

## **Euro Med-Checklist Notulae, 8**

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ECKHARD VON RAAB-STRAUBE<sup>1\*</sup> & THOMAS RAUS<sup>1</sup> (ed.)

## Euro+Med-Checklist Notulae, 8

Version of record first published online on 20 November 2017 ahead of inclusion in December 2017 issue.

**Abstract:** This is the eighth of a series of miscellaneous contributions, by various authors, where hitherto unpublished data relevant to both the Med-Checklist and the Euro+Med (or Sisyphus) projects are presented. This instalment deals with the families *Ophioglossaceae*, *Amaryllidaceae* (incl. *Alliaceae*), *Asparagaceae* (incl. *Hyacinthaceae*), *Caryophyllaceae*, *Compositae*, *Gramineae*, *Juncaceae*, *Malvaceae*, *Myrtaceae*, *Orobanchaceae*, *Papaveraceae* and *Scrophulariaceae*. It includes new country and area records and taxonomic and distributional considerations for taxa in *Alcea*, *Allium*, *Botrychium*, *Bromus*, *Cerastium*, *Chamaemelum*, *Crepis*, *Ehrharta*, *Erigeron*, *Eucalyptus*, *Juncus*, *Lactuca*, *Limosella*, *Matricaria*, *Ornithogalum*, *Orobanche*, *Papaver* and *Phelipanche*, as well as new combinations in *Ornithogalum* and *Phelipanche*.

**Key words:** distribution, Euro+Med PlantBase, Europe, Med-Checklist, Mediterranean, new combination, new record, taxonomy, vascular plants

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## Notice

A succinct description of the Euro+Med project, with a list of recognized territories and their abbreviations, and the conventions used to indicate the status and presence of taxa, can be found in the introduction to the first instalment of the Euro+Med Notulae (Greuter & Raab-Straube 2005: 223–226) and on the Euro+Med PlantBase website (Euro+Med 2006+). For the previous instalment of the Euro+Med-Checklist Notulae, see Raab-Straube & Raus (2017).

The following have contributed entries to the present instalment: D. Bartha, G. Domina, R. El Mokni, A. V. Fateryya, Th. Gregor, D. Iamónico, L. Meierott, A. V. Popovich, S. Rätzl, Th. Raus, M. Ristow, L. Ryff, D. Schmidt,

A. Strid, M. Szépligeti, H. Uhlich, E. Véla, F. Verloove & A. Zeddám.

*Pteridophyta*

*Ophioglossaceae*

***Botrychium matricariifolium*** W. D. J. Koch

+ **Hu:** Hungary: W Hungary, Vas county, Kőszeg mountains, Kőszeg, 47°24'44"N, 16°27'25"E, 345 m, next to asphalted road, partially under young *Carpinus betulus* trees, on a mixture of shingly soil and road metal, 35 individuals, 15 Jun 2016, Schmidt (photo). – The Hungarian Red List (Király 2007) considered *Botrychium matricariifolium* as an extinct (category EX)

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species. In 2008, a single plant was found in the Mecsek mountains (S Hungary) on a grazed pasture (Lengyel 2009), but the species has not been found there since. The new locality is the second record in the Kőszeg mountains after Waisbecker (1904), and currently the only known living population in Hungary (Bartha & al. 2015).

D. Schmidt, M. Szépligeti & D. Bartha

### Spermatophyta

#### Amaryllidaceae (incl. Alliaceae)

#### *Allium melanogyne* Greuter – Fig. 1, 2.

+ AE(G): Greece, East Aegean Islands: nomos of Lesvos, eparchia of Mitilini, 2–3 km from Sanatorio Agiasou along road to Plomari, 39°03'N, 26°23'E, 700–800 m, open *Castanea* forest and meadows, 27 Apr 1987, bulbs collected as *Strid & al. G87-67*. – Plants raised from this bulb collection were cultivated for several years in the Copenhagen Botanical Garden and later also in the Göteborg Botanical Garden, under the name *Allium nigrum* L. These plants showed broad, white tepals and a glossy ovary, which is very peculiar in being black when young, then turning green and finally becoming blackish again – it was logical to believe that such a plant deserved the name *A. nigrum*. Later, Greuter (in Greuter & Raus 2009: 342–343) described *A. melanogyne* from Dadia in NE mainland Greece, which has this peculiarity of the ovary. Soon after, I collected living material of *A. melanogyne* at its locus classicus. In cul-

tivation the Dadia plants become indistinguishable from the Lesvos plants in floral characters but retain somewhat narrower leaves.

There are certainly two species. The first is the widespread *Allium nigrum*, which has pinkish, mauve or greenish, narrowly elliptic and subacute tepals, and a dull greenish or purplish, tuberculate ovary. The second is *A. melanogyne*, which has white or cream, elliptic, obtuse tepals and a glossy ovary with the peculiar colour shift from black to green to blackish again.

Some previous records of *Allium nigrum* from Lesvos may also refer to *A. melanogyne*, but there is also at least one confirmed collection of the former (Lesvos, between Polichnitos and Vrisa, 39°04'N, 26°12'E, 50 m, cultivated fields, 1 May 1987, *Strid & al. 26272*, G, herb. Strid). Consequently, both species occur on Lesvos. Limited evidence suggests that *A. nigrum* is a typical weed of traditional agriculture, whereas *A. melanogyne* grows in seminatural habitats (open woodland, rocky hills, etc.). As currently known, the latter is restricted to a few localities in the NE part of the Greek mainland (nomos of Evros, including the locus classicus near the eco-touristic station of Dadia) and the islands of Samothraki and Lesvos. A collection from 1500 m altitude on Mt Orvilos (nomos of Drama, 41°22'N, 23°39'E) was reported by Tzanoudakis (in litt., 9 Jan 2013) as “a very slender plant probably belonging to *A. melanogyne*”.

In addition to *Allium nigrum* and *A. melanogyne*, a third member of *A. sect. Melano-*



Fig. 1. Comparison of flowers of *Allium melanogyne*, *A. nigrum* and *A. cyrilli* from Greece. – A: *Allium melanogyne*, cultivated in Ørbæk, Denmark, 28 Jun 2012; collected from nomos of Evros, eparchia of Soufli, by ecotouristic station near village of Dadia, 100 m, rocky outcrop, 31 May 2010, *Strid 57037* (G, herb. Strid). – B: *Allium melanogyne*, cultivated in Allerød, Denmark, later in Göteborg Botanical Garden, Sweden, 28 Jun 2006; collected from island of Lesvos, eparchia of Mitilini, 2–3 km from Sanatorio Agiasou along road to Plomari, 700–800 m, open *Castanea* forest and meadows, 27 Apr 1987, *Strid & al. G87-67* (bulb collection). – C: *Allium nigrum*, island of Samos, 1 km from Chora toward Pythagorion, 40 m, traditionally cultivated field with many weeds, 19 Apr 2017. – D: *Allium cyrilli*, colour forms growing side by side; island of Chios, just NE of village of Kalimasia, 100–150 m, loamy hills with terraced mastic and olive groves, 25 Apr 2009. – Photographs by A. Strid, not shown at same scale.

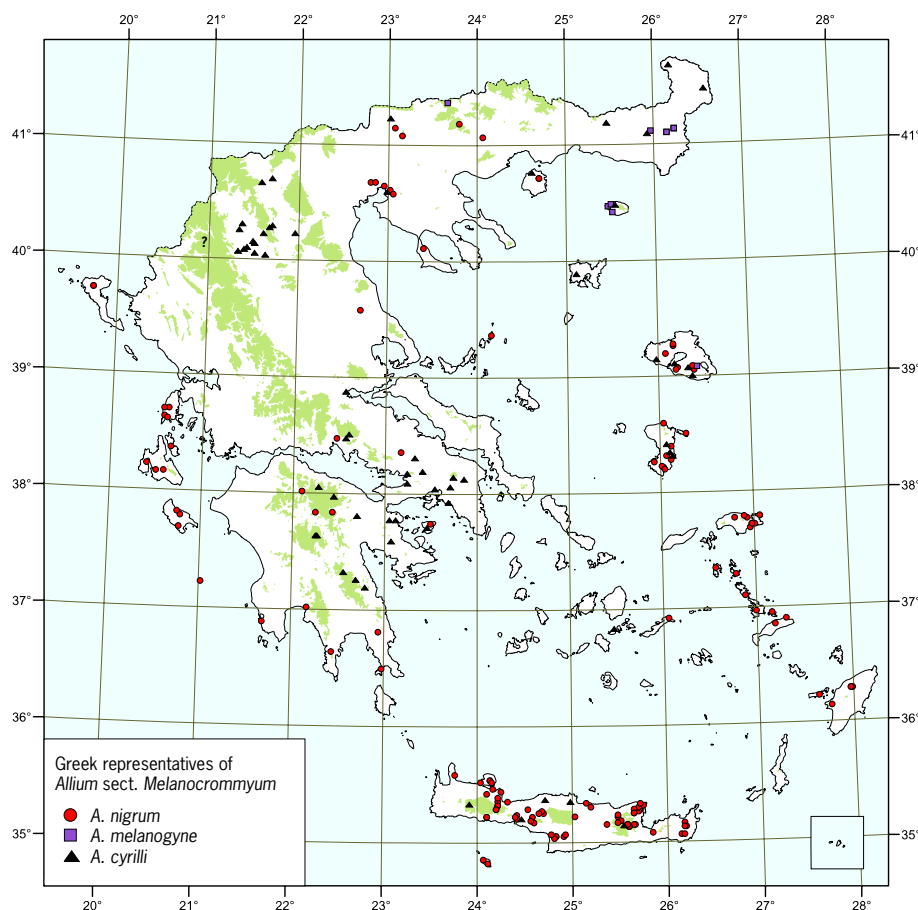


Fig. 2. Distribution map of Greek members of *Allium* sect. *Melanocrommyum*.

*crommyum* Webb & Berthel., *A. cyrilli* Ten., is fairly widespread in Greece. Like *A. nigrum*, it is generally a “weed” of traditional agriculture. It is characterized by a more or less fastigiate umbel with linear, finally deflexed tepals narrower than the filaments; there are several colour variants, ranging from white to purple, sometimes in the same population.

A. Strid

*Asparagaceae* (incl. *Hyacinthaceae*)

***Ornithogalum naxense*** (Landström) Strid, **comb. & stat. nov.**  $\equiv$  *Ornithogalum dictaeum* subsp. *naxense* Landström, Species of *Ornithogalum* L. subg. *Ornithogalum* (*Hyacinthaceae*) in Greece: 7. 1989. – Holotype: Greece, nomos of Kiklades, Naxos, along stream 2 km ENE of Komiaki, 270–360 m, 26 Apr 1957, Runemark 1731 (LD!). – Fig. 3.

**Description** — Geophyte, perennial, bulbous, glabrous throughout. *Bulb* whitish, ovoid, 25–35 × 16–24 mm, with thin tunics; offsets few to several, ovoid, slightly flattened, large. *Leaves* 4–8, at anthesis erecto-patent, fresh green, concolorous, somewhat glossy, flat to moderately canaliculate, 20–30 × 0.4–1 cm,  $\pm$  equalling inflo-

rescence, with parallel, thin, rather inconspicuous veins, without median stripe; later much elongating and flaccid. *Scape* suberect, terete, 14–25 cm long from bulb to lowest pedicel, c. 2 mm in diam. *Raceme* ovoid, c. 8 × 5 cm at anthesis, only slightly elongating after anthesis, rather lax, with 5–15 flowers. *Bracts* whitish, narrowly lanceolate, canaliculate, c.  $\frac{1}{3}$  as long as pedicel at anthesis, scarious, with 3–5 greenish veins, apex acuminate. *Pedicels* at anthesis forming an angle of 30°–45° to inflorescence axis, 15–32 mm long. *Tepals* erecto-patent, uniformly white adaxially, oblong-elliptic, 12–18 × 3.5–5 mm, apex subacute; abaxial surface of outer tepals with rather faint, light green median stripe  $\frac{1}{4}$ – $\frac{1}{3}$  as wide as tepal in distal half and  $\pm$  disappearing toward base; median stripe on abaxial surface of inner tepals faint or almost lacking.

*Stamens* erect, c.  $\frac{1}{2}$  as long as tepals; *filaments* white, narrowly elliptic, flattened, 1.2–1.6 mm wide, apex cuspidate, cusp much shorter than flattened part; *anthers* medifixed, versatile, pale yellowish, oblong, c. 1.2 mm long. *Ovary* at anthesis broadly cylindrical to narrowly obovoid, c. 4.5 × 2.5 mm, with rounded shoulders; *style* erect, c. 2.5 mm long; *stigma* inconspicuous. *Fruiting pedicels* forming an angle of 60°–70° to inflorescence axis, slightly curved upward toward apex, slender, 30–44 mm long. *Capsule* broadly obovoid, shallowly and obtusely 3-lobed, 8–10 × 7–9 mm, apex truncate to slightly emarginate. *Seeds* usually 3, blackish when ripe, subglobose to broadly oblong, c. 3.8 × 3.2 mm; testa finely reticulate.

**Discussion** — Landström (1989) described *Ornithogalum dictaeum* with two subspecies: *O. dictaeum* subsp. *dictaeum* from Mt Dikti (E Kriti) and *O. dictaeum* subsp. *naxense* from Naxos. The unusual disjunction and the fact that the two taxa appear to grow in very different habitats prompted a closer study, after the present author had collected living material of *O. dictaeum* subsp. *naxense* near to its locus classicus.

The type of *Ornithogalum dictaeum* is from Kriti, nomos of Lasithi, eparchia of Mirabello, 4 km W of Katharon, 1300 m, 27 May 1976, Landström 3097 (holo-

type: LD!; isotypes: ATH, G, K). There are a few additional collections from the same area, all at altitudes between 1000 m and 1300 m; a subsequent record from Lefka Ori needs confirmation. The habitat is dry, rocky limestone slopes, screes and cliff ledges, with accompanying species such as *Asphodeline lutea* (L.) Rchb., *Crepis auriculifolia* Spreng., *Daphne sericea* Vahl, *Euphorbia acanthothamnus* Boiss., *Lomelosia divaricata* (Jacq.) Greuter & Burdet, *Origanum microphyllum* (Benth.) Vogel, *Petromarula pinnata* (L.) A. DC., *Phlomis lanata* Willd., *Ranunculus paludosus* Poir., *Romulea linaresii* subsp. *graeca* Bég., *Sarcopoterium spinosum* (L.) Spach, *Satureja thymbra* L., *Stachelina fruticosa* (L.) L.

Besides the type of *Ornithogalum dictaeum* subsp. *naxense*, there are about ten additional records from Naxos, all from damp, shady habitats over schist at altitudes of 250–900 m. Accompanying species recorded by previous collectors include *Acer sempervirens* L., *Arabis verna* (L.) R. Br., *Crepis fraasii* Sch. Bip., *Dioscorea communis* (L.) Caddick & Wilkin, *Doronicum orientale* Hoffm., *Luzula nodulosa* (Bory & Chaub.) E. Mey., *Polypodium cambricum* L., *Quercus ilex* L., *Ranunculus creticus* L. and *Umbilicus rupestris* (Salisb.) Dandy. The present author gathered living material of *O. dictaeum* subsp. *naxense* on the N side of Mt Koronos, at 600 m, in a damp, shady, rocky place in a ravine with schistose substrate, on 28 May 2013 (Strid 57773). Bulbs were planted in Ørbæk, Denmark, and have flowered every year since. Herbarium specimens prepared from cultivated material have been deposited in B, UPA and herb. Strid. Additional herbarium material was gathered at the same locality on 17 Apr 2014 (Strid 57937; ATH, G, LD, herb. Strid). In this locality the *Ornithogalum* is gregarious in a small area, growing together with *Cyclamen hederifolium* Aiton, *Erysimum hayekii* (Jáv. & Rech. f.) Polatschek, *Galanthus ikariae* Baker, *Symphytum davisi* subsp. *naxicola* (Pawł.) Stearn and *Vicia pinetorum* Boiss. & Spruner.

Close examination of living material of *Ornithogalum dictaeum* subsp. *naxense* revealed a number of features which make it reasonable to regard it as a separate, endemic species. The main differences between the two species are summarized in Table 1, and an amended description is given above. A. Strid



Fig. 3. *Ornithogalum naxense* – cultivated in Ørbæk, Denmark, 23 May 2017, photograph by A. Strid; collected from Greece, nomos of Kiklades, Naxos, N side of Mt Koronos, 600 m, 28 May 2013 (Strid 57773).

#### Caryophyllaceae

#### *Cerastium dubium* (Bastard) Guépin

+ **Al**: Albania: near lake Ohrid, Lin, 3.4 km NE of Udënisht, 20°38'N, 41°00'E, wet depressions in fields and fallow fields, 17 May 2016, *Gregor 15307* (FR); *ibid.*, 7 May 2017, *Gregor 15694* (FR). – New to Albania (not given for the country in Demiri 1983; Greuter & al. 1984; Papparisto 1988; Rakaj & al. 2013; Vangjeli 2015; Pils 2016). This taxon is widespread in Europe. Th. Gregor

Table 1. Main differences between *Ornithogalum dictaeum* and *O. naxense*.

<i>Ornithogalum dictaeum</i>	<i>Ornithogalum naxense</i>
Leaves much exceeding inflorescence at anthesis	Leaves slightly exceeding inflorescence at anthesis
Inflorescence corymbose, short, dense	Inflorescence racemose, ovoid, lax
Bracts c. ½ as long as pedicel at anthesis	Bracts c. ⅓ as long as pedicel at anthesis
Tepals c. 11 × 2.5 mm	Tepals 12–18 × 3.5–5 mm
Anthers c. 2 mm long	Anthers c. 1.2 mm long
Growing on dry, rocky limestone slopes and cliffs in E Kriti	Growing in damp, shady habitats over schist on Naxos

*Compositae (Asteraceae)*

***Chamaemelum nobile*** (L.) All. (= *Anthemis nobilis* L. = *Ormenis nobilis* (L.) Coss. & Germ.; = *Ormenis nobilis* subsp. *aurea* (L.) Maire)

**A Tn:** Tunisia: Monastir (C Tunisia), 35°46'22"N, 10°49'52"E, 15 m, ruderal, public gardens, 23 May 2017, *El Mokni* (PAL, herb. Univ. Monastir). – During research aimed at improving knowledge on the vascular flora of Tunisia (see, e.g., El Mokni & al. 2010, 2012, 2013a, 2013b, 2014, 2015a, 2015b, 2015c; El Mokni & El Aouni 2011a, 2011b, 2012), a population identified as *Chamaemelum nobile* was found in anthropogenic habitats in the Monastir area. Native to SW Europe (France, Portugal and Spain), *C. nobile* is also present in many European countries as an alien plant, casual or cultivated (cf. Greuter 2006a+). In N Africa, the species was so far known as native only in Algeria and Morocco (Greuter 2006a+; Dobignard & Chatelain 2011: 228). The recent Tunisian checklist (Le Floch & al. 2010) and the latest synonymic index for the N African flora (Dobignard & Chatelain 2011) did not report this species from Tunisia. It was mentioned as sometimes cultivated but absent in the spontaneous state from Tunisia by Pottier-Alapetite (1981: 991, as *Ormenis nobilis*). Our discovery is the first record of a spontaneous occurrence in Tunisia, represented by only one small population, located on roadsides in the town of Monastir (Monastir region in C Tunisia). It occupies an area of about 40 m<sup>2</sup>, where it apparently originated from seeds from cultivated plants.

R. El Mokni & G. Domina

***Crepis bursifolia*** L.

**N Ag:** Algeria: Tlemcen (NW Algeria), Mansourah ruins, 34°52'16.3"N, 01°20'22.8"W, 825 m, slab pavement, 18 Feb 2006, *Véla U218\_9505 & 9506 (photos)*; Mansourah zoo, 34°52'19.0"N, 01°20'22.1"W, 820 m, slab pavement, 18 Feb 2006, *Véla U218\_9516 (photo)*; Aïn Temouchent (NW Algeria), new districts, 35°18'37.5"N, 01°08'17.1"W, 120 m, slab pavement, *Véla U430\_1523 to 1530 (photos)*; Oran (NW Algeria), Oran Es-Senia University (S campus), 35°38'16.2"N, 00°36'45.3"W, 90 m, sidewalks and gutters, 20 Mar 2011, *Véla Z320\_4284 (photo)*; Oran Es-Senia University (N campus), 35°39'40.1"N, 00°37'52.4"W, 90 m, trampled ground, 20 Mar 2011, *Véla Z320\_4286 (photo)*; Alger (N Algeria), Sidi-Ahmed (Addis-Abeba), 36°45'24.5"N, 03°02'48.9"E, 120 m, 27 May 2012, *Véla A527\_2381 to 2385 (photos)* [see also Véla & al. (2013)].

**N Tn:** Tunisia: Nabeul (NE Tunisia), Bir-Bourgba, 36°25'34.7"N, 10°34'48.8"E, 35 m, roadsides, 2 Aug 2016, *El Mokni* (herb. El Mokni); Nabeul, 36°27'19.0"N, 10°44'42.4"E, 9 m, roadsides, 2 Aug 2016, *El Mokni* (herb. El Mokni); Ben Arous (NE Tunisia), Hammam-Lif, 36°43'13.6"N, 10°21'04.4"E, 10 m, sidewalks and gutters, 4 Jun 2007, *Véla V604\_2600 (photo)* [see also Véla & al. (2013)]; Tunis (NE Tunisia), Ariana, 36°50'43.6"N, 10°11'32.5"E, 7 m, roadsides, 2 Aug 2013, *El Mokni* (herb. El Mokni); Belvedere Park, 36°49'2"N, 10°10'4"E, 10 m, pedestrian paths, 21 Jun 2013, *Véla B621\_8334 (photo)*; INAT campus, 36°49'68.6"N, 10°10'58.4"E, 10 m, lawns and borders, 21 Jun 2013, *Véla B621\_8239 to 8244 & B621\_8252 (photos)*; musée du Bardo, 36°48'35.6"N, 10°08'00.5"E, 25 m, bare land car park, 22 Jun 2013, *Véla B622\_8371 & 8372 (photos)*; Bizerte (NE Tunisia), Cap Blanc, 37°19'34.5"N, 09°50'30.2"E, 105 m, roadsides, 8 Sep 2017, *El Mokni* (herb. El Mokni); Sidi Salem, 37°17'16.9"N, 09°52'08.5"E, 10 m, roadsides, 1 Aug 2011, *El Mokni* (herb. El Mokni); Menseil Jemil, 37°14'18.0"N, 09°54'08.5"E, 10 m, roadsides, 8 Sep 2017, *El Mokni* (herb. El Mokni); Menzil Bourguiba, 37°08'25.8"N, 09°47'24.4"E, 30 m, roadsides, 28 Jul 2012, *El Mokni* (herb. El Mokni); Sejnan, 37°03'04.9"N, 09°14'18.7"E, 175 m, roadsides, 18 Sep 2012, *El Mokni* (herb. El Mokni); Tamera, 37°04'15.8"N, 09°08'33.0"E, 145 m, roadsides, 4 Aug 2013, *El Mokni* (herb. El Mokni); Beja (NW Tunisia), Nefza, 36°58'18.7"N, 08°42'34.4"E, 110 m, roadsides, 28 Sep 2014, *El Mokni* (herb. El Mokni); Jendouba (NW Tunisia), Tabarka/Melloula, 36°56'53.4"N, 08°42'35.3"E, 135 m, roadsides, 13 Oct 2012, *El Mokni* (herb. El Mokni); Ain Draham, 36°46'41.6"N, 08°41'25.3"E, 735 m, roadsides, 29 Sep 2012, *El Mokni* (herb. El Mokni); Fernana, 36°38'53.6"N, 08°41'55.9"E, 250 m, roadsides, 20 Sep 2010, *El Mokni* (herb. El Mokni); Jendoubla, 36°29'49.3"N, 08°46'38.2"E, 145 m, roadsides, 23 Sep 2012, *El Mokni* (herb. El Mokni); Ghar-Dimaou, 36°27'00.2"N, 08°25'54.9"E, 200 m, roadsides, 10 Oct 2012, *El Mokni* (herb. El Mokni); El Feidja, 36°31'22.0"N, 08°19'40.0"E, 870 m, roadsides, 24 Sep 2011, *El Mokni* (herb. El Mokni).

*Crepis bursifolia* is a species native to C and S Italy and Sicily; it also occurs as an alien in Spain, France, possibly Malta (Briffa 1984) and has been erroneously reported from S Greece (Halácsy 1902: 229). For N Africa this species is currently listed in Morocco, Algeria and Tunisia (see, e.g., Greuter 2006b+; Le Floch & al. 2010; SANBI 2012). However, for

Tunisia it has not yet been given as naturalized, neither by Greuter (2006+), who reported it as “casual alien”, nor by Le Floch & al. (2010), who did not give any comments. Whereas Dobignard & Chatelain (2011) assigned it only as “adventitious” for Tunisia, Algeria and also Morocco, the actual alien status of *C. bursifolia* in Tunisia and Algeria is defined here.

As part of ongoing studies on Algerian and Tunisian alien flora (e.g. El Mokni & El Aouni 2011a, 2011b, 2012; El Mokni & al. 2013b, 2016; Véla 2013; Véla & al. 2013; Sukhorukov & al. 2016; Iamónico & El Mokni 2017a, 2017b), we found many populations identifiable as *Crepis bursifolia* occupying wide areas (sometimes with over 100 individuals per 100 m<sup>2</sup>) in many localities of the following governorates: Beja, Ben Arous, Bizerta, Jendouba, Nabeul and Tunis. There, *C. bursifolia* grows mainly on roadsides, car parks, in non-maintained gardens, other trampled sites and on more or less dried floodplains. Populations have been observed since 2007, and they have been occupying more and more space at least since 2010; therefore, according to the definitions by Pyšek & al. (2004), the species can be considered as naturalized in Tunisia. The situation is the same in N Algeria, at least in central (Algiers) and western (Oran) parts. Obviously, the probable naturalization of the species has to be monitored in N Morocco as well, where it has recently been reported (Fennane & al. 2014).

Photographed specimens from Véla’s collection are consultable online on the “Carnet en Ligne” database at: <http://www.tela-botanica.org/widget:cel:cartoPoint?utilisateur=errol.vela@cirad.fr>. R. El Mokni & E. Véla

#### *Erigeron bilbaoanus* (J. Rémy) Cabrera

**A Cm:** Crimea: SW outskirts of Gurzuf, “Zhemchuzhina Kryma” recreation complex, 1 Sep 2013, Ryff (YALT); road near Korovin Holiday House, 14 Sep 2013, Ryff (YALT); seashore between Gurzuf and Ay-Danil, “Lagoon” complex under construction, 13 Oct 2013, Ryff (YALT). – Roadsides, asphalt and concrete places, very rare and sporadic; the plants grew together with *Erigeron canadensis* L. and *E. sumatrensis* Retz. *Erigeron bilbaoanus* differs from *E. canadensis* in having a larger size, a more robust habit, a paniculate (not narrowly cylindrical) synflorescence, and a 5-lobed corolla; it differs from *E. sumatrensis* in having a more spreading, lax synflorescence with the lateral branches exceeding the main axis and more numerous, smaller capitula with almost glabrous

involucral bracts. Since 2013, the species has not been found again in Crimea, so that we consider it as a casual alien there. L. Ryff

#### *Erigeron sumatrensis* Retz. (= *Conyza albida* Spreng.)

**N Cm:** Crimea: Simeiz, Krasnomayakskaya Str., 9 Dec 2014, Ryff (YALT); Yalta, bus station, 23 Aug 2013, Ryff (YALT); *ibid.*, Lomonosova Str., 24 May 2014, Ryff (YALT); Dolossy, Yaltinsky Mountain Forest natural reserve, disturbed area within *Pinus pallasiana* forest, 24 Aug 2013, Ryff (YALT); Nikita, Nikitsky Botanical Garden, 16 Sep 2013, Ryff (YALT); Ay-Danil (Danylivka), on pond shore, 29 Sep 2013, Ryff (YALT); Gurzuf, “Zhemchuzhina Kryma” recreation complex, 1 Sep 2013, Ryff (YALT); *ibid.*, Leningradskaya Str., 8 Oct 2017, Ryff (YALT). – Streets, pavements, roadsides, asphalt and concrete areas, abandoned flowerbeds, vineyard edges, pond shores. *Erigeron sumatrensis* often grows together with *E. canadensis* and *Symphyotrichum graminifolium* (Spreng.) G. L. Nesom. This is the first record of this alien plant for E Europe, but the species has already been recorded from Bulgaria, Romania, Turkey and the Caucasus, as well as from W and C Europe (Greuter 2006c+). Obviously, it has been notably spreading on the S coast of Crimea during the last years. L. Ryff

#### *Lactuca tuberosa* Jacq. (≡ *Steptorhamphus tuberosus* (Jacq.) Grossh.)

**+ Al:** Albania: Çorovoda, near Osum bridge, 20°13'N, 40°30'E, rocks, 4 Jun 2014, Gregor 12186 & Meierott (FR). – This species has not been mentioned before for Albania (Greuter & Raab-Straube 2008: 517; Rakaj & al. 2013; Vangjeli 2015), except that it was depicted in Pils (2016: Addenda 2, p. 372, fig. 1), but without any mention in the text or indication of localities. Our specimen therefore is the first confirmed record of *Lactuca tuberosa* for the country. Th. Gregor & L. Meierott

#### *Matricaria chamomilla* L. (= *Chamomilla recutita* (L.) Rauschert ≡ *Matricaria recutita* L.)

**N Tn:** Tunisia: Bizerte (NE Tunisia), 37°16'14"N, 09°48'10"E, 50 m, cereal crop fields, 27 Apr 2011, El Mokni (PAL, herb. Univ. Bizerta, herb. Univ. Monastir); *ibid.*, 1 May 2014, El Mokni (PAL, herb. Univ. Bizerta, herb. Univ. Monastir); *ibid.*, 11 May 2017, El Mokni (PAL, herb. Univ. Bizerta, herb. Univ. Monastir); Jendouba (NW Tunisia), 36°40'13"N, 08°42'12"E, 300 m, cereal crop fields, 19 May 2013, El Mokni (herb. Univ. Bizerta). – *Matricaria chamomilla* is native to most European coun-

tries (cf. Greuter 2006d+) and W Asia (cf. Biset 1994). In N Africa, the species was known so far as native in Morocco and Algeria, and with problematic status for Egypt (Greuter 2006d+; Dobignard & Chatelain 2011: 323). The recent Tunisian checklist (Le Floch & al. 2010) and the latest synonymic index for the N African flora (Dobignard & Chatelain 2011) did not give this species for the Tunisian flora. Our discoveries (since April 2011) are the first records for the country. There are two populations in cereal fields, the first one located in NE Tunisia (El Gasr lahamr, Bizerta), the second in NW Tunisia (Fernana, Jendouba). In both populations, the species occurs as a naturalized field weed and occupies areas of a few hectares. It was presumably introduced there with grains of cultivated crops.

R. El Mokni & G. Domina

#### Gramineae (Poaceae)

##### *Bromus hordeaceus* subsp. *pseudothominei* (P. M. Sm.)

H. Scholz

+ **Al:** Albania: Bogë, 19°40'N, 42°24'E, grassland, 31 May 2014, *Gregor 11992 & Meierott* (FR). – New to Albania; not given before for the country (Demiri 1983; Vangjeli 2015; Pils 2016). This sometimes neglected taxon is widespread in Europe. Th. Gregor & L. Meierott

##### *Ehrharta calycina* Sm.

**N Tn:** Tunisia: Jendouba, Tabarka/Ras Rajel (NW Tunisia), 36°57'54.7"N, 08°51'36.9"E, 15 m, pine forests, 5 May 2017, *El Mokni* (BR, herb. El Mokni); Tabarka/Town, 36°57'08.1"N, 08°47'18.0"E, 10 m, roadsides, 7 Mar 2017, *El Mokni* (BR, herb. El Mokni); Tabarka/Sidi Badr, 36°56'23.8"N, 08°48'16.1"E, 30 m, pine forests, 1 Aug 2015, *El Mokni* (BR, herb. El Mokni); Ain Draham (NW Tunisia), 36°44'36.8"N, 08°47'18.0"E, 645 m, mixed oak/pine forests, 5 Aug 2017, *El Mokni* (BR, herb. El Mokni); Fernana (NW Tunisia), 36°39'08.4"N, 08°41'20.9"E, 255 m, roadsides of sandy opened pine forests, 1 Jun 2010, *El Mokni* (BR, herb. El Mokni). – *Ehrharta calycina* is a species native to S Africa and the Mascarene Islands and has been introduced to several countries around the world (cf. ISC 2017). In N Africa, this species is currently recorded only in Tunisia (see, e.g., Valdés & al. 2009+; SANBI 2012), with an uncertain degree of naturalization. Valdés & al. (2009+) reported "Alien (status unknown)", Dobignard & Chatelain (2010) noted "Alien" and Le Floch & al. (2010) gave "subspontaneous status". A

clarification of the status of *E. calycina* in Tunisia is therefore required and is presented here.

As part of ongoing studies on Tunisian alien flora (e.g. Iamónico & El Mokni 2017a, 2017b; Sukhorukov & al. 2016; El Mokni & El Aouni 2011a, 2011b, 2012; El Mokni & al. 2012, 2013b, 2016) and research on alien *Poaceae* in the Mediterranean area (e.g. Verloove & Lambinon 2008; Verloove 2008, 2012a, 2012b; Verloove & Sánchez Gullón 2012), we found many populations identifiable as *Ehrharta calycina* occupying wide areas in the following localities: Ain Draham, Fernana, Ras Rajel, Sidi Badr and Tabarka. There, *E. calycina* grows mainly on roadsides within pine or mixed forests, edges of waterways and dried floodplains. The species was introduced as a forage plant around 1970 in Ferme Perrin (Tunisia) and was collected by Meurer in April 1984 in the coastal dunes of Cap Serrat (cf. Scholz 1998; Le Floch & al. 2010). We have recorded many populations within the Kroumiria region since 2010; therefore, according to the definitions by Pyšek & al. (2004), the species can be considered as well naturalized in Tunisia.

R. El Mokni & F. Verloove

#### Juncaceae

##### *Juncus ranarius* Songeon & E. P. Perrier

+ **Al:** Albania: 3.7 km E of Velipoja, 19°28'N, 41°52'E, 11 Jun 2014, wet depression in sand near beach, *Gregor 12530* (FR), *Meierott 14/409* (M). – New to Albania; not given before for the country (Demiri 1983; Rakaj & al. 2013; Vangjeli 2015; Pils 2016). This taxon is widespread in Europe. Th. Gregor & L. Meierott

#### Malvaceae

##### *Alcea setosa* (Boiss.) Alef. (≡ *Althaea setosa* Boiss.)

**N Tn:** Tunisia: Bizerta, Utica (NE Tunisia), 37°03'23"N, 10°03'44"E, 10 m, under walls of ancient buildings, gardens, 2 May 2012, *El Mokni* (PAL, herb. Univ. Bizerta); *ibid.*, 28 Apr 2014, *El Mokni* (herb. Univ. Bizerta); *ibid.*, 14 May 2016, *El Mokni* (herb. Univ. Bizerta); Jendouba, Ain Draham (NW Tunisia), 36°44'34"N, 08°40'52"E, 615 m, margin of cork oak forest, 5 Jul 2013, *El Mokni* (herb. Univ. Bizerta). – As part of ongoing research aiming at improving knowledge on the non-native vascular flora of Tunisia (see, e.g., El Mokni & al. 2013b; El Mokni & al. 2016; Iamónico & El Mokni 2017a, 2017b) and study on *Malvaceae* (see, e.g. Iamónico 2010, 2016; Iamónico & Peruzzi 2014), two populations identifiable as *Alcea*



*setosa* were found in anthropogenic habitats of the Bizerta region and at the margin of a cork oak forest in the Jendouba mountains. *Alcea* L., with main centres of diversity in the W Mediterranean basin and in the Middle East (see, e.g., Badrkhani & al. 2014), includes approximately 50 species, which are mainly of Irano-Turanian distribution with extensions into the Caucasus and the E Mediterranean (Zohary 1963). *Alcea setosa*, originating in the Mediterranean area (see Maslo 2015), is used as ornamental, especially in Europe, where it is able to escape from cultivation (see, e.g., DAISIE 2008; NOBANIS 2015). In Europe and the Mediterranean area, *A. setosa* is currently recorded as native in Greece (Dimopoulos & al. 2013), Turkey, Cyprus, Lebanon-Syria and Jordan and as alien in Italy and the former Yugoslavia (Valdés 2011). The recent Tunisian checklist (Le Floch & al. 2010), Euro+Med PlantBase (Valdés 2011), the synonymic index for the N African flora (Dobignard & Chatelain 2012) and the SANBI database (SANBI 2012) did not list this species for Tunisia. The two populations discovered by us occupy areas of about 4 ha and 100 m<sup>2</sup> respectively and are able to sustain themselves. According to the definitions by Pyšek & al. (2004), *A. setosa* can be considered as a naturalized species in Tunisia.

R. El Mokni & D. Iamonicò

#### Myrtaceae

##### *Eucalyptus camaldulensis* Dehnh.

**N Ag:** Algeria: Wilaya of Algiers, Daira of Chéraga, commune de Bouchaoui, area of Bouchaoui, saplings in neighbourhood of old adults planted prior to 1962, 1 Jan 2013 (*photo*); *ibid.*, Daira of Hussein-Dey, commune of Kouba, Ben Omar, three saplings in waste area a few metres from adult tree, 19 Sep 2014 (*photo*); *ibid.*, commune of Hussein-Dey, Le Calvaire, seedling with thin, curved trunk growing on top of wall, 29 May 2016 (*photo*); *ibid.*, Daira of Sidi M'Hamed, commune of Alger Centre, Tafoura, saplings on slope above railway near adult parent tree, 4 Feb 2017 (*photo*); *ibid.*, Daira of El Harrach, commune of Bachdjerrah, many seedlings and saplings of different ages near tennis court, 13 Apr 2017, Zeddám (B, *photo*); *ibid.*, commune of Oued Smar, saplings near railway station, 19 May 2017, Zeddám (B, *photo*); *ibid.*, commune of El Harrach, sapling near adult at top of Oued El Harrach, 11 Jul 2017 (*photo*); *ibid.*, Daira and commune of Zéralda, at foot of wall in crack under adult tree, 20 Oct 2012 (*photo*); Wilaya of Tizi Ouzou, Daira of Aza-

zga, commune of Fréha, sapling and seedlings on roadside next to adult parent tree, 11 Oct 2013 (*photo*); Wilaya of Blida, Daira and commune of Blida, seedling (70–80 cm) in hole of tarmaced area by train station, 22 Oct 2016 (*photo*); *ibid.*, Daira and commune of Boufariq, seedlings and sapling on sidewalk of road, 27 Sep 2014, (*photo*); Wilaya of Bouira, Daira and commune of Sour El Ghozlane, at Fedj dirha place, 1070 m, saplings and seedlings on slope by waterway, 18 Nov 2016 (*photo*). – This well-known xenophyte originates from Australia, where it is the most widespread species, especially along inland water courses, of around 800 species within the genus (Colloff 2014). Oddly, it is named for a private estate garden near the Camaldoli monastery near Naples (L'Hortus Camaldulensis di Napoli), from where, in 1832, the first specimen came to be described by Friedrich Dehnhardt, German-born curator at the Naples Botanic Garden. Although not listed by Greuter & al. (1989: 243) for Algeria at all, the species is fully naturalized by self-sown offspring of all ages in many parts of the urban area of Algiers and elsewhere in the country. A. Zeddám & Th. Raus

#### Orobanchaceae

##### *Orobanche cernua* Loeffl.

+ **Al:** Albania: near Lin, 20°39'N, 41°04'E, rocks, 8 Jun 2014, Gregor 12425 & Meierott (FR), det. H. Uhlich. – New to Albania; not given in the floristic literature for the country (Demiri 1983; Greuter & al. 1989: 258; Rakaj & al. 2013; Vangjeli 2015; Pils 2016).

Th. Gregor, L. Meierott & H. Uhlich

##### *Orobanche grenieri* F. W. Schultz – Fig. 4.

+ **Rf(CS):** Russia, N Caucasus: Krasnodar territory, Anapa district, between Sukko and Cape Bolshoy Utrish, Mt Soldatskaya, 44°46'22.0"N, 37°23'09.7"E, 65 m, gravelly SE slope, parasitic on *Lactuca viminea* (L.) J. Presl & C. Presl, 21 May 2016, A. V. Popovich (MW); *ibid.*, 1 km NE of Malyy Utrish, Mt Lysaya, 44°42'47.5"N, 37°28'08.8"E, 240 m, rocky scree, 2 Jun 2016, M. N. Kozhin (MW 0723902); *ibid.*, vicinity of Bolshoy Utrish, 44°46'14.7"N, 37°23'21.0"E, 130 m, rocky scree in juniper forest, parasitic on *Lactuca viminea* (root attachment verified), 9 Jun 2017, A. V. Fateryga (MW); *ibid.*, Novorossiysk district, Abrau peninsula, mouth of Mokraya gorge, 44°41'25.8"N, 37°30'39.1"E, 25 m, rocky scree, parasitic on *Lactuca viminea*, 27 May 2016, A. V. Popovich (*photo*).



Fig. 4. *Orobanche grenieri* – Russia: Krasnodar territory, Anapa district, vicinity of Bolshoy Utrish, 9 Jun 2017, photograph by A. V. Fateryga.

+ **Rf(S)**: Russia, S European Russia: Volgograd province, Ilovlya district, 49°06'25.9"N, 44°07'17.1"E, 85 m, fallow land, parasitic on *Lactuca tatarica* (L.) C. A. Mey., 22 Jun 2016, D. Bochkov (photo).

*Orobanche grenieri* was shown to be a distinct species, taxonomically isolated from the closely related *O. cernua* Loeffl. by Carlón & al. (2005); it was known from France and Spain at that time. In recent years the ascertained range of *O. grenieri* has rapidly increased, due to special attention paid to this taxon by many researchers. The species was reported from Italy, Crimea, Turkey, Georgia, Azerbaijan and Tajikistan (Piwowarczyk & al. 2015; Rätzel & al. 2015) and later also from Armenia (Rätzel & al. 2017) and Kyrgyzstan (Piwowarczyk & al. 2017). We hereby add the N Caucasus and S European Russia to the known distribution of the species. Since *O. grenieri* has already been known from all three Transcaucasian countries, its records in the adjacent Russian part of Caucasus are not surprising.

A. V. Fateryga & A. V. Popovich

#### *Orobanche grisebachii* Reut.

[Editors' note: *Orobanche grisebachii* is not recognized in the Euro+Med PlantBase (Domina & Raab-Straube 2010+) as an independent species, but is treated there as a synonym of *O. minor* Sm.]

+ **Al**: Albania: Quark Vlora, 1.1 km ESE Orikum, 40°19'23.7"N, 19°29'03.6"E, 15 m, short-grass meadow, 20 May 2016, Th. Gregor 15176 (FR). – The E Mediterranean *Orobanche grisebachii* is similar to *O. minor* Sm., differentiated by a compact inflorescence also at the end of flowering time (in *O. minor* usually early elongate and lax), filaments with dense, long hairs for about 60 % of filament length (filaments in *O. minor* mostly with few hairs) and elongate oval, long cuspidate anthers (in *O. minor* broadly ovate, shortly cuspidate).

*Orobanche grisebachii* is a rare species in Greece and Turkey; records for Bulgaria, Syria, Lebanon, Palestine, Israel and Egypt need confirmation (cf. Sánchez Pedraja & al. 2016+).

Th. Gregor & H. Uhlich

#### *Orobanche inulae* Novopokr. & Abramov

+ **Tu(A)**: Turkey: [E Pontic mountains, vilayet Trabzon, region Maçka, Altındere Valley National Park] "*Orobanche marginata* n. sp. (Reuter.)", "Région sous-alpine du Lazistan près de Djimil, vers 2000 mètres d'altitude" [c. 40°40'N, 39°40'E (WGS 84)], Jul 1866, B. Balansa (P02968068), pro parte. – Sánchez Pedraja & al. (2016+) cited this material with reference to Boissier (1879: 508, under *O. teucrui* Holandre: "Hab. *Teucrui chamaedrys* parasitica in valle Djimil Ponti Lazici (Bal!)"), and regarded it as a mixed collection: assigning three of the nine plants on the sheet to *O. teucrui* and the other six to *O. alba* Willd. We follow the opinion of Sánchez Pedraja & al. (2016+), that this is a mixed collection and we assume that the plants of *O. alba* on the sheet are referable to *O. alba* subsp. *xanthostigma* Rätzel & Uhlich. This taxon has recently been found several times in NE Turkey (Uhlich & al. 2015). The specimen P02968068 does not bear any information about the colour of the stigma, but the label of another sheet in Paris, P02982378, from more or less the same locality, bears the name "*Orobanche Betonicae* n.sp. (Reuter.)" and the annotation "Stigmates jaunâtres". In our opinion, the plants on the latter sheet also belong to *O. alba* subsp. *xanthostigma*. Also this collection was already surveyed by Sánchez Pedraja & al. (2016+) and referred by them to *O. alba*.

We cannot follow Boissier (1879) or Sánchez Pedraja & al. (2016+) with the determination of all or three plants, respectively, on

sheet P02968068 as *Orobanche teucritii*, which is a species with purple to brownish stigmas. We assume that all individuals from the sheet P02968068 are plants with a yellow stigma. Neither specimen mentioned above gives any hint of *Teucrium chamaedrys* L. as a host, contrary to what is said in the literature. The description of *O. teucritii* in Boissier (1879), especially the information about the colour, does not necessarily correspond with plants from that region. The host *T. chamaedrys* also occurs in NE Turkey, but the nearest confirmed records of *O. teucritii* are much farther to the west (Hungary, Bulgaria and Albania; see Uhlich & al. 1995), and the species is not yet known from Asia.

The first, second and fourth plants from the left in the upper row on sheet P02968068 are well preserved and very typical for *Orobanche inulae* in their habit, the shape of the calyx, and the tubular corolla, which in the concrescent part is almost parallel-sided and in the distal part hardly widened. These plants match c. 20 of our own collections (herb. Rätzel) as well as material of *O. inulae* from several parts of the Caucasian region in the herbarium of Saint Petersburg (LE). Both *O. alba* subsp. *xanthostigma* and *O. inulae* always have yellow stigmas.

Up to now, only *Inula* species have been confirmed as hosts for *Orobanche inulae*. Besides the *Inula* species already mentioned in Rätzel & Uhlich (2004), *I. salicina* L. was observed as an additional host in Azerbaijan (Rätzel, unpublished data).

So far, *Orobanche inulae* has been documented for the Caucasian region in Russia, Georgia and Azerbaijan (e.g. Rätzel & Uhlich 2004; Otte & al. 2007: 224, fig. A2-36, 247; Tzvelev 2015). At least in W Caucasus, the species is locally common from the high montane belt to the subalpine belt, and it is to be expected with high probability in Armenia.

Currently we assume that the name "*Orobanche marginata* Reut." is not validly published, since we could not find printed matter accompanying an exsiccatum corresponding to the note "Bal. et Huet exs." in Boissier (1879), and Boissier merely included that name among the synonyms of *O. teucritii*. Therefore, *O. inulae* is the name to be used for this taxon.

S. Rätzel & H. Uhlich

***Phelipanche schultzioides*** M. J. Y. Foley (≡ *Orobanche schultzioides* (M. J. Y. Foley) Domina) – Fig. 5.

+ **Cm**: Crimea: Karadag Reserve, Mt Svyataya, rocky scree in *Fraxinus* forest, on *Symphytum tauricum* Willd. (new host), 20 May 2014, Fateryga (B 10 0715953 ex PHEO 11740), sub

*Orobanche* aff. *mutelii* F. W. Schultz, revised as *P. schultzioides* by Uhlich & Rätzel on 14 Aug 2017. – *Phelipanche schultzioides*, described by Foley (2008) from Peloponnesos, Greece, was hitherto considered a Greek endemic (Dimopoulos & al. 2013: 118). Although we already suspected its occurrence in the Crimean peninsula on the basis of photographs (Rätzel & al. 2017), we only recently had the opportunity to study the corresponding voucher. Notable is the new host, *Symphytum tauricum*, whereas previously only *Urtica dioica* L. (main host), a *Geranium* sp. and *Euphorbia rigida* M. Bieb. (very rare) were known as host plants (Foley 2008; Rätzel & al. 2017). Apparently, the ecological conditions of the habitat in Crimea resemble those from Greece (shady site, with locally humid or mesic, nutrient-rich conditions; see Foley 2008; Rätzel & al. 2017).

The material from Crimea broadens the known morphological dimensions of this species (see Foley 2008; Rätzel & al. 2017), i.e. plants to 31 cm tall; bracts to 10 mm long; corolla to 21 mm long; and insertion of filaments to 5 mm above base of corolla.

S. Rätzel, A. V. Fateryga & H. Uhlich

***Phelipanche sinaica*** (Beck) Rätzel & Uhlich, **comb. & stat. nov.** ≡ *Orobanche mutelii* var. *sinaica* Beck in Biblioth. Bot. 19: 97. 1890. – Lectotype (designated by Carlón & al. 2008: 22): "Ad montem Sinai in *Prenanthis ramosissimae* radicibus", 15 May 1835, Schimper, exsicc. no. 110 (MPU021329!; isolectotypes: HAL0120662!, HBG508743!, P02968059! [only lower 2 plants], P02968674!, MB!). – Fig. 6.

+ **Ab(A)**: Azerbaijan: Talysh, NE side, near border to Iran, near Şonaçola S of Lerik, 38°41'10.1"N, 48°22'43.2"E (WGS 84), c. 1400 m, *Artemisia*-steppe on small hills, S of Konjavuçay (small stream), open sunny site, on loose siliceous grit, parasitic on *Lactuca* cf. *viminea* (L.) J. Presl & C. Presl (host: det. N. Kilian, root attachment verified), together with one individual of *Orobanche grenieri* F. W. Schultz (see Rätzel & al. 2015) on same host plant (verified), 26 May 2013, Rätzel (herb. Rätzel) (Fig. 6A, B)); *ibid.*, c. 2 km NE of Mistan S of Lerik, 38°39'23.2"N, 48°24'29.0"E (WGS 84), c. 1700 m, grazed steppe, parasitic on *Lactuca* cf. *viminea* (root attachment verified), 27 May 2013, Rätzel & al. (herb. Rätzel) (Fig. 6C). – Following Beck (1890: 97, 100; 1930: 80, 81), this taxon was until now known from Egypt (Mahatet El-Raml near Alexandria, without collector; and from Mt Sinai, Schimper, exsicc. no. 110) and Iran (Tehran province, Shahrestanak valley at N foot of Schimran mountain,



Fig. 5. *Phelipanche schultzioides*, habit of plant with host, *Symphytum tauricum*. – Crimea, Karadag Reserve, Mt Svyataya, 20 May 2014, *Fateryga* (B 10 0715953 ex PHEO 11740), photograph by A. V. Fateryga.

*Bornmüller*, Iter pers. II. n. 7897, B!; Kerman, lower region of Kuh-i Lalezar at Laleh Zaar, *Bornmüller*, Iter Pers. Turc. 1892–1893 n. 3910, B!). The records from Portugal (Alemtejo litoral, Alto Alemtejo, *Welwitsch*, Iter Lusit. n. 210 & Fl. Lusit. sect. II n. 177; Beck 1890: 97, 100; 1930: 80, 81) are widely outlying and require confirmation. A finding from N Iraq (Sinjar, *Hausknecht*, Iter Syr. Arm. 1867 n. 705; Beck 1890: 99; 1930: 80, 81) remains doubtful; Beck (1930) cited *Hausknecht* as the source, but referred *Hausknecht*'s specimen to *O. mutellii* var. *interjecta* Beck. The occurrence in Ethiopia (“Nord-Abessinien in der Region Habab”, *Hildebrandt*, Plant. ex Abyss. n.

511) is also uncertain; Beck (1890: 100) cited a specimen from there as *O. mutellii* var. *sinaica* and later (1930: 81) referred it to *O. mutellii* var. *interrupta* (Pers.) Beck.

*Phelipanche sinaica* has obviously not been recorded in the last 100 years. The Talysh locations are c. 400 km distant from the nearest one at Shahrestanak in Iran. Together with *P. mutellii* (F. W. Schultz) Pomel, *P. sinaica* belongs to the *P. ramosa* (L.) Pomel group. However, it shares several characters with *P. olbiensis* (Coss.) Carlón & al. and species from the *P. rosmarina* (Beck) Banfi & al. group, e.g. only very rarely branched, compact inflorescence, form of calyx teeth, and  $\pm$  glabrous stamens. *Phelipanche sinaica* also occurs in similar habitats to taxa from the *P. rosmarina* group, i.e. in steppe communities, on rocky or gritty soils, but avoids disturbed or ruderal places. On the other hand, *P. sinaica* has a characteristic pale to dull lilac colour of the corolla, in contrast to *P. mutellii*, *P. olbiensis* and the *P. rosmarina* group, which have stronger colours. *Phelipanche mutellii* clearly differs from *P. sinaica* in the characters mentioned above. In Azerbaijan, it was observed in ruderal places on

various host plants, but never on *Lactuca*.

In the W Mediterranean, *Phelipanche cernua* Pomel (= *P. inexpectata* Carlón & al.; see Carlón & al. 2013) occurs, exclusively parasitizing *Lactuca* (*L. viminea*, *L. perennis* L.). It resembles in habit a delicate *P. purpurea* (Jacq.) Soják and has a  $\pm$  lax inflorescence. By contrast, *P. sinaica* has a smaller habit, a typically compact inflorescence and smaller corolla parts.

After a thorough study, L. Carlón, with whom we discussed this case, confirmed our opinion, i.e. that *P. sinaica* should be recognized as a discrete species.

S. Rätzel, M. Ristow & H. Uhlich



Fig. 6. *Phelipanche sinaica*. – A: flowering plant in habitat with host, *Lactuca* cf. *viminea*; B: flowering spike; C: habit of flowering plant. – A, B: Azerbaijan: Talysh, NE side, near Şonaçola, 26 May 2013; C: Azerbaijan: Talysh, c. 2 km NE of Mistan, 27 May 2013; all photographs by S. Rätzel.

*Papaveraceae**Papaver argemone* L.

? **Cm:** The occurrence of *Papaver argemone* in the Crimean peninsula is doubtful, since almost all known records are referable in fact to *P. minus* (Bél.) Meikle. See the following entry.

L. Ryff

*Papaver minus* (Bél.) Meikle

+ **Cm:** Crimea: Crimean foothills and S coast, between Semidvor'e and Kuru-Uzen village, 9 May 1924, Wulff (YALT), sub *Papaver argemone* L.; vicinity of Sudak, 9 May 1959, Smirnov & Shvedchikova (MW), sub *P. argemone*; *ibid.*, W of Uyutnoe, 10 May 1977, Shvedchikova (MW), sub *P. argemone*; Karadag, Apr–May 1963, Abramova (MW), det. *P. argemone* by Shvedchikova in 1997; Novyy Svet, 15 May 1965, Kosykh & al. (YALT), sub *P. argemone*; between Morskoye and Rybachye, 14 Jun 1982, Kozhevnikova (YALT), sub *P. argemone*; vicinity of Kurortnoye, Mt Echki-Dag, 29 May 1987, Shvedchikova (MW), sub *P. argemone*; vicinity of Morskoye, Mt Zerdale-Dere, 29 Apr 1988, Shvedchikova (MW), sub *P. argemone*; Bakhchisaraysky district, Belbeksky canyon, 19 Jun 1997, Ryff (YALT), sub *P. argemone*; E of Koktebel, Mt Kuchuk-Yanyshar, 23 Apr 1999, Shatko & Belyanina (MW), sub *P. argemone*; E of Balaclava, Mt Spilia (Asketi), 21 May 2005, Poponnikova & Ryff (YALT), sub *P. argemone*; Balaclava, Genoese fortress Cembalo, 22 Apr 2006, Ryff (YALT), sub *P. argemone*; vicinity of Koktebel, W spurs of Mt Biyuk-Yanyshar, 17 May 2014, Ryff (YALT); Sudaksky district, near Vesolyoye village, Mt Bash-Parmak, 11 Jun 2014, Ryff (YALT); *ibid.*, Mt Papaya-Kaya, 27 Jun 2017, Ryff (YALT); Arabatskaya strelka spit, 28 May 2016, Fateryga (PHEO). – Stony slopes, gravel screes, sandy beaches. *Papaver minus* is new for Europe, although the high probability of the presence of this taxon in Crimea had been indicated already in the Flora of the USSR (Popov 1937, sub *P. belangeri* Boiss.). *Papaver minus* is common in the E and SW parts of Crimea, grows only in natural biotopes and is not recorded as a weed. The Crimean individuals correspond completely to plants of *P. minus* from the Caucasus and from Asia Minor according to their morphological and ecological features. They differ from European *P. argemone* by their smaller size (usually up to 20 cm tall, on average 10–15 cm tall), colour of the corolla (scarlet or deep red, not pale red or orange-red), thickened fruiting pedicel, and mostly cylindrical capsule with strongly vaulted stigmatic disk

(Kadereit 1986; Aghababayan 2011; Aghababayan & al. 2011), but unlike Asian plants they have bluish, not bright yellow anthers. *Papaver minus* prefers more xerophytic habitats than *P. argemone*. No specimens of typical *P. argemone* from Crimea are present in the herbaria MW or YALT. Despite a 19<sup>th</sup> century record from the vicinity of Simferopol by Sredinsky (Popov 1937), it is doubtful that *P. argemone* currently occurs in the Crimean peninsula. L. Ryff

*Scrophulariaceae**Limosella aquatica* L.

+ **Cm:** Crimea: N slope of Glavnaya ridge of Crimean mountains, Belogorsky district, valley of Burulcha river, wet meadow, 1 Aug 1976, Golubev (YALT), as *Sagina procumbens* L., revised as *Limosella aquatica* by Ryff on 3 Nov 2014. – This taxon is widespread in the temperate zone including the regions adjacent to Crimea. The upper course of the Burulcha river is known as a refuge for a number of rare Crimean relictual species of the Ice Age, such as *Euonymus nana* M. Bieb., *Filipendula ulmaria* (L.) Maxim. and *Impatiens nolitangere* L. *Limosella aquatica* is considered one of these relicts. L. Ryff

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