

New floristic records in the Balkans: 38*

Compiled by Vladimir Vladimirov¹, Mehmet Aybeke², Vlado Matevski³ & Kit Tan⁴

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: vladimir_dv@abv.bg

² Department of Biology, Faculty of Science, University of Trakya, 22030 Edirne, Turkey, e-mail: mehmetaybeke@yahoo.com

³ Institute of Biology, Faculty of Natural Sciences and Mathematics, St. Cyril and Methodius University, Gazi baba b/B, p.b. 162, MK 91000 Skopje, North Macedonia, e-mail: vladom@pmf.ukim.mk

⁴ 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 91 species and subspecies from Albania (79-81), Bulgaria (14-26, 28-42, 87-89), Greece (1, 8-13, 27, 43-78, 82-86, 90, 91), Kosovo (81), North Macedonia (81), and Turkey-in-Europe (2-7). The taxa belong to the following families: *Apiaceae* (17, 61-63, 84), *Asclepiadaceae* (2), *Aspleniaceae* (8, 58, 59), *Asteraceae* (14, 18-26, 43, 53, 64, 65), *Boraginaceae* (44), *Brassicaceae* (9, 27, 45, 46, 66, 67), *Buddlejaceae* (1), *Cactaceae* (10, 82, 90), *Caryophyllaceae* (28, 29, 54, 68, 79, 91), *Cucurbitaceae* (3), *Cupressaceae* (83), *Cuscutaceae* (30, 31), *Cyperaceae* (40, 41, 56), *Dipsacaceae* (4, 47), *Ericaceae* (32), *Euphorbiaceae* (48), *Fabaceae* (33, 69, 70), *Fumariaceae* (11, 34), *Hypericaceae* (71), *Iridaceae* (50, 51, 75, 87-89), *Juncaceae* (76), *Onagraceae* (35), *Ophioglossaceae* (60), *Orchidaceae* (52), *Orobanchaceae* (80), *Papaveraceae* (35), *Plantaginaceae* (15), *Poaceae* (16, 42, 57, 77, 78, 86), *Primulaceae* (81), *Ranunculaceae* (36, 55, 72), *Rosaceae* (5-7, 37, 38), *Rubiaceae* (73, 74), *Saxifragaceae* (49), *Scrophulariaceae* s.l. (12, 39, 85), and *Solanaceae* (13).

New species for the countries are: Albania – *Silene acaulis* subsp. *bryoides* (79), *Orobanche variegata* (80); Bulgaria – *Crocus adamioides* (87), *Digitalis ×macedonica* (39); Greece – *Buddleja asiatica* (1).

The publication includes contributions by: E. Axiotis, F. Verloove & Kit Tan (1), M. Aybeke (2-7), B. Biel & Kit Tan (8-13), D. Dimitrov & M. Filipova (14-16), D. Dimitrov & V. Vutov (17-42), K. Giannopoulos, Kit Tan & G. Vold (43-52), G. Kofinas, K. Polymenakos & Kit Tan (53-57), K. Polymenakos & Kit Tan (58-78), L. Shuka & Kit Tan (79-81), K.B. Simoglou, T.V. Koutsos & Kit Tan (82), K. Sutorý (83-86), V. Trifonov, Ts. Raycheva & K. Stoyanov (87-88), K. Stoyanov & Ts. Raycheva (89), and G. Zarkos, V. Christodoulou, Kit Tan & G. Vold (90-91).

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 Albania and Greece by Kit Tan, for North Macedonia by V. Matevski, and for Turkey-in-Europe by M. Aybeke.

Report 1

Evangelos Axiotis¹, Filip Verloove² & Kit Tan³

¹ Department of Pharmacognosy and Natural Products Chemistry, Pharmacy School, National and Kapodistrian University of Athens, Greece

² Botanic Garden Meise, Belgium

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

Buddlejaceae

1. *Buddleja asiatica* Lour. (Fig. 1)

Gr Nomos Lesvou, Eparchia Mitilinis: island of Lesvos, W-NW of Mitilini town, on schist and limestone slope by road, 55 m, 39°10'N, 26°25'E, 22.09.2018, coll. E. & M. Axiotis AXL037 (ATHU, herb. Axiotis).

First report of species for Greece, a single very floriferous shrub well-established at roadside since it was first noticed more than a year ago. No juvenile individuals were observed; however, we are certain that this casual alien being very robust, will persist. The road is a central 'artery' of the island with trucks passing daily to and from the port. There was no habitation in the vicinity of the plant but an olive grove with semi-ruderal vegetation and the commonly encountered shrubs of *Quercus coccifera*, *Pistacia lentiscus*, *Prunus spinosa*, *Cistus creticus*, *Lavandula stoechas*, etc. The species is native to E Asia (from India to the Philippines), widely cultivated in Europe as an ornamental and for its fragrant white or pale lilac flowers which are attractive to butterflies. It is known to adapt easily to disturbed areas and readily naturalizes in the tropics and even become invasive, e.g., in Hawaii.



Fig. 1. *Buddleja asiatica* inflorescence (photo M. Axiotis).

There has been a rapid increase in xenophytes in the Greek flora over the last decades and three species of *Buddleja* are now documented for Greece. *Buddleja davidii* Franch., native to China, was recently reported from Bulgaria (Petrova & al. 2013; Glogov & al. 2018) and NE Greece (Strid 2018). *Buddleja madagascariensis* Lam. was reported from NW Peloponnese (Willing 86338, B); it is native to Madagascar. This species produces berries instead of dry capsules and is therefore now accommodated in a separate genus as *Nicodemia madagascariensis* (Lam.) R. Parker although there is still no complete consensus on this. Another documented record from the Mediterranean is from Italy (Pasta & al. 2016).

In the Euro+Med PlantBase area *B. asiatica* is reported from Libya as a doubtful introduction, possibly cultivated (<http://ww2.bgbm.org/EuroPlusMed/PTaxonDetail.asp?NameId=100484&PTRefFk=7100000>), hence its established occurrence on the E Aegean island of Lesvos is of some interest. In accordance with molecular phylogenetic data the family Buddlejaceae is now included in Scrophulariaceae although we have retained the former for *Flora Hellenica*.

We thank Makis Axiotis, father of Evangelos, for diligently monitoring the plant on our behalf.

Reports 2–7

Mehmet Aybeke

Department of Biology, Faculty of Science, University of Trakya, 22030 Edirne, Turkey, e-mail: mehmetaybeke@yahoo.com

Asclepiadaceae

2. *Vincetoxicum speciosum* Boiss. & Spruner

Tu(E) A1(E) Kırklareli: between Demirköy – Pınarhisar, 10th km, 252 m a.s.l., 41°49'30"N, 27°45'35"E, 27.07.1990, coll. & det. C. Yarcı (EDTU 5389).

A new taxon for A1(E) Kırklareli in European Turkey. According to Browicz (1978), this taxon was found only in A2(E) Istanbul.

Cucurbitaceae

3. *Bryonia alba* L.

Tu(E) A1(E) Kırklareli: Demirköy, between İğneada–Sislioba, 5th km, 30 m a.s.l., 41°52'28"N, 27°59'02"E, 16.09.1990, coll. C. Yarcı, det. C. Yarcı & M. Aybeke (EDTU 5310).

A new taxon for Kırklareli in European Turkey. According to Jeffrey (1972), this taxon was found in A2(E) Istanbul.

Dipsacaceae

4. *Scabiosa columbaria* subsp. *ochroleuca* (L.) Čelak. var. *ochroleuca*

Tu(E) A1(E) Kırklareli: Demirköy, between Demirköy–İğneada, 2nd km, 252 m a.s.l., 41°49'30"N, 27°45'35"E, 26.07.1990, coll. & det. C. Yarcı (EDTU 5400).

A new taxon for Kırklareli in European Turkey. According to Matthews (1972), this taxon was found in A2(E) Istanbul.

Rosaceae

5. *Crataegus curvisepala* Lindman

Tu(E) A1(E) Kırklareli: Beğendik village, 23 m a.s.l., 41°57'45"N, 28°01'20"E, 16.09.1990, coll. & det. C. Yarcı (EDTU 5363).

A new taxon for European Turkey. According to Browicz (1972), this taxon was found in the Anatolian region in A2(A) Istanbul and A3 Bolu. With this new record, it is reported for the first time for European Turkey.

6. *Crataegus pentagyna* Willd.

Tu(E) A1(E) Kırklareli: Sislioba village, 252 m a.s.l., 41°58'05"N, 27°54'52"E, 16.09.1990, coll. & det. C. Yarcı (EDTU 5362).

A new taxon for Kırklareli in European Turkey. According to Browicz (1972), this taxon was recorded in A1(E) Tekirdağ.

7. *Pyrus elaeagnifolia* Pallas subsp. *elaegnifolia*

Tu(E) A1(E) Kırklareli: in the environments of Kocatarla village, in an open forest, 313 m a.s.l., 41°56'43"N, 27°02'42"E, 09.05.1996, coll. & det. C. Yarcı (EDTU 6823).

This is a new taxon for European Turkey. According to Browicz (1972), it was recorded in the Anatolian region from A2(A) Istanbul, A3 Bolu. With this new record it has been described for the first time from European Turkey.

This is the ninth report of new plant-records for the island of Amorgos (phytogeographical region Kiklades, Nomos Kikladon, Eparchia Thiras) based on a visit in late January to mid-February 2019. This period marks the earliest botanical activity on the island for the first author; Peter Davis (of *Flora of Turkey* fame) botanized at the northern cliffs of Langada on 1 January 1939 where he collected *Seseli crithmifolium* (DC.) Boiss. with a 65 cm long caudex. The six records listed are new to the island or represent deviations from the norm, and three of them are new for the floristic region Kiklades (Kik) as circumscribed in *Flora Hellenica* (Strid & Tan 1997), bringing the total number of new records we have found so far for this area to 54. Occurrence on the other Kikladean islands is briefly summarized.

Aspleniaceae

8. *Asplenium obovatum* Viv. subsp. *obovatum*

(Fig. 2)

Gr Amorgos: SW of Arkesini, clefts and crevices in north-exposed rock walls at Vouno tou Choriou, 440 m, 36°46'40"N, 25°47'19"E, 11.02.2019, *Biel* 19.011.



Fig. 2. *Asplenium obovatum*, lower with dissected lamina (photo B. Biel).

Reports 8–13

Burkhard Biel¹ & Kit Tan²

¹ Am Judengarten 3, D-97204 Höchberg, Germany

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

This was reported in a small ravine NE of Chora in November 2014 and March 2016 (Biel & Tan 2016) and noted SW of Arkesini in 2018. The 2019 collection deviates from the typical form by its conspicuously frayed and dissected lamina (see lower figure). *Asplenium obovatum* occurs on several islands in the Kiklades.

Brassicaceae

9. *Erophila praecox* (Steven) DC.

Gr Amorgos: N of Lagadha, phrygana at upper exit of Araklos gorge, near Strombos, 160 m, 36°54'33"N, 25°59'51"E, 05.02.2019, *Biel* 19.005; E-NE of Kamari, phrygana slopes at Sivrisa stream, 120 m, 36°47'52"N, 25°49'60"E, 10.02.2019, *Biel* 19.010.

Occurring on several islands in the Kiklades. *Biel* 19.005 deviates from typical plants at Krikelos mountain ridge in having nearly globose siliculae (4.5 × 3.5 mm) and *Biel* 19.010 is unusual in having basal leaves up to 30 × 9 mm.

Cactaceae

10. *Austrocylindropuntia subulata* (Muehlenpf.) Backeb.

Gr Amorgos: SW of Tholaria, pasture on terraced slope below road, 210 m, 36°54'56"N, 25°58'56"E, 02.02.2019, *Biel* obs. (photo); E of Egiali, roadside slope at Vorina, 20 m, 36°54'06"N, 25°58'50"E, 03.02.2019, *Biel* obs.

New for Kiklades, in Greece so far reported from Lake Kaifas (Nomos Ilias) and the small island of Inousse off Chios (Nomos Chiou). Established escapes in both localities, found together with *Artemisia arborescens*, *Oxalis pes-caprae*, *Salvia fruticosa* and *Drimys maritima*. Native to Peru.

Fumariaceae

11. *Fumaria gaillardotii* Boiss.

Gr Amorgos: Chora, ruderal places and road margins within village, 320 m, 36°49'52"N, 25°53'51"E, 08.02.2019, *Biel* 19.009.

New for Amorgos, occurring in C and S Kiklades.

Scrophulariaceae

12. *Veronica persica* Poir.

Gr Amorgos: NW of Katapola-Rachidhi, ruderal places in plant nursery, 6 m, 36°49'45"N, 25°52'02"E, 06.02.2019, *Biel* 19.006.

New for Amorgos, occurring on Naxos, Tinos and Andros.

Solanaceae

13. *Nicotiana tabacum* L.

Gr Amorgos: Katapola, dump-site near church in village, 4 m, 36°49'35"N, 25°51'49"E, 07.02.2019, *Biel* 19.008.

First documentation on Amorgos as a casual. A single flowering plant was found together with *Mercurialis annua*, *Parietaria judaica*, *Sonchus oleraceus*, *Stellaria media* and *Urtica pilulifera*.

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

Reports 14–16

Dimitar Dimitrov¹ & Mariana Filipova²

¹ Museum of Natural History, 1 Tsar Osvoboditel Blvd., 1000 Sofia, Bulgaria, e-mail: dimitrov.npm@gmail.com

² Varna, Bulgaria, e-mail: marianafilipova@yahoo.com

Asteraceae

14. *Jurinea ledebourii* Bunge

Bu Black Sea Coast (*Northern*): in the Momchil marble quarry, westwards of Balchik town, NJ90, 30.10.2018, coll. *D. Dimitrov* (SOM 176585).

The species is of conservation concern. It is a Pontic element and is spread in the following floristic regions: Northeast Bulgaria (Kožuharov 1968) and Danubian Plain (Tzonev 1997; Assyov & Petrova 2012). The accompanying plants were: *Agropyron brandzae*, *Satureja coerulea*, *Bromus riparius*, *Koeleria brevis*, *Stipa capillata*, *Salvia nutans*, *Buffonia tenuifolia*.

Plantaginaceae

15. *Plantago argentea* Chaix

Bu Black Sea Coast (*Northern*): in the Momchil marble quarry, westwards of Balchik town, NJ90, 31.04.2018, coll. *D. Dimitrov* (SOM 176581).

This Sub-Mediterranean element is spread in the floristic regions of Northeast Bulgaria, Balkan Range, Sofia Region, Znepole region, West Frontier Mts, Mt Slavyanka, Pirin Mts, Rila Mts, Mt Sredna Gora (*Western*), Rhodopi Mts (*Central*) (Assyov & Petrova 2012), and Tundzha Hilly Country (Grozeva & al. 2012).

Poaceae

16. *Bromus riparius* Rehmman

Bu Black Sea Coast (*Northern*): in the Momchil marble quarry, westwards of Balchik town, NJ90, 31.04.2018, coll. *D. Dimitrov* (SOM 176572).

This Pontic element is spread in the floristic regions of Northeast Bulgaria, Danubian Plain, Forebalkan, Balkan Range, Znepole region, Vitosha region, Valley of River Struma (*Southern*), Rila Mts, Mt Sredna Gora (*Western*), Rhodopi Mts (*Western, Central*) (Assyov & Petrova 2012), and Pirin Mts (Dimitrov & Kachaunova 2013).

Reports 17–42

Dimitar Dimitrov* & Vassil Vutov

Museum of Natural History, 1 Tsar Osvoboditel Blvd., 1000 Sofia, Bulgaria, *e-mail: dimitrov.npm@gmail.com

Apiaceae

17. *Oenanthe lachenalii* C.C. Gmel.

Bu Vitosha region: in the damp meadows above Kumata chalet, 1600 m a.s.l., FN91, 21.07.2018, coll. *D. Dimitrov* (SOM 176325).

This species is known from Mt Vitosha, but from an altitude of less than 1000 m a.s.l.

Asteraceae

18. *Achillea aspleniifolia* Vent.

Bu Rhodope Mts (*Western*): Mt Dabrash, in the Urvata gneiss quarry near Krushevo village, GM40, 14.07.2018, coll. *D. Dimitrov* (SOM 176336).

19. *Carduus thracicus* (Velen.) Hayek

Bu Pirin Mts (*Northern*): along the road from Dobrinishte town to Mesta village, GM13, 19.06.2018, coll. *D. Dimitrov* (SOM 176338).

This is a new locality for this Balkan endemic.

20. *Centaurea affinis* subsp. *candida* (Velen.) Dost.

Bu Valley of River Struma (*Northern*): at Rila town, nearby river Rilska, FN76, 22.09.2018, coll. *D. Dimitrov* (SOM 176587).

21. *Centaurea rutifolia* Sm.

Bu Rhodopi Mts (*Western*): Mt Dabrash, in the Urvata gneiss quarry near Krushevo village, GM40, 14.07.2018, coll. *D. Dimitrov* (SOM 176339).

22. *Helianthus tuberosus* L.

Bu Valley of River Struma (*Northern*): in a garden southwards of Rila town, FM76, 22.09.2018, coll. *D. Dimitrov* (SOM 176584).

23. *Hieracium acuminatum* Jord.

Bu Pirin Mts (*Southern*): above Koprivlen village, Gotse Delchev district, GM30, 10.06.2005, coll. *D. Dimitrov* (SOM 176349).

24. *Jurinea mollis* subsp. *anatolica* (Boiss.) Stoj. & Stef.

Bu Balkan Range (*Western*): Mt Sofiyska Planina, in calcareous places eastwards of Seslavtsi village, GN04, 04.11.2018, coll. *D. Dimitrov* (SOM 176586).

25. *Taraxacum bessarabicum* (Hornem.) Hand.-Mazz.

Bu Balkan Range (*Western*): Mt Sofiyska Planina, in calcareous places eastwards of Seslavtsi village, GN04, 04.11.2018, coll. *D. Dimitrov* (SOM 176588).

26. *Taraxacum bithynicum* DC.

Bu Vitosha region: westwards below peak Cherni Vrah, 2150 m, FN91, 21.07.2018, coll. *D. Dimitrov* (SOM 176341).

Brassicaceae

27. *Enarthocarpus arcuatus* Labill.

Gr Nomos Magnisias, Eparchia Volou: at the beach of Nea Anhialos, Volos district, 16.04.2017, coll. *D. Dimitrov* (SOM 176577).

Caryophyllaceae

28. *Cerastium tenoreanum* Ser.

Bu Valley of River Struma (*Northern*): Blagoevgrad city, Doyran Street, FM75, 22.04.2018, coll. *D. Dimitrov* (SOM 176310).

29. *Minuartia attica* (Boiss. & Spruner) Vierh.

Bu Vitosha region: on a calcareous rock over Studena Water Reservoir, along the road to Vitoshko-Studena Hotel, 24.06.2009, coll. *D. Dimitrov* (SOM 106322).

Cuscutaceae

30. *Cuscuta epilinum* Weihe

Bu Black Sea Coast (*Northern*): at the Momchil marble quarry, westwards of Balchik town, NJ90, 29.07.2018, coll. *D. Dimitrov* (SOM 176329).

31. *Cuscuta epithymum* (L.) L. subsp. *epithymum*

Bu Black Sea Coast (*Northern*): at the Momchil marble quarry, westwards of Balchik town, NJ90, 29.07.2018, coll. *D. Dimitrov* (SOM 176304).

Ericaceae

32. *Bruckenthalia spiculifolia* (Salisb.) Rchb.

Bu Forebalkan (*Western*): Mt Shiroka Planina, Arnautski Dol locality above Smolyanovtsi village, FP61, 07.2018, coll. *D. Dimitrov*.

Fabaceae

33. *Chamaecytisus ciliatus* (Wahlenb.) Rothm.

Bu Rhodopi Mts (*Western*): Mt Dabrash, at the Urvata gneiss quarry near Krushevo village, GM40, 14.07.2018, coll. *D. Dimitrov* (SOM 176319).

This is a new locality of this species.

Fumariaceae

34. *Fumaria kralikii* Jord.

Bu Northeast Bulgaria: near a petrol station in the eastern part of Ruse, MJ15, 08.04.2018, coll. *D. Dimitrov* (SOM 176313).

Onagraceae

35. *Epilobium tetragonum* L.

Bu Rhodopi Mts (*Western*): Mt Dabrash: at the Urvata gneiss quarry near Krushevo village, GM40, 14.07.2018, coll. *D. Dimitrov* (SOM 176323).

Ranunculaceae

36. *Ranunculus rionii* Lager

Bu Danubian Plain: In aquis in laco Peshcenskoto Blato, insulae Danubialis Persina, distr. Svishtovensis, LJ43, 15.06.1946, coll. N. Stojanoff (sub *Ranunculus paucistamineus* Tsch.), rev. *D. Dimitrov* (SO 24201).

Rosaceae

37. *Aphanes minutiflorus* (Azn.) Holub

Bu Rhodopi Mts (*Western*): above the road to Sarnitsa town, KG52, 21.06.2018, coll. *D. Dimitrov* (SOM 176317).

38. *Rosa turcica* Rouy

Bu Rhodopi Mts (*Western*): Mt Dabrash: at the Urvata gneiss quarry near Krushevo village, GM40, 14.07.2018, coll. *D. Dimitrov* (SOM 176318).

Scrophulariaceae

39. *Digitalis* × *macedonica* Heywood (*D. viridiflora* × *D. laevigata* subsp. *graeca*)

Bu Rhodopi Mts (*Western*): on a calcareous grassy terrain above Trigrad village, along the road to lakes Chairski, KG80, 22.06.2018, coll. *D. Dimitrov* (SOM 176333).

Heywood (1951) had named this species from a herbarium specimen collected in 1937 by E. K. Balls and W. Balfour Gorlay in the geographical area of Macedonia, Greece. It was subsequently suspected that it was a hybrid, which was confirmed at Europa

Nursery around 1999, when the cross was remade and the resulting plants matched the type description. A reciprocal cross failed. The nursery described the plant as a perennial, up to 90 cm high, with marked copper-bronze tubular flowers intermediate between the parents: broad to strap-shaped and slightly toothed. The leaves and stems were both dark-red at the base (Heywood 1951).

Cyperaceae

40. *Carex panicea* L.

Bu Forebalkan (*Western*): eastwards of Malo Peshtene village, Vratsa district, GP20, 14.04.2018, coll. *D. Dimitrov* (SOM 176306).

41. *Eleocharis uniglumis* (Link) Schult.

Bu Black Sea Coast (*Northern*): Varna, Ezerovo (Aladin), NH68, 27.04.1902, coll. *A. Yavashev* (SOM 8815).

— Znepole region: In paludosis ad Trichov dol mt. Golo Brdo supra pagum Studena, 900 m, FN71, 23.06.1937, coll. *B. Achtarov* (SOM 8805).

Poaceae

42. *Bromus lacmonicus* Hausskn.

Bu Balkan Range (*Central*): above Sokolna chalet, Portata locality, LH42, 18.07.2008, coll. *D. Dimitrov* (SOM 176303).

Reports 43–52

Konstantinos Giannopoulos¹,
Kit Tan² & Gert Vold³

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 (author for correspondence)

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

Asteraceae

43. *Inula verbascifolia* (Willd.) Hausskn.

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, near Smerna village, 685 m, 37°33'N, 21°40'E, 03.04.2019, *Kit Tan, G. Vold & Giannopoulos* obs. New for eparchia Olimbias, westernmost occurrence in Peloponnese. In limestone rock crevices, not in flower.

Boraginaceae

44. *Melanortocarya obtusifolia* (Willd.) Selvi & al.

Gr Nomos Ilias, Eparchia Olimbias: ancient Typaneae, near village of Platiana, 610 m,

37°32'N, 21°45'E, 03.04.2019, *Kit Tan, G. Vold & Giannopoulos* 33055 (herb. Giannopoulos).
New for eparchia, recorded from eparchia Ilias.

Brassicaceae

45. *Aubrieta deltoidea* (L.) DC. (Fig. 3)

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, near Smerna village, 685 m, 37°33'N, 21°40'E, 03.04.2019, *Kit Tan, G. Vold & Giannopoulos* 33056 (herb. Giannopoulos).

New for eparchia and second record for Nomos Ilias. Widespread in Greece, but rarely recorded from W Peloponnese. On limestone rock walls.

46. *Lunaria annua* L. subsp. *annua* (Fig. 4)

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, near Smerna village, 685 m, 37°33'N, 21°40'E, 03.04.2019, *Kit Tan, G. Vold & Giannopoulos* 33057 (herb. Giannopoulos); ancient Typaneae, near village of Platiana, 610 m, 37°32'N, 21°45'E, 03.04.2019, *Kit Tan, G. Vold & Giannopoulos* 33046 (herb. Giannopoulos).

New for eparchia and second record for Nomos Ilias. Widespread in Greece, but rarely recorded from W Peloponnese. Limestone rock crevices and ledges.



Fig. 3. *Aubrieta deltoidea* (photo K. Giannopoulos).

Dipsacaceae

47. *Cephalaria ambrosioides* (Sm.) Roem. & Schult.

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, near Smerna village, 685 m, 37°33'N, 21°40'E, 03.04.2019, *Kit Tan, G. Vold & Giannopoulos* obs.

New for eparchia Olimbias, westernmost occurrence in Peloponnese. On limestone rock walls.

Euphorbiaceae

48. *Euphorbia characias* subsp. *wulfenii* (W.D.J. Koch) Radcl.-Sm.

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, near Smerna village, 685 m, 37°33'N, 21°40'E, 03.04.2019, *Kit Tan, G. Vold & Giannopoulos* obs.; ancient Typaneae, near village of Platiana, 610 m, 37°32'N, 21°45'E, 03.04.2019, *Kit Tan, G. Vold & Giannopoulos* obs.

New for eparchia, rare in W Peloponnese. Rocky limestone outcrops and at roadside.

Saxifragaceae

49. *Saxifraga hederacea* L.

Gr Nomos Ilias, Eparchia Olimbias: Mt Lapithas, near Smerna village, 685 m, 37°33'N, 21°40'E, 03.04.2019, *Kit Tan, G. Vold & Giannopoulos* 33056a (herb. Giannopoulos).

New for eparchia and second record for Nomos Ilias. Scattered in Greece, rarely recorded from W Peloponnese. Damp limestone rock crevices.



Fig. 4. *Lunaria annua* subsp. *annua* (photo K. Giannopoulos).

*Iridaceae***50. *Iris tuberosa* L.**

Gr Nomos Ilias, Eparchia Olimbias: ancient Typaneae, near village of Platiana, 610 m, 37°32'N, 21°45'E, 03.04.2019, Kit Tan, G. Vold & Giannopoulos obs.

New for eparchia, widespread in Greece. Tepals tawny yellow tipped purplish-brown.

51. *Romulea columnae* Sebast. & Mauri (Figs. 5 & 6)

Gr Nomos Ilias, Eparchia Olimbias: ancient Typaneae, near village of Platiana, 610 m, 37°32'N, 21°45'E, 06.03.2019, flowering, Giannopoulos s.n. (herb. Giannopoulos); *loc. ibid.*, 03.04.2019, in fruit, Kit Tan, G. Vold & Giannopoulos 33043 (herb. Giannopoulos).

New for nomos and eparchia. Scattered in Peloponnese, mainly occurring in open sandy places near the coast. The perianth is usually pale lilac veined a darker vio-



Fig. 5. *Romulea columnae* (photo K. Giannopoulos).

let-purple, more rarely white with yellow or greenish-yellow throat. In our inland locality the plants were growing together with *Romulea linearesii* subsp. *graeca* Bég. in open soil pockets and compacted clay.

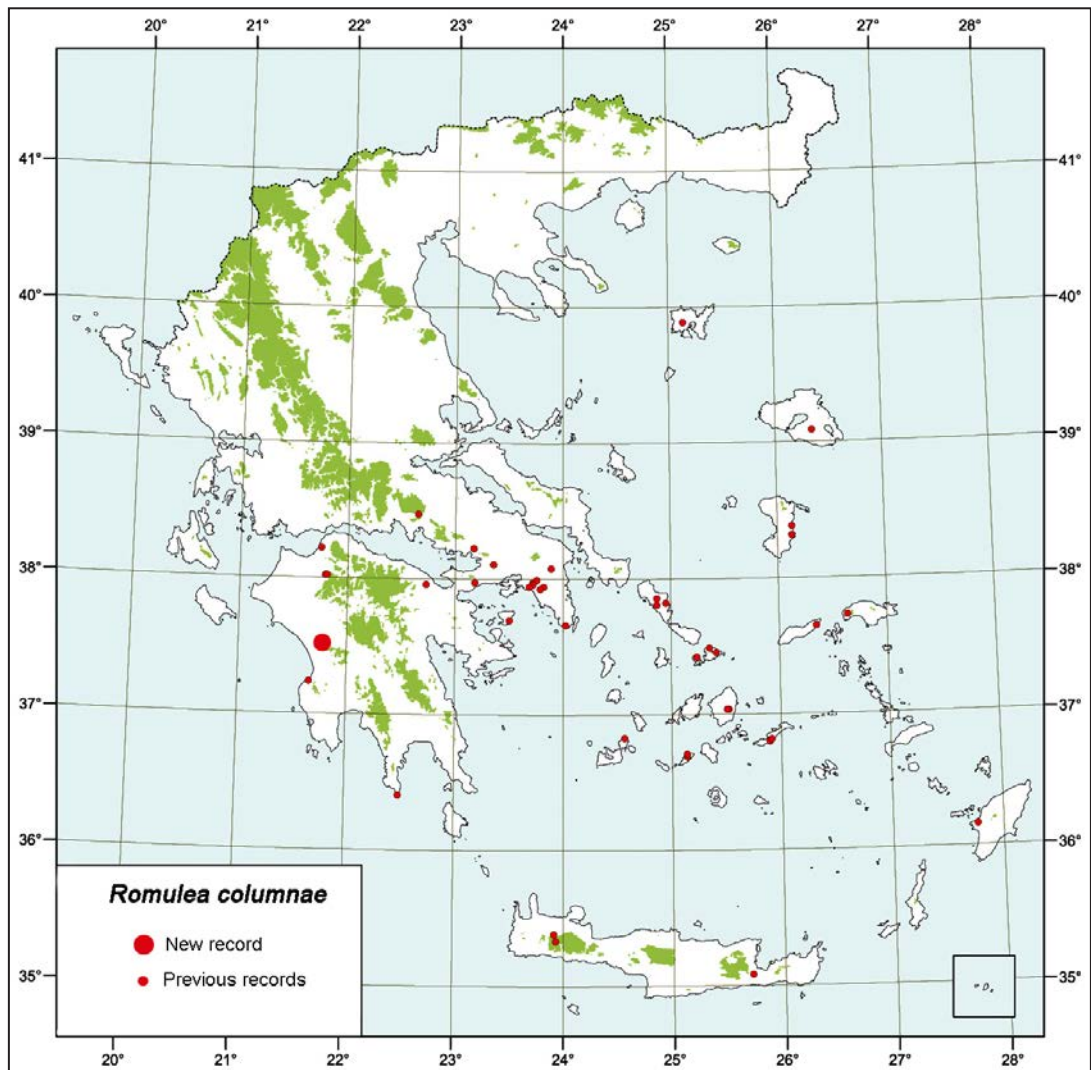


Fig. 6. Distribution map of *Romulea columnae* in Greece.

Typaneae, also known as Aipy or Hypana, is the ancient city of Triphylla which now lies in ruins at the summit of a hill south of the Alpheios river, above the village of Platiana. Fortification walls, towers, foundations of public buildings and terraces still remain. The stone theatre was in use from 4th century BC until Roman times.

Orchidaceae

52. *Ophrys fusca* Link subsp. *fusca* [syn. *O. fusca* subsp. *leucadica* (Renz) H. Kretzschmar] (Figs. 7 & 8)

Gr Nomos & Eparchia Ilias: coastal area near Loutra Yrminis between Kotychi and Kounoupele, 3 m, 38°05'N, 21°20'E, 16.03.2019, *Giannopoulos* s.n. (herb. *Giannopoulos*).

New for nomos, eparchia, and NW Peloponnese. Mediterranean area. Occurring in all floristic regions of Greece with the exception of North Central and



Fig. 7. *Ophrys fusca* subsp. *fusca* (photo K. Giannopoulos).

the N Aegean islands. With a formidable synonymy including at least 30 taxa, several of which are recognized at species level by orchidologists.

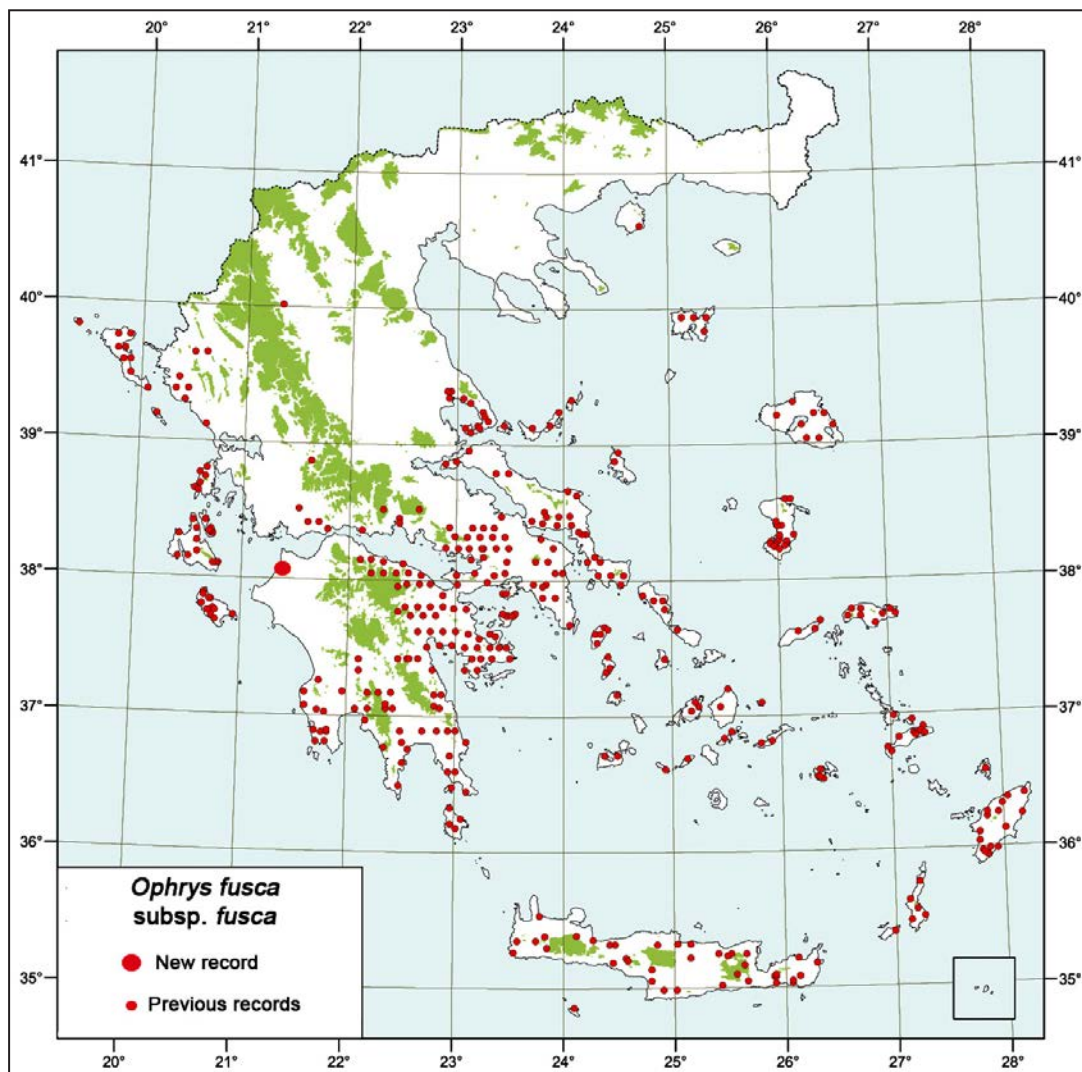


Fig. 8. Distribution map of *Ophrys fusca* subsp. *fusca* in Greece.

Reports 53–57

Giannis Kofinas¹, Kostas Polymenakos² & Kit Tan³

¹ Ilioupoleos Avenue 74, Imittos 172 36, Attikis, Greece

² Psaron 67, Chalandri 152 32, Attikis, Greece

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

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

53. *Jacobaea maritima* subsp. *bicolor* (Willd.) B. Nord. & Greuter (Fig. 9)

Gr Nomos Lakonias, Eparchia Lakedemonos: Mt Taigetos, 2.5 km SE of peak Profitis Ilias, at roadside on way to refuge, 1370 m, 36°56'N, 22°22'E, 15.07.2018, *Kofinas* s.n. (ATHU).

New for eparchia. This predominantly coastal taxon has been recorded in Lakonias, from Eparchia Itilou and Eparchia Epidavrou Limiras (Cape Malea). Our Mt Taigetos occurrence is the first inland report for the Peloponnese. There are old records of another *Jacobaea* species from Mt Taigetos, *Jacobaea ambigua* subsp. *taygetea* (Boiss. & Heldr.) B. Nord. & Greuter, which date back more than a century (112 to 174 years ago): Megala Zonaria (*Maire & Petitmengin* 963, coll. 22.08.1906 cited in *Maire & Petitmengin* 1908: 118), *Heldreich* 393 (G-Boiss., K; type of *Senecio taygeteus* Boiss. & Heldr., coll. 6 August 1844) and *Leonis* 122 (LD, coll. 14 July 1902). The distribution of *Jacobaea ambigua* subsp. *tay-*



Fig. 9. *Jacobaea maritima* subsp. *bicolor* (photo G. Kofinas).

getea is disjunct with the taxon occurring on Mt Dirfis/Xerovouni (on the W Aegean island of Evvia where it has often been noted), and on Mt Taigetos (Peloponnese where it has never been recollected). *Jacobaea ambigua* (Biv.) Pelser & Veldkamp subsp. *ambigua* is endemic to Sicily and the adjacent small islands.

Caryophyllaceae

54. *Spergula arvensis* L.

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: Hammoutsa, 4.65 km S of Molai, olive grove with sandy clay, 75 m, 36°45'N, 22°51'E, 18.02.2018, *Kofinas* s.n. (ATHU).

New for nomos and eparchia. In Peloponnese reported from the NW, NE and SW, in coastal sandy places, cultivated and fallow fields.

Ranunculaceae

55. *Ranunculus peltatus* subsp. *fucooides* (Freyn) Muñoz Garm. (Fig. 10)

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: near the small church of Ag. Giorgos, 5.5 km SE of Molai, in artificial pond with clay, 75 m, 36°46'N, 22°54'E, 18.02.2018, *Kofinas* s.n. (ATHU).

Our record of this subspecies is apparently new for the Peloponnese except for a published report from the island of Elafonisos (Jagel 1992: 32). The petals are a little smaller than in typical material, being 5–6 mm long instead of 5–14 mm, but the ventrally winged achenes, high number of stamens (more than 10), and the 'horseshoe-shaped' nectaries confirm its identity. Found together with *Eleocharis palustris* and *Ranunculus sardous*.



Fig. 10. *Ranunculus peltatus* subsp. *fucooides* (photo G. Kofinas).

Cyperaceae**56. *Eleocharis palustris* (L.) Roem. & Schult.**

Gr Nomos Lakonias, Eparchia Epidavrou Limiras: near the small church of Ag. Giorgos, 5.5 km SE of Molai, edge of artificial pond, 75 m, 36°46'N, 22°54'E, 02.04.2017, *Polymenakos, Kofinas & Goula* s.n. (ATH); *loc. ibid.*, 18.02.2018, *Kofinas* obs.

New for nomos and eparchia. Although widespread in Greece it is rare in southern Peloponnese. Found together with *Romulea ramiflora*, *Ranunculus peltatus* subsp. *fucoides* and *Ranunculus sardous*.

Poaceae**57. *Tragus racemosus* (L.) All.**

Gr Nomos Arkadias, Eparchia Mandinias: 1.7 km NE of Manthirea on way to Kerasitsa, roadsides, on limestone, 680 m, 37°25'N, 22°24'E, 10.08.2018, *Polymenakos & Kofinas* 643 (ATH).

— Nomos Lakonias, Eparchia Epidavrou Limiras: 2.5 km N-NE of Molai, olive grove, limestone, 140 m, 36°49'N, 22°51'E, 27.08.2017, *Polymenakos & Kofinas* obs.; *loc. ibid.*, 28.07.2018, *Kofinas* s.n. (ATHU).

Encountered as roadside weed and in disturbed habitats on mainland; these are apparently the first records for the Peloponnese.

Reports 58–78**Kostas Polymenakos¹ & Kit Tan²**

¹ Psaron 67, Chalandri 152 32, Attikis, Greece

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

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).

Aspleniaceae**58. *Asplenium lepidum* subsp. *haussknechtii* (Godet & Reut.) Brownsey**

Gr Nomos Lakonias, Eparchia Lakedemonos: Mt Taigetos, W slopes of Athanati Rachi, 2200 m, 36°57'N, 22°21'E, 26.08.2017, *Polymenakos & Kofinas* 362 (ATH).

New for the Peloponnese, northernmost extension of range in Greece. In crevices of steep rocky limestone slope together with *Phitosia crocifolia*, *Silene taygetea*,

Saxifraga marginata and *Galium incanum*. This subspecies has so far only been recorded from Kriti. It differs from the glabrous *A. ruta-muraria* L. by its pale green, soft-textured lamina with sori not covering the entire segment at maturity. *Asplenium lepidum* subsp. *lepidum* occurs on Kriti, Sterea Ellas (Parnassos, Vardousia) and North Central (Olimbos, Siniatsiko) and is now reported for the Peloponnese (see following entry).

59. *Asplenium lepidum* C. Presl subsp. *lepidum*

Gr Nomos & Eparchia Korinthias: Mt Killini, below peak “Perdikoulo”, 1.1 km E of Lake Dasiou, in crevices of N-facing vertical limestone cliffs, 1550–1570 m, 36°58'N, 22°26'E, 17.08.2016, *Polymenakos* 39 (ATHU).

New for the Peloponnese, the material is assigned to subsp. *lepidum*. The nearest locality would be Mt Parnassos in Sterea Ellas.

Ophioglossaceae**60. *Ophioglossum vulgatum* L. (Fig. 11)**

Gr Nomos Arkadias, Eparchia Kinourias: Mt Parnonas, W of peak Gaitanorachi, near road from Vamvakou to Kastanitsa, 1500 m, 37°13'N, 22°36'E, 05.05.2018, *Polymenakos & Goula* 539 (ATH).

New for Mt Parnon, in the Peloponnese previously known only from Messinias. *Ophioglossum* was noted on wet schist near a spring, in an opening of *Abies* forest.

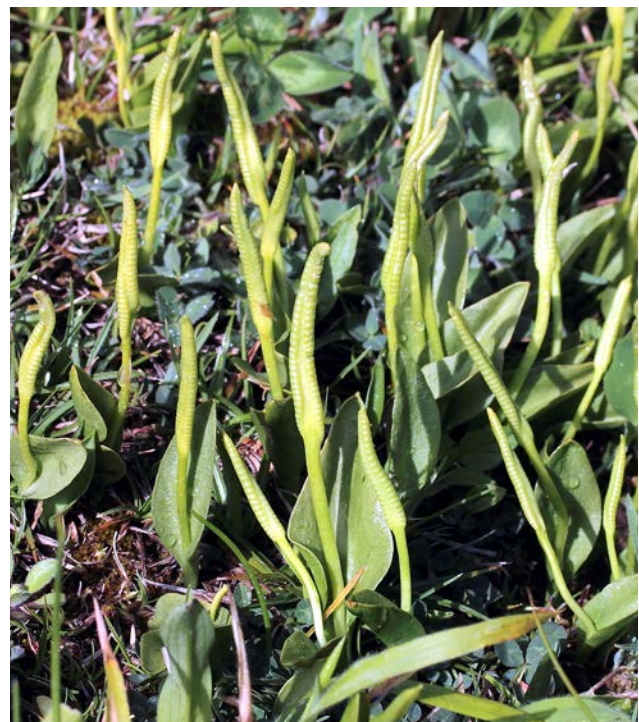


Fig. 11. *Ophioglossum vulgatum* (photo K. Polymenakos).

Apiaceae**61. *Bupleurum pachnospermum*** Pančić

Gr Nomos Viotias, Eparchia Levadias: Mt Parnassos, 'Varko Despoti', 5.3 km N of Kalivia Arachovas, seasonally flooded meadow, limestone, 1480 m, 38°33'N, 22°32'E, 08.07.2018, *Polymenakos & Kofinas* 636 (ATH); Mt Parnassos, 'Halasmena Horafia', 5.1 km N of Kalivia Arachovas, meadow in opening of *Abies* forest, limestone, 1520 m, 38°33'N, 22°32'E, 08.07.2018, *Polymenakos & Kofinas* 637 (ATH).

New for Mt Parnassos, southernmost occurrence on mainland Greece. Growing together with *Gladiolus imbricatus*. Ripe mericarps had already been collected on 29.08.2015.

62. *Bupleurum praealtum* L.

Gr Nomos Viotias, Eparchia Levadias: Mt Parnassos, at entrance of small gorge near spring 'Mana', 5 km NE of Arachova, limestone, 1570 m, 38°30'N, 22°37'E, 08.09.2018, *Polymenakos & Kofinas* obs. (fruits collected).

New for Mt Parnassos and Sterea Ellas. Mainly in N & S Pindos, N & E Central and NE, this is the southernmost occurrence in Greece.

63. *Heracleum sphondylium* subsp. *ternatum* (Velen.) Briq.

Gr Nomos Fokidos, Eparchia Parnassidos: Mt Parnassos, northern outskirts of Eptalofos, on road to Lilaea, shady places along Agorianitis stream, limestone, 780 m, 38°35'N, 22°29'E, 30.05.2018, *Polymenakos & Koutsogiannopoulos* 600 (ATH); foothills of Mt Parnassos between Lilaea and Polydrosos, shady places along Agorianitis stream, 300 m, 38°38'N, 22°30'E, 30.05.2018, *Polymenakos* obs. (photos).

New for Mt Parnassos. In Sterea Ellas, otherwise reported only from Nomos & Eparchia Evritanias (see *Polymenakos & Tan* 2017).

Asteraceae**64. *Filago arvensis*** L.

Gr Nomos Fokidos, Eparchia Parnassidos: Mt Vardousia, northern side of Korakas, 3.1 km W of Athanasios Diakos, damp grassy slope near stream, limestone, 1690 m, 38°41'N, 22°08'E, 07.07.2018, *Polymenakos, Kofinas & Kalentzis* 633 (ATH).

New for Mt Vardousia, known from several mountains in Sterea Ellas including Parnassos and Iti.

65. *Inula oculus-christi* L.

Gr Nomos Evvias, Eparchia Chalkidos: west stony limestone slopes of Mt Xirovouni, 4.1 km east of Steni, 1085 m, 38°35'N, 23°53'E, 10.06.2018, *Polymenakos & Kofinas* 612 (ATH).

New for Evvia and first report for the W Aegean islands.

Brassicaceae**66. *Coronopus squamatus*** (Forssk.) Asch. [syn. *Lepidium coronopus* (L.) Al-Shehbaz]

Gr Nomos Viotias, Eparchia Levadias: Mt Parnassos, 'Varko Despoti', 5.1 km N of Kalivia Arachovas, seasonally flooded meadow, limestone, 1480 m, 38°33'N, 22°32'E, 08.09.2018, *Polymenakos & Kofinas* 631 (ATH).

Confirming an old record based on a collection made by Christos Leonis more than a century ago (Halácsy 1912: 124). Growing together with *Ranunculus sardous*.

67. *Lepidium latifolium* L.

Gr Nomos Viotias, Eparchia Levadias: Mt Parnassos, Kalivia Arachovas, roadsides and field margins, limestone, 1085 m, 38°30'N, 22°32'E, 06.07.2018, *Polymenakos & Kofinas* 631 (ATH); western outskirts of Arachova, damp places at roadside near fountain, limestone, 925 m, 38°29'N, 22°34'E, 06.07.2018, *Polymenakos & Kofinas* 632 (ATH).

Confirming old records from Mt Parnassos: Arachova (Halácsy 1888: 763) and Kalivia Arachovas (Maire & Petitmengin 1908: 35).

Caryophyllaceae**68. *Petrorhagia illyrica*** subsp. *haynaldiana* (F.N. Williams) P.W. Ball & Heywood

Gr Nomos Achaïas, Eparchia Patron: Mt Panachaiko, 1.7 km SW of village Sella, along forest road to the summit, limestone, 990 m, 38°16'N, 21°52'E, 23.06.2018, *Polymenakos & Goula* 624 (ATH).

New for Mt Panachaiko. The occurrence of this subspecies in the Peloponnese has been queried in Dimopoulos & al. (2013) but matching plants have been noted in several places in north and central Peloponnese. The plants are densely glandular only in their upper parts, thus differing from *P. illyrica* subsp. *illyrica*.

Fabaceae**69. *Trifolium micranthum*** Viv.

Gr Nomos Viotias, Eparchia Levadias: Mt Parnassos, mountain plateau 'Livadi', 0.7 km NW of Kalivia

Arachovas, along stream passing through uncultivated clay flats, 1085 m, 38°31'N, 22°32'E, 30.05.2018, *Polymenakos & Koutsogiannopoulos* 597 (ATH).

New for Mt Parnassos, second report from Sterea Ellas, the first being from Mt Oxia (Evritanias).

70. *Vicia cassubica* L. (Fig. 12)

Gr Nomos Arkadias, Eparchia Kinourias: Mt Parnonas, 1.4 km S of Kastanitsa on road to village, roadsides and edge of cultivated field, schist, 1110 m, 37°15'N, 22°38'E, 07.08.2018, *Polymenakos* 640 (ATH).

First report for the Peloponnese, southernmost occurrence in Greece. Most of the plants were with ripe legumes, only one individual was photographed still in flower. The species epithet derives from historical Kashubia (Cassubia), a region in the South Baltic between NW Prussia and East Pomerania, homeland of the Baltic Slavs.



Fig. 12. *Vicia cassubica* (photo K. Polymenakos).

Hypericaceae

71. *Hypericum cycladicum* Trigas (Figs. 13 & 14)

Gr Nomos Kikladon, Eparchia Sirou: island of Mikonos, Mt Profitis Ilias Vorniotis, 0.5 km W of the small church bearing the same name, phrygana on stony schistose slope, 325 m, 37°29'N, 25°20' E, 12.08.2017, fruiting, *Polymenakos* 351 (ATH); Bay of Fokos, stony schistose slope east of rivulet, *Sarcopoterium spinosum* phrygana, 5–10 m, 37°28'N, 25°24'E, 26.04.2011, flowering, *Polymenakos* obs. (photos).

New to Mikonos, restricted to the Kiklades (Andros, Paros and Naxos). It was first collected from the island of Andros by Elli Stamatiadou (12 June 1969, ATH). On Mikonos, it was noted in several localities on the north side of the island, mainly in phrygana from sea level to 350 m and also on dry muddy flats. The species has close similarities to *H. trichocaulon* Boiss. & Heldr. which is endemic to Crete. When collected and photographed in April 2011 (Fig. 13) we had noted the differences from *H. trichocaulon* and *H. perfoliatum* L. and considered the material to represent a new species. However, we wished for corroboration from mature capsules which were duly obtained in August 2017 (see Fig. 14). The plant was published in *Nordic J. Botany* December 2018 as *H. cycladicum* Trigas (Trigas 2018) but without mention of Mikonos as a locality. Thus this entry, no longer for a new species, is submitted as a new floristic record for the island.



Fig. 13. *Hypericum cycladicum* in flower (photo K. Polymenakos).



Fig. 14. *Hypericum cycladicum* in fruit (photo K. Polymenakos).

Ranunculaceae**72. *Ranunculus trichophyllus* Chaix subsp. *trichophyllus*** (Fig. 15)

Gr Nomos Viotias, Eparchia Levadias: Mt Parnassos, plateau 'Livadi', 0.8 km NW of Kalivia Arachovas, on limestone, 1085 m, 38°31'N, 22°32'E, 30.05.2018, *Polymenakos & Koutsogiannopoulos* 596 (ATH).

New for Mt Parnassos, occurring in small pool created in pit of an abandoned building site.



Fig. 15. *Ranunculus trichophyllus* subsp. *trichophyllus* (photo K. Polymenakos).

Rubiaceae**73. *Crucianella angustifolia* L.**

Gr Nomos Evvias, Eparchia Chalkidos: west slopes of Mt Xirovouni, 3.6 km NE of Steni, meadow in small opening of *Abies* forest, limestone, 1025 m, 38°35'N, 23°52'E, 10.06.2018, *Polymenakos & Kofinas* 613 (ATH).

New for Evvia and the W Aegean islands.

74. *Galium degenii* Bald. ex Degen

Gr Nomos Viotias, Eparchia Levadias: Mt Parnassos, 0.5 km S-SE of ski centre 'Kalaria', crevices of rocky limestone slope, 1895 m, 38°32'N, 22°34'E, 08.07.2018, *Polymenakos & Kofinas* 638 (ATH); 1.8 km N of peak Gerondovrachos, 2100 m, 38°33'N, 22°36'E, 30.07.2013, *Polymenakos* obs. (photos).

New for Mt Parnassos, southernmost occurrence on mainland Greece. In Sterea Ellas, only reported from Mt Timfristos (Ganiatsas 1940: 32).

Iridaceae**75. *Gladiolus imbricatus* L.**

Gr Nomos Viotias, Eparchia Levadias: Mt Parnassos,

'Varko Despoti', 5.1 km N of Kalivia Arachovas, seasonally flooded meadow, limestone, 1480 m, 38°33'N, 22°32'E, 08.07.2018, *Polymenakos & Kofinas* 635 (ATH).

New for Mt Parnassos, only a few plants were observed in the area and the bulb was immediately replanted after removal of the aerial parts for a voucher specimen. Occurring in N and S Pindos, NE and Ionian islands, rarely collected in Greece.

Juncaceae**76. *Juncus minutulus* V. Krecz. & Gontsch.**

Gr Nomos Kikkladon, Eparchia Sirou: island of Mikonos, artificial lake of Ano Mera, muddy dried-out parts of the lake, schist, 35 m, 37°28'N, 25°24' E, 13.08.2018, *Polymenakos* 644 (ATH).

New for Mikonos. Growing together with *Juncus bufonius*, *Crypsis aculeata* and *Corrigiola litoralis*.

Poaceae**77. *Crypsis aculeata* (L.) Aiton (Fig. 16)**

Gr Nomos Kikkladon, Eparchia Sirou: island of Mikonos, artificial lake of Ano Mera, muddy dried-out parts of the lake, schist, 35 m, 37°28'N, 25°24' E, 13.08.2018, *Polymenakos* 645 (ATH).

New for Mikonos but reported from the adjacent small island of Rinia. Growing together with *Juncus bufonius*, *J. minutulus* and *Corrigiola litoralis*.

78. *Crypsis schoenoides* (L.) Lam.

Gr Nomos Viotias, Eparchia Levadias: Mt Parnassos, mountain plateau 'Livadi' N of Arachova, along road to Eptalofos, opposite crossroad to ski centre, damp meadow overlying



Fig. 16. *Crypsis aculeata* (photo K. Polymenakos).

limestone, 1220 m, 38°33'N, 22°31'E, 08.09.2018, *Polymenakos & Kofinas* 649 (ATH).

Confirming an old record based on a collection made in August 1904 from Lake Zouvala (Maire & Petitmengin 1907: 42). Found together with *Thymelaea passerina*.

Giannis Kofinas, Katerina Goula, David Koutsogiannopoulos and Diamandis Kalentzis are thanked for their help and pleasant company during the field trips.

Reports 79–81

Lulëzim Shuka¹ & Kit Tan²

¹ Department of Biology, Faculty of Natural Sciences, Tirana University, Albania

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

Caryophyllaceae

79. *Silene acaulis* subsp. *bryoides* (Jord.) Nyman (Figs. 17 & 20)

AI Tropoja district: Dobërdol, North Albanian Alps, ca. 250 m south of the glacial lake Dashi, on siliceous substrate, 2230 m, 42°31'N, 20°44'E, 16.07.2016, *Shuka* s.n. (TIR).

New for Albania, only known from this locality. It has not been found in the siliceous East Albanian Alps. *Silene acaulis* (L.) Jacq. is a densely caespitose-pulvinate plant forming small, ± rounded and sometimes rather hard



Fig. 17. *Silene acaulis* subsp. *bryoides* (photo L. Shuka).

cushions. According to Barina & al. (2018), it is excluded as a species for Albania since no exact localities or voucher specimens have been cited by Hayek (1927) or Greuter & al. (1984). *Silene acaulis* is a very polymorphic species with the north European and Arctic plants included in subsp. *acaulis* and those from the mountains of central and south Europe (siliceous Alps) treated as subsp. *bryoides* (including subsp. *exscapa* (All.) J. Braun and subsp. *norica* Vierh.). *Silene acaulis* subsp. *longicaulis* (Kerner ex Vierh.) Vierh. occurs in the calcareous Alps. Plants from the Dinaric Alps (Montenegro) have been called var. *balcanica* Hayek & Vierh. Of great interest from a phytogeographical viewpoint is the existence of a third subspecies in an extremely disjunct locality ca. 2000 km away in the mountains of East Anatolia (Özgökçe & al. 2005).

Orobanchaceae

80. *Orobanche variegata* Wallr. (Figs. 18 & 20)

AI Kukësi district: on the road from Kolshi village to Sorroj, 560 m, 42°02'N, 20°20'E, 15.05.2015, *Shuka & Hallaçi* s.n. (herb. Shuka); 50 m W of Trulli village, 850 m, 42°02'N, 20°19'E, 13.05.2018, *Shuka* (herb. Shuka).



Fig. 18. *Orobanche variegata* (photo L. Shuka).

- Tropoja district: Qafë Luzhë, between villages Vlad and Llugaj, 820 m, 42°18'N, 20°09'E, 13.07.2017, *Shuka* obs.; 2.5 km from Kam village on the road to Bayram Curri, 500 m, 42°14'N, 20°15'E, 13.07.2017, *Shuka* obs.
- Burreli district: Mbas Deja Mt, 1.8 km above the chromium mine, 1590 m, 41°40'N, 20°11'E, 12.06.2018, *Shuka* s.n. (herb. Shuka).
- Elbasani district: Bukanik Mt, ca. 3.3 km from Gjinari village, 1700 m, 41°02'N; 20°14'E, 18.09.2018, *Shuka* obs.

New for Albania, widespread in the serpentine areas of central and north Albania, parasitic on the roots of *Genista hassertiana*. The largest populations were noted in the serpentine areas of Kolsh-Surroj and Mbas Deja. In the northern part of its distribution range *O. variegata* occurs on both sides of Drini River, at altitudes from 500 m to 900 m. Here the plants flower early in the first half of May together with other rare species such as *Aristolochia merxmueleri*, *Echium russicum*, *Polygala doerfleri* and *Veronica barrelieri* subsp. *andrasovszkyi*. The southern populations of *O. variegata* occur in open *Pinus nigra* woodland. At higher altitudes of 1500-1750 m, they finish flowering by mid-June.

According to Euro+Med PlantBase (<http://ww2.bgbm.org/EuroPlusMed/> accessed 7 March 2019) the distribution of *O. variegata* is from the W Mediterranean area to Italy, including N Africa from Algeria to Tunisia. Chater & Webb (1972: 293) states that its presence in countries of former Yugoslavia requires confirmation.

We are much indebted to Stefan Rätzel (Frankfurt/Oder) and Holger Uhlich (Welterod/Rhineland-Palatinate) for kindly identifying our plant from a photograph.

Primulaceae

81. *Androsace hedraeantha* Griseb.

(Figs. 19 & 20)

- AI Kukësi district: ca. 150 m below the peak of Kallabaku Mt, siliceous alpine pastures, 1960 m, 41°55'N, 20°34'E, 15.07.2009, *Shuka* & *Hallaçi* s.n. (TIR).
- Peshkopi district: Kulla e Zyberit on Korabi mountain range, siliceous alpine pastures, 2300 m, 41°49'N, 20°33'E, 24.06.2016, *Shuka* & *Hallaçi* s.n. (herb. Shuka); Korabi Mt, on



Fig. 19. *Androsace hedraeantha* (photo L. Shuka).



Fig. 20. Distribution map of the taxa in Albania, Kosovo and Republic of North Macedonia.

limestone and siliceous substrate, 2450 m, 41°47'N, 20°32'E, 24.07.2013, *Shuka* obs.

Ko Kosovo, Dragashi district: Vraca Mt, on siliceous substrate, 2500 m, 41°53'N, 20°45'E, 22.07.2013, *Shuka* (TIR).

Mk Gostivari district: Vraca Mt, 3.5 km west of Lomnitsa village, siliceous alpine pastures, 2400 m, 41°54'N, 20°46'E, 22.07.2013, *Shuka* obs.; Kulla e Zyberit on Korabi mountain range, 4.7 km NW of Strezimir village, siliceous alpine pastures, 2350 m, 41°49'N, 20°33'E, 24.06.2016, *Shuka* & *Hallaçi* s.n. (herb. *Shuka*).

These are new localities for Albania, Kosovo and confirm records from Rudoka in the Republic of North Macedonia by Micevski (1998). They all occur within the Sharri, Kallabaku and Korabi Mts triangle. The localities for previous known records are indicated in Fig. 20, representing Korabi Mt (Albania, Dimonie in July 1908), Bjeshkët e Mamuna (Kosovo, Rexhepi 1986: 55–56), Kobilica and Sharr Mts. The species is found in alpine pastures at high altitude, often by snow patch depressions, mainly on siliceous substrate. Plants flower after snow-melt in late June and July, they are among the earliest flowering species together with *Ranunculus crenatus*, *Soldanella pindicola*, *Anemone narcissifolia* and *Crocus veluchensis*, or *C. scardicus* when at lower altitudes as on Kallabaku Mt.

Report 82

Konstantinos B. Simoglou¹,
Theodoros V. Koutsos² & Kit Tan³

¹ Department of Quality and Phytosanitary Inspections, Rural Economy and Veterinary Directorate of Drama, Greece

² Hellenic Agricultural Organization – Demeter

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

Cactaceae

82. *Opuntia humifusa* (Raf.) Raf. (Fig. 21)

Gr Nomos & Eparchia Dramas: 20 km NW of Drama, at southern foothills of Mt Falakron, in open places with *Quercus coccifera* dominant, 180 m, 41°13'N, 23°55'E, 12.03.2019, *K. Simoglou* obs.

New for nomos and eparchia, first record for northern mainland Greece. Native to N America. Approximately ten small clusters of procumbent-spreading plants were observed. Reported from Thasos (N Aegean Islands), Kefallinia (Ionian Islands) and Crete. The spines are

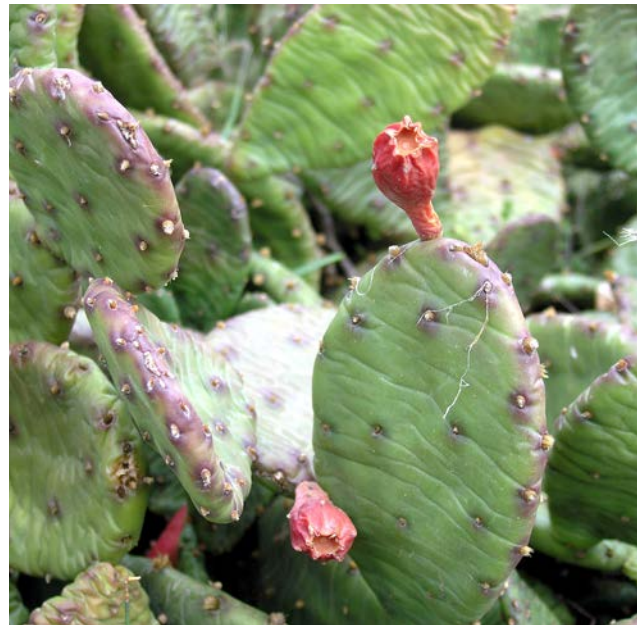


Fig. 21. *Opuntia humifusa* (photo K. Simoglou).

brownish-white and up to 5 cm long. Flowers are 5–9 cm in diameter, bright yellow, sometimes reddish at centre. The fruits are oblong to obovoid, 2.5–5 cm long, red, fleshy, ripening two to three months after flowering and remaining attached till the following spring. The plants can tolerate low temperatures below freezing (–24°C) due to a substantial accumulation of sugars and mannitol which help prevent intracellular freeze dehydration and ice formation.

Reports 83–86

Karel Sutory

Moravian Museum, Department of Botany, Brno, Czech Republic, e-mail: ksutory@mzm.cz

Cupressaceae

83. *Juniperus communis* subsp. *nana* (Willd.) Syme
[= *J. communis* subsp. *alpina* (Sm.) Čelak]

Gr Nomos Chalkidikis, Eparchia Athou: Athos Peninsula, northern ridge of Mt Athos between the saddle and rock wall, southern calcareous part, 1360 m, 40°10'09"N, 24°19'03"E, 18.06.2016, *Sutory* BRNM 782995 (conf. Úradníček L. & Jelínek B. 2018).

New for nomos and eparchia. According to Christensen (1997) this subspecies does not occur in Chalkidikis. *Juniperus communis* subsp. *hemisphaerica* (C. Presl) Nyman is listed instead for the Athos Peninsula.

Apiaceae**84. *Bupleurum pachnospermum* Pančić**

Gr Nomos Chalkidikis, Eparchia Athou: Athos Peninsula, Mt Athos, slopes between the base of rock wall and the forest on mountain ridge, 1170 m, 40°10'13"N, 24°18'47"E, 13.06.2014, *Sutory* BRNM 763483; Mt Anti-athonas [Αντι-άθωνας], 3 km N of Ag. Pavlou monastery, southern summit, 1043 m, 40°11'14"N, 024°17'32"E, 25.06.2018, *Sutory* BRNM 806996.

New for nomos and eparchia, not previously reported from Chalkidikis (see Snogerup & Snogerup 2001). These are the easternmost localities for Greece.

Scrophulariaceae**85. *Scrophularia heterophylla* Willd.**

Gr Nomos Chalkidikis, Eparchia Athou: Athos Peninsula, Mt Anti-athonas [Αντι-άθωνας], 3 km N of Ag. Pavlou monastery, northern slopes of the southern summit area, 1043 m, 40°11'14"N, 24°17'32"E, 25.06.2018, *Sutory* BRNM 806950.

New for eparchia. In Chalkidikis reported only from the Sithonian Peninsula in eparchia Chalkidikis.

Poaceae**86. *Deschampsia flexuosa* (L.) Trin.**

Gr Nomos Chalkidikis, Eparchia Athou: Athos Peninsula, Mt Anti-athonas [Αντι-άθωνας], 3 km N of Ag. Pavlou monastery, southern slopes of southern summit, 1043 m, 40°11'14"N, 24°17'32"E, 25.06.2018, *Sutory* BRNM 806970; northern ridge of Mt Athos, between the saddle and rock wall, northern non-calcareous part, 1310 m, 40°10'10"N, 24°19'00"E, 18.06.2016, *Sutory* BRNM 783003.

New for nomos and eparchia. Scattered in the north although well-collected at the Greek borders. One of the southernmost localities for Greece.

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Reports 87–88**Vladimir Trifonov¹, Tsvetanka Raycheva² & Kiril Stoyanov^{2*}**

¹ Regional Inspectorate of Environment and Water – Haskovo, Bulgaria

² Agricultural University – Plovdiv, 12 Mendeleev Blvd., 4000 Plovdiv, Bulgaria, *e-mail: nomtax@gmail.com

Iridaceae**87. *Crocus adamioides* Kernd. & Pasche**

Bu Thracian Lowland: on the western slope of peak Bayluka, above Propadnaloto Blato protected area, near Golyamo Asenovo, Dimitrovgrad Municipality, 136–149 m, LG86, 42.1246389°N, 25.64550°E, 29.01.2019, coll. V. Trifonov, det. Ts. Raycheva & K. Stoyanov (SOA 062524); *loc. ibid.*, 02.02.2019, coll. V. Trifonov & K. Stoyanov, det. Ts. Raycheva & K. Stoyanov (SOA 062525)

This species is new for the Bulgarian flora. The population covers an area bordering on: 42.12545°N, 25.64678°E; 42.12535°N, 25.64644°E; 42.12544°, 25.64685°E; 42.12536°N, 25.64689°E; 42.12509°N, 25.64652°E; 42.12472°N, 25.64541°E; 42.12463°N, 25.6455°E; 42.12562°N, 25.64690°E; 42.12545°N, 25.64599°E. The plants are single, in moss tufts, between trees of *Quercus robur* and shrubs of *Paliurus spina-christi*. The accompanying plants were: *Viola odorata*, *Dipsacus fullonum*, *Centaurea salonitana*, *Teucrium capitatum*, and *Sanguisorba minor*.

The habit of the plant is similar to this of *C. biflorus* Mill. and *C. adamii* J. Gay. According to Kerndorff & al. (2012) and Ruksans (2017), the species occurs in the European part of Turkey, Kirklareli district. The distance between the Bulgarian locality and the locality of the type is about 130 km. According to the descriptions of the species (Ruksans 2017), the samples' morphology is closer to *C. adamioides* than to *C. adamii* (Figs. 22–24). For example, the corms have basal rings with clearly separated teeth (Fig. 25), corm diameter is up to 15 mm and the perianth tube is glabrous.

88. *Crocus olivieri* J. Gay

Bu Thracian Lowland: on the western slope of peak Bayluka, above the Propadnaloto Blato protected area, near Golyamo Asenovo, Dimitrovgrad Municipality, 136–148 m, LG86, 42.12535°N, 25.64686°E, 29.01.2019, coll. V. Trifonov, det. Ts. Raycheva & K. Stoyanov (SOA 062526); *loc. ibid.*, 02.02.2019, coll. V. Trifonov & K. Stoyanov, det. Ts. Raycheva & K. Stoyanov (SOA 062527); Mandra, LG73, 04.1918, coll. B. Stefanov (SOA 4582); between Ognyanovo and Sinitovo, KG86, 23.02.1973, coll. M. Popova (SOA 025872; above Kurtovo Konare, KG96, 23.03.1965, coll. M. Popova (SOA 050335, 0503306); *loc. ibid.*, 01.03.1966, coll. M. Popova (SOA 050368); *loc. ibid.*, 23.03.1969 (SOA 050460, 05461); Sladun, MG53, 15.03.1969, coll. M. Popova (SOA 050471).



Fig. 22. *Crocus adamioides*, with opened flower (photo: V. Trifonov).



Fig. 23. *C. adamioides*, with closed flower (photo: K. Stoyanov).

The species is new for the Thracian Lowland. Our collections were also confirmed by the herbarium samples in SOA. The plants grow together with *C. adamioides*, in the same environment.

According to Velčev (1964), it is distributed “in lightened shrubs and in dry grassy places in South Bulgaria”. The region of Thracian Lowland was not listed in the earlier floristic works. According to



Fig. 24. *C. adamioides* (photo V. Trifonov).



Fig. 25. *C. adamioides*, corm with teeth (photo K. Stoyanov).

Delipavlov & Cheshmedzhiev (2011) and Assyov & Petrova (2012), the species is distributed in Black Sea Coast, Znepole region, Valley of River Struma, Mt Belasitsa, Mt Slavyanka, Valley of River Mesta, Rhodopi Mts, and Tundzha Hilly Country. The species is under the protection of the Bulgarian Biodiversity Law (listed in Appendix 3).

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Report 89

Kiril Stoyanov* & Tsvetanka Raycheva

Agricultural University – Plovdiv, 12 Mendeleev Blvd.,
4000 Plovdiv, Bulgaria, *e-mail: nomtax@gmail.com

Iridaceae

89. *Crocus pulchellus* Herb.

- Bu** Mt Sredna Gora (*Western*): Starosel, 12.10.1982, coll. *M. Popova* (SOA 039331); 21.09.1975 (SOA 032013, 032014), 12.10.1970, coll. *M. Popova* (SOA 050727); 10.10.1969, coll. *M. Popova* (SOA 025879, 025880, 025881); Hissar, LH-00, 28.10.1968, coll. *S. Dimitrov*, det. *M. Popova* (SOA 025877, 025876).
— Mt Sredna Gora (*Eastern*): Starozagorski Bani, LH-70, 21.11.1992, coll. *M. Popova* (SOA 046841).

According to Velčev (1964) the distribution of the species is “in the southern half of the country” without any other details. This species is reported for Western Frontier Mts., Valley of River Strouma, Mt Belasitsa, Mt Slavyanka, Valley of River Mesta, Rhodopi Mts (*Central, Western*), Thracian Lowland, Mt Strandzha (Assyov & Petrova 2012).

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Reports 90–91

George Zarkos¹, Vasilis Christodoulou², Kit Tan³ & Gert Vold⁴

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 (author for correspondence)

⁴ State Natural History Museum, Øster Farimagsgade 2C, DK-1353 Copenhagen K, Denmark

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

Cactaceae

90. *Opuntia humifusa* (Raf.) Raf. (syn. *Opuntia vulgaris* Mill.)

- Gr** Nomos & Eparchia Korinthias: Lake Vouliagmeni. Open *Pinus halepensis* woodland and at base of dry limestone cliffs, 10–30 m, 38°02'N, 22°54'E, 12.12.2018, *Kit Tan* & *G. Vold* obs.

First report for mainland Greece, otherwise recorded only from Ionian islands (Kefallinia), S Aegean islands and the N Aegean island of Thasos where it occurs in dried-out stream beds near habitation, spreading to occupy several hundred square metres. Fruits almost ripe, reddish-maroon, edible, acidic-sweet, collected but not pressed. Native to N America.

Caryophyllaceae

91. *Silene apetala* Willd. (Figs. 26–29)

- Gr** Nomos & Eparchia Korinthias: roadside field in village of Isthmia, near the Corinth canal, 40 m, 37°55'N, 23°00'E, 01.03.2019, *Christodoulou* obs.; Lake Vouliagmeni, 2 m, 38°01'N, 22°31'E, 11.03.2019, *Zarkos* obs.; ca. 2 km W of the old bridge, fields above canal, 80 m, 37°55'N, 22°59'E, 16.03.2019, *Zarkos* & *Christodoulou* (*Kit Tan* & *G. Vold* 33040); ancient port of Kechries, 17 m, 37°53'N, 23°04'E, 24.03.2019, *Zarkos* & *Christodoulou* obs.; between Palio Kalamaki and Kechries, 15 m, 37°53'N, 23°04'E, 06.04.2019, *Kit Tan* & *G. Vold* 33074.

New for the Peloponnese with the exception of records from the island of Aegina which is included in this phytogeographical region for *Flora Hellenica* (*Kit Tan* & *Issigoni* 2007). *Silene apetala* is a slender annual widespread from the Canary Islands in the west Mediterranean and the south Mediterranean region through to SW and C Asia, naturalized in other parts of the world as far as Australia. It is not so commonly encountered in Greece being reported from Sterea Ellas (Attikis), the Cretan islands (Kriti, Karpathos, Dragonada) and the East Aegean island of Rodos. The petals are small and included within



Fig. 26. *Silene apetala* (photo G. Zarkos).

the calyx or are completely absent (hence the specific epithet meaning *without petals*). The plants collected in the fields above the canal are luxuriant, reaching 55 cm in height and were all with included petals. Some plants of the Isthmia population have deeply bifid petals 5–6 mm long which are exerted from the hairy calyx as shown in Fig. 27. *Silene alexandrina* (Asch.) Danin bears a close resemblance to these large-flowered variants and was originally described as a variety of *S. apetala*. It was reported from Crete by Danin (1987), and later, from the small islands off the southeastern coast of Crete (Trachilos, Koufonision, Mikronisi, Chrisi, Makrouli, Strongili). It occurs in Cyprus, Syria, Israel and Iran, extending westwards to Libya. *Silene sclerocarpa* Dufour also occurs at the Corinth canal, Loutraki and Lake Vouliagmeni. It can be distinguished from *S. apetala* by the calyx shape and indumentum. The differences in calyx and corolla of these three rather similar species (*S. nocturna* L., *S. apetala* and *S. sclerocarpa*) are shown in Fig. 28.



Fig. 27. *Silene apetala*, large-flowered variant (photo V. Christodoulou).

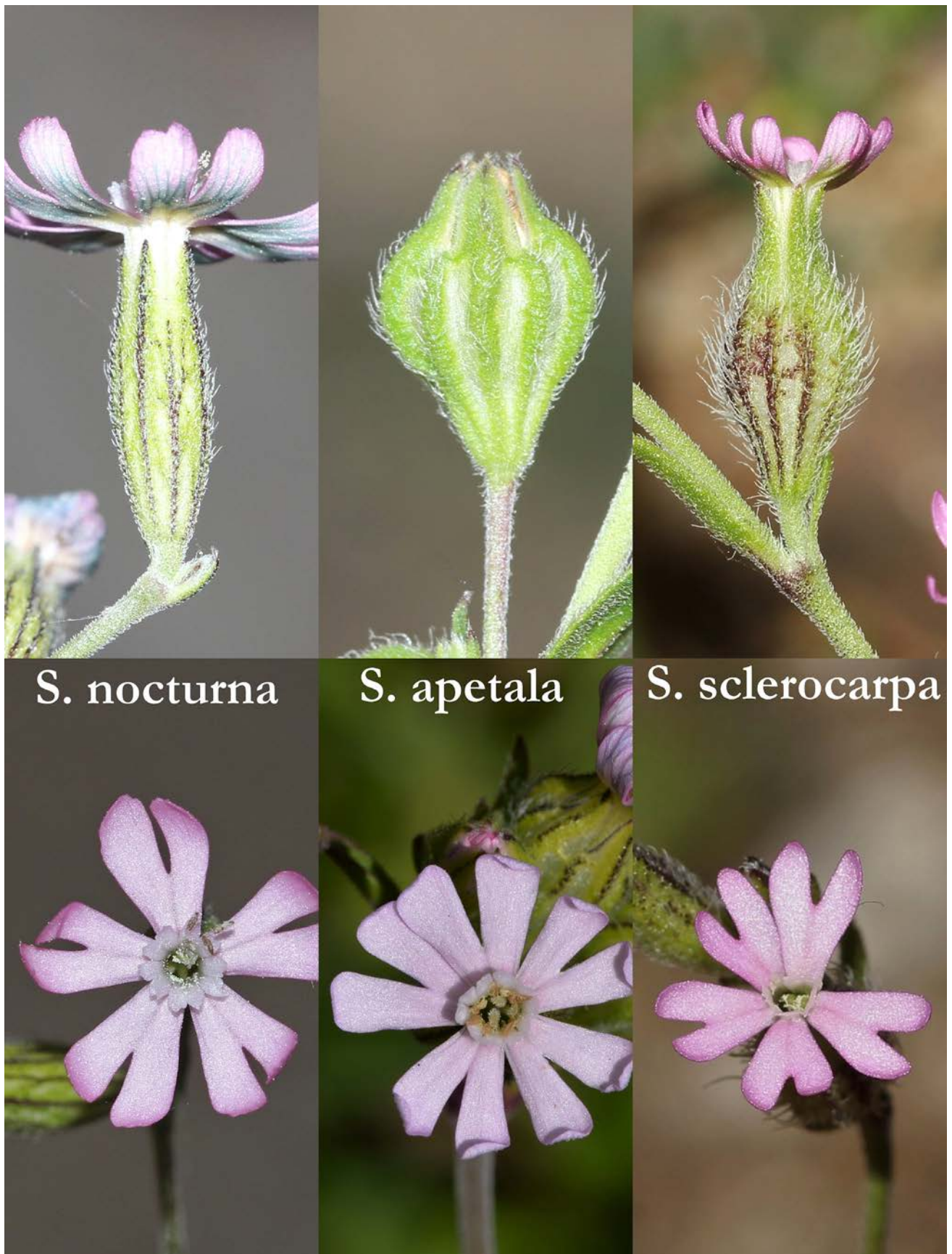


Fig. 28. *Silene nocturna*, *S. apetala* and *S. sclerocarpa*: differences in calyx and corolla (photo V. Christodoulou and G. Zarkos).



Fig. 29. Distribution map of *Silene apetala* in Greece.

References

- Assyov, B. & Petrova, A. (eds). 2012. Conspectus of the Bulgarian Vascular Flora. Distribution Maps and Floristic Elements. Ed. 4. Bulgarian Biodiversity Foundation, Sofia.
- Barina, Z., Somogyi, G., Pifko, D. & Rakaj, M. 2018. Checklist of vascular plants of Albania. – *Phytotaxa*, **378**(1):1-339.
- Biel, B. & Tan, Kit 2016. Reports 8-51. – In: Vladimirov, V. & al. (comp.), New floristic records in the Balkans: 30. – *Phytol. Balcan.*, **22**(2): 261-265.
- Browicz, K. 1972. *Crataegus* (p. 144), *Pyrus* (p. 166-167). – In: Davis, P.H. (ed.), *Flora of Turkey and the East Aegean Islands*. Vol. 4. Univ. Press, Edinburgh.
- Browicz, K. 1978. *Vincetoxicum*. – In: Davis, P.H. (ed.), *Flora of Turkey and the East Aegean Islands*. Vol. 6, p. 170. Univ. Press, Edinburgh.
- Chater, A.O. & Webb, D.A. 1972. *Orobanchae*. – In: Tutin, T.G. & al. (eds), *Flora Europaea*. Vol. 3, pp. 286-293. Cambridge Univ. Press, Cambridge.
- Christensen, K.I. 1997. *Juniperus* L. – In: Strid, A. & Tan, Kit (eds), *Flora Hellenica*. Vol. 1, pp. 10-14. Koeltz Scientific Books, Königstein.
- Danin, A. 1987. Contributions to the flora of Israel and Sinai I. Studies in the apetalous genera *Minuartia*, *Silene*, *Polygala* and *Sedum*. – *Israel J. Bot.*, **36**: 63-71.

- Delipavlov, D. & Cheschmedzhiev, I.** (eds). 2011. Key to the Plants in Bulgaria. Agrarian Univ. Acad. Press, Plovdiv (in Bulgarian).
- Dimitrov, D. & Kachaunova, E.** 2013. Reports 34–65. – In: **Vladimirov, V. & al.** (comp.), New floristic records in the Balkans: 22. – *Phytol. Balcan.*, **19**(2): 273–275.
- Dimopoulos, P., Raus, Th., Bergmeier, E., Constantinidis, Th., Iatrou, G., Kokkini, S., Strid, A. & Tzanoudakis, D.** 2013: Vascular plants of Greece. An annotated checklist. – *Englera*, **31**: 1–372.
- Ganiatsas, K.** 1940. Contribution for the knowledge of the flora of Timfristos mountain. – *Epist. Epet. Shol. Fis. Math. Epist. Panepist. Thessalonikis*, **6**: 17–35 (in Greek).
- Glogov, P., Georgieva, M. & Pavlova, D.** 2018. Report 135. – In: **Vladimirov, V. & al.** (comp.), New floristic records in the Balkans: 37. – *Phytol. Balcan.*, **24**(3): 414.
- Greuter, W., Burdet, H.M. & Long, G.** 1984. Med-checklist. A critical inventory of vascular plants of the circum-mediterranean countries, 1 *Pteridophyta* (ed. 2), *Gymnospermae*, *Dicotyledones* (*Acanthaceae–Cneoraceae*). Conservatoire et Jardin botaniques de la Ville de Genève, Genève, pp. 330 + 100.
- Grozeva, N., Petkov, B. & Petrova, A.** 2012. Reports (40–48). – In: **Vladimirov, V. & al.** (comp.), New floristic records in the Balkans: 19. – *Phytol. Balcan.*, **18**(2): 211–212.
- Halácsy, E. von** 1888. Beiträge zur Flora der Landschaft Doris, insbesondere des Gebirges Kiona in Griechenland. – *Verh. K.K. Zool. – Bot. Ges. Wien*, **38**: 745–764.
- Hayek, A.** 1927. Prodrromus Florae peninsulae Balcanicae 1. – *Repertorium specierum novarum regni vegetabilis, Beihefte*, **30**(1): 1–1193.
- Heywood, V.H.** 1951. A new species of *Digitalis* from Greece: *Digitalis macedonica*. – *Kew Bull.*, **6**(2): 149–151.
- Jagel, A.** 1992. Zur Flora und Vegetation der Insel Elafonisos (Lakonien, Griechenland). Bochum: Diplomarbeit, Ruhr-Universität, 160 pp.
- Jeffrey, L.** 1972. *Bryonia*. – In: **Davis, P.H.** (ed.), Flora of Turkey and the East Aegean Islands. Vol. 4, p. 206. Univ. Press, Edinburgh.
- Kerndorff, H., Pasche, E., Harpke, D. & Blattner, F.R.** 2012. Seven new species of *Crocus* (*Liliiflorae*, *Iridaceae*) from Turkey. – *Stapfia*, **97**: 3–16.
- Kožuharov, S.** 1968. Revision of the collections of genus *Jurinea* Cass. in the Sofia herbaria. – *Izv. Inst. Bot. (Sofia)*, **18**: 67–73 (in Bulgarian).
- Maire, R. & Petitmengin, M.** 1907. Étude des plantes vasculaires récoltées en Grèce (1904). Imprimerie Berger-Levrault & Co.
- Maire, R. & Petitmengin, M.** 1908. Étude des plantes vasculaires récoltées en Grèce (1906). — *Bull. Soc. Sci. Nancy Ser. 3. Nancy, Imprimerie Berger-Levrault & Co.*, pp. 3–239 (separately printed).
- Matthews, V.A.** 1972. *Scabiosa*. – In: **Davis, P.H.** (ed.), Flora of Turkey and the East Aegean Islands. Vol. 4, pp. 604–606. Univ. Press, Edinburgh.
- Micevski, K.** 1998. *Androsace*. – In: Flora of the Republic of Macedonia. Vol. 1(4), pp. 805–806. Macedonian Acad. Sci. Arts, Skopje (in Macedonian).
- Özgökçe, F., Tan, Kit & Stevanović, V.** 2005. A new subspecies of *Silene acaulis* (*Caryophyllaceae*) from East Anatolia, Turkey. – *Ann. Bot. Fennici*, **42**: 143–149.
- Pasta, S., Badalamenti, E., Sala, G. & La Mantia, T.** 2016. *Nicodemia madagascariensis* (Lam.) R. Parker (family *Scrophulariaceae*), a casual alien plant new to Italy. – *Webbia*, **71**(1): 155–162.
- Petrova, A., Vladimirov, V. & Georgiev, V.** 2013. Invasive Alien Species of Vascular Plants in Bulgaria. IBER-BAS, Sofia.
- Polymenakos, K. & Tan, Kit** 2017. Reports 125–130. – In: **Vladimirov, V. & al.** (comp.), New floristic records in the Balkans: 34. – *Phytol. Balcan.*, **23**(3): 428–431.
- Rexhepi, F.** 1986. Flora e maleve të larta të Kosovës. Prishtina, pp. 218 [The flora of the higher mountains of Kosovo. Pristina, pp. 218].
- Ruksans, J.** 2017. The World of Crocuses. Latvian Academy of Sciences.
- Snogerup, S. & Snogerup, B.** 2001. *Bupleurum* L. (*Umbelliferae*) in Europe – 1. The annuals, *B. sect. Bupleurum* and *sect. Aristata*. – *Willdenowia*, **31**: 205–308.
- Strid, A. & Tan, Kit** (eds). 1997. Flora Hellenica. Vol. 1. Koeltz Scientific Books, Königstein.
- Strid, A.** 2018. Report 213. – In: **Vladimirov, V. & al.** (comp.), New floristic records in the Balkans: 37. – *Phytol. Balcan.*, **24**(3): 428.
- Tan, Kit & Issigoni, M.** 2007. Reports 82–115. – In: **Vladimirov, V. & al.** (comp.), New floristic records in the Balkans: 6. – *Phytol. Balcan.*, **13**(3): 446–449.
- Trigas, P.** 2018. A new *Hypericum* (sect. *Drosocarpium*, *Hypericaceae*) from the Cyclades Islands (Greece). – *Nordic J. Bot.*, doi: 10.1111/njb.02205.
- Tzonev, R.** 1997. New chorological data for the flora of Bulgaria. – *God. Sofiisk. Univ “Kliment Ohridski” Biol. Fak.*, **2 Bot**, **89**: 19–22.
- Velčev, V.** 1964. *Crocus*. – In: Flora Reipublicae Popularis Bulgaricae. Vol. 2, pp. 328–338. (in Bulgarian).