New floristic records in the Balkans: 43*

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Abstract: New chorological data are presented for 108 species and subspecies from Albania (44, 45), Bulgaria (33-43, 46-53, 56-64, 66-70, 88, 90-102), Greece (1, 13-32, 54, 55, 65, 71-87, 89, 103-108), and Turkey-in-Europe (2-12). The taxa belong to the following families: *Aizoaceae* (17), *Alliaceae* (65), *Amaryllidaceae* (91, 92), *Apiaceae* (71), *Araceae* (55), *Asteraceae* (18, 19, 27, 33-36, 72, 75, 101, 103), *Balsaminaceae* (56), *Brassicaceae* (28, 37, 66, 85, 93), *Caryophyllaceae* (67, 76, 94, 104, 105), *Chenopodiaceae* (106, 107), *Commelinaceae* (100), *Convolvulaceae* (1, 77, 95), *Crassulaceae* (38, 102), *Cupressaceae* (89), *Cuscutaceae* (2), *Cyperaceae* (74), *Dipsacaceae* (78), *Elatinaceae* (57), *Euphorbiaceae* (3, 13-15, 20, 21, 29, 30, 96), *Fabaceae* (31, 58, 86), *Fagaceae* (16), *Geraniaceae* (39, 40, 88), *Illecebraceae* (4), *Lamiaceae* (68, 87), *Lemnaceae* (61), *Liliaceae* s.l. (49), *Malvaceae* (79, 80), *Molluginaceae* (59), *Onagraceae* (5, 54), *Orobanchaceae* (81, 82), *Oxalidaceae* (6, 22), *Papaveraceae* (7), *Plantaginaceae* (8, 9), *Plumbaginaceae* (32), *Poaceae* (24-26, 50-52, 62-64), *Polygonaceae* (97), *Potamogetonaceae* (53), *Primulaceae* (10), *Ranunculaceae* (23, 98), *Rosaceae* (41-43, 60, 83, 90), *Rubiaceae* (44, 45), *Salicaceae* (11), *Sapindaceae* (108), *Saxifragaceae* (46), *Scrophulariaceae* s.l. (47, 48, 69, 70), *Solanaceae* (73, 99), *Veronicaceae* (84), *Violaceae* (12).

A new taxon for science is: *Onobrychis citrinoides* Kit Tan (86).

New taxa for the countries are: for Albania – *Galium glaucum* (44); Bulgaria – *Cytisus scoparius* (58), *Geranium sibiricum* (88), *Ipomoea purpurea* (95); Greece – *Seseli rhodopeum* (71).

The publication includes contributions by: E. Axiotis, M. Axiotis & Kit Tan (1), M. Aybeke (2-12), B. Biel & Kit Tan (13-16), B. Biel & Kit Tan (17-26), C. Cattaneo & M. Grano (27-32), D. Dimitrov (33-53), Ch. Galanos (54-55), G. Kunev (56-64), D. Reich & Kit Tan (65), S. Stoyanov & Y. Marinov (66-70), A. Strid (71-73), K. Sutorý & R. Řepka (74), Kit Tan & G. Kofinas (75-84), Kit Tan, G. Kofinas & A. Strid (85-87), A. Tanev & B. Velev (88), A. Tashev & N. Tashev (89-92), V. Vladimirov (93-100), V. Vladimirov, S. Bancheva, S. Stoyanov & A. Lambevska (101-102), G. Zarkos, V. Christodoulou, Kit Tan & G. Vold (103-108).

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 Albania have been reviewed by Kit Tan, for Bulgaria by V. Vladimirov, for Greece by Kit Tan, and for Turkey-in-Europe by M. Aybeke.

Report 1

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Convolvulaceae

1. *Ipomoea hederacea* Jacq. (Fig. 1)

Gr Nomos Lesvou, Eparchia Mithimnis: island of Lesvos, NE of Sigri town, on volcanic slope by road, 50 m, 39°13'N, 25°54'E, 30.09.2020, *E.* & *M. Axiotis* AXL042 (ATHU, herb. Axiotis).

New for Lesvos and the East Aegean islands. A twining herbaceous vine originating from tropical America, first reported for Greece in S Pindos (Giannopolitis 1998: 166), as an introduction from southern U.S.A. imported together with seed. This annual often occurs as a weed in abandoned and cultivated fields, flowering from July to September. Several plants (more than 15) were well-established at the roadside, together with *Marrubium vulgare*. No habitation was nearby.

Fig. 1. *Ipomoea hederacea* (photo M. Axiotis).

Reports 2–12

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This is a report of 11 new records belonging to different families from European Turkey.

Cuscutaceae

2. *Cuscuta campestris* Yuncker

Tu(E) A1(E) Kırklareli: between villages Ahmetler and Karaabalar, 3rd km, on *Chenepodium* plant, (at the roadside), 365 m, 42°04'09"N, 27°17'20"E, 18.07.1996, coll. & det. *C. Yarcı* (EDTU 7026).

New for A1(E) Kırklareli in European Turkey. According to Plitmann (1978), this taxon was recorded in A1(E) Tekirdağ and A2(E) Istanbul

Euphorbiaceae

3. *Euphorbia amygdaloides* L. var. ***robbiae*** (Turrill) Radcliffe-Smith

Tu(E) A1(E) Kırklareli: environs of Ahmetler village, in a mixed forest, 764 m, 42°01'56"N, 27°13'26"E & 42°04'36"N, 27°13'36"E, 27.06.1997, coll. & det. *C. Yarcı* (EDTU 7082).

New for A1(E) Kırklareli in European Turkey. According to Radcliffe-Smith (1982), this taxon was recorded only in A2(E) Istanbul.

Illecebraceae

4. *Herniaria incana* Lam.

Tu(E) A1(E) Kırklareli: between Dereköy and Demirköy, 7th km, on rocky slope, 252 m, 41°49'30"N, 27°45'35"E, 09.05.1996, coll. & det. *C. Yarcı* (EDTU 6837).

New for A1(E) Kırklareli in European Turkey. According to Brummitt (1967), this taxon was recorded only in A2(E) Istanbul.

Onagraceae

5. *Epilobium lanceolatum* L.

Tu(E) A1(E) Kırklareli: Ahmetler village, at the roadside, 764 m, 42°01'56"N, 27°13'26"E, 09.05.1996, coll. & det. *C. Yarcı* (EDTU 6846).

New for A1(E) Kırklareli in European Turkey. According to Chamberlain & Raven (1972), this taxon was recorded only in A2(E) Istanbul.

Oxalidaceae

6. *Oxalis corniculata* L.

Tu(E) A1(E) Kırklareli, between villages Karadere and Şükrüpaşa, 5th km., in open land, 561 m, 41°55'26"N, 27°26'17"E, 18.06.1996, coll. & det. *C. Yarcı* (EDTU 7159).

New for A1(E) Kırklareli in European Turkey. According to Cullen (1967), this taxon was recorded only in A2(E) Istanbul.

Papaveraceae

7. *Papaver rhoeas* L.

Tu(E) A1(E) Kırklareli: between Dereköy and Bulgarian frontier, 3rd km, in open forest, 508 m, 41°55'48"N, 27°22'14"E, 09.05.1996, coll. & det. *C. Yarcı* (EDTU 6881).

New for A1(E) Kırklareli in European Turkey. According to Cullen (1965), this taxon was recorded in A1(E) Tekirdağ and A2(E) Istanbul

Plantaginaceae

8. *Plantago lanceolata* L.

Tu(E) A1(E) Kırklareli: environs of Karaabalar village, in open forest, 365 m, 42°04'09"N, 27°17'20"E & 42°04'36"N, 27°13'36"E, 24.09.1996, coll. & det. *C. Yarcı* (EDTU 7040).

New for A1(E) Kırklareli in European Turkey. According to Tutel (1982), this taxon was recorded in A1(E) Edirne and A2(E) Istanbul.

9. *Plantago major* L. subsp. intermedia (Gilib.) Lange

Tu(E) A1(E) Kırklareli: environs of Çağlayık village, in *Fagus* forest, 508 m, 42°01'59"N, 27°20'46"E, 19.06.1996, coll. & det. *C. Yarcı* (EDTU 6937).

New for A1(E) Kırklareli in European Turkey. According to Tutel (1982), this taxon was recorded in A1(E) Edirne and A2(E) Istanbul.

Primulaceae

10. *Lysimachia vulgaris* L.

Tu(E) A1(E) Kırklareli: environs of Ahmetler village, in a mixed forest clearing, 764 m, 42°01'56N", 27°13'26"E, 09.05.1996, coll. & det. *C. Yarcı* (EDTU 6858).

New for European Turkey. According to Leblebici (1978), this taxon was recorded in some parts of Anatolia: A1(A) Istanbul, A3 Sakarya, A4 Kastamonu, A5 Amasya. It is known from NW and S Europe, NW Africa, and Caucasia. With this record it is reported for the first time from European Turkey.

Salicaceae

11. *Salix alba* L.

Tu(E) A1(E) Kırklareli: between Dereköy and Demirköy, 7th km, in mixed forest, on a stream bank, 508 m, 41°55'48"N, 27°22'14"E, 09.05.1996, coll. & det. *C. Yarcı* (EDTU 6877).

New for A1(E) Kırklareli in European Turkey. According to Skvortsov & Edmondson (1982), this taxon was recorded in A1(E) Tekirdağ and A2(E) Istanbul.

Violaceae

12. *Viola sieheana* Becker

Tu(E) A1(E) Kırklareli: between Ahmetler and Ahlatlı villages, 2nd km, in *Fagus* forest, 764 m, 42°01'56"N, 27°13'26"E, 42°04'36"N, 27°13'36"E, 27.06.1997, coll. & det. *C. Yarcı* (EDTU 7099).

New for A1(E) Kırklareli in European Turkey. According to Coode & Cullen (1965), this taxon was recorded only in A2(E) Istanbul.

Reports 13–16

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This is the tenth report of new plant-records for the island of Amorgos (phytogeographical region Kiklades, Nomos Kikladon, Eparchia Thiras) based on a brief two-day visit in late July 2020. They were noted after the Flora of Amorgos was published (Biel & Tan 2019). The four records listed are new to the island but none are new for the floristic region Kiklades (Kik) as circumscribed in *Flora Hellenica* (Strid & Tan 1997). Occurrence on the other Kikladean islands is briefly summarized.

Euphorbiaceae

13. *Chrozophora obliqua* (Vahl) A. Juss. ex Spreng.

Gr Amorgos: NE of Xilokeratidi, edge of field between olive plantations, 20 m, 36°50'02"N, 25°52'07"E, 24.07.2020, *Biel* 20.004.

Recorded from Mikonos, Milos, Serifos, Siros and Thira.

14. *Euphorbia nutans* Lag. (Fig. 2)

Gr Amorgos: NW of Katapola–Rachidhi, ruderal places near municipal camping site, 6 m, 36°49'45"N, 25°52'02"E, 24.07.2020, *Biel* 20.001.

Third report for Kiklades, otherwise known from Milos and Naxos.

15. *Euphorbia serpens* Kunth (Fig. 3)

Gr Amorgos: NW of Katapola–Rachidhi, ruderal places near municipal camping site, 6 m, 36°49'45"N, 25°52'02"E, 24.07.2020, *Biel* 20.002.

Third report for Kiklades, otherwise known from Milos and Naxos.

Fagaceae

16. *Quercus ilex* L. (Fig. 4)

Gr Amorgos: NE of Chora, cliffs at summit of Profitis Ilias, 710 m, 36°50'N, 25°54'E, 08.06.2014, *Biel* obs. (photo).

Very rare on island, found only in this locality. First collected on the island in the 1870s by Orphanides (as *Q. i.* var. *amorgina*, undated specimens at BM and LD), presumably from the same locality. Thanks to A. Cheke (Oxford) for pointing out the omission of this species in the English edition (Biel & Tan 2019). Recorded from Anafi, Andros, Ios, Naxos and Tinos.

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

Fig. 2. *Euphorbia nutans* (photo B. Biel).

Fig. 3. *Euphorbia serpens* (photo B. Biel).

Fig. 4. *Quercus ilex* (photo B. Biel).`

Reports 17–26

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This is the first report of new plant-records for the island of Naxos (phytogeographical region Kiklades, Nomos Kikladon, Eparchia Naxou). The 10 records

listed are new to the island and two of them are new for the floristic region Kiklades (Kik) as circumscribed in *Flora Hellenica* (Strid & Tan 1997), bringing the total number of new records we have found so far for this area to 71. Occurrence on the other Kikladean islands is briefly summarized.

Aizoaceae

17. *Lampranthus roseus* (Willd.) Schwantes (Fig. 5)

Gr Naxos: N of Naxos (town), in phrygana on Vakchros island (Apollon temple), 10 m, 37°06'36"N, 25°22'22"E, 29.07.2020, *Biel* obs. (photo).

An established ornamental originating from S Africa. In Kiklades, previously reported from Amorgos (Biel & Tan 2015).

Asteraceae

18. *Carlina tragacanthifolia* Klatt (Fig. 6)

Gr Naxos: NW of Koronos, stony and rocky phrygana on northern slope of Mavrovouno, 980 m, 37°07'41"N, 25°31'07"E, 30.07.2020, *Biel* obs. (photo).

Fig. 5. *Lampranthus roseus* (photo B. Biel).

Fig. 6. *Carlina tragacanthifolia* (photo B. Biel).

New for Kiklades, except for some small islands in nomos Dodekanisou.

19. *Senecio tamoides* DC.

Gr Naxos: Damarionas, road margins and waste ground in village, 320 m, 37°03'06"N, 25°28'47"E, 31.07.2020, *Biel* obs. (photo).

An established escape, native to S Africa. Also noted in two localities near Filoti. This is the second report for the Kiklades, it was first noted on Amorgos (Biel & Tan 2015).

Euphorbiaceae

20. *Euphorbia chamaesyce* L. subsp. ***chamaesyce*** (Fig. 7)

Gr Naxos: S-SE of Filoti, *Thymbra-Sarcopoterium*-phrygana on slope above Ag. Ioannis, 650 m, 37°02'04"N, 25°30'28"E, 01.08.2020, *Biel* 20.021.

We can confirm that records from Amorgos and Milos refer to *E. ch.* subsp. *massiliensis* (DC.) Thell.; however, records from other islands in the Kiklades have only been reported at species rank.

21. *Euphorbia humifusa* Willd. (Fig. 8)

Gr Naxos: S-SE of Filoti, phrygana on rocky slopes of Mt Zas, 995 m, 37°01'49"N, 25°30'08"E, 28.07.2020, *Biel* 20.009.

New for Kiklades and second report for Greece, the first being from the N Aegean island of Thasos (Biel & Tan 2018).

Oxalidaceae

22. *Oxalis corniculata* L.

Gr Naxos: Apiranthos, road margins and park at eastern edge of village, 510 m, 37°04'22"N, 25°31'20"E, 03.08.2020, *Biel* obs.

Common on several islands in the Kiklades.

Fig. 7. *Euphorbia chamaesyce* subsp. *chamaesyce* (photo B. Biel).

Fig. 8. *Euphorbia humifusa* (photo B. Biel).

Ranunculaceae

23. *Clematis flammula* L.

Gr Naxos: Filoti, road margins, waste ground and ruderal places in northern part of village, 370 m, 37°03'10"N, 25°29'51"E, 26.07.2020, *Biel* obs. (photo).

Reported from Amorgos, Kithnos and Sifnos.

Poaceae

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

Gr Naxos: W of Filoti, damp road margins, phrygana, 325 m, 37°03'10"N, 25°29'32"E, 29.07.2020, *Biel* 20.014.

Recorded from Amorgos and islands in the N Kiklades.

25. *Lolium subulatum* Vis.

Gr Naxos: W of Filoti, damp road margins, phrygana, 325 m, 37°03'10"N, 25°29'32"E, *Biel* 20.015.

Second report for the Kiklades, recorded from Thira.

26. *Setaria verticilliformis* Dumort.

Gr Naxos: Filoti, road margins, waste ground and ruderal places in northern part of village, 370 m, 37°03'10"N, 25°29'51"E, 29.07.2020, *Biel* 20.012.

Second report for the Kiklades, recorded from Milos. Also noted S of Danakos.

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

Reports 27–32

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Six new records are provided for the S Aegean Island of Kasos (Nomos Dodekanisou, Eparchia Karpathou). Thanks are due to Dr Erben for the identification of *Limonium fragile*.

Asteraceae

27. *Chondrilla juncea* L.

Gr Kasos: Arvanithochori, field margin, 163 m, 35°23'N, 26°55'E, 10.08.2020, *Cattaneo* & *Grano* obs. (photo).

Brassicaceae

28. *Lepidium graminifolium* L.

Gr Kasos: Aghia Marina, roadsides, 119 m, 35°24'N, 26°54'E, 30.07.2020, *Cattaneo* & *Grano* 1355 (herb. Cattaneo).

New for phytogeographical region KK (Kriti and Karpathos) and southernmost report for Greece.

Euphorbiaceae

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

Gr Kasos: Poli, field margins, 187 m, 35°24'N, 26°56'E, 02.08.2020, *Cattaneo* & *Grano* 1360 (herb. Cattaneo).

Known from Karpathos and Kriti in floristic region KK.

30. *Euphorbia hypericifolia* L.

Gr Kasos: Fry, within a garden, 33 m, 35°24'N, 26°55'E, 30.07.2020, *Cattaneo* & *Grano* 1356 (herb. Cattaneo).

Fabaceae

31. *Coronilla argentea* L. [syn. *C. valentina* subsp. *glauca* (L.) Batt.]

Gr Kasos: Antiperatos Bay, inland vertical limestone cliffs, 200 m, 35°23'N, 26°53'E, 31.07.2020, *Cattaneo* & *Grano* obs.; *loc. ibid.*, crevices of limestone cliffs within gorge, 282 m, 35°23'N, 26°53'E, 05.08.2020, *Cattaneo* & *Grano* obs. (photo).

Known from Karpathos, Kriti and Saria in floristic region KK.

Plumbaginaceae

32. *Limonium fragile* Erben & Brullo (Figs. 9 & 10)

Gr Kasos: within gorge at Antiperatos Bay, 117 m,

Fig. 9. *Limonium fragile* (photo C. Cattaneo).

Fig. 10. *Limonium fragile*, part of inflorescence (photo C. Cattaneo).

35°22'N, 26°53'E, 05.08.2020, *Cattaneo* & *Grano* 1179 (herb. Cattaneo, det. M. Erben).
Reported from Karpathos, Kriti and Andikithira.

Reports 33–53

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Asteraceae

33. *Carduus personata* subsp. ***albidus*** (Adamovic) Kazmi

Bu Znepole region: Mt Rui: in wet places along a forest edge under peak Rui, FN34, 18.07.2019, coll. & det. *D. Dimitrov* (SOM 177188).

A new taxon for this floristic region.

34. *Carduus tmoleus* Boiss. [syn. *C. armatus* Boiss. & Heldr.]

Bu Mt Slavyanka: on northern slope of peak Shabran, 2100 m, GL29, 01.08.2011, coll. & det. *D. Dimitrov* (SOM 177067).

A new taxon for this floristic region.

35. *Hieracium glaucinum* subsp. ***cinerascens*** (Jord.) Breistr. & Litard.

Bu Mt Slavianka: under peak Shabran, 1900 m, GL29, 07.2008, coll. & det. *D. Dimitrov* (SOM 177221).

A new record for this floristic region.

36. *Taraxacum lividum* (Waldst. & Kit.) Peterm.

Bu Northeast Bulgaria: on a street of Ruse town, NJ15, 06.04.2018, coll. & det. *D. Dimitrov* (SOM 177116).

A new record for this region.

Brassicaceae

37. *Alyssum montanum* subsp. ***regis-borisii*** (Deg. & Dren.) Stoj. & Stef.

Bu Rhodopi Mts (*Western*): Beglika Reserve, KG34, 06.2019, coll. & det. *D. Dimitrov* (SOM 177163).

A new record.

Crassulaceae

38. *Sedum alpestre* Vill.

Bu Znepole region: Mt Rui: in rocky places of peak Rui, 1707 m, FN34, 18.07.2019, coll. & det. *D. Dimitrov* (SOM 177143).

A new record.

Geraniaceae

39. *Erodium heufftianum* C. A. Mayer

Bu Pirin Mts (*Southern*): below Teshovo village, GL29, 07.2019, coll. & det. *D. Dimitrov* (SOM 177197).

A new record.

40. *Geranium divaricatum* Ehrh.

Bu Pirin Mts (*Southern*): Teshovo village , GL29, 07.2019, coll. & det. *D. Dimitrov* (SOM 177196).

A new record.

Rosaceae

41. *Alchemilla flabellata* Buser

Bu Znepole region: Mt Rui, in grassy places above the forest rim near the trail to peak Rui, 1680 m, FN34, 18.07.2019, coll. & det. *D. Dimitrov* (SOM 177141).

A new record.

42. *Potentilla astracanica* Jacq.

Bu Rhodopi Mts (*Western*): Beglika Reserve, in sandy places, KG34, 06. 2019, coll. & det. *D. Dimitrov* (SOM 177153).

A new record.

43. *Potentilla mollicrinis* (Borbas) Stankov

Bu Mt Slavyanka: Parilski Dol locality, GL29, 07.2008, coll. & det. *D. Dimitrov* (SOM 177060).

A new record.

Rubiaceae

44. *Galium glaucum* L.

Al Lugi, 1200 m, calcar., 16.07.1953, det. *B. Achtarov*.

Possibly, a new species for the flora of Albania, since it has not been reported for the country by Marhold (2011 +).

45. *Galium setaceum* Lam.

Al South Albania: above Saranda town, in rocky limestone places, 04.05.2019, coll. & det. D. Dimitrov (SOM 177201).

This is a second locality of this species in Albania, so far known from Elbasan (Gjeta & al. 2020).

Saxifragaceae

46. *Ribes alpinum* L.

Bu Znepole region: Mt Rui: above Lomnitsa village, FN34, 18.07.2019, coll. & det. *D. Dimitrov* (SOM 177183).

A new record.

Scrophulariaceae

47. *Linaria simplex* (Willd.) DC.

Bu Sofia region: southwest of the former

Kremikovtsi mine, together with *Lathyrus sphaericus*, GN03, 09.05.2020, coll. & det. *D. Dimitrov* (SOM 177191).

A new record of this Mediterranean element.

48. *Verbascum roripifolium* (Halacsy) I. K. Ferguson

Bu Pirin Mts (*Southern*): on silicious terrain below Teshovo village, GL29, 07.2019, coll. & det. *D. Dimitrov* (SOM 177147).

A new record.

Liliaceae

49. *Ornithogalum amphibolum* Zohar.

Bu Sofia region: in a steppe area eastwards of Seslavtsi district, Sofia, GN03, 19.04.2019, coll. & det. *D. Dimitrov* (SOM 177158).

According to World Checklist of Selected Plant Families (2010), the species is spread in Bulgaria, Romania and Ukraine.

Poaceae

50. *Festuca spectabilis* subsp. ***affinis*** (Boiss. et Heldr. ex Hack.) Hack.

Bu Znepole region: Mt Rui, in grassy places near Rui chalet, 1400 m, FN34, 18.07.2019, coll. & det. *D. Dimitrov* (SOM 177181).

— Mt Slavyanka: above Paril village, GL29, 07.2019, coll. & det. *D. Dimitrov* (SOM 177149).

— Pirin Mts (*Southern*): Paril village, GL29, 07.2019, coll. & det. *D. Dimitrov* (SOM 177148).

New records.

51. *Holcus mollis* L.

Bu Thracian Lowland: eastwards of Pavel Banya town, Sepedzhik locality, LH51, 27.08.2016, coll. & det. *D. Dimitrov* (SOM 172982).

A new record.

52. *Trachynia distachya* (L.) Link

Bu Slavyanka divide: Mt Stargach, in rocky calcareous places, Pavlyova Padina locality, GL39, 10.07.2019, coll. & det. *D. Dimitrov* (SOM 177145).

A new record.

Potamogetonaceae

53. *Potamogeton trichoides* Cham. et Schlecht.

Bu Valley of River Mesta: in artificial lake on the right-side riverbank of river Mesta, eastwards of Gotse Delchev town, GM20, 10.07.2019, coll. & det. D. Dimitrov (SOM 177144).

A new record.

Reports 54–55

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Onagraceae

54. *Oenothera lindheimeri* (Engelm. & A. Gray) W.L. Wagner & Hoch [syn. *Gaura lindheimeri* Engelm. & A. Gray] (Fig. 11)

Gr Nomos Dodekanisou, Eparchia Rodou: island of Rodos, Ixia area, by the sea, 36°25'13"N, 28°10'11"E, 21.06.2017, *Galanos* 17.061 (herb. Galanos); Iliupolis area, roadside, 82–85 m, 36°24'47"N, 28°12'23"E, 11.10.2017; Paradisi village, roadside, 10 m, 36°23'53"N, 28°04'21"E, 01.11.2017; Tsairi area, open field by road, 35 m, 36°22'31"N, 28°11'53"E, 09.11.2018; Provincial road of Pastida, 40 m, 36°23'15"N, 28°07'38"E, 21.09.2019, *Galanos* obs.

New for Rodos and East Aegean islands. *Oenothera lindheimeri* is native to N America (Munz 1965) and has escaped cultivation in many European countries, viz., Portugal, Spain, Belgium and Netherlands (Verloove & Sánchez Gullón 2012; Sánchez Gullón & Verloove 2015; Rostański & Verloove 2015). In Greece, it was reported for the first time from Nomos Attikis (Lagonisi), as a locally naturalised alien (Raabe & Raus 2016). In the framework of floristic investigations carried out by Galanos on the islands of the Dodecanese complex, several plants were noted and photographed in the northern part of Rodos. The identification as *O. lindheimeri* was confirmed by Filip Verloove in 2017 based on photographs of whole plants.

Araceae

55. *Biarum marmarisense* (P.C. Boyce) P.C. Boyce (Figs. 12 & 13)

Gr Nomos Dodekanisou, Eparchia Rodou: island of Rodos, Maritsa to Psinthos, 370 m, 36°19'N, 28°05'E, 31.10.2020, *Galanos* 20.101 (herb. Galanos).

In Greece, the genus *Biarum* Schott is represented by six species (Strid 2016), three of which are reported from the East Aegean islands: *Biarum tenuifolium* subsp. *zeleborii* (Schott) P.C. Boyce (Kos, Rodos, Samos, Simi and Tilos as well as Pontikoussa which is actually in floristic region Kiklades but geographically part of the Dodecanese complex), *Biarum ditschianum* Bogner & P.C. Boyce (Kastellorizo) and *Biarum*

Fig. 11. *Oenothera lindheimeri*, habitat and flower detail (photo Ch. Galanos).

Fig. 12. *Biarum marmarisense* from Rodos (photo Ch. Galanos).

Fig. 13. *Biarum marmarisense* from Simi (photo Ch. Galanos).

marmarisense (Simi). On 22 October 2020, a few individuals of *Biarum marmarisense* were found for the first time on the island of Rodos by two amateur naturalists, M. Vafiadis and V. Galata. The identification was confirmed by C. Galanos on 31 October 2020, with the discovery of a population of *ca.* 300 individuals on calcareous substrate in the northern part of the island. Other plants noted in the vicinity were *Arisarum vulgare*, *Biarum tenuifolium* subsp. *zeleborii*, *Colchicum variegatum*, *Crocus tournefortii*, *Cupressus sempervirens*, *Drimia maritima*, *Pinus halepensis* subsp. *brutia* and *Scilla autumnalis*.

Photographs and measurements of living material obtained from Simi and Rodos matched the description of the species by Peter Boyce who confirmed the identification based on images of whole plants and diagnostic details. A key separating *Biarum marmarisense* from its closest relative, *B. davisii* Turrill, endemic to the islands of Dia and Kriti, is provided (modified from Boyce 2008).

Leaves short petiolate, cataphylls 3–4 × 0.7–1 cm. Spathe 5–6 cm long; spathe limb 2.5–3 × 0.5–0.7 cm wide; spathe tube margins free for 1/4–1/2 their length. Spadix 3–5 cm long, appendix 3–4 cm. Staminate flowers 8–10 . . . . . ***Biarum davisii***

Leaves long petiolate, cataphylls 3–9 × 0.7–1.5 cm. Spathe 7–11 cm long; spathe limb 3–5 × 0.5–1 cm wide; spathe tube margins free for 3/4 their length. Spadix 3.5–9 cm long, appendix 3–7 cm. Staminate flowers 15–16 . . . . . .***Biarum marmarisense***

Acknowledgements. Thanks are due to Kit Tan for providing additional data and improving the text.

Reports 56–64

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Balsaminaceae

56. *Impatiens balfourii* Hook. f.

Bu West Frontier Mts: Novoselska river, N from Slokostitsa village, Kyustendil Municipality, 514 m, 42°16'34.50"N, 22°43'11.69"E, 3.09.2019, coll. *G. Kunev* (SO 108024)

In spite of the fact that the species was reported quite recently from Bulgaria (Adamowski 2009), it has been already documented from several floristic regions (Vladimirov 2012; Petrova & al. 2013a; Petrova 2017; Glogov & al. 2018). However, the current find seems to be the first from the floristic region of West Frontier Mts. The species was observed on the banks of river Novoselska, with approximately 30 individuals spread amongst the much more abundant *Impatiens glandulifera* there.

Elatinaceae

57. *Elatine ambigua* Wigth (Fig. 14)

Bu Thracian Lowland: Belozem, Plovdiv Municipality, in rice fields, 140 m, 42°10'50.03"N, 25°01'49.05"E, 12.10.2019, coll. *G. Kunev* (SO 108021); Tsalapitsa village, Plovdiv Municipality, in rice fields, 195 m, 42°12'43.62"N, 24°31'40.80"E, 12.10.2019, *G. Kunev* obs.

The species has been already reported from one location in Bulgaria (Delipavlov & Cheshmedzhiev 2011) but was not documented with any herbarium material in any of the largest local herbaria SO, SOM and SOA. It was presented as a common weed in rice fields

Fig. 14. *Elatine ambigua* (photo G. Kunev).

(Perić & al. 2016; Rosman & al. 2016). Floristic composition at the locality of the find was typical for the association *Oryzo sativae-Echinochloetum crurisgalli* Soó ex Ubrizsy 1948 of the class of anthropogenic vegetation *Oryzetea sativae* Miyawaki 1960 (see Gussev & al. 2020). Most accompanying plants were alien weeds that develop in late September or October on the muddy surface along the periphery of discharged rice paddy ponds. Some of the noticed representatives were: *Diplachne fascicularis*, *Heteranthera reniformis*, *H. rotundifolia*, *Ammannia coccinea*, *Echinochloa oryzoides*, *Cyperus difformis*.

Fabaceae

58. *Cytisus scoparius* (L.) Link (Fig. 15)

Bu Thracian Lowland: westwards from Bolyarovo, Haskovo district, 227 m, 41°55'5.62"N, 25°28'30.62"E, 01.10.2019, coll. *G. Kunev* (SO 108025, 108026).

Photographs of the plants were first published in August of 2019 by Ivanka Kireva-Gogolova from Haskovo, in the online group of interest "Plants from the garden (from Bulgaria or elsewhere)", on Facebook. The coordinates of the plants were given to the author by Mrs. Kireva-Gogolova. The place was visited on 1 October 2019. A group of five individuals of the species was observed in a xerophytic grassland dominated by *Chrysopogon gryllus* and *Phleum montanum* and accompanied by *Quercus pubescens*, *Paliurus spina-christi*, *Dichanthium ischaemum*, *Taeniatherum caput-medusae*, *Dactylis glomerata*, *Dianthus aridus*, *Scilla autumnalis*, *Carlina corymbosa*, *Hieracium bauhini*, *Eryngium campestre*, etc. The surrounding area was thoroughly investigated but no other individuals of the species were observed. However, the discovered plants were fruiting and dispersed seeds and thus a future expansion of the species local range could be expected. The origin of the found plants could be attributed to the disposal of garden waste, as remains of such waste were observed closeby.

In Bulgarian floristic literature, *Cytisus scoparius* is presented only as an ornamental plant (Kuzmanov 1976; Delipavlov & Cheshmedzhiev 2011). This is the first report on the occurrence of the species in a natural habitat. Considering that the species is reported as invasive in parts of its native range and on a global scale (CABI 2020), it is important to know the exact locality, origin and approximate time of the finds of such 'garden escapees'.

Fig. 15. *Cytisus scoparius* (photo G. Kunev).

Molluginaceae

59. *Mollugo verticillata* L. (Fig. 16)

Bu Valley of River Struma (*Southern*): northwards from Ribnik, Petrich Municipality, on the banks of Struma river, 97 m, 41°30'6.09"N, 23°15'17.70"E, 30.08.2020, coll. *G. Kunev* (SO 108018); eastwards from Topolnitsa, Petrich Municipality, on the banks of Struma river, 75 m, 41°24'19.08"N, 23°20'21.41"E, 30.08.2020, coll. *G. Kunev* (SOM 177049).

Mollugo verticillata is a species alien to the European flora and is recently reported from Bulgaria with the find of only two specimens. Its invasive status is determined as a casual alien (Kunev 2019).

The species inhabits exposed, sandy to gravelly substrates on the banks of river Struma in temporarily wet depressions that emerged during low waters. The current finds present the species as better established on the banks of river Struma. In the first locality, 15 individuals were observed, while in the second 40 were counted.

Rosaceae

60. *Potentilla supina* L.

Bu Valley of River Struma (*Southern*): northwards from Ribnik, Petrich Municipality, on the banks of river Struma, 98 m, 41°30'5.49"N, 23°15'14.66"E, 30.08.2020, coll. *G. Kunev* (SOM 177051).

The species has not been reported earlier from this floristic subregion (cf. Markova 1973; Assyov & Petrova 2012).

Lemnaceae

61. *Lemna gibba* L.

Bu Znepole Region: river Arkata, southwards from Priboy village, 628 m, 42°28'49.25"N, 22°54'55.06"E, 11.09.2019, *G. Kunev* obs.

The species was observed colonizing the water surface in a stretch of river Arkata, southwards from Priboy village. It is important to know its current state of distribution in Bulgaria, since it is assessed as Nearly Threatened in the country, According IUCN criteria (Ivanova 2009). The current report of the species is first from the Znepole floristic region (see Jordanov 1964; Assyov & Petrova 2012).

Poaceae

62. *Phalaris canariensis* L.

Bu Sofia region: Within the area of Sofia Wastewater Treatment Plant (WWTP) in Kubratovo, 513 m, 42°45'12.99"N, 23°22'8.99"E, 29.06.2020, coll. *G. Kunev* (SO 108022, 108023).

New for the Sofia floristic region (see Assyov & Petrova 2012). Three individuals of the species were observed in a disturbed grassy place along an alley at WWTP Kubratovo.

63. *Crypsis schoenoides* (L.) Lam. (Fig. 17)

Bu Valley of River Struma (*Southern*): eastwards from Topolnitsa, Petrich Municipality, on the

Fig. 16. *Mollugo verticillata* (photo G. Kunev).

Fig. 17. *Crypsis schoenoides* (photo G. Kunev).

banks of river Struma, 73 m, 41°24'17.78"N, 23°20'24.94"E, 30.08.2020, coll. *G. Kunev* (SO 108019, 108020; SOM 177050).

The species has not been reported earlier from this floristic subregion (see Assyov & Petrova 2012). It was observed in damp places along the river, accompanied by *Corrigiola litoralis*, *Cyperus hamulosus*, *C. michelianus*, *C. fuscus*, *Mollugo verticillata*, *Euphorbia maculata*, *Portulaca oleracea*, *Dysphania pumilio*, *Setaria viridis*, *Eragrostis minor*, *Artemisia scoparia*, etc.

64. *Trachynia distachya* (L.) Link

Bu Black Sea Coast (*Northern*): Irakli locality, northwards from the main entrance to beach area, 5 m, 42°45'49.60"N, 27°53'44.63"E, 15.08.2020, coll. *G. Kunev* (SO 108027).

The species is new for the Northern Black Sea Coast (see Assyov & Petrova 2012). Several subpopulations with numerous individuals were observed to occupy screes and eroded places along the coastline.

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Alliaceae

65. *Allium pallens* L. (Fig. 18)

Gr Nomos & Eparchia Ilias: in dumosis pr. Lintzi [Loutra Kyllinis, 30 m], 37°51'N, 21°07'E, 03.06.1899, *Heldreich* (WU-Halácsy-Graec. 0126728).

Specimens collected by Heldreich 'pr. Lintzi' in NW Ilias have previously been assigned to *A. rhodopeum* Velen. (*Flora Hellenica Database* 2020). Brullo & al. (1998: 64) considered *A. rhodopeum* subsp. *rhodopeum* conspecific with *A. paniculatum* L. var. *villosulum* Halácsy (see WU-Halácsy-Graec. 0079152 for lectotype of *A. paniculatum* var. *villosulum*). However, Heldreich's specimens were originally identified by Halácsy as *A. paniculatum* and not as *A. paniculatum* ß *villosulum* (Halácsy 1904: 256). Below the description of ß *villosulum* Halácsy provided a paragraph on additional localities of *A. paniculatum* and only in the penultimate line, was a single (additional?) locality of ß *villosulum* cited (Attica: in campis prope De Keleiam [Dekeliam] Tatoi hodie, July 1888, *Halácsy*). We have now seen Heldreich's specimens from Lintzi and they are clearly not *A. rhodopeum* nor *A. ionicum* as the leaf sheaths are glabrous and not hairy. The specimens belong to *A. pallens* L., a species rare in Ilias, known to occur in a small population of 5–7 plants not far distant from Lintzi, at an altitude of 2 m in Loutra Yrminis, Kounopeli (Giannopoulos & al. 2017).

Reports 66–70

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Brassicaceae

66. *Aethionema rhodopaeum* D. Pavlova

Bu Rhodopi Mts (*Eastern*): SW of Yakovitsa village, Kirkovo Municipality, Kardzhali district, on serpentine stony slope, 800 m, 41.30841°N, 25.25636°E, with remnants of silicula edges, 08.07.2020, coll. *S. Stoyanov* & *Y. Marinov* (SOM 177269).

A new locality of this obligate serpentinophyte and very rare local endemic species in the Eastern Rhodopi Mts. So far, *A. rhodopaeum* has been known only from two localities, according to its protologue (Pavlova 2007): southwards of Golyamo Kamenyane village, Krumovgrad district and near Dobromirtsi village, Kirkovo district.

Lamiaceae

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

Bu Rhodopi Mts (*Eastern*): W of Avren village, Krumovgrad municipality, Kardzhali district, on serpentine stony slope, 420 m, 41.34247°N, 25.69211°E, with flowers and fruits, 09.07.2020, coll. *S. Stoyanov* & *Y. Marinov* (SOM 177314).

A new locality in the Rhodopi Mts (*Eastern*). So far, this rare species included in the *Red Data Book of R. Bulgaria* as Endangered, has been known only from the area of the villages of Gugutka and Zhelezino, Ivaylovgrad district (Stoyanov 2015). Recently, the species was also reported from the Valley of River Mesta floristic region (Tashev 2015).

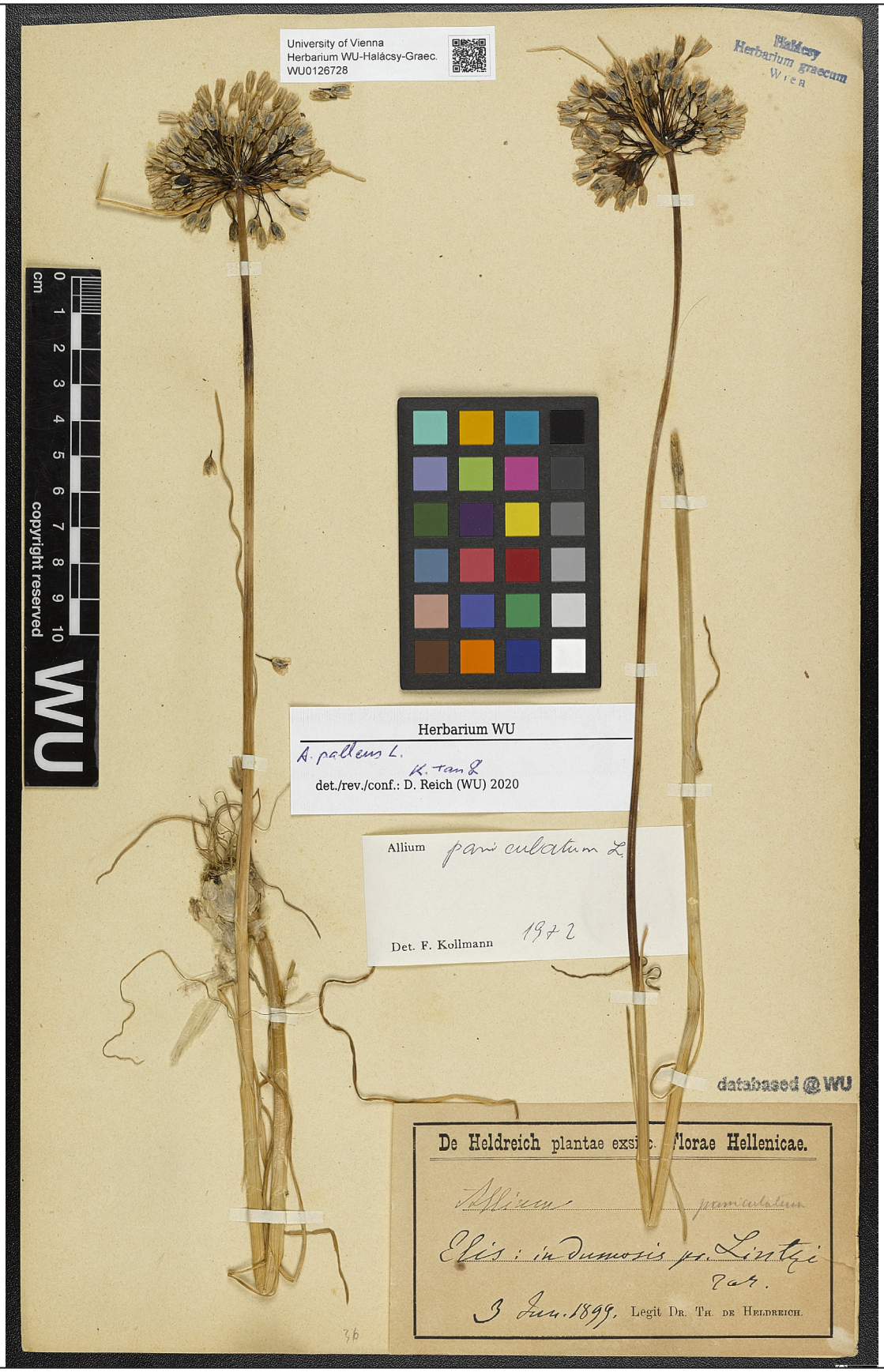

Fig. 18. *Allium pallens* (WU-Halácsy-Graec. 0126728).

Fig. 19. *Micromeria juliana* (photo Y. Marinov).

68. ***Thymus jalasianus*** Stoyanov & Marinov (Fig. 20)

Bu Rhodopi Mts (*Eastern*): SW of Yakovitsa village, Kirkovo Municipality, Kardzhali district, on serpentine stony slope, 730 m, 41.31579°N, 25.26248°E, with flowers and fruits, 08.07.2020, coll. *S. Stoyanov* & *Y. Marinov* (SOM 177270, 177271); *loc. ibid.*, 870 m, 41.29416 °N, 25.25361°E, with flowers and fruits, 08.07.2020, coll. *S. Stoyanov* & *Y. Marinov* (SOM 177272, 177273); S of Devesilovo village, Krumovgrad district, near the Bulgarian-Greek border, on serpentine stony slope, 660 m, 41.32200°N, 25.67114°E, with fruits, 09.07.2020, coll. *S. Stoyanov* & *Y. Marinov* (SOM 177274, 177275).

These are new localities of this obligate serpentinophyte and very rare local endemic species in the Eastern Rhodopi Mts. So far *T. jalasianus* has been known only from two localities, according to its protologue (Stoyanov & Marinov 2020): between the villages of Fotinovo and Chichevo, Kirkovo district, and southwards of Golyamo Kamenyane village, Krumovgrad district (Fig. 21).

Fig. 20. *Thymus jalasianus* (photo Y. Marinov).

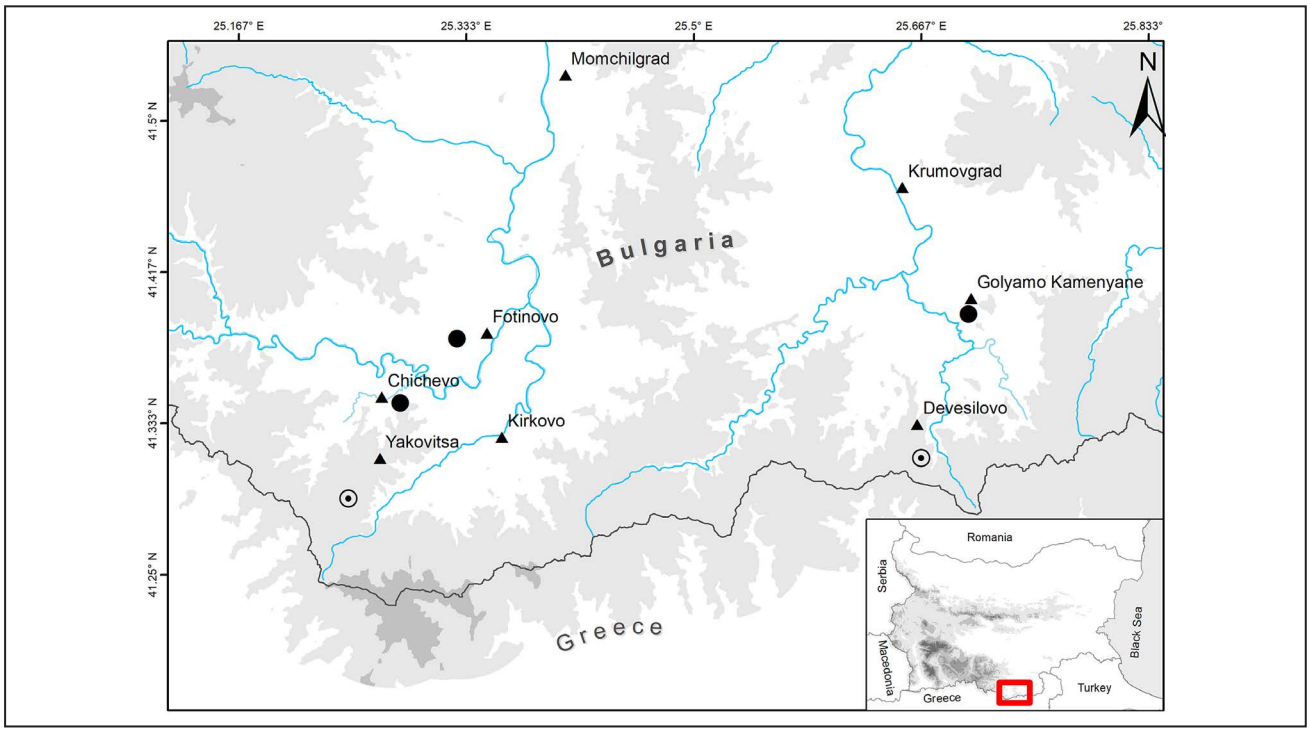

Fig. 21. Distribution map of *Thymus jalasianus* in Eastern Rhodopi Mts, Bulgaria – localities according to protologue (solid circles); new localities (outline circles).

Scrophulariaceae

69. *Verbascum lagurus* Fisch. & C. A. Mey.

Bu Rhodopi Mts (*Eastern*): E of Gorni Yurutsi village, Krumovgrad district, along a forest road at the periphery of an oak forest, 580 m, 41.34220°N, 25.93925°E, with flowers, 04.06.2018, coll. *S. Stoyanov* (SOM 177276, 177277).

So far, this rare species included in the *Red Data Book of R. Bulgaria* as Endangered, has been known only from the floristic regions of Tundzha Hilly Country (Mt Sakar) and Mt Strandzha (Gussev 2015).

70. *Verbascum spathulisepalum* Greuter & Rech. f. (Fig. 22)

Bu Rhodopi Mts (*Eastern*): SW of Yakovitsa village, Kirkovo Municipality, Kardzhali district, on serpentine stony slope, 760 m, 41.30941°N, 25.25784°E, with fruits, 09.07.2020, coll. *S. Stoyanov* & *Y. Marinov* (SOM 177278, 177279).

So far, this rare Balkan endemic species included in the *Red Data Book of R. Bulgaria* as Endangered has been known only from the area of the villages of Dolno Lukovo and Gorni Yurutsi (Gussev 2015). In recent years, only the localities in the vicinity of Gorni Yurutsi village have been confirmed. The new locality lies about 60 km westwards of the earlier known species range.

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Reports 71–73

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Apiaceae

71. *Seseli rhodopeum* Velen. (Figs. 23 & 24)

Gr Nomos & Eparchia Dramas: 19 km from Paranestion along road to Thermia springs, near northern end of Nestos dam, 400 m, schistose cliffs on road embankment, 41°22'N, 24°30'E, 25.09.2020, *Strid* 60523 (B, UPA, herb. Strid).

New for Greece, previously known only from a few localities in S & C Bulgaria. *Seseli rhodopeum* was described from material collected by Velenovský in August 1889 "in saxosis calcareis supra Stanimaka". Photos of type specimens at JE and PRC are available at https://herbarium.univie.ac.at/database/results.php. It is related to *S. rigidum* Waldst. & Kit. which

Fig. 22. *Verbascum spathulisepalum* (photos Y. Marinov).

was described from "fissuris rupium calcarearum Banatus" and occurs in the Balkan Peninsula northwards to Romania (and perhaps Ukraine) and southwards to northern Greece. A color illustration in Waldstein & Kitaibel (1803: t. 146) shows a short and stout plant matching Greek specimens of *S. rigidum*.

Seseli rhodopeum and *S. rigidum* are late-flowering chasmophytes with erect, simple or sparingly branched stems. They can be distinguished as follows:

S. rhodopeum: 50–100 cm tall, rather slender. Leaf segments subterete, *ca.* 0.5 mm wide, rather soft. Umbels small in relation to plant, all ± equal in size. Umbellules moderately dense; bractlets fused only at the base. 2n=42.

S. rigidum: 10–40 cm tall, stout and rigid. Leaf segments flat, 1–2(4) mm wide, rigid. Terminal umbel much larger than the others. Umbellules very dense; bractlets fused at base to form a disc. 2n=22.

Differences have been reported also in the fruits. However, very little material with well developed fruits is available in herbaria due to the late flowering time.

Some previous reports of *S. rigidum* from the Greek Rodopi area may represent *S. rhodopeum*, but all collections that have been possible to examine prove to be typical *S. rigidum*; these include *Strid* & *al.* 16434 (C, G) and *Strid* & *Vollbrecht* 51023, both from the Zagradenia area *ca.* 18 km N-NE of the locality for *S. rhodopeum*. After the preparation of this account, Ioannis Tsiripidis sent photos of *S. rhodopeum* taken *ca.* 16 km N-NW of our locality, near the Bulgarian border.

Asteraceae

72. *Bidens frondosus* L. (Fig. 25)

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: *ca.* 7 km NE of Githion, 2–5 m, by irrigation canals in coastal flats with *Citrus* orchards, 36°47'N, 22°29'E, 03.10.2020, *Strid* 60574 (UPA, herb. Strid).

New for Peloponnisos. A native of N America, naturalized in the Mediterranean area and first reported from Greece (by the Louros river in nomos Prevezis) by Manolaki & al. (2011: 865). Raus & Willing (2015: 451) reported it from several localities in N Greece where it now appears to be spreading. Previous reports of *B. tripartitus* L. from C & S Greece should be re-examined when possible, as some of them may represent *B. frondosus*. The latter differs by its slender, unwinged petioles and 2 (rather than 3–4) achenial bristles. *Binder* & *al.* 687 (B) from the banks of the Pinios river in nomos Larisis was originally determined as *B. tripartitus* but re-identified as *B. frondosus* by Strid in November 2018.

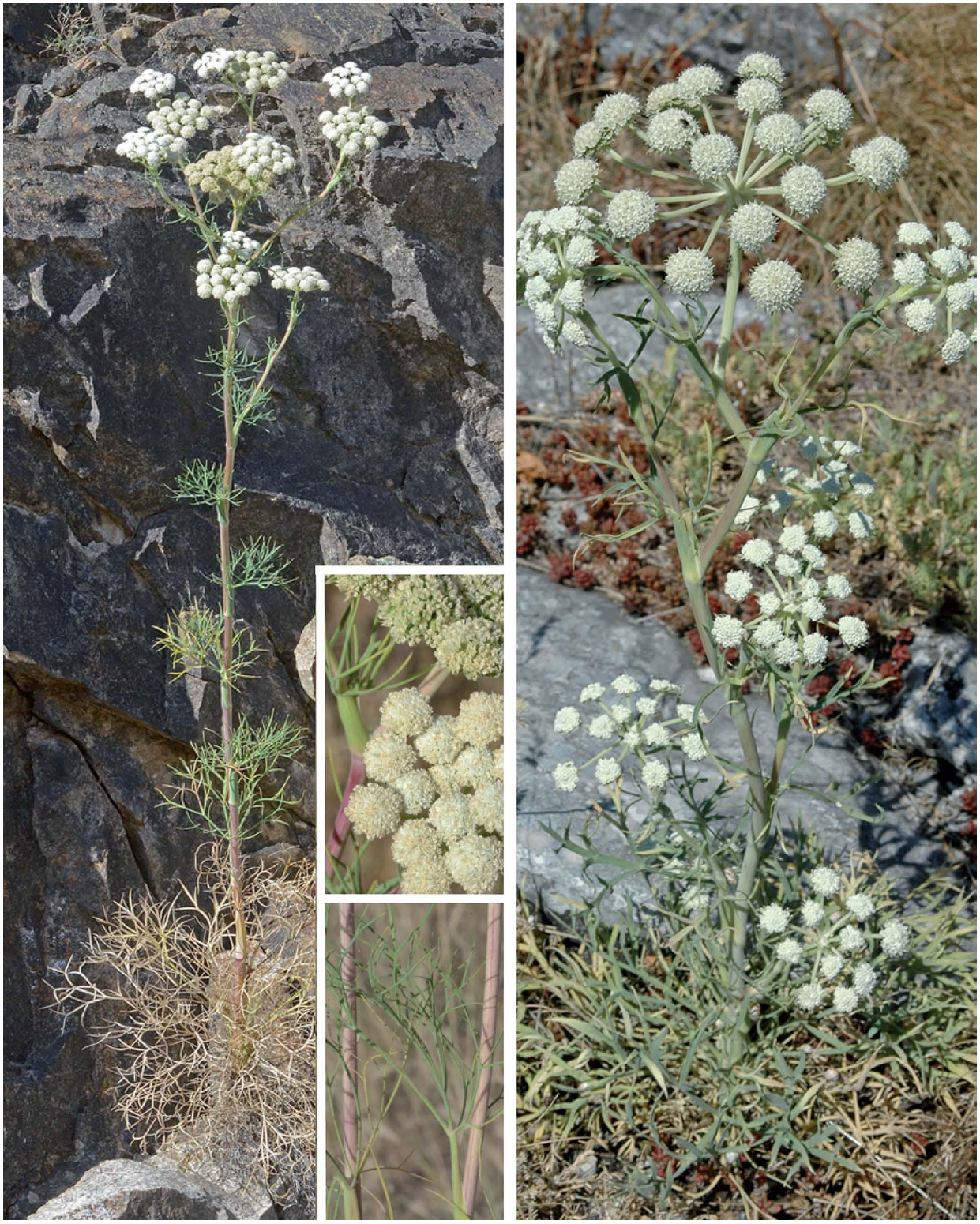

Fig. 23. *Seseli rhodopeum* (left) and *S. rigidum* (right, from Mt Pangeon) (photo. A. Strid).

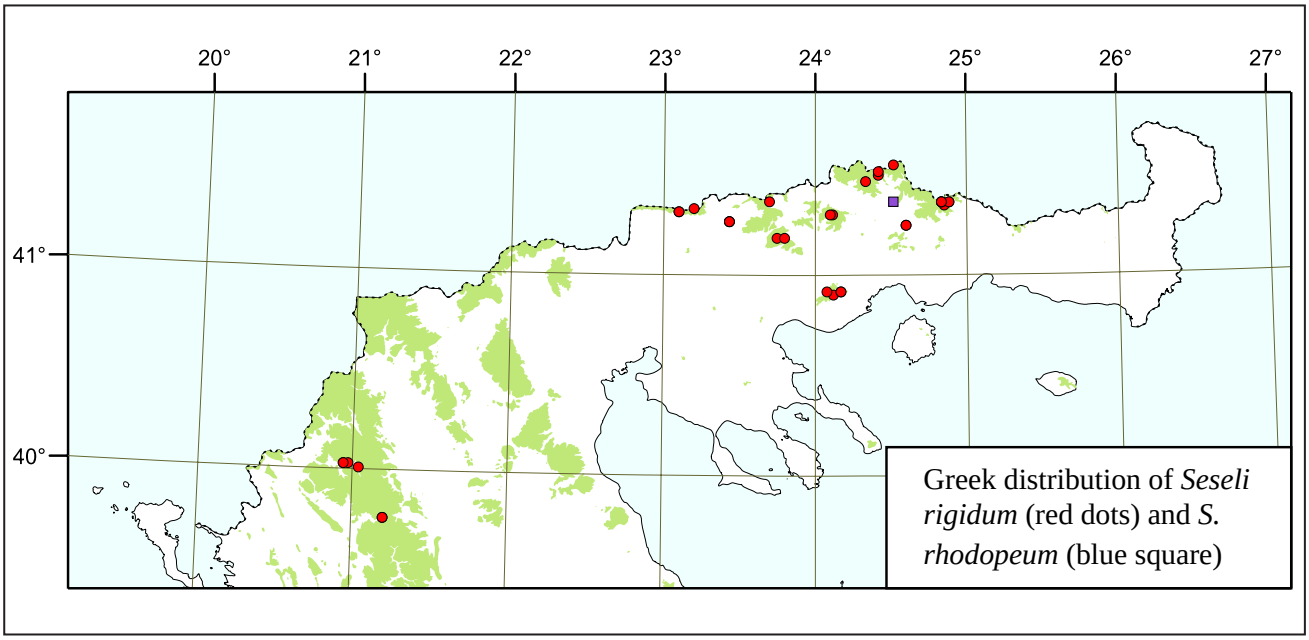

Fig. 24. Distribution of *Seseli rhodopeum* and *S. rigidum* in Greece (from Flora Hellenica Database).

Fig. 25. *Bidens frondosus* (photo A. Strid).

Solanaceae

73. *Solanum villosum* L. (Fig. 26)

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: Paralia Kiparissia, ruderal habitat near the sea, 0–2 m, 36°59'N, 23°00'E, 05.10.2020, *Strid* 60595 (UPA, herb. Strid).

A widespread weed of S Europe, Africa and S Asia. There are several reports from the Greek mainland as well as on the Aegean and Ionian islands, but none so far from mainland Peloponnisos. Some Greek plants have been referred to *S. v.* subsp. *alatum* (Moench) Edmonds which is rather densely pubescent and eglandular, but Särkinen & al. (2018) had not recognized infraspecific taxa within *S. villosum*, finding the variation more or less continuous.

Acknowledgements. Thanks are due to Georgi Kunev and Kit Tan for examining herbarium specimens and providing data on *Seseli rhodopeum*.

Report 74

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Fig. 26. *Solanum villosum* (photo A. Strid).

Cyperaceae

74. *Carex agastachys* L. fil.

Gr Nomos Chalkidikis, Eparchia Athou: Athos Peninsula, mountain ridge *ca.* 4 km W-NW of Great Lavra monastery, on forest road, 750 m, 40°10'32"N, 24°20'01"E, 15.06.2019, *K. Sutorý* (BRNM 816448).

According to Theodoropoulos (1963), Athanasiadis & al. (1998), Babalonas & al. (1998) and Strid (2016) *Carex pendula* Hudson occurs in the Athos Peninsula. Following the taxonomic concept of Jiménez-Mejías & al. (2017) and Míguez & al. (2018), the related species *C. agastachys* is now identified.

Carex pendula was found in two localities on Mt Athos: forest road 1.6 km N-NE of the monastery Agiou Pavlou (St. Paul), 810 m, 40°10'24"N, 24°18'01"E, 13.06.2014, *K. Sutorý* BRNM 763513; east coast of the peninsula, along the road not far from the harbour Morfonu to the south-east, 50 m, 40°13'25"N, 24°19'17"E, 13.08.2020, *K. Sutorý* BRNM 826559. The specimens differ from *C. agastachys* in a number of characters. Thus both species occur on Mt Athos.

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Reports 75–84

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

Asteraceae

75. *Centaurea parilica* Stoj. & Stef.

Gr Nomos Serron, Eparchia Sintikis: SE of Agkistro, NW of Achladohori, stony limestone meadow near military outpost at the border, 1025 m, 41°20'N, 23°28'E, 19.08.2020, *Kofinas* obs.

New for nomos and eparchia. The population comprised *ca.* 30 plants. The outpost was visited at night accompanied by a military guard. Many plants from high altitudes come down to this corner of NE Greece near Agkistro, and at *ca.* 1000 m, this is the lowest altitude reported for *C. parilica* in Greece. It is known from Mts Falakro (Boz Dagh) and Orvilos (Ali Botus) in nomos Dramas, also in SW Bulgaria where it is considered endangered.

Caryophyllaceae

76. *Gypsophila pallasii* Ikonn. (Fig. 27)

Gr Nomos Serron, Eparchia Sintikis: SE of Agkistro, NW of Achladohori, rocky limestone slopes by roadside near military outpost at border, 575–1025 m, 41°19'N, 23°29'E, 19.08.2020, *Kofinas* obs.

— Nomos & Eparchia Serron: Mt Menikio, 780 m, 41°07'N, 23°43'E, 19.08.2020, *Kofinas* obs.

New for nomos and eparchia; there were few plants scattered at the roadside at the lower altitude, appearing more frequently from 820 m upwards. *Bolanthus thymifolius* was also noted in the area. Reported from Mt Orvilos in nomos Dramas and also from nomos Evrou in the far northeast.

Fig. 27. *Gypsophila pallasii* (photo by Nun Pachomia from Monastery of Timios Prodromos, Serres).

Convolvulaceae

77. *Convolvulus boissieri* subsp. ***suendermannii*** (Bornm.) Kuzmanov (≡ *C. suendermannii* Bornm.) (Fig. 28)

Gr Nomos Serron, Eparchia Sintikis: SE of Agkistro, NW of Achladohori, forming dense mats on limestone slopes near military outpost at border, 900–1025 m, 41°20'N, 23°28'E, 19.08.2020, *Kofinas* obs.; *loc. ibid*., 03.08.2020, *Nun Pachomia from Monastery of Timios Prodromos, Serres* obs./collected.

New for nomos and eparchia, with sizeable populations from 900 m up to the outpost. Recorded from alpine pastures and rocky places on Mt Orvilos in the north-east, between 1700–1900 m, also in Bulgaria. It has also been noted at *ca.* 900 m above the Nestos gorge in nomos Xanthis. This is another example of a high altitude plant which has come down to low altitudes on Mt Agkistro.

Fig. 28. *Convolvulus boissieri* subsp. *suendermannii* (photo by Nun Pachomia from Monastery of Timios Prodromos, Serres).

Dipsacaceae

78. *Lomelosia rhodopensis* (Stoj. & Stef.) Greuter & Burdet (Fig. 29)

Gr Nomos Serron, Eparchia Sintikis: SE of Agkistro, NW of Achladohori, stony limestone meadow near military outpost, 1025 m, 41°20'N, 23°28'E, 19.08.2020, *Kofinas* obs.

New for nomos and eparchia. A small population of *ca*. 10 plants at the end of the road to the outpost. Reported at high altitudes on Mt Falakro in nomos Dramas.

Malvaceae

79. *Abutilon theophrasti* Medik.

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: near Molai, weed in olive grove, 133 m, 36°49'N, 22°51'E, 29.08.2020, *Kofinas* obs.

New for nomos and eparchia, and SE Peloponnese.

80. *Hibiscus trionum* L.

Gr Nomos Kozanis, Eparchia Voiou: lower slopes of Mt Vourinos, at edge of cultivated and uncultivated fields, 743 m, 40°13'N, 21°35'E, 10.08.2020, *Kofinas* obs.

New for Mt Vourinos, nomos and eparchia. Growing together with *Acanthus greuterianus* which was atypical in having purple-coloured bracts instead of the more usual greenish-yellow bracts.

Orobanchaceae

81. *Melampyrum arvense* L. (Fig. 30)

Gr Nomos Serron, Eparchia Sintikis: SE of Agkistro, NW of Achladohori, dry rocky limestone slopes, near military outpost, 1025 m, 41°20'N, 23°28'E, 19.08.2020, *Kofinas* obs.

New for eparchia; reported from Mt Falakro in nomos Dramas by Rechinger (1939: 496) as *M. a.* subsp. *pseudobarbatum* (Schur) Ronn. *Melampyrum arvense* was also noted on Mt Falakro by Kofinas in June 2020 together with *Vincetoxicum hirundinaria* subsp. *hirundinaria*. Both *V. h.* subsp. *hirundinaria* (white flowers) and subsp. *nivale* (pale yellow) occur on Falakro but the former is more often in forest, not on open rocky roadside slopes as observed.

82. *Odontites luteus* (L.) Clairv.

Gr Nomos Serron, Eparchia Sintikis: SE of Agkistro, NW of Achladohori, stony limestone meadow near military outpost, 687–1025 m, 41°19'N, 23°28'E, 19.08.2020, *Kofinas* obs.

New for eparchia. Although sizeable populations exist at 680 m on the calcareous roadside slopes there were fewer plants high up on the meadow. Distributed in northern Greece (NC, NPi and NE).

Rosaceae

83. *Potentilla tommasiniana* F.W. Schultz

Gr Nomos Kozanis, Eparchia Voiou: Mt Siniatsiko, on route to summit, 1635 m, 40°23'N, 21°34'E, 10.08.2020, *Kofinas* obs.

New for Mt Siniatsiko, nomos and eparchia, and phytogeographical region North Central. Noted on Mt Falakro (2010 m, 41°18'N, 24°04'E, 17.08.2019, *Kofinas* obs.) and Agio Pnevma in nomos Dramas and from Mt Menikio in nomos Serron.

Veronicaceae

84. *Veronica barrelieri* Roem. & Schult.

Gr Nomos & Eparchia Grevenon: Mt Chasia, in *Quercus* forest, 815 m, 39°57'N, 21°32'E, 10.08.2020, *Kofinas* obs.

New for Mt Chasia, nomos and eparchia, as well as phytogeographical region N Pindos. Westernmost distribution in Greece.

Fig. 29. *Lomelosia rhodopensis* (photo G. Kofinas).

Fig. 30. *Melampyrum arvense* (photo by Nun Pachomia from Monastery of Timios Prodromos, Serres).

Reports 85–87

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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).

Brassicaceae

85. *Diplotaxis viminea* (L.) DC.

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: near Molai, weed in olive grove, 145 m, 36°49'N, 22°51'E, 18.11.2020, *Kofinas* obs.

New for eparchia and East Peloponnese. Growing together with *Abutilon theophrasti* Medik.

Fabaceae

86. *Onobrychis citrinoides* Kit Tan, **sp. nov.**

Gr Nomos & Eparchia Grevenon: along road from Grevena to Kalambaka, just before crossing of the Venetikos river, 550 m, 40°03'N, 21°29'E, 30 May 1989, *Strid* & *al.* 29893 (holotype G; isotypes ATH, LD, UPA).

Suffrutescent, tap-rooted perennial with moderately woody, thickened stock 1–1.5 cm diam. Flowering stems several, erect-ascending, to 50 cm long, adpressed-pilose. Stipules lanceolate, 4–6 mm long. Leaves 3–7 cm long, with 5–7 pairs of leaflets. Leaflets 13–20 × 1.5–4 mm, narrowly elliptic-oblong, densely grey-sericeous on both surfaces, more so on lower surface. Racemes dense, short at anthesis, 2.5–3 cm long, elongating in fruit to 4.5–6 mm. Peduncles 7–18 cm long, more than twice the length of subtending leaf, adpressed-pilose. Calyx tube *ca.* 2 mm long; teeth linear-filiform, 4.5–6.5 mm, long-ciliate. Standard 8–11 mm long, equalling or slightly longer than keel, pale yellow. Legume densely villous-tomentose, obliquely obovoid, *ca.* 6 mm long, 4–4.5 mm at broadest part excluding the 4 outer, 1 mm long marginal spines and the spines on lateral ridges.

Flowering late May to June, occurring at road cuttings and small patches of meadow overlying limestone in clearings of *Quercus* scrub at 550 m. Possibly endemic to Greece, known at present from the type locality in N Pindos and never re-collected. The recently described *O. citrina* Kit Tan, Stevanović & Vold from Siderokastro (Nomos Serron) in northeastern Greece differs in having patent-hairy flowering stems, leaves with 8–16 pairs of leaflets 7–10 mm in length, the standard ± equalling or shorter than the keel and smaller, 4–5 mm long legumes.

Lamiaceae

87. *Moluccella spinosa* L. (Figs. 31–33)

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: open fields near harbour of Limani Gerakas, 10 m, 36°47'N, 23°04'E, flowering, 28.05.2011, *Kofinas* obs.; *loc. ibid*., 25.04.2015, vegetative, *Kofinas* obs.; Evangelistria Monastery of Gerakas, 110 m, 36°49'N, 23°04'E, 08.1992, *Kofinas* obs.; olive groves at Ag. Ioannis, 249 m, 36°48'N, 23°02'E, 28.05.2011, *Kofinas* obs.; Monemvasia, southernmost part of plot of land in village, 25 m, 36°43'N, 23°01'E, 08.1986, *Kofinas* obs.; village of Ag. Ioannis SE of Richea, ruderalized habitat in an olive grove, 150 m, 36°59'N, 23°00'E,

Fig. 31. *Moluccella spinosa* in luxuriant growth (photo G. Kofinas).

Fig. 32. *Moluccella spinosa* inflorescence (photo G. Kofinas).

Fig. 33. *Moluccella spinosa* dry infrutescence (photo A. Strid).

05.10.2020, *Strid* 60596 (seed collection and photo of dry infructescence).

Good populations were observed near the harbour and in the small fields and olive groves along road in the nearby villages of Gerakas and Ag. Ioannis, 5 km SW of Gerakas. The plants were formerly weeded out by shallow ploughing but this practice stopped when horses were replaced by farm vehicles. However, the tractors were not as effective in the small stony fields and *Moluccella* thrived. The plant populations are now reduced by mechanized weed-clearing equipment early in the year which process rapidly curtailed seed set. Many years ago *M. spinosa* was common at the parking lot of the Evangelistria Monastery of Gerakas and collected as a floral decoration by villagers but it disappeared when the parking lot was further extended. In the Peloponnese, it was noted by Kalpoutzakis near the small harbor of Kiparissi (nomos Lakonias) and by Bory & Chaubard (1832–33: 170) near Navarino (nomos Messinias). However, *Moluccella* is still poorly documented in Greece, with only a few reports from Kriti and the Ionian islands of Lefkas and Ithaki.

The report from Mt Parnassos (Sibthorp & Smith, Fl. Graec. Prodr. 1: 415, 1809) is probably erroneous regarding locality as it is a low altitude plant. An excellent illustration of a flowering specimen is depicted on Plate 567 of Flora Graeca. Sibthorp and Bauer visited Mt Parnassos in late June and early July 1787, when *M. spinosa* would surely have been in fruit. The plant is therefore likely to have been collected elsewhere in Greece or W Anatolia. Strangely enough, Linnaeus (Species Plantarum 2: 587, 1753) recorded "Habitat in Moluccis" (referring to the Moluccan or Maluku Islands in Indonesia), apparently based on a misinterpretation of the text in Dodones, Stirpium Historiae Pemptades (1583: 92–93). *Moluccella spinosa* is scattered in the Mediterranean area and generally declining, associated with a vanishing agricultural landscape.

Report 88

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Geraniaceae

88. *Geranium sibiricum* L.

Bu Sofia region: Sofia, Zapaden (West) Park, on disturbed areas along paths in a deciduous forest plantation, 568 m, FN83, from 42°42'48.2"N, 23°16'41.5"E to 42°42'52.8"N, 23°16'49.0"E, 17.09.2020, coll. *A. Tanev* (SOM 177244, 177245; Herb. A. Tanev, no. 19–22) (Fig. 34); Sofia, Severen (North) Park, on disturbed areas along paths in a deciduous forest plantation, 541 m, FN83, 42°44'38.7"N 23°17'31.2"E, 17.09.2020, coll. *B. Velev* (SOM 177246, 177247) (Fig. 35).

New for the Bulgarian flora. The species has a natural distribution area ranging from Southern Urals to Central Russia (Abba 1978). Due to its expansive behaviour, it has been recorded as a neophyte in Ukraine (Protopopova & al. 2006) and Romania (Anastasiu & Negrean 2005), as well as in many other parts of Europe (Aedo 2009) and North America (Fernatd 1950; Gleason & Cronquist 1963). The short floral longitivity of a single day (Gao & al. 2005) and diminutive flowers may suggest self-polination that can explain the observed good seed productivity. Nevertheless, it can very rarely establish ecological dominance (Brandes 2010). Only a single generative individual was observed in Severen Park. The population in Zapaden Park comprised *ca.* 50, mostly generative individuals, along the path with preference for the north-western side.

Fig. 34. *Geranium sibiricum*, Sofia, Zapaden Park (photo A. Tanev).

Fig. 35. *Geranium sibiricum*, Sofia, Severen Park: **A.** flower, **B.** fruit (photos B. Velev).

Reports 89–92

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Cupressaceae

89. *Juniperus sabina* L. (Fig. 36)

Gr Rhodopi Mts (*Eastern*): Gyumyurdzhinski Snezhnik Ridge, in the area of Gorno Kapinovo village in Bulgaria, Dyuza locality, near peak Veykata, above the alpine timberline, in a rocky place, 1279 m, 41°14'41.5"N, 25°15'21.7"E, LF56, 24.10.2019, coll. *A. Tashev* (SOM 177022).

This locality is part of an expanding patch of male individuals on the Bulgarian territory, described in 2008 (Tashev 2008). Owing to its expansion, part of the patch has crossed the frontier of Greece and is occupying now an area of *ca* 1 m^2 there. A new locality for the flora of the Greek Rhodopes.

Rosaceae

90. *Rubus sanctus* Schreb. (syn. *R. sanguineus* Friv. var. *truncatus* Mark.)

Bu Rhodopi Mts (*Western*): in the area of Ognyanovo village, above the Delta Resort Complex, on an eco-trail leading to Leshten village, 624 m a.s.l., 41°37'12.0"N, 23°48'16.0"E, 09.06.2019, with flowers, coll. A. Tashev (SOM 177006; 177007).

The species has not been reported so far for that floristic subregion (cf. Assyov & Petrova 2012)

Amaryllidaceae

91. *Narcissus pseudonarcissus* L. (Fig. 37)

Bu Black Sea Coast (*Southern*): in the vicinities of Chernomorets town, in a grassy community, about 20 tufts of the plant were observed on an area of *ca* 20 m^2, on a slope with southern exposition and inclination of 15°, 15 m a.s.l., 42°26'47.9"N, 27°38'38.0"E, 07.04.2018, with flowers, coll. A. Tashev (SOM 177010); in a grassy community, 150 m off the coastline, a patch of three tufts of the plant with southeasterly exposition and inclination of 3°, 13 m a.s.l., 42°26'32.9"N, 27°38'54.8"E, 07.04.2018, with flowers, coll. A.Tashev (SOM 177011).

The location has been under observation in the course of 10 years and every year the plants flower profusely. This is a second location of this adventive West European species in the flora of Bulgaria. Is has been so far reported only for Mt Belasitsa, at altitudes of 500 m up to 1000 m (Assyov & Petrova 2012: 286).

92. *Sternbergia lutea* (L.) Ker Gawl. ex Spreng. (Fig. 38)

Bu Rhodopi Mts (*Central*): Bachkovo village, in a green area on the left-side bank of Chepelarska river, 359 m a.s.l., 41°56'56.1"N, 24°51'20.6"E, 03.11.2020, with flowers, coll. A. Tashev & N.Tashev (SOM 177268).

Fig. 37. *Narcissus pseudonarcissus* (photo A. Tashev).

Fig. 36. *Juniperus sabina* (photo A. Tashev).

Fig. 38. *Sternbergia lutea* (photo A. Tashev).

— Tundzha Hilly Country, Trastikovo village, in a green area along a dirt road to the village, 20 m a.s.l., 42°25'44.0"N, 27°16'03.9"E, 01.11.2020, with flowers, coll. A. Tashev & N.Tashev (SOM 177265); 20 m a.s.l., 42°25'36.8" N, 27°15'58.5" E, 01.11.2020, with flowers, coll. A. Tashev & N.Tashev(SOM 177266); Polski Izvor village, in a green area along a dirt road to the village, 40 m a.s.l., 42°26'53.9"N, 27°17'50.4"E, 03.11.2020, with flowers, coll. A. Tashev & N.Tashev(SOM 177267).

These are new reports of this Mediterranean species in Bulgaria. The first report was for the southern stretch of the River Struma Valley (Vladimirov & al. 2016). The plant is a garden escapee. Apparently, such escapes take part in many places under Mediterranean influence and could be related to the recent climate warming.

Reports 93–100

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Brassicaceae

93. *Lepidium virginicum* L.

Bu Black Sea Coast (*Southern*): Slanchev Bryag (Sunny Beach) Resort, on disturbed ground near a parking lot in the center, *ca.* 5 m, 42.69489°N, 27.71342°E, 25.09.2020, coll. *V. Vladimirov* (SOM).

A new record for this floristic region. This alien North-American species has been recently reported for the Bulgarian flora from the town of Ruse, Northeast Bulgaria (Stoyanov & Vladimirov 2015). In the present locality, only a single fruiting specimen (with some already open silicles) was noted and collected to prevent further spread and establishment.

Caryophyllaceae

94. *Gypsophila perfoliata* L. (syn. *Gypsophila trichotoma* Wender.)

Bu Forebalkan (*Eastern*): on the median strip of the Hemus Motorway, E of Yablanitsa town, *ca.* 520 m, 43.031799°N, 24.117142°E, 02.09.2020, coll. *V. Vladimirov* (SOM).

— Sofia region: Sofia, along the Northern Speed Tangent Road, mainly along the verges, *ca.* 520 m, 42.713951°N, 23.431891°E, 02.09.2020, *V. Vladimirov* obs.

In the first locality, about 10 large fruiting specimens were noted. In the second locality, a few hundred specimens were spotted along the recently constructed road. Both localities are outside the native range of the species in Bulgaria and most likely result from the spread of de-icing salts contaminated with seeds of the species on the road. The native range of the species comprises the Black Sea Coast of Northeast Bulgaria, where it inhabits sandy, muddy or clayey coastal places, often with high salinity. *Gypsophila perfoliata* is of conservation concern in Bulgaria and, therefore, it was evaluated as Endangered at national level and included in the *Red Data Book of R Bulgaria* (Petrova 2009, 2015). Invasion of the species to man-made habitats with high salinity has already been reported – along railroads in the native range (Vladimirov & Petrova 2010) and on the verges and median strip of Struma Motorway (Vladimirov 2017). Thus, the species has already been reported from five floristic regions in the country, three of which represent secondary (man-assisted) spread of the taxon.

Convolvulaceae

95. *Ipomoea purpurea* (L.) Roth

Bu Black Sea Coast (*Southern*): Burgas city, in open spaces between buildings with unmanaged self-established vegetation along the railway tracks, *ca.* 1–1.2 km from the Central Railway Station, *ca.* 5 m, 42.493304°N, 27.459930°E, 23.09.2020, *V. Vladimirov* obs.

A casual alien species, a garden escape. The species is native to Tropical America and is usually cultivated in the gardens in Bulgaria (Kuzmanov 1982). In the present locality, several dozens of flowering and fruiting specimens were observed, which apparently represented a small self-sustaining population. Both pink- and violet-flowered plants were observed. Although the species often escapes in different parts of the country, this is perhaps the first report of an escaped population, which can persist for several or many years, if the unmanaged urban vegetation remains uncleaned.

Euphorbiaceae

96. *Euphorbia prostrata* Aiton

Bu Black Sea Coast (*Southern*): Burgas city, on the pavement and in some ornamental urban

grassland lanes in the area of the Central Bus Station, *ca.* 4 m, 42.490673°N, 27.478347°E, 23.09.2020, coll. *V. Vladimirov* (SOM).

This is a new record for this alien species to the Bulgarian flora. So far, it has been reported from the Black Sea Coast (*Northern*), Northeast Bulgaria, Danubian Plain, Forebalkan (*Eastern*), Sofia region, Znepole region, Valley of River Struma, and Rila Mts (Vladimirov & al. 2014, 2017; Vladimirov 2019).

Polygonaceae

97. *Fallopia* ×*bohemica* (Chrtek & Chrtková) J.P. Bailey

Bu Black Sea Coast (*Southern*): Nesebar town, in open ground between buildings, *ca.* 10 m, 42.655710°N, 27.715145°E, 24.09.2020, coll. *V. Vladimirov* (SOM).

New record for this floristic subregion. Apparently, the species has been planted in the area in the past for ornamental purposes and, consequently, its stands expanded significantly, mainly due to vegetative reproduction and movement of garden waste. So far, the species has been reported for the Black Sea Coast (*Northern*), Danubian Plain, Forebalkan, Balkan Range (*Western*, *Central*), Sofia region, Znepole region, Vitosha region, Valley of River Struma (*Northern*), Mt Sredna Gora (*Western*), and Rhodopi Mts (*Central*) (Petrova & al. 2013b; Vutov & Dimitrov 2016; Dimitrov & Vutov 2017; Vladimirov & al. 2017; Glogov & al. 2018).

Ranunculaceae

98. *Pulsatilla halleri* subsp. ***rhodopaea*** (Stoj. & Stef.) K. Krause (Fig. 39)

Bu Valley of River Struma (*Southern*): on a hill E-NE of Ilindentsi village, Strumyani Municipality, *ca.* 540 m, 41.65282°N, 23.24110°E, 14.03.2020, coll. *V. Vladimirov* (SOM).

New record for this floristic region. About a hundred flowering specimens were recorded mainly on the N-exposed slope. The species grows in dry places with open grassy vegetation (with cover of *ca.* 60 %) and sparse *Juniperus oxycedrus* shrubs. So far, the subspecies has been reported from the Balkan Range (*Eastern*), Rhodopi Mts (*Central*) (Assyov & Petrova 2012) and Valley of River Mesta (Vladimirov 2019). *Pulsatilla montana* has been reported from an adjacent region in the Pirin Mts (*Northern*) floristic region, at a much higher altitude of *ca.* 1600 m (Dimitrov & Kachaunova 2013).

Solanaceae

99. *Solanum elaeagnifolium* Cav. (Fig. 40)

Bu Valley of River Struma (*Southern*): on the left side of the road from Marino Pole to Marikostinovo villages, E of the latter village, on the road verge and extending downwards on the adjacent slope, 100–110 m, 41.42725°N, 23.33165°E, 26.11.2020, with ripe fruits, coll. *V. Vladimirov* (SOM).

This is a second report of this species for this floristic region. Several hundred fruiting stems were observed on an area *ca.* 40 m long and 10 m wide. This alien species has been recently reported as a new record for the Bulgarian alien flora from the same floristic region (Vladimirov & al. 2015).

Commelinaceae

100. *Commelina communis* L.

Bu Black Sea Coast (*Southern*): Burgas city, in pavement cracks close to the buildings, *ca.* 10 m, 42.49320°N, 27.48074°E, 23.09.2020, with flowers and fruits, *V. Vladimirov* obs.; Nesebar, along the bridge to the Old Town, *ca.* 2 m, 42.659427°N, 27.726277°E, 22.09.2020, with flowers and fruits, *V. Vladimirov* obs.

This is a new record for this floristic region. So far, this casual alien has been reported from the Forebalkan (*Eastern*), Sofia region, Valley of River Struma, and Thracian Lowland (Assyov & Petrova 2012).

Fig. 39. *Pulsatilla halleri* subsp. *rhodopaea* (photo V. Vladimirov).

Fig. 40. *Solanum elaeagnifolium*: **A.** established population along the road; **B.** ripe fruits (photos V. Vladimirov).

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Reports 101–102

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Asteraceae

101. *Petasites kablikianus* Bercht. (Fig. 41)

Bu Mt Slavyanka: on the banks of river Goleshovska, E-NE of Goleshovo village, Sandanski Municipality, *ca.* 860 m, 41.438778°N, 23.621167°E, 04.06.2020, coll. *V. Vladimirov*, *S. Bancheva* & *A. Lambevska-Hristova* (SOM).

Fig. 41. *Petasites kablikianus*, Mt. Slavyanka (photo V. Vladimirov).

New species for this floristic region. In fact, the species grows on both sides of river Goleshovska, which separates the Pirin Mts (*Southern*) and Mt Slavyanka floristic regions, and thus formally occurs in both regions. So far, the species has been reported from the Pirin and Rhodopi Mts (*Central*) (Kuzmanov 2012; Vladimirov 2019). The newly recorded population comprised more than a hundred specimens. The accompanying species were: *Aegopodium podagraria*, *Dactylis glomerata*, *Galium aparine*, *Humulus lupulus*, *Lysimachia nummularia*, *Lysimachia punctata*, *Mentha* spp., *Ranunculus repens*, *Saponaria officinalis*, *Tussilago farfara*, *Urtica dioica*, *Veronica beccabunga*, etc. Sparse trees and shrubs were also present, e.g. *Alnus glutinosa* and *Corylus avellana*. The nearest known locality of the species is by a river above the town of Melnik in the Pirin Mts (*Southern*) (Kuzmanov 2012). The species is of conservation concern, since it has been evaluated as Near Threatened at national level (Vladimirov 2009) and is legally protected under the national Biodiversity Act (Darzhaven vestnik 77/ 10.07.2002).

Crassulaceae

102. *Sedum amplexicaule* subsp. ***tenuifolium*** (Sm.) Greuter [syn. *S. tenuifolium* (Sm.) Strobl] (Fig. 42)

Bu West Frontier Mts: Mt Maleshevska, W of Kresna town, above the former Moravska village, along a forest road on the edge of a mixed deciduous forest, 540 m, 41.71457°N, 23.13074°E, 24.06.2020, with flowers, coll. *V. Vladimirov*, *S. Stoyanov* & *S. Bancheva* (SOM).

The find confirms the species for this floristic region and provides a new, so far unknown locality. Several hundred specimens were observed in several adjacent locations along the forest road. There are literature data for the occurrence of the species in the same region but in Mt Ograzhden and in Rhodopi Mts (Vălev 1970), based on reports from the beginning of the 20th century. However, due to lack of any herbarium material and recent data since 1970, the species remained unnumbered in the *Flora of Bulgaria*, and was thus considered doubtfully present (Vălev 1970). Later, the species was reported from the region of Hadzhidimovo town in the Valley of River Mesta floristic region (Dimitrov & Nikolov 1998) and from Petrovo village in Mt Slavyanka floristic region (Dimitrov 2010). The conservation significance of this taxon in Bulgaria has not been evaluated (cf. Petrova & Vladimirov 2009).

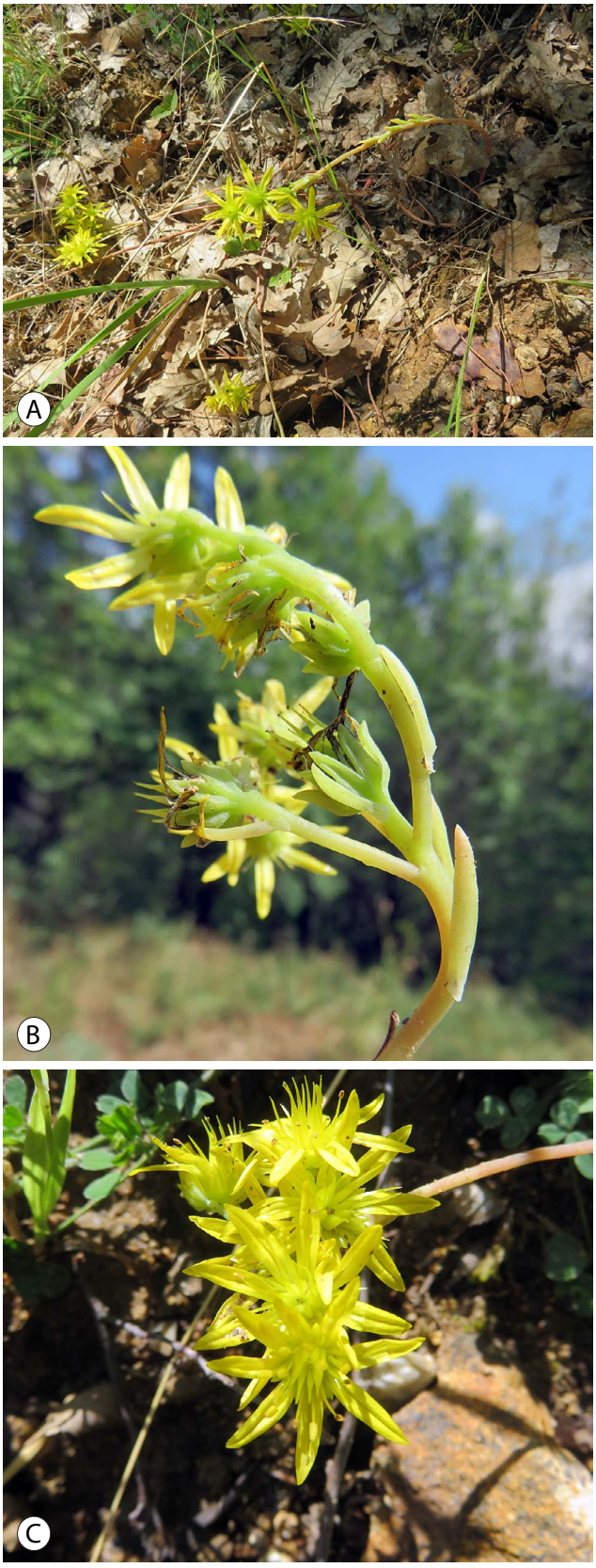

Fig. 42. *Sedum amplexicaule* subsp. *tenuifolium*: **A.** whole plant; **B.** inflorescence and upper cauline leaves; **C.** flowers (photos V. Vladimirov).

However, taking into account that the Bulgarian localities are small, strongly fragmented and isolated, and lie at the northern border of the distribution area of this Mediterranean species, the recorded populations may be of conservation concern.

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Reports 103–108

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The following are new plant records based on floristic investigations in the prefectures of Achaias and Korinthias in north Peloponnese.

Asteraceae

103. *Achillea filipendulina* Lam. (Fig. 43)

Gr Nomos & Eparchia Korinthias: old cemetery of Kesari village, 875 m, 37°57'N, 22°33'E, 07.10.2020, *Christodoulou* obs.

Ornamental planted for its long-lasting, golden-yellow flowers, now well-established together with *Vinca* and *Lavandula* and spreading in the cemetery which had been abandoned for *ca*. 40 years. Native to C and SW Asia, naturalized in parts of Europe and N America.

Fig. 43. *Achillea filipendulina* (photo V. Christodoulou).

Caryophyllaceae

104. *Silene christodouloui-zarkosii* Kit Tan & G. Vold

Gr Nomos Achaias, Eparchia Egialias: plateau south of Trapeza village, 751 m, 38°09'N, 22°12'E, 24.07.2020, *Zarkos* obs.

New for nomos and eparchia. Previously reported from Mougosto forest in Nomos Korinthias (*locus classicus*) and in deciduous oak woodland on the banks of Lousios river in Nomos Arkadias.

105. *Silene multicaulis* Guss. (Figs. 44 & 45)

Gr Nomos Lakonias, Eparchia Lakedemonas: Mt Taigetos, along path from EOS Katafygion to summit of Profitis Ilias, in grassy places overlying limestone rock, 2151 m, 36°57'N, 22°21'E, 20.07.2020, *Kit Tan* & *G. Vold* 33143 (ATH, C); *loc. ibid*., 11.07.2020, *Zarkos* & *Christodoulou* obs. (photos); *loc. ibid*., 20.07.2020, *Zarkos* s.n. (herb. Kit).

— Nomos Fthiotidos, Eparchia Lokridos: Mt Parnassos, area NW of summit Liakoura,

Fig. 44. *Silene multicaulis*: basal and lower cauline leaves present at anthesis (photo G. Zarkos).

Fig. 45. *Silene multicaulis*: scabrid-pubescent cauline leaves (photo G. Zarkos).

limestone, 1700 m, 38°34'N, 22°36'E, 26.07.2020, *Zarkos* & *Christodoulou* obs. (photos).

Perennial herb 15–22 cm tall, with few vegetative shoots at anthesis. Flowering stems few, distantly arising from a sparingly branched, slender, procumbent woody rootstock, scabridulous-pubescent below, glabrous and viscid-sticky above. Axillary leaf fascicles present at lower nodes. Basal and lower cauline leaves present at anthesis, fewer than 10 pairs, broadly oblanceolate to elliptic-lanceolate, 10–30 × 2.5–6 mm, flat, green, all basal and cauline leaves densely scabrid-pubescent on both surfaces; upper leaves gradually diminishing in size. Flowers solitary or rarely 2 in inflorescence. Calyx (14) 16–20 mm, glabrous or minutely puberulous throughout, with narrow basal portion enclosing anthophore, veined greenish to purplish with few anastomosing veins distally; calyx teeth greenish to purplish with broad membranous margin, broadly triangular, 1.2–2.5 x 1.5–3 mm, broadest at base, ciliolate. Anthophore 6–8 mm long. Petal claw shortly exserted; coronal scales obtuse-conical, less than 1 mm long, white; limb 6–7 mm long, white on upper surface, suffused and veined greenish to brownish-purple beneath, bifid one third to nearly halfway into obtuse, *ca*. 3 mm long lobes. Anthers yellow, oblong, *ca*. 1.2 mm, exserted from corolla throat; filaments shorter than petals, glabrous. Styles 3, dorsally puberulous. Capsule pale brown, glabrous, ovoid-ellipsoid, 7–9 × 4–5 mm, slightly exceeding calyx at dehiscence. Seeds obconial, *ca*. 1.2 mm broad and high, pale to dark brown; lateral testa cells elongate, flat; dorsal cells shorter, bullate. Flowering July.

An unusual form of *S. multicaulis* Guss. differing from *S. m.* subsp. *multicaulis* by the broader, densely scabrid-pubescent basal and lower cauline leaves (see Fig. 44) and presence of lower axillary leaf fascicles at anthesis. Differing from *S. m.* subsp. *sporadum* (Halácsy) Greuter & Burdet by its shorter, fewer, flowering stems which are not tufted, and capsule slightly longer than the anthophore.

Chenopodiaceae

106. *Atriplex halimus* L.

Gr Nomos Achaias, Eparchia Egialias: N of Ano Diakofto village, 190 m, 38°09'N, 22°13'E, 06.11.2020, *Kit Tan* & *G. Vold* obs.

New for eparchia. Together with *Noaea mucronata* and *Capparis spinosa* on sandy roadside slopes.

107. *Noaea mucronata* (Forssk.) Asch. & Schweinf.

Gr Nomos Achaias, Eparchia Egialias: N of Ano Diakofto village, roadsides, 189 m, 38°09'N, 22°13'E, 24.07.2020, *Zarkos* obs.; *loc. ibid.*, 06.11.2020, flowering and fruiting, *Kit Tan* & *G. Vold* 33156 (ATH, C, UPA).

New for nomos and eparchia, second record for the Peloponnese. The plants were also without spiny branches as in those from the white sandy slopes above Xylokastro in Nomos Korinthias.

Sapindaceae

108. *Cardiospermum halicacabum* L. (Fig. 46)

Gr Nomos & Eparchia Korinthias: on the edge of an orange grove in Kiato, 5–10 m, 38°00'N, 22°48'E, 02.11.2020, *Christodoulou* obs.

New for nomos and eparchia, third record for Peloponnese. Twining herb native to tropical America, fruits balloon-like when ripe. Casual, naturalized in Crete. In Greece reported from road margins, waste places, garden fences and vineyards.

Fig. 46. *Cardiospermum halicacabum* (photo V. Christodoulou).

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