New floristic records in the Balkans: 45*

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Abstract: New chorological data are presented for 134 species and subspecies from Bulgaria (42-64, 105-108), Greece (11-41, 65-104, 109-134), and Turkey-in-Europe (1-10). The taxa belong to the following families: *Adiantaceae* (1), *Amaranthaceae* (13), *Apiaceae* (2, 39, 105, 109, 110, 128), *Asclepiadaceae* (74, 75), *Asteraceae* (3, 14-18, 40, 42, 65, 76-80, 111-113), *Boraginaceae* (81, 82, 114, 127), *Brassicaceae* (83, 126), *Capparaceae* (19), *Caryophyllaceae* (43-45, 84, 115), *Cyperaceae* (34, 35, 134), *Dipsacaceae* (85), *Euphorbiaceae* (20, 86, 116-118), *Fabaceae* (4, 5, 21-27, 66, 87, 119), *Frankeniaceae* (129), *Hypericaceae* (88), *Iridaceae* (125), *Lamiaceae* (89-92, 130), *Liliaceae* s.l. (50, 67), *Linaceae* (28), *Malvaceae* (6), *Orchidaceae* (53-64, 106-108), *Parnassiaceae* (93), *Phytolaccaceae* (7, 94), *Pinaceae* (11, 12, 69-72), *Plantaginaceae* (95), *Poaceae* (9, 10, 36, 37, 51, 52, 102-104, 123, 124), *Portulacaceae* (29), *Potamogetonaceae* (38), *Primulaceae* (131), *Pteridaceae* (68), *Ranunculaceae* (46), *Rhamnaceae* (30, 31), *Rosaceae* (8, 47, 48, 97, 98), *Santalaceae* (49, 99, 100), *Scrophulariaceae* s.l. (132), *Smilacaceae* (41), *Solanaceae* (32, 120), *Sparganiaceae* (133), *Tamaricaceae* (121), *Veronicaceae* (33, 101), and *Zygophyllaceae* (122).

A new taxon for science is: *Anthemis melia* Biel & Kit Tan (14).

A new taxon for a country is: for Greece – *Dianthus muglensis* (115).

The publication includes contributions by: M. Aybeke (1-10); B. Biel & Kit Tan (11-38); Ch. Chiotelis, I. Bazos & A. Strid (39-41); D. Dimitrov (42-52); L. Domozetski & A. Petrova (53-64); K. Giannopoulos, Kit Tan & G. Vold (65-67); V. Ioannidis, D. Doulkeridou & A. Strid (68-104); T. Karakiev (105); A. Popatanasov (106-108); A. Strid (109-124); Kit Tan & G. Kofinas (125-126); Kit Tan & R. Marchant (127); Kit Tan, K. Polymenakos & G. Pantakis (128-129); G. Zarkos, V. Christodoulou & Kit Tan (130-134).

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

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

Reports 1–10

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This is a report of 10 new records belonging to different families from European Turkey.

Adiantaceae

1. *Adiantum capillus-veneris* L.

Tu(E) A1(E) Kırklareli: between Dereköy and Demirköy, 7th km, in rocky area, 508 m, 41°56'20.3"N, 27°24'30.5"E, 09.05.1996, coll. & det. *C. Yarcı* (EDTU 6834).

New for A1(E) Kırklareli in European Turkey. According to Henderson (1965), this taxon was reported only for A2(E) Istanbul.

Apiaceae

2. *Conium maculatum* L.

Tu(E) A1(E) Kırklareli: Demirköy, between Demirköy and Pınarhisar, 10th km, 303 m, 41°46'58.2"N, 27°43'28.8"E, 27.07.1990, coll. & det. *C. Yarcı* (EDTU 5496).

New for A1(E) Kırklareli in European Turkey. According to Stevens (1972), this taxon was known only from A1(E) Çanakkale.

Asteraceae

3. *Inula heterolepis* Boiss.

Tu(E) A1(E) Kırklareli: between Kula and Geçitağzı villages, in open forest, 553 m, 42°00'16"N, 27°17'41"E, 11.07.1996, coll. & det. *C. Yarcı* (EDTU 6790).

New for European Turkey. According to Grierson (1975), this taxon occurred in A2(A) Bursa and North Anatolia.

Fabaceae

4. *Melilotus officinalis* (L.) Desr.

Tu(E) A1(E) Kırklareli: Demirköy, between İğneada and Limanköy, 1st km, 0 m, 41°52'28"N, 27°59'02"E, 02.06.1990, coll. *C. Yarcı*, det. *M. Aybeke* (EDTU 5455).

New for A1(E) Kırklareli in European Turkey. According to Chamberlain (1970), this taxon was reported only for A1(E) Çanakkale.

5. *Trifolium arvense* L. var. ***arvense***

Tu(E) A1(E) Kırklareli: Demirköy, between Demirköy and İğneada, 18th km, 252 m, 41°52'28.7"N, 27°54'40.3"E, 18.05.1991, coll. & det. *C. Yarcı*, appr. *M. Aybeke* (EDTU 5457).

New for A1(E) Kırklareli in European Turkey. According to Zohary (1970), this taxon was known only from A1(E) Tekirdağ and A2(E) Istanbul.

Malvaceae

6. *Lavatera punctata* All.

Tu(E) A1(E) Kırklareli: Geçitağzı village environs, in open forest, 513 m, 41°56'23"N, 27°18'56"E, 09.05.1996, coll. & det. *C. Yarcı* (EDTU 6806).

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

Phytolaccaceae

7. *Phytolacca americana* L.

Tu(E) A1(E) Kırklareli: Demirköy, between Demirköy and İğneada, 11th km, 249 m, 41°52'35.0"N, 27°54'35.2"E, 20.06.1990, coll. & det. *C. Yarcı* (EDTU 5490).

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

Rosaceae

8. *Sanguisorba minor* Scop. subsp. ***minor***

Tu(E) A1(E) Kırklareli: Kofçaz, Kocayazı village, in mixed forest, 637 m, 41°57'56"N, 27°12'19"E, 08.05.1996, coll. & det. *C. Yarcı* (EDTU 6792).

New for A1(E) Kırklareli in European Turkey. According to Cullen (1972), this taxon occurred only in A1(E) Çanakkale.

Poaceae

9. *Agropyron repens* (L.) P. Beauv. [syn.: *Elymus repens* (L.) Gould]

Tu(E) A1(E) Kırklareli: Demirköy, 252 m, 41°49'30"N, 27°45'35"E, 02.07.1988, coll. & det. *C. Yarcı* (EDTU 2251).

New for A1(E) Kırklareli in European Turkey. According to Melderis (1985), this taxon was known only for A2(E) Istanbul.

10. *Stipa pontica* P. Smirnov

Tu(E) A1(E) Kırklareli: Demirköy, between Demirköy and İğneada, 18th km, 252 m, 41°52'28.7"N, 27°54'40.3"E, 18.05.1991, coll. *C. Yarcı*, det. *M. Aybeke* (EDTU 5492).

New for A1(E) Kırklareli in European Turkey. According

to Scholz (1985), this taxon was found only in A1(E) Edirne.

Reports 11–38

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This is the fourth report of new plant-records for the island of Milos (phytogeographical region Kiklades, Nomos Kikladon, Eparchia Milou). The 26 records listed are new for the island, bringing the total number of new records we have found for the floristic region Kiklades (Kik) as circumscribed in *Flora Hellenica* (Strid & Tan 1997), to 77. One taxon, *Anthemis melia*, is described as a new species. Occurrence on the other Kikladean islands is briefly summarized.

Pinaceae

11. *Pinus halepensis* subsp. ***brutia*** (Ten.) Holmboe

Gr Nomos Kikladon, Eparchia Milou: NW of Emborious, shrub and phrygana in small valley, along dirt track, 60 m, 36°43'59"N, 24°21'09"E, 19.06.2021, *Biel* obs. (photo); two other sites noted.

No records at subspecies level exist for *P. halepensis* on Milos.

12. *Pinus halepensis* Mill. subsp. ***halepensis***

Gr Nomos Kikladon, Eparchia Milou: W of Adamas, phrygana slope at Nichia hill, above transmittor station, 120 m, 36°43'34"N, 24°26'15"E, 12.06.2021, *Biel* 21.142; also noted NW of Paliochori.

The trees at Adamas seem native; in the second locality, the trees may have been planted when the mining area was re-opened.

Amaranthaceae

13. *Amaranthus blitum* L.

Gr Nomos Kikladon, Eparchia Milou: Adamas, E part of village, road margins near fishing harbour, 5 m, 36°43'33"N, 24°27'07"E, 13.06.2021, *Biel* obs. (photo).

Recorded for Amorgos, Andros, Kimolos, Serifos and Sifnos.

Asteraceae

14. *Anthemis melia* Biel & Kit Tan, **sp. nov.** (Figs. 1–2)

Gr Nomos Kikladon, Eparchia Milou: island of Milos, SW of Adamas, Mt Profitis Ilias, rocky phrygana slopes below summit, 720 m, 36°40'N, 24°22'E, 04.05.2021, *Biel* 2021.049 (holotype WB).

— NW of Profitis Ilias, steep phrygana slope by concrete road, 610 m, 36°40'N, 24°22'E, 16.06.2021, *Biel* 2021.176; Chodro Vouno, rocky phrygana slope at eastern ridge, 580 m, 36°40'N, 24°22'E, 16.06.2021, *Biel* 2021.178; N of Profitis Ilias, rocky outcrops and phrygana, 400 m, 36°41'N, 24°22'E, 16.06.2021, *Biel* obs.; W of Ag. Marina, open phrygana on ridge, 250 m, 36°41'N, 24°23'E, 16.06.2021, *Biel* obs.; NE of Profitis Ilias, dirt track in *Erica-Calicotome* phrygana with rocky outcrops, 40 m, 36°41'N, 24°24'E, 17.06.2021, *Biel* obs.; N of Ag. Marina, seasonally wet depressions by dirt road, 20 m, 36°41'N, 24°24'E, 17.06.2021, *Biel* obs.; SW of Adamas, phrygana with *Juniperus* above Fatourena beach, 25 m, 36°42'N, 24°24'E, 17.06.2021, *Biel* obs.; E–NE of Ag. Marina, *Sarcopoterium-Erica* phrygana on coastal slope near Patrikia, 5 m, 36°41'N, 24°25'E, 17.06.2021, *Biel* obs.; NW of Ag. Mamas, rocky phrygana slopes above coast, 10 m, 36°41'N, 24°25'E, 17.06.2021, *Biel* obs.; W–NW of Ag. Mamas, open phrygana above small rocky beach, 5 m, 36°41'N, 24°25'E, 17.06.2021, *Biel* obs.; W of Achivadolimni, waste ground with phrygana at Ag. Mamas, above road, 20 m, 36°41'N, 24°26'E, 17.06.2021, *Biel* obs.; NE of Achivadolimni, beach with *Tamarix* and phrygana, waste ground, 2 m, 36°41'N, 24°26'E, 18.06.2021, *Biel* obs.; NE of Provatas, sandy field with fodder crop and open phrygana by dirt track, 70 m, 36°40'N, 24°27'E, 18.06.2021, *Biel* obs.; NE of Provatas, sandy pasture with olive trees, 70 m, 36°41'N, 24°27'E, 18.06.2021, *Biel* obs.; SE of Milos airport, edge of dirt road near plant nursery, 15 m, 36°41'N, 24°28'E, 18.06.2021, *Biel* obs.

Small annual with short, prostrate to erect-ascending stems 1–3 cm long, sparingly branched at base. Stem and leaves tomentose-pubescent. Lower leaves long-petiolate, 2-pinnatisect, dark green; upper leaves pinnatisect or entire; ultimate segments broad, 1.3–2.5 × 0.6–0.8 mm. Peduncles slender, 0.5–1.5 cm, elongating to 6 cm but not thickening in fruit. Capitula solitary, terminal, (5)8–12 mm in diam.; disc florets yellow; ligules 7–9, broadly ovate, 2–5 × 1.5–2.5 mm,

Fig. 1. *Anthemis melia* with white ligules and yellow disc florets.

obtusely 3-toothed at apex, white; ligulate florets fertile. Styles yellow; anthers yellow, pollen yellow. Involucral bracts 2–3-seriate, narrowly ovate, 2.5–3.5 × 0.5–1.0 mm with narrow brown margins *ca.* 0.25 mm wide, acute. Receptacular scales glabrous, oblanceolate, *ca.* 3.5 × 0.6 mm, with exserted brown midrib. Achenes terete in transverse-section, obconical-turbinate, *ca.* 1.8 × 0.6 mm, outer strongly 10-ribbed, inner less so, pale brown, glabrous; corona 0.3 mm long.

Anthemis melia occurs on rocky coastal slopes and in phrygana from sea-level up to the summit of Profitis Ilias at *ca.* 720 m. It flowers from late-April to mid-May and up to now, is only known from the southcentral part of Milos (see Fig. 2). Probably endemic to Greece.

Distinguished from *Anthemis auriculata* Boiss., which also occurs on Milos, by its small stature, tomentose-pubescent indumentum, smaller capitula with short ligules, involucral bracts with distinct brown margins, and much shorter corona. From *A. tomentosa* L. which so far, has not been found on Milos, it differs by its much smaller capitula, shorter fertile ligules and brown (not pale scarious) involucral bract margins.

15. *Anthemis rigida* subsp. ***runemarkii*** Biel & Kit Tan (Fig. 3)

Gr Nomos Kikladon, Eparchia Milou: on rocky coastal slopes and in phrygana from sea-level to 50 m.

The taxon is restricted to Milos and the neighbouring islands of Kimolos, Prasonisi and Poliegos. It exists in pink- and white-ligulate forms on the islands. The achenes are glabrous and exhibit a broad range of measurements but in general, all are much smaller than as stated in Goula & Constantinidis (2021). The outer achenes are 0.8–1.3 × 0.4–0.5 mm, the inner achenes *ca.* 1.0 × 0.3 mm. The corona is also shorter being 0.2–0.4 mm long as compared with the stated measurements of 0.5–0.9 mm.

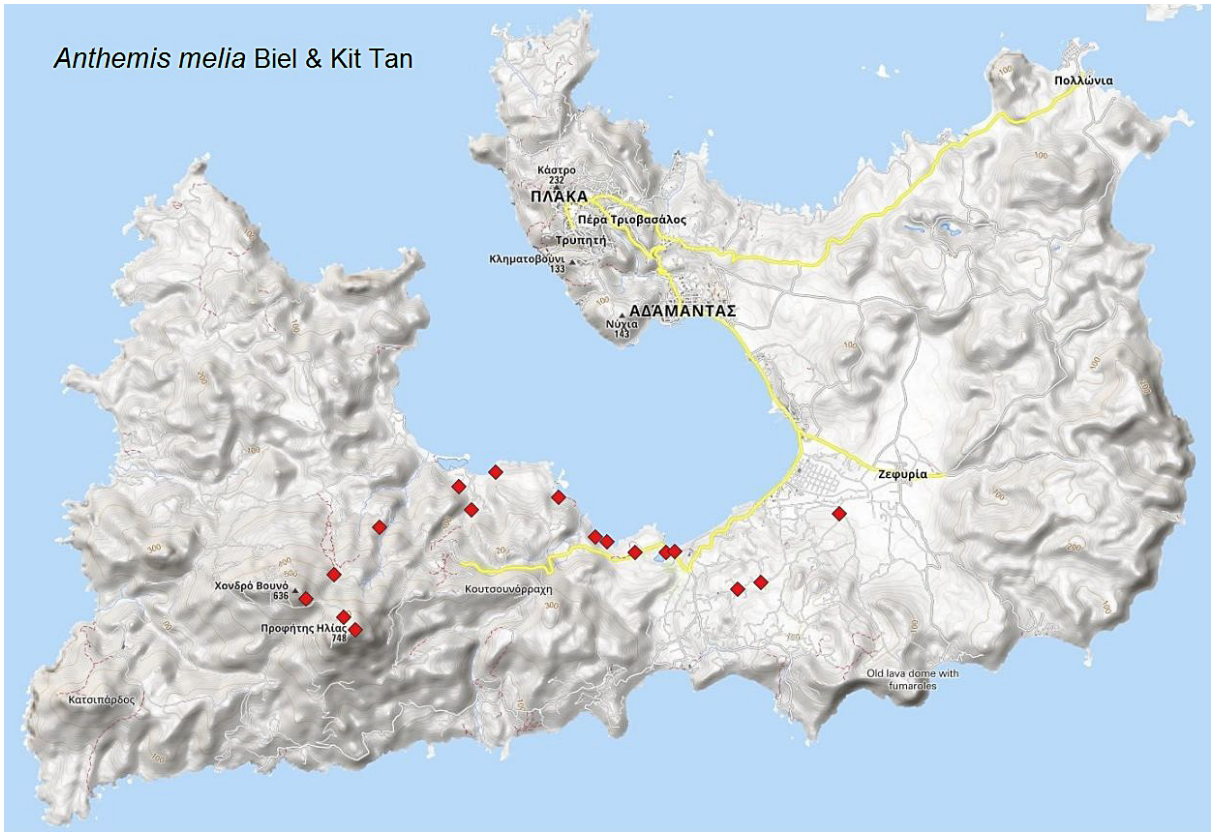

Fig. 2. Distribution map of *Anthemis melia* on the island of Milos.

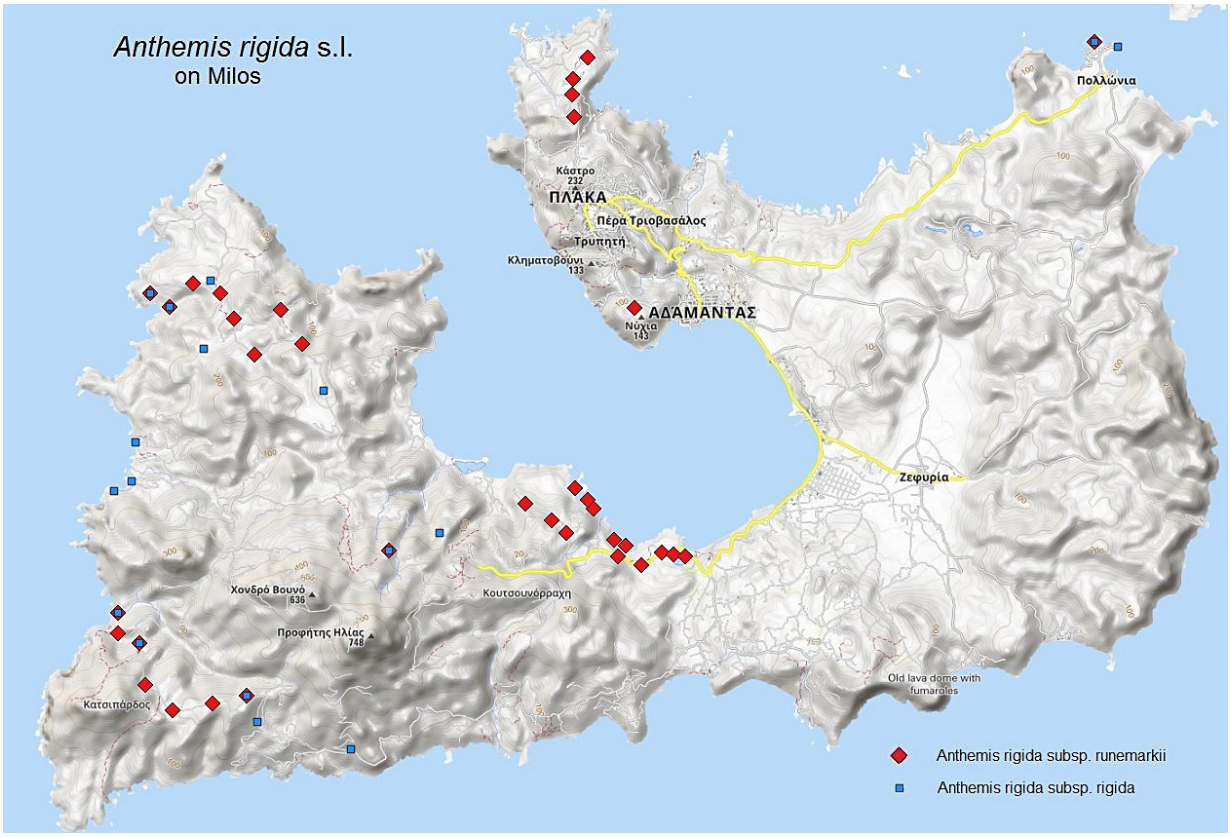

Fig. 3. Distribution map of *Anthemis rigida* on the island of Milos.

A map showing the distribution of *Anthemis rigida* subsp. *rigida* and *A. rigida* subsp. *runemarkii* on Milos is provided (Fig. 3).

16. *Artemisia vulgaris* L.

Gr Nomos Kikladon, Eparchia Milou: Pachena, waste ground and embankment at road junction and between houses, 25 m, 36°45'09"N, 24°30'00"E, 20.06.2021, *Biel* 21.196.

New for the Kiklades. For the Aegean islands only recorded from EAe (Ikaria, Lesvos, Samos) and NAe (Thasos).

17. *Senecio tamoides* DC.

Gr Nomos Kikladon, Eparchia Milou: Adamas, waste ground, parks, road margins in village, 10 m, 36°43'29.00"N, 24°26'41.98"E, 02.05.2021, *Biel* obs. (photo); also noted at Pachena.

Reported from central Kiklades.

18. *Xanthium strumarium* L.

Gr Nomos Kikladon, Eparchia Milou: E of Adamas, uncultivated field by dirt road, 60 m, 36°43'33"N, 24°28'44"E, 21.06.2021, *Biel* 21.201.

Reported from N and central Kiklades.

Capparaceae

19. *Capparis spinosa* L. subsp. ***spinosa***

Gr Nomos Kikladon, Eparchia Milou: Adamas, waste ground, parks, road margins in village, 10 m, 36°43'29"N, 24°26'41"E, 22.06.2021, *Biel* 21.204; also noted W of Embourios.

New for the Kiklades. The plants had the characters of *C. ovata* auct. fl. graec., non Desf. with thin, non-succulent, narrowly ovate leaves.

Euphorbiaceae

20. *Euphorbia falcata* L.

Gr Nomos Kikladon, Eparchia Milou: E of Adamas, uncultivated field by dirt road, 60 m, 36°43'33"N, 24°28'44"E, 21.06.2021, *Biel* 21.200.

Known from several islands in S and central Kiklades.

Fabaceae

21. *Astragalus sinaicus* Boiss.

Gr Nomos Kikladon, Eparchia Milou: S-SW of Kato Komia, phrygana at edge of water-filled gravel pit, 95 m, 36°42'57"N, 24°31'41"E, 06.05.2021, *Biel* 21.078; also noted W of Embourios.

Occurring on most islands in the Kiklades.

22. *Dorycnium graecum* (L.) Ser.

Gr Nomos Kikladon, Eparchia Milou: SE Ag. Marina, phrygana at roadside ditch, 200 m, 36°41'04"N, 24°24'34"E, 04.05.2021, *Biel* 21.065a.

Reported only from Andros in the N Kiklades.

23. *Lathyrus sativus* L.

Gr Nomos Kikladon, Eparchia Milou: S–SE of Pachena, phrygana at dirt track and cereal field below, 100 m, 36°43'46"N, 24°30'54"E, 06.05.2021, *Biel* 21.070; also noted near Zefiria.

Reported from Amorgos, Paros and Thira (Santorini).

24. *Medicago sativa* subsp. ***falcata*** (L.) Arcang.

Gr Nomos Kikladon, Eparchia Milou: E of Adamas, uncultivated field by dirt road, 60 m, 36°43'33"N, 24°28'44"E, 21.06.2021, *Biel* 21.199.

Known from Andros, Kithnos and Tinos.

25. *Onobrychis arenaria* (Kit.) DC.

Gr Nomos Kikladon, Eparchia Milou: S of Pachena, ruderal places along dirt track at upper slope of mining area, 60 m, 36°44'25"N, 24°29'45"E, 24.06.2021, *Biel* 21.206.

New for the Kiklades.

26. *Vicia pannonica* subsp. ***striata*** (M. Bieb.) Nyman

Gr Nomos Kikladon, Eparchia Milou: E of Milos airport, vegetable field and waste ground with ditch east of air field, 10 m, 36°41'52"N, 24°29'02"E, 03.05.2021, *Biel* 21.040.

On several islands, mainly central Kiklades.

27. *Vicia peregrina* L.

Gr Nomos Kikladon, Eparchia Milou: E–NE of Zefiria, uncultivated field and edge of dirt road on ridge, 170 m, 36°42'44"N, 24°31'07"E, 06.05.2021, *Biel* 21.081; N–NW of Skinopi, phrygana and ruderal places at steep path above Mikri Skinopi, 35 m, 36°43'51"N, 24°25'30"E, 09.05.2021, *Biel* 21.105.

Widespread in Kiklades.

Linaceae

28. *Linum corymbulosum* Rchb. (Fig. 4)

Gr Nomos Kikladon, Eparchia Milou: E–NE of Zefiria, uncultivated field and edge of dirt road on ridge, 170 m, 36°42'44"N, 24°31'07"E, 06.05.2021, *Biel* 21.080; two other localities noted.

Reported from Amorgos and Naxos.

Portulacaceae

29. *Portulaca grandiflora* Hook. (Fig. 5)

Gr Nomos Kikladon, Eparchia Milou: Adamas, E part of village, road margin near fishing harbour,

Fig. 4. *Linum corymbulosum* (photo B. Biel).

Fig. 5. *Portulaca grandiflora* (photo B. Biel).

5 m, 36°43'33"N, 24°27'07"E, 13.06.2021, *Biel* 21.146.

New for the Kiklades. Garden escape native to S America, self-sown and established at road margins, pavement crevices, etc., together with *Spergularia*, *Parietaria* and *Portulaca oleracea.*

Rhamnaceae

30. *Paliurus spina-christi* Mill. (Fig. 7)

Gr Nomos Kikladon, Eparchia Milou: NE of Adamas, dirt road embankments with phrygana, 20 m, 36°43'50"N, 24°27'02"E, 13.06.2021, *Biel* 21.151.

Reported only from Andros in the N Kiklades (*Bothmer* 34595, LD).

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

Gr Nomos Kikladon, Eparchia Milou: SW of Adamas, Mt Profitis Ilias, rocky phrygana with shrubs below summit, 720 m, 36°40'34"N, 24°22'56"E, 16.06.2021, *Biel* 21.174.

Rhamnus lycioides subsp. *oleoides* has been reported from Milos and is widely distributed in the Kiklades.

Solanaceae

32. *Nicandra physalodes* (L.) Gaertn.

Gr Nomos Kikladon, Eparchia Milou: W of Pollonia, plant nursery and ruderal places, 3 m, 36°45'50"N, 24°31'15"E, 14.06.2021, *Biel* obs. (photo).

Second report for the Kiklades, the first being from Tinos.

Veronicaceae

33. *Kickxia commutata* (Rchb.) Fritsch

Gr Nomos Kikladon, Eparchia Milou: NE of Pachena, rocky roadside slope, near Ag. Ioannis, 15 m, 36°45'26"N, 24°30'35"E, 14.06.2021, *Biel* 21.160.

Occurring in most of the Kiklades.

Cyperaceae

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

Gr Nomos Kikladon, Eparchia Milou: N of Provatas, near farm, *Bolboschoenus-Juncus* wetland surrounded by *Arundo*, 20 m, 36°40'49"N, 24°26'34"E, 18.06.2021, *Biel* 21.185 (also noted in October 2019); W–SW of Embourios, Triades beach with small estuary, 2 m, 36°42'15"N, 24°20'15"E, 23.06.2021, *Biel* 21.205.

N and central Kiklades, scattered occurrence.

35. *Eleocharis uniglumis* (Link) Schult.

Gr Nomos Kikladon, Eparchia Milou: SE of Ag. Marina, artificial reservoir with water,

Fig. 7. *Paliurus spina-christi* (photo B. Biel).

below saddle, 230 m, 36°40'55"N, 24°25'07"E, 07.05.2021, *Biel* 21.092.

New for the Kiklades.

Poaceae

36. *Aegilops comosa* Sm.

Gr Nomos Kikladon, Eparchia Milou: NE of Prof. Ilias, rocky outcrop, *Erica-Calicotome* phrygana, 40 m, 36°41'41"N, 24°24'21"E, 17.06.2021, *Biel* 21.180; also noted NW of Paliochori.

Most of the Kiklades.

37. *Bromus hordeaceus* L.

Gr Nomos Kikladon, Eparchia Milou: E–NE of Ag. Marina, small stream valley with temporary pools in phrygana, at dirt track, 95 m, 36°41'38"N, 24°25'04"E, 07.05.2021, *Biel* 21.089; also noted in six other localities.

Reported from the larger islands in the Kiklades.

Potamogetonaceae

38. *Potamogeton schweinfurthii* A. Benn. (Fig. 6)

Gr Nomos Kikladon, Eparchia Milou: W of Kato Komia, stream valley with phrygana and artificial quarry pond, 60 m, 36°43'23"N, 24°31'50"E, 06.05.2021, *Biel* 21.076; S–SW of Kato Komia, edge of water-filled gravel pit, 95 m, 36°42'57"N, 24°31'41"E, 06.05.2021, *Biel* 21.169.

New for the Kiklades. A mainly African species also occurring in Spain, the Ionian islands (Kefallinia), E Kriti and probably elsewhere in the Mediterranean. Differing from *P. lucens* L. by its sessile, narrow, long-cuspidate leaves with seven veins, and by the smaller (2.5–3 mm), globose fruits with hooked beak. The fruits in *P. lucens* are 3.5–4.7 mm.

Fig. 6. *Potamogeton schweinfurthii* (photo B. Biel).

Reports 39–41

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New plant-records for the island of Lesvos (Nomos Lesvou, Eparchia Mitilinis) have been confirmed based on photos of whole plants and diagnostic details.

Apiaceae

39. *Falcaria vulgaris* Bernh.

Gr Lesvos: between Achladeri and Skamioudi, edge of cultivated fields and olive groves, 5–10 m, 39°07'N, 26°13'E, 15.06.2021, *Chiotelis* obs.

New for E Aegean islands. In the Aegean area this species is so far known only from Samothraki. It is fairly rare on the Greek mainland, and has a wide but scattered distribution in Europe and SW to C Asia.

Asteraceae

40. *Xeranthemum cylindraceum* Sm.

Gr Lesvos: E of Messa, openings of *Pinus brutia* forest, 50 m, 39°11'N, 26°19'E, 27.05.2020, *Chiotelis* obs.

New for the Aegean area except for a single record from northern Evvia. Fairly widespread on the Greek mainland.

Smilacaceae

41. *Smilax excelsa* L.

Gr Lesvos: S–SW of Michou, in ravine with *Platanus orientalis* and *Juglans regia* surrounded by olive groves, 150 m, 39°04'N, 26°25'E, 06.11.2020, *Chiotelis* obs.

New for E Aegean islands. In Greece this species is much less common than *S. aspera* L. and restricted to coastal areas in the northeast (including the islands of Thasos and Samothraki) where it inhabits riverine woodland and thickets.

Reports 42–52

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Asteraceae

42. *Carduus acicularis* Bertol.

Bu Danubian Plain: sand quarry near Iskar town, KJ71, 12.10.2018, coll. & det. *D. Dimitrov* (SOM 177 178).

Caryophyllaceae

43. *Cerastium bulgaricum* Uechtr.

Bu Sofia region: in calcareous steppe eastwards from Seslavtsi suburb of Sofia, GN04, 19.04.2019, coll. & det. *D. Dimitrov* (SOM 177 157).

44. *Cerastium glomeratum* Thuill.

Bu Mt. Sredna Gora (*Western*): Mt. Lozenska, in former quarry near the road to Lozen Monastery, GN01, 14.06.2020, coll. & det. *D. Dimitrov* (SOM 177 069).

45. *Cerastium pumilum* Curt. subsp. ***pumilum***

Bu Black Sea Coast (*Northern*): Momchil marble quarry westwards of Balchik town, NJ90, 31.04.2018, coll. & det. *D. Dimitrov* (SOM 177 130).

Ranunculaceae

46. *Ranunculus pedatus* Waldst. & Kit.

Bu Rhodopi Mts (*Western*): above Malak Beglik Reservoir, KG64, 06.2019, coll. & det. *D. Dimitrov* (SOM 177 151).

Rosaceae

47. *Potentilla detommasii* Ten.

Bu Sofia region: in steppe meadow eastwards from Seslavtsi suburb of Sofia, on limestone, GN04, 06.2020, coll. & det. *D. Dimitrov* (SOM 177 052).

48. *Potentilla supina* L.

Bu Vitosha region: Studena Dam, Vitosha – Studena Hunting Lodge, FN71, 13.07.2019, coll. & det. *D. Dimitrov* (SOM 177 146).

Santalaceae

49. *Thesium dollineri* Murb.

Bu Sofia region: In calcareous steppe eastwards from Seslavtsi suburb of Sofia, GN04, 19.04.2019, coll. & det. *D. Dimitrov* (SOM 177 151).

Liliaceae

50. *Tulipa thracica* Davidov

Bu Black Sea Coast (*Southern*): Akin (Sveti Nikola) Peninsula, northwards of Chernomorets town, Vromos Bay, on a steep slope NG59, 03.05.2021, *D. Dimitrov* obs.

Growing together with *Anchusa thessala*, *Jasminum fruticans*, *Paliurus spina-christi*, *Rhagadiolus stellatus*. This is a new locality of this critically endangered species (cf. Peev & Tsoneva 2009). The population comprises about 200 individuals.

Poaceae

51. *Festuca penzesii* (Acht.) Markgr.-Dannenb.

Bu Znepole region: Mt. Rui, in rocky grassy places of peak Rui, 1706 m, FM29, 18.06.2019, coll. & det. *D. Dimitrov* (SOM 177 142).

52. *Poa timoleontis* Boiss.

Bu Sofia region: in steppe meadow eastwards from Seslavtsi suburb of Sofia, on limestone, GN04, 26.04.2021, coll. & det. *D. Dimitrov* (SOM 177 414).

— Thracian Lowland: near Ivan Vazovo village, Kaloyanovo Municipality, LH10, 24.04.2021, coll. & det. *D. Dimitrov* (SOM 177 415).

Reports 53–64

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The current records present new data on the distribution of 12 taxa of *Orchidaceae* in Bulgaria. Data have been collected in the period 2012 – first half of 2021.

Orchidaceae

53. *Anacamptis laxiflora* (Lam.) R.M.Bateman, Pridgeon & M.W.Chase

Bu Black Sea Coast (*Southern*): Close to river Veleka , along the road from Ahtopol town to Sinemorets village, W of Sinemorets village, Burgas district, in a moist grassy place in open woodland, *ca.* 1.5 m, 42.062214°N, 27.961008°E, 5–8 specimens, 24.05.2020, *L. Domozetski* obs. (Fig. 8).

— Valley of River Struma (*Southern*): Rupite locality, NW of Rupite village, Blagoevgrad district, in moist place in a meadow, *ca.* 95 m, 41.455971°N, 23.261554°E, two specimens, 04.05.2016, *L. Domozetski* obs. (Fig. 9).

Considered as Vulnerable for the country (Petrova 2009: 85). According to Assyov & Petrova (2012:

Fig. 8. *Anacamptis laxiflora*, Black Sea Coast (*Southern*) region (photo L. Domozetski).

Fig. 9. *Anacamptis laxiflora*, Valley of River Struma (*Southern*) region (photo L. Domozetski).

296), this species is known from the following floristic regions: the Balkan Range (*Eastern*), Tundzha Hilly Country, Mt. Strandzha and Rhodopi Mts (*Eastern*). Subsequently, the species has been reported from the Pirin Mts (*Northern*) (Popatanasov 2015c: 381; Kunev 2018: 163) and Rhodopi Mts (*Central*) (Mincheva & al. 2018: 405). *Anacamptis laxiflora* is new for the Valley of River Struma (*Southern*) and the Black Sea Coast (*Southern*) floristic regions.

54. *Anacamptis papilionacea* (L.) R.M.Bateman, Pridgeon & M.W.Chase

Bu West Frontier Mts: Mt. Vlahina, along the road to the St. John Chrysostomos Church, Debochitsa village, Blagoevgrad district, in dry grassy hills, *ca.* 906 m, 41.873388°N, 22.957183°E, three specimens, 20.05.2018, *L. Domozetski* obs. (Fig. 10).

— Mt. Slavyanka: along the road to Paril village, Blagoevgrad district, in a dry grassy place, *ca.* 779 m, 41.437019°N, 23.692308°E, two specimens, 19.05.2021, *L. Domozetski* obs.

Considered as 'Vulnerable' for the country (Petrova 2009: 86). According to Assyov & Petrova (2012: 296),

Fig. 10. *Anacamptis papilionacea* (photo L. Domozetski).

this species is known from most floristic regions. Assyov & Petrova (2012) reported it with a question mark for the West Frontier Mts floristic region. This is the first reliable data from this floristic region. Subsequently, in 2020 and 2021 no flowering specimens were observed. The habitat has significantly degraded as a result of overgrazing, restricted by an electrified fence. This affects the flowering of other orchid species: *Himantoglossum calcaratum* subsp. *rumelicum*, *Anacamptis pyramidalis*, *Ophrys oestrifera* (syn. *Ophrys cornuta*). *Anacamptis papilionacea* is new for the Mt. Slavyanka floristic region.

55. *Dactylorhiza romana* (Sebast.) Soó

Bu Pirin Mts (*Southern*): W of Dormition of the Virgin Monastery (Rhozhenski Monastery), Rhozhen village, Blagoevgrad district, on the border of open woodland, *ca.* 641 m, 41.530929°N, 23.421652°E, three specimens, 26.04.2019, *L. Domozetski* obs. (Fig. 11)

Dactylorhiza romana is a species with a local distribution in Bulgaria. It has not been reported from the mountainous areas in the western part of the country and from the Danubian Plain floristic region. This species is new for the Pirin Mts (*Southern*) floristic region.

56. *Epipactis helleborine* (L.) Crantz

Bu Black Sea Coast (*Southern*): N of Primorsko town, in woodland, under coniferous trees, *ca.* 19 m, 41.288329°N, 27.749850°E, three specimens, one with flowers, 14.06.2020, *L. Domozetski* obs. (Fig. 12).

This species is distributed in almost all floristic regions, however, Assyov & Petrova (2012: 179) have not reported it for the Black Sea Coast (*Southern*). The first data on the distribution of the species in this floristic region presented it as a concomitant species in the new data on the distribution of *Ophrys apifera* Huds. (Popatanasov 2014: 293). The authors decided to offer a separate record of the distribution of *Epipactis helleborine* in Black Sea Coast (*Southern*) floristic region so as to complete the distribution of the species in the country.

57. *Epipactis palustris* (L.) Crantz

Bu West Frontier Mts: Mt. Vlahina, Debochitsa village, Blagoevgrad district, in a moist grassy place, *ca.* 1100 m, 41.855267° N, 22.955448°

Fig. 11. *Dactylorhiza romana* (photo L. Domozetski).

Fig. 12. *Epipactis helleborine* (photo L. Domozetski).

E and *ca.* 1130 m, 41.860665°N, 22.957852°E, 05.07.2019, *L. Domozetski* obs. (Figs. 13 & 14); Mt. Vlahina, Gabrovo village, along the river in a deep river bed, 41.891446°N, 22.951395°E, 30.05.2021, *A. Petrova*, *R. Vassilev*, *I. Gerasimova* & *D. Venkova* obs.

Epipactis palustris is considered as 'Endangered' for the country (Petrova 2009: 76, 2015). This species is distributed locally in different floristic regions, and is more common in the Balkan Range, Rhodopi Mts (*Central*) and Sofia region (Petrova 2015). Assyov & Petrova (2012: 180) reported it with a question mark for the West Frontier Mts floristic region. These are the first reliable data for this floristic region. Three localities have been discovered, the population in the first locality comprises 5–6 plants, the population in the second locality comprises more than 20 specimens and the population at the third locality comprises 10 plants.

58. *Himantoglossum calcaratum* subsp. ***rumelicum*** (H. Baumann & R. Lorenz) Niketić & Djordjević (syn. *Himantoglossum jankae* Somlyay, Kreutz & Óvári)

Bu Valley of River Struma (*Southern*): between Novo Hodzhovo and Piperitza villages, Blagoevgrad district, in dry grassy places, among scrubs and in open woodland, *ca.* 271 m, 41.411313°N, 23.423829°E, 16.05.2021; *loc. ibid.*, *ca.* 257 m, 41.410981°N, 23.422109°E, *ca.* 212 m, 23.05.2021; *loc. ibid.*, 41.405049°N, 23.418394°E, 29.05.2021, numerous populations with hundreds of individuals, *L. Domozetski* obs. (Fig. 15).

Himantoglossum calcaratum subsp. *rumelicum* (sub *H. jankae* is included in Annex II of the Council Directive 92/43 EEC – the Habitats Directive, and considered as 'Vulnerable' for the country (Petrova 2009: 84, 2015). The species is known from most floristic regions and is already reported for the Valley of River Struma region (Assyov & Petrova 2012: 230; Petrova 2015). The authors report the localities in this floristic region because data about the distribution of this species in the Valley of River Struma are limited and because the populations are extremely numerous. Other orchid species, observed in these localities, are: *Anacamptys pyramidalis*, *A. papilionacea*, *Neotinea ustulata*, *Ophrys apifera*, *O. mammosa,* and *O. oestrifera*.

Fig. 13. *Epipactis palustris*, Mt Vlahina, 1100 m a.s.l. (photo L. Domozetski).

Fig. 14. *Epipactis palustris*, Mt Vlahina, 1130 m a.s.l. (photo L. Domozetski).

Fig. 15. *Himantoglossum calcaratum* subsp. *rumelicum* (photo L. Domozetski).

Fig. 16. *Limodorum abortivum* subsp. *mezekii*, inflorescence, 24.05.2021 (photo L. Domozetski).

59. *Limodorum abortivum* (L.) Sw. subsp. ***mezekii*** Delip. & Cheshm.

Bu Valley of River Struma (*Southern*): Northern slope of Pchelina hill, N of General Todorov village, Blagoevgrad district, among scrubs of *Carpinus orientalis*, *ca.* 138 m, 41.466526°N, 23.270645°E, two specimens, 07.06.2012, *L. Domozetski* obs.; three specimens, 02.06.2019, *L. Domozetski* obs.; three specimens, 31.05.2020, *L. Domozetski* obs.; 12 specimens, 24.05.2021, *L. Domozetski* obs. (Figs. 16 & 17).

This rare subspecies has been known only from limited localities in the Rhodopi Mts (*Eastern*) and Tunzdha Hilly Country (Mt. Sakar) floristic regions (Stoyanov & Marinov 2016: 452). It is new for the Valley of River Struma (*Southern*) floristic region.

60. *Ophrys apifera* Huds.

Bu Valley of River Struma (*Southern*): NE of Kulata village and SE of Chuchuligovo village, Blagoevgrad district, in grassy places, near a vineyard, *ca.* 150 m, 41.393844°N, 23.372178°E, four flowering specimens, 19.05.2017,

Fig. 17. *Limodorum abortivum* subsp. *mezekii*, flower, 24.05.2021 (photo L. Domozetski).

L. Domozetski obs.; 32 flowering specimens, 24.05.2019, *L. Domozetski* obs.; three flowering specimens, 17.05.2020, *L. Domozetski* obs. (Fig. 18); between Novo Hodzhovo and Piperitsa villages, Blagoevgrad district, in grassy places, *ca.* 223 m, 41.410306°N, 23.419431°E, numerous populations with more than 100 flowering specimens, 16.05.2021 & 23.05.2021, *L. Domozetski* obs. (Fig. 19).

A species with local distribution in Bulgaria, *O. apifera* is known from the Black Sea Coast (*Southern*), Northeast Bulgaria, Forebalkan (*Western*), Balkan Range (*Western*, *Central, Eastern*), Sofia region, Znepole region, Valley of River Struma (*Northern*, *Southern*), Mt. Sredna Gora (*Western*), Rhodopi Mts (*Eastern*), Thracian Lowland, Tundzha Hilly Country, Mt. Strandzha (Assyov & Petrova 2012: 294; Stoyanov & Marinov 2016: 452-453), and Danubian Plain (Tzonev & al. 2017: 138). It has already been reported for the Valley of River Struma (*Northern*) (Stoyanov & Goranova 2014: 118) and Valley of River Struma (*Southern*) (Vladimirov 2014: 128) floristic regions. The authors report these localities because it is considered 'Endangered' for the country (Petrova 2009: 78). However, the subsequently published data about the distribution of this species in Bulgaria suggest a need of re-evaluating its conservation status. The population in the first locality demonstrates fluctuations. The populations in the second locality are extremely numerous.

61. *Ophrys insectifera* L.

Bu Valley of River Struma (*Northern*): Zemen Gorge, N of Skakavitsa Railway Station, Kyustendil district, on the border of open woodland of *Quercus*, *Fraxinus ornus*, *Carpinus orientalis* and in an open grassy place with *Neotinea tridentata*, 573 m, 42.451154°N, 22.709346°E, 15–18 specimens, 04.05.2018; *loc. ibid.*, more than 20 specimens, 17.05.2019 & 12.05.2020, *L. Domozetski* obs. (Fig. 20).

— Rhodopi Mts (*Central*): NE of Laki town, NW of Belitsa village, Plovdiv district, on the border of conifer woodland, *ca.* 644 m, 41.835889°N, 24.862194°E, three specimens, 05.05.2018, *L. Domozetski* obs. (Fig. 21).

This is a species with an extremely limited distribution in Bulgaria and considered as 'Critically Endangered' for the country (Petrova 2009: 69, 2015). The species

Fig. 18. *Ophrys apifera*, NE of Kulata village (photo L. Domozetski).

Fig. 19. *Ophrys apifera*, between Novo Hodzhovo and Piperitsa villages (photo L. Domozetski).

Fig. 20. *Ophrys insectifera*, Valley of River Struma region (photo L. Domozetski).

Fig. 21. *Ophrys insectifera*, Rhodopi Mts (*Central*) region (photo L. Domozetski).

is known from Znepole region (Mt Golo Burdo) and Rhodopi Mts (*Western*, *Central*) (Assyov & Petrova 2012: 295; Popatanasov 2014: 294; Petrova 2015). Recently, it has been reported from Mt. Dragoevska, Veliki Preslav Municipality, in the floristic region of Northeast Bulgaria (Zahariev & Taneva 2017: 117). *Ophrys insectifera* is a new species for the Valley of River Struma (*Northern*) region. It is already reported for the Rhodopi Mts, but the present record concerns a different part of this floristic region.

62. *Ophrys mammosa* Desf.

Bu West Frontier Mts: Mt. Vlahina, in dry grassy place along the road to Frolosh village, Kyustendil district, *ca.* 707 m, 42.133816°N, 22.936699°E, a small population with less than 10 specimens, 28.04.2019, *L. Domozetski* obs.(Fig. 22); Mt. Vlahina, NW of Leshko village, Blagoevgrad district, in a dry grassy place on the border of open woodland, *ca.* 884 m, 41.947567°N, 22.928999°E, a small population with 6–8 specimens, 29.04.2021, *L. Domozetski* obs.

— Valley of River Struma (*Southern*): N of

Fig. 22. *Ophrys mammosa*, West Frontier Mts (photo L. Domozetski).

Kozhuh hill, on dry grassy hills, along the road to Rupite locality, Blagoevgrad district, *ca.* 112 m, 41.470873°N, 23.255724°E, a numerous population with hundreds of specimens, 11.04.2020, *L. Domozetski* obs. (Fig. 23); Kresna Gorge, N of Kresna town, Blagoevgrad district, on the border of open woodland, *ca.* 196 m, 41.737790°N, 23.154988°E, three specimens, 17.04.2020, *L. Domozetski* obs. (Fig. 24); Kresna Gorge, N of Kresnensko Hanche locality, Blagoevgrad district, in open woodland, *ca.* 240 m, 41.789796°N, 23.160009°E, a single specimen, 25.04.2021, *L. Domozetski* obs.

— Valley of River Mesta: S of Slashten village, Blagoevgrad district, close to river Mesta, in a grassy place, *ca.* 428 m, 41.472658°N, 24.008331°E, three specimens, 15.04.2018, *G. Manolev* & *L. Domozetski* obs.

This is a species with local distribution in Bulgaria, considered as 'Vulnerable' for the country (Petrova 2009: 85). According to Assyov & Petrova (2012: 295), the species is known from the following floristic regions: Black Sea Coast (*Northern*), Danubian Plain, Northeast Bulgaria, Forebalkan (*Western*, *Eastern*), Balkan Range (*Western*, *Central*, *Eastern*), Valley of River Struma (*Southern*), Mt. Belassitsa, Mt. Slavyanka, Pirin Mts (*Northern*, *Southern*), Rhodopi Mts (*Central*, *Eastern*), Thracian Lowland, Tundzha Hilly Country, and Mt. Stranzdha. *Ophrys mammosa* is a new species for the West Frontier Mts and Valley of River Mesta. It has already been reported for the Valley of River Struma. The authors report the localities in this floristic region because data about the distribution of this species in this region are limited (Petrova & al. 2016: 445). The population N of Kozhuh hill is extremely numerous.

Some scholars do not accept the existence of the species *O. mammosa* and consider it as a subspecies of *Ophrys sphegodes* Mill. (Pedersen & Faurholdt 2007: 191-192, etc.). Other scholars consider *O. mammosa* a separate species, part of the large '*mammosa*' group of different species (Delforge 2006: 554; Antonopoulos 2009: 270-271). Here, the authors accept the perception of *O. mammosa* as a separate species. Probably in the past, some records about the distribution of *O. mammosa* in Bulgaria refer to other related species. New studies are needed to establish the distribution of the species in the country.

Fig. 23. *Ophrys mammosa*, N of Kozhuh hill (photo L. Domozetski).

Fig. 24. *Ophrys mammosa*, Kresna Gorge (photo L. Domozetski).

63. *Spiranthes spiralis* (L.) Chevall.

Bu Valley of River Struma (*Southern*): Northern slope of Pchelina hill, N of General Todorov village, Blagoevgrad district, in open grassy places among scrubs of *Paliurus spina-christi*, 41.466600°N, 23.276409°E, 22.09.2020, *L. Domozetski* obs. (Fig. 25).

Considered as 'Vulnerable' for the country (Petrova 2009: 87). According to Assyov & Petrova (2012: 396), this species is known from most floristic regions, without the Valley of River Struma, Valley of River Mesta and Northeast Bulgaria. The present record is the first for the Valley of River Struma floristic region. More than 20 specimens have been observed.

64. *Traunsteinera globosa* (L.) Rchb.

Bu Rila Mts: W of Makedonia chalet, Blagoevgrad district, in grassy alpine vegetation, *ca.* 2170 m, 42.048412°N, 23.437883°E, five specimens, 06.07.2020, *L. Domozetski* obs. (Fig. 26)

The species is considered as 'Critically Endangered' for the country (Petrova 2009: 71; 2015). According to Assyov & Petrova (2012: 418), this species is known from the following floristic regions: Forebalkan (*Western*), Balkan Range (*Western*, *Central*) and Mt. Vitosha. Recently, it has been reported from the Rila Mts (Petrova & al. 2018: 423). The authors report a second locality in the Rila Mts floristic region of this rare orchid for the Bulgarian flora.

Fig. 25. *Spiranthes spiralis* (photo L. Domozetski).

Fig. 26. *Traunsteinera globosa* (photo L. Domozetski).

Reports 65–67

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Asteraceae

65. *Petasites hybridus* (L.) G. Gaertn., B. Mey. & Scherb. [syn. *P. officinalis* Moench] (Figs. 27–29).

Gr Nomos Messinias, Eparchia Trifilias: near village of Abeliona, at Tritseli vrisi (spring), dried-up streambed, 770 m, 37°26'N, 21°57'E, 27.05.2021, *Kit Tan*, *G. Vold* & *Giannopoulos* obs.

New for the Peloponnese, previously recorded only from mainland Greece and Kerkira (see Fig. 29). The

Fig. 27. *Petasites hybridus*, infrutescence and leaves (photo K. Giannopoulos).

Fig. 28. Hermes wearing '*petasos*' (on Macedonian coin 400 BC).

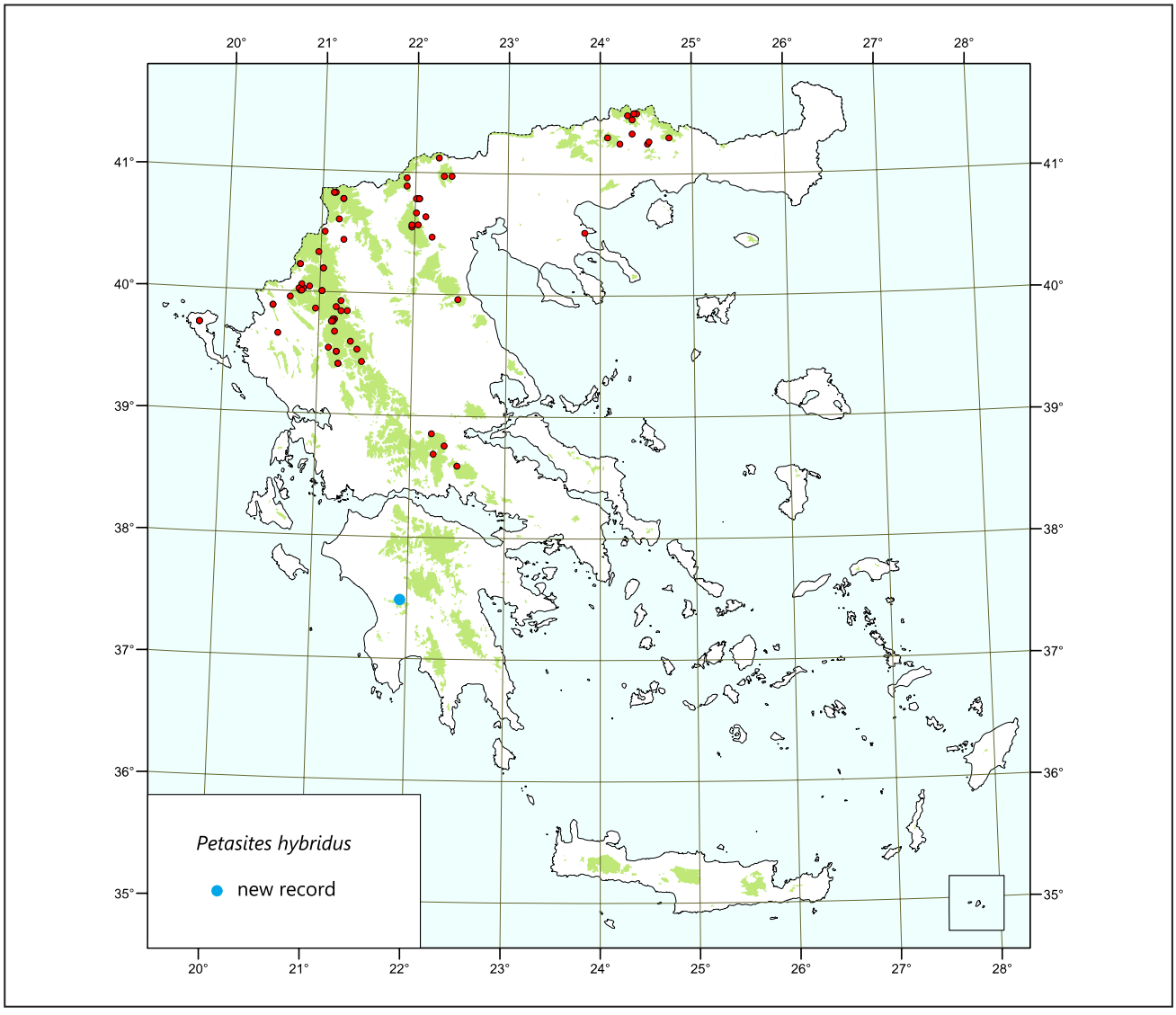

Fig. 29. Distribution of *Petasites hybridus* in Greece.

generic name is derived from the Greek word '*petasos*' meaning 'a low-crowned broad-brimmed hat', referring to the enormous leaves which reached *ca.* 1 m in the specimens observed. The winged hat of the Greek god Hermes (Mercury) is depicted on the coinage of Kapsa, an ancient city (*ca.* 400 BC), with a site probably near the silver mines 20 km E–SE of Thessaloniki (Fig. 28).

Trifonas Athanasopoulos, former mayor of Andritsaina, provided us with the location of these 'strange' large-leaved plants which he had never seen before in the Peloponnese. Stavros Stavropoulos, a mathematician from the area, confirmed that plants have existed in the valley for decades and were called 'platomantiles' by local people. The plants are dioecious with male and female flowers borne on separate plants. The growth is dense, vigorous and invasive, shading out all other plants in the streambed.

Fabaceae

66. *Glycyrrhiza glabra* L. [syn. *G. glandulifera* Waldst. & Kit.] (Figs. 30–32)

Gr Nomos & Eparchia Ilias: at edge of Lake Pinios, 110 m, 37°53'N, 21°27'E, flowering, 22.05.2021, *Giannopoulos* obs.; Gastouni, 10 m, 37°51'N, 21°15'E, 22.05.2021, *Giannopoulos* obs.; in vicinity of the town of Pyrgos, widespread and common, 18 m, 37°41'N, 21°24'E, 12.06.2021, *Kit Tan*, *G. Vold* & *Giannopoulos* obs.

Fig. 30. *Glycyrrhiza glabra* (photo K. Giannopoulos).

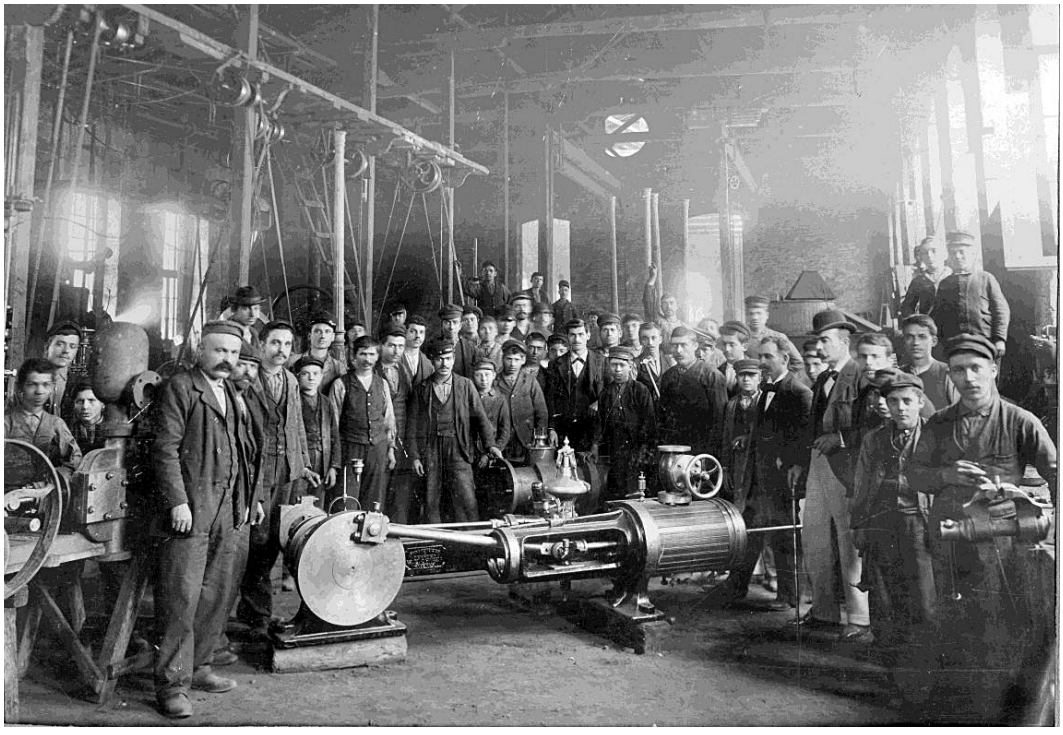

Fig. 31. Opening of the *Glycyrrhiza* processing factory 'S. Spiliopoulos & Co.' in 1898 (courtesy of Chamber of Commerce, Ileia 2020).

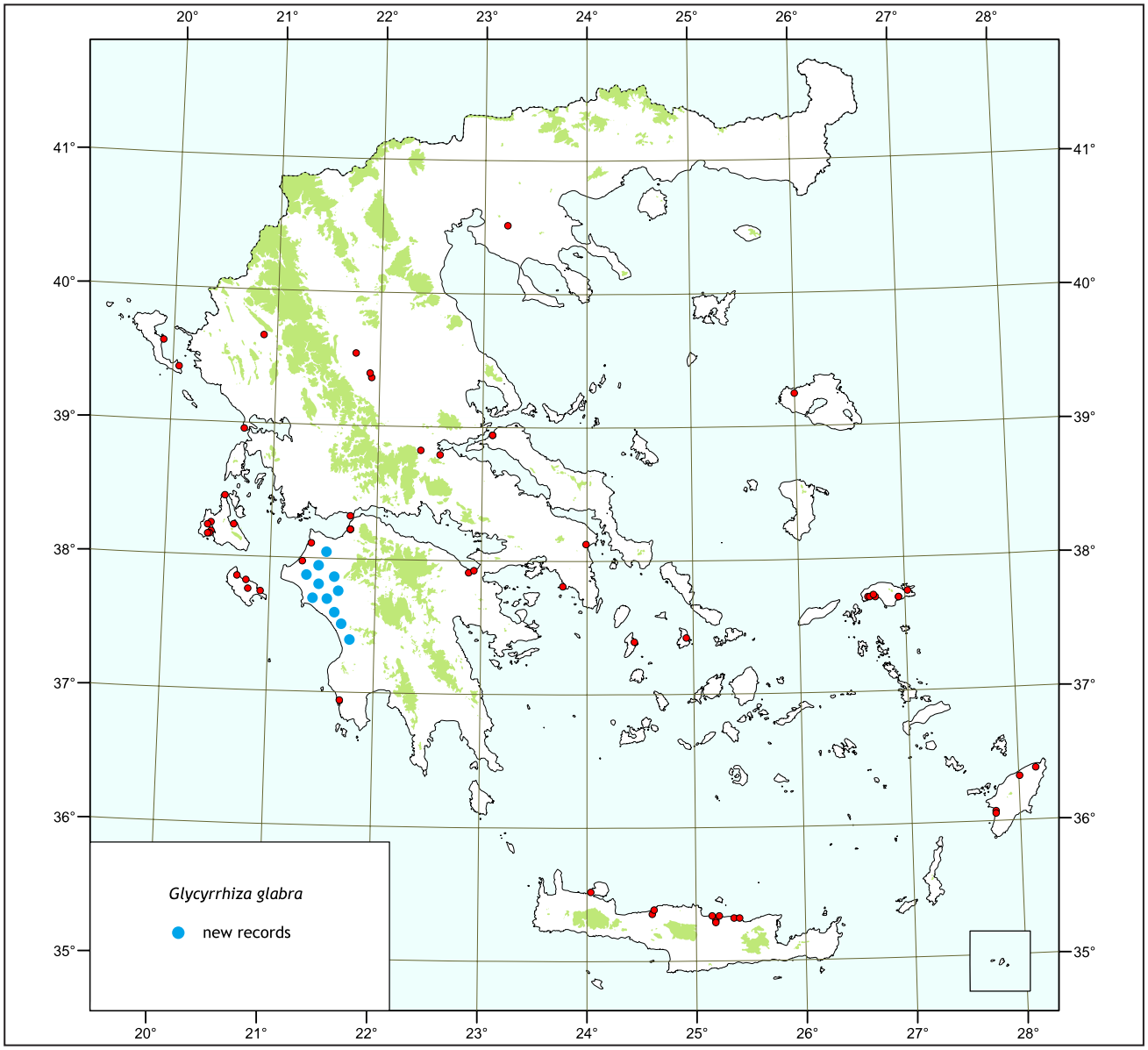

Fig. 32. Distribution of *Glycyrrhiza glabra* in Greece, showing new records.

— Nomos Ilias, Eparchia Olimbias: S of Zacharo town, edge of cultivated and uncultivated fields, 10 m, 37°28'N, 21°38'E, 06.06.2021, *Giannopoulos* obs.

New records are provided for Nomos Ilias. Recorded from all phytogeographical regions except N Central, E Central and the N Aegean islands. Occuring in ruderal habitats near villages and towns, cultivated and uncultivated fields, damp ditches, coastal areas, from sea level to 740 m, flowering March to October. Native and widespread in Mediterranean area and temperate Asia, naturalized elsewhere.

Herbaceous perennial with pubescent stems 50–100 cm. Leaflets elliptic-ovate to oblong, obtuse, viscid. Racemes lax, elongating in fruit. Standard pale lilac or violet. Legume compressed, glabrous or glandular-setose.

Cultivated for its edible roots from which liquorice is obtained, the Greek word '*glykys*' meaning 'sweet'.

Bory & Chaubard (1832: 216) writes that plants are widely distributed in the lowland areas of Laconia and Mani especially in the area of Gialova, north of Pylos (Nomos Messenias, Eparchia Pilias) and that 'La racine de cette plante fut d'une grande utilité pour nos hôpitaux, lors de l'épidémie du camp de malheur'.

A factory for processing the raw material which was abundant in the area of Gastouni in northeast Ilias was established in 1898 by two brothers, Stavros and Theodoros Spiliopoulos (Fig. 31, Chamber of

Commerce, Ileia 2020). The roots were boiled, the extract solidified and exported from the port of Patras to England and Austria in the form of small rods, mainly for medicinal and confectionary use. Unfortunately the factory was in operation for only two to three years and collapsed due to stiff competition from foreign entrepreneurs. The plot of land with the warehouse was then purchased by McAndrews & Forbes who bought and packed the plant material from the plains of Ilias, and exported it raw to England, N America and France (Marseilles) via the port of Kyllini where the company had offices and storage facilities. The *glycyrrhiza* roots from Ilias are said to be of exceptional quality and treasured in Italian commerce. There was some interest in reviving the industry after 1980 as the plants still grow in vast quantities in Ilias but nowadays it is treated as an unwanted and invasive plant, difficult to eradicate because of its spreading roots.

Glycyrrhiza echinata L. is also cultivated in SE Europe as a source of liquorice but not in Greece. It is distinguished from *G. glabra* by its racemes which remain capitate in flower and fruit; it has only once been recorded from the Peloponnese, near Patras (Friedrichsthal 1838).

Liliaceae

67. *Lilium candidum* L. (Fig. 33)

Gr Nomos Ilias, Eparchia Olimbias, roadside near village of Andritsaina, 740 m, 37°29'N, 21°54'E, 27.05.2021, *Kit Tan*, *G. Vold* & *Giannopoulos* obs.; Mt Lapithas, above village of Smerna, in shelter of *Quercus* shrubs on exposed rocky limestone slope, 760 m, 37°33'N, 21°40'E, 12.06.2021, *Kit Tan*, *G. Vold* & *Giannopoulos* obs.

New for nomos and eparchia. The pure white Madonna lily has been planted for its fragrance and symbolic value since antiquity and plants at the outskirts of Andritsaina may have persisted as remnants of cultivation. The Mt Lapithas plants however, are probably native as elsewhere on open limestone rock in the Peloponnese. Spiny-leaved *Quercus coccifera* shrubs protect the small populations on Lapithas to some extent from being picked; there are also small trees of *Q. calliprinos* in the vicinity. The latter falls within the variation of *Q. coccifera* and is best treated as an arborescent, entire-leaved form of it. Large individuals with trunk diameter of more than 1 metre have been noted near chapels in the Peloponnese when they have escaped being 'goated' at a juvenile stage.

Reports 68–104

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This is the fifth report of species new for the prefecture of Kilkis in NE Greece. Previous contributions appeared in Phytologia Balcanica 25(2): 211-215 (Ioannidis & al. 2019), 26(2): 195-197 (Ioannidis & al. 2020a), 26(2):197-200 (Ioannidis & al. 2020b) and 27(1):135-136 (Ioannidis & al. 2021). Field work has been carried out by the first two authors. Identifications have been confirmed by the third author, based on photographs of whole plants and diagnostic details.

Pteridaceae

68. *Paragymnopteris marantae* (L.) K.H. Shing

Gr Nomos Kilkis, Eparchia Kilkis: Gavra Kilkis, woodland and scrub, 515 m, 41°11'5.03"N, 22°50'47.66"E, 03.03.2013, *Ioannidis* obs.

Fig. 33. *Lilium candidum* from Mt Lapithas (photo K. Giannopoulos).

Pinaceae

69. *Pinus halepensis* Mill.

Gr Nomos Kilkis, Eparchia Kilkis: Ai Giorgis hill. Cliffs, rocks, boulders, ravines, 250 m, 41°0'9.8"N, 22°52'32,9"E, 09.12.2015, *Ioannidis* obs.

70. *Pinus heldreichii* Christ.

Gr Nomos Kilkis, Eparchia Kilkis: Mt Kerkini, high mountain vegetation, 1708 m, 41°20'15.88"N, 22°51'5.41"E, 03.04.2016, *Ioannidis* obs.

Pinus heldreichii, the panzer pine, forms the timberline on Olimbos and some mountains in Northern Pindos. It is rare in NE Greece, but has been previously reported from Orvilos and Vrondous.

71. *Pinus pinea* L.

Gr Nomos Kilkis, Eparchia Kilkis: Kilkis, temperate and submediterranean grassland, 223 m, 41°1'1.7"N, 22°50'40.18"E, 29.04.2016, *Ioannidis* obs.

In Greece probably native only in NW Peloponnisos, otherwise planted and sometimes naturalized.

72. *Pinus sylvestris* L.

Gr Nomos Kilkis, Eparchia Kilkis: Mt Kerkini, high mountain vegetation, 1455 m, 41°20'20"N, 22°49'12"E, 24.05.2020, *Ioannidis* obs.

Asclepiadaceae

73. *Vincetoxicum hirundinaria* subsp. ***nivale*** (Boiss. & Heldr.) Markgr.

Gr Nomos Kilkis, Eparchia Paeonias: between Skra and Xamilo village, woodland and scrub, 345.4m, 41°7'14.6"N , 22°22'22.9"E, 06.05.2021, *Ioannidis* obs.

Apiaceae

74. *Pastinaca hirsuta* Pančić

Gr Nomos Kilkis, Eparchia Kilkis: Lake Doirani, freshwater habitats, 151 m, 41°12'54.99"N, 22°47'15.87"E, 03.05.2017, *Ioannidis* obs.

75. *Pastinaca sativa* L.

Gr Nomos Kilkis, Eparchia Paeonias: Goumenissa, temperate and submediterranean grassland, 238 m, 40°56'58.25"N, 22°26'44.85"E, 18.09.2012, *Ioannidis* obs.

Asteraceae

76. *Jurinea mollis* (L.) Rchb. subsp. ***mollis***

Gr Nomos Kilkis, Eparchia Paeonias: Skra, woodland and scrub, 385 m, 41°5'46.8"N, 22°25'20.1"E, 01.06.2015, *Ioannidis* obs.

77. *Leucanthemum vulgare* (Vaill.) Lam.

Gr Nomos Kilkis, Eparchia Paeonias: Skra, woodland and scrub, 787 m, 41°5'37.62"N, 22°20'39.82"E, 01.06.2015, *Ioannidis* obs.

78. *Onopordum acanthium* L.

Gr Nomos Kilkis, Eparchia Kilkis: Pontoiraklia, temperate and submediterranean grassland, 64 m, 41°4'8.09"N, 22°38'6.69"E, 01.06.2015, *Ioannidis* obs.

79. *Onopordum tauricum* Willd.

Gr Nomos Kilkis, Eparchia Kilkis: Kato Theodoraki, woodland and scrub, 623 m, 41°8'38.28"N, 23°1'28.42"E, 06.07.2014, *Ioannidis* obs.

80. *Ptilostemon strictus* (Ten.) Greuter

Gr Nomos Kilkis, Eparchia Paeonias: Karpi, Mt Paiko, woodland and scrub, 514 m, 40°59'24.22"N, 22°24'47.03"E, 13.07.2014, *Ioannidis* obs.

Boraginaceae

81. *Cerinthe retorta* Sm.

Gr Nomos Kilkis, Eparchia Kilkis: Mt Kamila, cliffs, rocks, boulders, ravines, 550 m, 40°59'51.9"N, 22°57'33.2"E, 15.04.2014, *K. Kostantinidis* obs.

82. *Echium maculatum* L.

Gr Nomos Kilkis, Eparchia Paeonias: Between Skra and Xamilo village, woodland and scrub, 331.7m, 41°4'50.4"N , 22°22'35.2"E, 06.05.2021, *Ioannidis* obs.

A considerable westward extension for this species which in Greece was previously known only from higher altitude on Mt Falakron. Plants from Greece and elsewhere in the Balkans have previously been reported under the name *E. russicum* J. F. Gmel. It has been proposed to refer this species to the monotypic genus *Pontechium*, as *P. maculatum* (L.) Böhle & Hilger, but there is little or no morphological evidence for this split.

Brassicaceae

83. *Lepidium perfoliatum* L.

Gr Nomos Kilkis, Eparchia Kilkis: Lake Pikrolimni, freshwater habitats, 44 m, 40°50'31.2"N, 22°49'9.01"E, 26.03.2014, *Ioannidis* obs.

Rare in Greece, with a patchy distribution.

Caryophyllaceae

84. *Dianthus aridus* Griseb. ex Janka

Gr Nomos Kilkis, Eparchia Kilkis: Dried-

out lake Amatovou, freshwater habitats, 55 m, 40°54'42.38"N, 22°42'43.16"E, 11.09.2012, *Ioannidis* obs.

S & SE Bulgaria; rare in Greece and only recently discovered.

Dipsacaceaee

85. ***Pterocephalus plumosus*** (L.) Coult.

Gr Nomos Kilkis, Eparchia Kilkis: Mt Kamila, temperate and submediterranean grassland, 477 m, 40°49'50.61"N, 22°57'42.75"E, 02.06.2012, *Ioannidis* obs.

Euphorbiaceae

86. ***Mercurialis annua*** L.

Gr Nomos Kilkis, Eparchia Kilkis: Ai Giorgis hill, cliffs, rocks, boulders, ravines, 347 m, 41°0'6.84"N, 22°52'25.93"E, 20.02.2011, *Ioannidis* obs.

Fabaceae

87. ***Vicia bithynica*** (L.)

Gr Nomos Kilkis, Eparchia Paeonias: Skra, woodland and scrub, 365 m, 41°4'50.8"N , 22°22'35.7"E, 06.05.2021, *Ioannidis* obs.

Hypericaceae

88. ***Hypericum thasium*** Griseb.

Gr Nomos Kilkis, Eparchia Kilkis: Pikrolimni, freshwater habitats, 50 m, 40°50'56.0"N , 22°48'34.7"E, 25.05.2021, *Ioannidis* obs.

A considerable westward extension for this rare regional endemic.

Lamiaceae

89. ***Lamium bifidum*** Cirillo subsp. ***bifidum***

Gr Nomos Kilkis, Eparchia Kilkis: Megali Sterna, temperate and submediterranean grassland, 290 m, 41°8'26.28"N, 22°43'8.94"E, 07.04.2012, *Ioannidis* obs.

90. ***Mentha pulegium*** L.

Gr Nomos Kilkis, Eparchia Kilkis: Theodosia, Mt Mavrovouni, woodland and scrub, 729 m, 40°59'28.16"N, 23°7'14.35"E, 20.09.2012, *Ioannidis* obs.

91. ***Micromeria cristata*** (Hampe) Griseb.

Gr Nomos Kilkis, Eparchia Paeonias: Karpi, Mt Paiko, xeric mediterranean phrygana and grassland, 172 m, 40°57'30.49"N, 22°26'38.19"E, 13.07.2014, *Ioannidis* obs.

92. ***Nepeta cataria*** L.

Gr Nomos Kilkis, Eparchia Kilkis: Eleftherochori Kilkis, freshwater habitats, 130 m, 41°0'59.81"N, 22°44'16.64"E, 23.07.2014, *Ioannidis* obs.

Parnassiaceae

93. ***Parnassia palustris*** L.

Gr Nomos Kilkis, Eparchia Paeonias: Mt Paiko, high mountain vegetation, 1149 m, 40°59'26.03"N, 22°18'58.67"E, 26.08.2012, *Ioannidis* obs.

Phytolaccaceae

94. ***Phytolacca americana*** L.

Gr Nomos Kilkis, Eparchia Kilkis: Lake Doirani, freshwater habitats, 143 m, 41°14'28.95"N, 22°46'10.85"E, 16.09.2011, *Ioannidis* obs.

Plantaginaceae

95. ***Plantago argentea*** Chaix

Gr Nomos Kilkis, Eparchia Paeonias: Between Skra and Xamilo village, woodland and scrub, 345.5m, 41°7'14.7"N , 22°22'22.9"E, 06.05.2021, *Ioannidis* obs.

Portulacaceae

96. ***Montia arvensis*** Wallr.

Gr Nomos Kilkis, Eparchia Kilkis: Kastanies Kilkis, xeric mediterranean phrygana and grassland, 130 m, 41°0'59.81"N, 22°44'16.64"E, 17.03.2018, *Ioannidis* obs.

Rosaceae

97. ***Prunus dulcis*** (Mill.) D.A. Webb

Gr Nomos Kilkis, Eparchia Kilkis: Ai Giorgis hill, cliffs, rocks, boulders, ravines, 352 m, 41°0'2.95"N, 22°52'30.19"E, 18.02.2016, *Ioannidis* obs.

98. ***Prunus webbii*** (Spach) Vierh.

Gr Nomos Kilkis, Eparchia Kilkis: Megali Sterna, woodland and scrub, 365 m, 41°7'38.24"N, 22°43'10.65"E, 07.05.2016, *Ioannidis* obs.

Santalaceae

99. ***Comandra umbellata*** subsp. ***elegans*** (Spreng.) Piehl

Gr Nomos Kilkis, Eparchia Paeonias: Between Skra and Xamilo village, woodland and scrub, 345.5m, 41°5'41.8"N , 22°24'56.4"E, 06.05.2021, *Ioannidis* obs.

100. ***Osyris alba*** L.

Gr Nomos Kilkis, Eparchia Paeonias: Axios

river, freshwater habitats, 35 m, 41°1'6.37"N, 22°33'6.97"E, 20.05.2011, *Ioannidis* obs.

Veronicaceae

101. *Gratiola officinalis* L.

Gr Nomos Kilkis, Eparchia Paeonias: Near the village Fanos, woodland and scrub, 270 m, 41°3'44.6"N , 22°29'24.4"E, 25.05.2021, *Ioannidis* obs.

Poaceae

102. *Aegilops cylindrica* Host

Gr Nomos Kilkis, Eparchia Paeonias: Goumenissa, temperate and submediterranean grasslands, 241m, 40°55'37.3"N , 22°27'24.7"E, 20.05.2021, *Ioannidis* obs.

This species is fairly rare and scattered in Greece. The new record fills a large void in its distribution area.

103. *Mibora minima* (L.) Desv.

Gr Nomos Kilkis, Eparchia Kilkis: Kavallaris, temperate and submediterranean grassland, 326 m, 41°17'15.93"N, 22°47'19.59"E, 22.03.2014, *Ioannidis* obs.

Fairly rare in Greece, with a patchy distribution.

104. *Phalaris paradoxa* L.

Gr Nomos Kilkis, Eparchia Kilkis: Lake Pikrolimni, freshwater habitats, 62 m, 40°51'11.53"N, 22°48'39.51"E, 21.06.2014, *Ioannidis* obs.

Fig. 34. *Heracleum sosnowskyi*, Mirkovo village, Bulgaria (photo *T. Karakiev*)

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Apiaceae

105. *Heracleum sosnowskyi* Manden. (Fig. 34)

BG Sofia region: Mirkovo village, near a river in the village, 729 m, 42°41'58.05"N, 23°59'22.18"E, 18.08.2017, *T. Karakiev* obs. (photo).

This species grows in a wet and ruderal place near a small river in the village. It has been recently reported for Bulgaria from the Rhodopi Mts (*Western*) floristic region (Vladimirov & al. 2019).

Reports 106–108

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Orchidaceae

106. *Anacamptis papilionacea* (L.) R.M. Bateman, Pridgeon & M.W. Chase [syn.: *Orchis papilionacea* L.]

Bu Valley of River Struma (*Southern*): in a small dry grassy valley not far away from road 198 from Chuchuligovo to Vranya villages, Blagoevgrad district, 110 m, 41°24'N, 23°22'E, 16.05.2021, with flowers, *A. Popatanasov* obs. (Fig. 35).

The species was collected and reported from this floristic region more than 15 years ago, with a single observed specimen about 4 km away from this location (Petrova & al. 2007). Here, its presence in the region is confirmed and expanded. Probably, due to the extreme rarity of this species now in this part of the country, chorological data were absent until the beginning of the 21st century, according to the study of Gerasimova & al. (2002) dedicated to this species. Recently, the species was also reported from the adjacent floristic regions of Mt. Slavyanka and Pirin Mts, with rather low-numbered populations of less than 10 individuals (Popatanasov 2015a,b; Kunev 2018). Thus, with a total of 12 individuals the current population seems to be the largest known in the entire Blagoevgrad district.

The population is located in an unprotected area, not far from the here reported another endangered orchid species, *Serapias vomeracea*, and is exposed to biotic and anthropogenic activities, such as grazing by

local herds. This places it in relatively vulnerable and endangered state and condition. In fact, most flowers were eaten or damaged by animals. The species is protected by the Biodiversity Act (Biodiversity Act of Republic Bulgaria, 2017).

107. *Ophrys apifera* Huds.

Bu Valley of River Struma (*Southern*): grassy hill near Chuchuligovo village, along road 198, Blagoevgrad district, 90 m, 41°24'N, 23°21'E, 16.05.2021, with flowers and fruits, *A. Popatanasov* obs. (Fig. 36).

The report confirms and complements the chorological data on the species from this floristic region recently discovered by V. Vladimirov (2014). The plants inhabit the northwestern xerophytic slopes of a small (approx. 30 m high) hill, which some decades ago seems to have been abandoned arable land close to Chuchuligovo village. The habitat can be classified as 6210 – Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia), which belongs to the important orchid sites (Kavrakova & al. 2009). The population comprises over 25 individuals, mostly generative, which makes it one of the largest known in the country (Popatanasov 2014; Petrova 2015).

Other species from the same family found in this area are *Anacamptis morio*, *A. pyramidalis* and *Ophrys mammosa*.

Although the species has already been reported from several regions of the country, the number of locations is rather low (approx. 15) and the populations, as a rule, are tiny, occupying a rather small area of less than half ha and greatly disjunctive, which puts great stress on the perspectives of the species survival (Petrova 2015). Therefore, the species has been assigned a status of 'Endangered' and is included in the *Red Book* and *Red List of the Republic of Bulgaria* and protected by the Biodiversity Act (Petrova 2009, 2015). The population is located in an unprotected area and is exposed to anthropogenic activities, such as grazing by the local herds, which places it in a relatively vulnerable and endangered state and condition.

Fig. 35. *Anacamptis papilionacea* (photo A. Popatanasov).

Fig. 36. *Ophrys apifera* (photo A. Popatanasov).

108. *Serapias vomeracea* (Burm.) Briq.

Bu Valley of River Struma (*Southern*): In a small dry grassy valley, not far from road 198 from Chuchuligovo to Vranya villages, Blagoevgrad district, 110 m, 41°25'N, 23°22'E, 16.05.2021, with flowers, *A. Popatanasov* obs. (Fig. 37).

The population consists of three plants: one in a flowering phase, while the other two in close proximity to the former have dried out and their above-ground organs have died before flowering, but whose morphology resembles that one of the species. For decades this species was known only from the farthest southeastern parts of the country, in few isolated locations from the south Black Sea Coast (*Southern*), Mt Strandzha and eastern parts of the Rhodopi Mts (*Eastern* – all locations in that mountain are on the territory of Ivaylovgrad Municipality). There is a more than a half-century-old report of a single location in the western parts of the country in Mt. Slavyanka; however, the attempts to confirm it (including by the author) so far have been fruitless and its status is still unconfirmed (Stojanov 1964; Petrova 2015).

Fig. 37. *Serapias vomeracea* (photo A. Popatanasov).

Thus, at the moment, the here reported location is the only currently known (confirmed) one in the western part of the country.

The species is new for this floristic region. The population grows at the bottom of a small valley, on relatively sandy soil prone to dryness. Regardless of the fact that the entire region until some decades ago has been used intensely for agriculture, it seems that the flora is well preserved, considering the unusual abundance of the other orchid species in the nearby grassland.

The species is assigned an 'Endangered' status, it is protected by the Biodiversity Act, CITES and is included in the *Red List* and *Red Book of Bulgaria* (Petrova 2009, 2015). The area is unprotected, but considering the very unusual presence of rather large orchid populations (some of which are protected species) and the presence of this endangered species, it seems worthwhile to include the site at least in the Natura 2000 network. Further monitoring is needed to determine better the wellbeing and the size of the population, since it is known that orchids can remain dormant under unfavourable conditions.

Reports 109–124

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Apiaceae

109. *Chaerophyllum nodosum* (L.) Crantz

Gr Nomos & Eparchia Kerkiras: island of Kerkira, Mt Pantokrator, near Strinilas village, rocky limestone slopes with remnants of woodland, 650 m, 36°44'N, 19°50'E, 21.05.2021, *Strid* photo.

New for the Ionian islands, fairly widespread on the Greek mainland.

110. *Torilis africana* Spreng.

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, along track between the town and the monastery of Ag. Georgios, rocky limestone slopes and phrygana, 50–150 m, 36°08'N, 29°37'E, 13.05.2021, *Strid* 60650 (UPA).

New for the Kastellorizo island group, otherwise widespread in the Aegean area.

Asteraceae

111. *Anacyclus clavatus* (Desf.) Pers.

Gr Nomos Dodekanisou, Eparchia Rodou: island of Rodos, 2 km W of Salakos, edge of olive grove, 200 m, 36°17'N, 27°56'E, 09.05.2021, *Strid* 60604 (UPA).

New for Rodos, nearest Greek localities are on Samos. Superficially resembling *Anthemis tomentosa*, but with characteristic winged achenes.

112. *Crepis multiflora* Sm.

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, Mandraki harbour, ruderalized coastal habitats and remnants of phrygana, 0–5 m, 36°08'N, 29°37'E, 13.05.2021, *Strid* 60662 (UPA).

New for the Kastellorizo island group, but otherwise widespread in the Aegean area.

113. *Onopordum boissierianum* Raab-Straube & Greuter (Fig. 38)

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, outskirts of the town, phrygana and somewhat ruderalized habitats, 0–50 m, 36°08'N, 29°37'E, 12.05.2021, *Strid* 60635 (UPA, herb. Strid).

Fig. 38. *Onopordum boissierianum* (photo A. Strid).

New for the Kastellorizo island group, otherwise known from a small area on Rodos and adjacent parts of SW Anatolia.

Boraginaceae

114. *Heliotropium dolosum* Kunth

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, along track between the town and the monastery of Ag. Georgios, rocky limestone slopes and phrygana, 50–150 m, 36°08'N, 29°37'E, 13.05.2021, *Strid* 60652 (UPA).

New for the Kastellorizo island group, otherwise common in the Aegean area.

Caryophyllaceae

115. *Dianthus muglensis* Hamzaoğlu & Koç

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, town of Megisti, by the castle and the Lycian rock tomb, forming large, lax cushions in semi-shaded limestone cliffs, 10–40 m, 36°08'N, 29°37'E, 14.05.2021, *Strid* 60683 (B, UPA, herb. Strid).

In January 2021 Manolis Manousakis from Rodos sent photos of a *Dianthus* from Mt Akramitis which had been tentatively identified as *D. elegans* d'Urv. It differed conspicuously from the latter, mainly by the grass-like leaves, narrow, pale pink, laciniate petals, and later flowering period (mid-August to end of September). Plants collected by Carlström in the same locality on 14th July 1981 (no. 1174, LD) clearly represented the same species; they were in bud and had also been tentatively identified as *D. elegans*. In limestone cliffs on Mt Akramitis are a few other rare local or regional endemics such as *Asyneuma gigantea*, *Centaurea lactucifolia* and *Linum arboreum*. True *Dianthus elegans* occurs at Monte S. Stefano (Monte Smith) near the town of Rodos at the northern tip of the island.

The plants from Mt Akramitis were recognized as representing a new species and a draft description was prepared. However, in March 2021 Hamzaoğlu & Koç independently published *Dianthus muglensis* sp. nov. (previously known as *D. elegans* subsp. *gramineus* R. M. Burton) from a similar habitat in Muğla province in SW Anatolia. The Anatolian plant matched the Rodos plants in its laciniate petals and late flowering

period, and is undoubtedly the same taxon. A gathering from Kastellorizo (*Stamatiadou* 17441, collected by I. Matsos in October 1973; ATH, herb. Strid), originally identified by Greuter as *D. elegans* var. *cous* (Boiss.) Reeve also matched *D. muglensis*. The plants collected on Megisti on 14th May 2021 have old fruits from the previous year; there was no sign of floral buds, and the plants will probably flower in September or October.

Euphorbiaceae

116. *Euphorbia esula* subsp. ***tommasiniana*** (Bertol.) Kuzmanov

Gr Nomos Dodekanisou, Eparchia Rodou: island of Rodos, by the sea W of Rodos town, conglomerate cliffs and somewhat ruderalized habitats, 2–20 m, 36°25'N, 28°13'E, 09.05.2021, *Strid* 60615 (UPA).

In Greece previously known only from a few localities in the far northeast of the mainland. The name is provisional. According to Reichert & al. (2018), the correct name for this taxon is *E. saratoi* Ard. at species level and *E. esula* subsp. *saratoi* (Ard.) P. Fourn. at subspecies level, whereas *E. tommasiniana* Bertol. s. str. (Bertoloni 1842: 78-79) is endemic to the karstic area around Trieste in NE Italy and W Slovenia. *E. esula* s. lat. is a variable and widespread Euro-Siberian species treated as *E. virgata* Waldst. & Kit. in N America where it is considered invasive.

117. *Euphorbia hypericifolia* L.

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, outskirts of the town, phrygana and somewhat ruderalized habitats, 0–50 m, 36°08'N, 29°37'E, 12.05.2021, *Strid* 60642 (UPA, herb. Strid).

New for the Kastellorizo island group. Native of tropical and subtropical America, first recorded in Greece in 2003 and spreading.

118. *Euphorbia serpens* Kunth

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, prostrate along track between the town and the monastery of Ag. Georgios, 50–150 m, 36°08'N, 29°37'E, 13.05.2021, *Strid* 60651 (UPA).

New for the Kastellorizo island group. Native of tropical and subtropical America, widely naturalized elsewhere but rather rare and scattered in the Aegean area.

Fabaceae

119. *Securigera carinata* Lassen

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, along track between the town and the monastery of Ag. Georgios, rocky limestone slopes and phrygana, 50–150 m, 36°08'N, 29°37'E, 13.05.2021, *Strid* 60658 (UPA, herb. Strid).

New for the Kastellorizo island group, otherwise known only from a small area on Rodos, Simi and adjacent parts of SW Anatolia. A little known species often confused with the more widespread *S. parviflora* (Desv.) Lassen, and readily distinguishable from the latter only in fruit.

Solanaceae

120. *Solanum villosum* subsp. ***alatum*** (Moench) Edmonds

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, town of Megisti, more or less ruderalized habitats, *ca.* 30 m, 36°08'N, 29°37'E, 14.05.2021, *Strid* 60674 (UPA, herb. Strid).

New for the Kastellorizo island group, otherwise rather widespread in the Aegean area.

Tamaricaceae

121. *Tamarix parviflora* Sm.

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, Mandraki harbour, somewhat ruderalized coastal habitats and remnants of phrygana, 0–5 m, 36°08'N, 29°37'E, 13.05.2021, *Strid* 60665 (UPA, herb. Strid).

New for the Kastellorizo island group.

Zygophyllaceae

122. *Tribulus terrestris* Sm.

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, Mandraki harbour, somewhat ruderalized coastal habitats and remnants of phrygana, 0–5 m, 36°08'N, 29°37'E, 13.05.2021, *Strid* 60664 (UPA, herb. Strid).

New for the Kastellorizo island group, otherwise widespread in the Aegean area.

Poaceae

123. *Aegilops markgrafii* Sm.

Gr Nomos Dodekanisou, Eparchia Rodou: island of Megisti, Mandraki harbour, somewhat ruderalized coastal habitats and remnants of phrygana, 0–5 m, 36°08'N, 29°37'E, 13.05.2021, *Strid* 60669 (UPA, herb. Strid).

New for the Kastellorizo island group, otherwise widespread in the Aegean area.

124. *Piptatherum miliaceum* (L.) Coss.

Gr Nomos Dodekanisou, Eparchia Rodou: island of

Megisti, town of Megisti, more or less ruderalized habitats. 36°08'N, 29°37'E, 14.05.2021, *Strid* 60679 (UPA, herb. Strid).

New for the Kastellorizo island group, otherwise widespread in the Aegean area.

Reports 125–126

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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).

Iridaceae

125. *Gladiolus communis* L. [syn. G. byzantinus Mill.] (Figs. 39 & 40)

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: Pakia to Elia, near Mallinou bridge, olive *grove, 119 m, 36°46'N, 22°50'E, 05.06.2021, with mature capsules but stems still green, Kit Tan & G. Vold 33196 (ATH); loc. ibid.*, 12.04.2021, flowering, *Kofinas* obs. (photos); near Loutsa, 75 m, 36°49'N, 22°51'E, 16.04.2017, *Kofinas* obs.; by stone walls in olive grove near Electricity Board Office (DEI) of Molai, 129 m, 36°48'N, 22°51'E, *Kofinas* obs. (photos).

New for the Peloponnese. In Flora of Greece Web 2021(http://portal.cybertaxonomy.org/flora-greece/intro) this species is treated as a non-established garden escape and excluded from the flora. However, the large populations existing for more than 50 years in some olive groves of Lakonias indicate established status, as found elsewhere in southern Europe. The plants were growing together with *Delphinium hellenicum*, *Allium trifoliatum*, *Astragalus echinatus*, *Ornithogalum gussonei*, etc. A possibility as to how the plants reached the area around Molai is postulated. In the 1970s many trees of *Eucalyptus camaldulensis* were planted along the roads from Molai to Elia and from Molai to Monemvasia, both for shade and as a windbreak. Fast driving along the roads especially at night led to collision. Among floral tributes laid where the car accidents happened, are *Gladiolus communis*, a popular ornamental. If there were living plants it is possible that the corms established themselves at roadsides and in the adjacent fields. Certain it is that they were not deliberately planted in the olive groves by man. The deep-seated corms (to more than a 30 cm depth) would allow the plants to survive old-fashioned, shallow ploughing for many years. We went along the roads in June 2021 to test our hypothesis. There were no signs of Gladioli established at the roadside, only within the olive groves. Florists informed us that the Gladioli are only sold as cut flowers, without any corms. Thus we can conclude that the plants have not been recently introduced but established for many years as confirmed by an owner of the olive groves.

G. communis is probably more widely distributed in Greece than as presently recorded since it is often mistaken for the widespread *G. italicus* Mill. (syn. *G. segetum* Ker Gawl.), common in arable habitats. The seeds of the latter are, however, un-

Fig. 39. *Gladiolus communis* in olive grove (photo G. Kofinas).

Fig. 40. *Gladiolus communis*: a, flowers (photo G. Kofinas); b, seeds (photo K. Polymenakos).

winged. In Greece, *G. communis* has been reported from the Ionian islands (Kerkira, islet of Peluso near Zakinthos), North Central (Mt Tzena), North East (Mt Cholomondas, Nestos river gorge), North Aegean islands (Samothraki) and the Kiklades (Mikonos, Andros).

Brassicaceae

126. *Aubrieta scyria* Halácsy (Figs. 41 & 42)

Gr Nomos Fokidos, Eparchia Parnassidos: Monastiri, limestone rocks NW of Prosilio, 1001 m, 38°35'N, 22°19'E, 11.07.2020, *Kofinas, Polymenakos* & *Kalentzis* obs. (photos); *loc. ibid*., 28.04.2021,

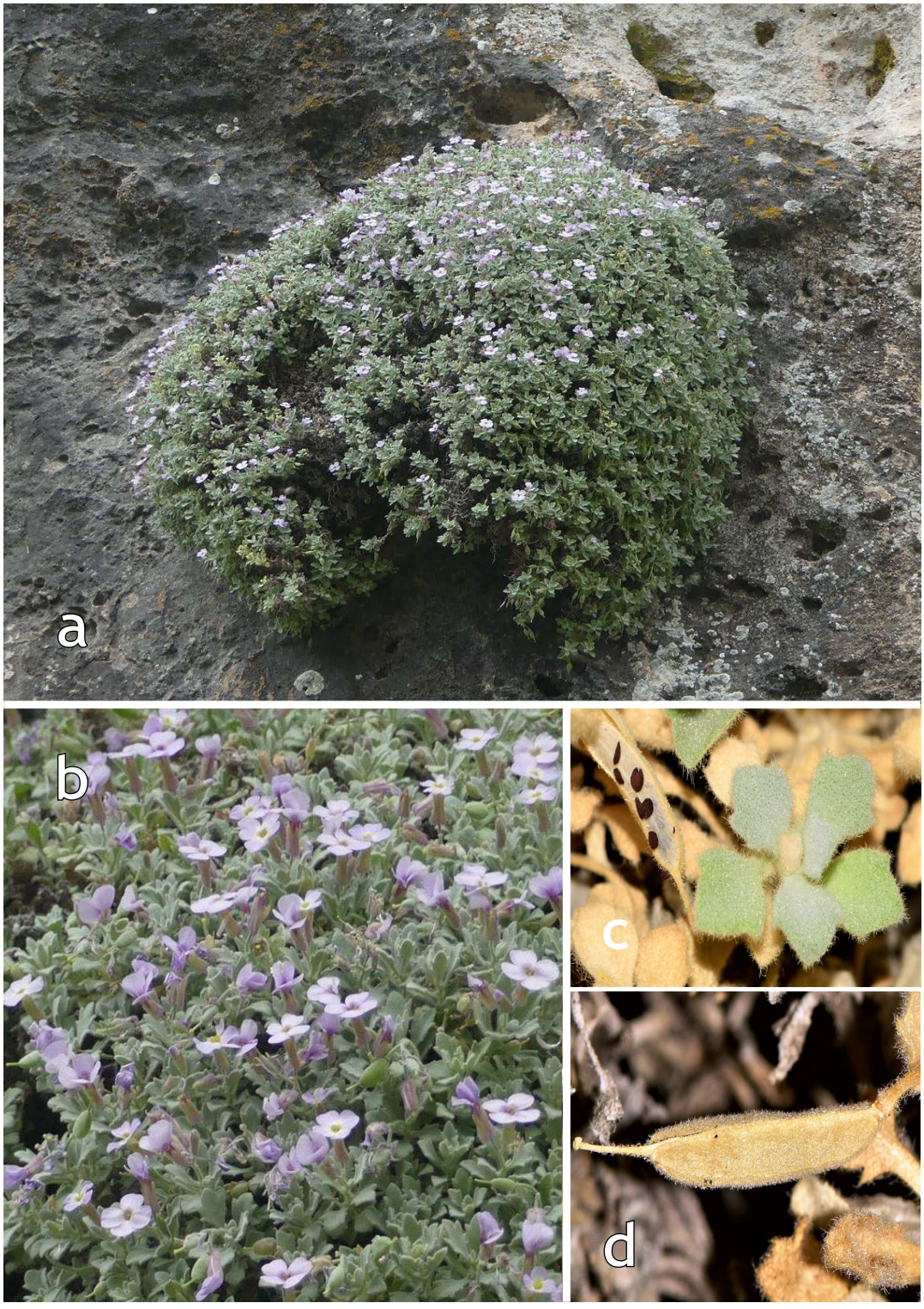

Fig. 41. *Aubrieta scyria* from Monastiri, NW of Prosilio: a, habit & b, flowers (photos D. Kalentzis); c, leaves & d, mature fruit (photos G. Kofinas).

Fig. 42. *Aubrieta scyria* from Kymi, island of Evvia (photo G. Kofinas).

flowering, *Tsanousas* s.n. (herb. Kit, fragm.); 07.05.2021, flowering, *Kalentzis* obs. (photos); limestone rocks 1.7 km NW of Prosilio, 1100 m, 38°36'N, 22°13'E, 11.07.2020, fruiting, *Polymenakos* 1054 (ATH); NW of Viniani, in Rekka ravine NE of Prosilio, fruits pendent, 636 m, 38°36'N, 22°20'E, 12.07.2020, *Kofinas*, *Polymenakos* & *Kalentzis* obs. (photo); *loc. ibid*., *Tsanousas* obs. (photos).

New for mainland Greece, disjunct in occurrence. Reported from ravines and exposed hard limestone cliffs on the W Aegean islands of Evvia (Kymi area) and Skiros (Mt Kochilas, Ag. Nikolaos bay). The lectotype of *A. scyria* (*Tuntas* 588, WU-Hal) was collected in June 1908 from Mt Kochilas and our material falls within the range of variation of plants from Kymi (Fig. 42) as well as the *locus classicus*.

Aubrieta scyria may be best distinguished from *A. deltoidea* (L.) DC. by its pendent, semi-terete fruits predominantly covered with fine stellate hairs, the leaf shape, and flowers which are pale lilac. The flowers in *A. deltoidea* are a darker or reddish-purple, and the erect fruits have numerous long, simple and forked bristles in addition to stellate hairs. Polymenakos had noted that the pendent fruits of the Prosilio plant were similar to those of *A. scyria* plants he had once seen at Kymi. There are some earlier collections from Prosilio (LD, *n.v.*) identified as *A. deltoidea* (L.) DC.; they may also represent *A. scyria*.

Acknowledgements. Giannis Kofinas thanks Giorgos Tsanousas for sending him photos from Monastiri and the Rekka ravine, and also for collecting flowering material in April 2021 when travel between prefectures was not possible due to Covid-19 restrictions. He also thanks Diamantis Kalentzis and Kostas Polymenakos for accompanying him on his excursion to Mt Giona in July 2020 when dried-out plants and seed of *A. scyria* were collected. Nostas Kalogiannis kindly sent plant material from Kymi for comparison.

Report 127

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Boraginaceae

127. *Alkanna sartoriana* Boiss. & Heldr. [syn. *A. chrysanthiana* Kit Tan] (Figs. 43 & 44)

Gr Nomos Messinias, Eparchia Kalamon: Mani Peninsula, near village of Pirgos, open phrygana overlying limestone, 15–30 m, 36°52'N, 22°15'E, 04.04.2019, *Kit Tan* & *G. Vold* 33058 (ATH); near Platsa, 396 m, 36°47'N, 22°19'E, 04.04.2019, *Kit Tan* & *G. Vold* 33064 (C, UPA).

New for nomos, eparchia and South Peloponnisos.

Alkanna sartoriana is a rare Greek endemic described based on a collection by Heldreich "in arenosis ad vias inter Naupliam et Porto Tolon", *Heldreich* 1721 (G–Boiss, W!). Material collected from Korinthias by Haussknecht (28 April 1885, K! W!) and Spruner (W!) have been examined, also more recent gatherings near the type locality. The species is distinctive on account of its white corolla with yellow centre, sinuate-undulate basal leaves and relatively small nutlets. The nutlets are shortly stipitate, with curved beak, *ca.* 2 mm diam., and with tubercles forming irregularly concentric, confluent reticulations. *Alkanna sartoriana* exists in small populations and has not been found elsewhere in Greece except in the coast-

Fig. 43. *Alkanna sartoriana* in the Mani Peninsula, showing habitat, flowers and nutlets (photos R. Marchant).

Fig. 44. Distribution of *Alkanna sartoriana* in Greece.

al area near Navplion in Argolidos in East Peloponnisos and near Akrocorinthos in NE Peloponnisos. It flowers from late March to April, inhabiting rocky limestone slopes with phrygana at low altitudes of 15–50 m.

Alkanna chrysanthiana was described based on a gathering in flower given to G. Sfikas from the Stoupa area (Messinias) in April 2002 (coll. ign., *Sfikas* 13461). Attempts to locate the plant over several years in order to obtain nutlets for study were unsuccessful. Nevertheless, the plant was very distinct on account of its white corolla and could not be matched with any *Alkanna* species in the Mani Peninsula or in S Peloponnisos.

In April 2019 Kit Tan and G. Vold went to Stoupa to examine some plants of a white-flowered *Alkanna* which R. Marchant had photographed as *A. sartoriana*. He had not previously noted them despite fifteen years of careful botanizing in the Mani Peninsula. The populations were unexpectedly large. Individual plants were very robust, 25–60 cm tall (vs. less than 20 cm tall in *A. sartoriana*) and the inflorescences 8–20 cm long at flowering (vs. 3–7 cm). The cauline leaves were sinuate-undulate and lanceolate (vs. oblong-obtuse). The corolla was not only creamy white but also suffused blue and pink (Fig. 43). The nutlets are approximately the same size (2.5–3.5 mm) in both species, those from the Mani Peninsula being slightly larger. However, the tubercle ornamentation on the nutlets was ± similar, i.e., with tubercles in rows or ridges and throughout the surface or in rings without tubercles in-between (Fig. 43). It was decided to treat the Mani plants as falling within the variation of *A. sartoriana* although they were geographically distant (Fig. 44). *Alkanna chrysanthiana* is now relegated to synonymy.

The dormancy period of *A. sartoriana* must be quite long since seeds have remained viable for so many years. R. Marchant had botanized in the area several times at the appropriate flowering times but there had been no sign of the plants until April 2019. It was a good year!

Reports 128–129

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

Apiaceae

128. *Bonannia graeca* (L.) Halácsy (Fig. 45)

Gr Nomos Achaias, Eparchia Egialias: 1.3 km N of Valimi, on way to Chrysanthio, roadside and edge of cultivated fields, 845 m, 38°06'N, 22°17'E, 14.08.2019, *Polymenakos* 921 (ATH); earth pockets (*terra rossa*) on stony limestone slopes near Ambelokipi village, 959 m, 38°06'N, 22°18'E, 06.06.2021, basal leaf rosettes, *Kit Tan* & *G. Vold* 33197 (herb. Kit); *loc. ibid*., 13.06.2021, flowering, *Kit Tan* & *G. Vold* 33210 (ATH, C, UPA, herb. Strid).

Confirming historical records in N Peloponnese from the Vouraikos gorge (Bornmüller 1928) and Katarraktis (Halácsy 1894). *Bonannia graeca* is a fairly rare plant occurring in S Italy (incl. Sicily) and Greece (mainly Kiklades). It was recently discovered in Attikis which is a first record for the Greek mainland (Polymenakos & Tan, unpubl. data). In the N Peloponnese, approximately twenty plants with withered leaves were observed by Polymenakos in August 2019 and ripe fruit collected (Fig. 45). In June 2021, large populations of 300 plants beginning to flower were found by Kit Tan and G. Vold near Ambelokipi, *ca.* 3 km eastwards.

Although *Bonannia graeca* is known to be cytotoxic on account of its flavonoids, this does not seem

Fig. 45. *Bonannia graeca* fruits (photo K. Polymenakos).

to deter browsing and the aerial flowering stems are rapidly consumed by goats in June and July. On the E Aegean island of Samos jars of pickled stems sold as *Bonannia graeca* are available from a small shop specializing in local food products. The contents are probably of other yellow-flowered *Apiaceae* since the species has not previously been reported from the E Aegean area.

Frankeniaceae

129. *Frankenia corymbosa* Desf. (Fig. 46)

Gr Nomos & Eparchia Attikis: island of Raftis in bay of Porto Rafti, rocky coastal limestone slope, 10–30 m, 37°53'N, 24°02'E, 15.05.2021, *Pantakis* s.n. (ATH); *loc. ibid*., 17 m, 22.07.2018, *Pantakis* obs. (photos); island of Koroni east of Koroni Peninsula, saline loam in depressions

Fig. 46. *Frankenia corymbosa*: a, habit showing erect stems; b, leaves with large white hydathodes; c, inflorescences (photos G. Pantakis).

between hard limestone rock, 37°52'N, 24°03'E, 15.05.2021, *Pantakis* obs. (photos).

New for phytogeographical region Sterea Ellas and the first reports outside the Cretan area.

Previously recorded from some small offshore islands in the S Cretan area (Gavdos, Gavdopoula, Trachilos and Koufonisi) and Agria Gramvousa, the rocky uninhabited islet off the northwest coast of Crete where it grows on coastal limestone rock above the littoral zone.

Frankenia corymbosa was described from Algeria, 'ad maris littora prope Arzeau' and occurs mainly in N Africa, with S Spain being its only European locality. It differs from *F. hirsuta* L., widespread in coastal and saline inland areas in the central Mediterranean eastwards to SW Asia and W Siberia, by its caespitose, ascending-erect habit and scabrid-puberulent calyx. In *F. hirsuta* the stems are branched, procumbent-prostrate and mat-forming, varying in length from 0.5–40 cm. The calyx is densely white-hirsute from apex to base. Greek plants of *F. corymbosa* differ from plants described from Algeria in having a very short (2.5–3.5 mm) calyx which is glabrous or with a few white hairs towards the base. The calyx in *F. corymbosa* was described as being much longer (4–7 mm), the plants taller (20–40 cm) and the leaves pulverulent, i.e., with a white powdery covering. The leaves of the Rafti island plants are glabrous and with conspicuous white hydathodes (see Fig. 46b). However, bearing in mind the extent of variation possible in a wide geographical range from west to east across the entire Mediterranean, we decided to accord the Rafti plants the same taxonomic status as the west Mediterranean plants rather than giving infraspecific ranking or treating as a new taxon. A detailed description is thus provided.

Small, caespitose perennial woody at base, with several erect-ascending, leafy, reddish-brown, pubescent flowering stems 7–14 (20) cm tall. Leaves opposite, in whorls of 12–16, exstipulate, entire, ericoid-linear, 3.5–4 × 0.75–1 mm, deeply revolute, light green, glabrous, with conspicuous, large white hydathodes. Flowers sessile, hermaphrodite, in condensed terminal cymes. Calyx 5-lobed, tubular, 2.5–3.5 mm, connate to 2/3, persistent, greenish-brown or suffused pink, with white hydathodes, glabrous or with a few white hairs towards base. Petals 5, imbricate, obovate-spathulate, with scale-like appendage at base of limb; limb *ca.* 4 mm long, crenulate-erose, white to pale pink. Stamens in 2 whorls of 3 + 3, outer whorl shorter than the inner; filaments cream; anthers oblong-ovoid, *ca.* 0.75 mm long, pink; pollen yellow. Ovary sessile, 3-carpellate, 1-locular, parietal in placentation; style filiform, 3-fid, exserted; ovules numerous. Mature capsules not seen.

Flowering late April to May, in small populations of few plants on rocky coastal slopes in the south and west of Raftis island and the nearby island of Koroni.

The island of Raftis is the largest of a few small islands near the seaside town of Porto Rafti (Limin Markopoulou), c. 35 km SE of Athens, on the east coast of the Attiki peninsula. There are very few botanical records from the island. It is doubtful if Dumont d'Urville had actually collected any plants there during his participation in an 1819–1820 hydrographic survey in the Aegean. The only authentic record from 'in insula Rafti, Atticae' seems to be *Silene behen* L. collected by Guicciardi in April 1860. Dumont d'Urville published the type of *Maillea crypsoides* (d'Urv.) Boiss. (as *Phalaris crypsoides* d'Urv.) citing the locality 'in scopulo Raphti' which had been misinterpreted as the island of Raftis. The locality probably refers to the small cape-peninsula at the bay of Porto Rafti, not the island itself, since on the island there is no sandy beach, a habitat favoured by *Maillea crypsoides*. There exist only windswept, loose scree slopes or hard calcareous rock covered with the orange crustose lichen *Caloplaca marina*. *Maillea crypsoides* was rediscovered at the bay of Schinias near the *locus classicus* at the bay of Porto Rafti in nomos Attikis by Polymenakos, 201 years after d'Urville's historical collection, possibly in October 1819.

Raftis is frequented only by local fishermen, sailing and scuba-diving visitors. It is a protected archaeological site on account of the rich Mycenaeum pottery discovered and one has to request permission to land. The island is perfectly pyramidal in shape as viewed from the west or northwest. It obtained its name from the marble statue enthroned at the summit which dates back to 2nd century AD. '*Raftis*' means 'tailor' in Greek, and the statue probably depicts a female figure although wind, salt and time have eroded away all features.

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Reports 130–134

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

Lamiaceae

130. *Nepeta cataria* L. (Fig. 47)

Gr Nomos & Eparchia Korinthias: dirt road between cultivated fields from village of Stymfalia to the lake and archaeological site, 620 m, 37°51'N, 22°27'E, 24.07.2021, *Christodoulou* & *Zarkos* obs. (photo); on wall of monastery of Ag. Georgios in Feneos near Lake Doxa, 980 m, 37°56'N, 22°17'E, 23.07.2017, *Christodoulou* obs. (photo).

Rare in Korinthias, few plants found in late-flowering state. In the Peloponnese only two reports (from nomi Arkadia and Messinias) are recent. The other two from Mt Chelmos (Maire & Petitmengin 1908: 177) and Mt Killini (Halácsy 1902: 535, collected by Heldreich) date back more than a century. *Nepeta cataria* , "catmint", is naturalized in northern Europe, N America, etc. and is native to southern Europe, SW to C Asia. The plant is attractive to cats, *nepetalactone* being the main compound responsible for the intoxicating or stimulating effect and relaxant behaviour. Its presence at monasteries and near archaeological sites may be related with the use of its various pharmacological properties in the past. In herbal medicine the plant is well known for its mildly sedative effects and treatment for gastrointestinal disorders.

Fig. 47. *Nepeta cataria* (photo G. Zarkos with V. Christodoulou).

Primulaceae

131. *Lysimachia vulgaris* L.

Gr Nomos Prevezis, Eparchia Nikopoleos-Pargas: Lake Ziros near Filippiada, 90 m, 39°14'N, 20°51'E, 14.06.2021, *Christodoulou* obs. (photo).

Confirming only record from nomos Prevezis in S Pindos based on a collection by Chitos (2009: 51). The inflorescences were not as floriferous as expected perhaps because shaded by other plants at the lake edge.

Scrophulariaceae

132. *Scrophularia umbrosa* Dumort. (Fig. 48)

Gr Nomos Achaias, Eparchia Kalavriton: near Zarouchla village, in wet places at edge of forest road in *Abies cephalonica* forest, 1051 m, 37°58'N, 22°16'E, 19.06.2021, *Zarkos* & *Kounis* obs. (photo); *loc. ibid*., 24.06.2021 & 16.07.2021, *Zarkos* obs. (photos).

Confirming the record from nomos Achaias based on a specimen collected from the northern foothills of

Fig. 48. *Scrophularia umbrosa* (photo G. Zarkos).

Desmena in the Vouraikos valley in July 2002 (*Maroulis* 2899, UPA). The species is rare in the Peloponnese, this being the second report from the north. Together with *Epilobium hirsutum*, *Mentha longifolia*, *Angelica sylvestris*, *Helosciadium nodiflorum*, etc.

Sparganiaceae

133. *Sparganium erectum* subsp. ***neglectum*** (Beeby) Schinz & Thell. (Fig. 49)

Gr Nomos & Eparchia Korinthias: at the edge of wet fields between village of Stymfalia to the lake, 620 m, 37°51'N, 22°27'E, 24.07.2021, *Christodoulou* & *Zarkos* obs. (photo).

New for nomos and eparchia, growing together with *Alisma lanceolatum*, *Cyperus longus* subsp. *badius*, etc. Not often collected in the Peloponnese and only two records provide identification at subspecies level.However, it seems that *S. erectum* L. subsp. *erectum* does not occur in the Peloponnese but is restricted to the mainland at latitudes north of 39°00'N. It can be distinguished by its fruits which are angular in transverse-section (almost terete in subsp. *neglectum*).

Cyperaceae

134. *Cyperus longus* subsp. ***badius*** (Desf.) Bonnier & Layens

Gr Nomos & Eparchia Korinthias: at the edge of wet fields between village of Stymfalia to the lake, 62s, 37°51'N, 22°27'E, 24.07.2021, *Christodoulou* & *Zarkos* obs. (photo; conf. B. Biel, July 2021).

New for nomos and eparchia, growing together with *Sparganium* and *Alisma*. The rays are unusually very short so the inflorescence appears rather compact. *Cyperus longus* L. subsp. *longus* is a tall plant up to a metre with rays to 35 cm long.

Fig. 49. *Sparganium erectum* subsp. *neglectum* (photo V. Christodoulou).

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