalis* (L.) Lam.

Tu(E) A1(E) Edirne: Buyukdolluk pasture, 50 m, 41°45'N, 26°36'E, 09.06.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 136).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Çanakkale Koçaçimen tepe and A2(E) Istanbul (Chamberlain 1970). In ILDIS website (ILDIS 2005) the taxon is reported for European Turkey but not for A1(E) Edirne.

11. *Melilotus sulcatus* Desf.

Tu(E) A1(E) Edirne: Buyukdolluk pasture, 50 m, 41°45'N, 26°36'E, 09.06.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 138); Lalapaşa, Kucunlu pasture, 328 m, 41°56'N, 26°46'E, 01.07.2003, coll. C. Kurt & al., det. M. Aybeke (TTAE 1295); Meriç, Subasi pasture, 48 m, 41°09'47.3"N, 26°23'37.6"E,

26.05.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 1445); Uzunkopru, Yenikoy pasture, 80 m, 41°20'41"N, 26°46'05"E, 02.06.2004, coll. C. Kurt & al., det. M. Aybeke (TTAE 1542).

New for A1(E) European Turkey. So far the species has been known from A1(A) Çanakkale, Erenköy (Chamberlain 1970). In ILDIS website (ILDIS 2005) the taxon is reported for European Turkey but not for A1(E) Edirne.

Acknowledgements. Fieldwork was carried out in 2003–2006 under project TAGEM/04/04/01/002.

Reports 12–17

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Caryophyllaceae

12. *Stellaria media* subsp. *pallida* (Dumort.) Asch. & Graebn.

Tu(E) A1(E) Kırklareli: between Ahmetli and Ahlatlı villages, in a forest, 563 m, 41°58'N, 27°14'E, 27.06.1997, coll. C. Yarcı, det. C. Yarcı (EDTU 7192).

New for European Turkey. So far the species has been known from A1(A) Çanakkale, A2(A) Istanbul, A3 Bolu, A5 Samsun, C6 Gaziantep (Coode 1967).

Cistaceae

13. *Cistus creticus* L.

Tu(E) A1(E) Kırklareli: Demirköy, 244 m, 41°49'17"N, 27°45'38"E, 02.07.1988, coll. C. Yarcı, det. C. Yarcı (EDTU 2246).

New for A1(E) Kırklareli in European Turkey. So far the species has been known from Çanakkale and Istanbul (Coode 1965).

Lamiaceae

14. *Salvia verbenaca* L.

Tu(E) A1(E) Edirne: Keşan, Mt Koru, 40°51'21"N, 26°37'49"E, 07.06.1987, coll. C. Yarcı, det. A. Aydın (EDTU 1716).

New for A1(E) Edirne in European Turkey. So far the species has been known from Kırklareli and Istanbul (Hedge 1982).

Primulaceae

15. *Anagallis arvensis* L. subsp. *arvensis*

Tu(E) A1(E) Kırklareli: Demirköy, 244 m, 41°49'17"N,

27°45'38"E, 02.07.1988, coll. C. Yarcı, det. C. Yarcı (EDTU 2256); Demirköy, between Karanlık and Karadere villages, 561 m, 41°55'16"N, 27°26'25"E, 03.09.1989, coll. & det. C. Yarcı (EDTU 4223).

New for A1(E) Kırklareli in European Turkey. So far the species has been known from Istanbul (Leblebici 1978).

Ranunculaceae

16. *Helleborus orientalis* Lam.

Tu(E) A1(E) Kırklareli: Demirköy, between Demirköy and İğneada, 244 m, 41°49'17"N, 27°45'38"E, 18.05.1991, coll. & det. C. Yarcı (EDTU 5386).

New for A1(E) Kırklareli in European Turkey. So far the species has been known from A2(E) Istanbul, Belgrad forest (Davis & Cullen 1965).

17. *Nigella arvensis* L. var. *glauca* Boiss.

Tu(E) A1(E) Kırklareli: Demirköy, Armutveren village, 331 m, 41°54'N, 27°32'E, 08.08.1990, coll. & det. C. Yarcı (EDTU 5041); Demirköy, Yeniceköy, 451 m, 41°43'58"N, 27°38'07"E, 02.08.1990, coll. & det. C. Yarcı (EDTU 5295).

New for A1(E) Kırklareli in European Turkey. So far the species has been known from A1(E) Çanakkale, Gelibolu (Davis 1965).

Reports 18–43

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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).

Amaranthaceae

18. *Amaranthus deflexus* L.

Gr Nomos Kikladon, Eparchia Keas: island of Kea, Kato Meria village, crevices in pavement, 390 m, 37°35'11"N, 24°19'08"E, 15.09.2012, *Baliouis* obs. New for the island and eparchia. Naturalized, native to temperate S America.

19. *Amaranthus hybridus* L.

Gr Nomos Kikladon, Eparchia Keas: island of Kea,

Kato Meria village, roadsides, 390 m, 37°35'10"N, 24°19'08"E, 15.09.2012, *Baliouisis* obs.; ca. 1.5 km S of Korissia, stream banks, 70 m, 37°38'29"N, 24°18'50"E, 15.09.2012, *Baliouisis* obs.

New for the island and eparchia. Naturalized, native to temperate N and S America.

Asteraceae

20. *Erigeron canadensis* L.

Gr Nomos Fthiotidos, Eparchia Lokridos: Mt Kallidromo, Eleftherochori village, roadsides, 750 m, 38°45'52"N, 22°27'22"E, 27.10.2012, *Baliouisis* obs.; Paleochori village, roadsides, 500 m, 38°43'10"N, 22°29'02"E, 27.10.2012, *Baliouisis* obs.

New for Kallidromo. Naturalized, native to N and S America.

21. *Erigeron sumatrensis* Retz.

Gr Nomos Kikladon, Eparchia Keas: island of Kea, between Korissia and Ozias, road margins, 5 m, 37°40'04"N, 24°19'51"E, 14.09.2012, *Baliouisis* obs.; ca. 1.5 km S of Korissia, wet streambed, 50 m, 37°38'33"N, 24°18'56"E, 15.09.2012, *Baliouisis* obs.

New for the island and eparchia. Naturalized, widespread weed native to S America.

22. *Symphytotrichum squamatum* (Spreng.) G.L. Nesom

Gr Nomos Kikladon, Eparchia Keas: island of Kea, Ozias, fallow fields near the sea, 37°40'27"N, 24°20'58"E, 14.09.2012, *Baliouisis* obs.; ca. 1.5 km S of Korissia, wet streambed, 50 m, 37°38'33"N, 24°18'56"E, 15.09.2012, *Baliouisis* obs.; between Pisses and Kato Meria, road margins, 150 m, 37°35'39"N, 24°16'51"E, 15.09.2012, *Baliouisis* obs.
— Nomos Fthiotidos, Eparchia Lokridos: Mt Kallidromo, Anavra village, roadsides, 440 m, 38°46'31"N, 22°35'12"E, 26.10.2012, *Baliouisis* obs.

New for the island of Kea and Kallidromo. Naturalized, native to southeastern N America.

Boraginaceae

23. *Heliotropium hirsutissimum* Grauer

Gr Nomos Fthiotidos, Eparchia Lokridos: Mt Kallidromo, Mendenitsa village, roadsides, 550 m, 38°45'06"N, 22°36'58"E, 26.10.2012, *Baliouisis* 7524 (herb. *Baliouisis*).

New for Kallidromo.

Brassicaceae

24. *Lepidium graminifolium* L.

Gr Nomos Kikladon, Eparchia Keas: island of Kea, E-SE of Ioulida, near Pera Meria village, road margins, 450 m, 37°37'50"N, 24°22'09"E, 15.09.2012, *Baliouisis* obs.

New for the island and eparchia.

25. *Sinapis alba* subsp. *mairei* (H. Lindb.) Maire

Gr Nomos Kikladon, Eparchia Keas: island of Kea, Koundouros village, road margins near the sea, 37°34'53"N, 24°16'43"E, 15.09.2012, *Baliouisis* obs.

New for the island and eparchia.

Chenopodiaceae

26. *Chenopodium giganteum* D. Don

Gr Nomos Kikladon, Eparchia Keas: island of Kea, western part of Korissia, road margins, 5 m, 37°39'26"N, 24°18'40"E, 15.09.2012, *Baliouisis* obs.

New for the island and eparchia. Naturalized, native to N India.

27. *Chenopodium vulvaria* L.

Gr Nomos Fthiotidos, Eparchia Lokridos: Mt Kallidromo, Mendenitsa village, waste ground and disturbed places, 550 m, 38°45'06"N, 22°36'58"E, 26.10.2012, *Baliouisis* 7519 (herb. *Baliouisis*).

New for Kallidromo.

28. *Dysphania ambrosioides* (L.) Mosyakin & Clemants

Gr Nomos Kikladon, Eparchia Keas: island of Kea, western part of Ioulida, road margins, 280 m, 37°38'26"N, 24°20'21"E, 14.09.2012, *Baliouisis* obs. (photo); between Ioulida and Korissia, road margins, 150 m, 37°38'43"N, 24°19'49"E, 14.09.2012, *Baliouisis* obs.; ca. 1.5 km S of Korissia, wet streambed, 50 m, 37°38'33"N, 24°18'56"E, 15.09.2012, *Baliouisis* obs.

New for the island and eparchia. Naturalized, native of tropical America.

Crassulaceae

29. *Sedum album* L.

Gr Nomos & Eparchia Attikis: Mt Pendeli, W-NW of Pyrgari summit, limestone cliff ledges, 980 m, 38°05'05"N, 23°52'37"E, 21.05.2011, *Baliouisis* 5560 (herb. *Baliouisis*; collected in vegetative state, cultivated and identified on 30.06.2011).

New for Mt Pendeli. Reported from Parnitha and Imittos.

Lamiaceae**30. *Calamintha nepeta* subsp. *glandulosa* (Req.)**

P.W. Ball

Gr Nomos Fthiotidos, Eparchia Lokridos: Mt Kallidromo, Mendenitsa village, roadsides, 550 m, 38°45'06"N, 22°36'58"E, 26.10.2012, *Baliouis* 7517 (herb. Baliouis); Eleftherochori village, roadsides, 750 m, 38°45'52"N, 22°27'22"E, 27.10.2012, *Baliouis* obs.; Paleochori village, roadsides, 500 m, 38°43'10"N, 22°29'02"E, 27.10.2012, *Baliouis* obs.

New for Kallidromo.

31. *Marrubium peregrinum* L.

Gr Nomos & Eparchia Attikis: Mt Pendeli, near the high school at Dionisos, in openings of *Pinus halepensis* woodland, 500 m, 38°05'59"N, 23°53'03"E, 01.06.2012, *Baliouis* 6990 (herb. Baliouis).

New for Mt Pendeli. Recorded as new for Parnitha in November 2011.

Nyctaginaceae**32. *Mirabilis jalapa* L.**

Gr Nomos Kikladon, Eparchia Keas: island of Kea, Ioulida, ruderal places, 300 m, 37°38'26"N, 24°20'28"E, 14.09.2012, *Baliouis* obs.; Pisses village, road margins near the sea, 37°35'51"N, 24°16'39"E, 15.09.2012, *Baliouis* obs.

New for the island and eparchia. Naturalized garden escape native to tropical S America.

Oxalidaceae**33. *Oxalis corniculata* L.**

Gr Nomos Kikladon, Eparchia Keas: island of Kea, Kato Meria village, stony pavements, 390 m, 37°35'11"N, 24°19'08"E, 15.09.2012, *Baliouis* obs.

New for the island and eparchia. Naturalized, native origin uncertain, cosmopolitan in distribution.

Phytolaccaceae**34. *Phytolacca americana* L.**

Gr Nomos Kikladon, Eparchia Keas: island of Kea, Ioulida, roadsides and stony pavements, 280–330 m, 37°38'26"N, 24°20'21"E to 37°38'21"N, 24°20'46"E, 14.09.2012, *Baliouis* obs. (photo); ca. 1.5 km S of Korissia, stream banks, 50 m, 37°38'33"N, 24°18'56"E, 15.09.2012, *Baliouis* obs.

New for the island and eparchia. Introduced as ornamental, naturalized. Native to N America.

Plumbaginaceae**35. *Plumbago europaea* L.**

Gr Nomos Fthiotidos, Eparchia Lokridos: Mt

Kallidromo, Mendenitsa village, roadsides, 550 m, 38°45'06"N, 22°36'58"E, 26.10.2012, *Baliouis* 7525 (herb. Baliouis); Eleftherochori village, roadsides, 750 m, 38°45'52"N, 22°27'22"E, 27.10.2012, *Baliouis* obs.; Paleochori village, roadsides, 500 m, 38°43'10"N, 22°29'02"E, 27.10.2012, *Baliouis* obs.

Confirming an earlier report from Kallidromo (October 2005, *Willing* 147470, B).**Scrophulariaceae****36. *Antirrhinum majus* L.**

Gr Nomos Kikladon, Eparchia Keas: island of Kea, western part of Ioulida, roadsides, 300 m, 37°38'32"N, 24°20'05"E, 15.09.2012, *Baliouis* obs.

New for the island and eparchia.

37. *Cymbalaria muralis* G. Gaertn., B. Mey. & Schreb. subsp. *muralis*

Gr Nomos Kikladon, Eparchia Keas: island of Kea, Ioulida, stony pavements and stonewalls, 320 m, 37°38'24"N, 24°20'28"E, 14.09.2012, *Baliouis* obs.

New for the island and eparchia.

Solanaceae**38. *Datura innoxia* Mill.**

Gr Nomos Kikladon, Eparchia Keas: island of Kea, Pisses village, road margins near the sea, 37°35'51"N, 24°16'39"E, 15.09.2012, *Baliouis* obs.

New for the island and eparchia. Naturalized, native to C America.

39. *Datura stramonium* L.

Gr Nomos Kikladon, Eparchia Keas: island of Kea, ca. 1.5 km S of Korissia, stream bed, 50 m, 37°38'33"N, 24°18'56"E, 15.09.2012, *Baliouis* obs.

New for the island and eparchia. Naturalized, cosmopolitan weed probably originating from temperate N America.

Alliaceae**40. *Allium chamaespauthum* Boiss. (Fig. 1)**

Gr Nomos Kikladon, Eparchia Keas: island of Kea, NE of Ioulida, near the ancient lion, schistose slopes with phrygana, 320 m, 37°38'29"N, 24°20'50"E, 14.09.2012, *Baliouis* 7471 (herb. Baliouis); ca. 1.5 km S of Korissia, abandoned terraced fields with phrygana, 70 m, 37°38'28"N, 24°18'50"E, 15.09.2012, *Baliouis* 7480 (herb. Baliouis).

New for the island, eparchia and nomos. Apparently first record for the Kiklades.



Fig. 1. *Allium chamaespithum* (photo V. Baliouis).

Amaryllidaceae

41. *Sternbergia lutea* (L.) Spreng.

Gr Nomos Fthiotidos, Eparchia Lokridos: Mt Kallidromo, ca. 1.5 km N-NW of Anavra village, stony slopes with *Phillyrea latifolia* – *Quercus coccifera* scrub, limestone, 350 m, 38°47'09"N, 22°34'52"E, 26.10.2012, *Baliouis* 7510 (herb. Baliouis).

New for Kallidromo.

Colchicaceae

42. *Colchicum variegatum* L. (Fig. 2)

Gr Nomos Kikladon, Eparchia Thiras: island of Donousa (Denousa), Kalotaritissa, 37°07'24"N, 25°49'04"E, 07.09.2008, *Baliouis* 4284 (herb. Baliouis); *loc. ibid.*, 08.09.2008, *Baliouis* obs.

Confirming an earlier report from the island by Rune-mark (unpublished info).



Fig. 2. *Colchicum variegatum* (photo V. Baliouis).

43. *Scilla autumnalis* L.

Gr Nomos Fthiotidos, Eparchia Lokridos: Mt Kallidromo, ca. 1.5 km N-NW of Anavra village, stony slopes with *Phillyrea latifolia* – *Quercus coccifera* scrub, limestone, 350 m, 38°47'09"N, 22°34'52"E, 26.10.2012, *Baliouis* 7511 (herb. Baliouis).

New for Kallidromo.

Reports 44–64

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This is the nineteenth report of new plant-records for the island of Samothraki (N Aegean islands, Nomos Evrou, Eparchia Samothrakis) based on fieldwork carried out over several years. The records listed are all new to the island, or to the floristic region N Aegean (NAe) as circumscribed in *Flora Hellenica* (Strid & Tan 1997). The occurrence on the other N Aegean islands is also provided.

Apiaceae

44. *Orlaya daucooides* (L.) Greuter

Gr Samothraki: E-SE of Alonia, phrygana on rocky hill, beside wet dirt track, 690 m, 40°27'29"N, 25°32'58"E, 11.06.2008, *Biel* 08.113.

Confirming earlier report by Stojanov & Kitanov (1944: 443) sub nom. *Caucalis daucooides* L.

Asteraceae

45. *Carthamus dentatus* (Forssk.) Vahl (Fig. 3)

Gr Samothraki: S of Kamariotissa, road margins, 10 m, 40°28'40"N, 25°28'32"E, 06.11.2008, *Biel* 08.392.

Recorded from the islands of Thasos, Limnos and Ag. Evstratios in the N Aegean area. Confirming an earlier report by Ade & Rechinger (1938: 139). Also noted near Alonia.

46. *Scolymus maculatus* L. (Fig. 4)

Gr Samothraki: E-SE of Therma, gravelly beach with *Vitex* scrub, 2 m, 40°29'28"N, 25°39'30"E, 27.06.2010, *Biel* 10.725.

New for the N Aegean area. Six other localities had been noted along the gravelly coast W of Kamariotissa to S of Profitis Ilias.



Fig. 3. *Carthamus dentatus* (photo B. Biel).



Fig. 4. *Scolymus maculatus* (photo B. Biel).

Boraginaceae

47. *Myosotis ramosissima* Schult.

Gr Samothraki: NW of Makrilies (Xiropotamos), on gravelly alluvial sand in *Platanus* woodland, 80 m, 40°26'33"N, 25°31'26"E, 11.04.2006, *Biel* 06.297; N-NW of Therma, temporary pool in open phrygana beside the road junction to Therma, 5 m, 40°30'01"N, 25°36'30"E, 05.05.2010, *Biel* 10.163; E-SE of Alonia, cobblestone path, 190 m, 40°27'26"N, 25°31'27"E, 06.05.2011, *Biel* 11.123; E-NE of Pachia Ammos, gravelly bed of Vatos

estuary, beneath *Platanus*, 15 m, 40°23'43"N, 25°36'13"E, 07.05.2011, *Biel* 11.152.

Recorded from Thasos, Limnos and Ag. Evstratios. Confirming an earlier record by Stojanov & Kitanov (1944: 446) sub nom. *M. hispida*.

Caryophyllaceae

48. *Sagina maritima* G. Don

Gr Samothraki: Pachia Ammos, granitic rocks at western part of beach, 3 m, 40°23'34"N, 25°34'38"E, 11.02.2009, *Biel* 09.074.

Recorded from Limnos and Ag. Evstratios.

Chenopodiaceae

49. *Atriplex patula* L.

Gr Samothraki: Therma, orchards and uncultivated ground at SE outskirts of village, 60 m, 40°29'32"N, 25°36'40"E, 09.06.2008, *Biel* 08.088.

Recorded from Thasos. Confirming report by Ade & Rechinger (1938: 117). Already noted N of Kamariotissa and S of Anomeria in the year 2006.

Fabaceae

50. *Vicia sativa* subsp. *cordata* (Hoppe) Batt. (Fig. 5)

Gr Samothraki: Kamariotissa, park at seafront, 2 m, 40°28'34"N, 25°28'25"E, 12.02.2009, *Biel* 09.092; SW of Kamariotissa, seasonally flooded wheat field by dirt road, 4 m, 40°28'10"N, 25°27'50"E, 03.05.2010, *Biel* 10.031 & 10.033.

New for the N Aegean area.

Oxalidaceae

51. *Oxalis debilis* Kunth

Gr Samothraki: NW of Therma, waste ground with ditch near the bath house, 50 m, 40°29'44"N, 25°36'16"E, 16.06.2000, *Biel* 00.102; SE of Profitis Ilias, heavily grazed rocky granitic slope with sparse phrygana near the chapel of Panagia Kremniotissa, 250 m, 40°24'21"N, 25°35'08"E, 04.05.2001, *Biel* 01.062.

New for the N Aegean area. Naturalized, in ruderal habitats.

Polygonaceae

52. *Polygonum arenastrum* Boreau

Gr Samothraki: N-NW of Therma, in open phrygana beside the road junction to Therma, 5 m, 40°30'01"N, 25°36'30"E, 03.11.2008, *Biel* 08.333; Chora, road margins and wall crevices, 260 m, 40°28'20"N, 25°31'32"E, 06.11.2008, *Biel* 08.399.

Recorded from Thasos. Also noted E of Palaepolis.

53. *Polygonum bellardii* All.

Gr Samothraki: E of Therma, lower valley of Fonias river, on sand, 3 m, 40°29'30"N, 25°39'23"E, 01.10.2006, *Biel* 06.421; SW of Xiropotamos, gravelly stream bed with olive trees and scrub, 30 m, 40°25'46"N, 25°30'45"E, 02.10.2006, *Biel* 06.446; SW of Kamariotissa, fallow field behind coast, 5 m, 40°28'10"N, 25°27'50"E, 07.06.2008, *Biel* 09.186; Kamariotissa, gravelly beach and park at sea-front, 2 m, 40°28'34"N, 25°28'25"E, 30.06.2011, *Biel* 11.271.

New for the N Aegean area.

Primulaceae**54. *Anagallis foemina* Mill.**

Gr Samothraki: S of Kamariotissa, grassy margins of field road, 20 m, 40°27'44"N, 25°28'17"E, 29.06.2010, *Biel* 10.773.

Recorded from Thasos. Confirming earlier report by Ade & Rechinger (1938: 128) sub nom. *A. coerulea*. Four other localities noted E of Pachia Ammos, SW of Xiropotamos and near Kamariotissa.

Ranunculaceae**55. *Ranunculus ophioglossifolius* Vill. (Fig. 6)**

Gr Samothraki: NE of Therma, two wet areas with *Platanus* and *Erica* along coastal road, 5 m, 40°29'59"N, 25°37'10"E, 13.06.2000, *Biel* 00.075; NE of Therma, heavily grazed and seasonally flooded area edged with *Vitex* shrubs directly behind coastal barrier, 3 m, 40°29'57"N, 25°37'23"E, 05.05.2001, *Biel* 01.070.

Recorded from Thasos. An earlier collection was made near Akr. Fonias in May 1999 (*Schuler* 99/485, B).



Fig. 5. *Vicia sativa* subsp. *cordata* (photo B. Biel).



Fig. 6. *Ranunculus ophioglossifolius* (photo B. Biel).

56. *Ranunculus sprunerianus* Boiss.

Gr Samothraki: SW of Therma, mountainous cushion phrygana on rocky ridge of Mt Fengari, 1580 m, 40°27'48"N, 25°35'04"E, 26.06.2007 *Biel* 07.276; E of Chora, dwarf scrub on Fengari ridge, on rocky basalt and granite, 1470 m, 40°28'01"N, 25°34'52"E, 13.06.2010, *Biel* 10.536.

Recorded from Thasos. Confirming report by Katsikopoulos (1936: 06).

Resedaceae**57. *Reseda inodora* Rchb.**

Gr Samothraki: Chora, road margins and wall crevices, 260 m, 40°28'20"N, 25°31'32"E, 06.11.2008, *Biel* 08.398.

New for the N Aegean area and apparently the first report for the Greek islands.

Rosaceae**58. *Pyrus communis* L.**

Gr Samothraki: NE of Kamariotissa, field margins near east banks of stream, 10 m, 40°28'58"N, 25°28'58"E, 05.05.2011, *Biel* 11.094.

Recorded from Thasos. Two other localities noted in the vicinity of Kamariotissa.

Ulmaceae**59. *Ulmus minor* Mill. (Fig. 7)**

Gr Samothraki: E-NE of Alonia, road embankments, 220 m, 40°27'58"N, 25°31'29"E, 09.02.2009, *Biel* 09.024, *loc. ibid.*, 16.07.2009, *Biel* 09.205 & 09.206.

Recorded from Thasos and Limnos. Young saplings and at least 20 large trees were found in the area.



Fig. 7. *Ulmus minor* (photo B. Biel).

Cyperaceae**60. *Carex flacca* subsp. *serrulata* (Biv.) Greuter**

Gr Samothraki: W of Palaeopolis, remnant of alluvial forest on slope above coastal road, 10 m, 40°30'17"N, 25°32'19"E, 19.07.2009, *Biel* 09.243; Kamariotissa, phrygana slope with olive trees, on limestone, 30 m, 40°28'34"N, 25°28'48"E, 05.05.2011, *Biel* 11.085.

Recorded from Limnos. Twelve other localities have been noted on the island, all at low altitude.

61. *Cyperus badius* Desf.

Gr Samothraki: NE of Therma, large seasonally flooded area with *Vitex* scrub directly behind coastal barrier, 3 m, 40°30'11"N, 25°36'48"E, 13.07.2009, *Biel* 09.146a.

Recorded from Thasos and Limnos. Also noted S of Lakkoma and N of Therma.

Juncaceae**62. *Juncus striatus* E. Mey.**

Gr Samothraki: NE of Therma, large heavily grazed and seasonally flooded area with *Vitex* scrub, directly behind coastal barrier, 3 m, 40°29'57"N, 25°37'23"E, 21.06.2008, *Biel* 08.301.

New for the N Aegean area. Also noted S of Alonia.

Poaceae**63. *Alopecurus myosuroides* Huds.**

Gr Samothraki: S of Kamariotissa, dry ditch and damp areas in uncultivated field 50–300 m behind coastline, on basalt loam, 5 m, 40°27'05"N, 25°28'23"E, 29.05.2002, *Biel* 02.061; *loc. ibid.*, 04.04.2006, *Biel* 06.108; NE of Therma, stream valley with dirt track and *Platanus*, 3 m, 40°30'04"N, 25°36'57"E, 13.07.2009, *Biel* 09.147; SW of Kamariotissa, road margins and waste ground near the harbour, 3 m, 40°28'40"N, 25°28'20"E, 04.05.2011, *Biel* 11.066.

Recorded from Thasos and Ag. Evstratios. Confirming earlier report by Katsikopoulos (1936: 12).

64. *Avena fatua* L.

Gr Samothraki: N-NE of Pachia Ammos, rocky slopes of Kousianda river, 860 m, 40°25'38"N, 25°36'22"E, 16.05.2010, *Biel* 10.624.

New for the N Aegean area.

Cited vouchers are provisionally kept in the private herbarium of B. Biel at H6chberg (herb. Biel). We thank the late Prof. Hildemar Scholz (Berlin) for kindly identifying our *Poaceae* specimens.

Reports 65–72**Daniela Borisova**

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This contribution provides new data about the populations of some species of conservation concern on the territory of the Vrachanski Balkan Nature Park. Otherwise, all species have already been reported for the floristic regions specified below.

Aspleniaceae**65. *Asplenium lepidum* C. Presl**

Bu Forebalkan (*Western*): Vrachanski Divide, on limestone rocks near monastery St. Ivan Pusti Monastery, 27.07.2012, 21.04.2011 & 21.07.2011, *D. Borisova* obs.

Two subpopulations were observed. The first one was in a rocky niche with N-NE exposure, ca. 600 m, 43.24346°N, 23.462607°E, and comprised 38 individuals covering 40 m². The accompanying species were: *Alliaria petiolata*, *Arabis turrita*, *Asplenium adiantum-nigrum*, *A. ruta-muraria*, *A. trichomanes*, *Campanula trachelium*, *Geranium robertianum*, *Hedera helix*, *Im-*

patiens noli-tangere, *Mycelis muralis*, *Parietaria officinalis*, *Sambucus nigra*, and *Urtica dioica*. The second subpopulation was found on a travertine rock under a waterfall, 495 m, 43.243832°N, 23.463631°E, and comprised 59 individuals covering an area of 20 m². The accompanying species were: *Asplenium ruta-muraria*, *A. trichomanes*, *Brachypodium pinnatum*, *Campanula trachelium*, *Eupatorium cannabinum*, *Geranium robertianum*, *Hedera helix*, *Mycelis muralis*, *Parietaria officinalis*, *Phyllitis scolopendrium*, *Saxifraga rotundifolia*, *Sedum maximum*, and *Silene waldsteinii*. A trend towards worsening of the hydrological regime has been observed in both localities in the past 5–10 years. Other threats include: more tourists visits, vegetation succession, especially the spread of *Hedera helix*, *Urtica dioica* and *Rubus caesius*, pollution with building materials and debris. The species is evaluated as ‘Critical-ly Endangered’ at a national level (Ivanova 2009).

Cupressaceae

66. *Juniperus sabina* L.

Bu Forebalkan (Western): Vrachanski Balkan Nature Park, SE of peak Sokolets, on a rock cliff with W-SW exposure, 1300 m, 43.144531°N, 23.397809°E, 26.08.2009, *D. Borisova* obs., five groups (patches of shrubs) were found; Vrachanski Balkan Nature Park, valley of river Krushovska Bara, on a rock cliff with NE exposure, 678 m, 43.165627°N, 23.587668°E, 28.02.2010, *D. Borisova* obs., three shrubs were found, with a total coverage of 20 m², one of the shrubs was partly dry; Vrachanski Balkan Nature Park, Vratsata locality, on a rock cliff with S exposure, 613 m, 43.190977°N, 23.530607°E, 25.08.2011, *D. Borisova* obs., one shrub was found; Vrachanski Balkan Nature Park, near peak Borov Kamak, on a slope with N exposure, 1100 m, 43.155606°N, 23.49626°E, 01.08.2011, *D. Borisova* obs., one shrub was found.

Altogether, 10 shrub patches have been recorded on the territory of the nature park. No young shrubs have been found. The accompanying species in the locality near peak Sokolets were: *Achillea clypeolata*, *Allium flavum*, *Anthoxanthum odoratum*, *Asperula cynanchica*, *Centaurea chrysolepis*, *Cotoneaster integerrimus*, *C. nebroidensis*, *Cotynus coggygria*, *Daphne oleoides*, *Dianthus petraeus*, *Juniperus sibirica*, *Potentilla cinerea*, *Scabiosa columbaria*, *Sedum album*, *S. ochroleucum*, *Sorbus aria*, *Stipa capillata*, *Syringa vulgaris*, *Trifolium alpestre*, etc.

The main potential threats are forest fires, erosion, rock damage and collapse. The species is evaluated as ‘Endangered’ at a national level (Stoeva 2009).

Taxaceae

67. *Taxus baccata* L.

Bu Forebalkan (Western): Vrachanski Balkan Nature Park, Skaklenski Dol locality, mainly on the eastern slope of the valley, on steep rocky slopes and in the crevices of a rock cliffs with W and NW exposure, 660–880 m, 43.186226°N, 23.554366°E, 10–31.01.2010, *D. Borisova* obs., 18 trees were recorded, of which seven were female, four male and seven of unknown sex; Vrachanski Balkan Nature Park, Medkovski Dol locality, mainly on the eastern slope of the valley, on a steep rocky slope and in the crevices of a rock cliff with NW exposure, 666–812 m, 43.185797°N, 23.560889°E, 07.2010, 10.2010, 08.2011 & 09.2011, *D. Borisova* obs., 24 trees were recorded, of which four were female, seven male and 13 of unknown sex; Vrachanski Balkan Nature Park, Vratsata pass, on the northern slope, on inaccessible rock cliffs with S exposure, ca. 800 m, GN-08, 07.2010, 10.2010, 08.2011 & 09.2011, *D. Borisova* obs., 12 trees have been recorded from a distance.

The species has been recently discovered on the territory of the park by Assyov & al. (2007) who reported 18 trees for the Vratsata pass, 17 trees for the Skaklya ravine and 15 trees for the Medkovski Dol ravine. During subsequent observations, a slightly greater number – 54 trees altogether – has been observed, of which five young individuals in the Medkovski Dol locality. Potential threats may be the forest fires and rock collapse. The species is evaluated as ‘Endangered’ at a national level (Evstatieva 2009).

Caryophyllaceae

68. *Silene velcevii* Jordanov & Panov

Bu Balkan Range (Western): Lakatnishki Skali Protected Site, in crevices of limestone rocks, 480–615 m, 44.089581°N, 23.388005°E, 04 & 07.06.2011, *D. Borisova* obs.

Altogether, 343 individuals of *S. velcevii* were recorded on 3.58 ha. The accompanying species were: *Alysum saxatile*, *Asplenium ruta-muraria*, *Cotynus coggygria*, *Festuca* sp., *Fraxinus ornus*, *Silene waldsteinii*, *Moehringia muscosa*, *Syringa vulgaris*, etc. The species is a Bulgarian endemic evaluated as ‘Critically Endangered’ at a national level (Assyov & Denchev 2009).

69. *Silene vulgaris* subsp. *prostrata* (Gaudin) Schinz & Thell. [*S. alpina* auct. bulg.]

Bu Forebalkan (*Western*): Vrachanski Balkan Nature Park, Krushovitsa locality, on rocky screes with inclination of 25–45° and E and NE exposure, 530–670 m, 43°09'49.20"N, 23°35'19.75"E, 21.08.2011, *D. Borisova* obs., the subpopulation occupies an area of 0.52 ha; Vrachanski Balkan Nature Park, Vratsata Nature Monument, 505–645 m, 43°09'48.10"N, 23°35'33.00"E, 21.08.2011, *D. Borisova* obs., 393 individuals were recorded; Vrachanski Balkan Nature Park, Voyvodin Dol locality, 598 m, 43°11'10.90"N, 23°32'07.39" E, 08.2011, *D. Borisova* obs., 40 plants were recorded; Vrachanski Balkan Nature Park, the valley of Skaklya waterfall, 08.2011, *D. Borisova* obs., on several screes the following number of individuals was recorded: several hundreds occupying ca. 1050 m² area, with an average density of 3 plants/m² (600 m, 43°11'23.52"N, 23°32'55.55"E), 10 plants (545 m, 43°11'27.72"N, 23°33'18.50"E), 48 plants (560 m, 43°11'26.40"N, 23°33'16.64"E), 68 plants (615 m, 43°11'22.16"N, 23°33'14.09"E), 53 plants (605 m, 43°11'19.37"N, 23°33'12.09"E), 65 plants (665 m, 43°11'15.13"N, 23°33'15.87"), 25 plants (650 m, 43°11'11.57"N, 23°33'15.02"E); Vrachanski Balkan Nature Park, Medkovski Dol locality, 670 m, 43°11'07.18"N, 23°33'57.72"E, 08.2011, *D. Borisova* obs.

The species has low competitive abilities and suffers from the increasing density of the vegetation cover of other species, e.g. *Carpinus orientalis*, *Corylus avellana* and *Clematis vitalba*. Other threats include grazing by domestic stock and trampling by tourists. The species is evaluated as 'Critically Endangered' at a national level (Assyov & Denchev 2009).

Fabaceae

70. *Chamaecytisus kovacevii* (Velen.) Rothm.

Bu Forebalkan (*Western*): Vrachanski Balkan Nature Park, Kobilini Steni locality, 900–1410 m, e.g. 43.137545°N, 23.452844°E, 06.2011, *D. Borisova* obs., scores of hundreds (over 600) individuals were recorded; Vrachanski Balkan Nature Park, SE of peak Sokolets, 1316 m, 43.143268°N, 23.406124°E, 06.2011, *D. Borisova* obs., ca. 10 individuals were recorded; Vrachanski Balkan Nature Park, E of peak Buk, 1263 m, 43.137603°N, 23.530978°E, 06.2011, *D. Borisova* obs., ca. 20 individuals were recorded.

— Balkan Range (*Western*): Vrachanski Balkan

Nature Park, Lakatnishki Skali Protected Site, 650 m, 43.089108°N, 23.381185°E, 22.06.2011, *D. Borisova* obs., ca. 50 individuals were recorded.

The population of *Ch. kovacevii* is rather widespread on the territory of the Vrachanski Balkan Nature Park, ranging from 530 m to 1410 m alt. No threats have been recorded at present, the population is in a stable condition and no special conservation measures will be required. The species is evaluated as 'Endangered' at a national level (Tzonev & Stoyanov 2009).

Valerianaceae

71. *Centranthus kellereri* (Stoj., Stef. & T. Georgiev) Stoj. & Stef.

Bu Forebalkan (*Western*): Vrachanski Divide, Vezhdata Protected Site above Chelopek village, on limestone rocky screes with E-NE exposure and inclination of 25–45°, 725–790 m, from 43°08'23.57"N, 23°35'59.74"E to 43°07'53.56"N, 23°36'05.66"E, 19.07. – 29.08.2011, *D. Borisova* obs.

A total of slightly more than 4000 plants of *C. kellereri* were recorded on an area of 1.77 ha. From north to south, eight screes were inhabited by *C. kellereri* and the number of plants was as follows: 25 (43°08'23.57"N, 23°35'59.74"E), 785 plants on 450 m² (43°08'21.55"N, 23°36'00.30"E), 3000 plants on 750 m² (43°08'17.11"N, 23°36'00.57"E), 25 plants on 20 m² (43°08'15.41"N, 23°36'00.39"E), 18 plants on 21 m² (43°08'12.73"N, 23°36'01.46"E), 80 plants on 600 m², 100 plants on 38 m² (43°08'09.51"N, 23°36'04.79"E), one plant (43°07'53.56"N, 23°36'05.66"E). At present, no threats for the species have been recorded. The presence of such invasive species as *Ailanthus altissima* and of fires may endanger it in the future. The species is evaluated as 'Critically Endangered' at a national level (Peev & Tsoneva 2009).

Liliaceae

72. *Lilium jankae* A. Kern.

Bu Forebalkan (*Western*): Vrachanski Balkan Nature Park, N of peak Zambina Mogila, 1125 m, 43°10'24.61"N, 23°28'43.15"E, 14.06.2011, *D. Borisova* obs., 20 individuals were recorded; Vrachanski Balkan Nature Park, S of Kiparis hotel, 1065 m, 43°10'32.76"N, 23°28'48.36"E, 14.06.2011, *D. Borisova* obs., 100 individuals were recorded on 100 m²; Vrachanski Balkan Nature Park, NW of the Balkanton rest Home, 1030 m, 43.181423°N, 23.483695°E, 14.06.2011, *D. Borisova* obs., 10 individuals were recorded; Vrachanski Balkan Nature Park, peak Krastanova Mogila, 1211 m,

43°07'56.07"N, 23°29'19.80"E, 14.06.2011, *D. Borisova* obs., three individuals were recorded; Vrachanski Balkan Nature Park, Markovi Otkosi locality, 1358 m, 43°14'03.60"N, 23°44'85.48"E, 14.06.2011, *D. Borisova* obs., two groups were recorded comprising respectively 75 and 406 plants; Vrachanski Balkan Nature Park, peak Sokolets, 1300 m, 43°09'06.65"N, 23°23'42.56"E, 20.07.2011, *D. Borisova* obs., 13 individuals were recorded; Vrachanski Balkan Nature Park, E slope of peak Buk, 1260 m, 43.138722°N, 23.525804°E, 07.2011, *D. Borisova* obs., 19 individuals were recorded.

In some of the subpopulations, up to 90% of the seeds were damaged by the insect *Liliocopsis lilii* (Fig. 8). Close to tourist trails and roads (e.g. near Kiparis hotel, on peak Zambina Mogila and near Balkanton rest Home), the species is plucked by visitors due to its highly decorative appearance. The species is evaluated as 'Near Threatened' at a national level (Ivanova 2009).

Acknowledgements. The author is indebted to Mr. Nikola Stefanov for help during the field work. Sincere thanks are due to Dr. Boris Assyov for guidance in the field to the localities of *Silene velcevii*.



Fig. 8. Fruits and seeds of *Lilium jankae* damaged by the insect *Liliocopsis lilii* (photo N. Stefanov).

Reports 73–77

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Ranunculaceae

73. *Clematis flammula* L.

Tu(E) A1(E) Edirne: Keşan, between Keşan and Gelibolu, Mt Koru picnic area, 40°51'21"N, 26°37'49"E, 14.06.1985, coll. *B. Kasaplıgil & al.*, det. *F. Dane* (EDTU 235).

New for A1(E) Edirne in European Turkey. So far the species has been known from Çanakkale and Istanbul (Davis & al. 1965).

74. *Clematis vitalba* L.

Tu(E) A1(E) Edirne: Centre, in the vicinities of the Faculty of Medicine, 26 m, 41°40'28"N, 26°33'39"E, 07.03.1994, coll. & det. *G. Dalgiç* (EDTU 2154); Keşan, Mecidiye road, 156 m, 40°41'20"N, 26°27'49"E, 04.08.1996, coll. & det. *G. Dalgiç* (EDTU 3628); Keşan, Yayla village, in shrubbery, woodlands, 59 m, 40°38'N, 26°24'E, 11.08.2001, coll. & det. *G. Dalgiç* (EDTU 8270).
— A1(E) Kırklareli: Kayalı village, 237 m, 41°46'40"N, 27°05'56"E, 10.09.1995, coll. & det. *G. Dalgiç* (EDTU 3246);

New for A1(E) Edirne and Kırklareli in European Turkey. So far the species has been known from Tekirdağ and Istanbul (Davis & al. 1965).

75. *Clematis viticella* L.

Tu(E) A1(E) Edirne: Keşan, between Keşan and Çeltikköy, at the roadside, 40°41'N, 26°33'E, 11.06.1987, coll. *N. Başak & al.*, det. *F. Dane* (EDTU 1087).

— A1(E) Kırklareli: Soğucak, between Sığircalı and Meşeli villages, in a forest, 41°39'N, 27°38'E, 09.06.1987, coll. *F. Dane & A. Asan*, det. *F. Dane* (EDTU 963);

New for A1(E) Edirne and Kırklareli in European Turkey. So far the species has been known from Istanbul (Davis & al. 1965).

76. *Delphinium peregrinum* L.

Tu(E) A1(E) Çanakkale: Eceabat, Seddülbahir monument environment, 0 m, 40°02'40"N, 26°11'15"E, 07.07.1987, coll. *G. Dalgiç & H. Arda*, det. *R. İlarşlan* (EDTU 1733).

New for A1(E) Çanakkale in European Turkey. So far

the species has been known from Tekirdağ and Istanbul (Davis 1965).

77. *Nigella damascena* Boiss.

Tu(E) A1(E) Edirne: Uzunköprü, Değirmenci dam, 20 m, 41°18'37"N, 26°42'02"E, 23.05.1987, coll. *F. Dane* & *N. Başak*, det. *F. Dane* (EDTU 855); Centre, between Sığircalı and Meşeli, 106 m, 41°24'40"N, 26°38'59"E, 09.06.1987, coll. *F. Dane* & *al.*, det. *F. Dane* (EDTU 967); Centre, Hatipköy village, Avarız pool, 23 m, 41°44'N, 26°33'E, 02.06.1987, coll. *G. Olgun* & *al.*, det. *F. Dane* (EDTU 1039); Keşan, between Keşan and Çeltikköy, 167 m, 40°41'N, 26°33'E, 11.06.1987, coll. *N. Başak* & *al.*, det. *F. Dane* (EDTU 1090); Centre, at the Campus, 26 m, 41°40'28"N, 26°33'39"E, 23.05.1989, coll. & det. *F. Dane* (EDTU 3447).

— A1(E) Kırklareli: Vize, between Vize and Pazarlı, 186 m, 41°34'21"N, 27°45'57"E, 06.06.1987, coll. *G. Dalgıç* & *N. Başak*, det. *F. Dane* (EDTU 948).

New for A1(E) Edirne and Kırklareli in European Turkey. So far the species has been known from Tekirdağ and Istanbul (Davis 1965).

Reports 78–79

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Aceraceae

78. *Acer campestre* L.

Tu(E) A1(E) Edirne: Centre, Söğütlük İzzet Arseven forest, 99 m, 41°31'N, 26°39'E, 24.05.1998, coll. & det. *N.Ç. Demirkan* (EDTU 7605); in the garden of SSK, 99 m, 41°31'N, 26°39'E, 30.04.1995, coll. & det. *G. Dalgıç* (EDTU 6000); in the garden of Edirne High School, 99 m, 41°31'N, 26°39'E, 05.1997, coll. & det. *G. Dalgıç* (EDTU 6766); between Orhaniye and Elçili, in a forest, 99 m, 41°31'N, 26°39'E, 09.06.1987, coll. *F. Dane* & *al.*, det. *G. Dalgıç* (EDTU 1166); Lalapaşa, Doğanköy, 172 m, 41°50'N, 26°44'E, 05.06.1994, coll. *G. Dalgıç* (EDTU 2110); Lalapaşa, between Çalidere and Donköy, 334 m, 41°56'N, 26°42'E, 21.05.1992, coll. *F. Sever*, det. *C. Yarcı* (EDTU 4856).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Kırklareli and A2(E) Istanbul (Yaltırık 1970).

79. *Acer negundo* L.

Tu(E) A1(E) Edirne: Centre, Binevler, at the roadside, 26 m, 41°40'28"N, 26°33'39"E, 15.05.1996, coll. & det. *G. Dalgıç* (EDTU 3492).

A new record for European Turkey. Naturalized species in the above-mentioned locality. So far the species has been known from A2(A) Istanbul, A5 Samsun. It is native to North America, widely planted as a roadside shade tree; possibly naturalized in N. Turkey (Yaltırık 1970).

Reports 80–83

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Ranunculaceae

80. *Ranunculus aquatilis* L.

Tu(E) A1(E) Edirne: Centre, around river Tunca, 26 m, 41°40'28"N, 26°33'39"E, 27.05.1989, coll. *F. Dane*, det. *A. Çırpıcı* (EDTU 4134); Ortakci village, in a meadow, 157 m, 41°47'N, 26°45'E, 10.05.1990, coll. *F. Dane* & *N. Polat*, det. *A. Çırpıcı* (EDTU 4461); Kesan, 108 m, 40°51'21"N, 26°37'49"E, 20.03.1989, coll. *G. Dalgıç*, det. *A. Çırpıcı* (EDTU 3119); Suleoglu, Edirne – Suleoglu, 156 m, 41°46'02"N, 26°54'43"E, 25.05.1987, coll. *G. Olgun* & *C. Yarcı*, det. *A. Çırpıcı* (EDTU 725).

— A1(E) Kırklareli: Kofcaz, between Kofcaz and Derekoç, 445 m, 41°55'42"N, 27°09'40"E, 18.06.1986, coll. *F. Dane* & *G. Olgun*, det. *A. Çırpıcı* (EDTU 459).

New for A1(E) Edirne and A1(E) Kırklareli in European Turkey. The species has not been known so far from Turkey (Tutin & Cook 1993).

81. *Ranunculus brutius* Ten.

Tu(E) A1(E) Kırklareli: Luleburgaz, in Turkgeldi farm, 89 m, 41°24'24"N, 27°21'19"E, 21.04.1991, coll. *G. Dalgıç*, det. *A. Çırpıcı* (EDTU 4708).

— A2(E) Istanbul: Silivri, Beyciler village, 0 m, 41°04'35"N, 28°15'30"E, 25.05.1987, coll. *F. Dane*, det. *A. Çırpıcı* (EDTU 688).

New for A1(E) Kırklareli and A2(E) Istanbul in European Turkey. So far the species has been known from A2(A) Bursa (Davis 1965).

82. *Ranunculus neopolitanus* Ten.

- Tu(E)** A1(E) Çanakkale: Eceabat, Eceabat – Gelibolu, at the roadsides, 0 m, 40°24'37"N, 26°40'15"E, 29.04.1988, coll. *I. Uysal*, det. *A. Çırpıcı* (EDTU 741).
- A1(E) Edirne: Centre, Karaagac – Pazarkule, 74 m, 41°03'N, 26°32'E, 24.05.1998, coll. & det. *N.Ç. Demirkan* (EDTU 7504); Kesan, around lake Mercan, 108 m, 40°51'21"N, 26°37'49"E, 11.06.1987, coll. *G. Dalgıç & al.*, det. *A. Çırpıcı* (EDTU 1286).

New for A1(E) Edirne and A1(E) Çanakkale in European Turkey. So far the species has been known from A1(E) Tekirdağ and A2(E) Istanbul (Davis 1965).

83. *Ranunculus paludosus* Poir.

- Tu(E)** A1(E) Edirne: Kesan, Mecidiye, 61 m, 40°38'20"N, 26°32'14"E, 23.04.1987, coll. *F. Dane & G. Dalgıç*, det. *A. Çırpıcı* (EDTU 601).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Çanakkale and A2(E) Istanbul (Davis 1965).

Reports 84–85

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Solanaceae

84. *Physalis alkekengi* L.

- Tu(E)** A1(E) Edirne: Enez, at the seaside, 5 m, 40°43'29"N, 26°04'57"E, 05.12.1999, coll. & det. *G. Dalgıç* (EDTU 4752).
- A1(E) Kırklareli: Vize, 186 m, 41°34'21"N, 27°45'57"E, 14.09.1989, coll. *S. Yurtsever* (EDTU 3955).

New for A1(E) Edirne and Kırklareli in European Turkey. So far the species has been known from A1(E) Tekirdağ and A2(E) Istanbul (Baytop 1978).

85. *Solanum nigrum* L. subsp. *nigrum*

- Tu(E)** A1(E) Edirne: Centre, 26 m, 41°40'28"N, 26°33'39"E, 08.06.1989, coll. & det. *F. Dane* (EDTU 3725); around Bosnakoy village, 18 m,

41°37'35"N, 26°36'12"E, 09.11.1997, coll. & det. *N.Ç. Demirkan* (EDTU 7719); Keşan: Mecidiye, at the seaside, 0 m, 40°38'20"N, 26°32'14"E, 17.07.1997, coll. & det. *G. Dalgıç* (EDTU 4031).

- A1(E) Tekirdağ: Sarkoy, near the seaside, 0 m, 40°36'58"N, 27°06'03"E, 16.08.1989, coll. *F. Dane* (EDTU 4047).

New for A1(E) Edirne and Tekirdağ in European Turkey. So far the species has been known from A1(E) Çanakkale and A2(E) Istanbul (Baytop 1978).

Reports 86–88

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Primulaceae

86. *Cyclamen coum* Mill.

- Tu(E)** A1(E) Edirne: Kesan, Mecidiye, 61 m, 40°38'20"N, 26°32'14"E, 16.03.1990, coll. *G. Dalgıç* (EDTU 4543).

New for A1(E), with the specimen collected from Edirne in European Turkey. So far the species has been known from A2(E) Istanbul (Meikle 1978).

87. *Lysimachia atropurpurea* L.

- Tu(E)** A1(E) Kırklareli: Demirkoy, Velika, around Velika bridge, 478 m, 41°50'08"N, 27°40'34"E, 17.05.1985, coll. *H. Demiriz* (EDTU 176).

New for A1(E) Kırklareli in European Turkey. So far the species has been known from A1(E) Tekirdağ and A2(E) Istanbul (Leblebici 1978).

88. *Lysimachia nummularia* L.

- Tu(E)** A1(E) Edirne: Kesan, Mecidiye, at the seaside, 0 m, 40°41'20"N, 26°27'49"E, 17.07.1998, coll. & det. *G. Dalgıç* (EDTU 7318); Lalapasa, around Baglik stream, 172 m, 41°50'N, 26°44'E, 12.06.1985, coll. *G. Dalgıç & al.* (EDTU 205); Sarayalpınar village, at the roadsides, 135 m, 41°46'39"N, 26°28'51"E, 15.05.1989, coll. *G. Dalgıç* (EDTU 7318).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Kırklareli and A2(E) Kırklareli (Leblebici 1978).

Reports 89–117

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This is the fifth report of new plant records from the prefecture of Iliia in western Peloponnese. The records listed are new for Eparchia Ilias or Olimbias, or for both eparchies in Nomos Ilias.

Pteridaceae

89. *Adiantum capillus-veneris* L.

Gr Nomos Ilias, Eparchia Olimbias: outside Andritsenia, shady places along footpath leading to Panochori, 780–785 m, 37°28'N, 21°53'E, 20.06.2012, Kit Tan, G. Vold & Giannopoulos 31378 (herb. Giannopoulos).

New for Eparchia Olimbias.

Ephedraceae

90. *Ephedra foeminea* Forssk.

Gr Nomos Ilias, Eparchia Olimbias: outside Andritsenia, along footpath leading to Panochori, 780–785 m, 37°28'N, 21°53'E, 20.06.2012, Kit Tan, G. Vold & Giannopoulos 31376 (herb. Giannopoulos).

New for eparchia.

Apiaceae

91. *Athamanta macedonica* (L.) Spreng.

Gr Nomos & Eparchia Ilias: Tsipliana to Kryovrisi, 900 m, 37°52'N, 21°45'E, 21.06.2012, Kit Tan, G. Vold & Giannopoulos 31429 (herb. Giannopoulos).

New for eparchia and nomos, first record from W Peloponnese. In the Peloponnese, occurring only in the north.

Asteraceae

92. *Achillea holosericea* Sm.

Gr Nomos & Eparchia Ilias: Astras plateau, 1400 m, 37°54'N, 21°47'E, 07.07.2012, Giannopoulos s.n. (herb. Giannopoulos; conf. Kit Tan, October 2012).

New for eparchia and nomos, first record from W Peloponnese.

93. *Achillea ligustica* All. (Fig. 9)

Gr Nomos Ilias, Eparchia Olimbias: along road

from Andritsenia to Vasses, 1000–1125 m, 37°25'N, 21°54'E, 20.06.2012, Kit Tan, G. Vold & Giannopoulos 31394 (herb. Giannopoulos).

New for eparchia and nomos, first record from W Peloponnese.



Fig. 9. *Achillea ligustica* (photo K. Giannopoulos).

94. *Centaurea cyanus* L.

Gr Nomos & Eparchia Ilias: Astras to Lambia, through Mt Lambia, 970–1380 m, 37°53'N, 21°49'E, 21.06.2012, Kit Tan, G. Vold & Giannopoulos 31416 (herb. Giannopoulos).

New for eparchia and nomos.

95. *Centaurea grisebachii* (Nyman) Hledr.

Gr Nomos & Eparchia Ilias: Astras to Lambia, through Mt Lambia, 970–1380 m, 37°53'N, 21°49'E, 21.06.2012, Kit Tan, G. Vold & Giannopoulos 31424 (herb. Giannopoulos).

New for eparchia and nomos, first record from W Peloponnese. In the Peloponnese, only recorded from Nomos Achaïas in the north.

96. *Centaurea laconica* Boiss. subsp. *laconica* (Fig. 10)

Gr Nomos Ilias, Eparchia Olimbias: along road from Andritsenia to Vasses, 1000–1125 m, 37°25'N, 21°54'E, 20.06.2012, Kit Tan, G. Vold & Giannopoulos 31407 (herb. Giannopoulos).

New for eparchia and nomos. Endemic to S Peloponnese where it is apparently restricted to a horizontal belt across Paronias, Taigetos and Nomos Messinias. *Centaurea laconica* subsp. *lineariloba* (Halácsy & Dörfel.) E. Gamal-Eldin & Wagenitz occurs in the Kiklades.



Fig. 10. *Centaurea laconica* subsp. *laconica* (photo K. Giannopoulos).

97. *Centaurea triumfettii* All. (Fig. 11)



Fig. 11. *Centaurea triumfettii* (photo K. Giannopoulos).

Gr Nomos & Eparchia Ilias: Astras to Lambia, through Mt Lambia, 970–1380 m, 37°53'N, 21°49'E, 21.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31428 (herb. Giannopoulos).

New for eparchia and nomos, first record from W Peloponnese. Also collected on Mt Saitas, E-SE of Likouria (Nomos Achaïas, Eparchia Kalavriton, *Kit Tan & G. Vold* 31448, C).

Brassicaceae

98. *Arabis turrita* L.

Gr Nomos Ilias, Eparchia Olimbias: outside Andritsena, along footpath leading to Panochori, 780–785 m, 37°28'N, 21°53'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31385 (herb. Giannopoulos).

New for eparchia and nomos, first record from W Peloponnese.

99. *Berteroa obliqua* (Sm.) DC.

Gr Nomos & Eparchia Ilias: Astras to Lambia, through Mt Lambia, 970–1380 m, 37°53'N,

21°49'E, 21.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31427 (herb. Giannopoulos).

New for eparchia and nomos, westernmost occurrence in the Peloponnese.

100. *Lepidium hirtum* subsp. *nebrodense* (Raf.) Thell.

Gr Nomos & Eparchia Ilias: Orini, Ag. Ioannis, 1390 m, 37°52'N, 21°51'E, 21.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31409 (herb. Giannopoulos).

New for eparchia and nomos.

Campanulaceae

101. *Campanula ramosissima* Sm.

Gr Nomos Ilias, Eparchia Olimbias: along road from Andritsena to Vasses, 1000–1125 m, 37°25'N, 21°54'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31399 (herb. Giannopoulos).

New for eparchia. Widely distributed in the Peloponnese, west and south-central mainland and the Ionian islands and often misidentified as *C. spatulata* Sm. to which it bears a superficial resemblance.

102. *Campanula stenosphon* Boiss. & Heldr. (Fig. 12)

Gr Nomos Ilias, Eparchia Olimbias: along road from Andritsena to Vasses, 1000–1125 m, 37°25'N, 21°54'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31393 (herb. Giannopoulos).

New for eparchia. Endemic to Parnonas and Taigetos in S Peloponnese, and recently reported from Mt Lambia in Eparchia Ilias.



Fig. 12. *Campanula stenosphon* (photo K. Giannopoulos).

103. *Legousia hybrida* (L.) Delarbre

Gr Nomos & Eparchia Ilias: Orini, Ag. Ioannis, 1390 m, 37°52'N, 21°51'E, 21.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31411 (herb. Giannopoulos).

New for eparchia; second record for W Peloponnese, the first being from Eparchia Olimbias in Nomos Ilias.

Caryophyllaceae

104. *Minuartia globulosa* (Labill.) Schinz & Thell.
(Fig. 13)

Gr Nomos Ilias, Eparchia Olimbias: gravelly and stony road margins from Andritsena to Vasses, 1000–1125 m, 37°25'N, 21°54'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31406 (herb. Giannopoulos).
New for eparchia and nomos.



Fig. 13. *Minuartia globulosa* (photo K. Giannopoulos).

Crassulaceae

105. *Umbilicus luteus* (Huds.) Webb & Berthel. (Fig. 14)

Gr Nomos & Eparchia Ilias: road to Astras plateau, NW of Lambia, 1210 m, 37°54'N, 21°47'E, 21.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31440 (herb. Giannopoulos).

New for eparchia and nomos, first record from W Peloponnese. A striking species widespread but of scattered occurrence in Greece.

106. *Umbilicus rupestris* (Salisb.) Dandy

Gr Nomos Ilias, Eparchia Olimbias: outside Andritsena, along footpath leading to Panochori, 780–785 m, 37°28'N, 21°53'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31382 (herb. Giannopoulos).

New for eparchia and nomos, first record for W Peloponnese.

Fabaceae

107. *Onobrychis alba* subsp. *pentelica* (Hausskn.)
Nyman

Gr Nomos & Eparchia Ilias: Tsipliana to Kryovrisi, 900 m, 37°52'N, 21°45'E, 21.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31433 (herb. Giannopoulos).

Confirming the report from Eparchia Ilias by Maroulis & Artelari (2001: 322) sub nom. *O. alba* subsp. *laconica* (Boiss.) Hayek, otherwise new for eparchia and nomos.

Grossulariaceae

108. *Ribes uva-crispa* L.

Gr Nomos & Eparchia Ilias: at the foot of a rocky slope on road to Astras plateau, NW of Lambia, 1210 m, 37°54'N, 21°47'E, 21.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31439 (herb. Giannopoulos).

New for eparchia and nomos. *Persson* 1208 (LD) is another collection from the same area.

Lamiaceae

109. *Scutellaria rupestris* subsp. *parnassica* (Boiss.)
Greuter & Burdet

Gr Nomos Ilias, Eparchia Olimbias: outside Andritsena, along footpath leading to Panochori, 780–785 m, 37°28'N, 21°53'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31373 (herb. Giannopoulos); along road from Andritsena to Vasses, 1000–1125 m, 37°25'N, 21°54'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31401 (herb. Giannopoulos).



Fig. 14. *Umbilicus luteus* (photo K. Giannopoulos).

New for eparchia, reported once from Eparchia Ilias. Endemic to southern Greece (Peloponnese, Sterea Ellas and Evvia). Reports from north-central Greece probably refer to *S. rupestris* subsp. *adenotricha* (Boiss. & Heldr.) Greuter & Burdet.

110. *Sideritis clandestina* (Bory & Chaub.) Hayek subsp. *clandestina*

Gr Nomos & Eparchia Ilias: south side of Erimanthos, 1750 m, 37°56'N, 21°48'E, 07.07.2012, *Giannopoulos* s.n. (herb.

Giannopoulos; conf. Kit Tan, November 2012).

New for eparchia and nomos, first record from W Peloponnese. Previously considered endemic to Taigetos and Parnonas in S Peloponnese. However, the greyish-white indumentum, cauline leaves equalling or longer than the internodes, verticillasters (except lowermost) crowded in spicate inflorescences and abruptly acuminate middle bracts refer to *S. c.* subsp. *clandestina* rather than *S. c.* subsp. *peloponnesiaca* (Boiss. & Heldr.) Baden which is also known from Erimanthos. The latter usually has yellowish indumentum, cauline leaves shorter than the internodes and remote verticillasters (except the uppermost). Pending further study, it is possible that the taxon in the Peloponnese be treated as *S. clandestina* without segregation into subspecies.

111. *Stachys germanica* subsp. *heldreichii* (Boiss.) Hayek

Gr Nomos Ilias, Eparchia Olimbias: along road from Andritsena to Vasses, 1000–1125 m, 37°25'N, 21°54'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31391 (flowering); *loc. ibid.*, *Kit Tan, G. Vold & Giannopoulos* 31392 (in early fruit) (both in herb. *Giannopoulos*).

New for eparchia, second record from W Peloponnese.

Onagraceae

112. *Epilobium lanceolatum* Sebast. & Mauri

Gr Nomos & Eparchia Ilias: Astras to Lambia, through Mt Lambia, 970–1380 m, 37°53'N, 21°49'E, 21.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31426 (herb. *Giannopoulos*).

New for eparchia and nomos, first record for W Peloponnese.

Orobanchaceae

113. *Orobanche hederæ* Duby

Gr Nomos Ilias, Eparchia Olimbias: outside Andritsena, along footpath leading to Panochori, 780–785 m,

37°28'N, 21°53'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31383 (herb. *Giannopoulos*); along road from Andritsena to Vasses, 1000–1125 m, 37°25'N, 21°54'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31408 (herb. *Giannopoulos*).

New for eparchia and nomos. Apparently the second report for the Peloponnese, the first being from the Langadiotissa gorge in Nomos Lakonias (recently published in Greuter 2012: 71). Besides meeting the last donkey of Andritsena we were fortunate to have a sighting of the rare *Orobanche schultzioides* (M. Foley) Domina (syn. *Phelipanche schultzioides*). The identification is tentative and material will be re-collected and sent to H. Uhlich (Dresden) whom we thank for kindly providing a possible identification based on photographs.

Urticaceae

114. *Parietaria judaica* L.

Gr Nomos & Eparchia Ilias: Tsipliana to Kryovrisi, wall crevices, 900 m, 37°52'N, 21°45'E, 21.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31432 (herb. *Giannopoulos*).

Reported only once from the far south of Eparchia Ilias, near the border with Eparchia Olimbias. Our record is from the far north and apparently these two are the only reports from Nomos Ilias despite the species being a common and widespread one.

Alliaceae

115. *Allium ampeloprasum* L.

Gr Nomos Ilias, Eparchia Olimbias: outside Andritsena, along footpath leading to Panochori, 780–785 m, 37°28'N, 21°53'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31384 (herb. *Giannopoulos*).

New for eparchia.

Poaceae

116. *Aegilops triuncialis* L.

Gr Nomos Ilias, Eparchia Olimbias: outside Andritsena, along footpath leading to Panochori, 780–785 m, 37°28'N, 21°53'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31379 (herb. *Giannopoulos*).

New for eparchia.

117. *Melica uniflora* Retz.

Gr Nomos Ilias, Eparchia Olimbias: outside Andritsena, shady places along footpath leading to Panochori, 780–785 m, 37°28'N, 21°53'E, 20.06.2012, *Kit Tan, G. Vold & Giannopoulos* 31380 (herb. *Giannopoulos*).

New for eparchia.

Reports 118–122

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The following reports contain data on the occurrence of four species from genus *Chenopodium* in the Bulgarian flora, morphologically similar to *Chenopodium album* L., and one subspecies of *C. album*. Their distribution has been indicated as a result of a thorough population study of the genus in Bulgaria and examination of the Bulgarian scientific herbaria (SOM, SOA, SO).

Chenopodiaceae

118. *Chenopodium album* subsp. *pedunculare* (Bertol.) Arcang.

- Bu** Black Sea Coast (*Northern*): Shabla town, in ruderal terrains in the park, 37 m, 43°32'46.34"N, 28°31'58.57"E, 15.10.2004, with flowers and fruits, coll. *N. Grozeva* (SOM 161628).
- Black Sea Coast (*Southern*): Nesebar town, in the easternmost parts of the Old Town, 1 m, 42°38'18.48"N, 27°39'33.98"E, with flowers and fruits, 05.10.2002, coll. *N. Grozeva* (SOM 161629).
- Thracian Lowland: in saline areas of Belozem village, 05.07.1956, coll. unknown, sub *C. album* L. (SOA 05260), rev. *N. Grozeva*, 17.05.2012 sub *Chenopodium pedunculare* = *Chenopodium album* subsp. *pedunculare*.

So far this subspecies has not been reported for the Bulgarian flora.

119. *Chenopodium missouriense* Aellen

- Bu** Black Sea Coast (*Northern*): Albena resort, between the sea coast and the resort, 1 m, 43°22'25.91"N, 28°05'24.31"E, 05.10.2002, with flowers and fruits, coll. *N. Grozeva* (SOM 161626).

A recently reported alien species for the Bulgarian flora, so far known only from the Tundzha Hilly Country (Grozeva 2010).

120. *Chenopodium probstii* Aellen

- Bu** Sofia Region: Sofia city, in ruderal terrains behind the Pliska Hotel, 560 m, 42°40'19.81"N, 23°21'56.28"E, 20.08.2007, with flowers and fruits, coll. *N. Grozeva* (SOM 168 561).

This is a North American species, known from the Eastern Rhodopi Mts and Thracian Lowland (Grozeva 2010). It has a high invasive potential and in the past two years 10 new populations have been registered: eight in

the Thracian Lowland and two in the Eastern Rhodopi Mts It may possibly invade soon the agroecosystems.

121. *Chenopodium striatiforme* Murr

- Bu** Black Sea Coast (*Southern*): Atanasovsko Lake Managed Reserve, across ruderal terrains, 30 m, 42°35'54.39"N, 27°27'24.49"E, 12.09.2003, with flowers and fruits, coll. *N. Grozeva* (SOM 161527).
- Thracian Lowland: Rakitnitsa village, in ruderal terrains along the road to Stara Zagora – Rakitnitsa, 230 m, 42°20'32.32"N, 25°31'06.69"E, 10.10.2004, with flowers and fruits, coll. *N. Grozeva* (SOM 161528).
- Tundzha Hilly Country: Zlati Voyvoda village, around tree trunks along the road to Sliven town, 204 m, 42°35'50.27"N, 26°11'49.09"E, 25.10.2005, with flowers and fruits, coll. *N. Grozeva* (SOM 161526).

A new species for these floristic regions. The species has been first found in the Bulgarian flora by P. Uotila in 1993. The review of herbarium materials on *Chenopodium* genus in SOM has shown two wrongly identified vouchers of *Chenopodium striatiforme* from the Northern Black Sea Coast: SOM 18637, Varna, coll. *B. Davidoff* sub *C. album* L., rev. Pertti Uotila sub *C. strictum* ssp. *striatiforme* (J. Murr) Uotila, 1993; SOM 18034, Gebedzhe (now Beloslav town), Varna region, coll. *D. Jordanov* sub *C. glaucum* L., rev. Pertti Uotila sub *C. album* L. in 1993 and sub *C. striatiforme* Murr in 2002.

122. *Chenopodium strictum* Roth

- Bu** Danubian Plain: Levski town, in ruderal terrains along the railway station, 72 m, 43°21'01.74"N, 25°08'12.71"E, 24.10.2003, with flowers and fruits, coll. *N. Grozeva* (SOM 161522).
- Rhodopi Mts (*Eastern*): Kardzhali town, in ruderal terrains in the industrial part of the town, 275 m, 41°38'10.28"N, 25°23'37.11"E, 14.10.2003, with flowers and fruits, coll. *N. Grozeva* (SOM 161524).
- Tundzha Hilly Country: along the road Nova Zagora – Stara Zagora, 100 m off the road junction for Karanovo village, 235 m, 22.09.2004, with flowers and fruits, coll. *N. Grozeva* (SOM 161523).

These are the first records of this species from these floristic regions. *C. strictum* is reported for Bulgaria in the Med-checklist (Greuter & al. 1984), although as early as 1993, P. Uotila deposited in SOM a herbarium specimen of *C. strictum* Roth (SOM 156673) from the city of Sofia. When reviewing the materials for genus *Chenop-*

odium in SOM and SO, P. Uotila registered two wrongly identified vouchers of *C. strictum* from the Black Sea Coast and Znepole Region (SOM 153408, Sunny Beach Resort, coll. T. Meschinev & I. Apostolova sub *C. ficifolium* Sm., rev. Pertti Uotila, 2002, sub *C. strictum*; SO 18792, Pernik town, coll. unknown, 09.09.1936, sub *C. polyspermum*, rev. Pertti Uotila, 1993, sub *C. strictum*).

The review of the materials of genus *Chenopodium* in SOM and SOA has shown seven specimens from the Black Sea Coast, Northeast Bulgaria, Sofia region, and Thracian Lowland, which were revised as *C. strictum* (SOM 162408, Alen mak resort, 10.1986, coll. P. Panov sub *C. striatiforme*; SOM 162410, town of Tsarevo, 1986, coll. P. Panov sub *C. sosnowskyi* Kapeller; SOM 162409, town of Ruse, 10.1986, coll. P. Panov sub *C. striatiforme*; SOA 27153, city of Sofia, 14.08.1954, coll. Vihodcevski sub *C. album*; SOM 162411, 162412, city of Sofia, 11.1986, coll. P. Panov sub *C. sosnowskyi* Kapeller; SOA 05261, village of Gorno Konare, 27.07.1956, coll. unknown, sub *C. album*).

Reports 123–141

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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).

Apiaceae

123. *Conium divaricatum* Boiss. & Orph. (Fig. 15)



Fig. 15. *Conium divaricatum* (photo K. Polymenakos).

Gr Nomos & Eparchia Attikis: Mt Imittos, along the main road to the summit, 865 m, 37°57'N, 23°48'E, 10.05.2009, *Polymenakos* obs. (photo, det. Kit Tan, August 2012).

New for Imittos. Notable taxa in the vicinity are *Dianthus serratifolius* subsp. *serratifolius*, *Centranthus ruber* and *Johrenia distans*. The plant was also seen lower down at 800 m, along a forest road. It was observed on Mt Parnitha, flowering one month earlier than *Carum multiflorum*.

Apocynaceae

124. *Cionura erecta* (L.) Griseb. (Fig. 16)

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, road from Aegosthena to Vilia, 280 m, 38°08'N, 23°15'E, 30.09.2012, *Polymenakos* obs. (photo, conf. Kit Tan, October 2012).

New for Mt Kitheronas. Recorded from Pateras and in Eparchia Megaridos (Boratyński & al. 1992: 56). A single plant at the roadside was found, together with *Plumbago europaea*.



Fig. 16. *Cionura erecta* (photo K. Polymenakos).

Asteraceae

125. *Achillea crithmifolia* Waldst. & Kit.

Gr Nomos & Eparchia Attikis: Mt Pendeli, west side of Pyrgari, 1030 m, 38°04'N, 23°52'E, 18.06.2012, *Polymenakos* obs. (photo, det. Kit Tan, October 2012).

New for Mt Pendeli, the occurrence here is a large extension of its known distribution on mainland Greece. Apparently the southernmost record for the Balkans. The population, all at the same roadside locality, comprised 30 very slender plants less than 20 cm tall. Together with *Galium melanantherum*, *Onobrychis are-*

naria subsp. *lasiostachya*, *Pilosella bauhini* and with *Dysphania multifida* ca. 70 m distant.

126. *Carthamus dentatus* (Forssk.) Vahl

Gr Nomos & Eparchia Attikis: Mt Parnitha, above Avlona, 455 m, 38°14'N, 23°40'E, 04.07.2012, *Polymenakos* obs. (photo, conf. Kit Tan, May 2012); below Katsimidi, 580 m, 38°11'N, 23°46'E, 23.07.2012, *Polymenakos* obs. (photo, conf. Kit Tan, May 2012). Mt Pendeli, road margins at Peucofito, 320 m, 38°09'N, 23°52'E, 12.08.2012, *Polymenakos* obs. (this area is closer to Marathonas lake or east Parnitha than Mt Pendeli); Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, Aegosthena to Vilia, 300 m, 38°09'N, 23°14'E, 27.06.2012, *Polymenakos* obs.

New for Mts Parnitha, Pendeli and Kitheronas. The populations comprised white- and pink-flowered forms. At road margins, in olive groves, openings of *Pinus* forest with *Cistus creticus* and *Thymbra spicata* or in openings of *Quercus pubescens* woodland with *Centaurea solstitialis*, *Eryngium creticum* and *Carthamus lanatus*.

127. *Centaurea achaia* Boiss. & Heldr.

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, road margins from Aegosthena to Vilia, 70–300 m, 38°08'N, 23°15'E, 27.06.2012, *Polymenakos* obs. (photo, conf. Kit Tan, November 2012).

New for Kitheronas. No records were listed by Constantinidis (1997).

128. *Centaurea solstitialis* L.

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, olive groves on way from Aegosthena to Vilia, 350 m, 38°09'N, 23°14'E, 27.06.2012, *Polymenakos* obs. (photo, conf. Kit Tan, November 2012).

Apparently new for Kitheronas. No records were listed by Constantinidis (1997).

129. *Hypochoeris glabra* L.

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, SW of summit, 1300 m, 38°10'N, 23°14'E, 27.06.2012, *Polymenakos* obs. (photo, conf. Kit Tan, November 2012).

Apparently new for Kitheronas; found together with *Silene radicata* and *Petrorhagia thessala*. No records were listed by Constantinidis (1997).

Betulaceae

130. *Alnus glutinosa* (L.) Gaertn. subsp. *glutinosa* (Fig. 17)

Gr Nomos Lakonias, Eparchia Lakedemonos: Mt Taigetos, at forest road margin, 1080 m, 37°09'N, 22°16'E, 21.08.2012, *Polymenakos* obs. (photo,

conf. Kit Tan, August 2012); in stream outside village of Kastorion, with *Persicaria lapathifolia*, 490 m, 37°10'N, 22°18'E, 21.08.2012, *Polymenakos* obs. (photo, conf. Kit Tan, August 2012).

New for Mt Taigetos, eparchia and nomos. A single tree was observed in the first locality, together with *Castanea sativa* and *Pinus nigra*. In the second locality near Kastorion, numerous trees were growing with *Platanus orientalis*. The lower and middle slopes of Mt Taigetos in the S Peloponnese are rarely botanized and Taigetos is a considerable extension for the distribution of *Alnus glutinosa* in Greece; this is the southernmost occurrence in the Balkans.



Fig. 17. *Alnus glutinosa* subsp. *glutinosa* (photo K. Polymenakos).

Caryophyllaceae

131. *Silene subconica* Friv.

Gr Nomos & Eparchia Attikis: Mt Pendeli, on way to summit, 1000 m, 37°55'N, 23°47'E, 21.05.2012, *Polymenakos* obs. (photo, conf. Kit Tan, October 2012).

New for Mt Pendeli. Abundant on the northwest slopes of Pyrgari, together with *Thymus parnassicus* and *Onobrychis arenaria* subsp. *lasiostachya*.

Chenopodiaceae

132. *Dysphania multifida* (L.) Mosyakin & Clemants

Gr Nomos & Eparchia Attikis: Mt Pendeli, west side of Pyrgari, 1020 m, 38°04'N, 23°52'E, 07.10.2012, *Polymenakos* obs. (photo, conf. Kit Tan, October 2012).

New for Mt Pendeli, eparchia and nomos Attikis and also phytogeographical region Sterea Ellas. There were 5 plants in an area of one square metre, on land burnt 5 years ago or more, judging from the dense regrowth

of *Erica manipulifera*, *Quercus coccifera*, *Juniperus oxycedrus* and *Pinus* spp. The sandy ground at the base of the burnt trees favoured rapid colonization by alien species. The occurrence and distribution of *Dysphania multifida* is probably connected with the numerous flocks of sheep and goats brought down from nearby mountains for the milder conditions and winter grazing in Attiki.

Crassulaceae

133. *Umbilicus rupestris* (Salisb.) Dandy

Gr Nomos & Eparchia Attikis: Mt Parnitha, rocks at Ag. Triada beneath *Abies cephalonica*, 1010 m, 38°09'N, 23°43'E, 08.06.2012, *Polymenakos* obs. (photo, conf. Kit Tan, November 2012).

New for Mt Parnitha, surprisingly not previously reported for this well-botanized mountain so close to Athens.

Fabaceae

134. *Genista januensis* Viv.

Gr Nomos Fokidos, Eparchia Parnassidos: Mt Parnassos, opening in *Abies* forest, 1510 m, 38°33'N, 22°32'E, 05.06.2009, *Polymenakos* obs. (photo, det. Kit Tan, December 2012).

New for Parnassos, recorded from Mt Iti. Often confused with *G. tinctoria* from which it can be separated by leaf characters.

Polygonaceae

135. *Persicaria lapathifolia* (L.) S.F. Gray

Gr Nomos Lakonias, Eparchia Lakedemonos: Mt Taigetos, in stream outside village of Kastorion 490 m, 37°10'N, 22°17'E, 21.08.2012, *Polymenakos* obs. (photo, conf. Kit Tan, August 2012).

New for Mt Taigetos, occurring in the same stream as *Alnus glutinosa* (see latter entry).

Rosaceae

136. *Prunus prostrata* Labill.

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, west of the abandoned military post at the summit, 1350 m, 38°11'N, 23°14'E, 30.09.2012, *Polymenakos* obs. (photo, conf. Kit Tan, October 2012).

Confirming an old record from the summit area (*Helldreich* 25 May 1880, LD). A large number of plants were noted in September 2012. No additional or recent collections from Kitheronas have been cited by Constantinidis (1997: 67).

137. *Sorbus umbellata* (Desf.) Fritsch

Gr Nomos & Eparchia Attikis: Mt Pendeli, west

side of Pyrgari, 950–1050 m, 38°05'N, 23°52'E, 07.10.2012, *Polymenakos* obs. (photo, conf. Kit Tan and J. Zieliński, October 2012).

New for Mt Pendeli and eparchia Attikis. Approximately 15 shrubs were counted on a dangerously steep slope together with *Juniperus oxycedrus*, *Quercus ilex* and *Q. coccifera*; also on rocky ground with *Thymus parnassicus* and *Satureja parnassica*.

Scrophulariaceae

138. *Verbascum delphicum* Boiss. & Heldr.

Gr Nomos & Eparchia Attikis: Mt Pendeli, along the main road to the summit, 880 m, 38°04'N, 23°52'E, 21.05.2012, *Polymenakos* obs. (photo, conf. Kit Tan, October 2012).

New for Mt Pendeli. Approximately 3 plants were seen in flower and several others bore withered inflorescences from previous years. Together with *Cistus creticus*, *Satureja thymbra*, *Genista acanthoclada* and *Onobrychis arenaria* subsp. *lasiostachya*. There are old records of *V. delphicum* from Parnitha (July 1911, *Tuntas* 1247, WU-Hal) but apparently no recent collections.

Colchicaceae

139. *Colchicum cupanii* Guss. (Fig. 18)

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, abandoned military area at the summit, 1410 m, 38°11'N, 23°14'E, 30.09.2012, *Polymenakos* obs. (photo, conf. Kit Tan, October 2012).

New for Mt Kitheronas, not listed by Constantinidis (1997). A single plant at the summit was noted, together with *Crocus cancellatus* and *Sternbergia lutea* in full flower. A search for *Sternbergia colchiciflora* was also carried out, the search continuing on Mt Pendeli.



Fig. 18. *Colchicum cupanii* (photo K. Polymenakos).

Cyperaceae**140. *Cyperus longus* L.**

Gr Nomos & Eparchia Attikis: Mt Parnitha, Tatoi to Katsimidi, wet places at roadside, 490 m, 38°09'N, 23°47'E, 13.06.2012, *Polymenakos* obs. (photo, conf. Kit Tan, November 2012).

New for Mt Parnitha. Naturalized, occurring together with *Lythrum junceum* and *Carex divisa*.

Orchidaceae**141. *Cephalanthera longifolia* (L.) Fritsch**

Gr Nomos & Eparchia Attikis: Mt Pendeli, west side of Pyrgari, 1020 m, 38°04'N, 23°53'E, 09.05.2012, *Polymenakos* obs. (photo, conf. Kit Tan, October 2012).

Confirming an old record from Mt Pendeli by Haussknecht (collected June 1885, sub nom. *C. ensifolia*). More recently, documented by Giannis Kofinas (23.04.2010, photo !). In June 2011, fruiting specimens were observed at the *Dysphania multifida* locality on Pendeli (see latter entry), and in May 2012, more than 50 plants were found at 1000–1060 m on the other side of Pyrgari, at the same location for *Sorbus umbellata* (see latter entry). Recorded from Parnitha.

Reports 142–147**Desislava Sopotlieva, Hristo Pedashenko & Valentina Goranova**

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Asteraceae**142. *Filago eriocephala* Guss.**

Bu Rhodopi Mts (*Eastern*): in limestone open-ridge rocky places, NE from Rogach village, Krumovgrad district, 41.471616°N, 25.707007°E, LF-99, 14.06.2012, coll. *D. Sopotlieva & al.* (SOM 168500).

Confirming the species for this floristic subregion. Assyov & Petrova (2012) have referred it to all subregions of the Rhodopi Mts, however Kuzmanov (in press) reports the species only for the Mt Strandzha floristic region (SOM 92461, around Kosti village, 12.07.1956, *leg./det. N. Vihodtsevski* sub *Filago germanica* L., rev. *Wagenitz*).

Boraginaceae**143. *Onosma taurica* Willd.**

Bu Thracian Lowland: in open stony places at Biser

village, Harmanli district, MG-13, 06.05.2012, coll. *D. Sopotlieva & al.* (SOM 168499).

This is a new species for this floristic region.

Caryophyllaceae**144. *Dianthus pallidiflorus* Ser.**

Bu Tundzha Hilly Country: in halophytic meadows along river Blatnitsa, between Bikovo and Omarchevo villages, Nova Zagora district, MH-30, 09.07.2012, coll. *D. Sopotlieva & al.* (SOM 168501).

Confirmation of the occurrence of the species in this floristic region: Stojanov (1966) and Popova (2003) considered *D. pallidiflorus* as a subspecies of *D. campestris* occurring in the Black Sea Coast, Thracian lowland and Tundzha Hilly Country floristic regions. According to Assyov & Petrova (2012), *D. pallidiflorus* is a distinct species which occurs in the Black Sea Coast floristic region only.

145. *Silene flavescens* Waldst. & Kit.

Bu Tundzha Hilly Country: in dry grasslands on the hill E of the Zhrebchevo dam at Banya village, MH-11, 18.07.2012, coll. *D. Sopotlieva & al.* (SOM 168502).

This species is widespread in Bulgaria (Assyov & Petrova 2012), but this is its first record for this floristic region.

Fabaceae**146. *Lupinus polyphyllus* Lindl.**

Bu Rhodopi Mts (*Eastern*): in open grasslands with *Juniperus oxycedrus* around Kalaydzhievo village, Krumovgrad district, LF-98, 12.06.2012, coll. *D. Sopotlieva & al.* (SOM 168508).

This species originates from North America and is widely cultivated in the gardens of Europe (Kuzmanov 1976, Terziiski 2003). It was recorded in the Balkan Range (*Western*) (Vassilev & Pedashenko 2009) and in the Rhodopi Mts (*Western*) floristic region by Kozhuharov & Kuzmanov (SOM 1238220, 123821, 123822).

Rosaceae**147. *Rosa pimpinellifolia* L.**

Bu Rhodopi Mts (*Eastern*): Mt Gyumyurdzhinski Snezhnik, at peak Veykata, 1350 m, LF-56, 27.06.2012, coll. *D. Sopotlieva & H. Pedashenko* (SOM 168506).

This is a new species for this floristic subregion.

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Reports 148–158

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Caryophyllaceae

148. *Minuartia bosniaca* (Beck) K. Maly

Bu Valley of River Struma (*Southern*): in xerophytic communities on sandy hillsides near Ploski village, FM-81, 41.61734°N, 23.23650°E, 21.05.2011, coll. *J. Stoyanov & al.* (SOM 168216).

This is a new species for this floristic region.

149. *Minuartia bulgarica* (Velen.) Graebn.

Bu Balkan Range (*Western*): in dry grasslands near peak Murgash, 1086 m, GN-04, 42.80079°N, 23.61866°E, 16.07.2011, coll. *J. Stoyanov & al.* (SOM 168409).

This is a new species for this floristic subregion.

150. *Minuartia hirsuta* (M. Bieb.) Hand.-Mazz.

Bu Balkan Range (*Western*): in grasslands near Katina village, 833 m, FN-84, 42.85828°N, 23.31931°E, 02.07.2011, coll. *J. Stoyanov & al.* (SOM 168337).

This is a new species for this floristic subregion.

Linaceae

151. *Linum elegans* Boiss.

Bu Valley of River Struma (*Southern*): in dry grasslands of *Thero-Brachypodietea* near Katunci village, GL-09, 41.42194°N, 23.43919°E, 20.06.2011, coll. *J. Stoyanov & al.* (SOM 168222).

This is a new species for this floristic region.

Rosaceae

152. *Potentilla detommasii* Ten.

Bu Valley of River Struma (*Southern*): in dry grasslands near Strumeshnitsa village, FL-78, 41.39872°N, 23.06269°E, 19.05.2011, coll. *J. Stoyanov & al.* (SOM 167839); above Peyo Yavorov Railway station, 24.05.2009, coll. *D. Dimitrov* (SOM 165731).

This is a new species for this floristic region.

Valerianaceae

153. *Valerianella lasiocarpa* (Steven) Betcke

Bu Northeast Bulgaria: in xerophytic grasslands near Novgrad village, LJ-82, 43.58837°N, 25.62909°E, 28.05.2011, coll. *J. Stoyanov & al.* (SOM 168184).

This is a new species for this floristic region.

Poaceae

154. *Bromus lanceolatus* Roth

Bu Northeast Bulgaria: in xerophytic grasslands near Osen village, GP-00, 43.89945°N, 26.79138°E, 04.06.2011, coll. *J. Stoyanov & al.* (SOM 168331); in xerophytic grasslands of *Festucion valesiacae* near Batin village, LJ-93, 43.65404°N, 25.68585°E, 01.06.2011, coll. *J. Stoyanov & al.* (SOM 168330).

This is a new species for this floristic region.

155. *Festuca pseudodalmatica* Domin

Bu Danubian Plain: in dry grasslands near Dolni Vit village, 43.66512°N, 24.76417°E, 23.05.2011, coll. *K. Vassilev & H. Pedashenko* (SOM 168319).

This is a new species for this floristic region. It is found in xerophytic and xero-mesophytic grasslands, mainly in montane and submontane regions, in communities of the class *Festuco-Brometea* and orders *Festucetalia valesiacae* and *Brachypodietalia pinnati*.

156. *Festuca rupicola* Heuff.

Bu Danubian Plain: in xerophytic grasslands near Nikopol town, LJ-34, 43.70893°N, 24.91102°E, 24.05.2011, coll. *J. Stoyanov & al.* (SOM 168325); in xerophytic grasslands near Gorno Ablanovo village, LJ-33, 43.64051°N, 25.71055°E, 01.06.2011, coll. *J. Stoyanov & al.* (SOM 168332).

This is a new species for this floristic region.

157. *Festuca thracica* (Acht.) Markgr.-Dann.

Bu Danubian Plain: in xerophytic grasslands near Tsenovo village, LJ-92, 43.54981°N, 25.64252°E, 28.05.2011, coll. *J. Stoyanov & al.* (SOM 168324).
— Balkan Range (*Western*): in dry grasslands near Katina village, FN-84, 42.84924°N, 23.32194°E, 02.07.2011, coll. *K. Vassilev & H. Pedashenko* (SOM 168314).

This is a new species for these floristic regions. It is a Balkan endemic (Petrova & Vladimirov 2010) distributed in the southern part of the country. In North Bulgaria it is locally found on eroded and slightly inclined terrains, with a southern component.

158. *Stipa epilosa* Martinovský

Bu West Frontier Mts: in xerophytic grasslands near Tsarvaritsa village, FM-55, 42.05623°N, 22.82552°E, 05.06.2010, coll. *K. Vassilev & H. Pedashenko* (SOM 168412).

A new species for this floristic region.

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Rosaceae

159. *Spiraea crenata* L. (Fig. 19)

Bu Znepole Region: Mt Golo Bardo, N of Stefanovo village, Radomir district, 1 km NE of Egrets site neighbourhood, in a calcareous stony grassland, 770 m, 42.52053°N, 23.04048°E; 2 km NE of Egrets site neighbourhood, in a calcareous stony grassland, 850 m, 42.52562°N, 23.04790°E and 2.5 km NE of Egrets site neighbourhood, on a calcareous stony slope, 820 m, 42.52244°N, 23.05795°E, with fruits, 02.08.2012, coll. S. Stoyanov & N. Apostolova-Stoyanova (SOM 168956–168959).



Fig. 19. *Spiraea crenata* (photo S. Stoyanov).

Spiraea crenata was reported for the first time for the Bulgarian flora by Jordanov (1924). It was found close to the railway tracks between the Kaspichan and Pliska rail stations (3 km W of the Kaspichan Rail Station). Subsequently, the same author (Jordanoff 1936) reported the species from the vicinities of the Kabiyyuk Horse Breeding Farm, Shumen district. The second locality has not been confirmed for a very long time and the species is considered extinct in it (Gussev in press).

Early in August 2012, on the southern slopes of Mt Golo Bardo a new locality of *S. crenata* was found, including three subpopulations distanced at 1–1.5 km from each other. The first occupied two dense patches, one of 300 m² and the other of 1700 m², distanced 100 m from each other. The second subpopulation covered an area of 450 m², and the third an area of 150 m².

Generally, *S. crenata* covered an area of 2600 m². The second and third subpopulations fall into the Ostritsa Protected Zone of NATURA 2000 (BG0001375), while the first, the largest of all, remains outside the zone.

Spiraea crenata has a distinct vegetative reproduction. The species forms dense monodominant communities by issuing numerous root suckers. In conversation with the inhabitants of Stefanovo village who worked the arable lands in the Radomir Valley close to the locality of *S. crenata*, we have found out that this shrub was known for a long time to the local people, who used to make brooms of its aerial parts.

Spiraea crenata is one of the most rare plants in Bulgaria. It is protected under the Biological Diversity Act and is entered in the *Red Data Book of R. Bulgaria* as ‘Critically Endangered’ (Gussev in press). In the Balkan Peninsula and Central East Europe, this species is known with few, very scattered populations, which form the western periphery of its area. The *S. crenata* communities in Mt Golo Bardo are the only fragment of the relict Ponto-Sarmatic deciduous thickets outside the limits of North Bulgaria (Fig. 20). They fall into the priority protected habitat 40C0 (listed under *Annex I* of the EU *Habitats Directive*, 92/43/EEC), represented in the Central Danubian Plain and Northeast Bulgaria by less than 10 localities.



Fig. 20. *Spiraea crenata* – habitat and population (photo S. Stoyanov).

Owing to its limited distribution and conservation importance, *S. crenata* was selected as target species in the project “A pilot network of small protected sites for plant species in Bulgaria using the plant micro-reserve model” (financed by the European Commission, Life+ Programme, Life 08/NAT/BG/279). Within the framework of this project, the only so far known locality (westwards of Kaspichan Rail Station) was declared recently a protected area (MOEW 2012). In order to protect the largest locality of *S. crenata* in Bulgaria, the one in Golo Bardo, some moves aimed at extension of

the Ostritsa protected zone should be undertaken, as well as for declaring a new protected area.

Acknowledgements. The data were obtained during fieldwork under the project “Mapping and identification of conservation status of natural habitats and species – Phase I”. Financial support of the Bulgarian Ministry of Environment and Waters is gratefully acknowledged.

Reports 160–162

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Pinaceae

160. *Pseudotsuga menziesii* (Mirb.) Franco subsp. *menziesii* (Fig. 21)



Fig. 21. *Pseudotsuga menziesii* subsp. *menziesii* undergrowth in Pine forest (photo A. Tashev).

Bu Rhodopi Mts (Western): on the territory of Dospat State Forestry Farm, in the land of Barutin village, in mass regeneration under culture of *Pinus sylvestris*, along with undergrowth of *Picea abies* and *Juniperus communis*, on a northwestern slope inclined 5°, 1197 m, KG-59, 41°36'29.8"N, 24°12'04.9"E, 24.07.2009, coll. A. Tashev (SOM 165568, 165569); on the territory of Devin State Forestry Farm, above Devin town, Hrastevo (Rastyovo) locality – the first protected site in Bulgaria (Dunchev 2012), in a natural plantation of *Pinus nigra* ssp. *palassi-*

ana with towering old-growth trees, some up to 480 years old, on a slope with northwestern exposition and incline of 30°, 910 m, KG-82, 41°44'55.4"N, 24°24'17.9"E, 27.03.2010, coll. A. Tashev (SOM 165865, 165866, 165867).

The population of *P. menziesii* subsp. *menziesii* was presented by single specimens and small groups of individuals of different age and different height, situated in the habitat 9530 “(Sub-)Mediterranean pine forests with endemic black pines” – a priority habitat type under Directive 92/43/ECC. This is a pure plantation of Black Pine of natural origin. The age of *Pinus nigra* ssp. *palassiana* trees varies from 266 to 480 years and is determined with the help of a Pressler’s Probe. The plant community has two floors; the first floor consists of old-growth Black Pine trees, with a projection cover of 30%. The second floor also consists of *P. nigra* ssp. *palassiana*, with a projection cover of 40%. Under the old-growth Black Pine trees a culture of *Pseudotsuga menziesii* was planted more than 40 years ago. The natural regeneration of *P. menziesii* outside the culture area was found to be significant: single specimens occur and groups of 10–15 individuals. They are strongly suppressed and at an age of 25–30 years are 2.5–3 m tall. Forty-one higher plant species have been identified in the community. *Pinus nigra* dominates totally the tree floor, with 70% projection cover; it also is the edificator species of the community. There are single specimens of *Abies alba*, *Acer campestre*, *Carpinus betulus*, *C. orientalis*, *Fagus sylvatica*, *Fraxinus ornus*, *Ostrya carpinifolia*, *Quercus frainetto*, *Q. dalechampii*, and *Sorbus torminalis*. In the shrub floor, with a projection cover of 50%, dominates *Corylus avellana*, with single specimens of *Amelanchier ovalis*, *Chamaecytisus absinthioides*, *Clematis vitalba*, *Cornus mas*, *C. sanguinea*, *Juniperus communis*, *J. deltoides*, *Rosa canina*, and *Sorbus graeca*. The herbal floor is dominated by *Brachypodium sylvaticum*, with a projection cover of 50%. Four more gramineous and cyperaceous grassy species have been identified there: *Carex sylvatica*, *Calamagrostis arundinaceae*, *Dactylis glomerata*, *Festuca heterophylla*. There are 12 more species referred to herbage: *Aremonia agrimonoides*, *Campanula persicifolia*, *Cruciata glabra*, *Euphorbia amygdaloides*, *Fragaria vesca*, *Galium pseudoaristatum*, *Hypericum cerastoides*, *Potentilla micrantha*, *Teucrium chamaedrys*, *Tussilago farfara*, and *Viola hirta*. Ferns are represented by *Cystopteris fragilis* and *Polypodium vulgare*. Green mosses cover 15–20% of the soil area in the community.

These are new locations of this adventive for the Bulgarian flora species, which emerged in a natural way from natural reproduction of individuals of *Pseudotsuga menziesii* ssp. *menziesii* from the nearby artificial plantations. So far such natural groups have been identified only in the Rila Mts and Mt Sredna Gora floristic regions (Assyov & Petrova 2012: 333).

Moraceae

161. *Ficus carica* L.

Bu Rhodopi Mts (*Central*): above Krichim town, on the border with the Izgoryaloto Gyune Reserve, where a population of *Juniperus exelsa* is protected, in a dry, stony and shady gully bordering on the Reserve from the south, on an eastern slope with inclination of 10°, with fruits, 295 m, KG-95, 42°01'22.3"N, 24°28'10.0"E, 01.09.2012, coll. A. Tashev (SOM 168856, 168857).

Five individuals of a different age were identified, two of which fruit-bearing. They were under the canopy of *Populus nigra* and *Robinia pseudoacacia*, along with *Ostrya carpinifolia*, *Ulmus minor*, *Hedera helix*, *Clematis vitalba*, *Vitis sylvestris*, *Rubus caesius*, *Parietaria* sp., *Urtica dioica*, *Physalis alkekengi*, etc.

This is a new location of this Mediterranean, adventive for the Bulgarian flora tree species, so far known only from the Eastern Rhodopes, the Valley of River Struma and the Black Sea Coast (Assyov & Petrova 2012: 196).

Rhamnaceae

162. *Ziziphus jujuba* Mill. (Fig. 22)

Bu Black Sea Coast (*Southern*): between Ravda village and Nesebar town, on sands and rocks close to the seashore, below the sports centre of the University of Forestry, on a very steep and rocky slope with inclination of 60° and SW exposition, with flowers, 7 m, MN-52, 42°38'59.0"N, 27°42'07.5"E, 14.07.2010, coll. A. Tashev & N. Tashev (SOM 168108); *loc. ibid.*, below the sports centre of the National Sports Academy, above the seashore, on a steep landslip on clay, with inclination of 45–50° and SW exposition, with flowers, 9 m, 42°38'59.3"N, 27°42'08.0"E, 15.07.2010, coll. A. Tashev & N. Tashev (SOM 168107); *loc. ibid.*, on the territory of the sports centre of the National Sports Academy, parallel to the seashore, on the level top part of a slope running into a landslip towards the seashore, with flowers, 22 m, MN-52, 42°38'58.3"N, 27°42'17.3"E, 15.07.2010, coll. A. Tashev & N. Tashev (SOM 168106).

In the first mentioned location the group comprised about 10 individuals, each of different age, with crawling stems, and occupies about 150 m². Along with *Z. jujuba* in the plant community also occur *Ulmus minor*, *Prunus cerasifera*, *Rhamnus catharticus*, *Elaeagnus angustifolia*, *Ligustrum vulgare*, *Rosa canina*, *Asparagus verticillatus* (SOM 168105), *Atriplex hastata* (SOM 168104), *Elymus elongatus* (SOM 168116), *Salvia ruthenica* (SOM 168103), etc.



Fig. 22. *Ziziphus jujuba* (photo A. Tashev).

In the second mentioned location the group comprised about 90–100 individuals of a different age, with erect stems, 0.3 to 3.5 m high and occupies an area of about 500 m². Along with *Z. jujuba* in the plant community also occur *Ulmus minor*, *Prunus cerasifera*, *Vitis sylvestris*, *Cyonura erecta*, *Ligustrum vulgare*, *Rosa canina*, *Jasminum fruticans*, *Mahonia aquifolium*, *Asparagus verticillatus*, *Anchusa officinalis*, *Atriplex hastata*, *Bituminaria bituminosa*, *Daucus carota*, *Linum austriacum*, *Linaria dalmatica*, *Hordeum maritimum*, *Lactuca serriola*, *Sideritis montana*, *Xeranthemum annuum*, etc.

In the third location more than 1000 individuals of a different age occur, with erect stems, 0.2 to 5.0 m high. The group occupies an area of up to 40 decares in the form of a tetragon, its long and short side totalling 500 m, and is situated parallel to the shore in southeast-northwest direction. The southeasternmost point of the locality lies at 19 m, 42°38'54.2"N, 27°42'24.9"E, while its northwesternmost point is at 21 m, 42°38'58.5"N, 27°42'16.5"E. Along with *Z. jujuba* in the plant community also occur *Ulmus minor*, *Morus alba*, *Rhamnus catharticus*, *Elaeagnus angustifolia*, *Prunus cerasifera*, *Vitis sylvestris*, *Cyonura erecta*, *Ligustrum vulgare*, *Rosa canina*, *Jasminum fruticans*, *Anchusa officinalis*, *Atriplex hastata*, *Bituminaria bituminosa*, *Daucus carota*, *Linum austriacum*, *Linaria dalmatica*, *Hordeum maritimum*, *Lactuca serriola*, *Elymus elongatus*, *Sideritis montana*,

Xeranthemum annuum, etc. The location is occasionally fragmented by dirt trails leading to the seashore. Some of the trails are overgrown with *Z. jujuba* and have become impassable. The integrity of the locality is threatened by the resort construction in some of the lots overgrown with this species.

These localities have been monitored since 1974 and their area has considerably expanded in the period of monitoring.

The species has already been reported for the Black Sea Coast (*Southern*), Thracian Lowland (Plovdiv) and Valley of River Struma (*Southern* – Katuntsi village, Melnik region) (Ganchev 1979: 284; Tashev, Tsavkov 2008: 270; Delipavlov & Cheshmedzhiev 2011: 280), however here we provide more information about the exact localities and subpopulations.

Reports 163–164

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Berberidaceae

163. *Berberis vulgaris* L.

Tu(E) A1(E) Edirne: Centre, in front of the Selimiye Mosque, at the roadside, 26 m, 41°40'28"N, 26°33'39"E, 11.05.2005, coll. S. Tütüncü Konyar, det. G. Dalgıç (EDTU 9317).

New record for A1(E) Edirne. So far the species has been known from A2(E) Istanbul (Cullen & Coode 1970).

Fabaceae

164. *Robinia pseudoacacia* L.

Tu(E) A1(E) Edirne: Centre, Karaağaç, 26 m, 41°40'28"N, 26°33'39"E, 11.05.2005, coll. S.

Tütüncü Konyar, det. G. Dalgıç (EDTU 9323).

New record for A1(E) Edirne. So far the species has been known from A2(E) Istanbul (Chamberlain 1970). *Robinia pseudoacacia* is native to North America. It is the commonest naturalized tree in Turkey.

Reports 165–166

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Elaeagnaceae

165. *Elaeagnus angustifolia* L.

Tu(E) A1(E) Edirne: Centre, at the roadside, 26 m, 41°40'28"N, 26°33'39"E, 15.05.2005, coll. S.

Tütüncü Konyar, det. G. Dalgıç (EDTU 594).

New for A1(E) Edirne in European Turkey. The species is naturalized in the above-mentioned locality. So far the species has been known from A1(E) Çanakkale (Mckean 1970).

Punicaceae

166. *Punica granatum* L.

Tu(E) A1(E) Edirne: Centre, Karaağaç, 26 m, 41°40'28"N, 26°33'39"E, 25.05.2005, coll. S.

Tütüncü Konyar, det. G. Dalgıç (EDTU 401).

A new record for European Turkey, with the specimen collected from A1(E) Edirne. The species is naturalized in the above-mentioned locality. So far the species has been known from A5 Samsun, A8 Artvin, C1 Aydın, C3 Antalya, C7 Adıyaman, C8 Siirt (Chamberlain 1972). *Punica granatum* is native from Iran to the Himalayas, North India and was cultivated and naturalized across the Mediterranean region.

Reports 167–175

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Apiaceae

167. *Oenanthe lachenalii* C.C. Gmel.

Bu Balkan Range (*Western*): in wet places along the road between Chibaovtsi village and Chibaovtsi mine, Kostinbrod municipality, FN-85, 20.06.2009, coll. A. Petrova (SOM 165234).

— Balkan Range (*Central*): Troyan Divide, Ganovtsi locality, 500 m, 1995, coll. I. Nikolov (SO 97888).

— Balkan Range (*Eastern*): in grasslands above Iztrev village, Sliven municipality 42.89857°N, 26.12888°E, MH-25, 28.06.2011, coll. K. Vassilev & al. (SOM 168334).

— West Frontier Mts: Mt Maleshevska, above Igralishte village before Sokolata reserve, FM-70, 19.06.2009, coll. D. Dimitrov (SOM 165739); Mt Maleshevska, in wet meadows above Igralishte village, FM-70, 19.06.2009, D. Dimitrov (SOM 165792).

These are the first records for the species from these floristic regions.

Caryophyllaceae

168. *Silene roemerii* Friv.

Bu Znepole Region: Mt Ruy, in mesophytic grasslands under peak Ruy, FN-24, 18.07.2009, coll. *K. Vassilev & J. Stoyanov* (SOM 168436).

— Valley of River Struma (*Southern*): Melnik town, FL-99, 15.08.1969, coll. *P. Panov* (SOM 163926).

— Mt Belasitsa: above Samuilovo village, Petrich municipality, FL-78, 24.07.1977, coll. *P. Panov* (SOM 163255).

— Mt Slavyanka: in dry grasslands of Parilski Dol, GL-28, 30.05.2004, coll. *D. Pavlova* (SO 103636).

This is a new species for these floristic regions.

Fabaceae

169. *Chamaecytisus calcareus* (Velen.) Kuzmanov

Bu Valley of River Struma (*Southern*): in dry grasslands near Samuil's fortress, FL-68, 41.39931°N, 22.98755°E, 19.05.2011, coll. *K. Vassilev & al.* (SOM 168197).

New for this floristic region. The species is a Balkan endemic distributed in Bulgaria, Albania and Macedonia (Petrova & Vladimirov 2010). It is typical for the dry grasslands of the class *Festuco-Brometea* as a companion species. Occasionally, in the rocky grasslands of the alliance *Saturejion montanae* its projection cover reaches 15–20% of the total vegetation cover. So far it was found in seven floristic regions in Bulgaria.

170. *Lembotropis nigricans* (L.) Griseb.

Bu Balkan Range (*Western*): in mesophytic grasslands in the region of peak Murgash, GN-14, 42.80079°N, 23.61866°N, 16.07.2011, coll. *K. Vassilev & J. Stoyanov* (SOM 168336); in xerophytic grasslands above Katina village, FN-84, 42.85828°N, 23.31931°E, 02.07.2011, coll. *K. Vassilev & J. Stoyanov* (SOM 168421); Mt Golyama, above the right bank of river Batuliyska near Bakyovo village, Sofia district, GN-05, 19.07.2005, coll. *D. Stoyanov & M. Kurteva* (SOM 162154); Mt Golyama, in calcareous stony places above the road southwards of Rebrovo village, Sofia district, FN-95, 19.07.2005, coll. *D. Stoyanov & M. Kurteva* (SOM 162145); Mt Mala, in grasslands of the Katinski Piramidi protected area, FN-84, 07.07.2005, coll. *V. Vutov & D. Stoyanov* (SOM 161980).

A new species for these floristic regions.

171. *Onobrychis degenii* Dörfel.

Bu Valley of River Struma (*Southern*): in dry grasslands before Ploski village, FM-80, 41.61734°N, 23.23650°E, 21.05.2011, coll. *K. Vassilev & al.* (SOM 168214); in dry grasslands before Ploski village, FM-80, 41.61510°N, 23.24114°E, 21.05.2011, coll. *K. Vassilev & al.* (SOM 168209).

— Pirin Mts (*Southern*): near Musomishta village towards Teshevo village, 1000 m, GM-20, 08.06.1988, coll. *D. Stoyanov* (SOM 147159); in the region of Gaytanikovo village, in dry eroded grasslands with shallow soils, GL-29, 25.05.1960, coll. *V. Velchev & al.* (SOM 107122); in dry stony grassland places near Gaytanikovo village, GL-29, 20.06.2001, coll. *P. Stanimirova* (SOM 160466).

— Thracian Lowland: Besaparski Ridove, KG-86, 01.06.1995, coll. *D. Georgiev* (SO 100181).

This is a new species for these floristic regions.

172. *Trifolium dalmaticum* Vis.

Bu Northeast Bulgaria: in dry grasslands around Cherven village, MJ-23, 43.62366°N, 26.02532°E, 02.06.2011, coll. *K. Vassilev & al.* (SOM 168359).

A new species for this floristic region.

Lamiaceae

173. *Satureja pilosa* Velen.

Bu Valley of River Struma (*Southern*): in dry grasslands around the military firing range to Razhdak village, FL-98, 41.41666°N, 23.37864°E, 20.05.2011, coll. *K. Vassilev & al.* (SOM 168203).

This is a new species for this floristic region. The species is a Balkan endemic with local distribution in the country and so far was known from five floristic regions (Petrova & Vladimirov 2010). It takes part in xerothermic grassland communities of the class *Festuco-Brometea*, but the syntaxonomy of its communities in the country has not been studied yet.

Polygalaceae

174. *Polygala oxyptera* Rchb.

Bu Forebalkan (*Eastern*): in xerophyllous grasslands near Tryavna town, LH-74, 42.89111°N, 25.45263°E, 17.06.2011, coll. *K. Vassilev & al.* (SOM 168340).

This is a new species for this floristic region.

Poaceae

175. *Koeleria nitidula* Velen.

Bu Danubian Plain: in loess grasslands above Batin village, LJ-93, 43.65404°N, 25.68585°E, 01.06.2011, coll. *K. Vassilev & al.* (SOM 168333).

- Forebalkan (*Western*): around Kameno Pole village, Mezdra municipality, GN-38, 22.05.2010, coll. *D. Dimitrov* (SOM 165900).
- Balkan Range (*Western*): Mt Sofiyska Stara Planina, in calcareous grasslands above Kremikovtsi village, GN-03, 19.07.2007, coll. *D. Dimitrov* (SOM 164053).
- Mt Slavyanka: near Paril village, Hambar Dere locality, in calcareous open stony places above Oltara, 1500 m, GL-28, 09.07.1991, coll. *I. Pashaliev* (SOM 151677).

This species has a wide distribution in Bulgaria and is known from 16 floristic regions (Assyov & Petrova 2012). It takes part in xero-mesophytic and xerophytic grasslands of the class *Festuco-Brometea* and alliances *Cirsio-Brachypodium*, *Chrysopogono-Danthonion*, *Festucion valesiaca* and *Saturejion montanae* as a subdominant and companion species. Also, it is a good diagnostic species of the class *Festuco-Brometea*.

Acknowledgements. Authors are grateful to the National Science Fund for the financial support under the project DMU 03/115 – 13.12.2011 “Patterns in spatial distribution of habitats, plant communities and plant species in south Bulgaria in relation to environmental and bioclimatic gradients”.

Reports 176–188

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Cupressaceae

176. *Thuja orientalis* L.

- Bu** Northeast Bulgaria: Madara Plateau, on limestone rocky slopes near the Madara Horseman relief, ca. 270–300 m, 43.27795°N, 27.11759°E, 02.09.2012, coll. *V. Vladimirov* (SOM).

This is a new species for this floristic region. There were a few planted old fruiting trees and a dozen of young, ca. 1–2 m tall trees on the rocks above the old trees. Perhaps this is the first report of a naturalised occurrence of the species in Bulgaria.

Asteraceae

177. *Bidens frondosus* L.

- Bu** Forebalkan (*Eastern*): on the banks of river Osam, in the centre of Lovech town, 180–190 m,

43.13055°N, 24.71519°E, 09.09.2012, coll. *V. Vladimirov* (SOM); on the banks of river Osam, near Devetashka cave, ca. 110 m, 43.23455°N, 24.88425°E, 09.09.2012, *V. Vladimirov* obs.

- Rila Mts: by the river in Sestrimo village, ca. 525 m, 42.22214°N, 23.92249°E, 10.08.2012, coll. *V. Vladimirov* (SOM).

A new species for this floristic region.

178. *Bidens vulgatus* Greene

- Bu** Forebalkan (*Eastern*): on the banks of river Osam, in the centre of Lovech town, 180–190 m, 43.13055°N, 24.71519°E, 09.09.2012, coll. *V. Vladimirov* (SOM); on the banks of river Osam, near Devetashka cave, ca. 110 m, 43.23455°N, 24.88425°E, 09.09.2012, *V. Vladimirov* obs.

A new species for this floristic region. So far the species was known from Northeast Bulgaria, Danubian Plain and Tundzha Hilly Country (Petrova & Vladimirov 2009; Vladimirov & Petrova 2010).

179. *Erigeron bonariensis* L.

- Bu** Valley of River Mesta: Gotse Delchev town, on a street near the centre of the town, GM-20, 17.06.2012, coll. *V. Vladimirov* (SOM).

A new species for this floristic region. So far the species was reported from the Black Sea Coast, Valley of River Struma, Thracian Lowland, and Tundzha Hilly Country (Delipavlov 1980; Vladimirov & Petrova 2009; Vladimirov 2011).

180. *Galinsoga quadriradiata* Ruiz & Pav. [Syn. *G. ciliata* (Raf.) S.F. Blake]

- Bu** Forebalkan (*Eastern*): along the streets in the centre of Lovech town, 170–180 m, 43.13277°N, 24.71641°E, 09.09.2012, coll. *V. Vladimirov* (SOM).
— Znepole Region: at the railway station in Dragoman town, ca. 730 m, 42.92117°N, 22.93166°E, 27.09.2012, coll. *V. Vladimirov* (SOM).

A new species for these floristic regions. So far the species was reported from the Black Sea Coast (*Northern*), Forebalkan (*Western*), Sofia Region, Valley of River Struma (*Southern*), Valley of River Mesta, Rila Mts, Rhodopi Mts (*Central*), and Thracian Lowland (Assyov & Petrova 2012).

Balsaminaceae

181. *Impatiens balfourii* Hook. f.

- Bu** Rhodopi Mts (*Central*): along a rivulet in Smolyan town, LG-00, 09.10.2012, coll. *V. Vladimirov* (SOM).

A new species for this floristic region. A small population was identified consisting of about a hundred flowering and fruiting plants. So far the species was known from the Valley of River Sturma (Adamowski 2009 & pers. comm.).

Buddlejaceae

182. *Buddleja davidii* Franch.

- Bu** Sofia Region: Poduene – Marshalling Yard, at the rail tracks and in the verge vegetation, several dozens of flowering and young, non-flowering individuals, ca. 540 m, 42.69240°N, 23.36967°E, 27.08.2010, V. Vladimirov obs.
- Rila Mts: along a river in Kostenets town, GM-38, 10.08.2012, V. Vladimirov obs.
- Rhodopi Mts (*Western*): on the banks of the river along the road from Batak to Pesteria, 590–600 m, 42.01199°N, 24.25615°E, 23.08.2012, coll. V. Vladimirov (SOM); at roadsides of the road from Rakitovo to Batak towns, ca. 1060 m, 41.95603°N, 24.12593°E, 21.08.2012, coll. V. Vladimirov (SOM).

A new species for these floristic regions. So far the species was reported from the floristic regions of the Black Sea Coast and Rhodopi Mts (*Central*) (Delipavlov 1980; Cheshmedzhiev 2003).

Chenopodiaceae

183. *Chenopodium ambrosioides* L.

- Bu** Forebalkan (*Eastern*): on the right bank of river Osam, in the centre of Troyan town, ca. 400 m, 42.88619°N, 24.71297°E, 09.09.2012, coll. V. Vladimirov (SOM).

A new species for this floristic region.

184. *Chenopodium pumilio* R. Br.

- Bu** Valley of River Struma (*Southern*): on the banks of River Struma, near the bridge on the road from Sandanski to Petrich towns, ca. 210 m, 41.48873°N, 23.26453°E, 13.09.2012, coll. V. Vladimirov (SOM).

A new species for this floristic region. So far the species was reported from the Black Sea Coast, Northeast Bulgaria, Balkan Range (*Eastern*), Thracian Lowland, and Tundzha Hilly Country (Grozeva 2007; Vladimirov & Petrova 2010; Vladimirov 2011).

Euphorbiaceae

185. *Euphorbia maculata* L.

- Bu** Forebalkan (*Western*): Vrachanska Mt, limestone rocky places in Vratsata pass, GN-08, 21.07.2003, coll. D. Stoyanov (SOM 159026 sub *E. chamaesyce*);

- in the town of Varshets, FN-88, 13.09.1989, coll. S. Kostadinov (SOM 147902); crevices in the road near old farm buildings near Chemish village, Montana district, FP-61, 30.09.2012, coll. A. Petrova (SOM 169036); Zverino village, around the bus station, GN-07, 04.08.2012, coll. A. Petrova (SOM 169037); at the road-fork to Gavril Genova village from the road Montana town – Prevala village, FP-60, 04.10.2012, coll. A. Petrova (SOM 169035).
- Balkan Range (*Central*): along streets in Tryavna town, LH-74, 21.09.2009, coll. D. Dimitrov (SOM 165027 sub *E. chamaesyce*).
- Znepole Region: at the railway station in Dragoman town, ca. 730 m, 42.92117°N, 22.93166°E, 27.09.2012, coll. V. Vladimirov (SOM); Zemen town, at the railway station, FN-40, 29.07.2012, coll. A. Petrova (SOM 169034).

A new species for these floristic regions. So far the species was reported from the Black Sea Coast, Northeast Bulgaria, Danubian Plain, Forebalkan (*Eastern*), Sofia Region, Valley of River Struma, Rhodopi Mts (*Eastern*), Thracian Lowland, and Mt Strandzha (Bancheva & al. 2002; Stoyanov 2010; Assyov & Petrova 2012; Petrova & al. 2012).

Fabaceae

186. *Lupinus polyphyllus* Lindl.

- Bu** Vitosha Region: Mt Vitosha, near Zlatnite Mostove locality, ca. 1400 m, 42.61358°N, 23.23753°E, 15.06.2012, coll. V. Vladimirov (SOM).

A new species for this floristic region.

Rosaceae

187. *Mespilus germanica* L.

- Bu** Rhodopi Mts (*Central*): by a forest road above Sveta Petka Monastery in a mixed deciduous forest, LG-25, 06.07.2012, coll. V. Vladimirov & J. Zieliński (SOM).

A naturalised locality of the species. The tree was ca. 2.5–3 m high and was abundantly fruiting. The native range of the taxon in Bulgaria comprises Black Sea Coast (*Southern*), Mt Strandzha (Popova 2003). Naturalised occurrences of the species have been published for the Balkan Range (*Eastern*) (Petrova 2008; Petrova & al. 2011) and Sofia Region (Tashev 2011).

Juncaceae

188. *Juncus tenuis* Willd.

- Bu** Balkan Range (*Western*): near the water fountain

in front of the Kopren chalet above Kopilovtsi village, ca. 950 m, 43.32714°N, 22.85997°E, 21.07.2012, coll. V. Vladimirov (SOM).

A new species for this floristic region. A few individuals have been identified in the locality.

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Reports 189–197

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Caryophyllaceae

189. *Dianthus noeanus* Boiss.

Bu Vitoshka Region: in rocky grasslands on limestone, near the road from Bosnek to Chuyetlovo villages, ca. 980 m, 42.49308°N, 23.19549°E, 16.07.2012, coll. V. Vladimirov & al. (SOM).

A new species for this floristic region. So far it has been reported from Northeast Bulgaria, Forebalkan and Balkan Range (*Western, Central*) (Assyov & Petrova 2012).

190. *Gypsophila glomerata* M. Bieb.

Bu Tundzha Hilly Country: Mt Sakar, on rocks W of Ustrem village (Balabanovets locality), 140–150 m, 42.02092°N, 26.43575°E, 27.10.2011, coll. V. Vladimirov & al. (SOM).

A new species for this floristic region.

Geraniaceae

191. *Geranium divaricatum* Ehrh.

Bu Mt Slavyanka: at the end of Paril village by the road to Parilski Dol locality, 800–850 m, 41.43203°N, 23.67518°E, 17.06.2012, coll. V. Vladimirov & al. (SOM).

A new species for the region (cf. Petrova 1979).

Polygalaceae

192. *Polygala oxyptera* Rchb.

Bu Forebalkan (*Eastern*): Devetashko Plateau, meadow near the road from Devetaki to Brestovo vil-

lages, 43°09'46"N, 24°56'12"E, 27.06.2012, coll. V. Vladimirov & al. (SOM).

New for this floristic region. White-flowering specimens have been collected.

Rosaceae

193. *Sorbus mougeotii* Soy.-Will. & Godr.

Bu Mt Slavyanka: Koynarite locality along the tourist trail from Paril village to Tsarev peak, 41°24'45"N, 23°38'59"E, 17.06.2012, coll. V. Vladimirov & al. (SOM).

New for this floristic region.

Alliaceae

194. *Allium fuscum* Waldst. & Kit.

Bu Tundzha Hilly Country: Mt Sakar, on rocks W of Ustrem village (Balabanovets locality), 140–150 m, 42.02092°N, 26.43575°E, 11.07.2012, coll. V. Vladimirov & al. (SOM).

New for this floristic region.

Iridaceae

195. *Crocus pallasii* Goldb.

Bu Black Sea Coast (*Northern*): along a sandy beach N of Krapets village, Dobrich distr., 0–5 m, 43.654569°N, 28.56751°E, 07.11.2012, coll. V. Vladimirov & al. (SOM).

A new species for this floristic region.

196. *Crocus pulchellus* Herb.

Bu Tundzha Hilly Country: Mt Sakar, on rocks W of Ustrem village (Balabanovets locality), 140–150 m, 42.02092°N, 26.43575°E, 27.10.2011, V. Vladimirov, S. Bancheva & M. Delcheva, obs.; Mt Sakar, at the road from Dervishka Mogilla village to peak Vishegrad, 2–2.5 km after the fork to Planinovo village, ca. 570 m, 41.96450°N, 26.36232°E, 21.10.2012, coll. V. Vladimirov & al. (SOM).

A new species for this floristic region.

Poaceae

197. *Aegilops neglecta* Bertol.

Bu Mt Slavyanka: along the road from Paril village to Parilski Dol, 41.43203°N, 23.67518°E, coll. V. Vladimirov & al. (SOM).

New for this floristic region.

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Reports 198–200

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Liliaceae

198. *Ornithogalum fimbriatum* Willd.

Tu(E) A1(E) Kırklareli: Karamesutlu exit, 130 m, 41°29'N, 27°07'E, 03.04.1988, coll. G. Dalgıç & N. Başak (EDTU 1903); Pınarhisar village, 206 m, 41°37'27"N, 27°31'12"E, 24.04.1988, coll. G. Dalgıç & N. Başak (EDTU 1951).

New for A1(E) Kırklareli in European Turkey. So far the species has been known from A1(E) Edirne, A1(E) Çanakkale and A2(E) Istanbul (Cullen 1984).

199. *Ornithogalum narbonense* L.

Tu(E) A1(E) Edirne: Centre, 26 m, 41°40'28"N, 26°33'39"E, 25.05.1986, coll. G. Dalgıç & G. Olgun (EDTU 405); Uzunkopru, Hamidiye village, 87 m, 41°09'N, 26°40'E, 01.07.1988, coll. G. Dalgıç (EDTU 2357); Çopkoy village, 56 m, 41°13'11"N, 26°49'22"E, 25.05.1989, coll. G. Dalgıç (EDTU 3186); Kesan, Mecidiye, 61 m, 40°38'20"N, 26°32'14"E, 04.06.1995, coll. G. Dalgıç (EDTU 5944); Lalapasa, Bağlıkderesi, 172 m, 41°50'N, 26°44'E, 26.06.1988, coll. G. Dalgıç (EDTU 2362).
— A1(E) Tekirdağ: Hayrabolu, 17 m, 41°12'42"N, 27°06'31"E, 22.06.1987, coll. F. Dane & al. (EDTU 1531); Muratlı, 78 m, 41°10'17"N, 27°30'11"E, 22.06.1987, coll. G. Dalgıç & N. Başak (EDTU 1550).

New for A1(E) Edirne and A1(E) Tekirdağ. So far the species has been known from A1(E) Kırklareli and A2(E) Istanbul (Cullen 1984).

200. *Ornithogalum refractum* Schlecht.

Tu(E) A1(E) Edirne: Centre, around the Faculty of Medicine, 26 m, 41°40'28"N, 26°33'39"E, 21.03.1988, coll. G. Dalgıç & N. Başak (EDTU 1863); Karakasım, 29 m, 41°31'N, 26°38'E, 27.03.1988, coll. G. Dalgıç & N. Başak (EDTU 1889); Uzunkopru, 7 m, 41°16'10"N, 26°41'10"E, 09.04.1988, coll. G. Dalgıç & N. Başak (EDTU 1917); Kesan, Mecidiye, 61 m, 40°38'20"N, 26°32'14"E, 24.03.1990, coll. G. Dalgıç (EDTU 4262).
— A1(E) Kırklareli: Babaeski, 55 m, 41°25'57"N, 27°05'35"E, 03.04.1988, coll. G. Dalgıç & N. Başak (EDTU 1897).

New for A1(E) Edirne and A1(E) Kırklareli. So far the species has been known from A2(E) Istanbul (Cullen 1984).

Reports 201–203

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Oleaceae

201. *Fraxinus angustifolia* subsp. *oxycarpa* (Willd.)

Franco & Rocha Afonso

Tu(E) A1(E) Edirne: Kesan, Mecidiye, 61 m, 40°38'20"N, 26°32'14"E, 25.06.1997, coll. G. Dalgıç, det. G. Dalgıç (EDTU 3920).

— A1(E) Kırklareli: Vize, near lake Saka, 186 m, 41°34'21"N, 27°45'57"E, 14.09.1989, coll. S. Yurtsever, det. F. Dane (EDTU 3914).

New for A1(E) Edirne and Kırklareli in European Turkey. So far the species has been known from A1(E) Tekirdağ and A2(E) Istanbul (Yaltırık 1978).

202. *Jasminum fruticans* L.

Tu(E) A1(E) Canakkale: Eceabat, between Eceabat and Anafartalar, 0 m, 40°11'02"N, 26°21'23"E, 10.05.1987, coll. F. Dane, det. F. Dane (EDTU 649).

New for A1(E) Çanakkale in European Turkey. So far the species has been known from A1(E) Edirne and A2(E) Istanbul (Yaltırık 1978).

203. *Phillyrea latifolia* L.

Tu(E) A1(E) Edirne: Kesan, Mecidiye, near the sea-side, 0 m, 40°38'20"N, 26°32'14"E, 04.06.1995, coll. G. Dalgıç, det. G. Dalgıç (EDTU 5953).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Tekirdağ and A2(E) Istanbul (Yaltırık 1978).

Reports 204–205

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Brassicaceae**204. *Rorippa thracica* (Griseb.) Fritsch**

Tu(E) A1(E) Edirne: Centre, Musabeyli village, 109 m, 41°41'N, 26°40'E, 28.04.1989, coll. *F. Dane* & *N. Aktaş*, det. *F. Dane* (EDTU 3523).

New for A1(E), with the specimen collected from Edirne in European Turkey. So far the species has been known from A2(E) Istanbul (Coode & Cullen 1965).

205. *Thlaspi perfoliatum* L.

Tu(E) A1(E) Edirne: Centre, Sogutluk Izzet Arseven Forest, 26 m, 41°40'28"N, 26°33'39"E, 09.04.2000, coll. & det. *N.Ç. Demirkan* (EDTU 7535).

New for A1(E), with the specimen collected from Edirne in European Turkey. So far the species has been known from A2(E) Istanbul (Hedge 1965).

Reports 206–214**George Zarkos¹, Vasilis Christodoulou² & Kit Tan³**

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Continuing a series of new plant records based on floristic investigations in Nomos Korinthias in north central Peloponnese.

Asteraceae**206. *Helichrysum luteoalbum* (L.) Rchb.**

Gr Nomos & Eparchia Korinthias: flowering at edge of Lake Stymfalia, 700 m, 37°51'N, 22°29'E, 04.11.2012, *Kit Tan*, *G. Vold* & *Zarkos* 31463 (C).

There is an old record from Corinth by Friedrichsthal (December 1834) and an earlier collection from Lake Stymfalia (May 1971, *Stamatiadou* 12334, ATH).

207. *Ptilostemon stellatus* (L.) Greuter (Fig. 23)

Gr Nomos & Eparchia Korinthias: Mt Killini, on road from Ano Trikala to Agia Varvara, in phrygana on the sunny side of Flabouritsa gorge, 800 m, 37°58'N, 22°28'E, 22.06.2008 & 03.07.2011, *Zarkos* & *Christodoulou* obs. (photos, conf. Kit Tan, October 2012).

There are previous records from Mt Killini by Heldreich (03.07.1848, C!) and Orphanides (22.06.1870, no. 263, C!) but the plant is apparently rarely collected from Killini. In his work, Dimopoulos (1993) cites Halácsy as his source for the documentation of this species on Killini. In Greece, *P. stellatus* is mainly distributed on the

Ionian islands, the southern mainland and west-central Peloponnese, with an outlying area in central Crete.



Fig. 23. *Ptilostemon stellatus* (photo G. Zarkos).

208. *Xeranthemum cylindraceum* Sm. (Fig. 24)

Gr Nomos & Eparchia Korinthias: edge of cultivated fields near the village of Kesari, 740 m, 37°55'N, 22°33'E, 24.10.2010, *Zarkos* & *Christodoulou* obs.; edge of cultivated fields near the village of Velina, 940 m, 37°58'N, 22°34'E, 07.10.2012, *Zarkos* & *Christodoulou* obs. (photos, conf. Kit Tan, October 2012).



Fig. 24. *Xeranthemum cylindraceum* (photo V. Christodoulou).

New for eparchia and nomos Korinthias; in the Peloponnese, only recorded from the Menalon area (*Strid & Kit Tan* 47159!), Parnon (*Stamatiadou* 8745!) and further east near Epidavros (*Stamatiadou* 14690!). Approximately ten plants were observed in the first locality near Kesari, and three individuals in the second.

Celastraceae

209. *Euonymus europaeus* L. (Fig. 25)

Gr Nomos & Eparchia Korinthias: near the village of Velina, 960 m, 37°58'N, 22°34'E, 07.10.2012 & 18.10.2012, *Zarkos & Christodoulou* obs. (photos, conf. Kit Tan, October 2012).



Fig. 25. *Euonymus europaeus* (photo V. Christodoulou).

New for eparchia and nomos Korinthias, recorded from the northern Peloponnese. There were probably 3 to 5 shrubs although the actual number is difficult to discern in the densely forested pinewood, together with *Abies cephalonica*, *Ostrya carpinifolia* and *Carpinus orientalis*.

Fagaceae

210. *Quercus trojana* Webb subsp. *trojana* (Fig. 26)

Gr Nomos & Eparchia Korinthias: at the edge of cultivated fields on plateau near the village of Velina, 850 m, 37°59'N, 22°35'E, 07.10.2012 & 18.10.2012, *Zarkos & Christodoulou* obs. (photos, conf. Kit Tan, October 2012; additionally confirmed by J. Zieliński, Poznań, October 2012); *loc. ibid.* (near Mougosto forest, Kesari to Throfari), 04.11.2012, *Kit Tan, G. Vold & Zarkos* 31460 (herb. Kit).

New for eparchia and nomos Korinthias where it is disjunct from its nearest known occurrences on Timfristos and Etolias-Akarnanias in Sterea Ellas. There were 4–5 trees, each 4–5 m tall, together with *Quercus frainetto* and *Q. pubescens* in an area burned in 1999. The species is unmistakable even without fruit; it differs from *Q. cerris* in the Peloponnese by its serrate leaf margins with distinctive mucronate teeth on each side. This is the first confirmed report for the Peloponnese and the southernmost occurrence of this mainly Balkan species. Records mapped by Browicz (1982: 134) from the Peloponnese were considered erroneous and omitted in a later work (*Boratyński & al.* 1992: 200). *Q. trojana* subsp. *euboiica* is endemic to Evvia.



Fig. 26. *Quercus trojana* subsp. *trojana* (photo V. Christodoulou).

Polygonaceae

211. *Persicaria orientalis* (L.) Spach (Fig. 27)

Gr Nomos & Eparchia Korinthias: 0.5 km south of Kesari, 820 m, 37°57'N, 22°33'E, 27.09.2012 & 07.10.2012, *Zarkos & Christodoulou* obs. (photos, conf. Kit Tan, October 2012).

New for eparchia and nomos Korinthias. Only one plant was found in a wet ditch together with *Persicaria maculosa* (syn. *Polygonum persicaria*), *Epilobium hirsutum* and *Pulicaria dysenterica*. The species is native to East

and Southeast Asia and introduced in southern Europe where it spreads as an escape from gardens. However, it is still of scattered occurrence in Greece and few sightings have been documented; only two have been recorded from the Peloponnese, in the north and south.



Fig. 27. *Persicaria orientalis* (photo V. Christodoulou).

Colchicaceae

212. *Colchicum cupanii* Guss.

Gr Nomos & Eparchia Korinthias: road margins near Moni Ag. Nectariou (between villages Ryto and Sofiko), 426 m, 37°48'N, 23°01'E, 11.11.2012, Zarkos & Christodoulou obs. (photos, conf. Kit Tan, November 2012).

New for eparchia and nomos Korinthias. Also observed near Korfos in northeast Korinthias by A. Strid in the previous year. There were a few plants in *Pinus halepensis* woodland bordered by cultivated areas, together with *Bellis sylvestris*, *Cyclamen graecum*, *Crocus biflorus* subsp. *melantherus* and *Crocus cancellatus* subsp. *mazziaricus*.

Iridaceae

213. *Crocus boryi* Gay

Gr Nomos & Eparchia Korinthias: road margins above the village of Korfos near the village of Sofiko east of the Corinth – Epidavros road, 275 m, 37°47'N, 23°05'E, 13.11.2012, Zarkos & Christodoulou obs. (photos, det. Kit Tan, November 2012).

New for eparchia and nomos Korinthias and first re-

cord for N and NE Peloponnese. Approximately 20 plants were noted in openings of *Pinus* woodland. With the same association of species as *Colchicum cupanii* (see latter entry). Although the flowers are rather similar to pure white forms of *C. laevigatus* which also occurs in the same locality, the corm tunics are fibrous, not smooth and coriaceous.

214. *Crocus laevigatus* Bory & Chaub.

Gr Nomos & Eparchia Korinthias: stony places at road margin near Moni Ag. Nectariou (between villages Ryto and Sofiko), 426 m, 37°48'N, 23°01'E, 11.11.2012, Zarkos & Christodoulou obs. (photos, det. Kit Tan, November 2012).

Greek endemic new for eparchia and nomos Korinthias, and second record for NE Peloponnese (documented near Korfos by A. Strid in 2011). Single plant in *Pinus halepensis* woodland, with the same association of species as for *Colchicum cupanii* (see latter entry).

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This report includes new plant records for Ithaki Island (Ionian Islands, Greece).

Polypodiaceae

215. *Polypodium vulgare* L.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, along the path that leads to Exogi village, rocky places with sparse *Cupressus sempervirens* and abandoned fields, on limestone, 120 m, 38°27'N, 20°38'E, 04.04.2010, M. Zarikou 58 (ACA).

Asteraceae

216. *Anthemis arvensis* subsp. *incrassata* (Loisel.)

Nyman

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Anogi village, close to Kathara monastery, rocky places and open *Quercus coccifera* scrub, on limestone, 550 m, 38°23'N, 20°40'E, 20.05.2010, M. Zarikou 219 (ACA).

217. *Carlina graeca* Heldr. & Sart.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, rocky places, cultivated

fields and pastures, on limestone, 110 m, 38°27'N, 20°38'E, 03.04.2010, *M. Zariou* 86 (ACA).

218. *Glebionis coronaria* (L.) Spach

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Exogi village, close to the local cemetery, rocky places and roadsides, 350 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zariou* 162 (ACA).

219. *Senecio vernalis* Waldst. & Kit.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, cultivated fields, on limestone, 130 m, 38°27'N, 20°38'E, 03.04.2010, *M. Zariou* 20 (ACA).

220. *Sonchus asper* (L.) Hill subsp. *asper*

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, cultivated fields, on limestone, 130 m, 38°27'N, 20°38'E, 03.04.2010, *M. Zariou* 14 (ACA).

Brassicaceae

221. *Nasturtium officinale* R. Br.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: close to Platrithias village, vernal pool in sparse *Quercus coccifera* scrub, on limestone, 160 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zariou* 15 (ACA).

Caryophyllaceae

222. *Cerastium pumilum* subsp. *glutinosum* (Fries) Corb.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, rocky places, cultivated fields and roadsides, on limestone, 110 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zariou* 92 (ACA).

Convolvulaceae

223. *Convolvulus althaeoides* L.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: between Platrithias and Stavros villages, cultivated fields, pastures and roadsides, on limestone, 110 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zariou* 22 (ACA); Piso Aetos port, rocky places by the coast, on limestone, 10 m, 38°20'N, 20°41'E, 20.05.2010, *M. Zariou* obs.

Crassulaceae

224. *Sedum eriocarpum* subsp. *epiroticum* (Bald.) 't Hart

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: between Platrithias and Exogi villages, close to Homer's School archaeological site, rocky places and abandoned fields, on limestone, 170 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zariou* 144 (ACA).

According to 't Hart (2002) *S. eriocarpum* subsp. *epiroticum* is endemic to Kefallinia, Ithaki and adjacent coastal regions of mainland Greece. The corresponding distribution map, however, does not indicate the presence of this taxon in Ithaki. This record confirms the presence of *S. eriocarpum* subsp. *epiroticum* on the island.

225. *Sedum ochroleucum* Chaix

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, along the path to Exogi village, rocky places and abandoned fields, on limestone, 130 m, 38°28'N, 20°38'E, 03.04.2010, *M. Zariou* 63 (ACA).

Fabaceae

226. *Medicago rugosa* Desr.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, abandoned and cultivated fields, on limestone, 130 m, 38°27'N, 20°38'E, 03.04.2010, *M. Zariou* 25 (ACA).

227. *Trifolium repens* Schreb.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, along the path that leads to Exogi village, cultivated fields and pastures with sparse *Cupressus sempervirens*, on limestone, 120 m, 38°27'N, 20°38'E, 19.05.2010, *M. Zariou* 220 (ACA).

228. *Vicia tenuissima* (M. Bieb.) Schinz & Thell.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, rocky places and abandoned fields, on limestone, 110 m, 38°28'N, 20°38'E, 19.05.2010, *M. Zariou* 91 (ACA).

Gentianaceae

229. *Centaureum erythraea* subsp. *rhodense* (Boiss. & Reut.) Melderis

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, rocky places and cultivated fields, on limestone, 110 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zariou* 72 (ACA).

Lamiaceae

230. *Clinopodium nepeta* subsp. *glandulosum*

(Req.) Govaerts [Syn. *Calamintha nepeta* subsp. *glandulosa* (Req.) P.W. Ball]

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, cultivated fields and pastures, on limestone, 110 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zariou* 17 (ACA).

Orobanchaceae**231. *Orobanche nana*** (Reut.) Beck

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, along the road that leads to Stavros village, cultivated fields and pastures, on limestone, 110 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zarikou* 26 (ACA).

Oxalidaceae**232. *Oxalis corniculata*** L.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, cultivated fields, on limestone, 130 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zarikou* 93 (ACA).

233. *Oxalis pes-caprae* L.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, cultivated fields, on limestone, 130 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zarikou* 106 (ACA).

Papaveraceae**234. *Papaver rhoeas*** L.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Exogi village, close to the local cemetery, rocky places with sparse *Cupressus sempervirens*, 340 m, 38°27'N, 20°37'E, 04.04.2010, *M. Zarikou* 125 (ACA).

Polygonaceae**235. *Fallopia convolvulus*** Á. Löve

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, along the path that leads to Exogi village, cultivated fields and pastures with sparse *Cupressus sempervirens*, on limestone, 110 m, 38°27'N, 20°38'E, 18.05.2010, *M. Zarikou* 151(ACA).

In the Ionian Islands, this species has been recorded only from Kerkira Island.

236. *Rumex conglomeratus* Murray

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, along the path that leads to Exogi village, cultivated fields and pastures with sparse *Cupressus sempervirens* and *Quercus ilex*, on limestone, 110 m, 38°27'N, 20°38'E, 18.05.2010, *M. Zarikou* 160 (ACA).

Scrophulariaceae**237. *Cymbalaria muralis*** P. Gaertn. & al. subsp. *muralis*

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, cultivated fields, on lime-

stone, 130 m, 38°27'N, 20°38'E, 19.05.2010, *M. Zarikou* 216 (ACA).

238. *Veronica hederifolia* L.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, cultivated fields and pastures, on limestone, 110 m, 38°27'N, 20°38'E, 04.04.2010, *M. Zarikou* 64 (ACA).

Alliaceae**239. *Allium roseum*** L.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Platrithias village, cultivated fields and pastures, on limestone, 120 m, 38°27'N, 20°38'E, 19.05.2010, *M. Zarikou* 13 (ACA).

Cyperaceae**240. *Carex flacca*** subsp. *serrulata* (Biv.) Greuter

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, abandoned fields and pastures, on limestone, 130 m, 38°27'N, 20°38'E, 03.04.2010, *M. Zarikou* 74 (ACA).

241. *Cyperus serotinus* Rottb.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: between Platrithias and Exogi villages, close to Homer's School archaeological site, rocky places and abandoned fields, on limestone, 140 m, 38°27'N, 20°38'E, 03.04.2010, *M. Zarikou* 18 (ACA).

Poaceae**242. *Bromus alopecuroides*** Poir.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Anogi village, cultivated fields and sparse *Quercus coccifera* scrub, on limestone, 560 m, 38°23'N, 20°40'E, 04.04.2010, *M. Zarikou* 116 (ACA).

243. *Bromus scoparius* L.

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, along the path that leads to Exogi village, rocky places and abandoned fields, on limestone, 120 m, 38°28'N, 20°38'E, 04.04.2010, *M. Zarikou* 29 (ACA).

244. *Lolium rigidum* subsp. *lepturoides* (Boiss.)

Sennen & Mauricio

Gr Nomos Kephallinias, Eparchia Ithakis, Ithaki Island: Kolieri village, rocky places with sparse *Cupressus sempervirens* and abandoned fields, on limestone, 120 m, 38°28'N, 20°38'E, 04.04.2010, *M. Zarikou* 115 (ACA).

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