

New floristic records in the Balkans: 25*

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Abstract: New chorological data are presented for 269 species and subspecies from Bulgaria (143-145, 205-212), Greece (13-113, 121-142, 146-204, 240, 241, 244-269), Macedonia (213-239) and Turkey-in-Europe (1-12, 114-120, 242, 243). The taxa belong to the following families: *Alliaceae* (98, 138, 192-195, 264), *Amaranthaceae* (13-15, 62, 63), *Anacardiaceae* (16), *Apiaceae* (151-156, 214-217, 244, 245), *Apocynaceae* (17), *Araceae* (51, 52), *Asclepiadaceae* (64, 266), *Asteraceae* (18-22, 65, 66, 121, 143, 157-159, 218-224, 267), *Berberidaceae* (114), *Biebersteinaceae* (246), *Boraginaceae* (67, 122, 123, 160, 247, 248), *Brassicaceae* (23, 24, 161-163, 249, 250, 268), *Callitrichaceae* (164), *Campanulaceae* (124, 144), *Caprifoliaceae* (208), *Caryophyllaceae* (4-6, 25-27, 68-73, 125-127, 165, 225, 251-257), *Celastraceae* (258), *Chenopodiaceae* (74, 75, 166, 226), *Convolvulaceae* (28-30, 167), *Crassulaceae* (128, 168, 227), *Cyperaceae* (99, 236, 237), *Dipsacaceae* (76, 77, 228), *Dryopteridaceae* (213), *Euphorbiaceae* (78, 229, 259), *Fabaceae* (7-9, 31-34, 79, 80, 117-120, 129, 130, 146-148, 169-173, 230, 231, 240, 242), *Fumariaceae* (174), *Geraniaceae* (81, 131, 232, 233), *Hyacinthaceae* (53, 139, 140, 196, 197), *Hypericaceae* (234), *Iridaceae* (54-56, 100), *Juncaceae* (198), *Lamiaceae* (82, 83, 175-180, 209), *Lemnaceae* (57), *Lentibulariaceae* (260), *Liliaceae* s.l. (212, 238), *Linaceae* (132), *Lythraceae* (84, 181), *Onagraceae* (35), *Ophyoglossaceae* (149), *Orchidaceae* (58-61, 141, 142, 199-202, 205-207, 239, 265), *Orobanchaceae* (133, 182), *Oxalidaceae* (36), *Papaveraceae* (1, 2, 183), *Plantaginaceae* (85), *Poaceae* (101-113, 203), *Polygonaceae* (37, 38, 86, 87), *Portulacaceae* (39, 40, 88), *Primulaceae* (145), *Pteridaceae* (150), *Ranunculaceae* (3, 10, 41-43, 115, 116, 134, 135, 184), *Rosaceae* (11, 12, 211, 235), *Rhamnaceae* (89, 185, 210), *Rubiaceae* (136, 186, 243), *Salicaceae* (90, 261), *Saxifragaceae* (262), *Scrophulariaceae* (44-47, 91, 92, 137, 187-189, 269), *Solanaceae* (48, 49, 93, 94, 241), *Tiliaceae* (263), *Typhaceae* (204), *Urticaceae* (95, 190), *Valerianaceae* (191), *Verbenaceae* (96), *Violaceae* (50) and *Zygophyllaceae* (97).

First report for a country is: Greece – *Aeschynomene indica* (240), *Vicia ochroleuca* (147); Macedonia – *Cephalaria pastricensis* (228), *Peucedanum officinale* (217).

The publication includes contributions by: M. Aybeke (1-3), M. Aybeke, C. Kurt & A. Semerci (4-6), M. Aybeke, S. Tütüncü Konyar & F. Dane (7-9), M. Aybeke & C. Yarıcı (10-12), B. Biel & Kit Tan (13-61), B. Biel & Kit Tan (62-112), R. von Bothmer, A. Strid, B. Biel & Kit Tan (113), F. Dane & M. Aybeke (114-116), F. Dane, S. Tütüncü Konyar & M. Aybeke (117-120), K. Giannopoulos, Kit Tan & G. Vold (121-142), T. Karakiev (143-145), P. Lassen, I. Tsialtas & Kit Tan (146-148), K. Polymenakos & Kit Tan (149-204), A. Popatanasov (205-207), A. Tashev (208-212), A. Teofilovski (213-239), I. Tsialtas & Kit Tan (240, 241), S. Tütüncü Konyar (242, 243), G. Zarkos, V. Christodoulou, Kit Tan & G. Vold (244-265), A. Zografidis & Kit Tan (266-269).

This is an ongoing report in the 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, for Macedonia by V. Matevski, and for Turkey-in-Europe by F. Dane.

Reports 1–3

Mehmet Aybeke

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Papaveraceae

1. *Glaucium corniculatum* (L.) Rud. subsp. *corniculatum*

Tu(E) A1(E) Edirne: Centre, Hıdırbaba, 28 m,
41°40'28"N, 26°33'40"E, 28.05.1989, coll. G.
Dalgıç, det. V. Altay (EDTU 3181).

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

2. *Glaucium flavum* Crantz

Tu(E) A1(E) Çanakkale: Eceabat, Conk Bayırı,
40°11'02"N, 26°21'23"E, 07.07.1987, coll. G. Olgun,
G. Dalgıç & C. Yarıcı, det. V. Altay (EDTU 1768).

— A1(E) Edirne: Keşan, Mecidiye, on the coast,
156 m, 40°41'20"N, 26°27'49"E, 11.06.1987, coll.
G. Dalgıç & al., det. V. Altay (EDTU 1442); Enez,
around the port, saline soil, 0 m, 40°43'29"N,
26°04'57"E, 30.06.1988, coll. G. Dalgıç & al., det.
V. Altay (EDTU 2222).

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

Ranunculaceae

3. *Ranunculus saniculifolius* Viv. [Syn.: *R. aquatilis* sensu Post, Fl. Syr. 1 (1932) 8]

Tu(E) A1(E) Edirne: Centre, around Tunca, at the ponds, 26 m, 41°40'28"N, 26°33'39"E, 27.05.1989, coll. F. Dane, det. N. Güler, H. Ersoy & M. Aybeke (EDTU 4134).

New for A1(E) Edirne in European Turkey. So far the species has been known from A2(E) Istanbul, Büyükdere to Belgrad (Cook 1965).

Reports 4–6

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Caryophyllaceae

4. *Arenaria serpyllifolia* L.

Tu(E) A1(E) Edirne: Centre, Uzgac village (04-F-03),

145 m, 41°46'60"N, 26°25'60"E, 09.06.2004, coll.
C. Kurt, A. Semerci & M. Aybeke, det. M. Aybeke
(TTAE 788).

New for European Turkey. So far the species has been known from A3 Bolu and it was stated that records of *A. serpyllifolia* from European Turkey (cf. Webb 1966) require confirmation, which our record provides (McNeill 1967).

5. *Lychnis coronaria* (L.) Desr.

Tu(E) A1(E) Edirne: Lalapaşa, Hacilar village (03 H), in a grassland, 460 m, 41°55'60"N, 26°46'60"E, 08.07.2003, coll. C. Kurt, A. Semerci & M. Aybeke, det. M. Aybeke (TTAE 1084).

New for A1(E) Edirne in European Turkey. So far the species has been known from A2(E) Istanbul. This taxon was reported from the Balkans, Bulgaria, but not from the European Turkey (Cullen 1967).

6. *Velezia rigida* L.

Tu(E) A1(E) Edirne: Lalapaşa, Çömlekakpınar village (04-G-01), 152 m, 41°49'60"N, 26°38'60"E, 16.06.2004, coll. C. Kurt, A. Semerci & M. Aybeke, det. M. Aybeke (TTAE 967).

New for A1(E) Edirne in European Turkey. So far the species has been known from A2(E) Istanbul (Coode 1967).

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Reports 7–9

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Fabaceae

7. *Astragalus onobrychis* L.

Tu(E) A1(E) Edirne: Centre, Büyükismailçe village, Bahçedere, 118 m, 41°47'60"N, 26°28'60"E, 10.06.1993, coll. & det. G. Dalgıç (EDTU 203); between Domurcalı and Taşlımüsellim, 2 km from Domurcalı to Taşlımüsellim, 196 m, 41°49'00"N, 26°49'00"E, 01.06.1987, coll. A. Asan & H. Arda, det. M. Aybeke (EDTU 911).

A new species for A1(E) Edirne in European Turkey. So far the species has been known from A2(E) Istanbul (Chamberlain & Matthews 1970).

8. *Astragalus thracicus* Gris.

Tu(E) A1(E) Kırklareli: between Ahmetler and Topçular villages, 5 km from Ahmetler village to Topçular village, 678 m, 42°01'60"N, 27°11'60"E, 27.06.1996, coll. & det. C. Yarcı (EDTU 6975).

A new species for A1(E) Kırklareli in European Turkey. So far the species has been known from A1(E) Edirne, A1(E) Tekirdağ and A2(E) Istanbul (Chamberlain & Matthews 1970).

9. *Astragalus trojanus* Stev.

Tu(E) A1(E) Edirne: Keşan – Mercan pond, 108 m, 40°51'21"N, 26°37'49"E, 11.06.1987, coll. G.

Dalgıç, N. Başak & F. Dane, det. *M. Aybeke*.

A new species for European Turkey. So far the species has been known from A1(A) Çanakkale, B1 Izmir and B3 Afyon (Chamberlain & Matthews 1970).

Reports 10–12**Mehmet Aybeke & Celal Yarcı**

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Ranunculaceae**10. *Ranunculus ficaria* subsp. *calthifolius* (Rchb.) Arc.**

Tu(E) A1(E) Kırklareli: Demirköy, between Demirköy and İğneada, 18 km, 244 m, 41°49'17"N, 27°45'38"E, 18.05.1991, coll. & det. C. Yarcı (EDTU 5046).

New for European Turkey. So far the species has been known from A2(A) Istanbul. According to Davis, this taxon is spread in Central Europe, Balkans, Russia, Caucasus, but not in European Turkey (Davis 1965).

Rosaceae**11. *Pyrus amygdaliformis* L. var. *amygdaliformis***

Tu(E) A1(E) Kırklareli: Demirköy, between Demirköy – İğneada, 6 km, 0 m, 41°52'28"N, 27°59'02"E, 03.09.1989, coll. & det. C. Yarcı (EDTU 4231); Demirköy, between Karanlıkköyü and Karadere village, 3 km, 561 m, 41°55'16"N, 27°26'25"E, 03.09.1989, coll. & det. C. Yarcı (EDTU 4234); between Dereköy and the Bulgarian frontier, 3 km, in open forest area, 446 m, 41°05'58"N, 27°22'00"E, 02.06.1996, coll. & det. C. Yarcı (EDTU 6886).

New for A1(E) Kırklareli in European Turkey. So far the species has been known from A1(E) Çanakkale (Browicz 1972).

12. *Sorbus torminalis* (L.) Crantz subsp. *torminalis*

Tu(E) A1(E) Kırklareli: Demirköy, between Balaban – Demirköy villages, 5 km, 478 m, 41°50'08"N, 27°40'34"E, 03.09.1989, coll. & det. C. Yarcı (EDTU 4230); Demirköy, 244 m, 41°49'17"N, 27°45'38"E, 21.09.1989, coll. C. Yarcı, det. C. Yarcı & M. Aybeke (EDTU 2953); around Ahmetler village, in mixed forest areas, 678 m, 42°01'60"N, 27°11'60"E, 27.06.1997, coll. & det. C. Yarcı (EDTU 7077).

New for A1(E) Kırklareli in European Turkey. So far the species has been known from A1(E) Tekirdağ (Gabrielian 1972).

Reports 13–61**Burkhard Biel¹ & Kit Tan²**

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This is the first report of new plant-records for the islands of Limnos and Agios Evstratios (N Aegean islands, Nomos Lesvou, Eparchia Limnou) based on fieldwork carried out between November 2010 and March 2013. The records listed are all new to the islands, 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.

Amaranthaceae**13. *Amaranthus blitoides* S. Watson**

Gr Limnos: Myrina, road margins, waste places, 10 m, 39°52'28"N, 25°03'42"E, 12.11.2010, *Biel* 10.045.

Recorded from the island of Samothraki in the N Aegean area.

14. *Amaranthus deflexus* L.

Gr Ag. Evstratios: road margins, waste places in village area, 10 m, 39°32'19"N, 24°59'21"E, 06.10.2012, *Biel* 12.007.

Recorded from Thasos, Samothraki and Limnos.

15. *Bassia scoparia* (L.) A.J. Scott (Fig. 1)

Gr Limnos: Myrina, road margins, waste places in village area, 10 m, 39°52'28"N, 25°03'42"E, 15.10.2012, *Biel* 12.024; E of Myrina, road margins, waste places at foot of hill with tower, 30 m, 39°52'26"N, 25°03'56"E, 15.10.2012, *Biel* 12.027.

Recorded from Ag. Evstratios.



Fig. 1. *Bassia scoparia* (photo B. Biel).

Anacardiaceae

16. *Pistacia terebinthus* L.

Gr Ag. Evstratios: E-SE of village, phrygana slopes with oaks and olive trees E of Moni Panaghias, 80 m, 39°31'59"N, 25°01'08"E, 10.10.2012, *Biel* 12.061a.

Recorded from Thasos and Samothraki.

Apocynaceae

17. *Vinca major* L.

Gr Limnos: E of Myrina, waste places, road margins W of hill with tower, 15 m, 39°52'26"N, 25°03'56"E, 07.03.2013, *Biel* 13.049.

Recorded from Thasos, Samothraki and Ag. Evstratios.

Asteraceae

18. *Erigeron bonariensis* L.

Gr Limnos: Myrina, waste places and park in port area, 2 m, 39°52'08"N, 25°03'27"E, 05.10.2012, *Biel* 12.001a.

— Ag. Evstratios: road margins, waste places in village, 10 m, 39°32'19"N, 24°59'21"E, 06.10.2012, *Biel* 12.006.

Recorded from Thasos and Samothraki.

19. *Inula graveolens* (L.) Desf.

Gr Ag. Evstratios: road margins, waste places in village, 10 m, 39°32'19"N, 24°59'21"E, 06.10.2012, *Biel* 12.012.

Recorded from Thasos and Samothraki.

20. *Pulicaria vulgaris* Gaertn.

Gr Limnos: SW of Tsimandiria, margins of ditch and field paths, 15 m, 39°51'57"N, 25°10'04"E, 10.11.2010, *Biel* 10.027.

Recorded from Thasos and Samothraki.

21. *Sonchus tenerrimus* L.

Gr Ag. Evstratios: road margins, waste places in village, 10 m, 39°32'19"N, 24°59'21"E, 06.10.2012, *Biel* 12.013.

Recorded from all other N Aegean islands.

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

Gr Limnos: W of Therma, road margin and ruderal places, 40 m, 39°54'18"N, 25°06'43"E, 08.11.2010, *Biel* 10.021.

— Ag. Evstratios: road margins and waste places in village, 10 m, 39°32'19"N, 24°59'21"E, 06.10.2012, *Biel* 12.005.

Recorded from Thasos and Samothraki.

Brassicaceae

23. *Erophila praecox* (Steven) DC.

Gr Ag. Evstratios: E-SE of village, *Asphodelus* slope with wet areas near Panaghia chapel, 30 m, 39°32'06"N, 24°59'56"E, 08.03.2013, *Biel* 13.003; SW of village, rocky slope at southern edge of beach, 10 m, 39°32'07"N, 24°59'02"E, 08.03.2013, *Biel* 13.011.

Recorded from all other N Aegean islands.

24. *Thlaspi perfoliatum* L.

Gr Limnos: N of Myrina, beach with small dunes, S of river mouth, 5 m, 39°53'36"N, 25°03'38"E, 06.03.2013, *Biel* 13.038.

Recorded from Thasos and Samothraki.

Caryophyllaceae

25. *Corrighola litoralis* L. (Fig. 2)

Gr Limnos: S-SW of Myrina, low land bridge between slopes, coastal pool at Ormos Platy Gialos, 2 m, 39°51'32"N, 25°03'09"E, 06.03.2013, *Biel* 13.047.

Recorded from Samothraki.



Fig. 2. *Corrigiola litoralis* (photo B. Biel).

26. *Silene fabaria* (L.) Sm.

Gr Ag. Evstratios: S-SW of village, Lidario beach with backwater of stream, pasture, 3 m, 39°30'47"N, 24°58'26"E, 12.10.2012, *Biel* 12.064a. Recorded from Thasos and Samothraki.

27. *Stellaria cupaniana* (Jord. & Fourr.) Bég.

Gr Limnos: SW of Myrina, beach and road embankment with phrygana, 2 m, 39°52'08"N, 25°03'27"E, 07.11.2010, *Biel* 10.014. Recorded from all other N Aegean islands.

Convolvulaceae

28. *Calystegia soldanella* (L.) Roem. & Schult.

Gr Limnos: SE of Kontias, beach with *Tamarix* near Diapori, 1 m, 39°51'15"N, 25°10'25"E, 10.11.2010, *Biel* 10.029.
— Ag. Evstratios: E-SE of village, sand dunes with dry river bed at Alonitsi beach, 20 m, 39°31'56"N, 25°03'00"E, 10.10.2012, *Biel* 12.061. Recorded from Thasos and Samothraki.

29. *Cuscuta campestris* Yuncker

Gr Limnos: S of Myrina, beach at harbour and road embankment, 2 m, 39°52'08"N, 25°03'27"E, 12.11.2010, *Biel* 10.040; Myrina, margin of field road near concreted stream bed with *Populus* and lawns, 15 m, 39°52'37"N, 25°05'32"E, 17.10.2012, *Biel* 12.038. Recorded from Thasos and Samothraki.

30. *Dichondra micrantha* Urban

Gr Limnos: N of Myrina, beach and parks W of road, 3 m, 39°52'49"N, 25°03'42"E, 06.03.2013, *Biel* 13.031. Recorded from Samothraki.

Fabaceae

31. *Lathyrus annuus* L.

Gr Limnos: Myrina, margin of field road near concreted stream bed with *Populus* and lawn, 15 m, 39°52'37"N, 25°05'32"E, 17.10.2012, *Biel* 12.037. Recorded from Thasos and Samothraki.

32. *Lathyrus cicera* L.

Gr Ag. Evstratios: N-NE of village, pasture at Mikro Mourouli beach with adjacent phrygana slopes, 3 m, 39°32'37"N, 24°59'32"E, 09.03.2013, *Biel* 13.029. Recorded from all other N Aegean islands.

33. *Medicago coronata* (L.) Bartal.

Gr Limnos: N of Myrina, ruderal places at roadside, 10 m, 39°53'07"N, 25°03'48"E, 06.03.2013, *Biel* 13.035. Recorded from Thasos and Samothraki.

34. *Trifolium hybridum* L.

Gr Limnos: SW of Myrina, waste ground at northern edge of the new harbour, 2 m, 39°52'12"N, 25°03'13"E, 04.03.2013, *Biel* 13.018. Recorded from Thasos and Samothraki.

Onagraceae

35. *Epilobium hirsutum* L.

Gr Limnos: Myrina, margin of field road near concreted stream bed with *Populus* and lawn, 15 m, 39°52'37"N, 25°05'32"E, 17.10.2012, *Biel* 12.035. Recorded from Thasos and Samothraki.

Oxalidaceae

36. *Oxalis corniculata* L.

Gr Limnos: Myrina, road margins and waste places, 10 m, 39°52'28"N, 25°03'42"E, 05.10.2012, *Biel* 12.018; *loc. ibid.*, 15.10.2012, *Biel* 12.023. Recorded from Thasos and Samothraki.

Polygonaceae

37. *Persicaria lapathifolia* (L.) Delarbre

Gr Limnos: S of Myrina, ditch at edge of pine wood above harbour, 20 m, 39°52'08"N, 25°03'27"E, 05.10.2012, *Biel* 12.015. Recorded from Samothraki.

38. *Polygonum bellardii* All.

Gr Ag. Evstratios: 2.5 km E-NE of village, phrygana slope at field road with small saddle, 185 m, 39°32'42"N, 25°01'47"E, 07.10.2012, *Biel* 12.046; N of village, waste ground on slopes above har-

bour, with chapel and ruined buildings, 15 m, 39°32'26"N, 24°59'16"E, 13.10.2012, *Biel* 12.067.

Recorded from Samothraki.

Portulacaceae

39. *Montia fontana* L.

Gr Limnos: S of Therma, spring near Paliokastro, pasture, 175 m, 39°52'51"N, 25°06'52"E, 05.03.2013, *Biel* 13.028.

Recorded from Samothraki.

40. *Portulaca oleracea* L.

Gr Ag. Evstratios: road margins and waste places in village, 10 m, 39°32'19"N, 24°59'21"E, 06.10.2012, *Biel* 12.004; N-NE of village, pasture at Mikro Mourouli beach adjacent to phrygana slopes, 3 m, 39°32'45"N, 24°59'36"E, 08.10.2012, *Biel* 12.049.

Recorded from Thasos and Samothraki.

Ranunculaceae

41. *Anemone pavonina* Lam.

Gr Ag. Evstratios: road margins and waste places in village, 10 m, 39°32'19"N, 24°59'21"E, 08.03.2013, *Biel* 13.001a.

Recorded from all other N Aegean islands including Thasopoula.

42. *Clematis cirrhosa* L.

Gr Ag. Evstratios: E-SE of village, rocky hill with chapel and phrygana slope with limestone rocks, 50–80 m, 39°31'35"N, 25°03'08"E, 10.03.2013, *Biel* 13.038.

Recorded from Samothraki and Limnos.

43. *Nigella arvensis* subsp. *glauca* (Boiss.) N.

Terracc.

Gr Ag. Evstratios: N of village, pasture around the cemetery, waste ground on hill, 20 m, 39°32'29"N, 24°59'24"E, 07.10.2012, *Biel* 12.042.

Recorded from Samothraki.

Scrophulariaceae

44. *Antirrhinum majus* L.

Gr Limnos: E of Myrina, waste places, road margins W of hill with tower, 15 m, 39°52'26"N, 25°03'56"E, 07.03.2013, *Biel* 13.050.

Recorded from Thasos.

45. *Kickxia commutata* subsp. *graeca* (Bory & Chaub.) R. Fern.

Gr Limnos: Myrina, road margins and waste places, 10 m, 39°52'28"N, 25°03'42"E, 15.10.2012, *Biel* 12.025; N of Myrina, coastal road margin near

hotel, 30 m, 39°53'31"N, 25°03'43"E, 17.10.2012, *Biel* 12.049.

Recorded from Thasos and Samothraki.

46. *Verbascum pinnatifidum* Vahl

Gr Limnos: SE of Kontias, beach with *Tamarix* near Diapori, 1 m, 39°51'15"N, 25°10'25"E, 10.11.2010, *Biel* 10.032.

Recorded from Thasos and Samothraki.

47. *Veronica triloba* (Opiz) Wiesb.

Gr Limnos: Moudros, ruderal road margins, parks, 15 m, 39°52'27"N, 25°16'17"E, 17.03.2013, *Biel* 13.060.

New for N Aegean area.

Solanaceae

48. *Datura stramonium* L.

Gr Ag. Evstratios: beach with park and waste ground, 3 m, 39°32'18"N, 24°59'16"E, 06.10.2012, *Biel* 12.025.

Recorded from Thasos and Samothraki.

49. *Solanum luteum* subsp. *alatum* (Moench) Dostál

Gr Ag. Evstratios: E-SE of village, dry stream gorge and coastal rocks at Ormos Keratas, 20 m, 39°30'59"N, 25°02'35"E, 14.10.2012, *Biel* 12.073.

Recorded from Samothraki.

Violaceae

50. *Viola kitaibeliana* Schult.

Gr Ag. Evstratios: S-SE of village, grassy slopes, phrygana and *Quercus* near summit of Isomata, 290 m, 39°29'50"N, 24°59'57"E, 13.03.2013, *Biel* 13.057.

Recorded from all other N Aegean islands.

Araceae

51. *Arisarum vulgare* Targ.-Tazz.

Gr Limnos: N of Myrina, pine wood with phrygana on small rocky hill E of road, 20 m, 39°53'07"N, 25°03'48"E, 06.03.2013, *Biel* 13.037.

Recorded from Thasos and Ag. Evstratios, not yet confirmed on Samothraki.

52. *Arum italicum* Mill.

Gr Limnos: N of Myrina, shrubby slope in castle area, 60 m, 39°52'40"N, 25°03'10"E, 07.03.2013, *Biel* 13.052.

Recorded from all other N Aegean islands including Thasopoula.

Hyacinthaceae**53. *Scilla autumnalis* L.**

Gr Ag. Evstratios: E-SE of village, *Asphodelus* slope with wet areas near Panaghia chapel, 30 m, 39°32'06"N, 24°59'56"E, 06.10.2012, *Biel* 12.036. Recorded from Thasos and Samothraki.

Iridaceae**54. *Iris tuberosa* L.**

Gr Ag. Evstratios: E-SE of village, meadows with old fruit trees in broad stream valley, 15 m, 39°32'02"N, 24°59'55"E, 11.03.2013, *Biel* 13.046. New for N Aegean area.

55. *Romulea linaresii* subsp. *graeca* Bég.

Gr Ag. Evstratios: E-SE of village, *Asphodelus* slope with wet areas near Panaghia chapel, 30 m, 39°32'06"N, 24°59'56"E, 08.03.2013, *Biel* 13.005. Recorded from all other N Aegean islands.

56. *Romulea ramiflora* Ten.

Gr Ag. Evstratios: E-NE of village, pasture and phrygana at dirt road north of ridge, 160 m, 39°32'42"N, 25°00'41"E, 09.03.2013, *Biel* 13.020. Recorded from Samothraki.

Lemnaceae**57. *Lemna minor* L.**

Gr Ag. Evstratios: E-SE of village, stream valley with small pools at Ormos Keratas, 10 m, 39°31'07"N, 25°02'40"E, 14.10.2012, *Biel* 12.074. Recorded from Thasos and Limnos.

Orchidaceae**58. *Ophrys bombyliflora* Link**

Gr Ag. Evstratios: E-SE of village, rocky limestone slope with chapel and phrygana, 50–80 m, 39°31'35"N, 25°03'08"E, 10.03.2013, *Biel* 13.039. Recorded from Limnos.

59. *Ophrys fusca* Link s.l.

Gr Ag. Evstratios: E-SE of village, low *Sarcopoterium* terraces above dirt road, 150 m, 39°31'51"N, 25°02'10"E, 12.03.2013, *Biel* 13.048. Recorded from Thasos and Limnos.

60. *Ophrys lutea* subsp. *galilaea* (H. Fleischm. & Bornm.) Soó

Gr Ag. Evstratios: E-NE of village, coastal phrygana slope, below livestock farm, 40 m, 39°35'05"N, 25°01'12"E, 09.03.2013, *Biel* 13.025; W-SW of village, grazed phrygana by coastal path, above Akr. Bounda, 60 m, 39°32'08"N,

24°58'49"E, 11.03.2013, *Biel* 13.041; E-SE of village, low *Sarcopoterium* terraces above dirt road, 150 m, 39°31'51"N, 25°02'10"E, 12.03.2013, *Biel* 13.047.

Recorded from all other N Aegean islands.

61. *Ophrys tenthredinifera* Willd.

Gr Ag. Evstratios: E-SE of village, *Sarcopoterium* slope below dirt road, 70 m, 39°31'43"N, 25°02'40"E, 12.03.2013, *Biel* 13.049.

Recorded from Limnos.

Cited vouchers are provisionally kept in the private herbarium of B. Biel at H6chberg (herb. Biel).

Reports 62–112**Burkhard Biel¹ & Kit Tan²**

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This is the second report of new plant-records for the island of Amorgos (phytogeographical region Kiklades, Nomos Kikladon, Eparchia Thiras) based on fieldwork carried out in February and May-June 2014. The records listed are new to the island unless otherwise stated, and five species were found to be new for the floristic region Kiklades (Kik) as circumscribed in *Flora Hellenica* (Strid & Tan 1997). Occurrence on the other Kikladean islands is also briefly mentioned.

Amaranthaceae**62. *Amaranthus powellii* S. Watson**

Gr Amorgos: Katapola, road margins, ruderal places and parking area in village, 10 m, 36°49'34"N, 25°51'49"E, 02.06.2014, *Biel* 14.203.

New for the Kiklades.

63. *Amaranthus retroflexus* L.

Gr Amorgos: Katapola, road margins, ruderal places and parking area in village, 10 m, 36°49'34"N, 25°51'49"E, 02.06.2014, *Biel* 14.199; E of Katapola, vineyards, gardens and margins of field road, 10 m, 36°49'29"N, 25°52'08"E, 03.06.2014, *Biel* 14.216.

On several of the larger islands including Andiparos, Andros, Milos, Naxos, Paros, Serifos, Sifnos, Siros and Thira.

Asclepiadaceae**64. *Gomphocarpus fruticosus* (L.) W.T. Aiton**
(= *Asclepias fruticosa* L.)

Gr Amorgos: N-NE of Kolofana, at Kato Kambos, between gardens and road margins, 5 m, 36°48'17"N, 25°46'55"E, 07.06.2014, *Biel* 14.258.

Recorded from Andros, Naxos, Thira, Tinos, etc. Native to S and E Africa and the Arabian Peninsula, now widely naturalized.

Asteraceae**65. *Bellis longifolia* Boiss. & Heldr. (Fig. 3)**

Gr Amorgos: E-NE of Lagadha, abandoned field terraces with *Quercus* scrub (pasture), 480 m, 36°54'51"N, 26°01'19"E, 29.05.2014, *Biel* 14.150.

New for the Kiklades; previously considered endemic to the Cretan area (Crete and Karpathos). *Bellis longifolia* is spring-flowering (photo taken on 26.02.2014); *B. sylvestris* which also occurs on the island, is autumn-flowering and has strongly compressed, pubescent achenes.



Fig. 3. *Bellis longifolia* (photo B. Biel).

66. *Cichorium pumilum* Jacq.

Gr Amorgos: Chora, road margins and ruderal places in village, 310 m, 36°49'53"N, 25°53'52"E, 04.06.2014, *Biel* 14.235.

Also noted near Agios Pavlos, Egiali and Lagadha. Recorded from several islands including Anafi, Andros, Naxos, Paros and Serifos. Probably the wild progenitor of the cultivated endive, *C. endivia*.

Boraginaceae**67. *Heliotropium europaeum* L.**

Gr Amorgos: Katapola, road margins, ruderal places

and parking area in village, 10 m, 36°49'34"N, 25°51'49"E, 02.06.2014, *Biel* 14.201a.

Also noted near Chora. On several islands.

Caryophyllaceae**68. *Dianthus cinnamomeus* Sm. subsp. *cinnamomeus* (Fig. 4)**

Gr Amorgos: SE of Kato Potamos, rocky slopes of lower gorge, in *Sarcopoterium phrygana*, 120 m, 36°53'43"N, 25°58'55"E, 27.05.2014, *Biel* 14.118; E-SE of Egiali, open phrygana in flat depression, 300 m, 36°53'47"N, 25°59'27"E, 01.06.2014, *Biel* 14.193.

Also noted near Kato Potamos, Lagadha and Tholaria. The species occurs on Kasos, Astipalea, Iraklia, Makares, Naxos and Mikonos, with Amorgos forming the link in this chain of Kikladean islands stretching NW to SE. *Dianthus cinnamomeus* subsp. *cinnamomeus* (diploid) has petal limbs cream to pale pink above, cinnamon-coloured beneath; *D. c.* subsp. *naxensis* Runemark (tetraploid) has petal limbs white or pale yellow on both surfaces, it is restricted to Naxos.



Fig. 4. *Dianthus cinnamomeus* subsp. *cinnamomeus* (photo B. Biel).

69. *Dianthus tripunctatus* Sm.

Gr Amorgos: Egiali-Lakki, terraced slope with olive trees near dirt road, 15 m, 36°54'28"N, 25°58'38"E, 27.05.2014, *Biel* 14.100.

Also noted near Agios Pavlos, Apano Potamos, Arkesini, Chora, Katapola, Kolofana, Lagadha and Tholaria. Occurring mainly in the N Kiklades.

70. *Herniaria hirsuta* L.

Gr Amorgos: SW of Apano Potamos, rocky phrygana slopes near Oxo Meria, 340 m, 36°52'52"N, 25°57'39"E, 30.05.2014, *Biel* 14.169.

Also noted near Kalotaritisa. On most of the islands.

71. *Paronychia echinulata* Chater

Gr Amorgos: S-SE of Katapola, phrygana slopes and damp depressions by path, 310 m, 36°48'19"N, 25°52'21"E, 05.06.2014, *Biel* 14.245.

On most of the islands.

72. *Velezia quadridentata* Sm.

Gr Amorgos: SW of Apano Potamos, rocky phrygana slopes near path to Chalara, at Oxo Meria, 320 m, 36°52'40" N, 25°57'20" E, 30.05.2014, *Biel* 14.170.

Two other sites noted near Egiali and Katapola. On most of the islands.

73. *Velezia rigida* L.

Gr Amorgos: N-NW of Egiali, Levrosos, phrygana slope with shrubs at V-shaped valley, 35 m, 36°54'31"N, 25°58'17"E, 27.05.2014, *Biel* 14.104; E-NE of Lagadha, phrygana at saddle near chapel Stavros, 680 m, 36°54'32"N, 26°02'30"E, 31.05.2014, *Biel* 14.187.

On most of the larger islands.

Chenopodiaceae**74. *Chenopodium album* L.**

Gr Amorgos: NE of Katapola, ruderal places near Pira Rachidi, 5 m, 36°49'50"N, 25°52'01"E, 19.02.2014, *Biel* 14.050; Katapola, road margins, ruderal places and parking area in village, 10 m, 36°49'34"N, 25°51'49"E, 02.06.2014, *Biel* 14.200; E-SE of Katapola, grassy road embankment near power station, 20 m, 36°49'35"N, 25°52'22"E, 04.06.2014, *Biel* 14.237.

Also noted near Egiali and Chora. On islands of N and Central Kiklades.

75. *Chenopodium vulvaria* L.

Gr Amorgos: Chora, road margins and ruderal

places in village, 310 m, 36°49'53"N, 25°53'52"E, 04.06.2014, *Biel* 14.233.

Mainly N Kiklades including Andros, Kithnos, Naxos, Rinia, Serifos and Siros.

Dipsacaceae**76. *Ptercephalus plumosus* (L.) Coult.**

Gr Amorgos: E of Lagadha, phrygana at rocky south slope of Pramateftis mountain, 700 m, 36°54'27"N, 26°02'40"E, 31.05.2014, *Biel* 14.188.

Mainly N and Central Kiklades.

77. *Scabiosa atropurpurea* L. (including *S. a.* subsp. *maritima* (L.) Arcang.)

Gr Amorgos: NW of Kalotaritisa, fields and ruderal road margins, 80 m, 36°47'18"N, 25°45'54"E, 07.06.2014, *Biel* 14.256.

New for Kiklades. Most Greek collections match *S. a.* subsp. *maritima* although the taxonomic differences between the subspecies are not constant.

Euphorbiaceae**78. *Euphorbia chamaesyce* subsp. *massiliensis* (DC.) Thell.**

Gr Amorgos: Lagadha, road margins and ruderal places in village, 200 m, 36°54'23"N, 25°59'51"E, 28.05.2014, *Biel* 14.134.

Recorded on Folegandros, Milos, Siros and Thira as *E. chamaesyce*. Apparently there are no other reports of *E. chamaesyce* from Amorgos other than the first collection on the island by Heldreich in August 1881, near Katapola. *Euphorbia chamaesyce* subsp. *massiliensis* can be easily distinguished by the serrated leaf margins.

Fabaceae**79. *Medicago sativa* subsp. *sativa* × *M. sativa* subsp. *falcata***

Gr Amorgos: E-SE of Katapola, grassy road embankment near power station, 20 m, 36°49'35"N, 25°52'22"E, 04.06.2014, *Biel* 14.237a.

Probably introduced with forage seed. A fertile, partly stabilized, hybrid sometimes referred to as *M. × varia* Martyn. However, Martyn originally published it as a species and not as a hybrid. The correct name would possibly be *M. sativa* subsp. *varia* (Martyn) Arcang. if treated as another subspecies. *Medicago sativa* subsp. *sativa* is the cultivated 'alfalfa'.

80. *Trifolium lappaceum* L.

Gr Amorgos: SE of Katapola, bottom of dry reservoir

and pools within gorge, 30 m, 36°49'06"N, 25°52'09"E, 03.06.2014, *Biel* 14.226.

Mainly N and Central Kiklades including Andros, Mikonos, Milos, Naxos and Paros.

Geraniaceae

81. *Erodium ciconium* (L.) L'Hér.

Gr Amorgos: SW of Apano Potamos, rocky phrygana slopes near path to Chalara, at Oxo Meria, 320 m, 36°52'40"N, 25°57'20"E, 30.05.2014, *Biel* 14.171.

Several islands including Anafi, Milos, Naxos, Siros and Thira.

Lamiaceae

82. *Mentha spicata* L. subsp. *spicata*

Gr Amorgos: W-NW of Chora, phrygana slope with water channel below well at Monopati, near Milies, 140 m, 36°50'07"N, 25°53'18"E, 04.06.2014, *Biel* 14.231.

Mainly N Kiklades.

83. *Micromeria graeca* (L.) Rchb.

Gr Amorgos: N of Lagadha, slope with olive trees and *Phlomis* phrygana, below chapel Ag. Nikitas, 210 m, 36°54'39"N, 25°59'58"E, 01.06.2014, *Biel* 14.196.

Mainly the N and S islands.

Lythraceae

84. *Lythrum tribracteatum* Spreng.

Gr Amorgos: SE of Katapola, bottom of dry reservoir and pools within gorge, 30 m, 36°49'06"N, 25°52'09"E, 18.02.2014, *Biel* 14.036; SW of Apano Potamos, wet area at well, 160 m, 36°53'36"N, 25°58'26"E, 30.05.2014, *Biel* 14.160.

Also noted near Chora, Katapola and Tholaria. Recorded from Astipalea, Mikonos and Rinia.

Plantaginaceae

85. *Plantago albicans* L.

Gr Amorgos: W of Kalotaritisa, phrygana on plateau at fenced dock (for ship storage), 60 m, 36°47'07"N, 25°45'09"E, 07.06.2014, *Biel* 14.255.

Most of the Kiklades.

Polygonaceae

86. *Polygonum arenastrum* Boreau

Gr Amorgos: Katapola, road margins, ruderal places and parking area in village, 10 m, 36°49'34"N, 25°51'49"E, 02.06.2014, *Biel* 14.201.

Recorded only from Milos.

87. *Polygonum aviculare* L. s.str.

Gr Amorgos: Katapola, road margins, ruderal places and parking area in village, 10 m, 36°49'34"N, 25°51'49"E, 02.06.2014, *Biel* 14.201a.

Also noted at Chora. Several islands including Andros, Mikonos, Milos, Naxos, Paros and Thira.

Portulacaceae

88. *Portulaca oleracea* L. s.l.

Gr Amorgos: NE of Egiali, ruderal road margins, 8 m, 36°54'16"N, 25°58'46"E, 27.05.2014, *Biel* 14.112.

Also noted at Egiali, Chora and Lagadha. On most islands.

Rhamnaceae

89. *Rhamnus saxatilis* subsp. *prunifolia* (Sm.) Aldén

Gr Amorgos: N-NE of Chora, phrygana slope near chapel Ag. Georghis, 260 m, 36°51'22"N, 25°54'46"E, 06.06.2014, *Biel* 14.250.

Recorded only from Naxos.

Salicaceae

90. *Populus alba* L.

Gr Amorgos: Katapola-Rachidi, wet coastal reed area, 10 m, 36°49'44"N, 25°52'05"E, 08.06.2014, *Biel* 14.264.

Also noted N-NW of Katapola. On the larger islands Andros, Milos, Naxos and Serifos.

Scrophulariaceae

91. *Cymbalaria muralis* G. Gaertn., B. Mey. & Scherb.

Gr Amorgos: Katapola, road margins, walls in village centre, 4 m, 36°49'35"N, 25°51'49"E, 02.06.2014, *Biel* 14.204.

On the larger islands including Andros, Kea, Naxos, Paros, Sifnos, Thira and Tinos.

92. *Kickxia spuria* (L.) Dumort.

Gr Amorgos: NE of Egiali-Kampos, ruderal places and edge of concrete road, 10 m, 36°54'26"N, 25°58'55"E, 28.05.2014, *Biel* 14.124; Egiali, wet coastal area with waste-deposits, 2 m, 36°54'14"N, 25°58'42"E, 30.05.2014, *Biel* 14.179.

Also noted near Katapola. In the Kiklades, apparently recorded only from Andros and Naxos.

Solanaceae

93. *Solanum elaeagnifolium* Cav.

Gr Amorgos: SW of Lagadha, phrygana and

rocks at stairway to chapel, 220 m, 36°54'11"N, 25°59'40"E, 28.05.2014, *Biel* 14.135.

Recorded from Milos and Siros.

94. *Solanum luteum* subsp. *alatum* (Moench) Dostál (Fig. 5)

Gr Amorgos: Egiali, road margins and ruderal places in village, 10 m, 36°54'01"N, 25°58'36"E, 25.02.2014, *Biel* 14.087; E-NE of Lagadha, narrow pass with *Quercus* scrub along marked path, 470 m, 36°54'42"N, 26°01'05"E, 29.05.2014, *Biel* 14.145.

Also noted near Katapola.



Fig. 5. *Solanum luteum* subsp. *alatum* (photo B. Biel).

Urticaceae

95. *Urtica urens* L.

Gr Amorgos: Katapola, road margins, walls in village centre, 4 m, 36°49'35"N, 25°51'49"E, 02.06.2014, *Biel* 14.205.

Noted near Egiali, Chora and Kato Potamos. On most islands.

Verbenaceae

96. *Verbena officinalis* L.

Gr Amorgos: SE of Katapola, bottom of dry reservoir and pools within gorge, 30 m, 36°49'06"N, 25°52'09"E, 03.06.2014, *Biel* 14.225.

Mainly N and Central Kiklades.

Zygophyllaceae

97. *Tribulus terrestris* L.

Gr Amorgos: NE of Egiali, road margins and ruderal places, 8 m, 36°54'16"N, 25°58'46"E, 27.05.2014, *Biel* 14.110.

Also near Katapola. Common on nearly all islands.

Alliaceae

98. *Allium cupani* Raf. (Fig. 6)

Gr Amorgos: N-NW of Kolofana, in *Juniperus phrygana* on ridge and slope, 85 m, 36°48'04"N, 25°46'26"E, 07.06.2014, *Biel* 14.257.

Collections from the Kiklades are generally treated as *A. cupani* subsp. *hirtovaginatatum* (Kunth) Stearn but the plants from Amorgos do not quite match this taxon nor *A. cupani* subsp. *cupani* as they have very densely hairy leaf sheaths.



Fig. 6. *Allium cupani* (photo B. Biel).

Cyperaceae

99. *Bolboschoenus glaucus* (Lam.) S.G. Sm.

Gr Amorgos: Egiali, wet coastal area with waste-deposits, 2 m, 36°54'14"N, 25°58'42"E, 30.05.2014, *Biel* 14.176.

Recorded from Andros, Astipalea, Mikonos and Serifos.

Iridaceae

100. *Gladiolus illyricus* W.D.J. Koch

Gr Amorgos: SE of Katapola, steep banks of reservoir, 30 m, 36°49'06"N, 25°52'09"E, 03.06.2014, *Biel* 14.224.

Mainly N and Central Kiklades including Anafi, Andros, Astipalea, Naxos, Paros and Tinos.

Poaceae**101. *Aegilops markgrafii* (Greuter) Hammer**

Gr Amorgos: NE of Egiali-Kampos, ruderal places and edge of concrete road, 10 m, 36°54'26"N, 25°58'55"E, 28.05.2014, *Biel* 14.125; N-NW of Chora, rough track in open scrub on slope, 270 m, 36°51'22"N, 25°55'11"E, 06.06.2014, *Biel* 14.251.

Also noted near Arkesini, Kalotaritisa, Katapola and Kolofana. Occurring on most islands.

102. *Aegilops triuncialis* L.

Gr Amorgos: E-NE of Lagadha, along path on rocky phrygana slope, 590 m, 36°54'46"N, 26°01'56"E, 31.05.2014, *Biel* 14.182.

Most of the larger islands including Andros, Mikonos, Milos, Tinos, Naxos and Paros.

103. *Avena sterilis* subsp. *ludoviciana* (Durieu) Gillet & Magne

Gr Amorgos: E-SE of Katapola, grassy road embankment near power station, 20 m, 36°49'35"N, 25°52'22"E, 19.02.2014, *Biel* 14.059; Katapola, road margins, walls in village centre, 4 m, 36°49'35"N, 25°51'49"E, 02.06.2014, *Biel* 14.206.

Also noted near Chora. *Avena sterilis* occurs on nearly all the islands but have been recorded at subspecies level only on Milos and Naxos.

104. *Corynephorus articulatus* (Desf.) P. Beauv.

Gr Amorgos: NE of Katapola, phrygana slope with shrubs near Marmaras, at path no. 2, 70 m, 36°50'03"N, 25°52'41"E, 04.06.2014, *Biel* 14.229.

On most of the larger islands.

105. *Dasypyrum villosum* (L.) P. Candargy

Gr Amorgos: S-SE of Katapola, road margin at access road to Monastery of Varsamitis, 250 m, 36°48'21"N, 25°52'41"E, 05.06.2014, *Biel* 14.242.

On the larger islands of Andros, Kea, Kithnos, Naxos, Thira and Tinos.

106. *Echinochloa crus-galli* (L.) P. Beauv.

Gr Amorgos: SE of Katapola, bottom of dry reservoir and pools within gorge, 30 m, 36°49'06"N, 25°52'09"E, 03.06.2014, *Biel* 14.217.

Mainly N Kiklades including Andros, Mikonos and Tinos.

107. *Hainardia cylindrica* (Willd.) Greuter

Gr Amorgos: SE of Katapola, bottom of dry reservoir and pools within gorge, 30 m, 36°49'06"N, 25°52'09"E, 03.06.2014, *Biel* 14.222; S-SW of Ag.

Thekla, gravelly alluvial flats in Ag. Sarandha bay, 5 m, 36°48'30"N, 25°50'44"E, 05.06.2014, *Biel* 14.253.

On Astipalea, Ios, Kimolos, Mikonos and Tinos.

108. *Hordeum vulgare* L.

Gr Amorgos: S-SE of Katapola, phrygana slope at path above branch of reservoir, 50 m, 36°49'02"N, 25°52'08"E, 05.06.2014, *Biel* 14.239.

Also noted at Katapola. Reported from Naxos and Thira. *Hordeum vulgare* subsp. *spontaneum* has been recorded from Amorgos and Sifnos.

109. *Lolium multiflorum* Lam.

Gr Amorgos: N of Lagadha, along path on slope, phrygana, 210 m, 36°54'33"N, 26°00'46"E, 01.06.2014, *Biel* 14.194.

Also at Chora. On several islands including Kea, Mikonos, Milos, Serifos, Sifnos, Siros and Thira.

110. *Paspalum dilatatum* Poir. (Fig. 7)

Gr Amorgos: E of Egiali, rocky phrygana slope with seasonal spring above road, 30 m, 36°53'59"N, 25°58'40"E, 01.06.2014, *Biel* 14.189.

A relatively recent introduction in Greece, this is the first report for the Kiklades.



Fig. 7. *Paspalum dilatatum* (photo B. Biel).

111. *Setaria adhaerens* (Forssk.) Chiov.

Gr Amorgos: Egiali, road margins and ruderal places in village, 10 m, 36°54'01"N, 25°58'36"E, 02.06.2014, *Biel* 14.197.

On several of the larger islands in the west.

112. *Sorghum halepense* (L.) Pers.

Gr Amorgos: W of Katapola, vineyards, uncultivated fields and dirt road margins, 5 m, 36°49'37"N, 25°51'35"E, 08.06.2014, *Biel* 14.259.

Mainly N and Central Kiklades including Andros, Naxos, Paros, Serifos, Sifnos and Siros.

Cited vouchers are provisionally kept in the private herbarium of B. Biel at H6chberg (herb. Biel).

Report 113

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Poaceae

113. *Hordeum vulgare* subsp. *spontaneum* (K. Koch)
Thell. (Fig. 8)

Gr Nomos Kikladon, Eparchia Thiras: island
of Amorgos, Katapola, Rachidi, grassy road
embankment opposite electric power station,

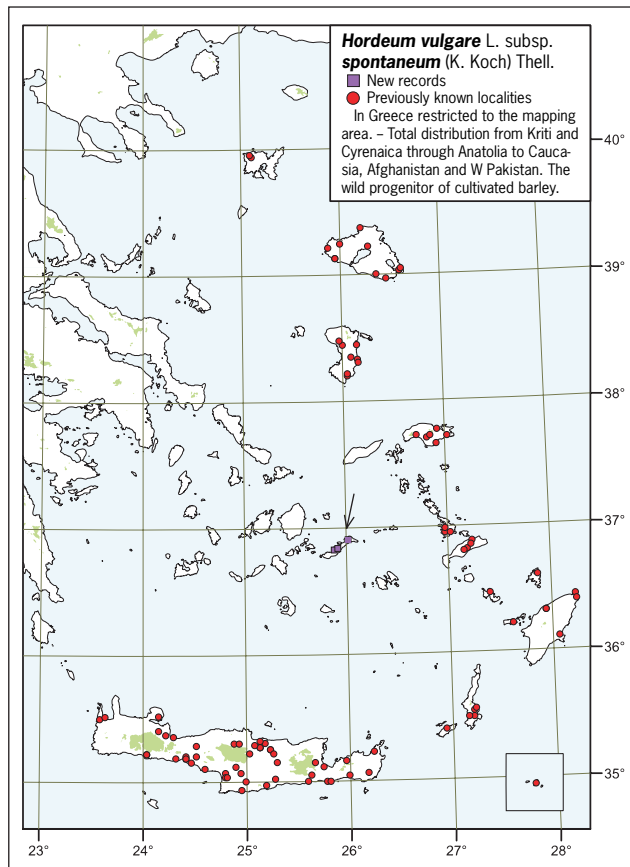


Fig. 8. Distribution of *Hordeum vulgare* subsp. *spontaneum* in Greece.

20 m, 36°49'N, 25°52'E, 19.02.2014, *Biel* 14.060 (herb. Biel); Katapola, Rachidi, parking place near coastal road, 3 m, 36°49'N, 25°51'E, 02.06.2014, *Biel* obs.; roadside and waste ground in Chora, 320 m, 36°50'N, 25°54'E, 23.02.2014, *Biel* 14.073 (herb. Biel); SE of Chora, dirt road and slopes with ruined windmills, 320 m, 36°49'N, 25°54'E, 04.06.2014, *Biel* obs.; NE of Egiali, roadsides, 8 m, 36°54'N, 25°58'E, 27.05.2014, *Biel* obs.; Kato Potamos, along 150 m steep stairway to church, 100 m, 36°53'N, 25°58'E, 30.05.2014, *Biel* obs.; Kato Potamos, wasteground in village, 130 m, 36°53'N, 25°58'E, 01.06.2014, *Biel* obs.; NE of Langada, edge of dirt road to Monastery of Epanochoriani, 260 m, 36°54'N, 26°00'E, 30.05.2014, *Biel* obs.; Langada, roadsides, 190 m, 36°54'N, 25°59'E, 30.05.2014, *Biel* obs.; W of Xilokeratidi, dirt road margins near cemetery, 20 m, 36°49'N, 25°51'E, 03.06.2014, *Biel* obs.; roadside in Katapola, 20 m, 36°50'N, 25°52'E, 19.04.2014, *Bothmer & Strid* (*Strid* 57940, ATH, B, G, LD, herb. Strid); roadsides near Langada, c. 250 m, 36°54'N, 25°59'E, 19.04.2014 and near Chora, 250 m, 36°49'N, 25°53'E, 20.04.2014, *Bothmer & Strid* obs.

In April 2014, Bothmer and Strid made an excursion to the islands of Naxos and Amorgos to mark the 50th anniversary of their first joint travel in the Aegean area. *Hordeum vulgare* subsp. *spontaneum* was found to be rather common on the latter island. It was somewhat surprising that it had not been previously recorded until February 2014 (by Biel) but it is unlikely to be a recent introduction. In spite of growing in man-made, disturbed habitats such as roadsides, *H. vulgare* subsp. *spontaneum* had formerly been considered to have a western geographical limit coinciding with "Rechinger's line" (Strid 1996: 281), i.e., a line between the Kiklades and the East Aegean islands constituting in effect the biogeographical border between Europe and Asia Minor. Previous reports from Europe (as defined in *Flora Europaea*, *Flora of Turkey and the East Aegean Islands* and *Flora Hellenica*) are from the North Aegean island of Limnos (Efthimiadis & al. 1985: 66) and also verified herbarium material collected by Biel (Nomos Lesvou, Eparchia Limnou: N of Myrina, sandy beach with phrygana, 5 m, 39°53'N, 25°04'E, 06.03.2013, *Biel* 13.041, herb. Biel). The plant was also noted from Myrina (roadside adjacent to small

Pinus woodland, 20 m, 39°53'N, 25°03'E, 27.03.2014, *Biel* obs. and at dirt road margins, 15 m, 39°52'N, 25°05'E, 07.04.2014, *Biel* obs.). Other localities were at Plati (phrygana slope by dirt road, 20 m, 39°50'N, 25°03'E, 08.04.2014, *Biel* obs.) and Therma (stream banks, 40 m, 39°54'N, 25°06'E, 09.04.2014, *Biel* obs.). However, in June 2004 *Biel* had already collected a sample from the island of Sifnos, further to the west (Nomos Kikladon, Eparchia Milou: SW of Katavati, terraced phrygana along an old path, 240 m, 36°58'N, 24°43'E, 08.06.2004, *Biel* 04.339, herb. *Biel*), thus somewhat dispelling the proposition of Rechinger's line. The presence of *Hordeum vulgare* subsp. *spontaneum* in "Europe" is now well-documented (see Bothmer & al. 1995 for a description, illustration and previous distribution map).

Reports 114–116

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Berberidaceae

114. *Leontice leontopetalum* L. subsp. *leontopetalum*

Tu(E) A1(E) Edirne: Uzunköprü, Değirmenci dam, 20 m, 41°18'37"N, 26°42'02"E, 25.05.1989, coll. G. Dalgıç, det. G. Dalgıç, F. Dane & M. Aybeke (EDTU 3864).

— A1(E) Kırklareli: Centre, 194 m, 41°43'54"N, 27°13'29"E, 21.04.1993, coll. S. Kitay, det. F. Dane, G. Dalgıç & M. Aybeke (EDTU 5550).

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

Ranunculaceae

115. *Ranunculus constantinopolitanus* (DC.) d'Urv.

Tu(E) A1(E) Edirne: Lalapaşa, between Çalidere – Donköy, 3rd km, 337 m, 41°55'60"N, 26°43'60"E, 21.05.1992, coll. S. Altay, det. F. Dane (EDTU 4795).

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

116. *Ranunculus illyricus* L. subsp. *illyricus*

Tu(E) A1(E) Edirne: Süleoğlu, at the roadside, 156 m, 41°46'02"N, 26°54'43"E, 08.05.1986, coll.

C. Yarcı & A. Asan, det. F. Dane & M. Aybeke (EDTU 358); between Süleoğlu – Taşlımüsellim village, 193 m, 41°49'00"N, 26°46'60"E, 01.06.1987, coll. F. Dane, G. Olgun & H. Arda, det. F. Dane & M. Aybeke (EDTU 716); Uzunköprü, Değirmenci dam, 20 m, 41°18'37"N, 26°42'02"E, 25.04.1989, coll. F. Dane & N. Polat, det. F. Dane & M. Aybeke (EDTU 3465); Lalapaşa, Donköy, 334 m, 41°55'60"N, 26°41'60"E, 02.06.1992, coll. F. Dane & N. Başak, det. F. Dane & M. Aybeke (EDTU 5089).

— A1(E) Kırklareli: Kofcaz, between Kofcaz – Elmacık, 3 km, 445 m, 41°55'42"N, 27°09'40"E, 10.06.1987, coll. N. Başak & al., det. F. Dane & M. Aybeke (EDTU 1237).

New for European Turkey. So far the species has been known from A2(A) Bursa. According to Davis (1965), this taxon is common for North, Central and South Europe, Russia, and Caucasus. Records of this taxon in European Turkey are shown in this publication.

Reports 117–120

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Fabaceae

117. *Genista lydia* Boiss.

Tu(E) A1(E) Tekirdağ: Saray – Bahçeköy, Kastro coast, 225 m, 41°32'42"N, 27°55'19"E, 10.05.1992, coll. H. Çetin, det. M. Aybeke (EDTU 5233).

A new species for A1(E) Tekirdağ in European Turkey. So far the species has been known from A1(E) Kırklareli and A2(E) Istanbul (Gibbs 1970).

118. *Genista lydia* Boiss. var. *lydia*

Tu(E) A1(E) Tekirdağ: Saray – Bahçeköy, Kastro coast, 225 m, 41°32'42"N, 27°55'19"E, 24.04.1999, coll. N. Güler, det. M. Aybeke (EDTU 7901).

A new species for A1(E) Tekirdağ in European Turkey. So far the species has been known from A1(E) Kırklareli and A2(E) Istanbul (Gibbs 1970).

119. *Onobrychis armena* Boiss. & A. Huet

Tu(E) A1(E) Tekirdağ: Saray – Bahçeköy, Kastro coast, 225 m, 41°32'42"N, 27°55'19"E, 10.05.1992, coll. N. Güler, det. M. Aybeke (EDTU 8150).

A new species for A1(E) Tekirdağ in European Turkey. So far the species has been known from A1(E) Çanakkale (Hedge 1970).

120. *Onobrychis caput-galli* (L.) Lam.

Tu(E) A1(E) Edirne: Centre, 10 km from Edirne to Kapıkule, 26 m, 41°40'28"N, 26°33'39"E, 02.06.1987, coll. A. Asan & G. Dalgiç, det. M. Aybeke.

A new species for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Çanakkale and A2(E) Istanbul (Hedge 1970).

Reports 121–142

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Continuing a series of new plant records based on further floristic investigations in the prefecture of Iliia in western Peloponnese, and on Mt Likeo. The records listed are new for Eparchia Ilias or Olimbias, or for both eparchies in Nomos Ilias. Those reported as new for Mt Likeo have not been included in the recently published work by Baliousis (2013). The floristic regions adopted follow those circumscribed in *Flora Hellenica* (Strid & Tan 1997).

Asteraceae

121. *Cynara cardunculus* L.

Gr Nomos Ilias, Eparchia Olimbias: near the village of Grillos, 140 m, 37°34'N, 21°40'E, 27.04.2014, Kit Tan, G. Vold & Giannopoulos 31681 (herb. Giannopoulos).

New for eparchia. Capitula not fully developed.

Boraginaceae

122. *Myosotis alpestris* F.W. Schmidt

Gr Nomos & Eparchia Ilias: SW slopes of Mt Erimanthos, 1950–2098 m, 37°57'N, 21°48'E, 03.07.2014, Giannopoulos s.n. (herb. Giannopoulos; det. Kit Tan, July 2014).

New for nomos and eparchia; already recorded from Erimanthos but from the northern slopes which lie in Nomos Achaïas, Eparchia Patron.

123. *Onosma erecta* Sm. subsp. *erecta* (Fig. 9)

Gr Nomos & Eparchia Ilias: Enipeas valley, near village of Neraida, 330 m, 37°44'N, 21°40'E, 28.04.2014, Kit Tan, G. Vold & Giannopoulos 31725 (herb. Giannopoulos).

New for nomos and eparchia. Endemic to Greece; this is the westernmost occurrence in the Peloponnese.



Fig. 9. *Onosma erecta* subsp. *erecta* (photo K. Giannopoulos).

Campanulaceae

124. *Asyneuma limonifolium* (L.) Janch.

Gr Nomos & Eparchia Ilias: SW slopes of Mt Erimanthos, 2090 m, 37°57'N, 21°48'E, 03.07.2014, in vegetative state, Giannopoulos obs. (photos; det. Kit Tan, July 2014).

New for eparchia; already recorded from northern slopes of Erimanthos.

Caryophyllaceae

125. *Dianthus tymphresteus* (Boiss. & Spruner) Boiss. (Fig. 10)

Gr Nomos & Eparchia Ilias: SW slopes of Mt Erimanthos, 1970–2100 m, 37°56'N, 21°47'E, 03.07.2014, Giannopoulos s.n. (herb. Giannopoulos; conf. Kit Tan, July 2014).



Fig. 10. *Dianthus tymphresteus* (photo K. Giannopoulos).

New for nomos and eparchia; already recorded from Erimanthos but from the northern side. Often with prostrate stems in snowbed meadows.

126. *Minuartia stellata* (E.D. Clarke) Maire & Petitm. (Fig. 11)

Gr Nomos & Eparchia Ilias: SW slopes of Mt Erimanthos, 2100 m, 37°57'N, 21°48'E, 03.07.2014, *Giannopoulos* obs. (photos; conf. Kit Tan, July 2014).

New for nomos and eparchia; already recorded from Erimanthos but from the northern side.



Fig. 11. *Minuartia stellata* (photo K. Giannopoulos).

127. *Silene gigantea* L.

Gr Nomos & Eparchia Ilias: Enipeas valley, near village Lanzoi, 120 m, 37°43'N, 21°36'E, 17.05.2014, *Giannopoulos* obs. (photos).

New for nomos and eparchia.

Crassulaceae

128. *Sedum dasyphyllum* L.

Gr Nomos & Eparchia Ilias: SW slopes of Mt Erimanthos, 2108 m, 37°57'N, 21°48'E, 03.07.2014, *Giannopoulos* s.n. (herb. *Giannopoulos*; det. Kit Tan, July 2014).

New for nomos and eparchia; already recorded from Erimanthos but from the northern side.

Fabaceae

129. *Anthyllis vulneraria* subsp. *rubriflora* (DC.)

Arcang.

Gr Nomos Ilias, Eparchia Olimbias: near the village of Greka, 140 m, 37°34'N, 21°41'E, 27.04.2014, *Kit Tan, G. Vold & Giannopoulos* 31694 (herb. *Giannopoulos*).

New for eparchia.

130. *Ononis ramosissima* Desf. (Fig. 12)



Fig. 12. *Ononis ramosissima* (photo K. Giannopoulos).

Gr Nomos & Eparchia Ilias: Enipeas valley, near village of Neraida, 330 m, 37°44'N, 21°40'E, 28.04.2014, *Kit Tan, G. Vold & Giannopoulos* 31723 (herb. Giannopoulos); *loc. ibid.*, 17.05.2014, *Giannopoulos* obs. (photos); Eparchia Olimbias: near village of Taxiarches, 215 m, 37°26'N, 21°42'E, 07.06.2014, *Giannopoulos* obs.

New for eparchia Ilias.

Geraniaceae

131. *Geranium asphodeloides* Burm. f.

Gr Nomos Ilias, Eparchia Olimbias: SW slopes of Mt Likeo, 1130 m, 37°27'N, 21°56'E, 27.04.2014, *Kit Tan, G. Vold & Giannopoulos* 31700 (herb. Giannopoulos).

New for eparchia.

Linaceae

132. *Linum pubescens* Banks & Sol.

Gr Nomos Ilias, Eparchia Olimbias: near the village of Greka, 140 m, 37°34'N, 21°41'E, 27.04.2014, *Kit Tan, G. Vold & Giannopoulos* 31693 (herb. Giannopoulos).

New for eparchia.

Orobanchaceae

133. *Phelipanche ramosa* (L.) Pomel

Gr Nomos Ilias, Eparchia Olimbias: Kaiafas, 8 m, 37°30'N, 21°35'E, 07.04.2013, *Giannopoulos* obs. (photos).

New for eparchia.

Ranunculaceae

134. *Consolida ajacis* (L.) Schur

Gr Nomos & Eparchia Ilias: near the village of Marathia, W of Amaliada, roadsides and olive plantation, ca. 5 m, 37°47'N, 21°17'E, 29.04.2014, *Kit Tan & G. Vold* 31730 (herb. Giannopoulos).

New for eparchia. Pink- and blue-flowered forms.

135. *Ranunculus millefoliatus* Vahl

Gr Nomos Ilias, Eparchia Olimbias: SW slopes of Mt Likeo, 1130 m, 37°27'N, 21°56'E, 27.04.2014, *Kit Tan, G. Vold & Giannopoulos* 31706 (herb. Giannopoulos).

New for Mt Likeo and eparchia.

Rubiaceae

136. *Asperula oetaea* (Boiss.) Halácsy (Fig. 13)

Gr Nomos & Eparchia Ilias: SW slopes of

Erimanthos, 1780–1920 m, 37°56'N, 21°48'E, 03.07.2014, *Giannopoulos* s.n. (herb.

Giannopoulos; conf. *Kit Tan*, July 2014).

New for Mt Erimanthos, nomos and eparchia. In the Peloponnese, recorded only from Mt Chelmos. Also collected independently by K. Polymenakos on 28 June 2008.



Fig. 13. *Asperula oetaea* (photo K. Giannopoulos).

Scrophulariaceae

137. *Bellardia trixago* (L.) All.

Gr Nomos Ilias, Eparchia Olimbias: near the village of Greka, 140 m, 37°34'N, 21°41'E, 27.04.2014, *Kit Tan, G. Vold & Giannopoulos* 31690 (herb. Giannopoulos).

New for eparchia.

Alliaceae

138. *Allium roseum* L.

Gr Nomos Ilias, Eparchia Olimbias: near village of Greka, 140 m, 37°34'N, 21°41'E, 27.04.2014, *Kit Tan, G. Vold & Giannopoulos* 31683 (herb. Giannopoulos).

New for eparchia.

Hyacinthaceae

139. *Bellevalia dubia* (Guss.) Schult. & Schult. f.

Gr Nomos Ilias, Eparchia Olimbias: cemetery near Andritsena, foothills of Mt Likeo, 843 m, 37°28'N, 21°53'E, 06.04.2013, *Kit Tan, G. Vold & Giannopoulos* 31491 (herb. Giannopoulos); Eparchia Ilias: Enipeas valley, near village Lanzoi, 90 m, 37°45'N, 21°32'E, 30.03.2013, *Giannopoulos* obs.

New for nomos and eparchies, occurring together with *Muscari pulchellum* subsp. *pulchellum*.

140. *Ornithogalum oligophyllum* E.D. Clarke

Gr Nomos & Eparchia Ilias: SW slopes of Mt Erimanthos, 2090 m, 37°57'N, 21°48'E, 03.07.2014, *Giannopoulos* obs. (photos; conf. *Kit Tan*, July 2014).

New for nomos and eparchia; already recorded from Erimanthos but from the northern side.

Orchidaceae

141. *Anacamptis papilionacea* (L.) R.M. Bateman & al. (= *Orchis papilionacea* L.)

Gr Nomos Ilias, Eparchia Olimbias: SW slopes of Mt Likeo, 1130 m, 37°27'N, 21°56'E, 27.04.2014, *Kit Tan, G. Vold & Giannopoulos* 31703 (herb. Giannopoulos).

New for Mt Likeo.

142. *Orchis provincialis* Lam. & DC.

Gr Nomos Ilias, Eparchia Olimbias: SW slopes of Mt Likeo, 1130 m, 37°27'N, 21°56'E, 27.04.2014, *Kit Tan, G. Vold & Giannopoulos* 31697 (herb. Giannopoulos).

New for Mt Likeo and eparchia.

Reports 143–145**Todor Karakiev**

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Asteraceae

143. *Erigeron uniflorus* subsp. *vichrenensis* (Pawl.) Kozuharov & N. Andreev (Fig. 14)

Bu Pirin Mts (*Northern*): the ridge between peaks Malka Strazha and Golyama Strazha, 2750 m, 41°44'09.05"N, 23°29'38.93"E, GM02, 15.07.2012, coll. *T. Karakiev* (SO 107577).

A new locality for the taxon in the Pirin Mts. This

subspecies has been known only from the same floristic subregion. It is a local endemic (Vladimirov & Kuzmanov 2012) which has been identified so far only in the alpine grasslands on the marble rocks of peak Vihren and was included in the old *Red Data Book of PR Bulgaria* (Andreev 1984). The new locality of the species is outside the marble area of the mountain.



Fig. 14. *Erigeron uniflorus* subsp. *vichrenensis* – Strazhite peaks (photo T. Karakiev).

Campanulaceae

144. *Campanula cochlearifolia* Lam. (Fig. 15)

Bu Pirin Mts (*Northern*): upper part of the Gazei Circus, on wet rocks, near entrance of a small cave in the marble, 2574 m, 41°44'08.03"N, 23°29'26.97"E, GM02, 28.07.2013, coll. *T. Karakiev* (SO 107576).



Fig. 15. The entrance of a small cave with a population of *Campanula cochlearifolia* (photo T. Karakiev).

This is a new locality of this endangered taxon with very limited distribution in Bulgaria. The species has

been known only from the same floristic subregion, but from other parts of the mountain. It was found in a new locality on the marble rocks. The species was evaluated as 'Endangered' (Goranova & Anchev 2009) and included in the new *Red Data Book of R. Bulgaria* (Goranova & Anchev 2012).

Primulaceae

145. *Primula halleri* G.F. Gmel.

- Bu** Pirin Mts (*Northern*): near lake Popovo, on wet rocks near entrance of a small cave, 2399 m, 41°42'20.22"N, 23°30'10.32"E, GM02, 22.08.2011, coll. *T. Karakiev* (SO 107578).
- Rila Mts: Skakavitsa Valley, on wet rocks near Visulkite waterfall, 2056 m, 41°13'40.31"N, 23°18'01.82"E, FM97, 12.01.2012, coll. *T. Karakiev* (SO 107575).

These are new localities of this taxon of conservation importance. The species was included as 'Rare' in the *Red Data Book of PR Bulgaria* (Peev 1984) and was evaluated as 'Vulnerable' in the *Red List of Bulgarian vascular plants* (Peev & Tsoneva 2009). The species has already been known from the floristic regions of Rila and Pirin Mts (Peev 1982). In the Pirin Mts, the species was known only from the marble rocks of peaks Vihren and Sinanitsa. According to Assyov & Petrova (2012), the species is distributed also in the Southern Pirin Mts, however, this has not been supported with herbarium data in Bulgaria. The new locality is the first one outside the marble area of the Pirin Mts. The locality in the Rila Mts is a new one for that mountain.

Reports 146–148

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Fabaceae

146. *Lathyrus tuberosus* L.

- Gr** Nomos & Eparchia Kastorias: north of village Pentavryssos, ca. 750 m, 40°27'N, 21°13'E, 07.06.2014, *Tsialtas* obs. (photo; det. Kit Tan, June 2014).

New for N Pindos. Several flowering plants at edge of field cultivated with *Phaseolus vulgaris*. Also in *Populus* plantation together with *Lathyrus cicera* and *Vicia sativa* subsp. *nigra*.

147. *Vicia ochroleuca* Ten. (Fig. 16)

- Gr** Nomos & Eparchia Grevenon: SE of village Myrsina, 632 m, 40°06'N, 21°29'E, 12.04.2014, *Tsialtas* s.n. (det. Kit Tan and P. Lassen, July 2014);
- Nomos Ioanninon, Eparchia Konitsis: ravine 5.5 km SSW of Samarina, serpentine, 1400–1500 m, 40°04'N, 20°59'E, 11.07.1976, *Hartvig & al.* 5811 (C !G, UPA; det. Kit Tan, July 2014).



Fig. 16. *Vicia ochroleuca* (photo I. Tsialtas).

New for N Pindos and Greece. At the edge of fields cultivated with lentils and winter wheat and under *Quercus*, together with *V. narbonensis*, *V. sativa* and *Lathyrus digitatus* (all taxa verified by P. Lassen, June 2014).

148. *Vicia sativa* subsp. *incisa* L.

- Gr** Nomos & Eparchia Karditsis: G. Sdrakas estate near road from Karditsa to village of Agios Georgios, 113 m, 39°20'N, 21°52'E, 20.04.2014, *Tsialtas* s.n. (conf. Kit Tan and P. Lassen, June 2014).

New for eparchia and nomos. The plants were abundant in an uncultivated part of the estate together with *V. cracca*, *V. sativa* subsp. *sativa*, *V. sativa* subsp. *nigra*, *Lathyrus annuus*, *L. aphaca* and *L. hirsutus* (all taxa verified by P. Lassen, June 2014).

Reports 149–204

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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).

Ophioglossaceae

149. *Ophioglossum vulgatum* L.

Gr Nomos & Eparchia Attikis: Mt Parnitha, under *Abies* near stream east of Ag. Petros, 1030 m, 38°10'N, 23°44'E, 22.05.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Parnitha, nomos and eparchia Attikis.

Pteridaceae

150. *Anogramma leptophylla* (L.) Link

Gr Nomos & Eparchia Korinthias: northern slopes of Mt Gerania, along road from Pisia to Schinos, 330 m, 38°02'N, 23°00'E, 20.03.2014, *Polymenakos* obs. (photo; conf. Kit Tan, May 2014).

New for Mt Gerania, not recorded by Constantinidis (1997).

Apiaceae

151. *Bupleurum lancifolium* Hornem.

Gr Nomos Attikis, Eparchia Megaridos: Mikro Vathychori, field of cultivated wheat, 425 m, 38°06'N, 23°16'E, 01.05.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Pateras, not recorded by Constantinidis (1997).

152. *Elaeoselinum asclepium* (L.) Bertol. subsp. *asclepium*

Gr Nomos Attikis, Eparchia Megaridos: in large populations from Veniza to Megalo Vathychori, 370 m, 38°04'N, 23°15'E, 08.05.2014,

Polymenakos obs. (photo; conf. Kit Tan, June 2014).

New for Mt Pateras, not recorded by Constantinidis (1997).

153. *Ferula communis* L. subsp. *communis*

Gr Nomos & Eparchia Attikis: Porto Rafti to Vravra, roadside, 100 m, 37°54'N, 24°01'E, 05.04.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014); uncultivated ground between Palea Fokea and Synterina, 60 m, 37°43'N, 23°58'E, 10.04.2014, *Polymenakos* obs.

New for mainland Attikis. *Ferula communis* subsp. *glauca* (L.) Rouy & Camus also occurs in the Anavissos area, as well as on Mts Pateras and Kitheronas.

154. *Helosciadium nodiflorum* (L.) W.D.J. Koch

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, Tsia fountain, west of Villia, 630 m, 38°10'N, 23°18'E, 24.05.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Kitheronas, not recorded by Constantinidis (1997).

155. *Peucedanum vittijugum* Boiss.

Gr Nomos Attikis, eparchia Megaridos: Mt Kitheronas, in *Abies* openings on the N slope of Tria Koryfes (bordering Nomos Viotias), 1125 m, 38°11'N, 23°16'E, 13.07.2014, *Polymenakos* obs. (photos; conf. Kit Tan, July 2014).

New for Mt Kitheronas, not recorded by Constantinidis (1997).

156. *Physospermum cornubiense* (L.) DC.

Gr Nomos Attikis, eparchia Megaridos: northern slopes of Gerania, in openings of *Abies* woodland, 990 m, 38°17'N, 23°07'E, 24.05.2014, *Polymenakos* & *Kofinas* obs. (photos; conf. Kit Tan, July 2014).

Confirming an old record by Tuntas (Halácsy 1912: 151), apparently not re-collected nor listed by Constantinidis (1997). Numerous plants in fruit.

Asteraceae

157. *Carduus euboicus* Franco

Gr Nomos & Eparchia Attikis: Mt Pendeli, open *Quercus coccifera* scrub at roadside on the way to summit, 1025 m, 38°04'N, 23°52'E, 25.05.2014, *Polymenakos* obs. (photos; conf. Kit Tan, May 2014).

New for Mt Pendeli and Sterea Ellas, first record for mainland Greece (excluding the W Aegean island of

Evvia). Single plant noted and kept under observation for some weeks until capitula matured. Distinguished from the rather similar-looking *C. candicans* Waldst. & Kit. by its broader phyllaries, larger corolla, longer pappus and flattened, minutely verruculose achenes.

158. *Centaurea diffusa* Lam.

Gr Nomos & Eparchia Attikis: Schinias, road margins and disturbed ground, 3 m, 38°09'N, 24°00'E, 24.06.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for nomos and eparchia, and for phytogeographical region Sterea Ellas.

159. *Scorzonera mollis* M. Bieb. subsp. *mollis*

Gr Nomos & Eparchia Attikis: Mt Pendeli, slope with *Fumana* and *Thymus capitatus*, area burnt in 2009, 160 m, 38°01'N, 23°56'E, 09.03.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014); Cephalari, small *Pinus* woodland, 350 m, 38°04'N, 23°49'E, 25.02.2014, *Polymenakos* obs.

New for Mt Pendeli.

Boraginaceae

160. *Borago officinalis* L.

Gr Nomos & Eparchia Korinthias: uncultivated field at Schinos, 10 m, 38°03'N, 23°01'E, 20.03.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Gerania, not recorded by Constantinidis (1997).

Brassicaceae

161. *Erysimum atticum* Heldr. & Sartori ex Boiss.

Gr Nomos & Eparchia Attikis: Mt Imittos, stony slope with *Quercus coccifera*, SW of military area at summit, 800 m, 37°56'N, 23°47'E, 30.03.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Imittos, endemic to Sterea Ellas.

162. *Iberis acutiloba* Bertol.

Gr Nomos Attikis, Eparchia Megaridos: stony slope N of Korona peak, 715 m, 38°05'N, 23°15'E, 28.06.2014, *Polymenakos* & *Kofinas* obs. (photo; conf. Kit Tan, July 2014).

New for Mt Pateras, not recorded by Constantinidis (1997).

163. *Isatis tinctoria* L. subsp. *tinctoria*

Gr Nomos & Eparchia Korinthias: Mt Gerania, west of Panagia Prathi monastery, edge of forest road in openings of *Pinus* woodland, serpentine, 610 m,

38°01'N, 23°04'E, 16.05.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Gerania, not recorded by Constantinidis (1997).

Callitrichaceae

164. *Callitriche lenisulca* Clavaud

Gr Nomos & Eparchia Attikis: in Erassinos stream near the archaeological site of Vravra, 5 m, 37°55'N, 23°59'E, 15.04.2014, *Polymenakos* s.n. (also photos; det. Kit Tan, May 2014, confirmed P. Uotila, May 2014).

New for eparchia Attikis. A collection made in 1853 by Orphanides (from Faliro, Eparchia Pireos) may refer to this species, otherwise our record is the first for Sterea Ellas. Also in the stream were *Alisma lanceolatum*, *Typha* sp., *Veronica anagallis-aquatica* and *Ranunculus trichophyllus*.

Caryophyllaceae

165. *Sagina stridii* Kit Tan, Zarkos & Christodoulou

Gr Nomos Fokidos, Eparchia Parnassidos: stream close to EOS refuge, west of Korakas, 1970 m, 38°41'N, 22°07'E, 21.07.2010, *Polymenakos* s.n. (also photos; det. Kit Tan, June 2014).

New for Mt Vardousia, first record for Sterea Ellas and mainland Greece.

Chenopodiaceae

166. *Suaeda vera* J.F. Gmel.

Gr Nomos Attikis, Eparchia Megaridos: Vourkari wetland east of Megara, 0 m, 37°58'N, 23°23'E, 02.03.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for nomos and eparchia.

Convolvulaceae

167. *Convolvulus dorycnium* L.

Gr Nomos Attikis, Eparchia Megaridos: valley between Pastra and western foothills of Parnitha, 38°10'N, 23°26'E, 13.07.2014, *Polymenakos* obs. (photos; conf. Kit Tan, July 2014); W of Nea Peramos, 20 m, 37°59'N, 23°23'E, 27.06.2012, *Polymenakos* obs.; NW of Mandra, 165 m, 38°05'N, 23°03'E, 13.06.2013, *Polymenakos* obs.

New for eparchial mainland, previously recorded only from the island of Salamis.

Crassulaceae

168. *Crassula tillaea* Lest.-Garl.

Gr Nomos Attikis, Eparchia Megaridos: Vourkari

wetland east of Megara, roadsides, 5 m, 37°58'N, 23°23'E, 02.03.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for eparchia.

Fabaceae

169. *Astragalus suberosus* subsp. *haarbachii* (Boiss.) V.A. Matthews

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, valley SE of EOS refuge, 770 m, 38°10'N, 23°17'E, 03.04.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Kitheronas, not recorded by Constantinidis (1997).

170. *Coronilla valentina* subsp. *glauca* (L.) Batt.

Gr Nomos & Eparchia Attikis: Mt Pendeli, roadside 1 km from Palea Pendeli to Nea Makri, 570 m, 38°03'N, 23°52'E, 04.03.2014, *Polymenakos* obs. (photos; conf. Kit Tan, March 2014).

New for Mt Pendeli. Three plants noted, together with *Genista acanthoclada*.

171. *Hippocrepis biflora* Spreng. (Fig. 17)

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, roadside from Villia to summit, 585 m, 38°10'N, 23°19'E, 03.04.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Kitheronas, not recorded by Constantinidis (1997).



Fig. 17. *Hippocrepis biflora* (photo K. Polymenakos).

172. *Lathyrus clymenum* L.

Gr Nomos Attikis, Eparchia Megaridos: Mt Gerania, eastern foothills, at roadside, 220 m, 38°01'N,

23°16'E, 20.03.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Gerania, not recorded by Constantinidis (1997).

173. *Lathyrus grandiflorus* Sm. (Fig. 18)

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, in openings of *Abies* woodland, west of EOS refuge, 1125 m, 38°10'N, 23°17'E, 24.05.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Kitheronas, not recorded by Constantinidis (1997).



Fig. 18. *Lathyrus grandiflorus* (photo K. Polymenakos).

Fumariaceae

174. *Fumaria judaica* Boiss. subsp. *judaica*

Gr Nomos & Eparchia Attikis: Mt Pendeli, Cephalari, in openings of *Pinus* woodland, 350 m, 38°04'N, 23°49'E, 13.03.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014); Pikermi to Kallitechnoupoli, roadsides, 95 m, 38°07'N, 23°57'E, 09.03.2014, *Polymenakos* obs.

New for Mt Pendeli.

Lamiaceae

175. *Ajuga chamaepitys* (L.) Schreb.

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, in openings of *Abies* woodland, west of EOS refuge, 1130 m, 38°10'N, 23°16'E, 24.05.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Kitheronas, not recorded by Constantinidis (1997).

176. *Ajuga iva* (L.) Schreb.

Gr Nomos & Eparchia Attikis: Mt Hymettus, Ag. Paraskevi, few plants on roadside pavement,

240 m, 38°00'N, 23°49'E, 03.05.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Imittos, recorded from Mts Pendeli and Gerania.

177. *Phlomis samia* L.

Gr Nomos Attikis, Eparchia Megaridos: in *Abies* openings on the N slope of Tria Koryfes (bordering Nomos Viotias), 1125 m, 38°11'N, 23°16'E, 03.04.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Kitheronas, not recorded by Constantiniis (1997).

178. *Prunella vulgaris* L.

Gr Nomos & Eparchia Korinthias: wet slope near Monastery of Panagia Prathi, 750 m, 38°01'N, 23°05'E, 28.06.2014, *Polymenakos* & *Kofinas* obs. (photos; conf. Kit Tan, July 2014).

New for Mt Gerania, not recorded by Constantinidis (1997).

179. *Sideritis montana* L.

Gr Nomos & Eparchia Attikis: Mt Pendeli, SW of Kallitechnoupoli, recently burnt slope with *Cistus* and *Genista acanthoclada*, 155 m, 38°01'N, 23°57'E, 18.04.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014); recently burnt slope west of Neos Voutsas, 220 m, 38°02'N, 23°58'E, 27.04.2014, *Polymenakos* obs.

New for Mt Pendeli. Baliouisis (2013) reported *Sideritis romana* in the second locality but he probably meant *S. montana* as the former was never observed in this biotope but the latter is very common.

180. *Stachys spruneri* Boiss.

Gr Nomos & Eparchia Attikis: Mt Pendeli, calcareous rock on main road from Palea Pendeli to Nea Makri, 575 m, 38°03'N, 23°52'E, 14.04.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Pendeli.

Lythraceae

181. *Lythrum hyssopifolia* L.

Gr Nomos & Eparchia Attikis: western slopes of Mt Parnitha, stream near Pigi Filis, 700 m, 38°08'N, 23°38'E, 29.05.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Parnitha.

Orobanchaceae

182. *Orobanche hederæ* Duby

Gr Nomos Arkadias, Eparchia Kinourias: shady plac-

es in the village of Platanos, parasitic on *Hedera helix*, 400 m, 37°19'N, 22°39'E, 08.06.2014, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014).

New for Mt Parnonas.

Papaveraceae

183. *Roemeria hybrida* (L.) DC. subsp. *hybrida* (Fig. 19)

Gr Nomos & Eparchia Attikis: southern foothills of Mt Pendeli, in cultivated field between Pikermi and Kallitechnoupoli, 100 m, 38°00'N, 23°57'E, 18.04.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Pendeli. Numerous plants.



Fig. 19. *Roemeria hybrida* (photo K. Polymenakos).

Ranunculaceae

184. *Garidella nigellastrum* L. (Fig. 20)

Gr Nomos & Eparchia Attikis: Mt Pendeli, along road from Pikermi to Kallitechnoupoli, on disturbed ground together with *Fumaria judaica*,

95 m, 38°00'N, 23°57'E, 18.04.2014, *Polymenakos* obs. (photo; conf. Kit Tan, May 2014); in Chalkoutsis village west of Oropus, in openings of *Quercus coccifera* with *Linum nodiflorum* and *Catananche lutea*, 35 m, 38°19'N, 23°42'E, 03.05.2014, *Polymenakos* obs. (photo; conf. Kit Tan, May 2014).

- Nomos Attikis, Eparchia Megaridos: western foothills of Mt Pateras, uncultivated field on the way from Mandra to Erythres, 390 m, 38°08'N, 23°25'E, 24.05.2014, *Polymenakos* obs. (photo; conf. Kit Tan, May 2014).

New for Mts Pendeli and Pateras; not recorded by Constantinidis (1997) for latter mountain. Apparently the first records from Sterea Ellas and mainland Greece.



Fig. 20. *Garidella nigellastrum* (photo K. Polymenakos).

Rhamnaceae

185. *Rhamnus saxatilis* subsp. *prunifolia* (Sm.) Aldén

Gr Nomos & Eparchia Attikis: Mt Parnitha, cliff south of Plati Vouno, 1090 m, 38°09'N, 23°41'E, 01.06.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Parnitha.

Rubiaceae

186. *Asperula oetaea* (Boiss.) Halácsy (Fig. 21)

Gr Nomos & Eparchia Ilias: stony slopes above Kriovrisi on S side of Profitis Ilias, Mt

Erimanthos (opposite plateau of Astras), 1640 m, 37°56'N, 21°48'E, 28.06.2008, *Polymenakos* obs. (photos; conf. Kit Tan, July 2014).

New for Mt Erimanthos, nomos and eparchia.



Fig. 21. *Asperula oetaea* (photo K. Polymenakos).

Scrophulariaceae

187. *Linaria chalepensis* (L.) Mill.

Gr Nomos Attikis, Eparchia Megaridos: northern foothills of Mt Pastra, cultivated field, 375 m, 38°10'N, 23°23'E, 03.04.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Pastra, not recorded by Constantinidis (1997). Together with *Bellevalia ciliata*, *Leontice leontopetalum* and *Galium verrucosum*.

188. *Scrophularia canina* subsp. *bicolor* (Sm.)

Greuter

Gr Nomos & Eparchia Attikis: Mt Hymettus, uncultivated fields west of Peania, 250 m, 37°57'N, 23°50'E, 27.03.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Imittos.

189. *Scrophularia umbrosa* Dumort.

Gr Nomos Arkadias, Eparchia Kinourias: in stream within village of Platanos, 390 m, 37°19'N, 22°39'E, 08.06.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for nomos and eparchia. Common at locality but rarely collected in the Peloponnese, being only recorded from outposts in the north (Vouraikos gorge) and south (Cape Tainaron, Mani Peninsula).

Urticaceae

190. *Urtica dioica* L.

Gr Nomos & Eparchia Attikis: Mt Pendeli, below cemetery near road from Palea Pendeli to Anthousa, 415 m, 38°02'N, 23°52'E, 21.06.2014, *Polymenakos* obs. (photo; conf. Kit Tan, July 2014).

New for Mt Pendeli. With the exception of Mts

Parnitha and Gerania, there are no published reports of *Urtica dioica* from the other mountains of Attica.

Valerianaceae

191. *Valerianella obtusiloba* Boiss.

Gr Nomos & Eparchia Attikis: NW foothills of Mt Hymettus, in phrygana above Cholongos, 250 m, 37°59'N, 23°48'E, 30.03.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Imittos.

Alliaceae

192. *Allium cithaeronis* Bogdanović & al.

Gr Nomos & Eparchia Attikis: Mt Parnitha, summit of Ornio, 1260 m, 38°10'N, 23°44'E, 26.07.2011, *Polymenakos* (specimens & photos; conf. Kit Tan, June 2014); *loc. ibid.*, stony ground in opening of *Abies* forest, 07.07.2012, *Polymenakos* obs. Noted at several sites around the peak.

— Nomos Attikis/Korinthias, Eparchia Megaridos/Korinthias: Mt Gerania, 1320 m, 38°01'N, 23°07'E, 16.06.2013, *Polymenakos* obs. (photos; conf. Kit Tan, June 2014); *loc. ibid.*, west of summit, 09.07.2014, *Polymenakos* & *Kofinas* obs. (photos; conf. Kit Tan, July 2014).

New for Mts Parnitha and Gerania, not recorded by Constantinidis (1997) for latter mountain. No plants were observed by us on Mts Pendeli, Pateras or Pastras.

193. *Allium cyrilli* Ten.

Gr Nomos & Eparchia Attikis: Mt Pendeli, grassy slope at Ag. Stefanos, 350 m, 38°08'N, 23°51'E, 13.04.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

— Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, stony slope south of Profitis Ilias, 1330–1380 m, 38°11'N, 23°14'E, 25.06.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mts Pendeli (few plants) and Kitheronas (large populations); not recorded from latter mountain by Constantinidis (1997).

194. *Allium paniculatum* L.

Gr Nomos & Eparchia Attikis: Mt Parnitha, stony west slope of Kyra, in burnt *Abies* forest, 950–1100 m, 38°08'N, 23°42'E, 28.06.2011, *Polymenakos* obs. (photo; conf. Kit Tan, July 2014). Noted on several occasions.

New for Mt Parnitha. These gatherings differ slightly from an *Allium* collected by us on Kitheronas (*locus clas-*

sicus) which bears the name *A. cithaeronis* Bogdanović & al. They flower earlier and are larger in all parts, also taller (up to 25 cm), with much longer pedicels and more numerous flowers. However, the perianth, ovary and filament type is similar to *A. paniculatum* and so we have assigned this name to our plants.

Allium cithaeronis (*quod vide*) occurs on Kitheronas, Gerania and Parnitha but on the latter two mountains it has remained unidentified or named *A. paniculatum*. Some flowering plants with a more reddish-coloured perianth were noted on Kitheronas. Plants from Gerania were collected and observed throughout their flowering phase, the perianth colour changes from reddish to white, pale pink or pale green. The two taxa are very similar but because it is possible to distinguish them, *A. cithaeronis* has not been relegated to synonymy until further studies.

The other subspecies of *A. paniculatum* are now treated at species rank – *A. paniculatum* subsp. *euboicum* (Rech. f.) Stearn., a very distinctive plant of serpentine substrates (now *A. euboicum* Rech. f.), *A. paniculatum* subsp. *fuscum* auct. fl. graec. non (Waldst. & Kit.) Arcang. (now *A. dentiferum* Webb. & Berthel.), *A. paniculatum* subsp. *villosulum* (Halácsy) Stearn with larger inflorescences and hairy leaves (now *A. rhodopeum* Velen.) and *A. paniculatum* subsp. *fuscum* (Waldst. & Kit.) Arcang., not in Greece (now *A. fuscum* Waldst. & Kit.). Thus *A. paniculatum* s. str. remains in Greece without further division into subspecific taxa.

195. *Allium sphaerocephalon* subsp. *arvense* (Guss.) Arcang.

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, on main road to summit, 1070 m, 38°10'N, 23°16'E, 13.07.2014, *Polymenakos* obs. (photo; conf. Kit Tan, July 2014).

New for Kitheronas; not recorded by Constantinidis (1997).

Hyacinthaceae

196. *Bellevalia ciliata* (Cirillo) Nees

Gr Nomos & Eparchia Attikis: Mt Pendeli, grassy slope at Ag. Stephanos, 345 m, 38°08'N, 23°51'E, 13.03.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

— Nomos Attikis, Eparchia Megaridos: northern foothills of Mt Pastra, cultivated field, 375 m, 38°10'N, 23°23'E, 03.04.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mts Pendeli and Pastra, not recorded from

latter mountain by Constantinidis (1997). On Pastra, together with *Linaria chalepensis*, *Leontice leontopetalum* and *Galium verrucosum*.

197. *Ornithogalum nutans* L.

Gr Nomos & Eparchia Attikis: Mt Hymettus, in *Pinus halepensis* woodland, 690 m, 37°58'N, 23°48'E, 03.05.2009, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

— Nomos Attikis, Eparchia Megaridos: eastern foothills of Mt Gerania, 275 m, 38°02'N, 23°15'E, 20.03.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mts Imittos and Gerania, not recorded for latter mountain by Constantinidis (1997).

Juncaceae

198. *Juncus heldreichianus* Parl.

Gr Nomos & Eparchia Attikis: western slopes of Mt Parnitha, stream near Pigi Filis, 700 m, 38°08'N, 23°38'E, 29.05.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Parnitha.

Orchidaceae

199. *Cephalanthera rubra* (L.) Rich.

Gr Nomos Attikis, Eparchia Megaridos: Mt Kitheronas, in *Abies* forest west of refuge, 1120 m, 38°10'N, 23°17'E, 24.05.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Kitheronas, not recorded by Constantinidis (1997).

200. *Ophrys fusca* subsp. *cinereophila* (Paulus & Gack) Faurh.

Gr Nomos & Eparchia Attikis: Mt Pendeli, stony slope with *Quercus coccifera*, 430 m, 38°04'N, 23°56'E, 22.02.2011, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Pendeli.

201. *Ophrys fusca* subsp. *iricolor* (Desf.) K. Richt.

Gr Nomos & Eparchia Korinthias: southern slopes of Mt Gerania, 330 m, 37°57'N, 23°06'E, 22.03.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Gerania, not recorded by Constantinidis (1997). With *Thymbra capitata*, common in the recently burnt area.

202. *Ophrys umbilicata* Desf. subsp. *umbilicata*

Gr Nomos Attikis, Eparchia Megaridos: west of Villia, in openings of *Quercus coccifera*, 585 m,

38°10'N, 23°19'E, 03.04.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Kitheronas, not recorded by Constantinidis (1997).

Poaceae

203. *Narduroides salzmannii* (Boiss.) Rouy

Gr Nomos & Eparchia Attikis: Mt Parnitha, Metochi, 430 m, 38°07'N, 23°44'E, 24.04.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Parnitha, with *Thymbra capitata*, *Fumana thymifolia* and *Fumana arabica*.

Typhaceae

204. *Typha domingensis* Pers.

Gr Nomos & Eparchia Attikis: Mt Pendeli, damp stream banks below cemetery, 415 m, 38°02'N, 23°52'E, 21.06.2014, *Polymenakos* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Pendeli.

We thank Dr Pertti Uotila (Helsinki) for kindly confirming the identity of the *Callitriche* specimens.

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Orchidaceae

205. *Goodyera repens* (L.) R. Brown (Fig. 22)

Bu Rhodopi Mts (*Central*): in an old mixed coniferous forest above the trail from Yagodina village to Buynovsko gorge, on a north-facing steep slope, inclination approx. 50 degrees, 1160 m a.s.l., 41°37'59.07"N, 24°20'26.58"E, with flowers and fruits, 26.07.2013. coll. A. Popatanasov (SO 107607).

This is a new locality in that floristic subregion. A typically dense population of nearly 200 aerial stems was found on an area of 150 m². The plants grow among shady mosses and coniferous compost and, regardless of the numerous leaf rosettes, less than 10% of them had inflorescences. Other species from this family found in the same forest are *Epipactis helleborine*, *Listera ovata*, *Coeloglossum viride*, and *Neottia nidus-avis*. So far only ten very local and isolated localities of this endangered plant have been discovered in Bulgaria (Petrova 2012).



Fig. 22. *Goodyera repens* (photo A. Popatanasov).

206. *Ophrys apifera* Huds. (Fig. 23)

Bu Black Sea Coast (*Southern*): in a mixed deciduous forest, along the road from Primorsko town to Beglik Tash, 7 m a.s.l., 42°17'17.25"N, 27°45'14.46"E, 27.05.2014 with flowers, obs. A. Popatanasov.

— Mt Strandzha: on the south bank of river Veleka, in mixed shrubs, along a forest road from Sinemorets to Brodilovo village, 8 m a.s.l., 42°03'43.01"N, 27°57'15.33"E, with flowers and fruits, 26.05.2014, coll. A. Popatanasov (SO 107608) (Fig. 23).

Near Primorsko, six plants were found on an area of 100 m² in a forest close to the road. Other species from this family found in this forest are: *Orchis purpurea*, *Platanthera chlorantha*, *Limodorum abortivum*, *Anacamptis pyramidalis*, and *Epipactis helleborine*.

At the second location, 36 plants were found on an area of 2 ha in the shrubs along the road to Brodilovo village. Other species from this family found in this

locality are: *Orchis laxiflora*, *Limodorum abortivum* and *Anacamptis pyramidalis*. With population of nearly 40 shoots, according to A. Petrova (2012), this should be one of the largest known populations of this endangered plant.

Typically, *O. apifera* in Bulgaria prefers dry to moderately moist habitats (Petrova 2012; Delforge 2006; Davies & al. 1983). However, at the second location its habitat was very damp and the plant grew along such typical for the wet meadows and marshlands plants as *Orchis laxiflora*. The location was visited several times within a period of 12 month, so as to monitor its hydrological status and most of the time it was rather damp, which means that the plants have developed the needed mechanisms for this unusual tolerance of prolonged waterlogged stress conditions. However, this year only 26 plants were counted, which marks a decrease of 25% in number, probably correlating with the abundant rainfalls and excessive soil watering during the growing season.



Fig. 23. *Ophrys apifera* (photo A. Popatanasov).

207. *Ophrys insectifera* L. (Fig. 24)

Bu Rhodopi Mts (*Western*): below the trail from Teshel village to the Orpheus chalet, in a mixed open forest, on a northeast-facing steep slope, inclination approx. 55–75 degrees, 960 m a.s.l., 41°40'38.49"N, 24°20'35.79"E, 18.06.2013, with flowers and fruits, obs. A. Popatanasov (Fig. 24).

— Rhodopi Mts (*Central*): above the E8 trail from Trigrad village to Chairite lakes, in a centuries-old mixed coniferous open forest, on a north-facing steep slope, inclination approx. 60–70 degrees, 1260 m a.s.l., 41°35'39.79"N, 24°26'13.85"E, 17.06.2013, with flowers and fruits, obs. A. Popatanasov.



Fig. 24. *Ophrys insectifera* (photo A. Popatanasov).

This is a new species for the Rhodopi Mts (*Western*) floristic subregion and occurs in a new locality in the Rhodopi Mts (*Central*) floristic subregion. At the first location, only ten plants were found, therefore no plants were collected. All plants grew among unusually numerous populations of *Gymnadenia conopsea* and *Dactylorhiza saccifera*, which are some of the dominant species there. Other species from this family found in this forest are: *Epipactis helleborine*, *E. atrorubens* and *Cephalantera rubra*. At the second location, six plants were found at a distance of several hundred meters, therefore no plants were collected. Other species from this family found in this forest are: *Epipactis helleborine*, *Dactylorhiza saccifera*, *Listera ovata*, and *Neottia nidus-avis*.

Only four localities of this critically endangered plant have been known so far in Bulgaria, with less than 25 specimens in each (Tsvetanov & al. 2005; Petrova 2012), except in the Golo Bardo – Nahodishte na Muhovidna Pchelitsa (Golo Bardo – Locality of *Ophrys insectifera*) plant microreserve and protect-

ed area, where the population numbers were nearly 50 (personal communication with D. Venkova). Thus the plant meets the IUCN criteria for a Critically Endangered species (Petrova 2009). The first locality is in the buffer zone of Kastrakli Reserve, whereas the second location is not in a protected area. Probably the populations are more numerous, especially at the first location, where the soil is moist and has very well developed mycoflora, which ensures rather favourable conditions for the Orchid growth. However, the difficult geomorphology makes the detailed exploration of areas very risky.

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Caprifoliaceae

208. *Lonicera etrusca* Santi

Bu Valley of River Mesta: in the lands of Godeshevo village, in Gabara locality, in the upper part of a slope of eastern exposure and inclination of 5°, 766 m, 41°27'51.4"N, 24°03'58.5"E, KF59, 27.06.2010, coll. A. Tashev (SOM 169687, SO 107552, SOA 059794).

The population of *Lonicera etrusca* is represented by solitary plants of different age and height in a sparse plantation of *Pinus nigra*. Accompanying species are *Rhamnus saxatilis*, *Carpinus orientalis*, *Ostrya carpinifolia*, *Sorbus domestica*, *Juniperus deltooides* etc.

A new Mediterranean thermophile species for the Valley of River Mesta floristic region. So far reported from the Black Sea Coast, Valley of River Struma, Mt Belasitsa, Pirin Mts (*Southern*), Rhodopi Mts (*Eastern*), Thracian Lowland and Mt Strandzha, up to 700 m (Cheshmedzhiev 2011: 286; Assyov & Petrova 2012: 363).

Lamiaceae

209. *Satureja rumelica* Velen.

Bu Valley of River Mesta: in the lands of Godeshevo village, in Dimanskata Stena locality, limestone rocks in the upper part of a slope of north-eastern exposure and inclination of 35°, 651 m, 41°27'59.6"N, 24°03'35.3"E, KF59, 25.07.2010, coll. A. Tashev (SOM 169694, SO 107556, SOA 059792).

Satureja rumelica grows on dry limestone rocks in plant communities rich in endemic species. Accompanying species are *Inula aschersoniana*, *Teucrium polium*, *Micromeria dalmatica*, *M. juliana*, *Stachys annua* etc.

So far this Bulgarian endemic has been reported only from the Thracian Lowland (Cheshmedzhiev 2011: 333) and Rhodopi Mts (*Central*) at elevation of 400 m (Assyov & Petrova 2012: 366).

Rhamnaceae

210. *Rhamnus saxatilis* subsp. *tinctorius* f. *glabrescens* Beldie

Bu Valley of River Mesta: in the lands of Godeshevo village, in Gabara locality, in the upper part of a slope with eastern exposure and inclination of 5°, 766 m, 41°27'51.4"N, 24°03'58.5"E, KF59, 27.06.2010, coll. A. Tashev (SOM 169697, SO 107551, SOA 059795).

The population is represented by solitary plants of different age and height in a plantation of *Pinus nigra*. Accompanying species are *Carpinus orientalis*, *Ostrya carpinifolia*, *Sorbus domestica*, *Lonicera etrusca*, *Juniperus deltoides* etc.

A new Euro-Mediterranean species for the Valley of River Mesta floristic region. So far known for the Black Sea Coast, North-East Bulgaria, Danubian Plain, Forebalkan, Balkan Range, Znepole region, Sofia region, Vitosha region, Mt Slavyanka, Pirin Mts, Mt Sredna Gora and Rhodopi Mts (Cheshmedzhiev 2011: 279; Assyov & Petrova 2012: 345).

Rosaceae

211. *Rosa pendulina* L.

Bu Valley of River Mesta: in the lands of Godeshevo village, in Gabara locality, in the upper part of a slope with eastern exposure and inclination of 4°, 766 m, 41°27'51.4"N, 24°03'58.5"E, KF59, 27.06.2010, coll. A. Tashev (SOM 169686).

Rosa pendulina grows together with *Rhamnus saxatilis*, *Carpinus orientalis*, *Ostrya carpinifolia*, *Sorbus domestica*, *Lonicera etrusca*, *Juniperus deltoides* etc.

A new sub-Mediterranean species for the Valley of River Mesta floristic region. So far reported from the Balkan Range, Znepole region, Vitosha region, West Frontier Mts, Mt Belasitsa, Mt Slavyanka, Pirin Mts, Rila Mts, Mt Sredna Gora and Rhodopi Mts at elevation above 1000 m (Popova 2011: 180; Assyov & Petrova 2012: 351).

Liliaceae

212. *Gagea bohemica* (Zauschn.) Schult. & Schult. f.

Bu Mt Sredna Gora (*Western*): Mt Cherni Rid (Karabair), in the lands of Stambolovo village near Ihtiman town, in Golyamata Polyana locality, forest glade in the upper part of a slope with southern exposure and inclination of 3°, 911 m, 42°22'N, 23°49'E, 22.02.2014, with flowers, coll. A. Tashev (SO 107586, 107587).

Several groups, each of a few dozens to a few hundred flowering individuals observed in the locality, covering an area of about 10 m².

A new Euro-Pontian species for Mt Sredna Gora floristic region. So far reported from the Black Sea Coast, Valley of River Struma, Mt Belasitsa, Mt Slavyanka, Valley of River Mesta, Rhodopi Mts and Thracian Lowland (Popova 2011: 441; Assyov & Petrova 2012: 200).

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Dryopteridaceae

213. *Dryopteris affinis* agg. (Fig. 25)

Mk NW Macedonia, Mt Šar Planina: 0.8 km SE from Lavce village, in a shaded place, one individual alongside with numerous individuals of *D. filix-mas*, 700 m, autumn 1988, coll. A. Teofilovski (herb. Teofilovski).



Fig. 25. *Dryopteris affinis* (photo A. Teofilovski).

This is a taxonomically difficult group comprising seven apomictic species and four hybrids (Fraser-

Jenkis 2007) distributed in: Morocco, Macaronesia, Europe, and W Asia. Within this group, only *D. borrieri* Newman (Syn.: *D. ×tavelii* Rothm.) has been so far reported from Macedonia (E Macedonia, Sasa, as *D. borrieri* and *D. ×tavelii*), S Macedonia (Pelister, as *D. ×tavelii*) (Micevski 1985), Macedonia (Fraser-Jenkis 2007). The new record probably also refers to *D. borrieri*, but further studies are needed to confirm this opinion.

Apiaceae

214. *Coriandrum sativum* L.

MkN Macedonia, Skopje: 0.8 km NE from Gorno Svilare village, in an abandoned meadow, 450 m, 16.06.2013, coll. A. Teofilovski (herb. Teofilovski); 1.6 km W & 1.6 km SE-E from Rašče village, in dry places and abandoned meadows, 410–480 m, 08.07.2013, coll. A. Teofilovski (herb. Teofilovski).

The species has been so far reported from: SE Macedonia (Demir Kapija, Bogdanci), C Macedonia (Veles – Novčani, Sveti Nikole – Delisnici, Pčinja – Kožle), N Macedonia (Kumanovo) (Micevski 2005).

215. *Falcaria vulgaris* Bernh.

MkN Macedonia, Skopje: 2 km W-SW from Gračani village, in a shrubby place, on serpentine, 560 m, 16.06.2013, coll. A. Teofilovski (herb. Teofilovski).

The species has been so far reported from: N Macedonia (Tetovo – Rogačevo), NW Macedonia (between Kriva Palanka and Kratovo, Probištip), C Macedonia (Veles – Novčani and Čičevo, Sveti Nikole – Bogoslovec), SE Macedonia (Ohrid – between Peštani and Trpejca) (Micevski 2005).

216. *Heracleum orphanidis* Boiss.

MkNW Macedonia, Mt Šar Planina: Plat, N slopes, in forest clearings, on limestone, scattered, 1750–1920 m, 12 & 27.07.2012, coll. A. Teofilovski (herb. Teofilovski).

— S Macedonia, Mt Nidze: right side of Suvi Dol, in a *Pinus sylvestris* forest, on limestone, scattered, 1800 m, 24.07.2010, coll. A. Teofilovski & D. Mandzukovski (herb. Teofilovski).

This is the first record from the Macedonian side of Mt Šar Planina and first confirmation of the species occurrence on Mt Nidze. The species has been so far reported from: S Macedonia (Mt Baba – Pelister) and C Macedonia (Mt Jakupica – Begovo Pole, Šaško-

vica) (Matevski 2005). The earlier report from Mt Nidze – Kajmakčalan (Halácsy 1906) is not sufficiently accurate, so it is uncertain whether it refers to the Macedonian or the Greek side. This S Balkan endemic also occurs only in the adjacent Serbian (Kosovo) side of Mt Šar Planina and the adjacent Greek side of Mt Baba (= Mt Varnous).

217. *Peucedanum officinale* L. (Fig. 26)

MkN Macedonia, Skopje: 4–5.5 km N from Raduša village, in shrubby and stony places, on serpentine, scattered to frequent, 620–750 m, 01.07. & 17.08.2013, coll. A. Teofilovski (herb. Teofilovski; MKNH); 2.4 km N-NE from Dolno Orašje village (ca. 3.5 km W from the previous locality), in a shrubby place, on serpentine, 720 m, 29.04.2013, coll. A. Teofilovski (herb. Teofilovski).



Fig. 26. *Peucedanum officinale* (photo A. Teofilovski).

The species is new to Macedonia. Its range comprises much of W, C & S Europe and Morocco. The species is closely related to *P. longifolium* Waldst. & Kit. occurring in SE Europe and parts of SW Asia, usually distinguished by keeled leaf segments, seldom more than 1 mm wide. Fruit pedicels length and pedicels-length-fruits ratio, often used to distinguish both species, was recently rejected, apparently correctly, by some authors as taxonomically useless character (see Hadaček & Samuel 1994). On the other hand, in addition to leaf segments morphology, the cited authors suggest delimitation based on the inflorescence structure, branched in *P. officinale* vs. unbranched in *P. longifolium*, but this suggestion is apparently unacceptable. Leaf segments width of specimens from the vicinity of Raduša village varies strongly – (0.5)0.8–

3.0(3.2) mm, and thus some specimens are close to *P. longifolium*. The treatment of *P. longifolium* as subspecies of *P. officinale* suggested by Frey (1989) seems more appropriate, but it was not accepted by other authors. *Peucedanum longifolium* is reported from S Macedonia: Mt Drenska Planina (Stojanoff 1928).

Asteraceae

218. *Centaurea kotschyana* Heuff.

Mk NW Macedonia, Mt Šar Planina: Plat, N slopes, in mountain meadows, on limestone, 1800–2050 m, scattered, 13.07. & 18.07.2012, coll. A. Teofilovski (herb. Teofilovski).

This is the first confirmation of its occurrence in Macedonia. The only reports presented by Rudski (1938) at a phytocenological discussion refer to NW Macedonia (Mt Korab, Mt Vraca, Mt Šar Planina), and C Macedonia (Mt Jakupica). Confirmation is still required for the rest of the mountains listed above.

219. *Crepis conyzifolia* (Gouan) A. Kern.

Mk NW Macedonia, Mt Šar Planina: Plat, E slopes, in forest clearings, on limestone, 1860 m, 01.08.2013, coll. A. Teofilovski (herb. Teofilovski). The species has been so far reported only from E Macedonia: Mt Osogovo (Ajdučka Češma, Carev Vrv, Ruen, Sasa) (Micevski 1978).

220. *Hieracium jurassicum* Griseb. (Fig. 27a, b)

Mk NW Macedonia, Mt Šar Planina (Pena river basin): Plat, N slopes, in a fir forest, 1580–1840 m, frequent, 09. & 27.07.2012, coll. A. Teofilovski (herb. Teofilovski); left side of river Krivošijska, in a beech forest, 1600 m, 21.07.2013, coll. A. Teofilovski (herb. Teofilovski).

The species has been so far known only from Mt Suva Gora – Čam, 30 km SE from the presented localities. (Teofilovski 2011).

221. *Lactuca aurea* (Vis. & Pančić) Stebbins (Syn.: *Mulgedium sonchifolium* Vis. & Pančić)

Mk NW Macedonia, Mt Šar Planina: Pena river valley – Plat, in a fir forest, frequent, 1620–1840 m, 05 & 13.07.2012, coll. A. Teofilovski (herb. Teofilovski).

This Balkan endemic was earlier known in Macedonia from several localities: SW Macedonia [Mt Jablanica (Velenovský 1922, as *Mulgedium sonchifolium*)], NW Macedonia (Mt Šar Planina – Čaušica River), W Macedonia (Mt Pesjak, Kičevo – Prostranje) (Teofilovski 2011).

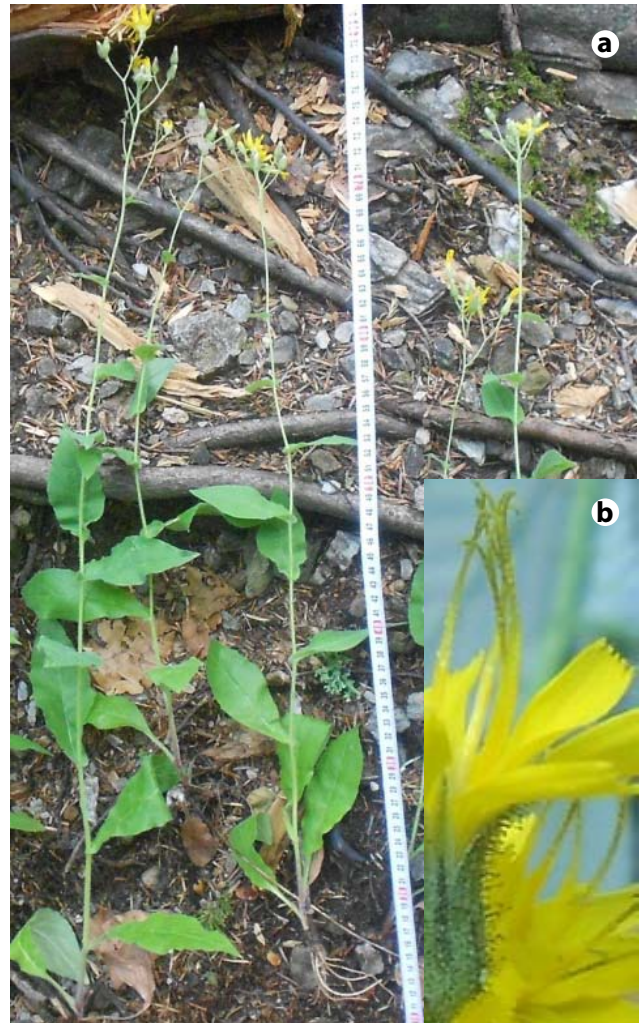


Fig. 27. *Hieracium jurassicum*: **a** – whole plant; **b** – indumentum of involucre (photo A. Teofilovski).

222. *Lactuca intricata* Boiss. (Fig. 28)

Mk NW Macedonia, Mt Šar Planina: Pena river basin, left side of the river Krivošijska canyon, 1750–2000 m, 21.07.2013, coll. A. Teofilovski (herb. Teofilovski).

The species has been so far reported only from Mt Šar Planina – near river Pena, 1520 m (Teofilovski 2011, coll. A. Teofilovski 08.08.1989), but field studies in 2013 have proved that this species is being extinct in that locality, probably due to erosion of the habitat caused by rising river waters. However, the species was discovered 1.5 km NW, in the lower part of river Krivošijska canyon, growing abundantly on an area of more than 5 ha, on limestone, in stony places and semi-stabilized screes. On this mountain, *L. intricata* reaches the northernmost limit of its range which also includes: S Albania, N & C Greece, W & S Anatolia. The closest finding site probably is Mt Gramos in NW Greece, ca. 170 km to the south.



Fig. 28. *Lactuca intricata* (photo A. Teofilovski).

223. *Pilosella guthnikiana* (Hegetschw.) Soják (Syn.: *Hieracium guthnikianum* Hegetschw.) (Fig. 29)

Mk (NW Mk) Mt Šar Planina: Plat, N slopes, in a stony place, on limestone, 2060 m, 18.07.2012, coll. A. Teofilovski & D. Mandzukovski (herb. Teofilovski).



Fig. 29. *Pilosella guthnikiana* (photo A. Teofilovski).

This C & S European species has been so far reported as *Hieracium guthnikianum* from N Macedonia – Mt Skopska Crna Gora (Grupče 1953) and W Macedonia – Mt Korab (Csiki & al. 1926).

224. *Klasea radiata* (Waldst. & Kit.) Á. Löve & D. Löve [Syn.: *Serratula radiata* (Waldst. & Kit.) M. Bieb.]

Mk N Macedonia, Mt Žeden: 3.2 km NW-W from Bojane village, in a shrubby place, on limestone, 950 m, 11.05.2013, coll. A. Teofilovski (herb. Teofilovski); Derven Gorge: 0.5 km NE-E from the Raduša Railway Station, in a shrubby place, on limestone, 390 m, 16.06.2013, coll. A. Teofilovski (herb. Teofilovski).

The species was reported earlier (as *Serratula radiata*) from N Macedonia: Mt Skopska Crna Gora – Vučidol (Soška 1939) and Skopje – above Orašje village (Micevski 1973).

Caryophyllaceae

225. *Polycarpon tetraphyllum* (L.) L.

Mk S Macedonia, Bitola: Stara Čaršija, near a wall, 07.2010, coll. A. Teofilovski (herb. Teofilovski).

The species has been so far reported from: SE Macedonia (Star Dojran, Nov Dojran, Bogdanci, Valandovo, Gradec), C Macedonia (Poreče – Modrište), N Macedonia (Skopje – at an old railway station and Kučkovo village), NW Macedonia (Zletovo) (Matevski & al. 2001). The species is of Mediterranean and W European origin, presently spreads in thermophilous ruderal habitats across the continents. In Macedonia, it possibly is native in the SE part.

Chenopodiaceae

226. *Chenopodium ambrosioides* L.

Mk NW Macedonia, Tetovo: behind the lawn of Vero Market, , 15.10.2010, coll. A. Teofilovski (herb. Teofilovski).

This introduced species has been so far reported from wider surroundings of the following towns in the southern half of Macedonia: Strumica, Gevgelija, Valandovo, Negotino, Kavadarci, Prilep, and Kruševo (Micevski 1995). The newly discovered population occupies an area of ca. 3 m² and, as was observed in November 2013, there has been no change in its size.

Crasulaceae

227. *Sedum magellense* Ten.

Mk S Macedonia, Mt Nidze: Dolgiot Rid, E slopes, on limestone rock in a beech forest,

1750 m, 09.08.2010, coll. A. Teofilovski & D. Mandzukovski (herb. Teofilovski).

The species has been so far reported from: W Macedonia – Mt Dobra, Mt Korab, Mt Bistra, Mt Dešat, Mt Jablanica, NW Macedonia – Mt Šar Planina, SW Macedonia – Mt Galičica, C Macedonia – Mt Jakupica (Micevski 1998).

Dipsacaceae

228. *Cephalaria pastricensis* Dörfel. & Hayek (Fig. 30)

Mk NW Macedonia, Mt Šar Planina: 4.5 km N-NE from Brezno village, at a forest roadside, one individual, 1460 m, 20.07.2012, coll. A. Teofilovski (herb. Teofilovski); 1.8 km N from Brezno village, in pastures and shrubby places on siliceous substrate, 10 individuals, 1570–1590 m, 05.08.2013, coll. A. Teofilovski (herb. Teofilovski).



Fig. 30. *Cephalaria pastricensis* (photo A. Teofilovski).

This species is new to Macedonia. A Balkan endemic with a range that also includes: E Bosnia and Hercegovina (Mt Bjelašnica, Stolac, Gacko), W & SW Serbia (Mt Tara), Kosovo – Mt Prokletije, Mt Paštrik, N Montenegro (Babji Zub, Biogradska Gora, Vrbnica), and NE Albania (Mt Paštrik). A report from NW Greece (Babalonas 1983) was revised by Constantinidis & Phitos (2004) as an error referring to a species of another section. The newly discovered sites represent the easternmost and southernmost points of the species range, situated 40 km SE from the closest one on Mt Paštrik. The species is closely re-

lated to *C. alpina* (L.) Roem. & Schult. from Alps, Jura and N Apenini.

Euphorbiaceae

229. *Euphorbia nicaeensis* All.

Mk N Macedonia, Mt Žeden: 1–3.6 km NW-W from Bojane village, in stony places, on limestone, 600–1020 m, frequent, 11.05.2013, coll. A. Teofilovski (herb. Teofilovski); 3–3.5 km SE-E from Tudence village, in stony places, on limestone, 950–1000 m, 11.05.2013, coll. A. Teofilovski (herb. Teofilovski).

The species has been so far reported from: N Macedonia (Mt Skopska Crna Gora, Skopje, Katlanovo), C Macedonia (Prilep – Treskavec), E Macedonia (Delčevo – Kiselica), SE Macedonia (Mt Belasica) (Micevski 1998).

Fabaceae

230. *Astragalus sinaicus* Boiss.

Mk NW Macedonia, Mt Suva Gora: 0.5 km N from Tenovo village, on a deserted forest road, one individual, 400 m, 04.05.2012, coll. A. Teofilovski (herb. Teofilovski).

This is the species westernmost finding site in Macedonia and the only one in Polog valley. The species has been reported from numerous localities in N, C & SE Macedonia (Micevski 2001). Its range also includes: Bosnia and Herzegovina, Greece, Cyprus, Turkey, and Crimea.

231. *Vicia montenegrina* Rohlena

Mk NW Macedonia, Mt Šar Planina: Lešnica, in a shrubby place near river Pena, 1510 m, 27.06.2013, coll. A. Teofilovski (herb. Teofilovski).

The species has been so far reported from W Macedonia: Mt Bistra (Arap Kula, Starec, Suvi Dol) (Rizovski & Džekov 1990) and Mavrovo (Mavrovi Anovi, Vrben) (Micevski 2001). This Balkan endemic also occurs in Montenegro and Bosnia and Hercegovina.

Geraniaceae

232. *Geranium bohemicum* L.

Mk NW Macedonia, Mt Suva Gora: 2.3 km NE-E from Lukovica village, in a wood-cutting range, 1140 m, 28.06.2013, coll. A. Teofilovski (herb. Teofilovski; MKNH).
— SW Macedonia, Mt Galičica: 2.2 km NW from Bolno village, at forest roadside, 1220 m, 09.07.2010, A. Teofilovski obs. (photo).

The species range comprises much of Europe and W Asia. Its occurrence in Macedonia was not confirmed by Micevski (2005), who has accepted reports from S Macedonia - Mariovo – Lubenica (Herzog 1922) and Kavadarci – Majdan (Bornmüller 1925), but omitted the report from N Macedonia: Mt Skopska Crna Gora – Banjašnica (Grupče 1953).

233. *Geranium coeruleatum* Schur

Mk NW Macedonia, Mt Šar Planina: Plat, N slopes, in a shrubby place, on limestone, 2050 m, 18.07.2012, coll. A. Teofilovski & D. Mandzukovski (herb. Teofilovski; MKNH).

The species has been so far reported from W Macedonia: Mt Korab (Csiki & al. 1926), Gorna Radika basin, Mt Bistra – between Volkovija and Sence (Grebničikov 1938), and Mt Jablanica – near Strižak (Niketić & al. 2007). It was not included in the checklist of the genus by Micevski (2005). Its range comprises the western half of the Balkan Peninsula (excluding Greece) and the Carpathians.

Hypericaceae

234. *Hypericum cerastoides* (Spach) N. Robson

Mk W Macedonia, Mt Bistra: 1.5 km E from Javorec village, on a deserted forest road and at the roadside, 1200 m, several scores of individuals, 29.06.2009, coll. A. Teofilovski (herb. Teofilovski; MKNH).

This is the westernmost point of its entire range which also includes: S Bulgaria, NC & NE Greece, and NW Turkey. The species has been so far reported from several localities in S & E Macedonia (see Matevski & Kostadinovski 1999).

Rosaceae

235. *Potentilla tommasiniana* F.W. Schultz

Mk N Macedonia, Mt Šar Planina (at the foothills): 2.5–4 km S-SE from Rogačevo and Jažince villages, in stony and windy places, on serpentine, 700–800 m, frequent, 06.06.2009, 01.07.2013, coll. A. Teofilovski (herb. Teofilovski); Mt Žeden: 3.5 km NW-W from Bojane village, in stony places, on limestone, 1020 m, 11.05.2013, coll. A. Teofilovski (herb. Teofilovski).

This species is new to Mt Šar Planina and this is the first confirmation of its only report from Mt Žeden (Drenkovski 1971). The species has been also reported from C Macedonia: Kozjak (Micevski 1998).

Cyperaceae

236. *Carex phyllostachys* C.A. Mey.

Mk N Macedonia, Mt Osoj: 2 km S-SW from Gorna Matka village, in a shrubby place, on limestone, 820 m, few individuals, 25.05.2013, coll. A. Teofilovski (herb. Teofilovski).

This is the northernmost point of its range on the Balkan Peninsula, where it was so far reported from: NW Macedonia (Mt Koža), C Macedonia (Mt Babuna) (Bornmüller 1928), S Macedonia – Bitola: Gorno Srpci (Teofilovski 2011), NW Greece (Mt Olympus, Mt Kato Olimbos, Mt Timfi, Mt Avgo) (Autier 1977), and SE Albania – Leusë (Barina & Pifkó 2011). Its range also includes the Caucasus, N Iran, S Turkey, and NW Syria.

237. *Carex umbrosa* Host subsp. *umbrosa*

Mk N Macedonia, Skopje: 1.3 km S from Rašče village, in a dry grassy place, 460 m, 08.06.2013, coll. A. Teofilovski (herb. Teofilovski).

This is the first record referring exactly to *C. u.* subsp. *umbrosa*. *Carex umbrosa* s.l. has been so far reported from SE Macedonia – Mt Belasica: Čepeli (Stojanoff 1921), Mt Dub (Cirimotić 1958), and C Macedonia – Krivolak (Jusuf Korija, Serta) (Matevski & al. 2008). These reports probably also refer to *C. u.* subsp. *umbrosa*, although the presence of *C. u.* subsp. *huetiana* (Boiss.) Soó in Macedonia could not be ruled out.

Liliaceae s.l.

238. *Polygonatum hirtum* (Poir.) Pursh (Syn.: *P. latifolium* Desf.)

Mk NW Macedonia, Tetovo: 2 km NW from Radiovce village, in a riparian forest near Vardar River, 04.05.2012, coll. A. Teofilovski (herb. Teofilovski).

The species has been so far reported (as *P. latifolium*) from: N Macedonia – Raduša (Bornmüller 1928), W Macedonia – Mt Dobra Voda (Matevski 1995), C Macedonia – Katlanovo (Soška 1939), Taor gogre (Micev 1952), Mt Babuna (Em 1964), SW Macedonia (Mt Bigla), SE Macedonia (Strumica – St. Ilija) (Šopova & Sekovski 1982).

Orchidaceae

239. *Coeloglossum viride* (L.) Hartm. [Syn.: *C. viride* subsp. *bracteatum* (Muhlenberg) Hultén]

Mk S Macedonia, Mt Nidze: Belo Grotlo, in a stony place, on limestone, 1950 m, 12.08.2010, coll. A. Teofilovski & D. Mandzukovski (herb. Teofilovski).

The species has been so far reported from: N Macedonia – Mt Skopska Crna Gora (Grupče 1953), NW Macedonia – Mt Šar Planina (Wetstein 1892; Em 1964), W Macedonia – Mt Bistra (Micevski 1994, as *C. viride* subsp. *bracteatum*), C Macedonia – Mt Jakupica (Em 1964), SW Macedonia – Mt Galčica (Weber 1951), and S Macedonia – Alšar (Degen & Dörfler 1897).

Reports 240–241

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Fabaceae

240. *Aeschynomene indica* L. (Figs. 31 & 32)

Gr Nomos & Eparchia Serron: rice field beside



Fig. 31. *Aeschynomene indica* (photo I. Tsialtas).



Fig. 32. *Aeschynomene indica* – fruits (photo I. Tsialtas).

Anagennisi to Karperi road, ca. 35 m, 41°07'N, 23°18'E, 01.10.2014, Tsialtas s.n. (C, herb.

Tsialtas; det. Kit Tan, October 2014); along the road from Strymonas bridge to Karperi, 30 m, 41°03'N, 23°20'E, 01.10.2014, Tsialtas obs.; at the edge of rice fields to the right and left of Vamvakia to Anagennisi road, 26 m, 41°05'N, 23°20'E, 01.10.2014, Tsialtas obs.

Apparently first report for Greece. A tropical species of Asian origin, cultivated as a fodder crop. Perennial to over-wintering annual herb to ca. 1 m tall. Standard reddish-orange veined brown, keel and wings a dull pale yellow. Well-established and locally naturalized, observed for the past four years in cultivated fields on alluvial deposits along the Strymonas river. Several flowering and fruiting plants in the vegetation at the edge of rice fields (where *Sorghum halepense* is dominant) and in damp places at woodland margins. In one locality, rice had been grown prior to maize. The roots of plants are often swollen below ground level and covered with nodules containing symbiotic bacteria which fix atmospheric nitrogen thus improving soil fertility. In this area the mean air temperature is 15.1 °C and total precipitation registered as 448.5 mm, most of which falls during the cold winter.

Solanaceae

241. *Datura ferox* L.

Gr Nomos & Eparchia Dramas: near village of Mikrokampos, ca. 102 m, 41°07'89"N, 24°01'98"E, 04.09.2014, Tsialtas s.n. (herb. Tsialtas).

New for eparchia and nomos. Several fruiting plants at road margins adjacent to fields planted with maize (*Zea mays*), together with *Xanthium strumarium*, *Sorghum halepense* and *Solanum nigrum*. *Datura stramonium* has also been recorded in Nomos Dramas.

Reports 242–243

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Fabaceae

242. *Trifolium isthmocarpum* Brot.

Tu(E) A1(E) Edirne: Lalapaşa, in a pasture, 172 m, 41°49'60"N, 26°43'60"E, 25.05.2013, coll. & det. S. Tütüncü Konyar (EDTU 13303).

A new species for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Çanakkale (Zohary 1970).

Rubiaceae

243. *Galium aparine* L.

Tu(E) A1(E) Edirne: Lalapaşa, in a pasture, 172 m, 41°49'60"N, 26°43'60"E, 01.05.2013, coll. & det. S. Tütüncü Konyar (EDTU 13287).

A new species for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Çanakkale – Gelibolu (Ehrendorfer & Schönbeck-Temesy 1982).

Reports 244–265

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Continuing a series of new plant records based on floristic investigations in the prefecture of Korinthias in north central Peloponnese. New and surprising discoveries still emerge; in this case, taxa new to Mt Killini or which have not been reported from this mountain for more than a century.

Apiaceae

244. *Cachrys cristata* DC.

Gr Nomos & Eparchia Korinthias: wasteground between Drosopigi and Harvati, 285 m, 37°58'N, 23°02'E, 12.06.2014, Zarkos & Christodoulou obs. (photos; det. Kit Tan, June 2014).

New for nomos and eparchia Korinthias, second record for Sterea Ellas.

245. *Johrenia distans* (Griseb.) Halácsy

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, ca. 1100 m, 37°58'N, 22°27'E, 17.05.2014, Zarkos & Christodoulou s.n. (conf. Kit Tan, May 2014).

This species has only been reported once in Nomos Korinthias (Mt Killini, above Ano Trikala, *Orphanides*) and never recorded again for more than a century.

Biebersteinaceae

246. *Biebersteinia orphanidis* Boiss. (Fig. 33)

Gr Nomos & Eparchia Korinthias: Mt Killini, east side of doline N of Mikri Ziria, 1730 m, 37°56'N, 22°27'E, 09.06.2013, Zarkos & Apostolopoulos obs. (photos; conf. Kit Tan, June 2013); slope 0.5 km to the east, 1630 m, 37°56'N, 22°27'E, 04.06.2014, Zarkos & Christodoulou obs. (photos; conf. Kit Tan, June 2014); doline, 1760 m, 37°54'N, 22°26'E, 02.07.2014, Zarkos & Christodoulou obs.; slopes at 1635 m, 37°54'N, 22°26'E, 29.06.2014, Zarkos & Christodoulou obs.



Fig. 33. *Biebersteinia orphanidis* (photo G. Zarkos).

Four separate populations have now been located on Mt Killini and they are listed above. The first locality was published in Zarkos & al. (2013), this confirmed the existence of the plant in its *locus classicus*. There were more than a hundred healthy and flourishing flowering plants in the shallow doline. In the second locality 300–500 m to the east and at a lower altitude, approximately 15 plants were found; in the third and fourth localities, more than 200 plants and 3 plants were counted. This indicates that the *Biebersteinia* populations in the *locus classicus* on Mt Killini have not disappeared but have actually increased since the first discovery more than 160 years ago.

Boraginaceae

247. *Asperugo procumbens* L.

Gr Nomos & Eparchia Korinthias: Mt Killini, dirt road on way to summit Simeio, near shepherd's hut, 1850 m, 37°55'N, 22°24'E, 15.06.2014, Zarkos, Apostolopoulos & Christodoulou obs. (photos; conf. Kit Tan, June 2014).

New for Mt Killini. In Korinthias, also noted at Lake Stymfalia and at the edge of Mougosto forest.

248. *Omphalodes luciliae* subsp. *scopulorum* J.R. Edm. (Fig. 34)

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, peak Tsouma, 1980 m, 37°55'N, 22°26'E, 17.06.2014, Zarkos & Christodoulou obs. (photos; conf. Kit Tan, June 2014).

New for Mt Killini, nomos and eparchia Korinthias; in the Peloponnese recorded only from Mt Chelmos. On mainland Greece, it occurs on the mountains of Sterea Ellas (Parnassos, Iti and Giona), Mts Olimbos and Pangeon.



Fig. 34. *Omphalodes luciliae* subsp. *scopulorum* (photo G. Zarkos).

Brassicaceae

249. *Chorispora tenella* (Pallas) DC. (≡ *Raphanus tenellus* Pallas)

Gr Nomos & Eparchia Korinthias: Mt Killini, dirt road on way to summit Simeio, near shepherd's hut, 1850 m, 37°55'N, 22°24'E, 15.06.2014, Zarkos, Apostolopoulos & Christodoulou obs. (photos; re-confirmed Kit Tan, July 2014).

New for Mt Killini, nomos and eparchia Korinthias and the Peloponnese. This is the only species of the genus in Europe and was recorded in Greece based on a single collection (Delphi, 700 m, 28 April 1931, Samuelsson & Zander 221, LD!). It is perhaps surprising it had not been noted elsewhere from ruderal places in Greece. Dimopoulos & al. (2013: 269) states that it is "a non-established casual ... and [its existence] never confirmed later". However, it seems established on Killini, following the flocks in heavily grazed and nitrified places in a similar manner to *Dysphania pumilio* which is likewise distributed. Giannis Kofinas (Athens) had posted its presence in a photo website to which reference can be made:

<http://www.greekflora.gr/el/flowers/2184/>
Chorispora-tenella

250. *Rorippa sylvestris* (L.) Besser

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, slopes and dried-up bed of the Sythas river, 1100 m, 37°57'N, 22°26'E, 06.07.2014, Zarkos, Apostolopoulos & Christodoulou obs. (photos; det. Kit Tan, July 2014).

Confirming an old record by Maire and Petitmengin on 08.10.1906 from probably the same locality; apparently not reported again from Mt Killini. In Korinthias it occurs in large populations at the edge of Lake Stymfalia, in areas drying out in the summer.

Caryophyllaceae

251. *Dianthus mercurii* Heldr. (Fig. 35)

Gr Nomos & Eparchia Korinthias: summit of Mt Konomavra, N of the villages Kesari and Klimenti, forest margin, 1020 m, 37°57'N, 22°33'E, 25.08.2012, Zarkos & Christodoulou obs. (photo; conf. Kit Tan, July 2014); *loc. ibid.*, 09.09.2013, Zarkos & Christodoulou obs.; *loc. ibid.*, 14.08.2014, Kit Tan & al. 31742.



Fig. 35. *Dianthus mercurii* (photo G. Zarkos).

Endemic to the Peloponnese, the lectotype is from Mt Killini (coll. Aug. 1871 by Heldreich), apparently not re-collected on this mountain. Our present record is the second report from Korinthias.

252. *Dianthus pinifolius* subsp. *lilacinus* (Boiss. & Heldr.) Wettst.

Gr Nomos & Eparchia Korinthias: summit of Mt Konomavra, N of the villages Kesari and Klimenti, in *Quercus coccifera* scrub, 1165 m, 37°57'N, 22°33'E, 22.06.2014, Zarkos & Christodoulou obs. (photos; det. Kit Tan,

June 2014); *loc. ibid.*, 14.08.2014, *Kit Tan & al.* 31744; Mt Killini, dry meadow overlying limestone, 1500 m, 37°57'N, 22°25'E, 27.07.2013, *Kit Tan, G. Vold & Zarkos* 31646 (herb. Kit).

New for Mt Killini (Ziria) and nomos Korinthias. Mt Konomavra is an eastward extension of Mikri Ziria. The plant has been recorded from Mts Erimanthos, Panachaiko, Kallifoni, Chelmos and Parnon. It resembles *D. androsaceus* (Boiss. & Heldr.) Hayek but is taller, up to 50 cm in height. The plants from Killini were grazed, 15–20 cm tall and show some introgression with *D. androsaceus* (*Kit Tan, G. Vold & Zarkos* 31645) which occurs in the same locality together with *Bupleurum flavicans*.

253. *Dianthus serratifolius* subsp. *abbreviatus* (Halácsy) Strid

Gr Nomos & Eparchia Korinthias: Mt Killini, N-facing slopes of Flavouritsa gorge, 1745 m, 37°55'N, 22°26'E, 02.07.2014, *Zarkos & Christodoulou* obs. (photos; conf. *Kit Tan*, July 2014).

Endemic to the Peloponnese (on Taigetos, Parnonas and Menalon); confirming literature record (Strid 1986: 179) from Mt Killini but the voucher specimen for the record has not been traced.

254. *Gypsophila nana* Chaub. & Bory

Gr Nomos & Eparchia Korinthias: Mavro Oros, crevices of shaded conglomerate rock, 1680 m, 38°02'N, 22°25'E, 21.07.2009, *Kit Tan & G. Vold* 30784 (herb. Kit).

— Feneos valley, near village Steno at foot of Mt Killini, vertical limestone cliffs, 1215 m, 37°58'N, 22°21'E, 17.06.2014, *Zarkos* obs. (photos; conf. *Kit Tan*, July 2014).

New for nomos and eparchia. Found together with *Pterocephalus perennis*, *Asperula arcadiensis*, *Campanula versicolor*, *Potentilla speciosa* and *Amelanchier chelmea*.

255. *Silene paradoxa* L.

Gr Nomos & Eparchia Korinthias: in clearings and along paths in Mougosto forest, 890 m, 37°59'N, 22°36'E, 14.08.2014, *Kit Tan & al.* 31740 (herb. Kit).

New for nomos and eparchia Korinthias and phytogeographical region Peloponnisos.

256. *Silene supina* M. Bieb. (Figs. 36 & 37)

Gr Nomos & Eparchia Korinthias: gravelly serpen-



Fig. 36. *Silene supina* (photo G. Zarkos).

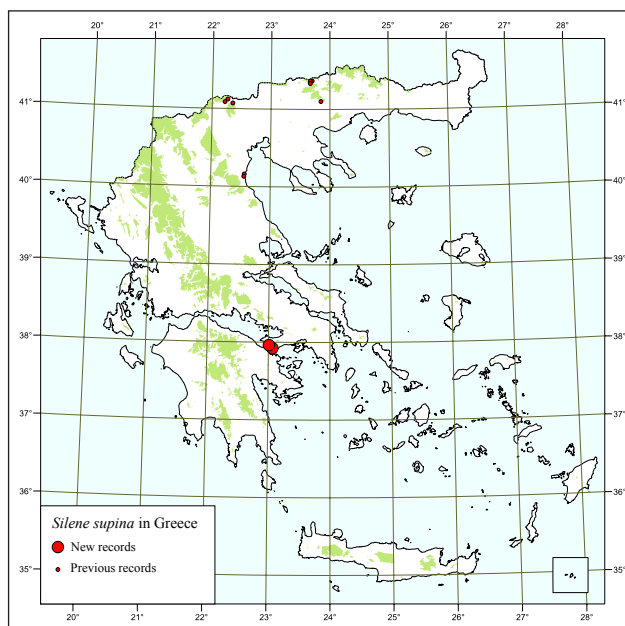


Fig. 37. Distribution of *Silene supina* in Greece.

tine slopes above dry stream bed in *Pinus halepensis* woodland on lower slopes of Mt Gerania east of Drosopigi, 175–275 m, 37°58'N, 23°01'E, 28.05.2014, *Zarkos* s.n. (herb. Kit); serpentine slopes near Sousaki, 120 m, 37°56'N, 23°04'E, 07.06.2014, *Zarkos* obs.

New for Mt Gerania, nomos and eparchia Korinthias and phytogeographical region Sterea Ellas; not recorded from Gerania by Constantinidis (1997). In the first locality, there are large populations comprising 100–200 individuals growing together with *Anthyllis hermanniae*, *Centaurea attica* subsp. *megarensis*, *Atractylis cancellata*, *Silene corinthiaca*, *Thymus capitatus*, etc. In the second locality the populations are smaller, comprising less than 10 individuals. Although drying out in summer, the stream is fast-flowing in winter. The inflorescences are very sticky and it is pos-

sible distribution and dispersal might be achieved by migratory birds. Recorded from NE and NC Greece, and the nearest populations to the Gerania locality are in NC Greece, on the gravelly coastal flats at Litochoron, NE of Mt Olympus (see Fig. 37).

257. *Silene viridiflora* L.

Gr Nomos & Eparchia Korinthias: clearing in Mougosto forest, 890 m, 37°59'N, 22°36'E, 21.06.2014, *Dimitris & Vasilis Christodoulou* obs.; *loc. ibid.*, 29.06.2014, *Zarkos & Christodoulou* obs. (photos; conf. Kit Tan, June 2014); *loc. ibid.*, deciduous forest and scrub, 14.08.2014, *Kit Tan & al.* 31741.

Fairly widespread in Greece but not yet reported for nomos and eparchia Korinthias. The undersurface of the petals are not as green as in specimens from some other parts of Greece.

Celastraceae

258. *Euonymus latifolius* Mill. (Fig. 38)

Gr Nomos & Eparchia Korinthias: Mt Killini, steep slopes of Flabouritsa gorge, ca. 1110 m, 37°57'N, 22°27'E, 17.05.2014, *Zarkos* s.n. (herb. Kit; det. J. Zieliński, May 2014).

Within the Peloponnese this was first collected by Heldreich from Mt Olenos, Erimanthos (see Halácsy 1900: 314); it had never been re-collected in this phytogeographical region till now, on Killini. There were several shrubs 1-3 m in height on a steep slope together with *Abies cephalonica*, *Ostrya carpinifolia*, *Pinus nigra* and *Salix elaeagnos*; in the undergrowth were *Chaerophyllum heldreichii*, *Fragaria vesca* and *Sanicula europaea*. The petals are a pale dusky-pink or pale green and only three flowers were seen fully open.



Fig. 38. *Euonymus latifolius* (photo V. Christodoulou).

Euphorbiaceae

259. *Euphorbia amygdaloides* subsp. *heldreichii*

(Boiss.) Aldén

Gr Nomos & Eparchia Korinthias: steep slopes of Flabouritsa gorge, ca. 1110 m, 37°57'N, 22°27'E, 17.05.2014, *Zarkos & Christodoulou* s.n. (photos; det. Kit Tan, May 2014).

New for Mt Killini, nomos and eparchia Korinthias. In the Peloponnese reported only from Taigetos and Parnonas. Its occurrence on Mt Killini in the same locality as *Euonymus latifolius*, links the distribution of both species in the Peloponnese with their distributions on the mainland.

Lentibulariaceae

260. *Pinguicula crystallina* subsp. *hirtiflora* (Ten.)

Strid (Fig. 39)

Gr Nomos & Eparchia Korinthias: Mt Killini, wet, shaded limestone rocks in Chavos gorge, ca. 1035 m, 37°58'N, 22°22'E, 16.07.2014, *Zarkos* obs. (photos; conf. Kit Tan, July 2014).



Fig. 39. *Pinguicula crystallina* subsp. *hirtiflora* (photo G. Zarkos).

New for Mt Killini. In the Peloponnese, reported only from Mts Taigetos, Panachaiko and Chelmos. In Korinthias, it has been reported from Mavro Oros and near Evrostina (Zachuli). *Cirsium arvense*, *Dactylorhiza saccifera*, *Dorycnium herbaceum* and *Salix elaeagnos* occur in the same locality.

Salicaceae

261. *Salix triandra* L.

Gr Nomos & Eparchia Korinthias: Mt Killini, Mikro Kefalari, wet roadside ditch, 1420 m, 37°59'N, 22°26'E, September 2013, *Zarkos & Christodoulou* s.n. (photos; conf. Kit Tan & Zieliński, November 2014).

New for Mt Killini, nomos and eparchia Korinthias. First confirmed record from Peloponnisos, substantiated by specimens. *Salix alba* and *S. amplexicaulis* occur in the same area.

Saxifragaceae

262. *Saxifraga sibthorpii* Boiss. (Fig. 40)

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, summit of Tsouma, 1980 m, 37°55'N, 22°26'E, 17.06.2014, Zarkos & Christodoulou obs. (photos; conf. Kit Tan, June 2014).

Confirming an early collection by Orphanides in July 1851; known from a few mountains in the Peloponnese (Taigetos, Erimanthos and Chelmos), Sterea Ellas (Parnassos, Giona, Iti, Vardousia) and the W Aegean island of Evvia (Dirfi and Xerouvouni).



Fig. 40. *Saxifraga sibthorpii* (photo V. Christodoulou).

Tiliaceae

263. *Tilia platyphyllos* subsp. *pseudorubra* C.K. Schneider (Fig. 41)

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, single tree ca. 20 m tall on bank of Sythas river, 1114 m, 37°57'N, 22°26'E, 17.05.2014, Zarkos & Christodoulou s.n. (herb. Kit; det. & conf. Kit Tan & J. Zieliński, May 2014). Confirming an earlier report from Ano Trikala without assignment to subspecies (*Stamatiadou* 6493, ATH!). *Tilia platyphyllos* is a variable species especially regarding indumentum and fruit characters. The combination of small glabrous leaves, glabrous twigs and petioles, narrow thin-walled fruits and restricted geographical range may merit recognition as a separate subspecies, *T. platyphyllos* subsp. *corinthiaca*. Two individuals were noted as planted in Ano Trikala and Saint Vlassis; the small stream Lykolagadho above

Ano Trikala is the locality of the designated neotype of *T. platyphyllos* subsp. *corinthiaca* (K. Koch) Pigott \equiv *T. corinthiaca* K. Koch.

Dimopoulos & al. (2013) reports *Tilia cordata* Mill. as occurring in the Peloponnese and Sterea Ellas. However, these reports are erroneous and are misidentifications of *T. platyphyllos* subsp. *pseudorubra* (conf. J. Zieliński, Poznan, 2014). *T. cordata* is doubtfully native in Greece, being planted on Kefallinia (Ionian islands) and near villages in Samothraki (N Aegean).



Fig. 41. *Tilia platyphyllos* subsp. *pseudorubra* (photo G. Zarkos).

Alliaceae

264. *Allium vineale* L.

Gr Nomos & Eparchia Korinthias: Mt Killini, N-facing slopes of Flabouritsa gorge, 1745 m, 37°55'N, 22°26'E, 02.07.2014, Zarkos & Christodoulou obs.; meadow near Mt Konomavra, 1150 m, 37°57'N, 22°32'E, 22.06.2014, Zarkos & Christodoulou obs. (photos; conf. Kit Tan, June 2014).

Confirming an old record from Killini (Ziria) by Orphanides. It is surely more widely distributed in the Peloponnese than the few reports available (Mt Oligirtos, the ruins at Mycenae and recent collections from Mt Panachaiko). It has been noted in fallow fields near the village of Agiorgitika (Nomos Arkadias, Eparchia Mandinias) by Kit Tan and G. Vold.

Orchidaceae

265. *Epipactis purpurata* Sm. (= *E. halacsyi* Robatsch)

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, 1210 m, 37°56'N, 22°26'E, 07.07.2014, Zarkos, Apostolopoulos & Christodoulou obs.

Confirming a previous observation from Mt Killini

(6 July 2011, Tsiftsis obs.). Widespread in W and C Europe but in Greece confirmed only from the Peloponnese (Mts Taigetos and Killini). Dimopoulos & al. (2013) lists *E. purpurata* as occurring in N Pindos but the records possibly refer to *E. helleborine* (L.) Crantz (*vide* Kretzschmar, pers. comm. 2013, who also treats *E. halacsyi* as a synonym of *E. purpurata*).

We wish to thank Professor J. Zieliński (Poznań) for his helpful comments regarding *Euonymus latifolius* and *Tilia platyphyllos*.

Reports 266–269

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Continuing a series of new plant records based on further floristic investigations on Evvia (West Aegean islands, Greece) and Mt Parnitha (Sterea Ellas). The floristic regions adopted follow those circumscribed in *Flora Hellenica* (Strid & Tan 1997).

Asclepiadaceae

266. *Vincetoxicum speciosum* Boiss. & Spruner (Fig. 42)

Gr Nomos Evvias, Eparchia Chalkidos: Mt Xirovouni, scree near wet limestone slope, 790 m,



Fig. 42. *Vincetoxicum speciosum* (photo A. Zografidis).

38°35'N, 23°53'E, 21.06.2014, Zografidis obs.

(photo; conf. Kit Tan, June 2014).

There are previous reports from Mt Dirfi, e.g., by Fraas (1845: 159) as *Asclepias dioscoridis* Fraas, *sp. nov.* and by Orphanides but they date back more than 150 years. Our record is a very recent confirmation of its occurrence in the Dirfi-Xirovouni range in C Evvia. A few plants were noted growing near *Platanus orientalis*, *Dactylorhiza saccifera* and *Equisetum telmateia*.

Asteraceae

267. *Cirsium arvense* (L.) Scop.

Gr Nomos & Eparchia Attikis: Mt Parnitha, within area of the national park, 1070 m, 38°09'N, 23°43'E, 28.06.2014, Zografidis obs. (photo; conf. Kit Tan, June 2014).

New for Parnitha. A few plants were found in burnt *Abies cephalonica* woodland, severely bitten probably by deer.

Brassicaceae

268. *Matthiola longipetala* (Vent.) DC. subsp. *bicornis* (Sm.) P.W. Ball (Fig. 43)

Gr Nomos Evvias, Eparchia Chalkidos: southern foothills of Mt Dirfi, 270 m, 38°32'N, 23°47'E, 18.04.2014, Zografidis obs. (photo; conf. Kit Tan, June 2014).

New for Mt Dirfi, a single plant (see photo) noted together with *Verbascum undulatum* (in background to the right of photo) and *Anchusa azurea*. Previously recorded from N Evvia (Eparchia Istieas), and C Evvia (N of Gymnos) but not from Mt Dirfi itself. *Matthiola longipetala* subsp. *pumilio* (Sm.) P.W. Ball occurs on the island of Rodos (E Aegean).



Fig. 43. *Matthiola longipetala* subsp. *bicornis* (photo A. Zografidis).

Scrophulariaceae

269. *Verbascum gloeotrichum* Hausskn. & Heldr.
(Fig. 44)

Gr Nomos Evvias, Eparchia Chalkidos: southern foothills of Mt Dirfi, 270 m, 38°33'N, 23°49'E, 21.06.2014, *Zografidis* obs. (photo; conf. Kit Tan, June 2014).

New for Mt Dirfi and Eparchia Chalkidos, southernmost distribution in the Balkans. It has been reported only from the north of the island (Eparchia Istieas). About 20 plants were found on sandy clay in open *Sarcopoterium spinosum* – *Spartium junceum* scrub. In the recently published checklist of vascular plants (Dimopoulos & al. 2013) this Balkan endemic was listed as *V. glandulosum* Delile.



Fig. 44. *Verbascum gloeotrichum* (photo A. Zografidis).

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