

New floristic records in the Balkans: 1*

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* Reports for Bulgaria have been reviewed by V. Vladimirov, for Greece by Kit Tan and for Albania, Bosnia & Herzegovina and Serbia & Montenegro by V. Stevanović.

Abstract. New chorological data are presented for 95 species and subspecies from Albania (report no. 80), Bosnia & Herzegovina (70, 82), Bulgaria (15-30, 72-75, 83-95), Greece (1-14, 31-69), and Serbia & Montenegro (70, 71, 76-79, 81, 82). The taxa belong to the following families: *Amaranthaceae* (2, 15, 16), *Amaryllidaceae* (38), *Apiaceae* (17, 18, 47, 80, 83, 84), *Asclepiadaceae* (85), *Asteraceae* (29, 31, 86-91), *Brassicaceae* (3, 48, 70), *Campanulaceae* (49, 71, 76), *Cannabaceae* (72), *Caprifoliaceae* (4), *Caryophyllaceae* (19, 20, 32, 33, 50-52), *Chenopodiaceae* (5), *Cyperaceae* (28, 78), *Dipsacaceae* (34, 53, 54), *Fabaceae* (6-8, 21, 22, 55, 69), *Guttiferae* (56), *Iridaceae* (39-41), *Juncaceae* (13), *Lamiaceae* (57-61), *Liliaceae* (42-46, 68), *Linaceae* (62), *Ophioglossaceae* (1), *Orchidaceae* (94), *Orobanchaceae* (63), *Papaveraceae* (92), *Plantaginaceae* (9), *Poaceae* (79, 95), *Polygonaceae* (93), *Ranunculaceae* (14, 23, 24, 35), *Rhamnaceae* (64), *Rosaceae* (65), *Rubiaceae* (66), *Scrophulariaceae* (25, 26, 36, 73, 77, 81), *Solanaceae* (10, 11, 74), *Thymelaeaceae* (30, 67, 82), *Valerianaceae* (37), *Verbenaceae* (12), *Violaceae* (27) and *Vitaceae* (75).

First reports for countries are: Albania – *Eryngium serbicum* (80), Bulgaria – *Parthenocissus quinquefolia* (75), Greece – *Gonocytisus dirmilensis* (69), *Littorella uniflora* (9) and *Verbena aristigera* (12); Serbia & Montenegro – *Campanula moravica* (76), *Daphne malyana* (82), *Lindernia dubia* (77) and *Poa timoleontis* (79). *Gonocytisus dirmilensis* and *Verbena aristigera* are new for Europe.

The publication includes contributions by B. Biel & Kit Tan (1-13), N. Böhling (14), D. Dimitrov & V. Vutov (15-28), R. Dimova & V. Vladimirov (29-30), Kit Tan & G. Vold (31-46), Kit Tan, G. Vold, G. Iatrou & G. Sfikas (47-68), Kit Tan, M. Vural & A. Strid (69), D. Lakušić & V. Stevanović (70-71), A. Petrova (72-75), V. Randelović, B. Zlatković, N. Randelović & M. Jušković (76-79), V. Stevanović & S. Vukojičić (80-81), V. Stevanović & B. Zlatković (82) and V. Vladimirov (83-95).

Timely publication of new chorological data for vascular plants is important for numerous ongoing projects in the Balkan countries. To facilitate swifter reporting a new opportunity is offered in *Phytologia Balcanica* under the above mentioned title. The new records should fulfil the following criteria:

1. Taxa at rank below subspecies will not be included.
2. Each record should bear the taxon's currently accepted name, country abbreviation, floristic region according to recognized geographical division, detailed description of locality, geographical or UTM-coordinates, date of collection, name of collector, collecting number, herbarium acronym, and other relevant comments. Cited references and the full postal and e-mail addresses of the contributor should be included. Abstracts should not be sent. Guidelines for format are provided in the first contribution as published below.
3. The order of the listed taxa should be alphabetical, by families (following *Flora Europaea*), genera and species with the main group *Dicotyledones* preceding the *Monocotyledones*. Within each taxon, the countries will be listed alphabetically if records in more than one country are presented.

4. The following country abbreviations are agreed on:

Albania	Al
Bosnia & Herzegovina	BH
Bulgaria	Bu
Croatia	Ct
FYR Macedonia	Mk
Greece	Gr
Romania	Ro
Serbia & Montenegro:	SM
Montenegro	SM(M)
Serbia	SM(S)
Slovenia	Sl
Turkey-in-Europe	Tu(E)

5. New records of vascular plants can be submitted at any time. However, the following deadlines should be taken into account: records submitted by 31st January are guaranteed to appear in the first issue of the year; records submitted by 31st May will ap-

pear in the second issue; records submitted by 30th September will appear in the third issue.

- The submitted records will be reviewed by countries' advisors.
- In those cases where a taxon is new to a given country, the authors may still submit a separate paper for publication in *Phytologia Balcanica* provided that more comprehensive studies have been carried out, e.g. karyological or molecular investigations.
- When preparing the manuscript please follow the relevant instructions to authors.

The manuscript should be sent in electronic format preferably by e-mail or by post on a CD to Vladimir Vladimirov, e-mail: phytobalcanica@abv.bg (mail subject: Floristic Records); postal address: Institute of Botany, BAS, Acad. Georgi Bonchev St., bl. 23, 1113 Sofia, Bulgaria. Confirmation of receipt will be sent to each contributor as soon as the manuscript is received.

Reports 1–13

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These deal with new localities of various taxa in the N Sporades (W Aegean islands).

Ophioglossaceae

1. *Ophioglossum vulgatum* L.

Gr Skiathos: N coast of island, in the deep Kechrias ravine c. 6 km N of Platanias Bay, 60 m, 39°11'16" N, 23°27'10" E, 05.04.2002, *Biel* 02.048 (herb. Biel).

New for the W Aegean islands.

Amaranthaceae

2. *Amaranthus hybridus* L.

Gr Skopelos: centre of village of Skopelos, path paved with cobble stones and at road margins, on limestone and marble, 40 m, 39°07'14" N, 23°43'42" E, 03.11.2005, *Biel* 05.232 (herb. Biel).

— Alonnisos: centre of village of Alonnisos, path edges, on limestone and marble, 190 m, 39°09'00" N, 23°50'39" E, 06.11.2005, *Biel* 05.130 (herb. Biel).

New for N Sporades, previously recorded for Skiros in S Sporades.

Brassicaceae

3. *Lobularia maritima* (L.) Desv.

Gr Skopelos: W of village of Skopelos, dirt road near Aloupi, on schist, 70 m, 39°07'18" N, 23°43'26" E, 05.11.2005, *Biel* 05.277 (herb. Biel).

— Alonnisos: N of village of Patitiri, grassy slopes and ditch, schistose substrate, 100 m, 39°09'10" N, 23°51'54" E, 07.11.2005, *Biel* obs.

New for the W Aegean islands.

Caprifoliaceae

4. *Sambucus ebulus* L.

Gr Skiathos: N-NW of village of Skiathos, rocky phrygana in vicinity of Kastro, on limestone, 50 m, 39°12'56" N, 23°27'37" E, 23.05.2001, *Biel* (photo no. 1a/28).

— Skopelos: E of village of Skopelos, beach at sea-front, 5 m, 39°07'11" N, 23°44'11" E, 05.10.2001, *Biel* (photo no. 2a/18); S of village of Skopelos, fallow fields in between fruit gardens and road margins, 10 m, 39°06'54" N, 23°43'44" E, 08.10.2001,

Biel obs.; S-SW of village of Kambos, steep partly terraced slope with olive trees, *Cistus phrygana* to the west of road, on schist, 30 m, 39°06'32" N, 23°43'23" E, 12.04.2002, *Biel* obs.; SE of village of Skopelos, road margins and gardens behind seafront, 5 m, 39°07'08" N, 23°43'56" E, 03.11.2005, *Biel* obs.

New for N Sporades, previously noted for Skiros in S Sporades.

Chenopodiaceae

5. *Beta vulgaris* subsp. *maritima* (L.) Arcang.

Gr Skopelos: SE of village of Skopelos, road margins and gardens at seafront, 5 m, 39°07'08" N, 23°43'56" E, 03.11.2005, *Biel* 05.235 (herb. *Biel*).

— Alonnisos: E of village of Alonnisos, phrygana and road margins, on limestone, 150 m, 39°09'06" N, 23°50'58" E, 08.11.2005, *Biel* 05.164 (herb. *Biel*); S of village of Alonnisos, shingle beach near Meghalos Mourtias, on limestone and schist, *c.* sea level, 39°08'30" N, 23°50'42" E, 06.11.2005, *Biel* obs.

Not previously recorded for Skopelos nor Alonnisos.

Fabaceae

6. *Astragalus pelecinus* (L.) Barneby

Gr Alonnisos: N of Votsi, Ag. Anarghiri, olive slope with phrygana and pine in vicinity of chapel, limestone, 90 m, 39°10'22" N, 23°52'38" E, 04.06.2001, *Biel* 01.037 (herb. *Biel*).

New for Alonnisos.

7. *Melilotus albus* Medik.

Gr Skopelos: SE of Skopelos, ruderal road edges, near petrol station, 20 m, 39°06'57" N, 23°43'56" E, 06.10.2001, *Biel* 01.077 (herb. *Biel*).

New for the W Aegean islands.

8. *Tetragonolobus purpureus* Moench

Gr Alonnisos: SW of Votsi, near Rousoum Ghialos, road margins with phrygana, schist, 20 m, 39°09'06" N, 23°52'12" E, 16.04.2002, *Biel* 02.124 (herb. *Biel*).

New for Alonnisos.

Plantaginaceae

9. *Littorella uniflora* (L.) Asch. (syn.: *L. lacustris* L.)

Gr Skiathos: Kolios, 39°08'30" N, 23°26'16" E, 10.11.2005, *Biel* 05.046 (C, herb. *Biel*; Fig. 1).

Growing in small populations totalling an expanse of *c.* 1 m² at the muddy edge of a seasonal pool. The plants were submerged and in the sterile stage. Accompanying species were noted as follows:

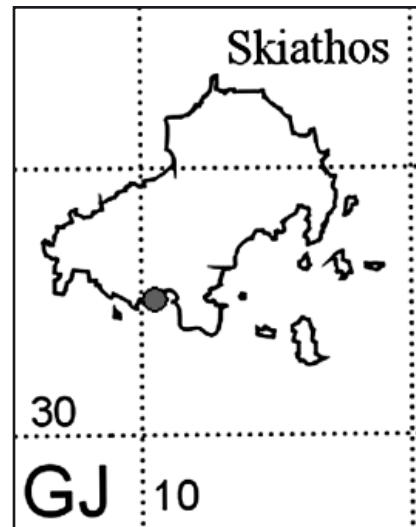


Fig. 1. Distribution of *Littorella uniflora* in Greece.

24.05.2001 – *Bolboschoenus maritimus* (L.) Palla, *Carex divisa* Huds., *Carex pairaei* F.W. Schultz, *Cyperus longus* L. agg., *Inula viscosa* (L.) Aiton, *Eleocharis palustris* (L.) Roem. & Schult., *Isolepis cf. setacea*, *Juncus acutus* L., *Juncus subulatus* Forssk. (*Biel* 01.024), *Lathyrus aphaca* L., *Lonicera* sp., *Lythrum junceum* Banks & Sol., *Paliurus spina-christi* Mill., *Phragmites australis* (Cav.) Trin. ex Steud., *Plantago coronopus* L., *Polypogon maritimus* Willd. (*Biel* 01.098), *Polypogon monspeliensis* (L.) Desf., *Scirpoides holoschoenus* (L.) Soják, *Tamarix* sp.; 10.11.2005 – *Calepina irregularis* (Asso) Thell., *Juncus heldreichianus* Parl., *Oxalis corniculata* L., *Sporobolus virginicus* (L.) Kunth (*Biel* 05.044), *Medicago* sp.

Littorella is new for Greece. The taxa indicated in bold are additions to the known flora of the N Sporades (part of the W Aegean islands).

The locality is a flat coastal marsh W of the village of Kolios (Agios Taxiarchis) situated at the mouth of the small Plataniás streamlet leading to the sea on the S coast of the island of Skiathos. This was investigated in May 2001 and again, four years later, in November 2005. The coastal area, also known as Plataniás Bay, includes remnants of a brackish swamp with shrubs, reeds and sedges. There are several seasonal pools alternating with regularly goat-grazed, damp patches of meadow. The entire area was subjected to severe anthropogenic disturbance and activity, with landfills and site-leveling for hotels and car parks, Kolios being mainly a holiday complex.

L. uniflora is a stoloniferous aquatic herb with wind-pollinated, unisexual flowers and leaves in a rosette, linear-subulate and sheathing at the base. It occurs in W and C Europe, mainly submerged

at the edge or on exposed shores of nutrient-poor lakes, on sandy or gravelly acid soils forming a recognized association of its own, *Littorelletea uniflorae*. It often forms extensive turf in shallow water, flowering only when exposed. Within the Mediterranean region it has not been listed for Greece by Moore (1976) nor have we found records for the country in published literature. Its occurrence on Skiathos is admittedly far from the nearest known European distribution in Romania and if regarded as adventive, transport has probably been by migratory water birds. Owing to its rather inconspicuous appearance it may have been overlooked by most biologists investigating coastal mainland or island floras.

Solanaceae

10. *Datura stramonium* L.

Gr Skopelos: S-SE of village of Christos, grassy embankments, olive groves, on schist or limestone, 60 m, 39°06'37" N, 23°44'07" E, 02.11.2005, *Biel* 05.231 (herb. Biel).

New for Skopelos.

11. *Lycium chinense* Mill.

Gr Skopelos: E-SE of village of Glossa, shrubby road embankments, olive slope near deep chasm, on limestone and schist, 100 m, 39°10'19" N, 23°38'31" E, 04.11.2005, *Biel* 05.271 (herb. Biel).

New for the W Aegean islands.

Verbenaceae

12. *Verbena aristigera* S. Moore [Fig. 2; syn.: *Glandularia aristigera* (S. Moore) Tronc.]

Gr Skiathos: Kolios, 39°08'30" N, 23°26'16" E, 10.11.2005, *Biel* 05.043 (C).

In damp meadow c. 50 metres away from *Littorella* locality and c. 150 metres inland from the coast at the slightly higher altitude of 3 m. Approximately 30 flowering individuals were counted growing in lax association.

Verbena aristigera is an introduced adventive and apparently ours is the first record both for Greece and Europe. The plant is easily identifiable due to its sprawling weedy habit, narrow pinnatifid leaves and persistent, slender, awned-tipped calyx. It is native to South America and we have compared our material with plants from Argentina and from the Transkei in S Africa. It has also spread to W Australia. Growing as it does on floodplains, grass-



Fig. 2. *Verbena aristigera* (Photo B. Biel).

land and in disturbed habitats in its native land, the plants on Skiathos have surely been naturalised for several years. We can speculate on its original introduction but probably it has been by human activity near a holiday resort. The dissemination unit of a fruit with shortly aristate calyx would assist in dispersal but the species does not appear to have spread outside its clover meadow. Although the blue or purplish-mauve flowers are conspicuous new invasions may not always be noticed due to the late autumnal flowering season.

Juncaceae

13. *Juncus striatus* Schousb. ex E. Mey.

Gr Skiathos: N-NE of Trullos, road ditch in forest NW of Panaghia Kounistra, schist, 160 m, 39°09'56" N, 23°25'55" E, 10.11.2005, *Biel* 05.036 (herb. Biel).

New for the W Aegean islands.

The vouchers of *L. uniflora* and *V. aristigera* are deposited in the herbarium at the University of Copenhagen (C); those of the other plants listed and one duplicate of the *Littorella* are kept in the private herbarium of B. Biel (herb. Biel).

Report 14

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*Ranunculaceae*14. *Ranunculus bullatus* L.

Gr Naxos island: Glinado village, 5 km SE Naxos Chora, at E fringe of village, between granodioritic rocks, partly overgrown by *Oxalis pes-caprae*, tall plants, 70–90 m, 37°04'18" N, 25°24'08" E, 31.12.2004, *N. Böhling* 13370 (herb. N. Böhling, B); on heavily trampled ground (especially along goat paths) in intensely grazed, fenced phrygana, *N. Böhling* 13371 (herb. N. Böhling).

The taxonomic treatment follows Strid (2002: 60). The plants of 13370 are unusually tall, the flowering stems up to 32 cm, the leaves distinctly petiolate, the lamina

7.5 × 5 cm, nearly glabrous and shiny, coarsely crenate-serrate. No. 13371 comprises plants 9–19 cm tall which are more pilose especially in immature parts, petioles and veins on lower leaf surfaces. Indumentum depends on age and light conditions; it is more dense on young leaves and developing flower stems in full sun (and at high mountain sites), less dense to glabrous on older parts and in less sunny conditions. Both populations show single-flowered stems as in most of the S Aegean plants (in W Crete plants with branched, 3-flowered, slender stems and serrate leaves occur, *N. Böhling* 10637). The plant size is due to high nutrient levels.

First records for the Cyclades (Kik).

Reports 15–28

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*Amaranthaceae*15. *Amaranthus crispus* (Lesp. & Thévenau) N. Terracc.

Bu Balkan Range (*Eastern*): the town of Sliven – the market, MH-43, 10.08.1986, coll. *P. Panov* (SOM 160621). This species has been known so far from the Black Sea Coast, Northeast Bulgaria, Danubian Plain, Forebalkan, Balkan Range (*Western*), Valley of Strouma River, Rila Mts, Thracian Lowland, and Mt Strandzha (Dimitrov 2002: 40).

16. *Amaranthus deflexus* L.

Bu Northeast Bulgaria: the city of Rouse, MJ-15, 22.07.1985, coll. *P. Panov* (SOM 160622).

— Balkan Range (*Eastern*): the town of Sliven – the factory, MH-43, 12.08.1986, coll. *P. Panov* (SOM 160623).

This species has been known so far from the Black Sea Coast, Danubian Plain, Forebalkan (*Eastern*), Sofia Region, Valley of Strouma River, Thracian Lowland, Tundzha Hilly Plain, and Mt Strandzha (Dimitrov 2002: 40).

*Apiaceae*17. *Bupleurum flavum* Forssk.

Bu Balkan Range (*Eastern*): calcareous grassland W

of Kozichino village, NH-44, 20.07.2004, coll. *B. Milchev* (SOM 160454, 160455).

This species has been known so far from the Black Sea Coast, Znepole Region, Rhodopi Mts (*Eastern*), Thracian Lowland, and Tundzha Hilly Plain (Dimitrov 2002: 76).

18. *Peucedanum ruthenicum* M. Bieb.

Bu Balkan Range (*Eastern*): Rishka Mt, grassland on a limestone substrate, Beklembir peak, 700 m, MH-95, 27.06.2002, coll. *D. Stoyanov* (SOM 158038).

This protected species has been known so far from 2 floristic regions: Northeast Bulgaria and the Tundzha Hilly Plain (Andreev 1992).

*Caryophyllaceae*19. *Cerastium semidecandrum* L.

Bu Balkan Range (*Eastern*): calcareous grassland in the Orlitsite Protected Area, beneath Golyama Orlitsa peak, 700 m, MH-95, 13.05.2003, coll. *D. Stoyanov* (SOM 158416).

Urumov (1909) reported the species for the Balkan Range (*Eastern*), but the record was not taken into account in the Bulgarian Floras.

20. *Sagina apetala* L.

Bu Balkan Range (*Eastern*): the fountain by the village of Ichera, district of Sliven, MH-53, 23.05.1972, coll. *P. Panov* (SOM 161003).

— Rhodopi Mts (*Central*): Persenk hut, KG-93, 10.08.1981, coll. *P. Panov* (SOM 161002).

First records of the species for these floristic regions.

Fabaceae**21. *Lathyrus inconspicuus* L.**

Bu Balkan Range (*Eastern*): Rishka Mt, stony grassland on a limestone substrate, Beklembir peak, 700 m, MH-95, 27.06.2002, coll. *D. Stoyanov* (SOM 158035).

The species has been known so far from the Danubian Plain, Znepole Region, Rhodopi Mts (*Eastern*), Thracian Lowland, and Tundzha Hilly Plain (Kozuharov 1992: 410).

22. *Trifolium smyrnaeum* Boiss.

Bu Balkan Range (*Eastern*): Rishka Mt, Golyama Orlitsa peak, 800 m, MH-95, 27.06.2002, coll. *D. Stoyanov* (SOM 158039).

Urumov (1929) and Stanev (1979) reported the species for the Balkan Range (*Eastern*) but it was omitted in the later Floras and Field guides.

Ranunculaceae**23. *Ranunculus lanuginosus* L.**

Bu Balkan Range (*Eastern*): Rishka Mt, Orlitsite Protected Area, mixed deciduous forests, 650 m, MH-95, 13.05.2003, coll. *D. Stoyanov* (SOM 158409, 158410).

This species has been known so far from Northeast Bulgaria, Forebalkan, Thracian Lowland, and Tundzha Hilly Plain (Anchev 1992: 666).

24. *Ranunculus pedatus* Waldst. & Kit.

Bu Balkan Range (*Eastern*): grassland on a limestone area beneath Golyama Orlitsa peak, 700 m, MH-95, 13.05.2003, coll. *D. Stoyanov* (SOM 158421).

This species has been known so far from Northeast Bulgaria, Danubian Plain, Sofia Region, Znepole Region, and Thracian Lowland (Anchev 1992: 662).

Scrophulariaceae**25. *Verbascum pulverulentum* Vill.**

Bu Balkan Range (*Eastern*): Rishka Mt, Golyama Orlitsa peak, grassland on a limestone substrate, 800 m, MH-95, 27.06.2002, coll. *D. Stoyanov* (SOM 158036).

The species has been reported so far from the Black Sea Coast (*Southern*), Forebalkan, Balkan Range (*Western & Central*), Sofia Region, Znepole Region, Vitosha Region, and Thracian Lowland (Stefanova-Gateva 1995).

26. *Veronica austriaca* subsp. *neiceffii* (Degen) Peev

Bu Balkan Range (*Eastern*): Rishka Mt, Beklembir peak, 700 m, MH-95, 27.06.2002, coll. *D. Stoyanov* (SOM 158033); E from the town of Kotel, MH-64, 21.09.1971, coll. *Y. Yanev* (SOM 129020).

Peev (1995) reported this Bulgarian endemic only from the Balkan Range (*Central*).

Violaceae**27. *Viola canina* L.**

Bu Balkan Range (*Eastern*): Rishka Mt, Golyama Orlitsa peak, deciduous forest, 700 m, MH-95, 13.05.2003, coll. *D. Stoyanov* (SOM 158376).

Urumov (1908) reported the species for this floristic region for Sliven Mt. However, this record has been omitted in the Bulgarian Floras probably due to the lack of herbarium specimens.

Cyperaceae**28. *Carex pilosa* Scop.**

Bu Balkan Range (*Eastern*): Rishka Mt, Orlitsite Protected Area, MH-95, 13.05.2003, coll. *D. Stoyanov* (SOM 158411, 158412).

Achtarov (1957) reported the species for the Balkan Range (*Eastern*), but it has not been accepted in any Flora since then. Dimitrov (2002: 92) gives the species for Northeast Bulgaria, Danubian Plain, Balkan Range (*Western & Central*), Sofia Region, Vitosha Region, and Mt Sredna Gora.

Reports 29–30

Rosytza Dimova¹ & Vladimir Vladimirov²¹ 3, Ohrid St., 3400 Montana, e-mail: rdimova1960@abv.bg² Institute of Botany, Bulgarian Academy of Sciences, Acad. Georgi Bonchev St., bl. 23, 1113 Sofia, Bulgaria, e-mail: vdvlad@bio.bas.bg**Asteraceae****29. *Centaurea atropurpurea* Waldst. & Kit.**

Bu Balkan Range (*Western*): grassland on a limestone substrate by abandoned forest road in the locality of Bekinska Shoburka close to Chouprene Reserve, c. 1300 m, FP-31, 27.07.2005, coll. *R. Dimova* (SOM 162449).

First record of the species for this floristic region. The population consisted of c. 15 flowering individuals. So far this rare and protected in Bulgaria species has been known only from the Forebalkan (*Western*) – Vrushka Chouka hill (Delipavlov 2003: 415).

Thymelaeaceae**30. *Daphne laureola* L.**

Bu Forebalkan (*Western*): Ravna village, municipality of Chiprovtsi, deciduous forest in the site of Gradiste within Ravnensko Gradishte protected locality, c. 700 m, FP-50, 18.03.2005, coll. *R. Dimova* (SOM 162418).

The species is known from this floristic region from Vrachanska Mt (Markova & Cherneva 1979). The new locality is the northernmost occurrence of this rare and protected species in Bulgaria.

Reports 31–46

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These deal with new localities for endemic or rare taxa in SE Peloponnese, S Greece.

Asteraceae**31. *Inula verbascifolia* subsp. *methanaea* (Hauskn.) Tutin**

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: Charakas, vertical limestone cliffs and rocks, 480 m, 36°55' N, 23°00' E, 12.06.2005, *Kit Tan* & *G. Vold* obs.

— Mt Koulochera, limestone rocks near summit and ridge, 800–1000 m, 36°49' N, 22°59' E, 12.06.2005, *Kit Tan* & *G. Vold* obs.

Not previously recorded from area SE of Parnonas. Also noted in the southern part of Parnonas (Moni Elona, Moni Agios Nikolaos Sintzas) and on the rocks above Velanidia near the tip of the Malea Peninsula.

Caryophyllaceae**32. *Cerastium dichotomum* L.**

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: road to Mt Kalogerovouni, edge of stony abandoned field, *terra rossa* overlying limestone, 600–700 m, 36°49' N, 22°56' E, 10.04.2005, *Kit Tan* & *G. Vold* 27958 (GB, herb. Kit).

New for Nomos Lakonias and the area SE of Parnonas. Only record from whole of SE Peloponnese.

33. *Petrorhagia grandiflora* Iatrou

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: Charakas, vertical limestone cliffs and rocks, 480 m, 36°55' N, 23°00' E, 12.06.2005, *Kit Tan* & *G. Vold* 28042 (GB, herb. Kit).

Extending the distribution southwards, outside its previously known area on Parnonas. *Asperula elonea* and *Odontites linkii* were observed in close vicinity, at the foot of cliffs. *P. grandiflora* was also noted in some numbers at Moni Agios Nikolaos Sintzas, together with *Odontites linkii*, the latter providing a new distributional record in S Parnonas.

Dipsacaceae**34. *Ptercephalus perennis* Coult. subsp. *perennis***

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Koulochera, stony limestone slopes, 1000 m, 36°49' N, 22°59' E, 12.06.2005, *Kit Tan* & *G. Vold* 28013 (herb. Kit); *loc. ibid.*, 07.05.1982, *Runemark* & *Svensson* obs.

New to area SE of Parnonas. Host to the root-parasite *Orobanche baumanniorum* which has also a documented extension to its distribution range.

Ranunculaceae**35. *Delphinium hellenicum* Pawl.**

Gr Nomos Lakonias, Eparchia Lakedemonos: Alepohori to Geraki, abandoned olive grove and road cuttings, 280–320 m, 36°57' N, 22°44' E, 14.06.2005, *Kit Tan & G. Vold* 28072 (GB, herb. Kit).

New to the area S of Parnonas and second record for eparchia. The flowers of some plants were a peculiar bronzy maroon instead of dusky purple.

Scrophulariaceae**36. *Cymbalaria microcalyx* (Boiss.) Wettst. subsp. *microcalyx***

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: limestone cliffs near Charakas, 480 m, 36°55' N, 23°00' E, 12.06.2005, *Kit Tan & G. Vold* obs.; 1 km NE of Charax, 400–500 m, 06.05.1982, *Runemark & Svensson* 48330 (LD); also collected on Mt Koulochera, rocky limestone slopes near summit and ridge, 1000–1100 m, 36°49' N, 22°59' E, 12.06.2005, *Kit Tan & G. Vold* 28023 (herb. Kit).

Extension of distribution to the area SE of Parnonas.

Valerianaceae**37. *Valeriana crinii* Orph. ex Boiss. subsp. *crinii***

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Chionovouni, rocky limestone slopes and ledges in open *Abies* forest, 1000–1200 m, 36°58' N, 22°55' E, 13.06.2005, *Kit Tan & G. Vold* 28058 (herb. Kit).

Very disjunct from the previously known localities in N Peloponnese (area of Mt Chelmos). The recently described *Omphalodes runemarkii* (Strid & Tan 2005) was in fruit lower down the slope. Mt Chionovouni is a relatively unbotanized mountain. There appears to be a new *Centaurea* at the summit.

Amaryllidaceae**38. *Sternbergia sicula* Guss.**

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: lower slopes of Mt Koulochera, c. 800 m, 36°48' N, 22°59' E, 06.11.2005, flowering, *Kit Tan & G. Vold* obs.

New to area SE of Parnonas and to eparchia Epidavrou-Limiras.

Iridaceae**39. *Crocus boryi* J. Gay**

Gr Nomos Arkadias, Eparchia Kinourias: Peleta to Poulithra, terraced limestone slopes in low maquis of *Acer* and *Quercus*, 530 m, 37°05' N, 22°52' E, 08.11.2005, *Kit Tan & G. Vold* obs.; near Peleta,

small abandoned field, 570 m, 37°03' N, 22°53' E, 08.11.2005, *Kit Tan & G. Vold* obs.

— Nomos Lakonias, Eparchia Epidavrou-Limiras: Agios Dimitrios to Kremasti, open rocky ground, 680 m, 36°58' N, 22°52' E, 07.11.2005, *Kit Tan & G. Vold* obs.; Mt Koulochera, along path to summit, 700 m, 36°50' N, 22°57' E, 06.11.2005, *Kit Tan & G. Vold* obs.

Apparently new for the area SE of Parnonas. Easily recognized by the goblet-shaped creamy-white flowers and white anthers.

40. *Crocus laevigatus* Bory & Chaub.

Gr Nomos Arkadias, Eparchia Kinourias: along stony paths in the vicinity of Moni Agios Nikolaos Sintzas, 250–500 m, 37°09' N, 22°49' E, 08.11.2005, *Kit Tan & G. Vold* obs.; Peleta to Poulithra, terraced limestone slopes in low maquis of *Acer* and *Quercus*, 530 m, 37°05' N, 22°52' E, 08.11.2005, *Kit Tan & G. Vold* obs.; near Peleta, small abandoned field, 570 m, 37°03' N, 22°53' E, 08.11.2005, *Kit Tan & G. Vold* obs.

— Nomos Lakonias, Eparchia Epidavrou-Limiras: Agios Dimitrios to Kremasti, open rocky ground, 680 m, 36°58' N, 22°52' E, 07.11.2005, *Kit Tan & G. Vold* obs.; Mt Koulochera, along path to summit, 700 m, 36°50' N, 22°57' E, 06.11.2005, *Kit Tan & G. Vold* obs.

New for Mt Parnonas and the area southeast of it. Easily recognized by the smooth corm tunics, perianth segments unmarked or with external purplish-violet feathering and cream-white anthers. Near Peleta was a small stony field covered with hundreds of flowers per square metre, forming together with *C. boryi*, a thick white carpet.

41. *Crocus niveus* Bowles

Gr Nomos Arkadias, Eparchia Kinourias: Peleta to Poulithra, 530 m, terraced limestone slopes in low maquis of *Acer* and *Quercus*, 37°05' N, 22°52' E, 08.11.2005, *Kit Tan & G. Vold* obs.; Peleta, small abandoned field, 570 m, 37°03' N, 22°53' E, 08.11.2005, *Kit Tan & G. Vold* obs.

— Nomos Lakonias, Eparchia Epidavrou-Limiras: Apidia to Niata, open phrygana with limestone rocks and boulders, 200 m, 36°54' N, 22°49' E, 07.11.2005, *Kit Tan & G. Vold* obs.; near Kremasti, 380 m, 36°59' N, 22°53' E, 07.11.2005, *Kit Tan & G. Vold* obs.; Mt Koulochera, along path to summit, 700 m, 36°50' N, 22°57' E, 06.11.2005, *Kit Tan & G. Vold* obs.

Extends the distribution range of the species further northwards; it was not observed N of Leonidio. White and pale lilac-flowered plants occur in the same populations.

Liliaceae

42. *Allium nigrum* L.

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: on way to Mt Kalogerovouni, stony uncultivated fields and field margins, 600–700 m, 36°49' N, 22°56' E, 10.04.2005, *Kit Tan & G. Vold* 27959 (herb. Kit).

Not previously recorded for the area SE of Parnonas.

43. *Bellevalia ciliata* (Cirillo) T. Nees

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: on way to Mt Kalogerovouni, stony uncultivated fields and field margins, 600–700 m, 36°49' N, 22°56' E, 10.04.2005, *Kit Tan & G. Vold* 27960 (herb. Kit).

Not previously recorded for the area SE of Parnonas.

44. *Bellevalia dubia* subsp. *boissieri* (Freyn) Feinbrun

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: on way to Mt Kalogerovouni, stony uncultivated fields or their margins, 600–700 m, 36°49' N, 22°56' E, 10.04.2005, *Kit Tan & G. Vold* 27969 (herb. Kit).

Not previously recorded for the area of low mountains SE of Parnonas.

45. *Colchicum psaridis* Heldr. ex Halácsy

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: near Kremasti, stony phrygana, 380 m, 36°59' N, 22°53' E, 07.11.2005, *Kit Tan & G. Vold* obs.;

Apidia to Molai, *terra rossa* overlying limestone, together with *Cyclamen graecum*, 140 m, 36°52' N, 22°48' E, 07.11.2005, *Kit Tan & G. Vold* obs.; Mt Koulochera, open stony ground near summit and ridge, limestone, 800–1000 m, 36°49' N, 22°59' E, 06.11.2005, *Kit Tan & G. Vold* obs.

Surprising first record for the eastern part of Peloponnese, well outside its known range in the foothills of Taigetos and the Mani Peninsula. Recognizable by its dark purplish-brown or blackish anthers and slender, worm-like corm.

46. *Fritillaria graeca* subsp. *guicciardii* (Heldr. & Sart. ex Boiss.) Zaharof

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: 1–2 km along gravel road to mountain c. 1 km south of Mt Koulochera, *terra rossa*, phrygana and rocky limestone outcrops, 710 m, 36°49' N, 22°57' E, 07.04.2005, *Kit Tan & G. Vold* 27914 (herb. Kit); on way to Mt Kalogerovouni, stony uncultivated fields and their margins, 600–700 m, 36°49' N, 22°56' E, 10.04.2005, *Kit Tan & G. Vold* 27967 (GB, herb. Kit); also observed further along dirt road to Mt Kalogerovouni, in abandoned terraces with deep *terra rossa* overlying limestone, some rather tall plants growing together with *Hermodactylus tuberosus*, the latter with completely yellow (not velvety-black) falls.

Not previously recorded from the area of low mountains SE of Parnonas.

Reports 47–68

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The distribution of several endemic or rare taxa in the Peloponnese, S Greece, is extended based on further floristic research. Several reports are from new and disjunct localities.

Apiaceae

47. *Athamanta arachnoidea* Boiss. & Orph.

Gr Nomos Arkadias, Eparchia Kinourias: Mt Parnonas, rocky limestone slopes and cliffs at Moni

Agios Nikolaos Sintzas, SW of Leonidion, 550–600 m, 37°09' N, 22°49' E, 12.04.2005, 15.06.2005 & 08.11.2005, *Kit Tan & G. Vold* obs.

— Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Korakia, 750–800 m, 36°52' N, 22°58' E, 09.04.2005, sterile rosettes, *Kit Tan & G. Vold* 27947 (GB, herb. Kit); Mt Koulochera, limestone slopes and rocks near summit and ridge, 1000 m, 36°49' N, 22°59' E, 06 & 07.04.2005, *Kit Tan & G. Vold* obs.

The localities were visited three times in a year but no flowering plants were collected. Previously known from Taigetos and Moni Elona in the Parnon range; the records from Mts Koulochera and Korakia are southern extensions.

Brassicaceae

48. *Draba strasseri* Greuter

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: lower slopes of Mt Koulochera, on white marl, 850 m, 36°48' N, 22°59' E, 07.04.2005, in fruit, *Kit Tan* & *G. Vold* obs.; Mt Chionovouni, 2.6 km from Kremasti to Peleta, rocky limestone slopes, 900–1000 m, 36°58' N, 22°55' E, 13.06.2005, in fruit, *Kit Tan* & *G. Vold* obs.

Formerly known only from the upper slopes of Mt Profitis Elias (Koulochera).

Campanulaceae

49. *Campanula asperuloides* (Boiss. & Orph.) Engl.

Gr Nomos Arkadias, Eparchia Kinourias: steep limestone rocks by road between Agios Panteleimon and Prastos, 450 m, 37°17' N, 22°40' E, 13.04.2005, *Kit Tan* & *G. Vold* obs.; rocky limestone slopes and cliffs at Moni Agios Nikolaos Sintzas, SW of Leonidion, 550–600 m, 37°08' N, 22°49' E, 12.04.2005, *Kit Tan* & *G. Vold* 27992 (GB, herb. Kit).

— Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Koulochera, rocky limestone slopes, 1100 m, 36°48' N, 22°59' E, 07.04.2005 & 12.06.2005, *Kit Tan* & *G. Vold* obs.; near Charakas, steep calcareous cliffs, together with *Teucrium aroanium*, 500 m, 36°54' N, 22°58' E, 05 & 06.04.2005, *Kit Tan* & *G. Vold* obs.

The records from Epidavrou-Limiras mark the southernmost limits of the species.

Caryophyllaceae

50. *Dianthus biflorus* Sm.

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Chionovouni, rocky calcareous slopes in open *Abies* forest near summit area, 1000–1200 m, 36°58' N, 22°55' E, 13.06.2005, *Kit Tan* & *G. Vold* 28052 (herb. Kit).

New for Mt Chionovouni and also to the area SE of Mt Parnonas. It had, however, previously been noted at a low altitude between the villages of Metamorphosi and Richea (480 m, 36°49' N, 22°55' E, 07.06.1995, *R. Jahn* obs.).

51. *Dianthus mercurii* Heldr.

Gr Nomos Achaïas, Eparchia Kalavriton: Mt Mikros Chelmos, on the western ridge of the Vouraikos gorge in degraded maquis, 700–800 m, 06.06.2005, *Iatrou* & *U. Raabe* 8216 (UPA).

A rarely collected species from the N Peloponnese; known from Mt Killini, the Chelmos area and Mt Klokos.

52. *Minuartia favargerii* Iatrou & T. Georgiadis

Gr Nomos Arkadias, Eparchia Kinourias: Mt Parnonas, Moni Agios Nikolaos Sintzas, SW of Leonidion, limestone rocks, 500–600 m, 37°08' N, 22°49' E, 12.04.2005, *Kit Tan* & *G. Vold* obs.; Agios Panteleimon to Kastanitsa, Mazias gorge, limestone rock, together with *Cymbalaria microcalyx*, 550 m, 37°16' N, 22°40' E, 13.04.2005, *Kit Tan* & *G. Vold* obs.

— Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Korakia, 750–800 m, 36°52' N, 22°58' E, 09.04.2005, limestone rocks, *Kit Tan* & *G. Vold* 27954 (herb. Kit).

Dipsacaceae

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

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Chionovouni, rocky calcareous slopes in open *Abies* forest near summit area, 1000–1200 m, 36°58' N, 22°55' E, 13.06.2005, *Kit Tan* & *G. Vold* 28049 (C, GB, herb. Kit).

This provides the southernmost limit of the species, the nearest known occurrence being on Mt Gerania in Sterea Ellas. New to the Peloponnese.

54. *Scabiosa crenata* subsp. *breviscapa* (Boiss. & Heldr.) Hayek

Gr Nomos Arkadias, Eparchia Kinourias: Mt Parnonas, Moni Agios Nikolaos Sintzas, SW of Leonidion, limestone cliffs and forming dense mats on the rocky ground of gorge, 500–600 m, 37°08' N, 22°49' E, 12.04.2005, *Kit Tan* & *G. Vold* 27991 (GB, herb. Kit); 15.06.2005 & 08.11.2005 (flowering), *Kit Tan* & *G. Vold* obs.

— Nomos Lakonias, Eparchia Epidavrou-Limiras: Mari to Kremasti, rocky limestone slopes, 850 m, 37°00' N, 22°51' E, 24.07.2003, *Kit Tan* & *G. Vold* 27272 (herb. Kit).

Confirming the occurrence of the taxon on Mt Parnonas and SE Peloponnese and the late flowering well into the autumn.

Fabaceae

55. *Astragalus drupaceus* Orph. ex Boiss.

Gr Nomos Korinthias, Eparchia Korinthias: Evrostina to Steno, Kato Tarsos, 37°59' N, 22°22' E, 12.05.2003, coll. *Raabe*; above Ano Tarsos, open coniferous forest and scrub, c. 1100 m, coll. *Raabe* (comm. 2003 & 2004).

— Nomos Arkadias, Eparchia Kinourias: Mt Parnonas,

low hill north of Agios Ioannis, marly slopes and abandoned fields, 700m, 37°22'N, 22°37'E, 13.04.2005, *Kit Tan & G. Vold* 28003 (C, GB, herb. Kit).

More than a hundred tufted individuals were flowering profusely at the Parnonas locality (which must certainly be very close to the *locus classicus*, “in m. Malevo Laconiae prope Hagianni”), their invasive growth providing the impression of a vigorous weed.

Guttiferae

56. *Hypericum taygeteum* Quézel & Contandr.

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: 1 km NE of Charax, N- and NW-exposed limestone cliffs, 400–500 m, 36°55'N, 23°00'E, 06.05.1982, *Runemark & Svensson* 48352 (LD); almost vertical limestone cliffs outside the village of Charakas on way to Kiparissi, 480 m, 36°54'N, 22°58'E, 05.04.2005, *Kit Tan & G. Vold* obs.

New records extending the distribution to the area SE of Mt Parnonas and representing the southernmost limit of the species.

Lamiaceae

57. *Origanum scabrum* Boiss. & Heldr.

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: road from Mari to Kremasti, 700 m, 37°00'N, 22°51'E, 24.07.2003, *Kit Tan & G. Vold s.n.* (herb. Kit); near Kounopia Forest Reserve, on way to Mari, limestone rocks, 900 m, 37°03'N, 22°49'E, 24.07.2003, *Kit Tan & G. Vold* 27258 (C, GB, herb. Kit); Mt Koulochera, rocky limestone slopes, 1000 m, 36°49'N, 22°59'E, 12.06.2005, *Kit Tan & G. Vold* obs.; Mt Chionovouni, c. 2.6 km from Kremasti to Peleta, rocky limestone slope in open *Abies cephalonica* forest, 900–1000 m, 36°58'N, 22°55'E, 13.06.2005, *Kit Tan & G. Vold* 28060 (herb. Kit).

Recording new mountain localities and the southeasternmost distribution in Greece for this relatively rare plant with the attractive, pinkish-purple bracts. Large populations, however, were found in the locality on the way to Mari.

58. *Scutellaria rupestris* subsp. *cytherea* (Rech. f.) Greuter & Burdet

Gr Nomos Arkadias, Eparchia Kinourias: Mt Parnonas, Agios Nikolaos Sintzas, c. 6.5 km SW of Leonidion, limestone rocks along road leading to the convent, 550–600 m, 37°09'N, 22°49'E, 12.04.05, *Kit Tan & G. Vold* 27993 (herb. Kit); *loc. ibid.*, 15.06.2005, *Kit Tan & G. Vold* 28085 & photo (GB, herb. Kit).

Previously collected on Mt Parnonas by a group of students from the University of Copenhagen during an excursion to the Peloponnese and the island of Kithira (along road between Kosmas and Leonidion, E-SE of the monastery of Moni Elona, rocky limestone slopes in ravine, 450–500 m, 22.05.1995, 37°09'N, 22°45'E, *Strid & al.* 39605 (C).

New to mainland Peloponnese, previously considered endemic to the island of Kithira. *Campanula asperuloides* (Boiss. & Orph.) Engl. was also collected and sterile rosettes of *Athamanta arachnoidea* Boiss. & Orph. observed at Agios Nikolaos Sintzas. The latter taxa are also known from Moni Elona and from Mts Koulochera and Korakia at the tail-end of Parnonas.

59. *Teucrium aroanium* Orph. ex Boiss.

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: 1 km northeast of Charax, N- and NW-exposed limestone cliffs, 400–500 m, 36°55'N, 23°00'E, 06.05.1982, *Runemark & Svensson* 48327 (LD); almost vertical limestone cliffs and rocks outside the village of Charakas on way to Kiparissi, 480 m, 36°54'N, 22°58'E, 05.04.2005, *Kit Tan & G. Vold* 27908 (herb. Kit); *loc. ibid.*, 12.06.2005, *Kit Tan & G. Vold* 28045 (herb. Kit); *loc. ibid.*, 06.07.2004, *Strid* 55382 (seed); *loc. ibid.*, 06.04.2005, *Strid* 55431 (seed).

This species was previously known only from the much higher altitudes of 900–2000 m on Mts Chelmos and Killini in the N Peloponnese and from an old record by Maire & Petitmengin (WU-Hall!) from Mt Taigetos in the south-central. The Charakas locality is at a much lower altitude (480 m) and represents the southern and easternmost distribution limits in Greece.

60. *Teucrium francisci-wernerii* Rech. f.

Gr Nomos Achaïas, Eparchia Kalavriton: near entrance to the Vouraikos gorge, from Diakofto, 38°12'N, 22°11'E, 07.06.2005, five to ten plants observed by L. Chilton c. 1.5 km into the gorge valley from the New National Road (*Chilton*, pers. comm. and photos!); near Ag. Apostoli S of the village Eleonas, conglomerate rock, 100–150 m, 38°10'N, 22°09'E, *Iatrou & U. Raabe* 8175 (UPA). This is a northern extension disjunct from the known range on Kithira and foothills of Mt Parnonas; the previously documented distribution of *T. francisci-wernerii* matches that of *Scutellaria rupestris* subsp. *cytherea* (*quod vide*).

The Vouraikos railway line was completely renovated in 2003–2004 but it is not likely that soil or gravel had been brought in for the process from elsewhere. The

plants were growing within two to four metres of the railway line; they appeared well-established and there were no plants seen on the new gravel or cliffs nearby. It was not found at any other locality in the gorge except at this site near the entrance. The second locality is within a gorge of Vouraikos; here the populations were also well-established, growing together with another endemic, *Asperula arcadiensis*. In recent times there has been much moving and dumping of earth to various valleys in the Peloponnese in an effort to beat the EU-stipulated deadline of 2006 by which year industry-contaminated landfills in Greece would be prohibited.

61. *Thymus laconicus* Jalas

Gr Nomos Lakonias, Eparchia Lakedemonos: between Palia Monemvasia and Ariana, in stony phrygana by roadside, 100–200 m, 36°45' N, 23°04' E, 02.06.2002, *Iatrou* 7525 (UPA); Geraki to Kallithea, stony and schistose ground, 650 m, 37°05' N, 22°39' E, 14.06.2005, *Kit Tan* & *G. Vold* obs.; 3–5 km from Alepohori to Geraki, roadsides, *terra rossa* over limestone, schistose slopes, 280–320 m, 36°57' N, 22°44' E, 14.06.2005, *Kit Tan* & *G. Vold* 28079 (C, G, GB, H, herb. Kit, UPA).

T. laconicus was found in full flower in several places in the Geraki, Alepochori and Gouves areas in the southern part of the Parnon range during the months of June to July. At other times of the year it is less conspicuous, superficially resembling *Coridothymus capitatus* and thus avoiding note as a separate species. We have passed by on several occasions and made the field note “*Coridothymus capitatus* in phrygana”!

Linaceae

62. *Linum hellenicum* Iatrou

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Korakia, stony limestone slopes, 620 m, 36°52' N, 22°58' E, 09.04.2005, *Kit Tan* & *G. Vold* obs.; NW of Richea, phrygana, 550–600 m, 36°50' N, 22°57' E, 04.2004, coll. *Sfikas* (herb. *Sfikas*, photo); Mt Koulochera, phrygana with *Genista acanthoclada*-*Globularia alypum* dominant, white marl, 900 m, 36°49' N, 22°59' E, 07.04.2005, *Kit Tan* & *G. Vold* 28026 (herb. Kit); hills above Velanidia, limestone outcrops and phrygana slopes, 450–500 m, 36°28' N, 23°08' E, 05.04.2005, *Kit Tan* & *G. Vold* obs.

Extension of the two previously known localities near the village of Ellenikon in the Malea Peninsula north-

wards to the area SE of the Parnon range and southwards to Velanidia near the tip of the peninsula.

Orobanchaceae

63. *Orobanche baumanniorum* Greuter

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Koulochera, stony limestone slope, parasitic on *Ptercephalus perennis* subsp. *perennis*, 1000 m, 36°49' N, 22°59' E, 12.06.2005, *Kit Tan* & *G. Vold* obs. Not previously recorded from the area SE of the Parnon range.

Rhamnaceae

64. *Rhamnus sibthorpiana* Schult.

Gr Nomos Lakonias, Eparchia Epidavrou-Limiras: Mt Koulochera, rocky limestone slopes near summit and ridge, 1000–1100 m, 36°49' N, 22°59' E, 12.06.2005, *Kit Tan* & *G. Vold* 28018a (herb. Kit). Growing together with *Phillyrea latifolia* and *Amelanchier*. Not previously recorded from SE Peloponnese.

Rosaceae

65. *Potentilla arcadiensis* Iatrou

Gr Nomos Arkadias, Eparchia Kinourias: Mt Parnonas, Agios Nikolaos Sintzas, c. 6.5 km SW of Leonidion, almost vertical faces of conglomerate rocks and cliffs in vicinity of convent, 550–600 m, 37°08' N, 22°49' E, 30.04.2002, *Iatrou* 7500 (UPA); *loc. ibid.*, 12.04.2005, 15.06.2005 & 08.11.2005, *Kit Tan* & *G. Vold* obs.

A second locality for this rare plant other than the *locus classicus* in a similar habitat in the Parnon range, at Moni Elona further to the southwest. At least a hundred individuals of this Tertiary relict were counted.

Rubiaceae

66. *Asperula elonea* Iatrou & T. Georgiadis

Gr Nomos Arkadias, Eparchia Kinourias: Leonidio to Pargoudi, 500 m, 37°06' N, 22°52' E, 23.07.2003, *Kit Tan* & *G. Vold* 27244 (herb. Kit); Mt Parnonas, Moni Agios Nikolaos Sintzas, limestone rocks, 500–550 m, 37°09' N, 22°49' E, 15.06.2005, *Kit Tan* & *G. Vold* obs.; Peleta to Poulithra, common along roadsides, 280 m, 37°05' N, 22°53' E, 29.04.2003, *Kit Tan* & *G. Vold* obs.; Kounopia to Mari, 700–900 m, 37°03' N, 22°49' E, 24.07.2003, *Kit Tan* & *G. Vold* 27256 (herb. Kit).

— Nomos Arkadias/Lakonias, Eparchia Epidavrou-Limiras/Kinourias: Mari to Kremasti, phrygana, 500 m, 37°00' N, 22°51' E, 29.04.2003, *Kit Tan* & *G. Vold* obs.; Mt Chionovouni, stony limestone

slopes in open *Abies cephalonica* forest, 900–1000 m, 36°58' N, 22°55' E, 13.06.2005, *Kit Tan & G. Vold* obs.

Originally reported from only two localities (Moni Elona and Tiros) in SE Peloponnese, found to occur in thousands in these new localities ... especially at Peleta, Poulithra and Kremasti where *Alkanna sfikasiana* was also common.

Thymelaeaceae

67. *Daphne jasminea* Sm.

Gr Nomos Arkadias, Eparchia Kinourias: Mt Parnonas, in rock crevices of large vertical limestone cliffs along road c. 4.5 km from Agios Panteleimonas to Prastos, 450 m, 37°17' N, 22°40' E, 13.04.2005, *Kit Tan & G. Vold* 27999 (GB, herb. Kit); N of Leonidion, c. 14 km from Paralia Tirou along coastal road northwards, limestone rocks above the camping site "Arkadia", 100 m, 37°19' N, 22°48' E, 27.04.1989, flowers white, *Strid & al.* 28630 (C, G).

These are new records extending the distribution of the species to the foothills of Mt Parnonas in SE Peloponnese. In Greece it is known to occur on mainland Sterea Ellas and the island of Evvia in the W Aegean. In NE Peloponnese it is recorded only from the vicinity of Nafplion (*Boratyński & al.* 1992: 90) and Loutraki (*Strid* 24426, C; *Iatrou* 4026, 4050, both at UPA; *Snogerup* 20456, LD). Loutraki is in the prefecture of Korinthia and thus for administrative reasons belongs to Peloponnese although geographically and phytogeographically it should be Sterea Ellas. The new localities at low altitudes are not only new for Mt Parnonas but also for the whole of S Peloponnese. They provide a link to the species' known occurrence in Crete and northern Libya (Cyrenaica). In grazed plants at the foot of the rocks the stems are ± prostrate, thickened and interlocking, arising from a gnarled woody rootstock; higher up the cliff face, the plants produce long and slender branches out of reach of goats.

D. jasminea is not closely related to *D. oleoides* Schreb. The confusion has arisen partly by the publication of the name *D. oleoides* var. *jasminea* Meisn. for a form of *D. oleoides*, and by the use of *D. jasminea* by Grisebach to refer to another variant of *D. oleoides*.

Liliaceae

68. *Tulipa goulimy* Sealy & Turrill

Gr Nomos Arkadias, Eparchia Kinourias: 10–12 km

from Poulithra to Peleta, abandoned fields, 600–650 m, 37°06' N, 22°52' E, 29.04.2003, *Kit Tan & G. Vold* obs.; Pirgoudi to Peleta, abandoned terraces, 650–800 m, 37°05' N, 22°53' E, 29.04.2003, *Kit Tan & G. Vold* obs.; Peleta to Kounoupiia, abandoned fields, 500–600 m, 37°03' N, 22°49' E, 29.04.2003, *Kit Tan & G. Vold* obs.

- Nomos Arkadias/Lakonias, Eparchia Epidavrou-Limiras/Kinourias: Mari to Kremasti, phrygana, 500–550 m, 37°00' N, 22°51' E, 29.04.2003, *Kit Tan & G. Vold* obs.
- Nomos Lakonias, Eparchia Epidavrou-Limiras: on both sides of the main road from Metamorphosi to Richea, c. 3 km W of Koulochera, in phrygana, deep *terra rossa* overlying hard limestone, c. 600 m, 36°49' N, 22°56' E, 07.04.2005, *Kit Tan & G. Vold* 27909 (herb. Kit), 27880 (C, GB), 27881 (GB; first noted in this locality by G. Sfikas in 2001); Mt Koulochera, open phrygana, limestone, 710 m, 36°49' N, 22°59' E, 07.04.2005, *Kit Tan & G. Vold* 27915 (herb. Kit), 27882 (C, GB, yellow-flowered plants); Mt Kalogerovouni, edge of abandoned fields, 600–700 m, 36°49' N, 22°56' E, 10.04.2005, *Kit Tan & G. Vold* 27968 (GB); Velanidia, 390 m, 36°28' N, 23°08' E, 05.04.2005, *Kit Tan & G. Vold* 27883 (GB), 27937 (herb. Kit), 27939 (herb. Kit, yellow-flowered plants).

Although widely distributed in the Mani and Malea Peninsulas, *Tulipa goulimy* has not previously been recorded from the low mountains to the SE of the Parnon range. In many of these localities as well as on the southern foothills of Parnonas, *Alkanna sfikasiana* was also discovered (Tan & al. 2005). It is estimated that more than 10000 individual plants of *Tulipa goulimy* occur in the site between Metamorphosi and Richea and also along the road to Mt Kalogerovouni. Flower colour in the species varies from deep scarlet, dark maroon to orange-red; this is the first report of yellow-flowered plants but the densely rufous-felted bulb tunics confirm the identification.

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Report 69

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Fabaceae**69. *Gonocytisus dirmilensis* Hub.-Mor.**

Gr Nomos & Eparchia Evritanias: 2 km from Mikro Chorio to Prousos, gravelly slopes and damp places by the river, 600 m, 38°49' N, 21°44' E, 30.07.1992, Strid 33809 (G, GB-Ref, UPA).

The plant was growing in openings of maquis-like vegetation 50–100 m from the river and in full flower. The habitat was not a particularly unusual or noteworthy one and unless flowering, the shrub with its slender virgate branches was not particularly conspicuous and easily overlooked. Although collected nearly 15 years ago it is still known from only one locality in Sterea Ellas, south-central Greece.

G. dirmilensis was originally described by Huber-Morath in 1965 and considered endemic to SW Anatolia, “distr. Tefenni, *Pinus pallasiana*-Wald, 8 km nördlich Dirmil, 1050–1100 m, 30 June 1948”. The occurrence in Greece is disjunct and is not only new for Greece but for Europe.

Material seen from the type locality in Turkey differs in the following characters: young stems adpressed-puberulent to glabrescent; leaflets larger, 15–30(–40) × 2–5(–10) mm, sparsely adpressed-hairy on

both surfaces; corolla smaller in all parts, 10–12 mm long with the standard 7–9 mm and dorsally sericeous near the apex; wings conspicuously corrugate-plicate in proximal third; keel sericeous ventrally and also at apex; mature legumes smaller, c. 14 × 5 mm. The fruits are indehiscent, specimens collected in Turkey during September have fully mature fruits but none have dehisced.

Gonocytisus Spach comprises three species occurring in E Mediterranean (Turkey, the Amanus region, Israel, Jordan and Lebanon). The genus is distinct from the rest of the *Genisteae* on account of its ciliate-barbate anthers, a feature also present in *Spartium*; the spathaceous calyx is likewise split adaxially almost to base. *G. angulatus* (L.) Spach, a species from NW Turkey, W & S Anatolia and Cyrenaica differs by its smaller flowers (4–6 mm) and proportionately broader leaves. Reports of this species from N Greece (Gibbs 1970) have never been confirmed and are probably erroneous. The third species, *G. pterocladus* (Boiss.) Spach with angular-winged branches (hence the epithet), is restricted to the Amanus and W Syria (Upper Galilee district of the *Flora Palaestina* area and Lebanon).

Reports 70–71

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Brassicaceae**70. *Cardamine plumieri* Vill.**

BH Popova Luka, in valle Gostović, solo serpentinico, 480 m, 01.06.1920, BQ-81, 01.06.1920, coll. K. Maly (BEOU 20112).

SM(S) N Serbia: Mt Divčibare, *Erico-Pinetum sylvestris*, serpentine rocks, 1000 m, DP-82, 25.05.1993, coll. D. Lakušić (BEOU 20/93); serpentine rocks, 09.09.1981, coll. V. Stevanović (BEOU 2695); *Seslerio-Pinetum nigre*, serpentine rocks, 10.09.1981, coll. V. Stevanović (BEOU 2737);

Mt Maljen, north faced serpentine rocks, 895 m, 44°07'940" N, 20°00'660" E, 22.05.2005, coll. V. Stevanović & D. Lakušić (BEOU 19985); Mt Maljen, above village Planinica, serpentine, DP-83, 05.1874, coll. S. Pavlović (BEOU 20111); Maljen, Tomentino Polje, serpentine rocky slopes, 840 m, 44°05'146" N, 19°59'931" E, DP-72, 22.05.2005, coll. V. Stevanović & D. Lakušić (BEOU 19984).

— W Serbia: village Tučkovo, between Jelen Dol and Požega, gorge of Vrčanska River, serpentine rocks, DP-36, 30.04.2004, coll. V. Stevanović, M.

Niketić, S. Vukojičić & G. Tomović (BEOU 18536); Mt Mokra Gora, Šargan, serpentine rocks, CP-85, 10.06.2002, coll. V. Stevanović, V. Slavkovska & B. Lakušić (BEOU 16312); 14.07.1988, coll. V. Stevanović, M. Niketić & G. Tomović (BEOU 12695); 06.1926, coll. T. Soška (BEOU 20109); Mt Mokra Gora, Gradina, *in rupestribus apias summi montis Albis*, CP-74, 27.08.1887, coll. J. Bornmüller (BEOU 20110); between villages Vardište and Kotroman, serpentine rocks, 500 m, 25.05.2005, coll. D. Lakušić (BEOU); Mt Tara, village Kremna, canyon of river Djetina, serpentine rocks and screes, 14.07.1988, coll. V. Stevanović, M. Niketić & G. Tomović (BEOU 12684); Mt Tara, Zmajev Potok, serpentine rocks inside of the stand of *Picea omorika*, CP-75, 09.06.2000, coll. V. Stevanović, S. Jovanović & S. Vukojičić (BEOU 14708); Mt Zlatibor, valley of Crni Rza River, serpentine rocks, 1000 m, CP-93, 19.08.2001, coll. D. Lakušić & B. Lakušić (BEOU 11143).

- C Serbia: Ušće, c. 5 km southwards from town, serpentine gorge of Ibar River, wet serpentine screes, DP-61, 21.04.1990, coll. V. Stevanović, S. Jovanović & D. Lakušić (BEOU 175/90); Mt Čemerno, village Dubočica, *Erico-Quercetum petraeae*, serpentine, DP-62, 01.05.2004, coll. V. Stevanović, M. Niketić, S. Vukojičić & G. Tomović (BEOU 18666); Gorge of Ibar River, slopes of serpentine hill under medieval tower Maglič, DP-62, 30.06.1998, coll. D. Lakušić (BEOU 8730); Kraljevo, Bogutovac – village Gornja Lopatnica, gorge of Lopatnice River, serpentine rocks, DP-63, 30.04.2004, coll. V. Stevanović, M. Niketić, S. Vukojičić & G. Tomović (BEOU 18603); Mt Goč, serpentine, DP-82, coll. B. Lakušić (Herbarium of the Faculty of Pharmacy, Belgrade); Mt Kopaonik, Kozje stene, serpentine, DN-89, 27.06.2004, coll. M. Niketić & G. Tomović (BEOU 18931); Mt Koponik, Kukavica top, sunny serpentine slopes, 1650 m, DN-88, 27.06.2003, coll. D. Lakušić (BEOU 17157), 1760 m, 27.06.2004, coll. M. Niketić & G. Tomović (BEOU 18915), shaded serpentine rocks, 1650 m, 27.06.2003, coll. D. Lakušić (BEOU 17156); Kopaonik, Treska top, *Silenetum serbicae*, serpentine rocky slopes, 1700 m, DN-88, 26.06.2003, coll. D. Lakušić (BEOU 17153), 10.09.1981, coll. D. Lakušić (BEOU 8869),

26.06.2004, coll. M. Niketić, G. Tomović & R. Novčić (BEOU 18959); Mt Kopaonik, Nebeske stolice top, serpentine, 1700–1800 m, DN-88, 26.06.2004, coll. M. Niketić, G. Tomović & R. Novčić (BEOU 18925), 1800 m, 17.10.1993, coll. V. Stevanović (BEOU 1586/94), 1800 m, 17.10.1993, coll. V. Stevanović (BEOU 1595/94), *Silenetum serbicae*, 1800 m, 26.06.2003, coll. D. Lakušić (BEOU 17154, 17155).

C. plumieri is related to Apennine-Balkan species *C. glauca*, which was originally described on the basis of specimens collected on Mt Aspromonte (Calabria, S Italy). According to map given by Jalas & Suominen (1994) the species *Cardamine plumieri* is distributed in S France, Corse, N Italy, Albania and Greece, with “?” (record uncertain as regards identification or locality) for W Serbia and E Bosnia & Herzegovina. As a result of recent work on *Cardamine* sect. *Pteroneurum* subsect. *Cryptopterum* in Serbia (Lakušić & al. 2004, In press) as well as revision of the numerous material collected in last few decades, occurrence of *C. plumieri* in W & C Serbia and E Bosnia & Herzegovina is confirmed. It is very common and widespread species at serpentine bed rocks from montane to the subalpine belts, frequently erroneously determined as *C. glauca*.

Campanulaceae

71. *Asyneuma canescens* (Waldst. & Kit.) Griseb. & Schenk

SM(S) C Serbia: Mt Kopaonik, Nebeske Stolice, serpentine rocky slopes, 1800 m, DN-88, 11.08.2004, coll. D. Lakušić (BEOU 19974); Raška, Matovići – Trnava, serpentine, DN-69, 21.08.1997, coll. S. Vukojičić & M. Niketić (BEOU 7035).

- SW Serbia: Kosovo & Metoschia province – Peć, serpentine hill Gubavac above village Belo Polje, 700 m, DN-42, 07.07.1978, coll. V. Stevanović (BEOU 2479).

The species is not common in Serbia. It is recorded in following localities: E Serbia – Mt Vidlič, Kukla, Dvorište and Stratorija, N Serbia – surrounding of Belgrade (not recorded again in last 70 years), Vojvodina province – Mt Fruška Gora, Čerević and Rakovac (Obradović 1974; Boža & Vasić 1986). New records in C Serbia (Mt Kopaonik and Raška) and in Kosovo and Metohia province represent the southern- and south-westernmost occurrence of species in Serbia.

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Cannabaceae**72. *Cannabis sativa* L.**

Bu Black Sea Coast (*Northern*): along the road from Ezerovo village to Beloslav railway station, 30 m, NH-68, 12.09.2004, coll. A. Petrova (SOM 160905), a very large population, about 3 km long along the road (separated on segments).

— Rhodopi Mts (*Central*): along a local road above Hvoina village, 650 m, LG-03, 18.06.2005, coll. A. Petrova (SOM 162029).

The distribution of this anthropophyte is not accurately documented. Markova (1992) did not give it as naturalized in the Bulgarian flora. According to Dimitrov (2002) it is known from Northeast Bulgaria, Danubian Plain, Sofia Region, Valley of Strouma River, Thracian Lowland. The population near Ezerovo village shows invasive character.

Scrophulariaceae**73. *Antirrhinum majus* L.**

Bu Rhodopi Mts (*Central*): on the S-facing stone walls of the houses and the roads in Orehovo village and in limestone screes near the village, 950–1020 m, perennial, LG-03, 18.06.2005, coll. A. Petrova (SOM 161994).

The species forms abundant population with a complex age structure including seedlings, young and old generative individuals. The plants are quite uniform, with up to 60 cm high stems, elongated, many-flowered inflorescences, large, very dark red flowers, leaves with distinct red-purple colour on the underside. A population with the same characters and on the same habitats was observed in Dobralak village (970–1000 m, LG-14, 30.06.2005).

This Mediterranean species is cultivated as ornamental over the country, usually as an annual plant. Quite often it behaves as a perennial in protected, sunny positions. Sometimes it escapes from the gardens and grows as annual or perennial along streets, in waste places or abandoned places with stony or sandy substrates. However, the distribution of the species as an anthropophyte is not accurately given in the floristic literature. Kozhuharov (1992) and Andreev (1995)

did not give it for the Bulgarian flora, Dimitrov (2002) and Cheshmedzhiev (2003) give it only for the Black Sea Coast (*Southern*). I have repeated observations of naturalized populations of perennial plants in the towns of Varna, Balchik, Kavarna (Black Sea Coast – *Northern*), Shoumen (Northeast Bulgaria), Plovdiv, Haskovo (Thracian Lowland), Hisarya (Mt Sredna Gora), Ivailovgrad (Rhodopi Mts – *Eastern*).

Solanaceae**74. *Lycium barbarum* L.**

Bu Rhodopi Mts (*Eastern*): grows wild in a pasture between Zhulti Bryag and Stambolovo villages, Haskovo region, 240 m, with flowers, about 10 m², LG-82, 27.06.2003, coll. A. Petrova (SOM 158528).

This Chinese species was introduced as ornamental in Bulgaria a long ago and is naturalized in many places, usually in urban areas, mainly in the warmer regions (e.g. Black Sea Coast). As for many other similar species the real distribution in the country is not well known and documented in the literature. This locality is outside urban areas.

Vitaceae**75. *Parthenocissus quinquefolia* (L.) Planch.**

Bu Northeast Bulgaria: small groups on 3 places along the road from Varna to Bourgas, between the Haramiyata locality and Bliznatsi village, NH-76, NH-67, 14.09.2005, A. Petrova obs.

— Forebalkan (*Eastern*): on many places along the main road Sofia – Varna between the forks to Lovech and Gorna Oryahovitsa, more often in the district of Sevlievo, on stony roadside slopes (including artificial ones) as well as on roadside trees, in some segments it forms continuous subpopulations of 0.5 km length, in some places plants are seen on the slopes at about 200 m distance from the road, LH-16, LH-26, LH-36, LH-46, LH-57, 06.09.2005, A. Petrova obs.

— Balkan Range (*Eastern*): S of the Banya village, along the road to Bourgas, NH-63, 14.09.2005, A. Petrova obs.

This American species is grown as ornamental (for vertical planting), both in public parks and on the

walls of public and private buildings. Usually it is not used for the roadside plantings and its distribution in these areas is definitely a result of natural dispersal most probably by birds. In the main literature sources for the Bulgarian flora (Jordanov & Peev

1979; Kovachev 2003) it is given only as an ornamental plant. My personal data speak in favour it is a naturalized alien species. In the above mentioned localities along the main road Sofia – Varna the species shows invasive potential.

Reports 76–79

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Campanulaceae

76. *Campanula moravica* (Spitzn.) Kovanda

SM(S) Hill Baba on Mt Rtanj in E Serbia, 26.06.1998, EP-74, coll. V. Randelović & B. Zlatković (BEOU 16061).

This Carpathian species is new to Serbia and, at the same time, this finding is southernmost point in area of the species. According to Kovanda (1970) this xerothermous plant species is known from Slovakia, Austria, Hungary and northern part of Balkan Peninsula.

Scrophulariaceae

77. *Lindernia dubia* (L.) Pennell

SM(S) Južna Morava River, on sandy river-banks, near the village Pukovac in surrounding of Niš, EN-78, 18.09.2005, coll. V. Randelović, B. Zlatković & M. Jušković (BEOU 16060).

This adventive plant species is new to Serbia. In the Balkans it has been known so far from the Thracian Lowland (Markova 1995) and Danubian Plain (Tzonev & Šumberová 2004) in Bulgaria.

Cyperaceae

78. *Cyperus rotundus* L.

SM(S) Južna Morava River, on sandy river-banks, near the village Čečina in surrounding of Niš, EN-68,

11.09.2005, coll. V. Randelović, B. Zlatković & M. Jušković (BEOU 16062).

This cosmopolitan species was not found in Serbia after the 1940s. Until then it has been known from Velika Morava River near Čuprija (Pančić 1874: 702), Velika Morava River near Miljkovo in surrounding of Svilajnac, 13.07.1940, coll. I. Rudski (BEO), and Južna Morava River near Vrtište in surrounding of Niš, 09.1888, coll. S. Petrović (BEOU). According to Lakušić (1999) its threatened status in Serbia is 'Extinct'. However, we have found this species in vegetation of sandy river-banks of Južna Morava River near village Čečina in surrounding of Niš.

Poaceae

79. *Poa timoleontis* Heldr. ex Boiss.

SM(S) Mt Rudina, in surrounding of Bosilegrad, in dry pasture, FN-20, 04.08.1989, coll. N. Randelović (BEOU 16063).

This very rare Aegean-Macedonian-Thracian species is new to Serbia. In the Balkans it has been known from Albania, FYR Macedonia, Greece, Aegean region, S Bulgaria and European Turkey (Edmondson 1980). The finding of this species on Mt Rudina is northernmost point in its area. It grows in dry pasture on limestone rocky ground.

Reports 80–81

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Apiaceae

80. *Eryngium serbicum* Pančić

AI NE Albania: Vezir bridge (Ura Vezirit) at Drim River, serpentine rocks, S slopes above bridge, serpentine hill covered with *Buxus sempervirens*, DM-46, 03.07.1913 and 30.07.1913, coll./det. N. Košanin (BEOU 21000, 21001, 21002, 21003).

This C Balkan endemic is distributed in C & E Serbia and FYR Macedonia mainly on ophiolitic substrate, rarely on limestone. Its occurrence in Albania was reported by Košanin some 25 years after collecting (Košanin 1939: 99). However, the record was totally ignored for a long time and not cited for Albania in most standard or regional floras (Chater 1968; Quosja

& al. 1992; Vangeli & al. 1994). In BEOU there are several well-preserved specimens from NE Albania collected on serpentine slopes near the Drim valley, very close to Kukes. The locality in Albania is c. 100 km distant from the nearest localities in C Serbia and N Macedonia. The species should be looked for in the border area between FYR Macedonia and Albania, particularly on serpentine substrate. New for Albania.

E. serbicum is closely related to the chasmophytic *E. ternatum* Poir. from limestone rocks of Crete. Both belong to *E.* sect. *Palmito* H. Wolff characterized by the palmatipartite leaves with narrowly linear segments.

Scrophulariaceae

81. *Pedicularis acaulis* Scop.

SM(M) N Montenegro: Plevlja, Bezdan, CP-60, 30.04.1912, coll./det. *D. Mitranović* (BEOU 21004).

This E Alpine-Dinaric species occurs in Italy, Slovenia, Croatia and Bosnia & Herzegovina (Mayer 1969). In the Dinaric Alps its distribution is very scattered and restricted to the lower montane and subalpine zones, inhabiting meadows in several localities from Istria and the NW Croatian karst towards the mountains of W and C Bosnia. The southern and eastern limits are

the mountains of N Herzegovina and W Bosnia. The record near Plevlja represents the easternmost occurrence of the species in the Balkans, c. 60 km eastwards of other known localities in Bosnia. This record was reported by Mitranović (1913). According to Pulević (2005: 113) the record in N Montenegro is doubtful, however, we have a few herbarium specimens existing in BEOU to confirm the occurrence. The 1912 record should be checked and the locality visited in the near future. Confirmed for Montenegro.

P. acaulis is generally considered to be a rare and endangered species in the Balkans. The species is endangered (EN A4c) in Croatia (Nikolić & Topić 2004), while in Bosnia & Herzegovina its threat status is determined by Šilić (1996) as vulnerable (VU). Further investigations in Montenegro would confirm the degree of threat. Extinction is possible since entire area surrounding Plevlja is affected by anthropogenic activities, all strongly degrading to the landscape such as the establishment of electric power plants, surface mining and landfills, leading to air and water pollution.

This relict species belongs to *P.* sect. *Anisodontae* ser. *Acaules* (Steininger) Prain (Mayer 1969) and is its sole representative in Europe. Its closest relatives are far away in the mountains of China.

Report 82

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Thymelaeaceae

82. *Daphne malyana* Blečić

BH Višegrad, Dobrun-Razdoline, limestone, CP-15, 14.05.1974, coll. *N. Diklić* & *M. Bogdanović*, det. *N. Diklić*, sub nom. *Daphne alpina* subsp. *oleoides* (Schrad.) Hayek, rev. *V. Stevanović* (BEO).

SM(S) Perućac, gorge of the river Derventa, limestone rocks, 300–350 m, CP-16, 18.05.1974, coll. *N. Diklić* & *M. Bogdanović*, det. *N. Diklić*, sub nom. *Daphne alpina* subsp. *oleoides* (Schrad.) Hayek, rev. *V. Stevanović* (BEO); Goleša, between Plevlja and Ustibar, gorge of the Sutjeska River, limestone rocks, CP-21, 06.10.1991, coll. *V. Stevanović*, *D. Lakušić* & *M. Niketić*, det. *V. Stevanović* & *M. Niketić* (BEOU 2814/91).

— Mt Mokra Gora, Ograđenica, limestone rocks, CP-35, 04.07.1998, coll. *S. Jovanović*, *M. Niketić* & *G. Tomović*, det. *M. Niketić* (BEOU 12629); Mt Tara near village Stajići, N-facing limestone cliffs, CP-25, 04.07.2003, coll. *V. Stevanović* & *D. Ostojić*, det. *V. Stevanović* (BEOU 20394); Mt Tara, canyon of the river Rača, steep limestone slopes named Sokoline, 700–750 m, CP-26, 14.07.2003, coll./det. *B. Zlatković* (BEOU 20395).

Populations with intermediate characters between *D. malyana* and *D. oleoides* occur in the canyon of Mileševka River near Prijepolje in SW Serbia.

D. malyana has been described from limestone rocks in the canyon of Piva River near village Doljani (Blečić 1953). Later, it was found in several neigh-

bouring localities in W Central Bosnia – Mts Maglič and Zelengora, canyon of the Sutjeska River and N Montenegro – Mt Durmitor (several localities), canyon of Tara River, canyon of Komarnica River, Mt Sinjavina, Mt Lukavica (Lakušić & Pulević 1980; Pulević 2005: 87–88). The new localities in W Serbia and the additional one in E Bosnia represent the northernmost and easternmost limits and confirm that the

endemic range of the species is much broader. New for Serbia, also the northernmost locality in Bosnia & Hercegovina.

The species belongs to *D.* sect. *Daphnanthes* C.A. Mey. and is closely related to *D. jasminea* from C & S Greece (including *D. j.* subsp. *jarmilae* Halda from N Libya). Rather more distant is *D. oleoides* distributed in the mountains of S Europe and SW Asia.

Reports 83–95

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Apiaceae

83. *Cachrys alpina* M. Bieb.

Bu Forebalkan (*Western*): pastures on S slopes of Smardeshka hill, N-NE of the village of Staro Selo, c. 420 m, 43°11'51" N, 23°49'01" E, 17.08.2004, coll. V. Vladimirov (SOM 162420, 162421).

First record of the species for this floristic region.

84. *Seseli tortuosum* L.

Bu Danubian Plain: sandy places by the Danube River near the village of Orsoya, 43°46'45" N, 23°04'50" E, 01.06.2004, coll. V. Vladimirov (SOM 162422).

Confirming the occurrence of the species in the Danubian Plain which till now has been doubtful (Peev 1982: 172; Delipavlov & Cheshmedzhiev 2003: 270).

Asclepiadaceae

85. *Asclepias syriaca* L.

Bu Sofia Region: Sofia, distr. Iliyantsi, 29.09.2005: by the railway from Sofia to the town of Svoge, 440 m, 42°45'42" N, 23°19'50" E, coll. V. Vladimirov (SOM 16223); on the right bank of a river c. 20 m off the railway Sofia – Svoge, 440 m, 42°46'28" N, 23°20'08" E, coll. V. Vladimirov (SOM 162424).

First record of this alien species for Sofia floristic region. In the first locality 4 fruiting stems were observed and in the latter 1 non-fruiting and 5 fruiting stems.

Asteraceae

86. *Cicerbita plumieri* (L.) Kirschl.

Bu Vitosha Region: Vitosha Mt, E slopes of Golyam Rezen peak, 1960 m, 42°34'00" N, 23°17'44" E, 03.08.2005, coll. V. Vladimirov (SOM 162426, 162427, 162428).

So far this rare and protected species has been reported only from Rila Mts (Dimitrov 2002: 113; Delipavlov 2003:

424). The population in Vitosha Mt consists of a few hundred flowering stems covering an area of c. 350–400 m².

87. *Bidens frondosa* L.

Bu Balkan Range (*Western*): by the railway Sofia-Mezdra at the Bov station, FN-96, 25.09.2005, V. Vladimirov obs.; by the railway Sofia-Mezdra at the Svoge station, FN-95, 25.09.2005, V. Vladimirov obs.

— Valley of Mesta River: by the asphalted road from Gotse Delchev town to Hadzhidimovo town, c. 450 m, 41°34'02" N, 23°45'14" E, 16.10.2005, coll. V. Vladimirov (SOM 162429, 162430); by a river N of Ilinden village near the bridge of the asphalted road from Gotse Delchev to the border pass to Greece, c. 480 m, 41°28'31" N, 23°50'09" E, 16.10.2005, coll. V. Vladimirov (SOM 162431).

This North-American species has been recently reported for the Bulgarian flora from the following floristic regions: Northeast Bulgaria, Danubian Plain, Forebalkan (*Western*), Sofia Region, Thracian Lowland, Mt Strandzha (Šumberová & al. 2004).

88. *Chamomilla suaveolens* (Pursh) Rydb.

Bu Vitosha Region: Vitosha Mt, by the road near the chalet of Aleko, 1840 m, 42°34'58" N, 23°17'31" E, 03.08.2005, coll. V. Vladimirov (SOM 162432).

First record of the species for Vitosha Region.

89. *Conyza bonariensis* (L.) Cronquist

Bu Black Sea Coast (*Northern*): by the asphalted road above the beach at Zhurnalist resort, N of Varna, c. 20 m, 43°15'31" N, 28°01'53" E, 20.08.2005, coll. V. Vladimirov (SOM 162433, 162434).

First record of the species in the Black Sea Coast floristic region. So far this alien species has been reported from the Valley of Strouma River and Thracian Lowland (Delipavlov 2003: 385).

90. *Galinsoga ciliata* (Rafin.) S.F. Blake

Bu Forebalkan (*Western*): by the roads and gardens in the village of Soumer, Montana district, FP-80, 13.08.2005, coll. V. Vladimirov (SOM 162436).

— Valley of Strouma River: by arable land NW of Gabrene village, Petrich district, c. 280 m, 41°21'51" N, 22°57'38" E, 03.11.2004, coll. V. Vladimirov (SOM 162435).

— Rhodopi Mts (*Central*): by the roads and gardens in the village of Shiroka Luka, FP-91, 18.09.2004, coll. V. Vladimirov (SOM 162437).

So far this alien species has been reported from Sofia Region, Rila Mts and Thracian Lowland (Delipavlov 2003: 390).

91. *Hieracium transylvanicum* Heuff.

Bu Balkan Range (*Western*): Chiprovska Mt, beech forest above the village of Kopren by trail to the peak of Kopren, 1100–1200 m, 43°19'41" N, 22°51'00" E, 02.07.1999, coll. V. Vladimirov (SOM 162450).

So far the species has been reported from Pirin Mts (Delipavlov 2003: 432 sub *H. rotundatum* Kit. ex Schult.).

Papaveraceae**92. *Hypocoum procumbens* L.**

Bu Danubian Plain: sandy places by Danube River near the village of Orsoya, 01.06.2004, 43°46'45" N, 23°04'50" E, coll. V. Vladimirov (SOM 162438).

First record of the species for the Danubian Plain floristic region.

Polygonaceae**93. *Fallopia* × *bohemica* (Chrtek & Chrtková) J.P. Bailey**

Bu Sofia Region: Sofia, distr. Iliyantsi, widespread species by a river crossing the railway from Sofia to the town of Svoge, 440 m, 42°45'27" N, 23°20'06" E, 29.09.2005, coll. V. Vladimirov (SOM 162442).

— Znepole Region: two adjacent stands of 10 m² each by the asphalted road c. 1 km off the village of Izvor to the village of Zemen, 540 m, 42°26'53" N, 22°53'06" E, 04.10.2005, coll. V. Vladimirov (SOM 162440, 162441).

— Rhodopi Mts (*Central*): a single stand of 15–20 m² by the road Plovdiv-Smolyan by a river next to the fork to Zvezdelina village, 960 m, 41°44'52" N, 24°41'35" E, 14.10.2005, V. Vladimirov obs.

So far the species has not been reported for the country in the Bulgarian botanical literature proba-



Fig. 3. *Ophrys apifera*.

bly due to the fact it was misidentified for *F. japonica* (cf. Assenov 1966; Dimitrov 2002: 304; Delipavlov 2003: 103). The occurrence in the Balkan Range (*Western*) and Sofia Region reported by Petrova & Vladimirov (2002) for *F. japonica* in fact refers to *F. bohemica*.

Orchidaceae**94. *Ophrys apifera* Huds.**

Bu Forebalkan (*Western*): pasture on Dzidò hill above the village of Soumer, FP-80, 04.06.2005, photographed by V. Vladimirov (Fig. 3).

First record of the species for this floristic region. The population consisted of 46 flowering individuals covering an area of c. 0.2 ha.

Poaceae**95. *Secale sylvestre* Host**

Bu Danubian Plain: sandy places by the Danube River near the village of Orsoya, 43°46'45" N, 23°04'50" E, 01.06.2004, coll. V. Vladimirov (SOM 162439).

First record of the species for the Danubian Plain floristic region. So far it has been found only in the Black Sea Coast (Delipavlov 2003: 493).

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