

## New floristic records in the Balkans: 8\*

Compiled by Vladimir Vladimirov<sup>1</sup>, Feruzan Dane<sup>2</sup> & Kit Tan<sup>3</sup>

<sup>1</sup> Institute of Botany, Bulgarian Academy of Sciences, Acad. Georgi Bonchev St., bl. 23, 1113 Sofia, Bulgaria, e-mail: vdvlad@bio.bas.bg

<sup>2</sup> Department of Biology, Faculty of Science and Arts, University of Trakya, 22030 Edirne, Turkey, e-mail: feruzandane@gmail.com

<sup>3</sup> 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 90 species and subspecies from Bulgaria (records no. 49-52), Greece (2-36, 53-90) and Turkey-in-Europe (1, 37-48). The taxa belong to the following families: *Apiaceae* (21), *Araceae* (87), *Asteraceae* (5-9, 22-26, 82), *Boraginaceae* (53, 83), *Brassicaceae* (54-56), *Campanulaceae* (10), *Caryophyllaceae* (11, 27, 57), *Chenopodiaceae* (12), *Convolvulaceae* (13, 58), *Crassulaceae* (14, 59, 60), *Cucurbitaceae* (28), *Cupressaceae* (19), *Cuscutaceae* (49), *Dryopteridaceae* (2), *Ephedraceae* (20), *Fabaceae* (42-48, 50, 61-69, 84), *Gesneriaceae* (85), *Iridaceae* (77, 88), *Lamiaceae* (70-72), *Liliaceae* s.l. (34, 89), *Onagraceae* (15), *Ophioglossaceae* (18), *Orchidaceae* (78-81, 90), *Papaveraceae* (29), *Plantaginaceae* (37-41, 73), *Poaceae* (1, 35, 36), *Polygalaceae* (74), *Polygonaceae* (30), *Primulaceae* (31), *Ranunculaceae* (51, 75, 86), *Rubiaceae* (16), *Rutaceae* (52), *Santalaceae* (32), *Scrophulariaceae* (76), *Solanaceae* (17, 33), *Thelypteridaceae* (3) and *Woodsiaceae* (4).

First report for Turkey-in-Europe is *Eremopyrum bonaepartis* subsp. *bonaepartis* (1).

The publication includes contributions by M. Aybeke, C. Kurt & A. Semerci (1), B. Biel & Kit Tan (2-36), F. Dane, M. Aybeke & B. Tutel (37-41), Ç. Meriç, G. Yılmaz & F. Dane (42-45), G. Savaş, N. Başak, G. Yılmaz & F. Dane (46-48), S. Stoyanov & I. Kolev (49-52), Kit Tan & M. Issigoni (53-81) and Kit Tan, G. Sfikas & G. Vold (82-90).

---

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

---

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

## Report 1

Mehmet Aybeke<sup>1</sup>, Cengiz Kurt<sup>2</sup> & Arif Semerci<sup>2</sup>

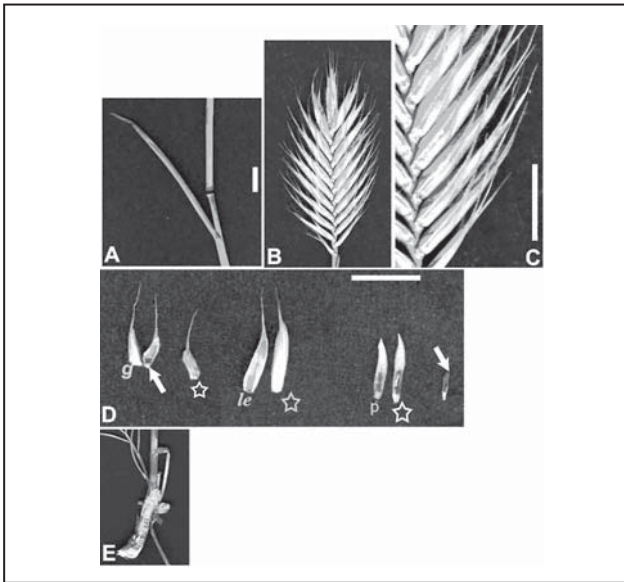
<sup>1</sup> Department of Biology, Faculty of Science and Arts, University of Trakya, 22030 Edirne, Turkey, e-mail: mehmetaybeke@yahoo.com

<sup>2</sup> Department of Forage Crops, Trakya Agricultural Researches Institute, Edirne, Turkey, e-mail: cengizkurt69@hotmail.com, arifsemerci@ttae.gov.tr

### Poaceae

#### 1. *Eremopyrum bonaepartis* (Spreng.) Nevski subsp. *bonaepartis* (Fig. 1)

**Tu(E)** A1(E) Edirne: Lalapaşa, Kalkansogut village, Takımyanı-Kulealtı locality, stony ground, 126 m, 41°56'31"N, 26°52'23"E, 378 m, 23.05.2006, coll. *M. Aybeke, C. Kurt & A. Semerci*, det. *M. Aybeke* (ETTA 1219).



**Fig. 1.** *Eremopyrum bonaepartis* subsp. *bonaepartis*: **A**, leaf; **B**, spike; **C**, close up of spike; **D**, left to right spikelet; glumes (**g**, arrow and asterisk show ventral and dorsal surfaces of lower one, respectively), lemmas (**le**, asterisk shows its dorsal surface), paleas (**p**, asterisk shows ventral surface), and finally one anther (white arrow); **E**, root. Scale bars: **A** – 4 mm; **C** – 2.5 mm; **D** – 8 mm (original).

Specimens of this taxon have been collected from Anatolia, B3 Eskişehir, B4 Ankara, B7 Malatya, B8 Erzurum, B10 Kars, C3 Antalya, C5 Konya, C7 Urfa, C8 Diyarbakır, but not from European Turkey (Melderis 1985). In the author's opinion, it is an Irano-Turanian element distributed in N Africa, Iran, Syrian Desert, and Sinai. However, Tzvelev (1976) noted that this taxon extends its distribution towards Eastern Europe and the Russian Federation. During our fieldwork, it was collected from a locality near the Bulgarian frontier. New for the flora of European Turkey and the Balkans.

**Acknowledgements.** Financial support for the field work under project TAGEM /04/04/01/002 is gratefully acknowledged.

## Reports 2-17

Burkhard Biel<sup>1</sup> & Kit Tan<sup>2</sup>

<sup>1</sup> Am Judengarten 3, D-97204 Höchberg, Germany, e-mail: b.biel@arcor.de

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

This is the sixth report of new plant-records for the island of Samothraki (N Aegean islands) based on fieldwork carried out in the year 2007. The 16 records listed are all new to the island and when specifically stated, to the floristic region N Aegean (NAe) as circumscribed in *Flora Hellenica* (Strid & Tan 1997). *Dryopteris dilatata*, *Phegopteris connectilis*, *Suaeda splendens* and *Dichondra repens* are new records for the N Aegean area.

### Dryopteridaceae

#### 2. *Dryopteris dilatata* (Hoffm.) A. Gray

**Gr** Samothraki: N-NE of Pachia Ammos, on banks of small stream half shaded by *Alnus*, 830 m, 40°25'23"N, 25°36'05"E, 24.06.2007, *Biel* 07.221. New for N Aegean. In Greece only found at the high altitudes of 1450–200 m in North Central (Mt Tzena and Mt Pieria), North East (Rhodopi Mts) and central Evvia, thus the altitude on Samothraki is the lowest ever reported for the country. *Dryopteris dilatata* occurs in W and C Europe, the south European mountains and the eastern part of the Black Sea region.

### Thelypteridaceae

#### 3. *Phegopteris connectilis* (Michx.) Watt

**Gr** Samothraki: N-NE of Pachia Ammos, wet meadow slopes at rocky stream bed of Kousianda, 880 m, 40°25'41"N, 25°36'17"E, 29.06.2007, *Biel* 07.304.

New for N Aegean. Literature records exist from northeastern Greece (Mt Vertiskos, Pavlides 1982: 112) and from North Central (Prespa National Park, Pavlides 1985: 157). A collection by Goulimis (s.n.) from N Pindos (Valia Kalda), sub nom. *Nephrodium phegopteris*, requires confirmation. This fern has a boreal circumpolar distribution, in Europe spreading southwards to the north Mediterranean and the Caucasus.

**Woodsiaceae****4. *Cystopteris alpina*** (Lam.) Desv.

**Gr** Samothraki: E-SE of Chora, rocky schistose stream banks, 950 m, 40°27'52"N, 25°33'45"E, 21.06.2007, *Biel* 07.166a.

Confirming literature records of Ade & Rechinger (1938: 114) and Stojanov & Kitanov (1944: 415) sub nom. *C. fragilis* (L.) Bernh. It was previously collected in 2002 (*Biel* 02.101) but included within *C. fragilis*. However, it seems morphologically distinct and following *Flora Nordica* (Berg 2000) we prefer to recognize it as a separate species. Also known from Thasos.

**Asteraceae****5. *Anthemis arvensis*** L.

**Gr** Samothraki: SW of Kamariotissa, seasonally wet wheat field near coastal dirt road, 4 m, 40°28'10"N, 25°27'50"E, 17.06.2007, *Biel* 07.008.

Another locality noted at Therma. Known from the island of Thasos, otherwise new for the N Aegean.

**6. *Hieracium bauhini*** Besser *s. lato*

**Gr** Samothraki: E of Alonia, open *Quercus* forest near footpath, on schist and basalt, 360 m, 40°27'42"N, 25°31'53"E, 18.06.2007, *Biel* 07.077.

Ade & Rechinger (1938: 140) provides a literature report of *H. bauhini* subsp. *filiforme* (Tausch) Näegeli & Peter but we are uncertain whether it refers to our material. *H. bauhini* var. *cymanthum* (Näegeli & Peter) Zahn and var. *bessarianum* (Näegeli & Peter) K. Maly were both recorded from the island of Thasos.

**7. *Hypochoeris radicata*** L.

**Gr** Samothraki: SW of Kamariotissa, ruderal places near port, 3 m, 40°28'40"N, 25°28'20"E, 25.06.2007, *Biel* 07.189a; E of Pachia Ammos, east of beach, low rocky ridge with phrygana, 30 m, 40°23'32"N, 25°35'05"E, 28.06.2007, *Biel* 07.201.

Recorded from the islands of Thasos (including the small islet of Tassos near Panagia), and Ag. Evstratios in North Aegean.

**8. *Solidago virgaurea*** L.

**Gr** Samothraki: SW of Therma, steep rocky slope with *Juniperus* and *Berberis*, 1280 m, 40°28'06"N, 25°34'59"E, 26.06.2007, *Biel* 07.262.

The plants were all low in stature although growing in damp and humid places. They appear distinct from typical *S. virgaurea* from Central Europe and possibly represent an ecological variant or are the result of con-

stant grazing pressure. This is a recent collection confirming the early record from Dörfler in June 1890 (cited by Ade & Rechinger 1938: 137 as var. *pumila* Gaud.). Typical *S. virgaurea* is known from Thasos.

**Brassicaceae****9. *Coronopus squamatus*** (Forssk.) Asch.

**Gr** Samothraki: SE of Kamariotissa, fallow fields and dirt road margins near Kladeri, 20 m, 40°28'13"N, 25°28'42"E, 27.06.2007, *Biel* 07.279.

Confirming literature records (sub nom. *C. procumbens* Gilib.) of Ade & Rechinger (1938: 121) and Stojanov & Kitanov (1944: 430) from approximately the same area. So far, not reported from the other N Aegean islands.

**Campanulaceae****10. *Campanula trachelium*** subsp. *athoa* (Boiss. & Heldr.) Hayek

**Gr** Samothraki: SE of Therma, road embankment with *Quercus*, 50 m, 40°29'38"N, 25°36'31"E, 19.06.2007, *Biel* 07.110.

Two other localities were noted near Therma and Karyotes. Confirming literature record of Ade & Rechinger (1938: 137). Reported from Thasos.

**Caryophyllaceae****11. *Spergularia maritima*** (All.) Chiov.

**Gr** Samothraki: W-SW of Kamariotissa, gravelly beach near large lagoon N of Ag. Andreas, 3 m, 40°28'16"N, 25°27'17"E, 17.06.2007, *Biel* 07.018; previously collected NE of Kamariotissa (on phrygana slope between fields, 15 m, 40°29'35"N, 29°27'50" E, 10.06.2000, *Biel* 00.042).

Two other localities are in the vicinity of Kamariotissa. Recorded from the islands of Thasos and Limnos in the N Aegean.

**Chenopodiaceae****12. *Suaeda splendens*** (Pourr.) Gren. & Godr. (Fig. 2)

**Gr** Samothraki: W-SW of Kamariotissa, gravelly beach at northern edge of large coastal pool N of Ag. Andreas, 3 m, 40°28'13"N, 25°27'21"E, 17.06.2007, *Biel* 07.015; W-SW of Kamariotissa, gravelly area with coastal pools at Ag. Andreas, 2 m, 40°27'58"N, 25°27'19"E, 27.06.2007, *Biel* 07.283.

New for the N Aegean islands. This was erroneously reported as *Suaeda maritima* (L.) Dum. (see Biel & Tan 2007: 435); the latter can be distinguished in the vegetative state by the leaves which are without white

margins or *caducous* apical bristle, both features present in *S. splendens*.



Fig. 2. *Suaeda splendens* (photo B. Biel).

#### Convolvulaceae

##### 13. *Dichondra repens* J.R. Forst. & G. Forst.

**Gr** Samothraki: SE of Karyotes, grassy parking place under *Platanus* in dead end road, 100 m, 40°28'54"N, 25°34'17"E, 15.06.2007, *Biel* 07.231.

New for the N Aegean islands. Recorded as *D. micrantha* Urban from several parts of Greece including Kerkira, Southern Pindos, Peloponnese and the East Aegean islands. This is a creeping perennial native to Australia and New Zealand. It is planted as a ground cover in lawns, flower beds, parks, etc., and often spreads to beaches, harbours and other ruderal places inland and along the sea front. However, it is not an invasive weed and often remains self-contained in the place where it grows.

#### Crassulaceae

##### 14. *Sedum cepaea* L.

**Gr** Samothraki: NE of Xiropotamos, open scrub on slope near dry ditch, 170 m, 40°27'05"N, 25°32'04"E, 20.06.2007, *Biel* 07.128.

Confirming literature report by Ade & Rechinger (1938: 122). Recorded from Thasos.

#### Onagraceae

##### 15. *Epilobium tetragonum* L.

**Gr** Samothraki: N-NE of Pachia Ammos, basalt rocks near source of Kousianda stream, 1140 m, 40°26'20"N, 25°36'23"E, 29.06.2007, *Biel* 07.308.

Reported by Katsikopoulos (1936: 8) sub nom. *E. tetragonum* subsp. *lamyi* (F.W. Schultze) Nyman, later confirmed by a collection made during a Copenhagen University Students' Excursion to the island in 1997. Not known from the other N Aegean islands.

#### Rubiaceae

##### 16. *Galium verticillatum* Danth.

**Gr** Samothraki: E-SE of Chora, phrygana slope near Monopati on way to Fengari, 1020 m, 40°27'49"N, 25°33'52"E, 21.06.2007, *Biel* 07.169; NE of Pachia Ammos, open phrygana and rocky places at ridge east of Mt Vounos, 900 m, 40°25'17"N, 25°37'35"E, 28.06.2007, *Biel* 07.301.

Another site was noted near Therma. Confirming literature records of Ade & Rechinger (1938: 136) and Stojanov & Kitanov (1944: 450). Reported from Thasos and Limnos in the N Aegean.

#### Solanaceae

##### 17. *Solanum nigrum* subsp. *schultesii* (Opiz) Wessely

**Gr** Samothraki: E-SE of Alonia, along wet dirt track near hill saddle, phrygana overlying basalt and granite, 690 m, 40°27'29"N, 25°32'58"E, 21.06.2007, *Biel* 07.144.

This subspecies with unmistakable white patent hairs on flowering stems is less frequently collected in Greece. It has been recorded from Ag. Evstratios in the N Aegean but not from Thasos or Limnos.

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

## Reports 18-36

### Burkhard Biel<sup>1</sup> & Kit Tan<sup>2</sup>

<sup>1</sup> Am Judengarten 3, D-97204 Höchberg, Germany, e-mail: b.biel@arcor.de

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

This is a report of new plant-records for the Aegean islands of Karpathos and Kasos based on fieldwork carried out in late autumn 2007 and early spring 2008. The 19 records listed are all new to the islands in the Cretan area (Nomos of Dodekanisou, Eparchia of Karpathou), and when specifically stated, to the phytogeographical region (KK) comprising Kriti and the Karpathos island group; this as circumscribed in *Flora Hellenica* (Strid & Tan 1997).

*Crepis hellenica* and *Ephedra nebrodensis* are new additions for the whole Cretan area.

#### Ophioglossaceae

##### 18. *Ophioglossum lusitanicum* L.

**Gr** Karpathos: S of Olymbos, open clearing in phryg-

ana near group of rocks at Monopati, on schist and limestone, 500 m, 35°43'21"N, 27°10'39"E, 24.02.2008, *Biel* 08.121.

Although recorded from Kriti, Kasos and Saria, apparently overlooked on Karpathos.

#### Cupressaceae

##### 19. *Cupressus sempervirens* L.

**Gr** Kasos: SW of Panaghia and scattered between Panaghia and Arvanitochori, rocky limestone slopes near chapel, 80 m, 35°24'12"N, 26°55'30"E, 16.02.2008, *Biel* obs.

Recorded from Kriti.

#### Ephedraceae

##### 20. *Ephedra nebrodensis* subsp. *procera* (Fisch. & C.A. Mey.) K. Richt. (Fig. 3)

**Gr** Karpathos: W-SW of Arkasa, open phrygana on rocky ground at Palaeokastro peninsula, on limestone, 40 m, 35°28'40"N, 27°06'39"E, 08.12.2007, *Biel* obs.

Distinguished from *E. n.* subsp. *nebrodensis* by the smooth twigs and oblong-ovoid seeds (see photo). Of scattered occurrence in Greece, new for the Cretan area.



Fig. 3. *Ephedra nebrodensis* subsp. *procera* (photo B. Biel).

#### Apiaceae

##### 21. *Smyrniolus atrum* L.

**Gr** Kasos: Waste land above the old harbour at Phry, on limestone, 10 m, 35°24'46"N, 26°55'02"E, 17.02.2008, *Biel* 08.032.

Recorded from Kriti and Karpathos.

#### Asteraceae

##### 22. *Artemisia arborescens* L.

**Gr** Kasos: Ag. Marina, waste ground at roadsides, 100 m, 35°24'17"N, 26°54'34"E, 17.02.2008, *Biel* 08.034. Recorded from Kriti and Karpathos.

##### 23. *Crepis hellenica* Kamari

**Gr** Kasos: E of Phry, waste ground between houses, on limestone, 10 m, 35°24'38"N, 26°55'18"E, 16.02.2008, *Biel* 08.004.

New for the Cretan area.

##### 24. *Sonchus asper* subsp. *glaucescens* (Jord.) Ball

**Gr** Karpathos: SE of Olymbos, olive terraces at Monopati near stream valley, on schist, 160 m, 35°43'34"N, 27°11'19"E, 22.02.2008, *Biel* obs.

— Kasos: Ag. Marina, waste ground in village, 100 m, 35°24'17"N, 26°54'34"E, 17.02.2008 *Biel* 08.035.

Recorded from Kriti and Gavdos. *Sonchus asper* was noted from Karpathos by Kalheber (1995); this may possibly refer to *S. a.* subsp. *glaucescens*.

##### 25. *Stachelina petiolata* Hilliard & B.L. Burt (Fig. 4)

**Gr** Karpathos: S of Mesochori, limestone rock at roadsides, 220 m, 35°37'40"N, 27°06'19"E, 05.12.2007, *Biel* obs. (photo).

Recorded from Kriti.



Fig. 4. *Stachelina petiolata* (photo B. Biel).

##### 26. *Tragopogon dubius* Scop.

**Gr** Kasos: N of Ag. Marina, waste and uncultivated ground by roadsides, on limestone, 80 m, 35°24'36"N, 26°54'38"E, 17.02.2008, *Biel* 08.033.

The ligules are lemon yellow above, flushed purplish beneath. Records of *T. dubius* from Kriti and Karpathos refer to plants with reddish-violet flowers.

#### Caryophyllaceae

##### 27. *Cerastium brachypetalum* subsp. *roeseri* (Boiss. & Heldr.) Nyman

**Gr** Karpathos: S of Hora, phrygana slope at hill saddle, on limestone and marble, 120 m, 25°06'47"E, 36°39'13"N, 23.05.2005, *Biel* 05.173.

Recorded from Kriti.

**Cucurbitaceae****28. *Ecballium elaterium*** (L.) A. Rich.

**Gr** Kasos: Waste land above the old harbour at Phry, on limestone, 10 m, 35°24'46"N, 26°55'02"E, 17.02.2008, *Biel* obs.

Recorded from Kriti and Karpathos.

**Papaveraceae****29. *Hypecoum procumbens*** L.

**Gr** Kasos: E of Phry, near ruined windmill, rocky pasture on coastal limestone, 15 m, 35°24'42"N, 26°55'28"E, 16.02.2008, *Biel*, 08.009.

New for the main island of Kasos, recorded from Armathia by Raus (1990) and from Kriti.

**Polygonaceae****30. *Rumex acetosella*** L.

**Gr** Karpathos : Olymbos, road margins and waste ground in village centre, on schist, 200 m, 35°44'28"N, 27°10'29"E, 26.02.2008, *Biel* 08.151;

— Kasos: S-SW of Ag. Marina, rocky phrygana at saddle above Ag. Pandeimonas, on schist and limestone, 390 m, 35°22'54"N, 26°53'28"E, 19.02.2008, *Biel* obs.

Recorded from Kriti and Gavdos.

**Primulaceae****31. *Anagallis foemina*** Mill.

**Gr** Karpathos: SE of Olymbos, rocky phrygana in area with *Pinus* on stream banks, limestone and schist, 100 m, 35°43'29"N, 27°11'28"E, 22.02.2008, *Biel* obs.

Recorded from Kriti.

**Santalaceae****32. *Osyris alba*** L.

**Gr** Karpathos: S of Avlona, rocky phrygana on slope beside dirt road to chapel, on limestone, 290 m, 35°46'18"N, 27°10'59"E, 25.02.2008, *Biel* obs.

Recorded from Kriti.

**Solanaceae****33. *Datura innoxia*** Mill.

**Gr** Karpathos: W of Diaphani, waste ground by stream bed (concreted and used as road), 30 m, 35°45'19"N, 27°12'20"E, 28.11.2007, *Biel* obs.

— Kasos: Phry, waste land above the old harbour, on limestone, 10 m, 35°24'46"N, 26°55'02"E, 18.02.2008, *Biel* 08.037.

Recorded from Kriti at roadsides and other ruderal places.

**Liliaceae****34. *Muscari neglectum*** Guss. ex Ten.

**Gr** Kasos: E of Phry, near ruined windmill, rocky pasture on coastal limestone, 15 m, 35°24'42"N, 26°55'28"E, 16.02.2008, *Biel* 08.012.

Five other sites noted. Recorded from Kriti and Karpathos.

**Poaceae****35. *Catapodium marinum*** (L.) C.E. Hubb.

**Gr** Kasos: E of Phry, near ruined windmill, rocky pasture on coastal limestone, 15 m, 35°24'42"N, 26°55'28"E, 16.02.2008, *Biel* 08.010.

Confirming an old record from Kasos collected as early as 1886 (*Major* 742, G) and published in Major & Barbey (1894: 341). Recorded from Kriti and Karpathos.

**36. *Hordeum vulgare*** subsp. *spontaneum* (K. Koch) Thell.

**Gr** Kasos: S of Phry, grassy road margins with trees, on limestone, 20 m, 35°24'31"N, 26°55'01"E, 19.02.2008, *Biel* 08.051.

Recorded from Kriti and Karpathos.

All cited vouchers are kept in the private herbarium of B. Biel at H6chberg (herb. Biel). We are grateful to Ralf Jahn (Regensburg) for his comments on *Sonchus* and *Hypecoum*.

**Reports 37-41****Feruzan Dane, Mehmet Aybeke & Betül Tutel**

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

New records of five *Plantago* taxa for some regions of European Turkey are published on the basis of fieldwork carried out in the years 1984–1996. The specimens were determined by Prof. Dr. Betül Tutel during her visits to EDTU herbarium in 1989 and 1994.

**Plantaginaceae****37. *Plantago coronopus*** subsp. *commutata* (Guss.) Pilg.

**Tu(E)** A1(E) Tekirdağ : Şarköy, Eriklice village, at the seaside, 40°38'00"N, 27°10'00"E, 12.06.1992, coll. *F. Dane* (EDTU 5091).

New for A1(E) Tekirdağ in European Turkey. Known so far from A1(E) Edirne (Tutel 1982).

**38. *Plantago coronopus* L. subsp. *coronopus***

**Tu(E)** A1(E) Edirne: Center, Musabeyli vil-lage, in a field, 109 m, 41°40'60"N, 26°40'00"E, 15.09.1989, coll. *F. Dane* & *N. Polat* (EDTU 3872); Enez, from Enez to Keşan road, 200 m, Dalyan Island, in a wheat field, 5 m, 40°43'29"N, 26°04'57"E, 20.05.1994, coll. *M. Kireç* (EDTU 6906).

New for A1(E) Edirne in European Turkey. Known so far from A1(E) Tekirdağ, Marmara Ereğlisi (Tutel 1982).

**39. *Plantago lagopus* L.**

**Tu(E)** A1(E) Edirne: Keşan, Mecidiye, 123 m, 40°41'00"N, 26°28'00"E, 10.07.1992, coll. *G. Dalgıç* & *F. Dane* (EDTU 5170); Enez, from Enez to Keşan, 200 m, Dalyan Island, in a wheat field, 5 m, 40°43'29"N, 26°04'57"E, 20.05.1994, coll. *M. Kireç* (EDTU 6904); Enez, Karaincirlik village, in a wheat field, 20 m, 40°37'00"N, 26°17'00"E, 18.05.1994, coll. *M. Kireç* (EDTU 6905).

— A1(E) Kırklareli: Babaeski, Pancarköy-Nadırlı road, 3 km, Pancarköy meadow, 67 m, 41°24'00"N, 27°10'00"E, 06.07.1987, coll. *A. Asan* & *H. Arda* (EDTU 1672).

New for A1(E) Kırklareli and Edirne in European Turkey. So far the species has been known from A1(E) Tekirdağ: Marmara Ereğlisi and A2(E) İstanbul: Terkos (Tutel 1982).

**40. *Plantago major* subsp. *intermedia* (Gilib.) Lange**

**Tu(E)** A1(E) Edirne: Center, Yenikadın village, in a meadow, 23 m, 41°39'28"N, 26°31'25"E, 05.08.1984, coll. *H. Arda* (EDTU 90); Center, around a terminal, in a meadow, 26 m, 41°40'28"N, 26°33'39"E, 15.10.1989, coll. *F. Dane* & *N. Polat* (EDTU 4009).

New for A1(E): Edirne in European Turkey. So far the species has been known from A1(E): Tekirdağ, Yenice (Tutel 1982).

**41. *Plantago scabra* Moench**

**Tu(E)** A1(E) Tekirdağ: Şarköy, at the seaside, 40°36'58"N, 27°06'03"E, 16.08.1989, coll. *F. Dane* (EDTU 4092).

— A1(E) Edirne: Center, Söğütlük forest, 109 m, 41°41'00"N, 26°40'00"E, 20.07.1991, coll. *F. Dane* (EDTU 5198).

New for A1(E) Tekirdağ and Edirne in European Turkey. Known so far from A1(E) Çanakkale: Eceabat (Tutel 1982).

**Reports 42-45****Çiler Meriç, Gülden Yılmaz & Feruzan Dane**

Department of Biology, Faculty of Science and Arts, University of Trakya, Gullapoglu Campus, 22030 Edirne, Turkey, e-mail: cilermeric@trakya.edu.tr, feruzandane@yahoo.com, guldenyl@yahoo.com

**Fabaceae****42. *Vicia lutea* L. var. *lutea***

**Tu(E)** A1(E) Edirne: Center, Tayakadin village, at the roadsides, 26 m, 41°40'28"N, 26°33'39"E, 06.05.1994, coll. *Ç. Meriç* (EDTU 6173); Doyran village, at the roadsides, 15 m, 41°29'04"N, 26°36'22"E, 06.05.1994, coll. *Ç. Meriç* (EDTU 6174); Kesan: Mecidiye: at the seaside, 0 m, 40°38'20"N, 26°32'14"E, 10.05.1994, coll. *G. Dalgıç* (EDTU 6175).

New for European Turkey. So far the species has been reported from A2(A) İstanbul (Davis & Plitmann 1970).

**43. *Vicia pannonica* Crantz*****V. pannonica* var. *pannonica***

**Tu(E)** A1(E) Edirne: Center, Karaagac-Pazarkule, 2 km, at the roadsides, 23 m, 41°39'28"N, 26°31'25"E, 21.05.2000, coll. *N.Ç. Demirkan* (EDTU 7617); Hasanpınar village, 94 m, 41°10'00"N, 26°45'00"E, 11.05.1988, coll. *G. Olgun*, *G. Dalgıç*, *N. Başak* & *H. Arda* (EDTU 2036); Sigircili village – Mese- li village, 4 km, 83 m, 41°23'00"N, 26°44'00"E, 09.06.1987, coll. *A. Asan* (EDTU 1253); Demirhanlı village, 123 m, 41°41'51"N, 26°44'24"E, 05.05.1987, coll. *F. Dane* (EDTU 2846); around Yıldırım graveyard, 26 m, 41°40'28"N, 26°33'39"E, 15.04.1989, coll. *F. Dane* (EDTU 2979); Uzunko- pru, around Harmanlı graveyard, 7 m, 41°16'10"N, 26°41'10"E, 25.04.1989, coll. *F. Dane*, *N. Polat* & *N. Kaptanoğlu* (EDTU 3648); Suloglu, near Suloglu dam, 156 m, 41°46'02"N, 26°54'43"E, 01.06.1987, coll. *G. Olgun* & *H. Arda* (EDTU 739).

— A1(E) Kırklareli: Demirkoy village, Igneada – Demirkoy, 11 km, 283 m, 41°55'00"N, 26°41'00"E, 10.06.1988, coll. *F. Dane* & *G. Dalgıç* (EDTU 2643).

New for A1 (E) with the specimens collected from Edirne and Kırklareli in European Turkey. So far the species has been known from A1 (E) Canakkale and A2 (E) İstanbul (Davis & Plitmann 1970).

***V. pannonica* var. *purpurascens* (DC.) Ser.**

**Tu(E)** A1(E) Edirne: Center, Musabeyli village, 109 m, 41°41'00"N, 26°40'00"E, 23.06.1989, coll. *F. Dane* (EDTU 3588); Haskoy village, at the roadsides, 85 m, 40°40'00"N, 26°19'00"E, 29.04.1994, coll. *Ç. Mer-*

*ıç* (EDTU 6139); around Faculty of Medicine, 26 m, 41°40'28"N, 26°33'39"E, 28.05.1993, coll. *Ç. Meriç* (EDTU 6147); Uzgac village, at the roadsides, 145 m, 41°47'00"N, 26°26'00"E, 14.05.1992, coll. *Ç. Meriç* (EDTU 6149); Ekmekci village, 130 m, 41°44'00"N, 26°28'00"E, 14.05.1994, coll. *Ç. Meriç* (EDTU 6150); Meseli village, at the roadsides, 83 m, 41°23'00"N, 26°44'00"E, 06.05.1994, coll. *C. Meric* (EDTU 6152); Elcili village, at the roadsides, 53 m, 41°27'04"N, 26°37'16"E, 06.05.1994, coll. *Ç. Meriç* (EDTU 6153); Doyran village, 15 m, 41°29'04"N, 26°36'22"E, 06.05.1994, coll. *Ç. Meriç* (EDTU 6154); Kemal village, at the roadsides, 99 m, 41°44'05"N, 26°23'49"E, 30.04.1994, coll. *Ç. Meriç* (EDTU 6155); Karabulut village, at the roadsides, 141 m, 41°46'02"N, 26°26'16"E, 06.05.1994, coll. *Ç. Meriç* (EDTU 6156); Ahikoy village, 76 m, 41°46'00"N, 26°24'00"E, 30.04.1994, coll. *Ç. Meriç* (EDTU 6157); Buyukdolluk village, 50 m, 41°45'00"N, 26°36'00"E, 30.04.1994, coll. *Ç. Meriç* (EDTU 6158); between Iskenderkoy and Haskoy villages, at the roadsides, 44 m, 41°37'46"N, 26°40'17"E, 29.04.1994, coll. *Ç. Meriç* (EDTU 6161); Suloglu: near Suloglu dam, 156 m, 41°46'02"N, 26°54'43"E, 28.05.1994, coll. *Ç. Meriç* (EDTU 6162); Lalapasa, Taslımusellim village, 193 m, 41°49'00"N, 26°47'00"E, 01.06.1987, coll. *F. Dane* & al. (EDTU 6144); Kesan, Mecidiye, at the seaside, 0 m, 40°38'20"N, 26°32'14"E, 10.05.1994, coll. *G. Dalgiç* (EDTU 6142).

New for A1(E) with the specimens collected from Edirne in European Turkey. Known so far from A1(E) Canakkale (Davis & Plitmann 1970).

#### 44. *Vicia hybrida* L.

**Tu(E)** A1(E) Edirne: Center, around Faculty of Medicine, 26 m, 41°40'28"N, 26°33'39"E, 22.05.1993, coll. *Ç. Meriç* (EDTU 5873); around Faculty of Science and Arts, in the garden, 26 m, 41°40'28"N, 26°33'39"E, 25.06.1994, coll. *Ç. Meriç* (EDTU 5878); Saclimusellim village, at the roadsides, 69 m, 41°25'24"N, 26°37'54"E, 06.05.1994, coll. *Ç. Meriç* (EDTU 5875); Uzgac village, at the roadsides, 145 m, 41°47'00"N, 26°26'00"E, 14.05.1994, coll. *Ç. Meriç* (EDTU 5877); Ortakci village, around a pasture, 157 m, 41°47'00"N, 26°45'00"E, 10.04.1990, coll. *F. Dane* & *N. Polat* (EDTU 4494); Kesan, Mecidiye, seaside, 0 m, 40°38'20"N, 26°32'14"E, 10.05.1994, coll. *G. Dalgiç* (EDTU 5876).

— A1(E) Tekirdag: Center, around a graveyard, 0 m, 40°58'50"N, 27°30'54"E, 22.04.1990, coll. *S. Zenginoglu* (EDTU 4947); Kumbag, 0 m, 40°51'00"N, 27°27'00"E, 23.04.1992, coll. *Ç. Meriç* (EDTU 6148).

New for A1(E) Edirne and Tekirdag in European Turkey. So far known from A1(E) Canakkale and A2 (E) Istanbul (Davis & Plitmann 1970).

#### 45. *Vicia galilaea* Plitmann & Zohary

**Tu(E)** Edirne: Center, from Iskenderkoy village to Haskoy village 10 km, at the roadsides, 44 m, 41°37'46"N, 26°40'17"E, 29.04.1994, coll. *Ç. Meriç* (EDTU 6168); between Ahikoy and Uzgac villages, at the roadsides, 76 m, 41°46'00"N, 26°24'00"E, 30.04.1994, coll. *Ç. Meriç* (EDTU 6169); Kesan, Mecidiye, 61 m, 40°38'20"N, 26°32'14"E, 31.05.1988, coll. *G. Dalgiç* & *N. Polat* (EDTU 2067).

New for A1(E) Edirne in European Turkey. So far the species has been reported from A1(E) Tekirdag (Davis & Plitmann 1970).

## Reports 46-48

### Gülsemin Savaş, Nesibe Başak, Gülден Yılmaz & Feruzan Dane

Department of Biology, Faculty of Science and Arts, University of Trakya, 22030 Edirne, Turkey, e-mail: feruzandane@yahoo.com, guldenyl@yahoo.com

New records of some *Trifolium* species belonging to *T.* sect. *Chronosemium* and *T.* sect. *Micranthemum* are provided.

#### Fabaceae

#### *Trifolium* sect. *Chronosemium*

#### 46. *Trifolium campestre* Schreb.

**Tu(E)** A1(E) Edirne: Center, Musabeyli village, 109 m, 41°41'00"N, 26°40'00"E, 23.06.1989, coll. *F. Dane* & *N. Aktaç* (EDTU 3572); Hatipkoy village, around Avarız lake, 52 m, 41°49'00"N, 26°34'00"E, 02.06.1987, coll. *G. Dalgiç* & *N. Başak* (EDTU 1040); Sazlıdere village, 80 m, 41°36'00"N, 26°40'60"E, 21.06.1998, coll. *G. Savaş* (EDTU 7344); Kucukdolluk village, 132 m, 41°45'00"N, 26°40'00"E, 16.07.1999, coll. *G. Savaş* (EDTU 7412); Domurcalı village, 196 m, 41°49'00"N, 26°49'00"E, 16.07.1999, coll. *G. Savaş* (EDTU 7422); Havsa, Sinit lake, 65 m, 41°33'01"N,



26°49'13"E, 20.05.1999, coll. *G. Savaş* (EDTU 7368); Uzunkopru, Degirmenci, near Degirmenci dam, 20 m, 41°18'37"N, 26°42'02"E, 11.06.1987, coll. *N. Başak* & *F. Dane* (EDTU 1273); Kesan, Kizkapan village, 157 m, 40°44'00"N, 26°29'00"E, 22.05.1999, coll. *G. Savaş* (EDTU 7376); Kilickoy village, 24 m, 40°47'00"N, 26°33'00"E, 22.05.1999, coll. *G. Savaş* (EDTU 7397); Celebi village, 113 m, 40°40'00"N, 26°21'00"E, 22.05.1999, coll. *G. Savaş* (EDTU 7401); Enez, Mecidiye, at the seaside, 0 m, 40°43'29"N, 26°04'57"E, 11.06.1997, coll. *N. Başak* & *N. Güler* (EDTU 7477); Meric, Bulbul Forest, 20 m, 41°11'22"N, 26°25'03"E, 10.06.1998, coll. *N. Başak* & *N. Güler* (EDTU 7361); Lalapasa, Donkoy, 334 m, 41°56'00"N, 26°42'00"E, 02.06.1992, coll. *N. Başak* & *F. Dane* (EDTU 5067); Suloglu, 156 m, 41°46'02"N, 26°54'43"E, 01.06.1999, coll. *N. Başak* & *N. Güler* (EDTU 7435)

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Kirklareli and A2(E) Istanbul (Zohary 1970).

#### 47. *Trifolium speciosum* Willd.

**Tu(E)** A1(E) Edirne: Keşan, Yerlisu village, 162 m, 40°44'00"N, 26°43'00"E, 25.05.1999, coll. *N. Başak* & *N. Güler* (EDTU 7462); Enez, Mecidiyekoy village, 5 m, 40°43'29"N, 26°04'57"E, 26.05.1999, coll. *N. Başak* & *N. Güler* (EDTU 7470).

New for A1(E) Edirne in European Turkey. So far the species has been known from A1(E) Kirklareli (Zohary 1970).

#### *Trifolium* sect. *Micrantheum*

#### 48. *Trifolium glomeratum* L.

**Tu(E)** A1(E) Edirne: Enez, 5 m, 40°43'29"N, 26°04'57"E, 22.05.1999, coll. *G. Savaş* (EDTU 7404); Abdurrahim village, 40 m, 40°38'31"N, 26°15'25"E, 22.05.1999, coll. *G. Savaş* (EDTU 7407).

New for A1(E) Edirne in European Turkey. So far the species has been known from A2(E) Istanbul (Zohary 1970).

## Reports 49-52

### Stoyan Stoyanov<sup>1</sup> & Ilcho Kolev<sup>2</sup>

<sup>1</sup> Institute of Botany, Bulgarian Academy of Sciences, Acad. Georgi Bonchev St., bl. 23, 1113 Sofia, Bulgaria, e-mail: stoyanov@bio.bas.bg

<sup>2</sup> 33 Studen kladenets St., Postbox 16, 7001 Ruse, Bulgaria

New chorological data are presented on the catch-

ment basin of river Rusenski Lom in the area of Ostritsa and Katselovo villages, Dve Mogili Municipality, Ruse district. The investigated area covers the right-side slope of the valley of river Cherni Lom, with prevailing southerly exposure and altitude between 100 m and 260 m a.s.l. The vegetation between the villages Ostritsa and Katselovo formed on a limestone rock base represents a complex of two priority habitats under Annex 1 of the Council Directive 92/43/EEC: 40A0 Subcontinental Peri-Pannonic Scrub and 6240 Sub-Pannonic Steppe Grasslands. Detailed information on four species is presented below: two new species for the Northeast Bulgaria (*Cuscuta approximata*, *Corothismus agnipilus*) and two species with conservation status and new localities in the Northeast Bulgaria (*Adonis volgensis*, *Ruta graveolens*).

#### Cuscutaceae

#### 49. *Cuscuta approximata* Bab.

**Bu** Northeast Bulgaria: Ruse district, valley of river Cherni Lom, right-side waterfront, on the steep hill northeast from Ostritsa village, Dve Mogili Municipality, on *Genista sessilifolia* and *Cephalaria uralensis*, 200 m, MJ-12, with flowers, 05.06.2007, coll. *S. Stoyanov* (SOM 163921).

New for Northeast Bulgaria. The species has been so far known from the Danubian Plain, Balkan Range (*Eastern*), Znepole Region, Mt Slavyanka, Rhodopi Mts, and Thracian Lowland (Assyov & Petrova 2006).

#### Fabaceae

#### 50. *Corothismus agnipilus* (Velen.) Klásk. [Syn.: *Cytisus agnipilus* Velen.]

**Bu** Northeast Bulgaria: Ruse district, valley of river Cherni Lom, right-side waterfront, in dry rocky grassy places with southern exposure, on the steep hill northeast from Ostritsa village, Dve Mogili Municipality, 200 m, 43°32.209'N, 25°58.793'E, with flowers and fruits, 03.05.2007, coll. *S. Stoyanov* (SOM 163922).

A Balkan endemic species, new for Northeast Bulgaria. So far all known occurrences are from South Bulgaria; it belong to the following floristic regions – Znepole Region, Vitosha Region, Mt Slavyanka, Pirin Mts, Rila Mts, Rhodopi Mts, Thracian Lowland, and Toundzha Hilly Country (Assyov & Petrova 2006). The locality near Ostritsa village is the northernmost distribution area of the species.

**Ranunculaceae****51. *Adonis volgensis* DC. (Fig. 5).**

**Bu** Northeast Bulgaria: Ruse district, valley of river Cherni Lom, right-side waterfront, on dry calcareous slopes with south exposure, southeast from Katselovo village, Dve Mogili Municipality, among shrubs of *Paliurus spina-christi*, 183 m, 43°31.181'N, 26°05.562'E, with flowers and fruits, 01.04.2008, coll. *I. Kolev* (SOM 164119).

New locality in Northeast Bulgaria. A rare species of steppe origin included in Annex 3 of the Bulgarian Biodiversity Law. The population in the vicinity of Katselovo village numbers under 100 specimens. According to Assyov & Petrova (2006), *A. volgensis* is known from the Black Sea Coast (*Northern*), Northeast Bulgaria and Danubian Plain.



Fig. 5. *Adonis volgensis* (photo S. Stoyanov)

**Rutaceae****52. *Ruta graveolens* L.**

**Bu** Northeast Bulgaria: Ruse district, valley of river Cherni Lom, right-side waterfront, dry rocky grass places with southern exposure, on the steep hill northeast from Ostritsa village, Dve Mogili Municipality, 120 m, 43°32.090'N, 25°58.741'E, with flowers, 05.06.2007, coll. *S. Stoyanov* (SOM 163924).

New locality in Northeast Bulgaria. A rare species, Tertiary relic, included in Annex 3 of the Bulgarian Biodiversity Law, with less than 20 occurrences in our country. The population in the vicinity of Ostritsa village numbers about 1000 specimens and covers an area of about 1.5 ha.

**Reports 53-81****Kit Tan<sup>1</sup> & Margarita Issigoni<sup>2</sup>**

<sup>1</sup> Institute of Biology, University of Copenhagen, Øster Farimagsgade 2D, DK-1353 Copenhagen K, Denmark, e-mail: kitt@bio.ku.dk (author for correspondence)

<sup>2</sup> P.O. Box 7911, Agioi, Aegina, Gr 180 10, Greece

This is the third report of new floristic records for the island of Aegina (Nomos of Attikis, Eparchia of Eginis) based on fieldwork carried out in spring 2008. Of the 29 records listed, 13 are new both for the island and eparchia, and 13 confirm the early records of Heldreich published in 1898. The island belongs to the phytogeographical region Peloponnese (Pe) as circumscribed in *Flora Hellenica* (Strid & Tan 1997).

**Boraginaceae****53. *Cynoglossum officinale* L.**

**Gr** By stone steps at Paliochora, 240 m, 37°45'08"N, 23°29'19"E, 16.04.2008, coll. *M. Issigoni*.

Previously reported in late fruiting state in a *Pinus halepensis* forest, SW of Agioi (see Tan & Issigoni 2007: 447); identification now confirmed.

**Brassicaceae****54. *Clypeola jonthlaspi* L.**

**Gr** Paliomili hill, SW of summit, in open *Pinus halepensis* forest, 208 m, 37°45'12"N, 23°29'39"E, 27.02.2008, coll. *M. Issigoni*.

Also near the temple of Afaia. Confirming an early record by Heldreich (1898: 18).

**55. *Iberis acutiloba* Bertol.**

**Gr** Paliomili hill, SW of summit, in open *Pinus halepensis* forest, 245 m, 37°45'18"N, 23°29'41"E, 27.02.2008, coll. *M. Issigoni*.

New for island and eparchia.

**56. *Thlaspi perfoliatum* L. subsp. *perfoliatum***

**Gr** SW of Kontos, volcanic slopes of Vouno Dendrou, phrygana, 230 m, 37°44'37"N, 23°28'03"E, 22.02.2008, coll. *M. Issigoni*.

The genus has not been previously recorded for both island and eparchia.

**Caryophyllaceae****57. *Paronychia macrosepala*** Boiss.

**Gr** Rocky coastal area NE of Souvala, 3 m, 37°46'27"N, 23°29'31"E, 25.03.2008, coll. *M. Issigoni*.

Confirming the recently published record by Vallianatou & Yannitsaros (1993: 408).

**Convolvulaceae****58. *Convolvulus oleifolius*** Desr.

**Gr** W of Vagia, open *Pinus halepensis* forest, road side, 20 m, 37°46'14"N, 23°31'32"E, 24.04.2008, coll. *M. Issigoni*.

Confirming the early record of Heldreich (1898: 39) and several observations made by Runemark and Bothmer in 1974 from the islet of Nisidha and the islets to the west of Ipsili off the northern coast of Aegina.

**Crassulaceae****59. *Sedum caespitosum*** (Cav.) DC.

**Gr** NW of Anitseon, mixed macchie and phrygana, 230 m, 37°42'43"N, 23°29'54"E, 09.04.2008, coll. *M. Issigoni*.

New for island and eparchia.

**60. *Sedum litoreum*** Guss.

**Gr** SW of Agioi, 42 m, 37°46'05"N, 23°30'06"E, 02.04.2008, coll. *M. Issigoni*.

Confirming the record of Heldreich (1898: 30) sub nom. *S. annuum*. It has been noted by Runemark and Bothmer in 1974 from Nisidha, Lagousa and the islets to the west of Ipsili.

**Fabaceae****61. *Astragalus sinaicus*** Boiss.

**Gr** S of Souvala, phrygana in open *Pinus halepensis* forest, 45 m, 37°45'56"N, 23°29'38"E, 26.03.2008, coll. *M. Issigoni*.

New for island and eparchia. Although the species is stated to have leaflets with simple hairs (see Chamberlain & Matthews 1970: 61), the hairs on the leaflets are actually bifurcate. *Astragalus sesameus* L. was reported from Aegina and the islet of Lagousa by Vallianatou & Yannitsaros (2000: 315) and this may refer to either *A. sinaicus* or *A. stella* (specimen *n.v.*). *Astragalus stella* has a pedunculate inflorescence and 6–4 flowers with standard 8–1 mm long. Our plant is a small annual with *sessile* inflorescence comprising 3– smaller flowers (standard to 6 mm) crowded into a dense head, and in these respects matches *A. sinaicus* more closely than *A. stella*. According to Gazzer (1993) who made a study of *A. sect. Sesamei* DC.,

*A. stella* does not occur in the Balkan Peninsula but is restricted to the W Mediterranean area and N Africa.

**62. *Hippocrepis biflora*** Spreng.

**Gr** SW of Agioi, open *Pinus halepensis* forest, 42 m, 37°46'05"N, 23°30'06"E, 24.03.2008, coll. *M. Issigoni*.

Confirming previous record by Heldreich (1898: 26) sub nom. *H. unisiliquosa* L.

**63. *Onobrychis caput-galli*** (L.) Lam.

**Gr** NW of Anitseon, pool-side meadow, 230 m, 37°42'47"N, 23°29'53"E, 09.04.2008, coll. *M. Issigoni*.

Confirming the previous record by Heldreich (1898: 27).

**64. *Ononis mitissima*** L.

**Gr** NW of Anitseon, pool-side meadow, in phrygana, 230 m, 37°42'47"N, 23°29'53"E, 30.04.2008, coll. *M. Issigoni*.

New for island and eparchia. Recorded from the island of Andikithira (eparchia Kithiron).

**65. *Ononis reclinata*** L.

**Gr** SW of Psahni, phrygana, 320 m, 37°44'16"N, 23°29'17"E, 03.05.2008, coll. *M. Issigoni*.

Confirming early record by Heldreich (1898: 24) as var. *mollis*.

**66. *Securigera securidaca*** (L.) Degen & Dörfel.

**Gr** N of Vagia, banks of dry stream, 0.5 m, 37°46'17"N, 23°32'10"E, 01.04.2008, coll. *M. Issigoni*.

Confirming an early record by Heldreich (1898: 26) sub nom. *Bonaveria securidaca* (L.) Desv.

**67. *Sulla spinosissima*** (L.) B.H. Choi & H. Ohashi

**Gr** NE of olona, road side, 3 m, 37°45'12"N, 23°25'31"E, 28.03.2008, coll. *M. Issigoni*.

The flowers are a dark reddish-purple, not pale as reported for *S. s.* subsp. *pallens*. Listed by Heldreich (1898: 27) under the genus *Hedysarum*.

**68. *Tetragonolobus purpureus*** Moench

**Gr** NW of Anitseon, meadow near temporary pool, 230 m, 37°42'47"N, 23°29'53"E, 09.04.2008, coll. *M. Issigoni*.

Also NE of Sfentouri. New for island and eparchia.

**69. *Vicia cretica*** Boiss. & Heldr.

**Gr** SW of Agioi, open *Pinus-Juniperus* forest, mixed macchie and phrygana, 125 m, 37°45'55"N, 23°30'10"E, 25.03.2008, coll. *M. Issigoni*.

Confirming a collection made in 1970 (*Polunin* 9746, ATH; det. *P. Lassen* 1994).

**Lamiaceae**

**70. *Acinos graveolens*** (M. Bieb.) Link

**Gr** SW of Psahni, phrygana, 322 m, 37°44'17"N, 23°29'18"E, 18.04.2008, coll. *M. Issigoni*.

Reported by Heldreich (1898: 45) as *Calamintha graveolens*; however, the specimen is closer to *Acinos rotundifolius* Pers. which some consider a synonym of *A. graveolens*.

**71. *Calamintha incana*** (Sm.) Boiss.

**Gr** SW of Agioi, road sides, 45 m, 37°46'07"N, 23°30'06"E, 18.04.2008, coll. *M. Issigoni*.

Also by stone steps at Paliochora where it was collected in 1961 by Gathorne-Hardy (*Gathorne-Hardy* 100/1961, ATH).

**72. *Salvia pratensis*** L.

**Gr** NW of Anitseon, small meadow near a pool, road side, 230 m, 37°42'48"N, 23°29'54"E, 30.04.2008, coll. *M. Issigoni*.

Also near Monastery of Chrysoleontissa. New for island, eparchia and nomos Attikis.

**Plantaginaceae**

**73. *Plantago coronopus*** L.

**Gr** S of Souvala, phrygana in open *Pinus* forest, limestone rock crevices with rain water, 46 m, 37°45'54"N, 23°29'37"E, 2.04.2008, coll. *M. Issigoni*.

Also by the sea at Kolona. Confirming an old record by Heldreich (1898: 46).

**Polygalaceae**

**74. *Polygala venulosa*** Sm.

**Gr** Paliomili hill, SW of summit, open *Pinus halepensis* forest, 235 m, 37°45'14"N, 23°29'40"E, 27.02.2008, coll. *M. Issigoni*.

Also on an adjacent hill and near St. Mina monastery. Confirming an early record by Heldreich (1898: 20).

**Ranunculaceae**

**75. *Consolida ajacis*** (L.) Schur

**Gr** NW of Anitseon, cultivated field, 240 m, 37°42'36"N, 23°29'57"E, 30.04.2008, coll. *M. Issigoni*.

Recorded by Heldreich (1898: 15) sub gen. *Delphinium*.

**Scrophulariaceae**

**76. *Veronica persica*** Poir.

**Gr** SW of Agioi, 43 m, 37°46'06"N, 23°30'07"E, 05.04.2008, coll. *M. Issigoni*.

New for island and eparchia.

**Iridaceae**

**77. *Romulea columnae*** Sebast. & Mauri

**Gr** NW of Anitseon on N slope of Mt. Oros, mixed macchie and phrygana, volcanic substrate, 260 m, 37°42'37"N, 23°29'55"E, 15.03.2008, coll. *M. Issigoni*.

New for island and eparchia.

**Orchidaceae**

**78. *Barlia robertiana*** (Loisel.) Greuter

**Gr** Paliomili hill, SW of summit, in *Pinus halepensis* forest, 240 m, 37°45'16"N, 23°29'45"E, 27.02.2008, coll. *M. Issigoni*.

Another locality was found at the foot of the hill, ca. 200 m to the northwest. New for island and eparchia.

**79. *Neotinea maculata*** (Desf.) Stearn

**Gr** S of Agioi, *Pinus halepensis* forest, road side, 105 m, 37°45'54"N, 23°30'20"E, 24.03.2008, coll. *M. Issigoni*.

New for island and eparchia.

**80. *Ophrys iricolor*** Desf.

**Gr** Paliomili hill, NW of summit, road side, 160 m, 37°45'26"N, 23°29'45"E, 30.02.2008, coll. *M. Issigoni*.

Locally common, also on the hill E of Paliomili. Recorded in Heldreich (1898: 51) based on a collection in April 1881 from the nearby islet of Angistri.

**81. *Orchis italica*** Poir.

**Gr** SW of Afaia Temple, *Pinus halepensis* forest, 165 m, 37°45'11"N, 23°31'53"E, 20.03.2008, coll. *M. Issigoni*.

New for island and eparchia.

All cited vouchers are unnumbered and kept in the private herbarium of M. Issigoni at Aegina. We thank Kostas Polychroniadis for his help and pleasant company during the field trips.

**Reports 82-90**

**Kit Tan<sup>1</sup>, George Sfikas<sup>2</sup> & Gert Vold<sup>3</sup>**

<sup>1</sup> Institute of Biology, University of Copenhagen, Øster Farimagsgade 2D, DK-1353 Copenhagen K, Denmark, e-mail: kitt@bio.ku.dk (author for correspondence)

<sup>2</sup> Vyzantiou St., Argypolis, Athens 16452, Greece

<sup>3</sup> Botanical Garden, University of Copenhagen, Øster Farimagsgade 2C, DK-1353 Copenhagen K, Denmark

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

**Asteraceae****82. *Hieracium pannosum*** Boiss. grex *pannosum*

**Gr** Nomos Artis, Eparchia Artis: Mt Rouista near the Kakarrditsa range, 1800–860 m, 39°31'N, 21°10'E, 19.08.2006, *Kit Tan* & *G. Vold* 29134 (herb. Kit).

New for Mts Rouista and Kakarrditsa in Southern Pindos.

**Boraginaceae****83. *Anchusella variegata*** Bigazzi, E. Nardi & Selvi

**Gr** Nomos Etolias-Akarnanias, Eparchia Vonitsis-Xiromerou: stony and rocky places on way to OTE station at Vliziana, 550–00 m, 38°40'N, 21°06'E, 16.03.2008, *Kit Tan* & *G. Vold* 29672 (herb. Kit).

New for Akarnanika Ori in Sterea Ellas.

**Fabaceae****84. *Lupinus varius*** subsp. *orientalis* Franco & P. Silva (Fig. 6)

**Gr** Nomos Dodekanisou, Eparchia Ko: Nisiros, Mandraki, 36°36'N, 27°08'E, 31.03.2008, *Sfikas* photo!

This species (sub nom. *L. pilosus* Murray) occurs on several East Aegean islands where the corolla is always bright blue and the standard with a whitish blotch. The photo represents a 60 cm tall variant with branched stem and almost white flowers. Two other species of *Lupinus* occur on the island, *L. angustifolius* L. and *L. gussoneanus* J. Agardh.



Fig. 6. *Lupinus varius* subsp. *orientalis* (photo G. Sfikas).

**Gesneriaceae****85. *Ramonda nathaliae*** Pančić & Petrović (Fig. 7)

**Gr** Nomos Pellis, Eparchia Almopias: Mt Paiko, Kastoriani to Livadia, 1106 m, 40°59'N, 22°21'E, 26.05.2008, *H. Kretzschmar* photo!

New for Mt Paiko in North Central; first noted by Zisis Antonopolous from Thessaloniki.



Fig. 7. *Ramonda nathaliae* (photo H. Kretzschmar).

**Ranunculaceae****86. *Clematis cirrhosa*** L.

**Gr** Nomos Dodekanisou, Eparchia Ko: Nisiros, Evangelistra monastery, 31.03.2008, *Sfikas* obs.

New for the East Aegean island of Nisiros.

**Araceae****87. *Arum dioscoridis*** Sm.

**Gr** Nomos Dodekanisou, Eparchia Ko: Nisiros, N of Nikia, 36°34'N, 27°11'E, 31.03.2008, *Sfikas* s.n. (herb. Sfikas; det. *Kit Tan* 2008); near town of Emborio, 36°35'N, 27°12'E, 31.03.2008, *Sfikas* s.n.

Observed at several other sites on the island including the ancient castle of Palaiokastro and at Evangelistria monastery (*B. Williams*, photo). This is the first record of an *Arum* from Nisiros, none have been reported by Papatsou (1975) or Burton (1991) in their checklists of the island's flora. The species is known from the larger neighbouring island of Kos (East Aegean).

**Iridaceae****88. *Iris unguicularis*** subsp. *carica* (W. Schultze) A.P. Davis & Jury

**Gr** Nomos Attikis, Eparchia Trizinia: SW of Driopi on way to Ag. Eleni, foot of limestone cliffs, 450 m, 37°35'N, 23°15'E, 12.03.2008, *Kit Tan* & *G. Vold* 29658 (herb. Kit).

New for eparchia in the Argolis peninsula.

*Liliaceae***89. *Tulipa undulatifolia* Boiss.**

**Gr** Nomos Lakonias, Eparchia Lakedemonas: Malea Peninsula, field near village of Niata, 36°54'N, 22°51'E, 05.04.2008, *Sfikas* 13831 & 13832 (herb. Sfikas).

The Mediterranean Garden Society went on an excursion to the Malea peninsula together with George Sfikas. At the village of Niata they met a man carrying a bunch of *Tulipa undulatifolia* in full flower. He informed the Society that he had found them in a field nearby. This is apparently the southernmost occurrence of the species in Greece.

*Orchidaceae***90. *Orchis papilionacea* L.**

**Gr** Nomos Dodekanisou, Eparchia Ko: Nisiros, NW of Armá, 01.04.2008, *Sfikas* obs.

New for the East Aegean island of Nisiros.

**Acknowledgements.** We thank Horst Kretzschmar for contributing the photo of *Ramonda nathaliae*.

**References**

- Ade, A. & Rechinger, K.H.** 1938. Samothrake. – Repert. Spec. Nov. Regni Veg. Beih., **100**: 106-146.
- Assyov, B. & Petrova, A.** (eds). 2006. Conspectus of the Bulgarian vascular flora. Distribution maps and floristic elements. Ed. 3. BBF, Sofia.
- Berg, R.Y.** 2000. *Cystopteris* Bernh. – In: **Jonsell, B.** (ed.), Flora Nordica. Vol. **1**, pp. 62-67. The Bergius Foundation, Stockholm.
- Biel, B. & Tan, Kit.** 2007. Reports 2–36. – In: **Vladimirov, V. & al.** (eds), New floristic records in the Balkans: 7. – Phytol. Balcan., **14**(1): 131-148.
- Burton, R.M.** 1991. A check-list and evaluation of the flora of Nisyros (Dodecanese, Greece). – Willdenowia, **20**(1-2): 15-38.
- Chamberlain, D.F. & Matthews, V.A.** 1970. *Astragalus* L. – In: **Davis, P.H.** (ed), Flora of Turkey and the East Aegean islands. Vol. **3**, pp. 49-254. Edinburgh Univ. Press, Edinburgh.
- Davis, P.H. & Plitmann, U.** 1970. *Vicia* L. – In: **Davis, P.H.** (ed.), Flora of Turkey and the East Aegean Islands, Vol **3**, pp. 274-325. Edinburgh Univ. Press, Edinburgh.
- Gazer, M.** 1993. Revision of *Astragalus* L. sect. *Sesamei* DC. (*Leguminosae*). – Sendtnera, **1**: 69-155.
- Heldreich, Th.** 1898. I chloris tis Eginis. Athine (in Greek).
- Kalheber, H.** 1995. Fundliste Karpathos, 5.4-17.4.1995. – Mskr., Runkel.
- Katsikopoulos, I.** 1936. Simvoli is tin meletin tis chloridos tis nisou Samothrakis. – Georgikon Deltion. Agric. Bull. Greek Agric. Soc., **29** [in Greek].
- Major, C.-J. Forsyth & Barbey, W.** 1894. Kasos. Étude botanique. – Bull. Herb. Boissier, **2**(5): 329-341.
- Melderis, A.** 1985. *Eremopyrum* (Ledeb.) Jaub. & Spach. – In: **Davis, P.H.** (ed.), Flora of Turkey and the East Aegean Islands. Vol. **9**, p. 228. Edinburgh. Univ. Press, Edinburgh.
- Papatsou, S.** 1975. Flora and vegetation of the island Nisyros and the surrounding islets. – *PhD Thesis*. Univ. Patras, Patras (in Greek).
- Pavlidis, G.** 1982. Geobotanical study of the mountain range of Vertikos I. Flora and vegetation. Thessaloniki (in Greek).
- Pavlidis, G.** 1985. Geobotanical study of the national park of lakes Prespa (NW Greece). Part A. Ecology, flora, phytogeography, vegetation. Thessaloniki (in Greek).
- Raus, Th.** 1990. Die Flora von Armathia und der Kleininseln um Kasos (Dodekanes, Griechenland). – Bot. Chron. (Patras), **9**(1-2): 19-39.
- Stojanov, N. & Kitanov, B.** 1944. Beitrag zur Kenntnis der Flora und der Vegetationsverhältnisse der Insel Samothrake. – God. Sofiisk Univ. Fiz.-Mat. Fak., **40**: 403-464.
- Strid, A. & Tan, Kit** (eds). 1997. Flora Hellenica. Vol. **1**. Koeltz Scientific Books, Königstein.
- Tan, Kit & Issigoni, M.** 2007. Reports 82-115. – In: **Vladimirov, V. & al.** (eds), New floristic records in the Balkans: 6. – Phytol. Balcan., **13**(3): 446-449.
- Tutel, B.** 1982. *Plantago* L. – In: **Davis, P.H.** (ed.), Flora of Turkey and the East Aegean Islands. Vol. **7**, pp. 507-519. Edinburgh Univ. Press, Edinburgh.
- Tzvelev, N.N.** 1976. *Poaceae* URSS. Nauka, Leningrad (in Russian).
- Vallianatou, I. & Yannitsaros, A.** 1993. A contribution to the flora of the island of Aiyina (Saronic Gulf, Greece). – In: Proc. 15<sup>th</sup> Conf. Hellen. Soc. Biol. Sci., Florina-Kastoria. Pp. 406-409. Florina Kastoria.
- Vallianatou, I. & Yannitsaros, A.** 2000. A contribution to the vascular flora of the islands of the Saronic Gulf (Greece). – Bot. Chron. (Patras), **13**: 303-323.
- Zohary, M.** 1970. *Trifolium* L. – In: **Davis, P.H.** (ed.), Flora of Turkey and the East Aegean Islands. Vol. **3**, pp. 384-448. Edinburgh Univ. Press, Edinburgh.