New floristic records in the Balkans: 16*

Compiled by Vladimir Vladimirov[1] & Kit Tan[2]

[1] Department of Plant and Fungal Diversity and Resources, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Acad. Georgi Bonchev St., bl. 23, 1113 Sofia, Bulgaria, e-mail: vdvlad@bio.bas.bg

[2] Institute of Biology, University of Copenhagen, Øster Farimagsgade 2D, DK-1353 Copenhagen K, Denmark, e-mail: kitt@bio.ku.dk

Abstract: New chorological data are presented for 88 species and subspecies from Bulgaria (62–72) and Greece (1–61, 73–88). The taxa belong to the following families: *Acanthaceae* (20), *Adiantaceae* (62), *Alismataceae* (52), *Apiaceae* (21–23, 80), *Araceae* (53), *Aristolochiaceae* (63), *Asteraceae* (24, 25, 73), *Berberidaceae* (81), *Boraginaceae* (1–3, 82), *Brassicaceae* (4, 5, 26, 27), *Campanulaceae* (6, 28, 29, 83), *Caprifoliaceae* (30), *Chenopodiaceae* (7), *Cistaceae* (8), *Cornaceae* (31), *Crassulaceae* (32–34), *Dipsacaceae* (84), *Euphorbiaceae* (64), *Fabaceae* (9–13, 35, 36, 65, 74), *Gentianaceae* (37, 38), *Geraniaceae* (39, 72), *Iridaceae* (54, 55, 77), *Juncaceae* (69), *Lamiaceae* (40–42), *Liliaceae* s.l. (18, 56, 57, 70, 78, 79), *Malvaceae* (43), *Onagraceae* (85), *Orchidaceae* (58–60, 87, 88), *Orobanchaceae* (44, 66), *Papaveraceae* (14, 67, 75), *Poaceae* (19, 71), *Polygonaceae* (45, 76), *Rosaceae* (68), *Rubiaceae* (46, 47), *Santalaceae* (48), *Saxifragaceae* (49), *Scrophulariaceae* (15, 16), *Solanaceae* (86), *Typhaceae* (61), *Valerianaceae* (50, 51) and *Violaceae* (17).

First report for a country is: Greece – *Chenopodium strictum* (7).

The publication includes contributions by B. Biel & Kit Tan (1–19), K. Giannopoulos, Kit Tan & G. Vold (20–61), D. Ivanova, H. Hristov & V. Trifonov (62), A.S. Petrova (63–71), S. Stoyanov, V. Goranova & D. Ivanova (72), Kit Tan, K. Polymenakos & G. Vold (73–79), G. Zarkos, V. Christodoulou & Kit Tan (80–88).

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

*Reports for Bulgaria have been reviewed by V. Vladimirov, for Greece by Kit Tan.

Reports 1–19

Burkhard Biel[1] & Kit Tan[2]

[1] Am Judengarten 3, D-97204 Höchberg, Germany, e-mail: b.biel@arcor.de

[2] Institute of Biology, University of Copenhagen, Øster Farimagsgade 2D, DK-1353 Copenhagen K, Denmark, e-mail: kitt@bio.ku.dk (corresponding author)

This is the fifteenth report of new plant-records for the island of Samothraki (N Aegean islands, Nomos Evrou, Eparchia Samothrakis) based on fieldwork carried out mainly in May 2011, supplemented with a few collections from earlier years. The records listed are all new to the island, or to the floristic region N Aegean (NAe) as circumscribed in *Flora Hellenica* (Strid & Tan 1997). The occurrence on the other N Aegean islands is also provided.

Boraginaceae

1. *Melanortocarya obtusifolia* (Willd.) Selvi & al. [Syn.: *Nonea obtusifolia* (Willd.) DC.] (Fig. 1)

Gr Samothraki: NW of Anomeria to Kerasia, fenced pasture beside oak forest, 230 m, 40°26'51" N, 25°40'09" E, 08.02.2011, *Biel* 11.025; NE of Kamariotissa, grassy banks of ditch with *Platanus*, 55 m, 40°29'13" N, 25°29'53" E, 05.05.2011, *Biel* 11.099; NE of Anomeria to Kerasia, small plateau with *Pteridium* and fruit trees on uncultivated ground, 230 m, 40°26'49" N, 25°40'16" E, 10.05.2011, *Biel* 11.194.

Recorded from the island of Thasos in the N Aegean.

Fig. 1. *Melanortocarya obtusifolia* (photo B. Biel).

2. *Myosotis litoralis* Fisch.

Gr Samothraki: E-NE of Pachia Ammos, gravelly embankment with *Platanus* at Vatos river mouth, 10 m, 40°23'43" N, 25°36'13" E, 11.02.2009, *Biel* 09.063; *loc. ibid*., 07.05.2011, *Biel* 11.148; E of Pachia Ammos, small dunes with *Vitex*, 10 m, 40°23'44" N, 25°34'55" E, 09.02.2011, *Biel* 11.028 (herb. Kit); *loc. ibid*., 07.05.2011, *Biel* 11.144; Pachia Ammos, sandy beach with small dunes and *Vitex*, 7 m, 40°23'45" N, 25°34'46" E, 07.05.2011, *Biel* 11.131; S-SE of Anomeria, gravelly beach at Akr. Kipos, 3 m, 40°25'19" N, 25°41'21" E, 10.05.2011, *Biel* 11.188.

Recorded from Thasos and Ag. Evstratios.

3. *Nonea echioides* (L.) Roem. & Schult.

Gr Samothraki: SE of Kamariotissa, uncultivated field, 20 m, 40°28'24" N, 25°28'43" E, 05.05.2011, *Biel* 11.101.

Reported as *Nonea ventricosa* by Stojanov & Kitanov (1944: 446).

Brassicaceae

4. *Barbarea vulgaris* R. Br.

Gr Samothraki: N-NW of Therma, east of port, gravelly ground with *Vitex*, 2 m, 40°30'07" N, 25°36'14" E, 08.05.2011, *Biel* 11.164.

New for the N Aegean area.

5. *Diplotaxis muralis* (L.) DC.

Gr Samothraki: Pachia Ammos, beach with small sand dunes and *Vitex* scrub, 7 m, 40°23'45" N, 25°34'46" E, 07.05.2011, *Biel* 11.143.

New for the N Aegean area.

Campanulaceae

6. *Campanula erinus* L.

Gr Samothraki: SW of Kamariotissa, coastal limestone slope with phrygana, 10 m, 40°28'09" N, 25°27'33" E, 17.06.2007, *Biel* 07.019; E-NE of Pachia Ammos, gravelly beach at Vatos river mouth, 10 m, 40°23'43" N, 25°36'13" E, 13.06.2008, *Biel* 08.178; E-SE of Chora, rocky hill with open phrygana, 900 m, 40°27'46" N, 25°33'33" E, 28.06.2010, *Biel* 10.747.

Recorded from Thasos, Limnos and Ag. Evstratios. The species is rather widely distributed on Samothraki; 20 other localities were noted. Confirming the record by Ade & Rechinger (1938: 137) and Stamatiadou (no. 9460, ATH), both from Chora.

Chenopodiaceae

7. *Chenopodium strictum* Roth

Gr Samothraki: Kamariotissa, gravelly beach and park at sea front, 2 m, 40°28'34" N, 25°28'25" E, 03.11.2008, *Biel* 08.364.

New for Greece. A few plants up to 1.3 m tall were in the harbour area, together with ruderal aliens such as species of *Amaranthus*, *Atriplex*, *Chamaesyce*, *Aster squamatus* and *Portulaca oleracea*. Difficult to distinguish from *Chenopodium album* but identity verified by P. Uotila, June 2011.

Cistaceae

8. *Helianthemum salicifolium* (L.) Mill.

Gr Samothraki: SW of Kamariotissa, open phrygana on coastal limestone slopes, 18 m, 40°28'01" N, 25°27'36" E, 04.05.2011, *Biel* 11.070.

Recorded from Thasos, Limnos and Ag. Evstratios. It was also noted in two other places E of Kamariotissa.

Fabaceae

9. *Hippocrepis biflora* Spreng.

Gr Samothraki: SE of Kamariotissa, slope with olive trees, 40 m, 40°28'34" N, 25°28'48" E, 05.05.2011, *Biel* 11.084.

Recorded from Limnos.

10. *Lathyrus sphaericus* Retz.

Gr Samothraki: Therma, road margins at eastern part of village, 45 m, 40°29'45" N, 25°36'32" E, 08.05.2011, *Biel* 11.174.

Recorded from Thasos and Limnos.

11. *Ornithopus pinnatus* (Mill.) Druce

Gr Samothraki: SE of Therma, along path in open *Arbutus* shrub, 65 m, 40°29'39" N, 25°36'51" E, 08.05.2011, *Biel* 11.178.

The species was first noted at Chora (*Stamatiadou* 9523, ATH).

12. *Trifolium hybridum* L.

Gr Samothraki: SW of the village of Xiropotamos, gravelly river bed with olive trees and shrubs, 30 m, 40°25'46" N, 25°30'45" E, 06.05.2011, *Biel* 11.130.

Confirming earlier records by Stojanov & Kitanov (1944: 437) from Kamariotissa, Chora, Paleopolis and Alonia, as *T. elegans* Savi.

13. *Vicia narbonensis* L.

Gr Samothraki: E-NE of Xiropotamos to Seli, steep slope with oak scrub on both sides of dry ditch, on basalt loam, 200 m, 40°27'02" N, 25°32'10" E, 27.05.2002, *Biel* 02.023; SW of Kamariotissa, seasonally wet field by dirt road, 4 m, 40°28'10" N, 25°27'50" E, 03.05.2010, *Biel* 10.030; SW of Kamariotissa, pasture with small spring, 20 m, 40°27'45" N, 25°27'47" E, 04.05.2010, *Biel* 10.145; E of Kamariotissa, phrygana slope and uncultivated fields, limestone, 30 m, 40°28'34" N, 25°28'48" E, 05.05.2011, *Biel* 11.089a.

Recorded from Thasos and Limnos. Confirming report by Stojanov & Kitanov (1944: 439).

Papaveraceae

14. *Hypecoum pendulum* L. (Fig. 2)

Gr Samothraki: E of Kamariotissa, uncultivated slope at field margins, 50 m, 40°28'33" N, 25°28'51" N, 05.05.2011, *Biel* 11.079.

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

Scrophulariaceae

15. *Veronica acinifolia* L.

Gr Samothraki: NE of Anomeria to Kerasia, small plateau with *Pteridium* and fruit trees on uncultivated ground, 230 m, 40°26'49" N, 25°40'16" E, 10.05.2011, *Biel* 11.194; SE of

Fig. 2. *Hypecoum pendulum* (photo B. Biel).

Anomeria, slopes by dirt road, 80 m, 40°27'31" N, 25°40'01" E, 10.05.2011, *Biel* 11.197.

New for the N Aegean area. Conf. M. A. Fischer, June 2011.

16. ***Veronica chamaedrys*** subsp. ***chamaedryoides*** M.A. Fisch.

Gr Samothraki: Pachia Ammos, sandy beach with small dunes and *Vitex* scrub, 7 m, 40°23'45" N, 25°34'46" E, 07.05.2011, *Biel* 11.140.

New for the N Aegean area. Det. M.A. Fischer, June 2011.

Violaceae

17. ***Viola arvensis*** Murray (Fig. 3)

Gr Samothraki: S-SE of Anomeria, gravelly beach at Kipos, 3 m, 40°25'19" N, 25°41'21" E, 10.05.2011, *Biel* 11.189; *loc. ibid.*, 20 m, 40°25'47" N, 25°41'05" E, 10.05.2011, *Biel* 11.190; SE of Anomeria, open oak scrub above dirt road, 80 m, 40°27'14" N, 25°40'02" E, 10.05.2011, *Biel* 11.196.

Recorded from Thasos. Confirming record by Katsikopoulos (1936: 7). The flowers are 8–9 mm (incl. spur) and the calyx teeth rather short. Several sites in open pasture land were noted between Akr. Kipos and Anomeria to Isomata.

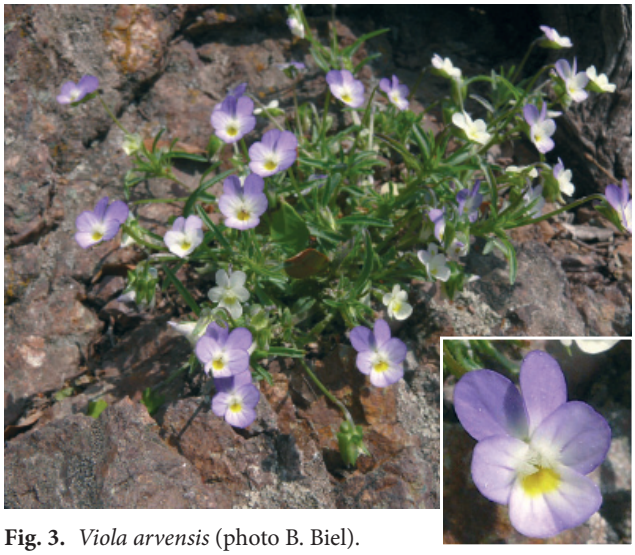

Fig. 3. *Viola arvensis* (photo B. Biel).

Liliaceae s.l.

18. ***Ornithogalum umbellatum*** L.

Gr Samothraki: E of Kamariotissa, edge of uncultivated slope, 50 m, 40°28'33" N, 25°28'51" N, 05.05.2011, *Biel* 11.081.

Confirming a report by Stojanov & Kitanov (1944: 422) from Kamariotissa.

Poaceae

19. ***Melica minuta*** L.

Gr Samothraki: Therma, road margins at eastern part of village, 45 m, 40°29'45" N, 25°36'32" E, 08.05.2011, *Biel* 11.176.

Recorded from Thasos and Limnos.

Cited vouchers are provisionally kept in the private herbarium of B. Biel at Höchberg (herb. Biel). We thank Prof. Pertii Uotila (Helsinki) and Prof. Manfred A. Fischer (Vienna) for kindly identifying our *Chenopodium* and *Veronica* specimens.

Reports 20-61

Konstantinos Giannopoulos[1], Kit Tan[2] & Gert Vold[3]

[1] Dabaki 15, Pyrgos, Ilias 271 00, Greece

[2] Institute of Biology, University of Copenhagen, Øster Farimagsgade 2D, DK-1353 Copenhagen K, Denmark, e-mail: kitt@bio.ku.dk (corresponding author)

[3] Botanical Garden, State Natural History Museum, Øster Farimagsgade 2C, DK-1353 Copenhagen K, Denmark

This is the second report of new plant records for the prefecture of Ilia in western Peloponnese. The 42 records listed are new for the Eparchies of Ilias or Olimbias, or Nomos Ilias. All photographs were taken by KG.

Acanthaceae

20. ***Acanthus spinosus*** L.

Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold & K. Giannopoulos* 31031 (herb. Kit).

New for eparchia.

Apiaceae

21. ***Conium maculatum*** L.

Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold & K. Giannopoulos* 31032 (in fruit) & 31044 (in flower) (herb. Kit).

New for eparchia.

22. ***Scandix pecten-veneris*** L.

Gr Nomos Ilias, Eparchia Olimbias: valley on road from Andritsena to Vasses, 1121 m, 37°27' N, 21°55' E, 30.04.2011, *K. Giannopoulos* obs. (photos).

New for eparchia.

23. *Torilis arvensis* (Huds.) Link

Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold & K. Giannopoulos* 31041 (herb. Kit).

New for eparchia.

Asteraceae

24. *Doronicum orientale* Hoffm. (Fig. 4)

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, 6 km from the village of Smerna, limestone rocks, 401 m, 37°33' N, 21°39' E, 25.04.2011, *Kit Tan, G. Vold & K. Giannopoulos* 30931 (herb. Kit); valley on road from Andritsena to Vasses, 1125 m, 37°27' N, 21°55' E, 30.04.2011, *K. Giannopoulos* obs. (photos).

New for eparchia.

Fig. 4. *Doronicum orientale* (photo K. Giannopoulos).

25. *Scorzonera crocifolia* Sm.

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, limestone rocks, 417 m, 37°31' N, 21°40' E, 25.04.2011, *Kit Tan, G. Vold & K. Giannopoulos* 30935 (herb. Kit).

New for nomos.

Brassicaceae

26. *Cardamine graeca* L.

Gr Nomos Ilias, Eparchia Olimbias: in vegetation along road from Andritsena to Vasses, 920 m, 37°28' N, 21°54' E, 03.07.2011, fruiting stage, *Kit Tan, G. Vold & K. Giannopoulos* 31055 (herb. Kit).

New for eparchia.

27. *Malcolmia flexuosa* subsp. ***naxensis*** (Rech. f.) Stork (Fig. 5)

Gr Nomos Ilias, Eparchia Olimbias: foot of limestone rocks at Lake Kaifas, 14 m, 37°31' N, 21°35' E, 25.04.2011, *Kit Tan, G. Vold & K. Giannopoulos* 30939 (herb. Kit).

Fig. 5. *Malcolmia flexuosa* subsp. *naxensis* (photo K. Giannopoulos).

New for eparchia and nomos.

Campanulaceae

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

Gr Nomos Ilias, Eparchia Olimbias: valley between Andritsena and Vasses, open grazed clearings, 1110 m, 37°27' N, 21°55' E, 03.07.2011, *Kit Tan, G. Vold & K. Giannopoulos* 31070 (herb. Kit).

New for eparchia and nomos.

29. *Campanula versicolor* Andrews

Gr Nomos Ilias, Eparchia Olimbias: in vegetation along road from Andritsena to Vasses, 920 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold & K. Giannopoulos* 31052 (herb. Kit).

New for eparchia and nomos.

Caprifoliaceae

30. *Lonicera etrusca* Santi

Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold & K. Giannopoulos* 31047 (herb. Kit).

New for eparchia.

Cornaceae

31. *Cornus sanguinea* subsp. ***australis*** (C.A. Mey.) Jáv.

Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold & K. Giannopoulos* 31040 (herb. Kit).

New for eparchia; only one other collection from eparchia Ilias.

Crassulaceae

32. *Sedum amplexicaule* subsp. ***tenuifolium*** (Sm.) Greuter & Burdet

Gr Nomos Ilias, Eparchia Olimbias: outskirts of

Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31025 (herb. Kit).
New for eparchia and nomos.

33. *Sedum cepaea* L.
Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31026 (herb. Kit).
New for eparchia; only one other report from eparchia Ilias.

34. *Umbilicus horizontalis* (Guss.) DC.
Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31027 (herb. Kit).
New for eparchia and nomos.

Fabaceae

35. *Lathyrus grandiflorus* Sm.
Gr Nomos Ilias, Eparchia Olimbias: in vegetation along road from Andritsena to Vasses, 920 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31056 (herb. Kit).
New for eparchia and nomos.

36. *Vicia laeta* Cesati
Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31033 (herb. Kit).
New for eparchia.

Gentianaceae

37. *Blackstonia perfoliata* (L.) Huds.
Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31034 (herb. Kit).
New for eparchia.

38. *Centaurium erythraea* Rafn
Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31029 (herb. Kit).
New for eparchia.

Geraniaceae

39. *Geranium pusillum* Burm. f.
Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31042 (herb. Kit).
New for eparchia and nomos; the only other record from the Peloponnese is at the foothills of Mt Taigetos.

Lamiaceae

40. *Micromeria juliana* (L.) Rchb.
Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31048 (herb. Kit).
New for eparchia.

41. *Phlomis samia* L.
Gr Nomos Ilias, Eparchia Olimbias: in vegetation along road from Andritsena to Vasses, 920 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31062 (herb. Kit).
New for eparchia. The corolla of the flowers at this locality were dull greyish-purple, elsewhere they were yellowish-green.

42. *Teucrium polium* subsp. ***capitatum*** (L.) Arcang.
Gr Nomos Ilias, Eparchia Olimbias: in vegetation along road from Andritsena to Vasses, 920 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31051 (herb. Kit).
New for eparchia.

Malvaceae

43. *Alcea biennis* subsp. ***cretica*** (Weinm.) D.A. Webb
Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31028 (herb. Kit).
New for eparchia and nomos.

Orobanchaceae

44. *Orobanche amethystea* Thuill.
Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31039 (herb. Kit).
New for eparchia; only one other collection from eparchia Ilias.

Polygonaceae

45. *Rumex tuberosus* L.
Gr Nomos Ilias, Eparchia Olimbias: valley on road from Andritsena to Vasses, 1135 m, 37°27' N, 21°55' E, 30.04.2011, *K. Giannopoulos* obs. (photos).
New for eparchia and nomos.

Rubiaceae

46. *Asperula taygetea* Boiss. (Fig. 6)

Gr Nomos Ilias, Eparchia Olimbias: limestone rocks at Lake Kaifas, 14 m, 37°31' N, 21°36' E, 25.04.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 30940 (herb. Kit).

New for eparchia and nomos. Confirming an identification by Snogerup for a collection from the same locality and never collected since: Loutra Kaifa, NW of lake, 37°31' N, 21°36' E, 11.05.1977, *Snogerup* 1471 (LD).

Fig. 6. *Asperula taygetea* (photo K. Giannopoulos).

47. *Rubia peregrina* L.

Gr Nomos Ilias, Eparchia Olimbias: outskirts of Andritsena, along road to Vasses, 770 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31036 (herb. Kit).

New for eparchia.

Santalaceae

48. *Osyris alba* L.

Gr Nomos Ilias, Eparchia Olimbias: near the village of Xirochorio, 110 m, 37°30' N, 21°39' E, 25.04.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 30943 (herb. Kit).

New for eparchia.

Saxifragaceae

49. *Saxifraga tridactylites* L.

Gr Nomos Ilias, Eparchia Olimbias: valley on road from Andritsena to Vasses, 1130 m, 37°27' N, 21°55' E, 30.04.2011, *K. Giannopoulos* s.n. & photos.

New for eparchia.

Valerianaceae

50. *Valeriana italica* Lam.

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, 6 km from the village of Smerna, 401 m, 37°33' N, 21°39' E, 25.04.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 30930 (herb. Kit).

New for eparchia and nomos.

51. *Valerianella echinata* (L.) DC.

Gr Nomos Ilias, Eparchia Olimbias: in vegetation along road from Andritsena to Vasses, 920–1130 m, 37°28' N, 21°54' E, 03.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31057a (herb. Kit).

New for eparchia. There are very few records for the western part of the Peloponnese.

Alismataceae

52. *Alisma lanceolatum* With.

Gr Nomos Ilias, Eparchia Olimbias: Lake Kaifas, half-submerged at lake margin, 6 m, 37°30' N, 21°36' E, 25.04.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 30942 (herb. Kit).

New for eparchia.

Araceae

53. *Biarum tenuifolium* (L.) Schott (Fig. 7)

Gr Nomos Ilias, Eparchia Olimbias: Mt Minthi, near the village of Minthi, 700 m, 37°30' N, 21°45' E, 15.05.2011, *K. Giannopoulos* s.n. & photos.

New for eparchia and nomos. The leaves are absent

at flowering and the spadix is usually longer than the spathe. Within the same population two plants were noted with the spadix equalling or slightly shorter than the spathe.

Fig. 7. *Biarum tenuifolium* (photo K. Giannopoulos).

Iridaceae

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

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, 321 m, 37°31' N, 21°40' E, 25.04.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 30937 (herb. Kit).

New for eparchia.

55. *Iris pseudacorus* L.

Gr Nomos & Eparchia Ilias: near village of Almiriki, 50 m, 37°42' N, 21°32' E, 11.04.2009 & 20.04.2011, *K. Giannopoulos* obs.; near Manolada, 10 m, 38°02' N, 21°21' E, 24.04.2009, *K. Giannopoulos* obs.; Nomos Ilias, Eparchia Olimbias: Lake Kaifas, emergent at lake margin, 6 m, 37°30' N, 21°36' E, 25.04.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* obs. (photos).

New for eparchies and nomos.

Liliaceae s.l.

56. *Colchicum parlatoris* Orph.

Gr Nomos Ilias, Eparchia Olimbias: olive groves at Skliava, near ancient Olympia, 60 m, 37°37' N, 21°38' E, 18.10.2010, *K. Giannopoulos* obs. (several photos).

New for eparchia. First discovered on 03.10.2008 with several observations taken during the following years. In this locality the flowers are predominantly white as well as purplish-pink but at Manolada (which is the only other record in nomos Ilias but in eparchia Ilias) the white-flowered form had not been noted.

57. *Lilium chalcedonicum* L.

Gr Nomos & Eparchia Ilias: Abulas, *ca.* 2 km E of Vasilaki, 180 m, 37°38' N, 21°47' E, 02.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31019 (herb. Kit); first noted in this locality by *K. Giannopoulos* on 28.06.2004 with several observations in following years; Mt Lambia, 1215–1290 m, 37°54' N, 21°47' E, 31.07.2010 & 09.07.2011, *K. Giannopoulos* obs. Eparchia Olimbias: along road from Andritsena to Vasses, 945 m, 37°28' N, 21°54' E, 18.07.2011, *K. Giannopoulos* obs.

New for eparchies and nomos; this is the first report of the occurrence of the genus *Lilium* in western Peloponnese.

Orchidaceae

58. *Epipactis helleborine* (L.) Crantz (Fig. 8)

Gr Nomos & Eparchia Ilias: in ravine of Lefkianias river, between the villages of Kamena and Vilia, 190 m, 37°39' N, 21°44' E, 02.07.2011, *Kit Tan, G. Vold* & *K. Giannopoulos* 31006 (herb. Kit).

New for eparchia and nomos. The predominantly pink flower colouring led us to assume it was *E. halacsyi* (a species which we have never seen), but we later decided it falls within the variation of *E. helleborine*; this was kindly confirmed by H. Kretzschmar (Bad Hersfeld, Germany).

59. *Listera ovata* (L.) R. Br.

Gr Nomos & Eparchia Ilias: in ravine of Lefkianias

river, between the villages of Kamena and Vilia, 170 m, 37°39' N, 21°44' E, 15.05.2011, *K. Giannopoulos* obs. (photos).

New for eparchia and nomos.

60. *Spiranthes spiralis* (L.) Chevall. (Fig. 9)

Gr Nomos & Eparchia Ilias: near village of Latzoio, recently burnt *Pinus* woodland, 60 m, 37°42' N, 21°33' E, 17.10.2009, *K. Giannopoulos* obs. (photos); Nomos Ilias, Eparchia Olimbias: Mt Lapithas, 401 m, 37°33' N, 21°39' E, 30.10.2010, *K. Giannopoulos* obs.

New for eparchia and nomos.

Typhaceae

61. *Typha minima* Funck

Gr Nomos & Eparchia Ilias: at the source of the Lefkianias river, 190 m, 37°39' N, 21°44' E, 02.07.2011, *Kit Tan, G. Vold, K. Giannopoulos* & *G. Vendras* 31010 (ATH, C).

This was first reported for Greece near the archaeological site of Olympia in Nomos Ilias. Several clumps were growing along the Kladeos river over a stretch of *ca.* 2 km (Yannitsaros & Vassiliades 1998: 174; 2003: 263-269). Our present discovery is a new locality for Greece. It was first noted at the Lefkianias river by Giorgos Vendras and K. Giannopoulos in June 2011. The nearest occurrence outside the country is in C and S Albania where it was noted in May 2010 and reported as new for the Albanian flora (Mullaj & Tan 2010). Although the species is placed on the Red List for Greece (category VU, Vulnerable) we predict it will easily colonize large stretches as has happened along the banks of the Devolli and Shkumbin rivers in S and C Albania.

Typha minima is easily recognized by its low stature (60–100 cm tall when compared with *T. latifolia* and *T. angustifolia*), narrow leaves less than 4 mm broad, and male flowers without hairs or scales.

Fig. 8. *Epipactis helleborine* (photo K. Giannopoulos).

Fig. 9. *Spiranthes spiralis* (photo K. Giannopoulos).

Report 62

Daniella Ivanova[1], Hristo Hristov[2] & Vladimir Trifonov[3]

[1] Department of Plant and Fungal Diversity and Resources, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Acad. Georgi Bonchev St., bl. 23, 1113 Sofia, Bulgaria, e-mail: dani@bio.bas.bg

[2] 6480 Madzharovo, bl. 42, ent. A, app. 2, Bulgaria

[3] Regional Inspectorate of Environment and Waters RIEW–Haskovo, Ministry of Environment and Waters, 14 Dob. Dobrudzha St., 6300 Haskovo, Bulgaria

Adiantaceae

62. *Adiantum capillus-veneris* L. (Fig. 10)

Bu Rhodopi Mts (*Eastern*): at *ca.* 150 m after the turnout from Enchets village to Glavatartsi village, Kurdzhali district, on wet calcareous rocks at the beginning of a small gorge, 370 m, 41°39'08.9" N, 25°19'27.0" E, LG-61, 17.11.2010, coll. *D. Ivanova* (SOM 166889).

This fern species is evaluated as Critically Endangered in the *Red List of Bulgarian vascular plants* (Ivanova 2009). In Bulgaria, it has been reported from few localities in the West Frontier Mts, Valley of River Struma (*Southern*), Mt Slavyanka, and Rhodopi Mts. However, some of these reports are rather old and unconfirmed for many decades. In some localities the species is probably extinct. The only herbarium material from the West Frontier Mts with location indicated on the label ("pagum Zilentzi, distr. Kjustendil", leg. I. Nejcev) has not been confirmed since 1912. Several field trips around Zhilentsi village have not been successful. As the frontier has now shifted some kilometres, a minor possibility exists that the mentioned locality is not on the Bulgarian territory anymore. Nevertheless, the search in this floristic region must continue. In the Western Rhodopes (near Debren village, Gotse Delchev district) the species has not been reported since 1941. The localities in Narechenski Bani and Narechen in the Central Rhodopes are in strong need of confirmation, considering the fact that the last collections were in 1981 (Narechen) and 1973 (Narechenski Bani) and that infrastructure changes have occurred in these villages in the last decades.

In the Eastern Rhodopi Mts, *A. capillus-veneris* was known from only two localities, namely in Kardzhali town and near Oreshari village. Both localities have been declared Protected Sites: Nahodishte na Venerin Kosam and Oreshari, respectively. The species was found in a new locality near Enchets village on 05.11.2010 by the second author (*HH*). A few days later the other authors (*DI* and *VT*) visited the place and confirmed the species. This is the third locality reported from the

Fig. 10. *Adiantum capillus-veneris* (photo D. Ivanova).

Eastern Rhodopes. Enchets village is situated only a few kilometres away from the above-mentioned Protected Site in Kardzhali town (UTM square LG-61). A few metres after the turnout from Entchets to Glavatartsi village there were built several water fountains. The fern grows on small, wet, vertical or overhanging rocks located at both sides of the road. A brook passes between these rocks. The observed population has a mosaic spatial structure, forming few patches on the rocks in suitable fissures. One of these patches, situated farther and comprising several tufts, has completely dried out. The others were in a relatively good state. Some juvenile individuals were observed. The population near Enchets village has an extremely small area of occupancy (somewhat under 2 m^2 altogether), hence, it is too vulnerable.

The populations of *A. capillus-veneris* in Bulgaria are very fragmented, mainly with few individuals, growing mostly in shady places, in niches or fissures of wet calcareous rocks. This species is very sensitive to permanent humidity, so any change in the water regime of the habitat may provoke loss of population. The extirpation of plants and collection for ornamental purposes can be as dangerous too. Quite probably, this fern grows in more localities in the Eastern Rhodopes. As the species is highly endangered, a careful search in some promising places in Bulgaria, as well as a regular monitoring of the existing populations is needed.

Reports 63–71

Antoaneta S. Petrova

Botanical Garden, Bulgarian Academy of Sciences, P.O. Box 664, 1000 Sofia, e-mail: petrovabotgar1@abv.bg

Aristolochiaceae

63. *Aristolochia rotunda* L.

Bu Rhodopi Mts (*Eastern*): N of Stambolovo village, in sparse oak forests, LG-82, 05.05.2011, coll. *A. Petrova* (SOM 167470).

A new locality of the species, evaluated as Endangered in the *Red List of Bulgarian vascular plants* (Dimitrova 2009). The observed population is comparatively numerous, with more than 200 individuals.

Euphorbiaceae

64. *Euphorbia lathyrus* L.

Bu Vitosha Region: on a street of Popovyane village, along the Sofia – Belchin road, FM-99, 06.07.2011, with young fruits, coll. *A. Petrova* (SOM 167588).

A new region for this alien species.

Fabaceae

65. *Vicia sparsiflora* Ten.

Bu Rhodopi Mts (*Eastern*): Gluhite Kamani locality, in a mesophyllous forest, MG-11, 08.05.2011, with flowers, coll. *A. Petrova* (SOM 167463).

New for that floristic region.

Orobanchaceae

66. *Orobanche laserpitii-sileris* Jord.

Bu Pirin (*Northern*): on stony slopes along the road to Yavorov chalet, above Betalovoto locality, at about 1300 m, GM-03, 04.07.2011, on *Laserpitim siler*, coll. *A. Petrova* (SOM 167589).

This parasitic species has sporadic distribution in the mountains of Central Europe and the Balkans and until recently its distribution in Bulgaria was questionable (Chater & Webb 1972). According to Stoyanov (2009), the single known localities were in the Rhodopi Mts (*Central*). The locality reported here is in a new floristic region. The host population of *Laserpitium siler* on the limestone slopes between Betalovoto locality and Yavorov chalet is large and numerous. Three individuals of *O. laserpitii-sileris* were found, all with buds. Another locality was found in Rhodopi Mts (*Central*), along the road from Osmanov Vir locality to Chairski Lakes near Trigrad village, KG-81, 27.07.2011, coll. *A. Petrova* & *al.* (SOM).

Papaveraceae

67. *Papaver hybridum* L.

Bu Northeast Bulgaria: in a stony pasture near Vetrino village (Kairyaka locality), Varna district, NH-39, 43°16'03.5" N, 27°25'51.2" E, 29.05.2011, with flowers and fruits, coll. *A. Petrova* (SOM 167456).

New for that floristic region.

Rosaceae

68. *Potentilla mollicrinis* (Borbás) Stankov

Bu Northeast Bulgaria: in a stony pasture near Vetrino village (Kairyaka locality), Varna district, NH-39, 43°16'55.5" N, 27°26'01.2" E, 29.05.2011, with flowers and fruits, coll. *A. Petrova* (SOM 167459).

This Pontic floristic element has not been reported for the region (Markova 1992; Assyov & Petrova

2006; etc.). It has been recorded in some localities of the Varna district (Taushan Tepe near Nevsha village; Malkiya Kairyak hill north of Devnya town).

Juncaceae

69. *Juncus tenuis* Willd.

Bu Pirin Mt (*Northern*): in meadows at Krushe locality, SW of Razlog town, 41°52'29.2" N, 23°21'50.3" E, GM-03, 04.07.2011, coll. *A. Petrova* (SOM 167532).

A North American alien species, new for that floristic region. Single individuals were observed.

Liliaceae s.l.

70. *Muscari armeniacum* Baker

Bu Rhodopi Mts (*Eastern*): N of Razhenovo village, in dry deciduous forests, LG-91, 05.06.2011, coll. *A. Petrova* (SOM 167464).

New for that floristic region.

Poaceae

71. *Psilurus incurvus* (Gouan) Schinz & Thell.

Bu Northeast Bulgaria: in a stony pasture near Vetrino village (Kairyaka locality), Varna district, NH-39, 43°15'45.8" N, 27°25'53.7" E, 29.05.2011, with fruits, obs. *A. Petrova*.

New for that floristic region.

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Stoyan Stoyanov, Valentina Goranova & Daniella Ivanova

Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Acad. Georgi Bonchev St., bl. 23, 1113 Sofia, Bulgaria, e-mail: stoyanov@bio.bas.bg, goranova@bio.bas.bg, dani@bio.bas.bg

Geraniaceae

72. *Erodium absinthoides* subsp. ***balcanicum*** (Micevski) Greuter & Burdet (Fig. 11)

Bu West Frontier Mts: Mt Vlahina, N of Logodazh village, Blagoevgrad district, Kozya Glava locality, 3 km N of Logodazh, karsty terrains near quarry,

Fig. 11. *Erodium absinthoides* subsp. *balcanicum* (photo D. Ivanova).

1060 m, 42.01605° N, 22.91724° E and 0.5 km N of Logodazh, stony pastures, 860 m, 41.99840° N, 22.93097° E, with flowers and fruits, 28.05.2011, coll. *S. Stoyanov*, *V. Goranova* & *D. Ivanova* (SOM 167516, 167518); S of Logodazh village (NW of Bakalska neighbourhood), stony pastures, 760 m, 41.98041° N, 22.93139° E, with fruits, 04.06.2011, coll. *S. Stoyanov* (SOM 167517).

Erodium absinthoides was reported for the first time for the Bulgarian flora by Jordanov & Panov (1965), from Mt Vlahina, peak Ridishte. From the same location, the species was collected for the last time in 1973 (herbarium specimen SOM 131043, coll. *Petrova* & *Kozhuharov*). Information about the closest human settlement is lacking both in the report and in the herbarium materials, which is the main reason for this species to escape finding in the last 40 years. Any further establishment of the location was obstructed by the obtaining frontier regime of Mt Vlahina then, and especially by the toponymic problems and failure on the part of local population to indicate peak Ridishte. Jordanov & Panov (1965) mentioned that *E. absinthoides* grew in calcareous pastures. After conversation with foresters from Blagoevgrad we have learnt that there are calcareous terrains only in the northernmost parts of Mt Vlahina, in the region of villages Logodazh, Obel and Leshko, where our efforts to find the species have led us. As a result of these efforts, three subpopulations of *E. absinthoides* were found in the vicinities of Logodazh village: two northwards of the village and the third southwards of the village, close to Bakalska neighbourhood. These populations were distanced at about 2 km from each other, each occupying an area of some 6–7 ha.

Erodium absinthoides subsp. *balcanicum* is protected by the Biological Diversity Law and was evaluated as Endangered (Ignatova 2009).

Owing to its limited distribution and conservational importance, *E. absinthoides* was selected as target species in the project "*A Pilot Network of Small Protected Sites for Plant Species in Bulgaria Using the Plant Micro-Reserve Model*" (financed by the European Commission, Life+ Programme, Life 08/NAT/BG/279) and within the framework of this project its locality (the subpopulation in the stony pasture northwards of Logodazh village, 41.99840° N, 22.93097° E) will be declared a protected area. The species is mainly threatened by the opening of new quarries for road-building materials, as the construction of Struma Motorway is a big infrastructural project in the region.

Reports 73–79

Kit Tan[1], Kostas Polymenakos[2] & Gert Vold[3]

[1] Institute of Biology, University of Copenhagen, Øster Farimagsgade 2D, DK-1353 Copenhagen K, Denmark, e-mail: kitt@bio.ku.dk (corresponding author)

[2] Dodekanisou 15, Vrilisia, 152 35, Attikis, Greece

[3] Botanical Garden, State Natural History Museum, Øster Farimagsgade 2C, DK-1353 Copenhagen K, Denmark

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

73. *Scorzonera hispanica* L.

Gr Nomos Ioanninon, Eparchia Konitsis: Mt Smolikas, forest track above Pades (to shepherd's hut where the path to Drakolimni starts), *ca*. 1600 m, 40°03' N, 20°55' E, 02.07.2007, *Lafranchis* obs. (photo, conf. Kit Tan).

New for eparchia. Previously recorded on serpentine for Mt Smolikas (Nomos & Eparchia Grevenon) further to the east.

Fabaceae

74. *Melilotus italicus* (L.) Lam.

Gr Nomos Chanion, Eparchia Kissamou: Polyrhinia archaeological site, 450 m, 35°29' N, 23°41' E, 01.05.2011, fruiting, *Adamopoulos* obs. (photo, det. Kit Tan, May 2011; conf. P. Lassen).

New for eparchia Kissamou. The species is not very common on the island of Crete, being recorded only from the east and west; it also occurs on Karpathos.

Papaveraceae

75. *Corydalis solida* subsp. ***incisa*** Lidén

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: near Mt Kalogerovouni, east of Molai, Metamorphosis to Richia, limestone, 835 m, 36°50' N, 22°58' E, May 2010, *D.* & *M. Thorne* obs. (photos, det. Kit Tan, January 2011).

New for eparchia and apparently the most southeastern locality in the Peloponnese. Growing together with *Buglossoides arvensis*, *Draba strasseri*, *Linum hellenicum*, *Minuartia attica*, *Scorzonera*

sublanata, *Sherardia arvensis*, *Viola hymettia* and *V. mercurii*. The area was visited by members of an Alpine Garden Society, U.K. on an excursion to the Peloponnese led by D. & M. Thorne.

Polygonaceae

76. *Fallopia convolvulus* (L.) Á. Löve

Gr Nomos Achaias, Eparchia Patron: Mt Erimanthos, Kriovrisi, 960–1000 m, 37°55' N, 21°48' E, 22.08.2010, *Polymenakos* obs. (photo, conf. Kit Tan, May 2011).

New for Mt Erimanthos. Common in the village of Kriovrisi, along paths permanently flooded by water from the numerous surrounding springs, growing together with *Atriplex patula*, *Campanula ramosissima*, *Epilobium parviflorum*, *Hedera helix*, *Melissa officinalis*, *Prunella vulgaris*, *Urtica dioica*, etc.

Iridaceae

77. *Romulea columnae* Sebast. & Mauri (Fig. 12)

Gr Nomos Attikis/Viotias, Eparchia Megaridos/Thivon: foothills of Mt Kitheronas, 330 m, 38°14' N, 23°10' E, 06.02.2011, *Polymenakos* & *Bonetti* obs. (photo, det. Kit Tan, May 2011).

New for Mt Kitheron. Recorded from Mts Imittos, Pendeli and Elikonas in Nomos Attikis but less widespread in Greece than *R. linaresii.* The filaments are consistently yellow.

Liliaceae s.l.

78. *Bellevalia dubia* (Guss.) Roem. & Schult.

Gr Nomos & Eparchia Attikis: Schinias, east of Marathon, Drakonera hill, 20-60 m, 38°09' N, 24°00' E, 05.03.2011, *Polymenakos* obs. (photo, conf. Kit Tan, May 2011).

New for eparchia Attikis. Hundreds of plants were found at Schinias; this appears to be the easternmost occurrence in Greece.

Fig. 12. *Romulea columnae* (photo K. Polymenakos).

79. *Polygonatum multiflorum* (L.) All.

Gr Nomos & Eparchia Kastorias: N Pindos, Mt Voïon, SW of Kastoria, above the villages of Linga and Vrahos, 40°20' N, 21°06' E, *Stylidis* obs. (photo, conf. Kit Tan, May 2011).

New for Mt Voïon, eparchia and nomos Kastorias. Other records known from N Pindos are from Mt Smolikas (Nomi Ioanninon and Grevenon). G. Sfikas kindly communicated this record from J. Stylidis, an excellent photographer from Kastoria.

Reports 80–88

George Zarkos[1], Vasilis Christodoulou[2] & Kit Tan[3]

[1] Kolokotroni 37A, Kiato, 202 00, Korinthias, Greece

[2] Apellou sidestreet, Kiato, 202 00, Korinthias, Greece

[3] Institute of Biology, University of Copenhagen, Øster Farimagsgade 2D, DK-1353 Copenhagen K, Denmark, e-mail: kitt@bio.ku.dk (corresponding author)

Mt Killini in the prefecture of Korinthias in north central Peloponnese has been rather well botanized since the 19th century and is *locus classicus* for several Greek mountain species. The floristic richness of Killini equals that of Chelmos and many rare species are found in the large, north-facing Flabouritsa valley with Megali Ziria (2376 m) in the west and Mikri Ziria (2089 m) to the east. The flora and vegetation of this mountain was the subject of a Ph.D. study by Dimopoulos (1993), carried out at the University of Patras. This, however, does not claim to be exhaustive given the relatively short period available for carrying out fieldwork. Recent exploration of the mountain by G. Zarkos and V. Christodoulou, two high school teachers with a keen interest in nature, revealed several botanical discoveries which are reported here. All are new records for the mountain and the majority are also the first records for the prefecture of Korinthias.

Apiaceae

80. *Heracleum sphondylium* L. (Fig. 13)

Gr Nomos & Eparchia Korinthias: Mt Killini, shady banks at source of the Olvio river, in *Abies cephalonica* forest, 1197 m, 37°59' N, 22°24' E,

15.05.2011, *Zarkos* & *Christodoulou* obs. (photos, det. Kit Tan, May 2011).

New for Mt Killini and Nomos Korinthias. Although widely distributed on the mainland, *Heracleum* is rarely documented from the Peloponnese (in Nomos Achaias: Erimanthos, Kato Vlasia, etc). Occurring in shady and damp places under *Abies-Pinus*, together with *Chaerophyllum heldreichii* and *Equisetum ramosissimum*.

Fig. 13. *Heracleum sphondylium* (photo G. Zarkos).

Berberidaceae

81. *Gymnospermium peloponnesiacum* (Phitos) Strid (Fig. 14)

Gr Nomos & Eparchia Korinthias: Mt Killini, N of Mikri Ziria, in *Abies cephalonica* forest, 1506 m, 37°56′ N, 22°29′ E, 15.04.2007, *Zarkos* & *Christodoulou* obs. (photos, conf. Kit Tan, April 2011).

New for Mt Killini and Nomos Korinthias. Recorded from the following limestone mountains in N and C Peloponnese: Nomos Achaias (Mts Panachaiko, Klokos, Skepasto, Rouskio, Chelmos) and Nomos Arkadias (Mt Menalo). On Mikri Ziria small populations of 10–20 plants were found by a stream, on stony calcareous soil in openings of *Abies cephalonica* forest. In the spring of 2010, another scattered population in fruiting state was found on the path to the summit. Occurring together with *Corydalis solida* subsp. *incisa*, *Crocus olivieri* and *Scilla bifolia* and flowering from late April to early May. This appears to be the easternmost occurrence in the Peloponnese.

Fig. 14. *Gymnospermium peloponnesiacum* (photo G. Zarkos).

Boraginaceae

82. *Paraskevia cesatiana* (Fenzl & Friedr.) W. & G. Sauer

Gr Nomos & Eparchia Korinthias: Mt Killini, rocky footpath from Boutsi to north of Lake Dhasios, in *Abies cephalonica* forest, 1347 m, 37°59′ N, 22°25′ E, several dates of observation (29.06.2008, 06.06.2009, 29.03.2010 & 09.04.2010), *Zarkos* obs. (photos, conf. Kit Tan, April 2011).

New for Mt Killini and Nomos Korinthias. Previously recorded from Nomos Achaias, Messinias and Lakonias in the Peloponnese. Although searched for on several occasions, it was not found in Nomos Ilias, the Andritsena – Vasses road marking the border between Ilias and Messinias. Approximately 50 plants were noted in *Abies cephalonica-Pinus nigra* forest, on the northern slopes together with *Corydalis solida* subsp. *incis*a. *Paraskevia cesatiana* (syn.: *Pulmonaria*) is a relatively rare Peloponnesian endemic with small dark red flowers and large basal leaves which can attain a length of 30–35 cm. Flowering late March to early April.

Campanulaceae

83. *Campanula asperuloides* (Boiss. & Orph.) Engler (Fig. 15)

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, rocky footpath from village Mana to Markou Laka. 1166 m, 37°57′ N, 22°28′ E, several dates of observation (10 & 18.07.2009, 09.05.2010 & 11.07.2010), *Zarkos* & *Christodoulou* obs. (photos, conf. Kit Tan, April 2011).

New for Mt Killini and Nomos Korinthias. Recorded from Mts Chelmos, Taigetos, Parnonas and the low mountains to the south of the Parnon range. In shady

Fig. 15. *Campanula asperuloides* (photo G. Zarkos).

limestone rock crevices with *Cotoneaster tomentosus*, *Prunus cocomilia*, *Amelanchier parviflora* subsp. *chelmea* and *Laserpitium siler* subsp. *garganicum*. Flowering late June to early August.

Dipsacaceae

84. *Cephalaria flava* subsp. ***setulifera*** (Boiss. & Heldr.) Kokkini

Gr Nomos & Eparchia Korinthias: Mt Killini, gorge Flabouritsa, rocky footpath from village Mana to Markou Laka, 1141 m, 37°57' N, 22°28' E, several dates of observation (18.07.2009, 11 & 17.07.2010), *Zarkos* & *Christodoulou* obs. (photo, conf. Kit Tan, April 2011).

New for Mt Killini and N Peloponnese. This interesting discovery provides a link between the species' known distribution in Sterea Ellas and its occurrence in the low mountains south of the Parnon range in SE Peloponnese. Several plants were found on the northern side of the rocky limestone gorge growing together with *Campanula trachelium* ssp. *athoa*, *Cephalaria ambrosioides*, *Cercis siliquastrum*, *Hippocrepis emerus* subsp. *emeroides* and *Pterocephalus perennis*. Flowering in July.

Onagraceae

85. *Epilobium angustifolium* L. (Fig. 16)

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, rocky footpath from village Mana to Markou Laka, 1166 m, 37°57' N, 22°28' E, several dates of observation (10 & 18.07.2009, 11.07.2010), *Zarkos* & *Christodoulou* obs. (photos, conf. Kit Tan, April 2011).

New for Mt Killini. In the Peloponnese noted only from Nomos Korinthias (Mavro Oros) and Nomos Lakonias (Parnonas). On shady limestone rock with *Cotoneaster tomentosus*, *Amelanchier parviflora* subsp. *chelmea*, *Laserpitium siler* subsp. g*arganicum*, *Sambucus nigra* and *Pteridium aquilinum*. Flowering from late June to early August.

Fig. 16. *Epilobium angustifolium* (photo G. Zarkos).

Solanaceae

86. *Atropa belladonna* L. (Fig. 17)

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, rocky footpath from village Mana to Markou Laka, 1142 m, 37°57' N, 22°28' E, several dates of observation (10 & 18.07.2009, 09.05.2010 & 11.07.2010), *Zarkos* & *Christodoulou* obs. (photos, conf. Kit Tan, April 2011).

New for Mt Killini and Nomos Korinthias. In the Peloponnese it has been recorded from Nomos Achaias (Mt Erimanthos) and Nomos Messinias (Mt Taigetos). Only three plants were found on a forested northern slope, growing in a burnt area together with *Arbutus andrachne*, *Arbutus unedo*, *Campanula trachelium* subsp. *athoa*, *Cercis siliquastrum*, *Cephalaria ambrosioides*, *Hippocrepis emerus* subsp. *emeroides* and *Pterocephalus perennis.* Flowering in July.

Fig. 17. *Atropa belladonna* (photo V. Christodolou).

Orchidaceae

87. *Epipactis subclausa* Robatsch (Fig. 18)

Gr Nomos & Eparchia Korinthias: Mt Killini, Flabouritsa gorge, in *Abies cephalonica* forest, 1362 m, 37°55' N, 22°25' E, several dates of observation (10 & 17.07.2009, 11.07.2010), *Zarkos* & *Christodoulou* obs. (photos, conf. Kit Tan, April 2011).

New for Mt Killini and Nomos Korinthias. This appears to be the first documented occurrence in the Peloponnese. A small population of 10–15 plants with a few flowering individuals was discovered in the ravine growing together with *Epipactis helleborine*, *Cephalanthera rubra* and *Cephalanthera longifolia*. We have not been able to confirm the existence of *Epipactis greuteri* on Killini.

Fig. 18. *Epipactis subclausa* (photo V. Christodolou).

88. *Gymnadenia conopsea* (L.) R. Br.

Gr Nomos & Eparchia Korinthias: Mt Killini, footpath from village of Ano Trikala to Lake Dhasios, 1393 m, 37°59' N, 22°26' E, 27.06.2010, *Zarkos* & *Christodoulou* obs. (photos, conf. Kit Tan, April 2011).

New for Mt Killini and Nomos Korinthias and apparently the second record for the N Peloponnese (see Polymenakos & al. 2011: 148). A small population of 10–15 plants was found in an area traversed by several springs and streams. The surrounding slopes were forested with *Pinus nigra* and *Abies cephalonica*. *Salix elaeagnos* and *Platanus orientalis* grew in the valley and large populations of *Dactylorhiza iberica* and *D. saccifera* abound. The plants were at full-flowering from late June to early July.

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