New floristic records in the Balkans: 34*

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Abstract: New chorological data are presented for 181 species and subspecies from Bulgaria (72-88, 92, 93, 98-124, 139-144), Macedonia (89-91, 132-138), Greece (12-71, 94-97, 125-131, 145-181), and Turkey-in-Europe (1-11). The taxa belong to the following families: *Aceraceae* (146), *Alismataceae* (138), *Alliaceae* (88, 95), *Amaranthaceae* (12, 13, 68), *Amaryllidaceae* (52, 53, 181), *Anacardiaceae* (147, 148), *Apiaceae* (14, 15, 98, 115, 125, 126, 132, 133, 149), *Apocynaceae* (150), *Aspleniaceae* (145), *Asteraceae* (16-22, 72, 73, 103-108, 116-118, 127, 134, 139-142, 151, 152), *Balsaminaceae* (109), *Berberidaceae* (110), *Betulaceae* (153), *Boraginaceae* (1, 23-25, 74, 154-156), *Brassicaceae* (26, 27, 69, 128, 157, 158), *Callitrichaceae* (75), *Campanulaceae* (119, 159), *Caryophyllaceae* (28, 76, 77, 135), *Chenopodiaceae* (29, 30), *Cistaceae* (160), *Commelinaceae* (111), *Convolvulaceae* (31), *Crassulaceae* (112), *Cuscutaceae* (78), *Cyperaceae* (102), *Euphorbiaceae* (32-35, 120, 161, 162), *Fabaceae* (2, 36-38, 79-80, 99, 121, 122, 129, 136, 163), *Fagaceae* (164), *Fumariaceae* (165), *Gentianaceae* (39), *Gesneriaceae* (100), *Hyacinthaceae* (54, 55, 130), *Hypericaceae* (166), *Iridaceae* (56-59, 96), *Juncaceae* (89, 124), *Lamiaceae* (3, 40, 167-170), *Liliaceae* s.l. (4, 90), *Malvaceae* (94), *Oleaceae* (171), *Onagraceae* (113), *Orchidaceae* (5-11, 60, 97), *Phytolaccaceae* (143), *Pinaceae* (114), *Plantaginaceae* (41, 137), *Poaceae* (61-67, 91-93), *Polygonaceae* (42, 43, 81), *Primulaceae* (172), *Ranunculaceae* (44, 45, 82, 173, 174), *Rhamnaceae* (46, 70), *Rosaceae* (71, 83), *Rubiaceae* (84), *Saxifragaceae* (101), *Scrophulariaceae* s.l. (85, 86, 175, 176), *Solanaceae* (47, 48, 87, 144), *Tamaricaceae* (49), *Thymelaeaceae* (123, 131), *Urticaceae* (177), *Valerianaceae* (50), *Veronicaceae* (51, 178, 179), and *Vitaceae* (180).

A new species for science is: *Verbascum corinthiacum* (176).

New species for the countries are: Bulgaria – *Cosmos bipinnatus* (105), *Oenothera speciosa* (113), *Physalis philadelphica* (144), *Sedum sarmentosum* (112), *Tagetes patula* (108); Macedonia – *Wulfenia carinthiaca* (137).

The publication includes contributions by: M. Aybeke (1-11), R.M. Burton & Kit Tan (12-67), C. Cattaneo & M. Grano (68-71), D. Dimitrov & V. Vutov (72-93), K. Giannopoulos, Kit Tan & G. Vold (94-97), Y. Marinov & S. Stoyanov (98-102), A. Petrova (103-113), A. Petrova & S. Dalakchieva (114-124), K. Polymenakos & Kit Tan (125-130), Kit Tan (131), A. Teofilovski (132-138), V. Vladimirov & A. Tashev (139-144), G. Zarkos, V. Christodoulou, Kit Tan & G. Vold (145-181).

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 M. Aybeke.

Reports 1–11

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Boraginaceae

1. *Anchusa leptophylla* subsp. ***incana*** (Ledeb.) Chamb.

Tu(E) A1(E) Kırklareli: between Dereköy ad Demirköy, at 7th km, in rocky places in the openings of mixed forest, 502 m, 41°55'48"N, 27°22'14"E, 09.05.1996, coll. & det. *C. Yarcı* (EDTU 6864).

This species is new for A1(E) Kırklareli in European Turkey. According to Chamberlain (1978), this taxon was recorded only in A1(E) Edirne.

Fabaceae

2. *Lotus corniculatus* L. var. ***tenuifolius*** L.

Tu(E) A1(E) Kırklareli: Demirköy, 250 m, 41°49'30"N, 27°45'35"E, 02.07.1988, coll. & det. *C. Yarcı*, appr. M. Aybeke (EDTU 2248); Demirköy, between Demirköy and Pınarhisar, at 1st km, 240 m, 41°49'30"N, 27°45'35"E, 02.07.1989, coll. & det. *C. Yarcı*, appr. M. Aybeke (EDTU 4208); Demirköy, between Demirköy and İğneada, at 6st km, 30 m, 41°52'28"N, 27°59'02"E, 03.09.1989, coll. & det. *C. Yarcı*, appr. M. Aybeke (EDTU 4218); Demirköy, between Karanlık and Karadere villages, at 3rd km, 508 m, 41°54'19"N, 27°34'55"E, 03.09.1989, coll. *C. Yarcı*, appr. M. Aybeke (EDTU 4219).

A new species for A1(E) Kırklareli in European Turkey. According to Heyn (1970), this taxon was recorded only in A1(E) Edirne and A2(E) Istanbul.

Lamiaceae

3. *Prunella laciniata* (L.) L.

Tu(E) A1(E) Kırklareli: Demirköy, 250 m, 41°49'30"N, 27°45'35"E, 02.07.1988, coll. & det. *C. Yarcı* (EDTU 2258).

A new species for A1(E) Kırklareli in European Turkey. According to Edmondson (1982), this taxon was encountered only in A1(E) Tekirdağ and A2(E) Istanbul.

Liliaceae s.l.

4. *Ruscus aculeatus* L. var. ***aculeatus***

Tu(E) A1(E) Kırklareli: Demirköy, 500 m from İğneada to Limanköy, 10 m, 41°52'28"N, 27°59'02"E, 03.09.1989, coll. & det. *C. Yarcı* (EDTU 4249); Demirköy, lake Mert, in a longos forest, 245 m, 41°49'30"N, 27°45'35"E, 03.09.1989, coll. & det. *C. Yarcı* (EDTU).

A new species for A1(E) Kırklareli in European Turkey. According to Davis (1984), this taxon was encountered only in A1(E) Edirne.

Orchidaceae

5. *Anacamptis pyramidalis* (L.) L.C.M. Richard

Tu(E) A1(E) Edirne: Keşan, 100 m to Gökçetepe coast, on the right side of the road, under *Pinus* tree, on a path, 110 m, 40°39'50"N, 26°37'53"E, 05.05.2002, coll. & det. *M. Aybeke* (EDTU 8347); Keşan, Mecidiye exit, 2.5 km to Çeltik village, on the right side of the road, in openings of *Pinus* forest, 52 m, 40°41'04"N, 26°33'36"E, 16.05.2003, coll. & det. *M. Aybeke* (EDTU 8429); Lalapaşa, exit of Vaysal village to Devletliağaç, on the left side of the road, Mezarlıksırtı locality, under *Quercus* trees, 508 m, 41°56'26"N, 26°52'09"E, 23.06.2003, coll. & det. *M. Aybeke* (EDTU 10247);

— A1(E) Kırklareli: Saray, Saray – Kıyıköy road, 2.2 km to Kıyıköy, under *Quercus* trees, 15 m, 41°38'05"N, 28°05'41"E, 07.06.2002, coll. & det. *M. Aybeke* (EDTU 8377).

A new species for A1(E) Edirne and Kırklareli in European Turkey. According to Renz & Taubenheim (1984), this taxon was recorded only in A1(E) Çanakkale and A2(E) Istanbul.

6. *Cephalanthera damasonium* (Mill.) Druce

Tu(E) A1(E) Edirne: Keşan, Maltepe exit to Keşan, 200 m before the ramp end, on the right side of the road, on a dried valley edges, under *Quercus* trees, 210 m, 40°59'15"N, 26°38'26"E, 12.05.2001, coll. & det. *M. Aybeke* (EDTU 8249);

— A1(E) Kırklareli: Demirköy, 6th km to Demirköy, Vali Mezarlığı locality, at the roadside, in forest, 250 m, 41°49'30"N, 27°45'35"E, 18.05.2001, coll. *M. Aybeke* (EDTU 8245).

A new species for A1(E) Kırklareli and Edirne in European Turkey. According to Renz & Taubenheim (1984), this taxon was recorded only in A1(E) Çanakkale.

7. *Limodorum abortivum* (L.) Schwarz

Tu(E) A1(E) Çanakkale: Eceabat, Alçıtepe – Abide road, 3rd km, on the right side of the road, under forest canopy, 93 m, 40°05'35"N, 26°13'28"E, 16.03.2001, coll. *M. Aybeke* (EDTU 8179);

— A1(E) Edirne: Keşan, 1.7 km from Çamlıca to

Pınar, on the right side of a dirt road, near a creek bed, 95 m, 40°45'43"N, 26°40'27"E, 22.04.2001, coll. & det. *M. Aybeke* (EDTU 8212);

— A1(E) Kırklareli: Saray, Saray – Kıyıköy road, 2.2 km before Kıyıköy, on the right side of the road, under *Quercus* trees, 15 m, 41°38'05"N, 28°05'41"E, 07.06.2002, coll. & det. *M. Aybeke* (EDTU 8375).

A new species for A1(E) Çanakkale (Thrace region), Kırklareli and Edirne in European Turkey. According to Renz & Taubenheim (1984), this taxon was mentioned only in A1(A) Çanakkale (Anatolian region) and A2(E) Istanbul.

8. *Orchis coriophora* L.

Tu(E) A1(E) Edirne: Enez, at Yayla village entry, in a football field, 102 m, 40°37'49"N, 26°23'31"E, 22.06.2001, coll. & det. *M. Aybeke* (EDTU 8233); Lalapaşa, Hanlıyenice – Çatma road, 500–600 m before Çatma village, on the right side of the road, in a wetland, 120 m, 41°53'01"N, 26°38'20"E, 16.05.2002, coll. *M. Aybeke* & *N. Güler*, det. *M. Aybeke* (EDTU 8362).

A new species for A1(E) Edirne in European Turkey. According to Renz & Taubenheim (1984), this taxon was recorded only in A2(E) Istanbul.

9. *Orchis morio* subsp. ***picta*** (Loisel.) K. Richter

Tu(E) A1(E) Kırklareli: Dereköy, Kırklareli – Dereköy road, at 18th km, on the right side of the road, in openings of a *Quercus* forest, 508 m, 41°55'48"N, 27°22'14"E, 28.04.2001, coll. & det. *M. Aybeke* (EDTU 8221); Sarpdere road, İncesırt Cemetery, 503 m, 41°54'19"N, 27°34'55"E, 28.04.2001, coll. & det. *M. Aybeke* (EDTU 8227); between Armutveren – Şükrüpınar, at 1st km, on the left side of the road, in the beginning where the road goes to the tower, 303 m, 41°54'02"N, 27°32'46"E, 28.04.2001, coll. & det. *M. Aybeke* (EDTU 8231).

This is a new species for Kırklareli in European Turkey. According to Renz & Taubenheim (1984), this taxon was mentioned only for A1E Çanakkale (Koru Mountain) and A2E İstanbul.

10. *Orchis papilionacea* L. var. ***papilionacea***

Tu(E) A1(E) Çanakkale: Eceabat, Seddülbahir, 500 m after Yahya Çavuş Martyrdom, on the left side of the road, under *Pinus* trees, 10 m, 40°02'40"N, 26°11'15"E, 07.04.2001, coll. & det. *M. Aybeke* (EDTU 8197);

— A1(E) Kırklareli: Sivriler – Kızılağaç road, at Panayır Wharf turnout, in a grassland, 252 m, 41°46'57"N, 27°51'59"E, 18.05.2001, coll. & det. *M. Aybeke* (EDTU 8240).

This is a new species for A1(E) Kırklareli and Çanakkale in European Turkey. According to Renz & Taubenheim (1984), this taxon was reported only from A1(A) Çanakkale (Anatolian region) and A2(E) Istanbul.

11. *Platanthera chlorantha* (Custer) Rchb.

Tu(E) A1(E) Edirne: Keşan, Yerlisu village, Aşlama creek environs, in openings of *Pinus* forest, 92 m, 40°45'43"N, 26°40'27"E, 18.06.2002, coll. & det. *M. Aybeke* (EDTU 8378);

— A1(E) Kırklareli: Dereköy, at Koruköy entrance, on the left side of a dirt road, under *Quercus* trees, 508 m, 41°51'27"N, 27°19'28"E, 28.04.2001, coll. & det. *M. Aybeke* (EDTU 8222); Demirköy, between Demirköy – Sivriler, at 6th km, under *Quercus* trees, 210 m, 41°46'57"N, 27°51'59"E, 18.05.2001, coll. & det. *M. Aybeke* (EDTU 8236); Saray, Saray – Kıyıköy road, 2.2 km before Kıyıköy village, under *Quercus* trees, 15 m, 41°38'05"N, 28°05'41"E, 07.06.2002, coll. & det. *M. Aybeke* (EDTU 8373); İğneada – Sislioba road, at 2nd km, under *Quercus* trees, 10 m, 41°52'28"N, 27°59'02"E, 03.06.2003, coll. & det. *M. Aybeke* (EDTU 8433).

This is a new species for A1(E) Kırklareli and Edirne in European Turkey. According to Renz & Taubenheim (1984), this taxon was reported only from A2(E) Istanbul.

Reports 12–67

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The following plant records are new for the East Aegean island of Simi (Nomos Dodekanisou, Eparchia Rodou); none are new for the phytogeographical region East Aegean. They are mostly the result of discoveries by Lorna and Derek Holland who used to visit the island annually. Lorna is an experienced amateur botanist and her husband Derek, long retired, was formerly a scientist at the East Malling

Agricultural Research Institute. Other enthusiasts who made the acquaintance of the Hollands on Simi have also contributed to the records. The Hollands wished that their discoveries could be documented and put to future use. Thus they have been formatted for inclusion in the Flora Hellenica database and are published here. Rodney Burton is responsible for the identification of Lorna Holland's specimens. The distribution on the other East Aegean islands is also provided.

Amaranthaceae

12. ***Amaranthus blitoides*** S. Watson

Gr Simi: Harani part of harbour, 20 m, 36°36'N, 27°50'E, 02.07.2007, *L.* & *D. Holland* s.n.

Recently collected from Ghialos (*Cattaneo* 279). Reported from almost all E Aegean islands.

13. ***Amaranthus cruentus*** L.

Gr Simi: Pedi, 36°36'N, 27°53'E, 07.07.2007, *L.* & *D. Holland* s.n.

Observed on all the larger E Aegean islands.

Apiaceae

14. ***Ammi majus*** L.

Gr Simi: Pedi, in valley, 36°36'N, 27°53'E, 03.07.2003, *L.* & *D. Holland* s.n.

On all the larger E Aegean islands.

15. ***Anethum graveolens*** L.

Gr Simi: Pedi, roadside, 36°36'N, 27°53'E, 07.07.2002, *L.* & *D. Holland* s.n.

Reported from Lesvos, Chios, Tilos and Rodos.

Asteraceae

16. ***Bellis sylvestris*** Cirillo

Gr Simi: fields along north coast of island (?), exact locality not indicated, 10.2008, *A. Bourne*† obs. (photo).

On almost all E Aegean islands.

17. ***Chondrilla juncea*** L.

Gr Simi: Chora (Simi), waste ground, 36°37'N, 27°52'E, 05.07.2008, *L.* & *D. Holland* s.n.

On almost all E Aegean islands.

18. ***Erigeron bonariensis*** L.

Gr Simi: Pedi, waste ground, 36°36'N, 27°53'E, 03.09.2000, *L.* & *D. Holland* s.n.

On almost all E Aegean islands.

19. ***Senecio angulatus*** L. f.

Gr Simi: Chora (Simi), garden escape, 36°37'N, 27°52'E, 2008, *L.* & *D. Holland* obs.

Native to S Africa, recently recorded from Rodos and Tilos.

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

Gr Simi: above harbour, road to helipad, 36°36'N, 27°53'E, 05.07.2008, *L.* & *D. Holland* s.n.

On almost all E Aegean islands.

21. ***Taraxacum minimum*** (Guss.) N. Terracc.

Gr Simi: Pedi, by church pool, 36°36'N, 27°53'E, 10.2006, *L.* & *D. Holland* s.n. (det. A.J. Richards).

Reported from Lesvos, Samos, Ikaria and Kalimnos.

22. ***Tolpis virgata*** (Desf.) Berthol.

Gr Simi: Pedi, 36°36'N, 27°53'E, 05.07.2007, *L.* & *D. Holland* s.n.

On almost all E Aegean islands.

Boraginaceae

23. ***Anchusa azurea*** Mill.

Gr Simi: cataract steps behind Chora, 36°37'N, 27°52'E, 05.04.2004, *L.* & *D. Holland* s.n.

On almost all E Aegean islands.

24. ***Echium italicum*** subsp. ***biebersteinii*** (Lacaita) Greuter & Burdet

Gr Simi: Pedi valley, field path, 36°36'N, 27°53'E, 28.06.2014, *L.* & *D. Holland* s.n.

On almost all E Aegean islands.

25. ***Heliotropium dolosum*** De Not.

Gr Simi: fields around Pedi, 36°36'N, 27°53'E, 05.10.2003, *L.* & *D. Holland* s.n.

Recently collected above Chora (*Strid* 59093). On almost all E Aegean islands.

Brassicaceae

26. ***Cakile maritima*** Scop. subsp. ***maritima***

Gr Simi: sandy beach at Pedi, 36°35'N, 27°50'E, 30.06.2003, *L.* & *D. Holland* s.n.

Widespread on coasts.

27. ***Erucaria hispanica*** (L.) Druce

Gr Simi: fields around Pedi, 36°36'N, 27°53'E, 26.06.2006, *L.* & *D. Holland* s.n.

Reported from Lipsi, Kalimnos, Kos and Rodos.

Caryophyllaceae

28. ***Dianthus strictus*** Banks & Sol.

Gr Simi: Pedi, fields in valley, 36°36'N, 27°53'E, 30.06.1999, *L.* & *D. Holland* s.n.

W Crete and SE Aegean islands of Kalimnos, Kos, Tilos and Rodos.

Chenopodiaceae

29. ***Atriplex prostrata*** DC.

Gr Simi: sandy beach at Pedi, 36°36'N, 27°53'E, 14.10.2003, *L.* & *D. Holland* s.n.

Noted on the larger islands.

30. *Chenopodium album* L.

Gr Simi: along road from Chora to Pedi, 36°36'N, 27°52'E, 01.07.2005, *L.* & *D. Holland* s.n.

Almost all the larger E Aegean islands.

Convolvulaceae

31. *Convolvulus elegantissimus* Mill.

Gr Simi: Pedi, in valley, 36°36'N, 27°53'E, 03.07.2004, *L.* & *D. Holland* s.n.

Widespread, on almost all islands.

Euphorbiaceae

32. *Chrozophora tinctoria* (L.) A. Juss.

Gr Simi: Pedi, edge of football field near sea, 36°36'N, 27°53'E, 01.10.2006, *L.* & *D. Holland* s.n.

On several islands.

33. *Euphorbia helioscopia* L.

Gr Simi: Marathounda, 36°34'N, 27°55'E, 01.04.2006, *L.* & *D. Holland* s.n.

On almost all E Aegean islands.

34. *Euphorbia nutans* Lag.

Gr Simi: wall of harbour, 20 m, 36°36'N, 27°50'E, 07.07.2007, *L.* & *D. Holland* s.n.

On the SE Aegean islands of Chalki and Rodos.

35. *Euphorbia prostrata* Aiton

Gr Simi: Chora, 36°36'N, 27°52'E, 26.06.2005, *L.* & *D. Holland* s.n.

Reported from Lesvos, Samos and Rodos.

Fabaceae

36. *Medicago sativa* L.

Gr Simi: Pedi, in valley, 36°36'N, 27°53'E, 26.04.2009, *L.* & *D. Holland* s.n.

Already noted on waste ground near harbour in April 1999. Reported from several of the larger E Aegean islands.

37. *Vicia lutea* L.

Gr Simi: Pedi, farm track, 36°36'N, 27°53'E, 06.07.2008, *L.* & *D. Holland* s.n.

Several of the larger E Aegean islands.

38. *Vicia palaestina* Boiss.

Gr Simi: near Agia Marina cemetery, 36°36'N, 27°51'E, 12.04.2006, *L.* & *D. Holland* s.n.

Several E Aegean islands.

Gentianaceae

39. *Schenkia spicata* (L.) G. Mans.

Gr Simi: Pedi, field by bus stop, 36°36'N, 27°53'E, 28.06.2008, *L.* & *D. Holland* s.n.

Several E Aegean islands including Lesvos, Psara, Chios, Kos, Samos, Tilos and Rodos.

Lamiaceae

40. *Mentha spicata* L.

Gr Simi: Pedi, field behind church, 36°36'N, 27°53'E, 30.06.2005, *L.* & *D. Holland* s.n.

On several E Aegean islands.

Plantaginaceae

41. *Plantago indica* L.

Gr Simi: cataract steps behind Chora (Simi), 36°37'N, 27°52'E, 20.04.2006, *L.* & *D. Holland* s.n.

On several of the larger islands.

Polygonaceae

42. *Polygonum aviculare* L.

Gr Simi: Pedi, edge of football field, 36°36'N, 27°53'E, 01.07.1999, *L.* & *D. Holland* obs.

On several of the larger islands.

43. *Polygonum maritimum* L.

Gr Simi: Pedi, sandy ground at edge of football field, 36°36'N, 27°53'E, 27.06.1999, *L.* & *D. Holland* s.n.

Widespread on islands.

Ranunculaceae

44. *Anemone coronaria* L.

Gr Simi: Mt Vigla, 36°34'N, 27°51'E, 01.2006, *L. Savage* obs. (photo).

On almost all E Aegean islands.

45. *Ranunculus sardous* Crantz

Gr Simi: Pedi, lower part of valley, 36°36'N, 27°53'E, 28.06.2006, *L.* & *D. Holland* s.n.

On all the larger islands.

Rhamnaceae

46. *Rhamnus lycioides* subsp. ***graeca*** (Boiss. & Reut.) Tutin

Gr Simi: Gialos, road to cemetery, 36°36'N, 27°51'E, 01.07.2004, *L.* & *D. Holland* s.n.

Recently collected at Nanou bay (*Cattaneo* 292). Reported from Ikaria, Kalimnos and Rodos.

Solanaceae

47. *Datura innoxia* Mill.

Gr Simi: Pedi beach and at steps to cemetery, 36°36'N, 27°53'E, 07.07.2003, *L.* & *D. Holland* s.n.

On several of the larger islands. We have followed the corrected spelling 'innoxia' instead of the originally published 'inoxia' as P. Miller was referring to the long, soft, inoffensive spines on the fruit instead of the

'non noxious' character of the plant since it is well-known that all parts of *Datura* are very toxic.

48. *Hyoscyamus aureus* L.

Gr Simi: Chora, steps to castle, 36°37'N, 27°52'E, 30.06.2013, *L.* & *D. Holland* obs. (photo).

On the SE Aegean islands of Kalimnos, Tilos, Chalki, Rodos and Megisti.

Tamaricaceae

49. *Tamarix smyrnensis* Bunge

Gr Simi: St George jetty, 36°35'N, 27°52'E, 10.10.2003, *L.* & *D. Holland* s.n.

Recorded from Lesvos, Chios, Telendos, Kalimnos, Kos, Chalki and Rodos. In same locality as *Origanum symes* which was on the limestone rocks, just out of reach.

Valerianaceae

50. *Centranthus ruber* (L.) DC.

Gr Simi: steps west of harbour, 20 m, 36°36'N, 27°50'E, 30.06.2006, *L.* & *D. Holland* obs. (photo).

On several of the larger islands.

Veronicaceae

51. *Antirrhinum majus* L.

Gr Simi: cataract steps behind Chora, 36°37'N, 27°52'E, 30.06.2008, *L.* & *D. Holland* obs. (photo).

On several of the larger islands including Lesvos, Chios, Samos, Kos and Rodos.

Amaryllidaceae

52. *Narcissus tazetta* L.

Gr Simi: Mt Vigla, 36°34'N, 27°51'E, 01.2016, *L. Savage* obs. (photo).

On almost all E Aegean islands.

53. *Sternbergia lutea* (L.) Ker-Gawl. ex Spreng. subsp. ***lutea***

Gr Simi: behind garage workshop, in field to the right of Chora – Pedi road, 36°36'N, 27°52'E, 24.10.2006, *L.* & *D. Holland* s.n.

On almost all E Aegean islands.

Hyacinthaceae

54. *Bellevalia trifoliata* (Ten.) Kunth

Gr Simi: fields along north coast of island (?), exact locality not indicated, *A. Bourne*† obs. (photo).

Several E Aegean islands.

55. *Muscari parviflorum* Desf.

Gr Simi: Pedi, flower beds, 36°36'N, 27°53'E, 15.10.2006, *L.* & *D. Holland* obs.

On Chios, Samos, Kos, Rodos and Kastellorhizo.

Iridaceae

56. *Crocus biflorus* subsp. ***nubigena*** (Herb.) B. Mathew (= *Crocus rhodensis* Rukšāns).

Gr Simi: summit plateau of Mt Vigla, 616 m, 36°34'N, 27°51'E, 12.2016, *L. Savage* obs. (photos sent to Rukšāns).

Reported from Lesvos, Samos, Ikaria and Rodos. *Crocus rhodensis* described by Rukšāns from Rodos in 2015 is treated as a local form of *C. biflorus* Mill., doubtfully distinct from *C. b*. subsp. *nubigena*.

57. *Freesia leichtlinii* subsp. ***alba*** (G.L. Mey.) J.C. Manning & Goldblatt

Gr Simi: below Villa Katerina high above the harbour, 36°36'N, 27°53'E, 20.04.2006, *L.* & *D. Holland* s.n.

Reported from Chios, Samos, Tilos and Rodos.

58. *Iris unguicularis* subsp. ***carica*** (Wern. Schultze) A.P. Davis & Jury

Gr Simi: Mt Vigla, near the monastery, 36°34'N, 27°51'E, 04.2016, *L. Savage* obs. (photo).

Reported from Chios, Kos, Tilos and Rodos.

59. *Romulea tempskyana* Freyn

Gr Simi: Mt Vigla, 36°34'N, 27°51'E, 01.2015, *L. Savage* obs. (photo).

On several E Aegean islands.

Orchidaceae

60. *Cephalanthera epipactoides* Fisch. & C.A. Mey.

Gr Simi: Stavros Polemou, near Chora (Simi), 36°37'N, 27°52'E, 02.02.2014, *L. Savage* obs. (photo).

Recorded on Lesvos, Chios, Samos, Kos and Rodos.

Poaceae

61. *Arundo donax* L.

Gr Simi: waste ground in Pedi, 36°36'N, 27°53'E, 24.06.2014, *L.* & *D. Holland* s.n.

On almost all E Aegean islands.

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

Gr Simi: Chora (Simi), 36°37'N, 27°52'E, 29.06.2009, *L.* & *D. Holland* s.n.

On several of the larger islands.

63. *Phragmites frutescens* H. Scholz

Gr Simi: Pedi, near Tollis Taverna, 36°36'N, 27°53'E, 29.06.2008, *L.* & *D. Holland* s.n.; Pedi, field near seashore, 36°36'N, 27°53'E, 26.06.2008, *L.* & *D. Holland* s.n.

Recorded from Samos, Kos and Rodos.

64. *Setaria adhaerens* (Forssk.) Chiov.
Gr Simi: Pedi valley, 36°36'N, 27°53'E, 15.10.2003, *L.* & *D. Holland* s.n.
On several E Aegean islands.

65. *Setaria verticillata* (L.) P. Beauv.
Gr Simi: beach at Pedi, 36°36'N, 27°53'E, 30.06.2001, *L.* & *D. Holland* s.n.
On several of the larger islands.

66. *Sorghum halepense* (L.) Pers.
Gr Simi: Pedi, road margin, 36°36'N, 27°53'E, 25.06.2005, *L.* & *D. Holland* s.n.
On several of the larger islands.

67. *Stipa capensis* Thunb.
Gr Simi: Pedi valley, farm track, 36°36'N, 27°53'E, 28.06.2001, *L.* & *D. Holland* s.n.
Widespread on islands.

Reports 68–71

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Four new records are provided for the island of Symi (phytogeographical region E Aegean, Nomos Dodekanisou, Eparchia Rodou).

Amaranthaceae

68. *Amaranthus blitoides* S. Watson
Gr Symi: Ghialos, boat storage place on sandy beach, 20 m, 36°37'12"N, 27°50'13"E, 02.08.2017, *Cattaneo* 279 (herb. Cattaneo).

Brassicaceae

69. *Brassica cretica* subsp. ***aegaea*** (Heldr. & Halácsy) Snogerup, M.A. Gust. & Bothmer
Gr Symi: Nanou bay, in crevices of coastal limestone cliffs, 231 m, 36°35'11"N, 27°51'31"E, 03.08.2017, *Cattaneo* & *Grano* obs.
Together with *Ptilostemon chamaepeuce*, *Eryngium glomeratum*, *Staehelina fruticosa* and *Inula verbascifolia* subsp. *heterolepis*.

Rhamnaceae

70. *Rhamnus lycioides* subsp. ***graeca*** (Boiss. & Reut.) Tutin
Gr Symi: Nanou bay, on partially shaded limestone rocks, 149 m, 36°34'55"N, 27°50'58"E, 30.07.2017, *Cattaneo* 292 (herb. Cattaneo).
Together with *Hypericum empetrifolium*, *Teucrium divaricatum*, *Centaurea acicularis* and *Staehelina fruticosa*.

Rosaceae

71. *Prunus graeca* Steud. (Fig. 1)
Gr Symi: Nanou bay, in crevices of coastal limestone cliffs, 84 m, 36°51'27"N, 27°51'27"E, 03.08.2017, *Cattaneo* 290 (herb. Cattaneo).
Together with *Lomelosia variifolia* and *Teucrium montbretii* subsp. *heliotropiifolium*. *Prunus graeca* occurs in SW Anatolia, SW Syria and the Greek islands of Kalimnos and Rodos, and is now recorded from Symi.

Reports 72–93

Dimitar Dimitrov & Vassil Vutov

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Asteraceae

72. *Achillea aspleniifolia* Vent.
Bu Valley of River Struma (*Northern*): on the right

Fig. 1. *Prunus graeca* (photo C. Cattaneo).

bank of river Rilska, near Struma Motorway, FM76, 29.10.2016, coll. *D. Dimitrov* (SO 107719).

73. *Centaurea calvescens* Pančić

Bu Pirin Mts (*Northern*): in the Galchevo Gnezdo marble quarry above Ilindentsi village, FM81, 29.10.2016, coll. *D. Dimitrov* (SO 107750).

Boraginaceae

74. *Myosotis nemorosa* Bess.

Bu Valley of River Struma (*Northern*): in damp meadows between Rila and Kocherinovo towns, FM82, 08.06.2013, coll. *D. Dimitrov* (SO 107733).

Callitrichaceae

75. *Callitriche stagnalis* Scop.

Bu Valley of River Struma (*Northern*): Kocherinovo village, FM 82, 30.08.1973, coll. *P. Panov* (SOM 163274).

Caryophyllaceae

76. *Cerastium pumilum* subsp. ***pallens*** (Schultz) Schinz. & Thell.

Bu Valley of River Struma (*Northern*): E of Rila town, FM82, 08.06.2013, coll. *D. Dimitrov* (SO 107729).

77. *Minuartia viscosa* (Schreb.) Schinz & Thell.

Bu Pirin Mts (*Northern*): in Galchevo Gnezdo marble quarry above of Ilindentsi village, FM81, 29.10.2016, coll. *D. Dimitrov* (SO 107751).

Cuscutaceae

78. *Cuscuta approximata* Babingt.

Bu Black Sea Coast (*Northern*): Balchishka Tuzla, in sandy calcareous places, NJ90, 06.10.2016, coll. *D. Dimitrov* (SO 107756).

Fabaceae

79. *Ononis pusilla* L.

Bu Pirin Mts (*Northern*): in the Galchevo Gnezdo marble quarry above Ilindentsi village, FM81, 29.10.2016, coll. *D. Dimitrov* (SO 107752).

80. *Trifolium squamosum* L.

Bu Balkan Range (*Eastern*): above Aitos town, NH22,16.07.2016, coll. *K. Pachedijeva* (SO 107746).

Polygonaceae

81. *Fallopia* ×*bohemica* (Chrtek & Chrtkova) J.P. Bailey

Bu Forebalkan (*Eastern*): Mihaltsi village, LH68, 08.1936, coll. *G. Markov* (SO 107748).

This is a new locality of this species known from the Danubian Plain, Forebalkan (*Western*), Balkan Range (*Western*, *Central*), Sofia region, Vitosha region, Znepole region, and Rhodopi Mts (*Central*) (Petrova & al. 2012).

Ranunculaceae

82. *Ranunculus oxyspermus* M. Bieb.

Bu Mt Slavyanka: Mt Stargach, above Ilinden village, in the direction to Pazlaka locality, GL39, 10.06.2005, coll. *D. Dimitrov* (SO 107737).

Rosaceae

83. *Potentilla rupestris* L.

Bu West Frontier Mts: Mt Vlahina, Logodash village, 1200 m, FM 65, 16.05.1931, coll. *N. Fenenko* (SOM 3950).

Rubiaceae

84. *Asperula taurina* L.

Bu Sofia region: *In dumetis siccis agri Sofiani*, Lozenets, FN93, 25.06.1892, coll. *B. Davidov* (SOM 70543).

Scrophulariaceae

85. *Veronica acinifolia* L.

Bu Valley of River Struma (*Northern*): E of Rila town, FM76, 08.06.2013, coll. *D. Dimitrov* (SO 107730).

86. *Veronica spicata* subsp. ***orchidea*** (Crantz) Hayek

Bu Balkan Range (*Western*): Tserovo village, along railway tracks, FN96, 05.1935, coll. *G. Markov* (SO 107749).

Solanaceae

87. *Nicandra physaloides* (L.) Gaertn.

Bu Forebalkan (*Eastern*): Mihaltsi village, 08.1936, coll. *G. Markov* (SO 107754).

Alliaceae

88. *Allium nigrum* L.

Bu Thracian Lowland: in a damp meadow between Sladun and Varnik villages, MG53, 14.05.2011, coll. *D. Dimitrov* (SO).

Juncaceae

89. *Luzula alpinopilosa* subsp. ***velenovskyi*** (Koz.) Chrtek

Mk Mt Yablanitsa: under peak Strizhak, 1600 m, 23.08.1947, coll. *B. Kitanov* (SO 107728).

Liliaceae s.l.

90. *Ornithogalum montanum* Cyr.

Mk Mt Yablanitsa: on limestone rocks above Labunishki Bachila, 1750 m, 16.07.1948, coll. *B. Kitanov* (SO).

Poaceae

91. *Festuca spectabilis* subsp. ***affinis*** (Hack.) Hack.

Mk Mt Stogovo: Gari village, 23.07.1999, coll. *Z. Doneva* (SO).

92. *Poa laxa* subsp. ***zollikoferi*** (Acht.) Koz.

Bu Valley of River Struma (*Northern*): in a damp meadow near the Rila town – Kocherinovo road, FM76, 08.06.2013, coll. *D. Dimitrov* (SO 107731).

93. *Poa timoleontis* Heldr.

Bu Pirin Mts (*Northern*): in Galchevo Gnezdo marble quarry above Ilindentsi village, FM81, 29.10.2016, coll. *D. Dimitrov* (SO 107755).

Reports 94–97

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Malvaceae

94. *Hibiscus trionum* L. (Fig. 2)

Gr Nomos & Eparchia Ilias: cultivated land near Leykianias river, 190 m, 37°39'N, 21°44'E, 28.06.2017, *Giannopoulos* obs.

First reported from Ilias by E. Willing (*Willing* 117169, B). Naturalized, originating from the Old World tropics and subtropics. Scattered in S and C Greece as a sprawling ornamental vine, an escape from gardens or as a weed persisting in cultivated plots and on disturbed ground. Various crops are grown in the area on annual rotation, including tomatoes, beans and watermelon. Approximately 30 plants were counted. The flowers remain open only a short time, 1–2 hours at most, and are not obvious when closed.

Fig. 2. *Hibiscus trionum* (photo K. Giannopoulos).

Alliaceae

95. *Allium pallens* L. (Figs. 3 & 3a)

Gr Nomos & Eparchia Ilias: Kounopeli, Loutra Yrminis, 2 m, 38°06'N, 21°21'E, 10.07.2017, *Giannopoulos* s.n. (herb. Giannopoulos).

New for nomos and eparchia, in small population of 5–7 plants. Judging from the map of its known distribution in Greece (Fig. 3a), it must surely be more common than the records indicate.

Fig. 3. *Allium pallens* (photo K. Giannopoulos).

Fig. 3a. Distribution of *Allium pallens* in Greece.

Iridaceae

96. *Crocus cancellatus* subsp. ***mazziaricus*** (Herb.) B. Mathew

Gr Nomos & Eparchia Ilias: Mt Skiadovouni, southern lower slopes, 1080 m, 37°53'N, 21°44'E, 19.10.2017, *Giannopoulos* obs.

New for eparchia, we had already reported it for eparchia Olimbias. Approximately 40 flowering plants were noted on an autumnal visit to Mt Skiadovouni.

Orchidaceae

97. *Spiranthes spiralis* (L.) Chevall. (Figs. 4 & 4a)

Gr Nomos & Eparchia Zakinthou: Strofades, island of Stamfani, 10 m, 37°14'N, 21°00'E, 22.10.2017, *Giannopoulos* obs.

New for the Strofades. Only *Anacamptis pyramidalis*, *Serapias neglecta* and *S. parviflora* have been reported for the *Orchidaceae* during a study visit by others (Yannitsaros & al. 1995). A population of 15–20 plants protected by spiny cushions of *Sarcopoterium spinosum*.

Fig. 4. *Spiranthes spiralis* (photo K. Giannopoulos).

Reports 98–102

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Apiaceae

98. *Torilis leptophylla* (L.) Rchb. f.

Bu Forebalkan (*Western*): E of Salash village, Belogradchik district, in lower parts of ridge Vedernik, in ruderal calcareous dry grassy communities, 520 m, 43.61341°N, 22.53049°E, 20.05.2017, coll. *S. Stoyanov* (SOM 174454); Pastrina hill, Montana district, on calcareous terrain, *ca.* 600 m, FP-81, 27.06.1952, coll. *I. Bondev* (SOM 109878); near Gorna Kremena village, Vratsa district, in ruderal grassy and stony places, GN28, 05.06.1972, coll. *P. Panov* (SOM 156848).

Confirming the distribution of the species in this floristic subregion. The taxon was first reported for the Western Forebalkan by Bondev (1961). However, this has not been taken into account in the later general sources on the Bulgarian flora. For instance, Assyov & Petrova (2012) reported the species for the Northeast Bulgaria, Sofia Region, Valley of River Struma, Valley of River Mesta, Rhodopi Mts (*Central*, *Eastern*), Thracian Lowland, Tundzha Hilly Country, and Mt Strandzha floristic regions.

Fig. 4a. *Spiranthes spiralis* in *Sarcopoterium spinosum* habitat (photo K. Giannopoulos).

Fabaceae

99. *Oxytropis campestris* (L.) DC. (Fig. 5)

Bu Balkan Range (*Central*): Central Balkan National Park, Triglav Divide, on the right slope of valley of Sokolna River, above the trail to Tarnicheni village, calcareous dry stony terrain, 1900 m, 42.71404°N, 25.10284°E, 07.07.2017, coll. *Y. Marinov* & *S. Stoyanov* (SOM 174455); *loc. ibid.*, 1850 m, 42.71432°N, 25.10352°E, 07.07.2017, coll. *Y. Marinov* & *S. Stoyanov* (SOM 174456).

According to Kožuharov (1976) the species is known from the Pirin Mts and Rila Mts floristic regions. The genus *Oxytropis* is new for this floristic region.

Gesneriaceae

100. *Haberlea rhodopensis* Friv.

Bu Forebalkan (*Eastern*): Dryanovsky Manastir Protected Site, *ca.* 200 m SE of Sini Vir locality, on calcareous rocks, 330 m, 42.94745°N, 25.43525°E, 22.08.2017, coll. *Y. Marinov* (SOM 174457).

This is the second locality for this floristic region. Urumov (1902) first recorded the species (sub *H. ferdinandi-coburgii*) for the Forebalkan (*Eastern*). According to Assyov & Petrova (2012) this species occurs in the Forebalkan (*Eastern*), Balkan Range (*Central*), Mt Sredna Gora and Rhodopi Mts (*Central* & *Eastern*) floristic regions.

Saxifragaceae

101. *Saxifraga luteoviridis* Schott & Kotschy (Fig. 6)

Bu Balkan Range (*Central*): Central Balkan National Park, Sokolna Reserve, Triglav Divide, Chatal Cham locality, in the crevices of calcareous rocks, 1650 m, 42.71021°N, 25.12226°E, 08.07.2017, coll. *Y. Marinov* & *S. Stoyanov* (SOM 174458).

Fig. 5. *Oxytropis campestris* (photo S. Stoyanov).

Fig. 6. *Saxifraga luteoviridis* (photo Y. Marinov).

A new species for this floristic region. So far it is known from the Mt Slavyanka, Pirin Mts, Rila Mts, and Rhodopi Mts (*Western*, *Central*) floristic regions (Kuzmanov 1970).

Cyperaceae

102. *Carex rupestris* All.

Bu Balkan Range (*Central*): Central Balkan National Park, Triglav Divide, near the trail between Dvete Bulki locality and Zli Vrah (Mazalat) peak, on calcareous dry stony slopes, 1900 m, 42.72041°N, 25.10584°E, 06.07.2017, coll. *Y. Marinov* & *S. Stoyanov* (SOM 174459).

A new species for this floristic region. According to Delipavlov (2011) this species occurs in Rila and Pirin Mts. *Carex rupestris* is included in the Red Data Book of the People's Republic of Bulgaria within the category 'Extinct' (Markova 1984) but later it was again collected from Pirin Mts and Rila Mts floristic regions.

Reports 103–113

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Melnik is a very small town situated at the southern foothills of the Pirin Mts, in an area of a striking sandstone landscape, known as 'Melnik Pyramids'. The town is developed in a valley, along a small river, now running between stone walls with streets on

both sides. Melnik is an ancient settlement, architectural reserve and famous wine production centre from old local vine varieties. That is why it is a very popular touristic place, along with Rozhen Monastery, situated 6 km away from the town. Hundreds of tourists visit the area daily. They all walk the streets along the river with numerous restaurants, cafes and small stores. Their owners and managers are trying to make the places more beautiful and attractive with different ornamental plants grown on limited space. This suits very well the establishment of alien plant species, some already reported (Petrova 2013). Here, some ornamentals have escaped cultivation and ruderal neophytes are reported, including some first records for Bulgaria.

Asteraceae

103. *Bidens frondosus* L.

Bu Pirin Mts (*Southern*): in weedy places along the small river below Rozhen Monastery, near Rozhensko Hanche restaurant, GM00, 41.53394°N, 23.43398°E, 17.09.2017, coll. *A. Petrova* (SOM 174533).

This is a new species for the floristic region (Petrova & al. 2012; Vladimirov & Kuzmanov 2012).

104. *Erigeron sumatrensis* Retz.

Bu Pirin Mts (*Southern*): in ruderal places below Rozhen Monastery, near Rozhensko Hanche restaurant, GM00, 41.53394°N, 23.43398°E, 17.09.2017, coll. *A. Petrova* (SOM 174536).

The species was also observed along the road between Melnik town and Rozhen Monastery. It is new for the floristic region (Vladimirov & Kuzmanov 2012; Petrova & al. 2012).

105. *Cosmos bipinnatus* Cav.

Bu Pirin Mts (*Southern*): Melnik town, scattered in wet sandy deposits between the stony walls of the riverbed, GL09, 41.52288°N, 23.39375°E, 17.09.2017, coll. *A. Petrova* (SOM 174537).

— Tundzha Hilly Country: near Gabarevo village, Stara Zagora district, on a dirt road at Ribnika locality, LH42, 31.07.2008, coll. *A. Petrova* (SOM 164320).

An easy to grow, popular ornamental plant, native of North America. In Bulgaria, it germinates in places where it was earlier grown, or in rubbish dumps with thrown in the autumn seeds, and occasionally survives in such places for two or three years. In the Bulgarian field guides and Floras (Delipavlov 2011; Kuzmanov 2012, etc.), it is given as a cultivated species but should be considered as a casual alien as well.

106. *Galinsoga quadriradiata* Ruiz & Pav.

Bu Pirin Mts (*Southern*): in ruderal places below Rozhen Monastery, near Rozhensko Hanche restaurant, GM00, 41.53394°N, 23.43398°E, 17.09.2017, coll. *A. Petrova* (SOM 174543).

This is a new species for the floristic region (Kuzmanov & Ančev 2012; Petrova & al. 2012).

107. *Simphiotrichum novi-belgii* (L.) G.L. Nesom agg.

Bu Pirin Mts (*Southern*): in weedy places along the small river below Rozhen Monastery, near Rozhensko Hanche restaurant, GM00, 41.53394°N, 23.43398°E, 17.09.2017, coll. *A. Petrova* (SOM 174556).

This is a new species for this floristic region (Petrova & al. 2012).

108. *Tagetes patula* L.

Bu Pirin Mts (*Southern*): Melnik town, scattered in the wet sandy deposits between the stone walls of the riverbed, GL09, 41.52288°N, 23.39375°E, 17.09.2017, coll. *A. Petrova* (SOM 174557).

— Thracian Lowland: on sandy-clayey deposits along river Maritsa near Zlokuchane village, KG67, 01.09.2011, coll. *A. Petrova* (SOM 168072); *loc. ibid.* 18.08.2009, *A. Petrova* obs.

This is another popular North American ornamental plant. Like *Cosmos bipinnatus*, it reproduces from seeds in many localities in Bulgaria, near the places where it was grown earlier, or on rubbish dumps with thrown in the autumn viable seeds. In such places, it occasionally persists for two or three years. Thus, it should be considered as a casual alien in the Bulgarian flora, instead of only as a cultivated plant, as it is given in Delipavlov (2011) and Kuzmanov (2012).

Balsaminaceae

109. *Impatiens balfourii* Hook.f.

Bu Pirin Mts (*Southern*): Melnik town, on wet sandy deposits between the stone walls of the riverbed, GL09, 41.52288°N, 23.39375°E, 17.09.2017, coll. *A. Petrova* (SOM 174545).

This is a new species for this floristic region (Vladimirov 2012; Petrova & al. 2013).

Berberidaceae

110. *Mahonia aquifolium* (Pursh) Nutt.

Bu Pirin Mts (*Southern*): Melnik town, on the

stony supporting walls along the river, GL09, 41.52288°N, 23.39375°E, 17.09.2017, coll. *A. Petrova* (SOM 174549).

This is a new species for the floristic region (Assyov & Petrova 2012). It was also observed on some basements of the nearby buildings and stone staircases.

Commelinaceae

111. *Commelina communis* L.

Bu Pirin Mts (*Southern*): Melnik town, scattered in the wet sandy deposits between the stone walls of the riverbed, GL09, 41.52288°N, 23.39375°E, 17.09.2017, coll. *A. Petrova* (SOM 174535).

This is a new species for this floristic region (Assyov & Petrova 2012).

Crassulaceae

112. *Sedum sarmentosum* Bunge

Bu Forebalkan (*Eastern*): in the pavement and stony crevices on General Gurko Street in the historical part of Veliko Tarnovo city, LH96, 23.09.2012, coll. *A. Petrova* (SOM 169109).

— Sofia region: Sofia city, St. Troitsa district, near the basement of a block of flats and the adjacent building, FN83, app. 42.707188°N, 23.286451°E, 15.11.2017, coll. *B. Assyov*, *R. Vassilev* & *A. Petrova* (SOM 174524).

— Pirin Mts (*Southern*): in ruderal stony places below Rozhen Monastery, near Rozhensko Hanche restaurant, GM00, 41.53409°N, 23.43382°E, 11.06.2013 & 17.09.2017, coll. *A. Petrova* (SOM 173259 & 174554); Melnik town, on the stony supporting walls along the main street, GL09, 10.06.2013, coll. *A. Petrova* (SOM 173260); observed also in 2017.

Sedum sarmentosum is a perennial herb, glabrous, succulent, with slender stems of 10–25 cm, pale-green-yellowish, creeping and ascending, rooting at nodes, leaves 3-verticillate, sessile, elliptic to lanceolate, 10–25 × 4–6 mm, inflorescences corymbiform, with 3–5 branches, flowers 5-metrows, yellow, 10–12 mm, stamens 10, shorter than petals, carpels 5, 5–6 mm. Easily distinguished by whorls with 3 leaves (Fig. 7).

It is native to China (Kunjun & al. 2001), where it is found in shady rocky and stony places, up to 1600 m a.s.l. This plant is cultivated for ornamental purposes in many parts of the world. In Asia, it is cultivated and used also as food and medicinal plant. It has been naturalized in East Asia: Japan, Korea, N Thailand, Taiwan (Su & Lu 2014; Chung & al. 2016), North America (Ohba 2009). In Europe, it is registered as alien in many countries: Austria, Belgium, Bosnia and Herzegovina, Croatia, Czech Republic, Germany, Hungary, Italy, Romania, Slovakia, Slovenia, Spain, Switzerland (Marhold 2011; Sĭrbu & al. 2011; Maslo 2015; DAISIE 2017), more often as casual or as not established.

The species is grown as ornamental across Bulgaria, in private gardens (Cheshmedzhiev 2011), in containers on streets, near buildings, because it propagates easily and is easy to care for. Its creeping habit and ability to grow in places with limited soil resources explain its short-distance distribution near the places of cultivation. This happens rather often but my observations are accidental. The situation in the above-cited and documented localities, where the species is apparently established, has made me report it.

The historical part of Veliko Tarnovo city is situated on a stony slope; the streets are mostly narrow, with pavement; the houses have often stony basements and/or stony staircases. Thus, the urban environment there

Fig. 7a & b. *Sedum sarmentosum* Bunge near Rhozhensko Hanche, 11.06.2013 (photo A. Petrova).

offers many niches for the establishment of this species. Its population claims a significant area, but the density is low, mostly single individuals or small patches in shady places, at the very base of the buildings, in crevices of the pavement, or in the corners of staircases.

The population near Rozhensko Hanche forms patches (0.01 to 0.2 m^2) at the edges of the paved parking area and around the stone walls. One of the large patches observed in 2013 has disappeared because of repair works, but a new one emerged around a small bridge. The population on the supporting walls of the riverbed in Melnik town consists of scattered individuals.

The locality in Sofia city was observed by B. Assyov, first, during the summer in 2016. The Stonecrop has formed a few small patches (0.02 to 0.05 m^2) on tiny soil-dust deposits at the basements of buildings. The accompanying species is *Stellaria media*.

Its flowering in Bulgaria is in May–June. In sheltered places in the warmer parts of the country (e.g. in Struma valley), it is usually evergreen, but in Sofia (observations in the Botanical Garden) it looses its aboveground stems and leaves and winters in dormant rosettes at soil level, formed at the nodes of the stems.

Onagraceae

113. *Oenothera speciosa* Nutt.

Bu Sofia region: Sofia, in ruderal places in the Studentski Grad district, near the Winter Pallace, FN92, 19.06. & 09.07.2017, coll. *A. Petrova* (SOM 173785 & 174126).

— Pirin Mts (*Southern*): Melnik town, scattered on soil deposits along the riverbed (Fig. 8a) and on the basements of the stone walls encasing the river, GL09, 10.06.2013, coll. *A. Petrova* (SOM 173786).

Oenothera speciosa is a perennial plant, stems 35–50 cm, leaves alternate, 3–10 × 1–3 cm, linear to obovate, irregularly toothed, shortly pubescent. Flowers axillary in the upper part of stems, cup-shaped, 4–5 cm, sepals 4, lanceolate, petals 4, white in buds, turns pink to anthesis, base yellow. Stamens 8, in 2 whorls, stigma with 4 lobes. The flowers are fragrant, they open in the evening and stay open at night and in daytime, close at very strong sunshine. Fruits are oval, ridged capsules with many seeds. The species spreads easily by seeds and runners.

The species is native to Mexico and southern United States, where it inhabits the rocky prairies, and as a naturalised plant in the fields, waste places, roadsides, railroad tracks (Gardening Help, Missouri Botanical Garden, http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=d238).

The species is ornamental, easy to grow, drought-resistant and with a long flowering period (May–July). In Bulgaria, it is a comparatively recent addition to the garden flora, after the political changes at the end of last century. My observations are that it has appeared first in the southern parts of the country; the inhabitants of Ivaylovgrad and Lyubimets towns said that they brought it from Greece. As it produces abundantly seeds and runners, people share it willingly and presently it can be seen in many places across the country. I have observed cultivated plants with some individuals very close to them in Ivaylovgrad, Sliven, Kresna, Varna, and other settlements, but the situation in the above-reported places differs. In Melnik, the plants were observed at a greater distance from the cultivated ones, in a seminatural habitat. In Sofia, they were found

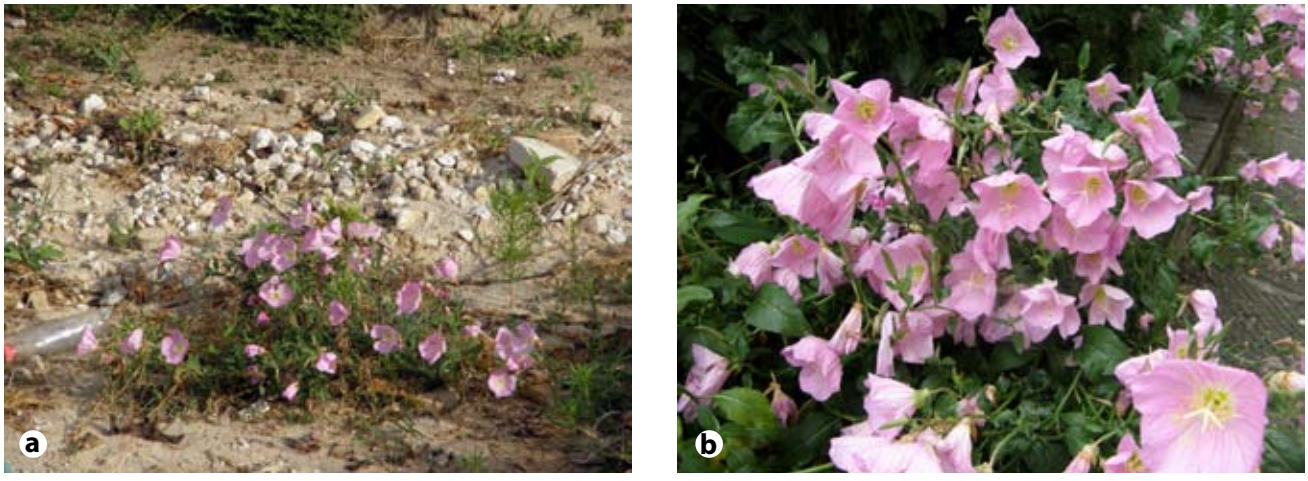

Fig. 8. *Oenothera speciosa*: **a.** at Melnik River bed, 10.06.2013; **b.** in Ivaylovgrad town, 30.05.2014 (photo A. Petrova).

in a place where possibly they were cultivated a couple of years ago, but presently the place is abandoned and with weedy vegetation. In my opinion, for the moment the status should be considered as 'casual'. Mention deserves the fact of the different cultivars, and that plants in Bulgaria are mostly with more intensively pink flowers, as it is seen in Fig. 8b, taken in Ivaylovgrad town.

In Europe, the species has been reported as alien for France, established in Spain; not established in Hungary (DAISIE 2017); also established in Italy (Montanari & Marconi 2010), Albania and Greece (Mullaj & al. 2017).

Acknowledgements. This report is part of the continuous project „Conspectus of the Bulgarian Vascular Flora". The author is grateful to Mrs. M. Yordanova, Mrs. G. Veleva and Mr. P. Dimitrov for the positive and inspiriting company during the trip.

Reports 114–124

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Pinaceae

114. *Pseudotsuga menziesii* (Mirb.) Franco var. ***menziesii***

Bu Mt Strandzha: Mishkova Niva locality SW of Malko Tarnovo city, NG44, 41.95772°N, 27.500350°E, 02.07.2017, coll. *A. Petrova* (SOM 174124); E of Kachul locality, 42.01898°N, 27.65501°E, 30.07.2017, coll. *A. Petrova* (SOM).

This North American species has been widely planted for timber production. Recently, it was registered as naturalized in the forests of the Balkan Range (*Western*), Rila Mts, Mt Sredna Gora (*Western*), Rhodopi Mts (Assyov & Petrova 2012; Tashev & al. 2013, etc.). Mt Strandzha is a new region of naturalization for it. In both localities, self-sown saplings of different ages were observed near afforested places.

Apiaceae

115. *Foeniculum vulgare* Mill.

Bu Mt Strandzha: Malko Tarnovo city, naturalized along some streets in the suburbs and in abandoned places, NG44, 02.07.2017, coll. *A. Petrova* & *S. Dalakchieva* (SOM 173752).

This is a new region for this widely naturalized species (Assyov & Petrova 2012).

Asteraceae

116. *Arctium nemorosum* L.

Bu Mt Strandzha: along the road Burgas – Malko Tarnovo, near the Byalata Chesma locality, NG35, 02.07.2017, coll. *A. Petrova* (SOM 173720). The species is also observed along the dirt roads of Vitanovo Reserve and Kachul locality.

This species has scattered distribution in Bulgaria. It was reported for the flora of Uzunbodzhak Reserve (Gussev & al. 2004), but these data were neglected in Delipavlov (2011) and Assyov & Petrova (2012). The above-cited data confirmed its distribution in Mt Strandzha.

117. *Steptorhamphus tuberosus* (Jacq.) Grossh.

Bu Mt Strandzha: on rocks near the bridge over river Veleka, southwards of Zvezdets village, NG35, 42.08418°N, 27.42819°E, 02.07.2017, coll. *A. Petrova* & *S. Dalakchieva* (SOM 173821).

This is a new region for this species (Delipavlov 2011; Assyov & Petrova 2012).

118. *Taraxacum hybernum* Steven

Bu Black Sea Coast (*Southern*): in grassy wet places on sandy substrate in Butamyata locality near Sinemorets village, NG85, 42.054674°N, 27.985452°E, 06.10.2017, coll. *A. Petrova* (SOM 174 558).

This is a new locality for this species, reported earlier for Bulgaria from the area of river Ropotamo (Delipavlov & Stoichev 1994).

Campanulaceae

119. *Asyneuma anthericoides* (Janka) Bornm.

Bu Mt Strandzha: in dry stony grasslands northwards of Bliznak village, NG26, 42.19820°N, 27.29612°E, 02.07.2017, coll. *A. Petrova* & *S. Dalakchieva* (SOM 173724).

This is a new species for this floristic region (Anchev 2012)

Euphorbiaceae

120. *Euphorbia lucida* Walds. & Kit.

Bu Mt Strandzha: in a small wet place along the road Bosna – Vizitsa village, westwards of the turn to Kalovo village, NG46, 03.07.2017, coll. *A. Petrova* & *S. Dalakchieva* (SOM 173748).

This is a new region for this hygrophyte species. A patch of only few sq. m was observed in a small local wet depression.

Fabaceae

121. *Gleditsia triacanthos* L.

Bu Mt Strandzha: Malko Tarnovo city, naturalized around abandoned buildings, NG44, 02.07.2017, coll. *A. Petrova* & *S. Dalakchieva* (SOM 173760).

This is an alien species naturalized in many regions of the country (Assyov & Petrova 2012).

122. *Spartium junceum* L.

Bu Mt Strandzha: along the road Bosna – Vizitsa – Gramatikovo villages, NG46, 42°11.215N, 27°29.015E, 30.07.2017, coll. *A. Petrova* & *S. Dalakchieva* (SOM 174123).

This is a new region for this alien species (Assyov & Petrova 2012).

Thymelaeaceae

123. *Thymelaea gussonei* Boreau (Fig. 9)

Bu Black Sea Coast (*Southern*): in dry coastal grasslands northwards of Rezovo village, NG85, 41.992914°N, 28.031414°E, 06.10.2017, coll. *A. Petrova* (SOM 174 559).

This species is a Mediterranean element with local distribution. This is its second locality for Bulgaria after the one reported by Delipavlov (2000). The population numbers about 60 individuals.

Fig. 9. *Thymelaea gussonei* (photo A. Petrova).

Juncaceae

124. *Juncus ranarius* Song. & Perr. ex Bill.

Bu Mt Strandzha: in wet places (former sand pits) along the road northwards of Evrenozovo village, NG26, 22.08.2017, coll. *A. Petrova* & *S. Dalakchieva* (SOM 174127).

This is a new region for this species, often neglected in the floristic studies.

Acknowledgements. The data were collected during the work under project BG-TR-CBC/025-PP1-CB005.1.12.025 "ORCHIS – orchid researches, conservation and habitats in Strandzha". We are grateful to Mr. K. Popov for his active participation during field work.

Reports 125–130

Kostas Polymenakos[1] & Kit Tan[2]

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

Apiaceae

125. *Bupleurum asperuloides* Heldr. ex Boiss. (Fig. 10)

Gr Nomos & Eparchia Korinthias: N slopes of Mt Konomavra, *ca.* 1 km W of village Klimenti, edge of macchie, limestone, 1100 m, 37°57'N, 22°33'E, 22.08.2015, single plant in flower, *Polymenakos* obs. (photos, confirmed Kit Tan, November 2017); *loc. ibid.*, a small population of *ca.* 15 plants, 31.10.2017, *Polymenakos* 392 (ATHU; 03.11.2017, photos of fruits, confirmed Kit Tan, November 2017).

New for the Peloponnese; unmistakeable with its verrucose petal bend and fruits with small slender vittae. Scattered in N Pindos, northcentral and northeastern Greece with a single locality on Parnassos, Sterea Ellas, its *locus classicus*. Outside Greece, it is distributed in the Crimea, Turkey-in-Europe and FYROM. In Bulgaria and Romania it has been confused with the more recently described *B. uechtritzianum* S. Stoyanov, which has non-verrucose petals and fruits with large conspicuous vittae. *Bupleurum asperuloides* is surely

Fig. 10. *Bupleurum asperuloides* (photo K. Polymenakos).

more widespread in Greece than the records indicate, and the inconspicuous annual habit, late flowering and fruiting period have obviously contributed to its oversight.

126. *Heracleum sphondylium* subsp. ***ternatum*** (Velen.) Briq. (Fig. 11)

Gr Nomos & Eparchia Evritanias: Kefalovriso, 2.2 km SW of Karpenisi, along shady bank of Karpenisiotis river, 770 m, limestone, 38°53'N, 21°46'E, 02.08.2017, fruiting, *Polymenakos* & *Fakas* 345 (ATHU; photo, confirmed Kit Tan, November 2017); montane zone of Mt Timfristos, 08.07.2017, flowering, *Polymenakos* & *Kofinas* obs. (photo, confirmed Kit Tan, November 2017); near spring SE of Ag. Triada on Mt Timfristos, limestone, 760 m, 38°59'N, 21°49'E, 02.08.2017, fruiting, *Polymenakos* & *Fakas* 346 (ATHU).

Fig. 11. *Heracleum sphondylium* subsp. *ternatum* (photo G. Kofinas).

Apparently new for phytogeographical region Sterea Ellas; however, *Rechinger* 2844 (*n.v.*) from Timfristos may refer to the same subspecies or to *H. s.* subsp. *pyrenaicum* (Lam) Bonnier & Layens which has also been reported from the same area. The latter has white to pale pink flowers whereas in *H. s.* subsp. *ternatum*, the flowers are greenish-yellow. Found together with *Arctium lappa* at roadsides, stream banks and ruderal places on the main road to Karpenisi.

Asteraceae

127. *Andryala dentata* Sm. (Figs. 12 & 12a)

Gr Nomos & Eparchia Attikis: Bay of Schinias, 0.6 km E of the Rowing Centre, sandy meadow north of *Pinus pinea* forest, 2 m, 38°08'N, 24°01'E, 02.05.2017, *Polymenakos* 203 (ATHU; photo, confirmed Kit Tan, November 2017); *loc. ibid.*, 13.07.2017, *Polymenakos* 326 (ATHU).

New for Sterea Ellas. There were hundreds of plants occupying an area of *ca.* 100 m^2 at coastal Schinias. Other species noted in the vicinity include *Anchusa undulata* subsp. *hybrida, Corynephorus articulatus*, *Medicago* sp., *Ononis diffusa*, *Rumex bucephalophorus* subsp. *aegaeus* and *Verbascum sinuatum*. *Andryala dentata* as published in Fl. Graec.

Prodr. 2(1): 192 (1813) was described from the island of Milos in SW Kiklades. It has been treated by several botanists as a synonym of *A. integrifolia* L. which was described from France and Sicily; the specific epithet of the latter refers to the fact that the leaves are entire, not divided or lobed. We find that our Schinias plants have greyish, tomentose-floccose, lobed and corrugate-dentate leaves, and apparently shorter ligules, and match *A. dentata* (cited in the Prodromus and illustrated as Fl. Graeca t. 811, May 1837, Fig. 12a); all Aegean material seems to belong to this taxon. Thanks are due to Filip Verloove (Belgium) for kindly confirming our observations.

Brassicaceae

128. *Lepidium graminifolium* L.

Gr Nomos Kikladon, Eparchia Sirou: island of Mikonos, Ano Mera, roadsides and abandoned fields on way to the monastery of Paleokastron, on schist, 115 m, 37°27'N, 25°23'E, 16.08.2017, *Polymenakos* 359 (ATHU).

New for Mikonos. Also reported from Kea, Andros, Tinos and Naxos in N and C Kiklades.

Fabaceae

129. *Astragalus thracicus* Griseb. (Fig. 13)

Gr Nomos Evvias, Eparchia Karistias: Mt Ochi, on forest road to Kastanologos, 2.5 km S-SW of summit Profitis Ilias, limestone rock and scree at roadside, 840 m, 38°02'N, 24°27'E, 18.06.2017, *Polymenakos* & *Kofinas* 292 (ATHU; photo, confirmed Kit Tan, November 2017).

This is the first report of a member of the *A. thracicus* complex from Mt Ochi, the island of Evvia and phytogeographical region W Aegean. The collection does not fit any of the 4–7 subspecies tentatively recognized in Greece, including *A. parnassi* Boiss. and *A. lesbiacus* P. Candargy so we prefer to treat it as the very variable *A. thracicus* whose taxonomy is still under discussion. The presence of large bracteoles and large corollas clearly exclude it from *A. creticus* subsp. *rumelicus* (Bunge) Maire which occurs on Mt Dirphys in central Evvia.

Fig. 12. *Andryala dentata* (photo K. Polymenakos).

Fig. 12a. *Andryala dentata* (Fl. Graeca t. 811, May 1837).

Fig. 13. *Astragalus thracicus* (photo K. Polymenakos).

Hyacinthaceae

130. *Ornithogalum brevistylum* Wolfner (Fig. 14)

Gr Nomos & Eparchia Korinthias: near Kefalari, 1.1 km east of Lake Dasiou, small meadow overlying limestone in opening of *Pinus nigra* forest, 1400 m, 37°59'N, 22°26'E, 30.06.2017, *Polymenakos* 306 (ATHU; photo, confirmed Kit Tan, November 2017).

New for nomos Korinthias. A population of *ca.* 20 plants was noted. In the Peloponnese recorded from Mt Menalon (nomos Arkadias) and Kato Lousi (nomos Achaias). Reports of *O. narbonense* L. in some places may in fact refer to *O. brevistylum*, e.g., from the area of Mt Chelmos.

Fig. 14. *Ornithogalum brevistylum* (photo K. Polymenakos).

Report 131

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Thymelaeaceae

131. "*Daphne skipetarum*" Halda (Figs. 15–17)

Al Tirana region, Kavaja district**,** municipality of Rrogozhina: Albania centralis, in declivibus lapidosis prope Rogojstnik, IV.1918, *F. Petrak* (holotype PR no. 52103).

This entry perhaps could more suitably be titled "The curious case of *Daphne skipetarum*, endemic to Albania" or "The Unicorn in the Garden".

Daphne skipetarum was first described by the alpine plant seed-collector and grower Josef Jakob Halda in a paper entitled "Two new species of the genus *Daphne* from Balkan Peninsula" (Halda 1981). The description was accompanied by an illustration featuring habit, flower and leaf (Fig. 15). The new species was assigned to *D.* section *Daphnanthes* subsect. *Oleoides* Kaissl, and stated to be closely related to *D. jasminea* Sm. and *D. malyana* Blečić. Halda did

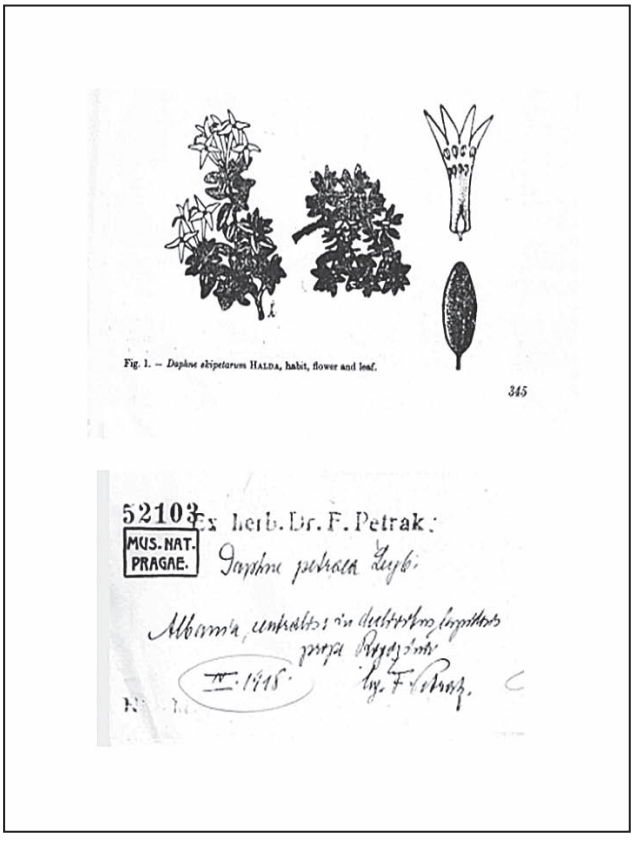

Fig. 15. Illustration of *Daphne skipetarum* from Halda (1981).

not see the plant in nature but described it based on a herbarium specimen collected in Central Albania by the Austrian-Czech botanist Franz Petrak and named also by the latter as *Daphne petraea* Leybold. The specimen was deposited in the National Museum in Prague (herbarium acronym PR, Fig. 16). Halda included *D. skipetarum* in his monographic work, "The genus *Daphne*" (Halda 2001); this furnished more information on the habitat and *locus classicus* (Rogojstnik). As far as we know, *D. skipetarum* is treated as an accepted name for an Albanian endemic by IPNI, the International Plant Name Index available online at http://www.ipni.org and The Plant List (Version 1.1), as published on the Internet: http://www.theplantlist.org, but it is overlooked in recent and pending works on Albania such as those by Vangjeli and Barina & al. (as yet unpublished).

Vlastimil Pilous, another well-known Czech plant grower and a geomorphologist by training, was interested in cultivating *D. skipetarum*, so he started searching for the type locality in topographic maps. He could not locate the place name and found that there is no such village as Rogojstnik in Albania (confirmed by L. Shuka, pers. comm. to Kit Tan, 2017). He therefore examined the original handwritten label from Petrak (Fig. 17) attached to the herbarium sheet deposited in Prague. Petrak's handwriting was none the best and the name of the locality was not easily decipherable. In addition, the lower part of the label which bore the month of collection was also unclear; the purported month looked like IV (April in the spring) but the specimen must have been collected in autumn as it was both in flower and fruit. Hence it is possible the month should be IX (September).

The unusual part of this story is that the specimen was a sample of *Plocama calabrica* (L. f.) M. Backlund & Thulin (syn. *Putoria calabrica* (L. f.) DC.). This is a widespread species in the Mediterranean; in Greece, occurring at low to moderate altitudes, rarely higher. It forms mats on rock surfaces, road cuttings, crevices in loose conglomerate and is easily recognized by its opposite leaves, pink flowers, and glossy, dark red fruits. Petrak was primarily a classical mycologist, so his erroneous identification of a Rubiaceous plant as a species of *Daphne* is quite understandable.

Petrak published a paper on his mycological discoveries in the Balkans, material collected while serving in the Austrian army during World War I (Petrak 1922). This showed that at the beginning of September 1918 he was indeed in Albania, not at a place called 'Rogojstnik', but in Rogozhina which is a small town situated in Central Albania at *ca*. 50 m elevation, surrounded by hills not more than 200 m in height. The stated occurrence of a *Daphne* – moreover, *D. petraea*, which occurs (in the words of Reginald Farrer and Clarence Elliot, masters of horticultural prose), "in tight flat huddles of sweetness and light" on the Cima Tombea in the Italian Alps, "limestone cliffs towering up stark and impregnable for hundreds of feet above" – at such a low elevation in Albania was rather

Fig. 16. *Daphne skipetarum*: holotype (PR).

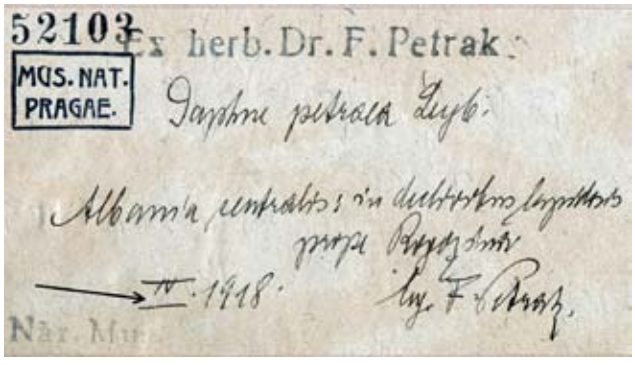

Fig. 17. Copy of herbarium label of holotype (as *Daphne petraea*).

astonishing. So, V. Pilous travelled to the locality and discovered that the low sandstone hills in the area of Rogozhina did not harbour any member of the genus *Daphne*, but abundant plants of the genus *Plocama* (syn. *Putoria*). The four-petalled Rubiaceous flowers indeed resemble those of the genus *Daphne*, which points to the background of Petrak's misidentification.

Thus, so far, all is forgivable. The best botanist can make an erroneous identification, the best geographer can misinterpret a locality name. However, that Halda knowingly added incorrect information about the locality, habitat and elevation (calcareous rocks, dry grassy slopes, stabilized scree, at altitudes of 1400–1600 m, rare) is somewhat surprising and in view of his accepted stature as a horticulturist, there was no need to digress so greatly from the truth. This reminds one to point a moral to adorn a tale when protecting non-existent species in Red Data Books. Earlier on, I had made mention of "The Unicorn in the Garden". It is a tale of the unexpected, a humorous story by James Thurber (Thurber 1940) pivoted round a man, his wife and a unicorn. To know what happened to the man and his wife, you've got to read the story for yourself.

The above report originated from an anecdote by Vlastimil Pilous, I have merely embellished it with the truth. Franz Petrak was an excellent scientist and extremely intelligent. He was, in a way, a genius and very productive workwise; he was almost blind when he died on 9 October 1973, his death day coinciding with his birth day.

Reports 132–138

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Apiaceae

132. *Helosciadium nodiflorum* (L.) W. D. J. Koch (Fig. 18) [Syn.: *Apium nodiflorum* (L.) Lag.]

Mk Struga: Kališta village, 13.06.2017, leg. *A. Teofilovski* (herb. A.T.).

This species was known earlier only from three localities in Macedonia: Dojran Lake (Jurišić 1923, sub *Apium nodiflorum*), Negotino (St. Gjorgjija) (Bornmüller 1937, sub *A. nodiflorum*), and Strumica (Sušica) (Micevski 2005, sub *A. nodiflorum*). In the village of Kališta, this species is frequent in wet and water-covered habitats along the water channels.

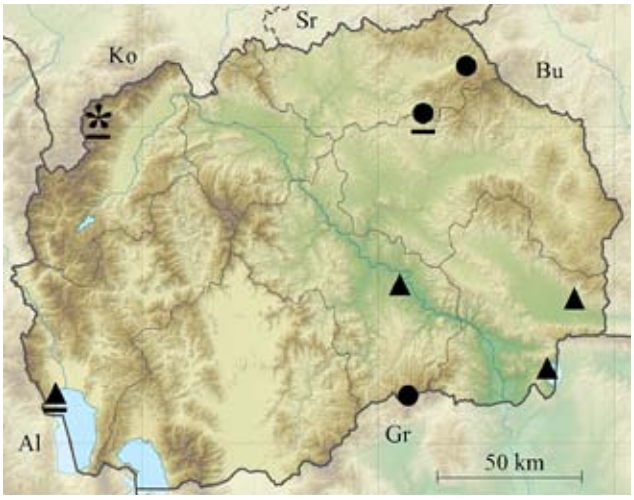

Fig. 18. Ditribution of *Helosciadium nodiflorum* (▲), *Trifolium pannonicum* (●), and *Wulfenia carinthiaca* (✻) in Macedonia. Underlined symbols represent new records.

133. *Laserpitium archangelica* Wulfen

Mk Mt Šar Planina, near the path in the canyon of river Krivošijska, in a wet place, 1725 m, 25.08.2017, leg. *A. Teofilovski* (herb. A.T.); Mt Šar Planina, Lešnica, in a wet place near river Pena, 1480 m, 25.08.2017, A. Teofilovski obs.

This species was known earlier only from Mt Kožuf (Visoka Čuka) (Micevski 2005) and Mt Karadžica (near Kapina) (Teofiloski 2015).

Asteraceae

134. *Senecio doronicum* (L.) L. (Figs. 19, 20)

Mk Mt Šar Planina: in the canyon of river Krvošijska, on carbonate screes, 1900–1960 m, 42°0'19.22"N, 20°46'46.01"E, 25.08.2017, leg. *A. Teofilovski* (herb. A.T.).

The distribution range of this species comprises the mountains of C & S Europe, but it is rare on the Balkan Peninsula. In Macedonia, it was previously reported only from the subalpine area of Mt Korab (Mala Korabska Vrata) (Micevski 1970, sub *S. transylvanicus* Boiss.). It is known also from the Albanian parts of the highest peak of Mt Korab (Csiki & al. 1926, sub *S. doronicum* f. *albanicus* Kümm. & Jáv.), which is located just on the state border with Macedonia. Another known close locality of this species is reported from the Albanian part of Mt Jablanica [Kitanov 1948, sub *S. glaberrimus* (Roch.) Simk.].

According to the field observations, *S. doronicum* seems to be very rare in the canyon of river Krvošijska. Only 5–6 specimens were recorded, which inhabit loose or somewhat stabilized carbonate screes with a

Fig. 19. *Senecio doronicum* (photo A. Teofilovski).

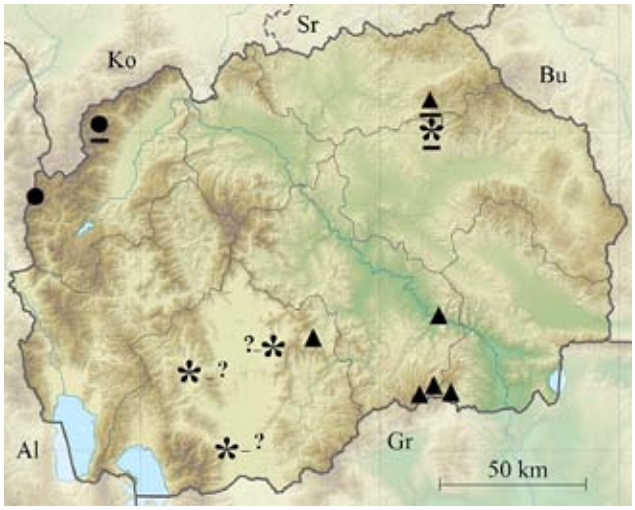

Fig. 20. Ditribution of *Senecio doronicum* (●), *Minuartia garckeana* (▲), and *Alisma lanceolatum* (✻) in Macedonia. Underlined symbols represent new records.

sparse vegetation cover, dominated by *Drypis spinosa* and *Lactuca intricata*. Regarding their indumentum, the plants seem closest to the eastern variant of this species – *S. d.* subsp. *transylvanicus* (Boiss.) Nyman (Syn. *S. transylvanicus* Boiss., *S. glaberrimus* (Roch.) Simk.). Mention deserves the fact that the plants from Mt Šar Planina have significantly shorter supplementary bracts than the involucre, which is unusual occurrence in the eastern part of the species distribution range (see Chater & Walters 1976).

Caryophyllaceae

135. *Minuartia garckeana* (Boiss.) Mattf. (Figs. 20, 21)

Mk Kratovo: Maričanska river basin, NE of Grizlievci village, 880–1120 m, 24.06.2017, leg. *A. Teofilovski* (herb. A.T.).

Minuartia garckeana is S Balkan-Anatolian endemic, reported earlier in Macedonia from: Mt Kožuf (several localities) (Vandas 1909; Bornmüller 1925; Micevski 1993), Demir Kapija (Vandas 1909), and Prilep (Belovodica) (Micevski 1993). During fieldwork in the area southwards of Kratovo, this species was recorded in the basin of river Maričanska, abundantly growing in oak forests and in dry open places, on siliceous geological substrate.

Fabaceae

136. *Trifolium pannonicum* Jacq. (Fig. 18)

Mk Kratovo: Plavica, in abandoned meadow, on siliceous substrate, 1275 m, 42°3'6.29"N, 22°10'55.93"E, 24.06.2017, leg. *A. Teofilovski* (herb. A.T.).

Fig. 21. *Minuartia garckeana* (photo A. Teofilovski).

This is a C & SE European-Anatolian species reported earlier only from Kriva Palanka (Stanci) and Mt Dudica (Šarenka) (Micevski 2001).

Plantaginaceae

137. *Wulfenia carinthiaca* Jacq. (Figs. 18, 22)

Mk Mt Šar Planina: Plat, on N slopes, in a forest clearing in a *Pinus peuce* forest, on carbonate substrate, 1980 m, 31.08.2017, leg. *A. Teofilovski* (herb. A.T.).

This is the first record of the genus and of this species, respectively, in the flora of the Republic of Macedonia. The discovered population of *W. carin-*

Fig. 22. *Wulfenia carinthiaca* (photo A. Teofilovski).

thiaca on Mt Šar Planina consists of *ca.* 20 individuals growing in a small clearing, in a *Pinus peuce* forest, and accompanied by: *Geranium sylvaticum*, *Calamagrostis varia*, *Crepis viscidula*, *Veratrum album*, *Luzula sylvatica*, *Campanula foliosa*, *Alchemilla hoppeana*, *Rubus idaeus*, *Meum athamanticum*, *Cirsium appendiculatum*, etc. The earlier known distribution range of this species comprised two disjunctive areas: SE parts of the Alps – Carnic Alps (N Italy, S Austria) and SE parts of Dinaric Alps – Mt Prokletije (N Monte Negro, W Kosovo, ?NW Albania) (Webb 1972; Surina & al. 2014). From Mt Prokletije, Lakusić (1971) described a new species, *W. blecicii* (the name was published invalidly), which, according to the recent morphological and molecular study of this genus, is not distinguishable from *W. carianthiaca* (Surina & al. 2014).

The discovery of *W. carianthiaca* on Mt Šar Planina has a considerable phytogeographical importance, shifting the borderline of the species distribution range eastwards and southwards. The closest localities on Mt Prokletije in W Kosovo are *ca.* 80 km to the northwest.

The genus *Wulfenia* Jacq., considered widely as a Tertiary relict, has a conspicuous disjunctive distribution. It encompasses three other species: *W. orientalis* Boiss., *W. glanduligera* (Hub.-Mor.) Surina and *W. baldaccii* Degen, the first two being endemic to Mt Amanos in S Turkey, while the third one is endemic to the Albanian part of Mt Prokletije (Surina & al. 2014).

Alismataceae

138. *Alisma lanceolatum* With. (Fig. 20) [Syn.: *A. plantago-aquatica* L. var. *lanceolatum* (Withering) Lejeune.]

Mk Probištip: lake Kundinsko, eastern coastline, in wet places at the edge of a *Phragmites* stand, 750 m, 24.06.2017, leg. *A. Teofilovski* (herb. A.T.).

On the territory of Macedonia, this species was reported earlier only from the vicinity of Bitola, Prilep and Demir Hisar (Todorovski 1969, sub *A. plantago* subsp. *eu-plantago* var. *lanceolatum* (With.) Schultz), but the author did not specify any concrete locality. This report, which refers to a relatively large territory, has not been so far confirmed by any other author and, therefore, seems somewhat doubtful.

Alisma lanceolatum has a native distribution range in much of the temperate part of the Old World, from Macaronesia to Scandinavia, Siberia and China, but was also introduced to the west coast of N America and Chile (Lansdown 2011). It was not included in Hayek's *Prodromus* (1924–1933), which for a long time was the most relevant work regarding the Balkan flora, and, therefore, certain confusions with the closely related and more often reported *A. plantago-aquatica* are very likely, obscuring the knowledge of their distribution in Macedonia, as well as in a wider region.

Reports 139–144

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Asteraceae

139. *Ambrosia artemisiifolia* L.

Bu Rhodopi Mts (*Central*): by the road Asenovgrad town – Smolyan town in Bachkovo village, *ca.* 360 m, 41.95111°N, 24.85906°E, 19.08.2017, coll. & det. *V. Vladimirov* (SOM).

First record of the species for this floristic subregion. So far it has been reported from the Black Sea Coast,

Northeast Bulgaria, Danubian Plain, Forebalkan, Sofia region, Znepole region, Valley of River Struma, Rila Mts, Rhodopi Mts (*Eastern*), Thracian Lowland floristic regions (Petrova & al. 2012).

140. *Erigeron sumatrensis* Retz.

Bu Rhodopi Mts (*Central*): by the road from Krichim town to Devin town a few km S of Mihalkovo village, *ca.* 590 m, 41.83497°N, 24.42389°E, coll. & det. *V. Vladimirov* (SOM).

A new record for this floristic region. A single fruiting specimen observed. It was collected to prevent establishment and further spread of this alien species to the Bulgarian flora. The seeds were ripe and most of them had already fallen and spread around. So far the species has been reported from the Black Sea Coast, Northeast Bulgaria, Danubian Plain, Forebalkan (*Western*), Sofia region, West Frontier Mts, Valley of River Struma, Mt Belasitsa, Valley of River Mesta, Pirin Mts (*Northern*), Rila Mts, Thracian Lowland, Tundzha Hilly Country, Mt Strandzha (Petrova & al. 2012; Vladimirov & al. 2016).

141. *Senecio inaequidens* DC.

Bu Forebalkan (*Western*): by the road from Petrohan mountain pass to Montana town near Berkovitsa town, *ca.* 400 m, 43.223847°N, 23.156802°E, 28.10.2017, coll. & det. *V. Vladimirov* (SOM).

A new record for this floristic region. A single large specimen observed with hundreds of capitula in flower and fruit. In fact, the locality is very close to the boundary of the Balkan Range and Forebalkan floristic regions. We prefer to publish it for the Forebalkan region since this alien species does not invade high mountainous areas in Bulgaria but rather lowerlands and regions up to about 700–800 m a.s.l. So far the species has been reported from Sofia region, Vitosha region, Mt Sredna Gora and Thracian Lowland (Vladimirov & Petrova 2009; Petrova & al. 2015; Vladimirov & al. 2016, 2017).

142. *Tragopogon orientalis* L.

Bu Rila Mts: high mountain grassland near Rilski Ezera chalet, *ca.* 2100 m, 42.220056°N, 23.322203°E, 20.07.2017, *V. Vladimirov* obs.

First report of the species for this floristic region (*cf.* Delipavlov 2011; Assyov & Petrova 2012).

Phytolaccaceae

143. *Phytolacca acinosa* Roxb. [incl. *Ph. esculenta* Van Houtte] (Fig. 23)

Bu Sofia region: Kokalyane village, slope on the left bank of river Iskar, *ca.* 630 m, 42.58401°N, 23.42440°E, 15.08.2017, coll. & det. *V. Vladimirov* (SOM).

Fig. 23. *Phytolacca acinosa* (photo V. Vladimirov).

Second report for this floristic region and for Bulgaria. Three large fruiting specimens were observed. So far the species has been reported only from Sofia city (Zieliński & al. 2012, sub *Ph. esculenta* Van Houtte).

Solanaceae

144. *Physalis philadelphica* Lam. (Fig. 24)

Bu Black Sea Coast (*Southern*): disturbed ground by a settlement near Rosenets Park, S of Burgas city, *ca.* 10 m, 42.43613°N, 27.53225°E, 03.08.2017, *V. Vladimirov* & *A. Tashev* obs. (photo).

First record of this species for the Bulgarian flora. It should be considered a casual species. Only two specimens with flowers and young fruits were observed. *Physalis philadelphica* is native to Mexico. It is an annual plant with a branched stem, broadly ovate, petiolate leaves and yellow corolla, spotted at throat. Fruit is a berry, globular, *ca.* 1.2 cm in diam., greenish, yellow or purplish. The species is known as 'tomatillo' and the fruits are used for cooking, especially as ingredients in sauces. It is unknown how the species was introduced to Bulgaria, but most likely a fruit or some seeds obtained from the food-market were thrown in this locality as a waste. Of the neighbouring to

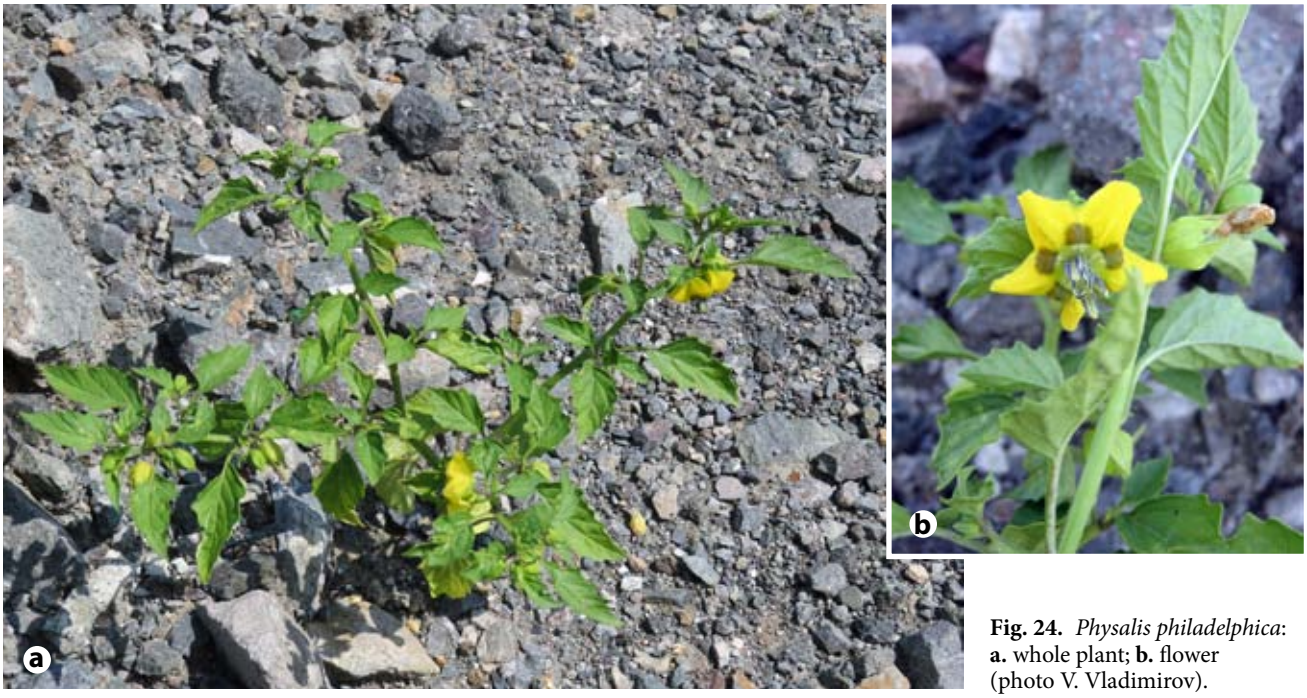

Fig. 24. *Physalis philadelphica*: **a.** whole plant; **b.** flower (photo V. Vladimirov).

Bulgaria countries, the species has been recently reported for the Asiatic part of Turkey, where it is considered a noxious weed in cotton, maize, tomato, cucumber, paper fields and olive orchards (Bükün & al. 2002; Ozaslan & al. 2017).

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Reports 145–181

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The following are new plant records based on floristic investigations in the prefectures of Korinthias and Arkadias in north and central Peloponnese. A diagonal running from the NE to the SW of the peninsula represents a somewhat surprisingly under-explored area.

Aspleniaceae

145. *Asplenium ceterach* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: 8 km from Megalopolis, on road to Vagos, *Erica arborea – Arbutus unedo* scrub, 540 m, 37°25'N, 22°10'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.; vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Aceraceae

146. *Acer sempervirens* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: 8 km from Megalopolis, on road to Vagos, *Erica arborea – Arbutus unedo* scrub, 540 m, 37°25'N, 22°10'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.; vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Anacardiaceae

147. *Pistacia lentiscus* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: 8 km from Megalopolis, on road to Vagos, *Erica arborea – Arbutus unedo* scrub, 540 m, 37°25'N, 22°10'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

148. *Pistacia terebinthus* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: 8 km from Megalopolis, on road to Vagos, *Erica*

arborea – Arbutus unedo scrub, 540 m, 37°25'N, 22°10'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

Apiaceae

149. *Eryngium amethystinum* L.
Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

Apocynaceae

150. *Vinca herbacea* Waldst. & Kit.
Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

Asteraceae

151. *Calendula arvensis* L.
Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

152. *Silybum marianum* (L.) Gaertn.
Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer – Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

Betulaceae

153. *Ostrya carpinifolia* Scop.
Gr Nomos Arkadias, Eparchia Megalopoleos: 8 km from Megalopolis, on road to Vagos, *Erica arborea – Arbutus unedo* scrub, 540 m, 37°25'N, 22°10'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

Boraginaceae

154. *Echium italicum* subsp. ***biebersteinii*** (Lacaita) Greuter & Burdet
Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer – Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

155. *Onosma erecta* Sm.
Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer – Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

156. *Onosma heterophylla* Griseb.
Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer – Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

Brassicaceae

157. *Capsella grandiflora* (Fauché & Chaub.) Boiss.
Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer – Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.
New for eparchia.

158. *Cardamine calliphaea* Kit Tan, G. Vold & Giannopoulos (Fig. 25)
Gr Nomos & Eparchia Korinthias: Kiato, 38°00'N, 22°45'E, 27.03.2007, *Zarkos* & *Christodoulou*

Fig. 25. *Cardamine calliphaea* (photo V. Christodoulou).

obs. (photos); *loc. ibid*., 21.04.2017, *Zarkos* & *Christodoulou* obs. (photos).

New for nomos & eparchia. The species has survived in the same locality for at least ten years whereas in the *locus classicus* (Kaiafas, Ilias) it is almost extinct. The vertical limestone cliffs of the Klissoura gorge in Mesolongiou and the gorge at Leonidio, south Parnon would be native habitats whereas at Kaiafas and Kiato, the habitats are man-made.

Campanulaceae

159. *Campanula versicolor* Andrews

Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer* – *Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Cistaceae

160. *Fumana thymifolia* (L.) Webb

Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer* – *Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Euphorbiaceae

161. *Euphorbia apios* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer* – *Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

162. *Euphorbia nutans* Lag. (Fig. 26)

Gr Nomos Kikladon, Eparchia Naxou: island of Naxos, in the town Chora (Naxos), at roadsides, 6 m, 37°05'N, 25°22'E, 07.08.2017, *Zarkos* s.n. (photos).

New for the Kiklades. Recorded from Crete and the E Aegean islands of Rodos, Chalki and more recently, Simi.

Fabaceae

163. *Securigera varia* (L.) Lassen

Gr Nomos Arkadias, Eparchia Megalopoleos: 8 km from Megalopolis, on road to Vagos, *Erica arborea* – *Arbutus unedo* scrub, 540 m, 37°25'N, 22°10'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Fagaceae

164. *Quercus ilex* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: 8 km from Megalopolis, on road to Vagos, *Erica arborea* – *Arbutus unedo* scrub, 540 m, 37°25'N, 22°10'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Fig. 26. *Euphorbia nutans* (photo G. Zarkos).

Fumariaceae

165. *Fumaria capreolata* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer* – *Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia. Corolla white tipped dark purple.

Hypericaceae

166. *Hypericum empetrifolium* Willd. subsp. ***empetrifolium***

Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer* – *Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Lamiaceae

167. *Ballota acetabulosa* (L.) Benth.

Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

168. *Micromeria juliana* (L.) Rchb.

Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

169. *Prasium majus* L.

Gr Nomos Arkadias, Eparchia Megalopoleos:

macchie and *Acer* – *Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

170. *Thymbra capitata* (L.) Cav.

Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Oleaceae

171. *Phillyrea latifolia* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: 8 km from Megalopolis, on road to Vagos, *Erica arborea* – *Arbutus unedo* scrub, 540 m, 37°25'N, 22°10'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Primulaceae

172. *Samolus valerandi* L.

Gr Nomos & Eparchia Korinthias: SW of Krioneri village, near monastery Panagia Lechova, wet places at end of forest road, 964 m, 37°56'N, 22°36'E, 12.06.2017, *Christodoulou* obs.

Surprisingly, this is only the second record for Korinthias, 35 km NE of Lykouria where the first collection was made.

Ranunculaceae

173. *Anemone apennina* subsp. ***blanda*** (Schott & Kotschy) Nyman

Gr Nomos Arkadias, Eparchia Megalopoleos: macchie and *Acer* – *Quercus* woodland 4 km along gorge of Elisson river, 700 m, 37°28'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia. Abundant, flowers with blue or white petals.

174. *Anemone coronaria* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: 8 km from Megalopolis, on road to Vagos, *Erica arborea* – *Arbutus unedo* scrub, 540 m, 37°25'N, 22°10'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Scrophulariaceae

175. *Scrophularia canina* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

176. *Verbascum corinthiacum* Kit Tan, Zarkos, V. Christodoulou & G. Vold, **sp. nov.** (Fig. 27)

Gr Nomos & Eparchia Korinthias: open calcareous stony slope above the village of Korfiotissa, 765 m, 38°04'N, 22°31'E, 16.05.2017, flowering, *Kit Tan*, *G. Vold* & *Zarkos* 32287 (holotype C; isotype ATH); *loc. ibid*., 26.04.2017 (flowering) & 15.07.2017 (in fruiting state), *Zarkos* obs. (numerous photos); outside forest at village of Velina, 1000 m, 37°58'N, 22°34'E, 13.05.2016, *Zarkos* & *Christodoulou* obs. (photos); roadside slopes outside village of Elliniko, 730 m, 38°05'N, 22°28'E, 09.05.2017, *Zarkos* obs. (photos).

Appressed, yellowish-stellate-tomentose, erect biennial 70–120 cm tall. Basal leaves crowded, greenish- to yellowish-white-tomentose, 10–25 × 2.5–10 cm, broadly elliptic to elliptic-ovate, subacute, irregularly denticulate-crenulate, cuneate at base, attenuate into petiole 3–5 cm. Cauline leaves smaller, oblong to broadly elliptic; upper ones undulate, ovate-caudate to acuminate, sessile, very shortly decurrent at base. Inflorescence with short, appressed, yellowish-white-stellate indumentum, simple or sparingly branched with short branches at middle or base, lax, with few flower clusters. Bracts 5–10 mm, ovate-lanceolate, acuminate, equalling or a little shorter than flower clusters. Longer pedicels to 5 mm. Calyx 3.5–5 mm; lobes triangular to lanceolate, acute. Corolla 8–15 mm in diam., stellate-tomentose outside. Stamens 5; filaments orange, longer ones glabrous distally with decurrent anthers *ca.* 2 mm long; filament wool white. Capsule 4.5–6 × 4–5.5 mm, broadly ellipsoid to subglobose, exceeding calyx at maturity. Seeds blackish-brown, 0.5–1 mm, triangular-obtuse.

Stony calcareous slopes, outside forest, in open *Quercus coccifera* scrub with *Cistus creticus*, *Vicia* and *Bituminaria bituminosa*, 730–1000 m. Flowering mid-April to mid-June; fruiting July to August.

This interesting *Verbascum* strikes by its slender habit, simple or sparingly branched inflorescence with a few short branches bearing relatively few and interrupted flower clusters (Fig. 27A), as well as the distinctive cauline leaves with caudate or acuminate apex and slightly decurrent base (Fig. 27C). It resembles *V. samniticum* Ten. which has an even more dense stellate-tomentose leaf indumentum and a more branched inflorescence with numerous, densely clustered flowers. The latter was first described from central Italy. It also occurs in the western part of the

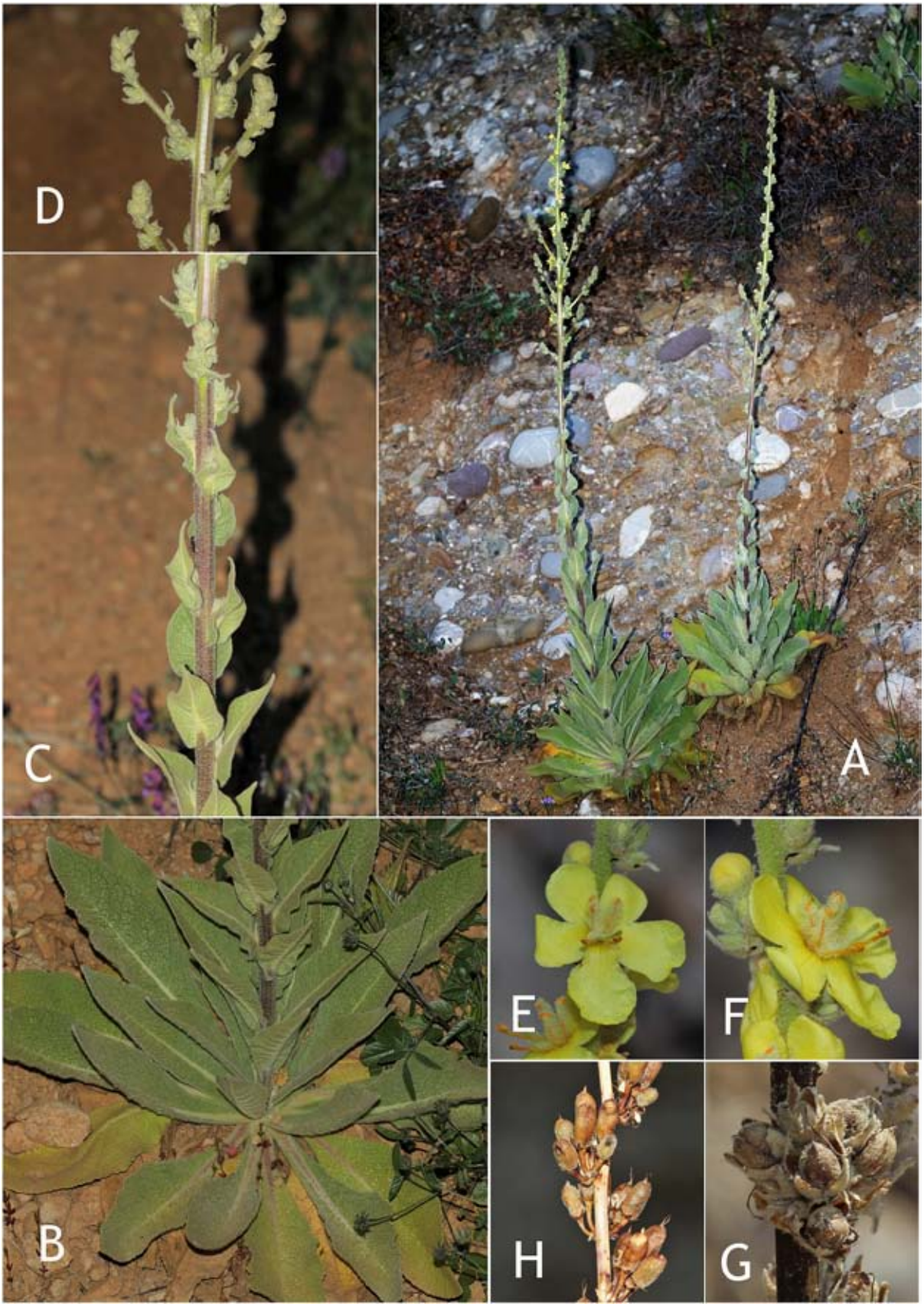

Fig. 27. *Verbascum corinthiacum*: **A.** habit; **B.** basal leaves; **C.** cauline leaves; **D.** part of inflorescence; **E & F.** flower in front and lateral views; **G.** capsules; **H.** capsules of *V. graecum* (photos G. Zarkos).

Balkan Peninsula and has recently been found in European Turkey. It is scattered in Greece (Ionian islands, N Pindos, Peloponnese, Sterea Ellas, East Central and W Aegean), at low to moderate altitudes of 50–1200 m, flowering from early April to mid-July, fruiting in August. *Verbascum sartorii* Boiss. & Heldr. described from Messinias (S Peloponnese) is considered conspecific with *V. samniticum*. The latter is very abundant above the town of Kalavrita in Achaias (collected on 10.09.2017, *Kit Tan* & *G. Vold* 32680).

Verbascum × *cephalariense* Hub.-Mor. & Rech. f. was described from Kefalari [as Kephalaria], east of Mt Killini (*Rechinger* 20553, holotype W, *n.v.*). It is stated to be a hybrid between *V. macrurum* Ten. and *V. samniticum* and all the pollen grains are reported as sterile. Both parent species were found together with the hybrid; the gathering of *V. samniticum* bears the collecting number *Rechinger* 20554 (W). However, above Korfiotissa, the plants of *V. corinthiacum* are few and scattered on an open hill slope and neither *V. macrurum* nor *V. samniticum* occurs in the area. The only *Verbascum* species present is the ubiquitous *V. sinuatum*, growing far below at lower altitudes. We tested the pollen for signs of hybridity and estimation of viability. The pollen size was uniform for all the grains, and none of the latter were abortive, as would be indicated by a shrunken or irregular shape. 100 % of the pollen was normal, all the grains being spheroidal and furrowed. The grains were also all viable as assessed by a rapid swelling up of dry pollen in contact with liquid; abortive pollen grains do not swell but keep their irregular shrunken appearance. Thus we believe *V. corinthiacum* is not of hybrid origin, and is possibly a Greek endemic.

Verbascum graecum Heldr. & Sartori has some morphological similarities but is not closely related. In the latter species the white-tomentose-floccose stems soon become glabrous and reddish-purple, the inflorescence is lax with many slender, ascending branches, the anthers are all medifixed, the capsules cylindrical-oblong and 2–4 times longer than the calyx (Fig. 27H).

Urticaceae

177. *Parietaria judaica* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Veronicaceae

178. *Antirrhinum majus* L.

Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

179. *Veronica cymbalaria* Bodard

Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia.

Vitaceae

180. *Vitis vinifera* subsp. ***sylvestris*** (C.C. Gmel.) Hegi

Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for eparchia. Climbing in macchie.

Amaryllidaceae

181. *Narcissus tazetta* L. subsp. ***tazetta***

Gr Nomos Arkadias, Eparchia Megalopoleos: vicinity of village Vagos,730 m, 37°27'N, 22°11'E, 25.02.2017, *Kit Tan* & *G. Vold* obs.

New for nomos and eparchia.

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