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Willdenowia
Annals of the Botanic Garden and Botanical Museum Berlin

Notulae ad floram euro-mediterraneam pertinentes No. 39

ECKHARD VON RAAB-STRAUBE[1*] & THOMAS RAUS[1] (ed.)

Euro+Med-Checklist Notulae, 10

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Abstract: This is the tenth of a series of miscellaneous contributions, by various authors, where hitherto unpublished data relevant to both the Med-Checklist and the Euro+Med (or Sisyphus) projects are presented.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 *Amaranthaceae*, *Campanulaceae*, *Caryophyllaceae*, *Chenopodiaceae*, *Compositae*, *Crassulaceae*, *Cruciferae*, *Cyperaceae*, *Ericaceae*, *Euphorbiaceae*, *Gramineae*, *Labiatae*, *Leguminosae*, *Moraceae*, *Nyctaginaceae*, *Orobanchaceae*, *Pittosporaceae*, *Solanaceae*, *Verbenaceae* and *Vitaceae*. It includes new country and area records and taxonomic and distributional considerations for taxa in *Acacia* (*Vachellia*), *Airopsis*, *Amaranthus*, *Bougainvillea*, *Bromus*, *Carex*, *Cerastium*, *Citharexylum*, *Clinopodium*, *Datura*, *Euphorbia*, *Ficus*, *Hieracium*, *Hypopitys*, *Kalanchoe*, *Lobelia*, *Parthenocissus*, *Phelipanche*, *Pittosporum*, *Polypogon*, *Rorippa*, *Spinacia* and *Symphyotrichum*, and a new combination in *Clinopodium*.

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 (2018).

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Amaranthaceae

Amaranthus viridis L.

A Cm: Crimea: Yalta vicinity, Nikita, Nikitsky Botanical Garden, Upper Park, 44°30'45.14"N, 34°13'52.61"E, 155 m, well-lit and heated flower bed under regular watering with planting of *Iris* cultivars, together with *Amaranthus blitum* L. and *A. retroflexus* L., 27 Aug 2018, *Ryff* (YALT). – Weed of American origin, which is now widespread in tropical and subtropical regions. It is also known in most countries of W and C Europe as an alien (Iamonico 2015+). In E Europe, *A. viridis* was not known until the end of the 20th century, although S. L. Mosyakin suggested the possibility of its detection there (Mosyakin 1995, 1996). Subsequently this species was indicated from Belarus (Parfenov 1999). It was also recorded in the N Caucasus and Transcaucasia (Zernov 2006; Menitsky 2012). This is the first report of *A. viridis* for the Crimean peninsula, where only one locality with a few specimens was found. Further monitoring is necessary to establish the status of this alien species in the region. L. Ryff

Campanulaceae (incl. *Lobeliaceae*)

Lobelia erinus L.

A Tn: Tunisia: Bizerte, Bizerte north, bordering the corniche, 37°19'51"N, 09°51'52"E, 5 m, coastal rock vegetation, few flowering individuals,

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22 Jun 2018, *El Mokni* (herb. Univ. Monastir). – *Lobelia erinus* is native to southern Africa (cf. Thulin & al. 1986). It is a prostrate or scrambling herbaceous annual to perennial plant; stems ascendant, 10–20 cm tall, glabrous, caespitose with blue to violet, 5-lobed corolla (cf. Bojňanský & Fargašová 2007). Often planted as an ornamental in gardens, it has been reported as naturalized in some countries of Europe, viz. Portugal (Almeida & Freitas 2006) and the United Kingdom (cf. Bojňanský & Fargašová 2007) and as adventitious in France, Germany and the Canary Islands (Castroviejo & al. 2010). For N Africa, the species is listed as cultivated or sometimes subspontaneous only from Morocco (Dobignard & Chatelain 2011; APD 2018). It is here reported for the first time from Tunisia with the status of a casual alien.

R. El Mokni

Caryophyllaceae

Cerastium bulgaricum R. Uechtr.

+ Gr: Greece: Thraki, Nomos of Rodopi, Eparchia of Sapes, 4 km NW of village of Ourania near Bulgarian border, 41°18'N, 25°54'E, 1000 m, ridge in opening of *Fagus* forest, acid rocks, 9 May 2018, *Strid & Hartvig 59300* (UPA, herb. Strid); ibid., Eparchia of Komotini, 14 km from Organi along road to Chloi, 41°17'N, 25°48'E, 600 m, rocky serpentine slopes with open *Juniperus* scrub, 10 May 2018, *Strid & Hartvig 59362* (UPA). – The cited specimens are fruiting, with ripe seeds. *Cerastium bulgaricum* is a member of the *C. gracile* group, which has been treated very differently in recent Floras and is in need of modern, critical revision. *Flora europaea* (Whitehead 1993: 175) and *Atlas florae europaeae* (Jalas & Suominen 1983: 119) recognized only *C. gracile* Dufour, with a disjunct distribution in the Iberian Peninsula and NW Africa, and then again in SE Europe and Anatolia. This clearly represents excessive lumping, and it seems reasonable to follow the monographer Möschl (1943) in recognizing three species in SE Europe, viz. *C. bulgaricum*, *C. ramosissimum* Boiss. and *C. schmalhausenii* Pacz., whereas *C. gracile* s.str. is confined to the W Mediterranean area. *Cerastium schmalhausenii* is restricted to Crimea and adjacent areas, and *C. bulgaricum* occurs in Bulgaria and Banat, whereas *C. ramosissimum* is more widespread. In *Flora hellenica* (Strid 1997: 213–214), *C. bulgaricum* was reluctantly merged into *C. ramosissimum*. With more material now available, I believe the two species are rather distinct morphologically, geographically as well as ecologically. The main differences are as follows:

Cerastium ramosissimum: Whole plant often purplish, laxly branched, 10–20 cm tall, appearing slender; fruiting pedicels spreading or deflexed, longer than calyx; capsule c. 2.5 × as long as calyx; seeds 0.6–0.9 mm, medium brown to reddish brown, with subacute tubercles. Usually on serpentine (ophiolithic substrate).

Cerastium bulgaricum: Plant pale green, erect, 5–10 cm tall, sparingly branched above and sometimes from the base, appearing robust; fruiting pedicels suberect, shorter than calyx; capsule not more than 2 × as long as calyx; seeds 0.6–0.7 mm, pale to medium brown, with rounded tubercles. On various substrates.

The cited collections from NE Greece match the type of *Cerastium bulgaricum* (Sintenis 636, LD!) from Dobrudscha in NE Bulgaria as well as plants illustrated as *C. bulgaricum* by Möschl (1943: 167) and Velev (1966: 381). This taxon presumably occurs from NE Greece through Bulgaria to S and E Romania. All other Greek material in the *C. gracile* group is referable to *C. ramosissimum*. The latter is scattered in the C and SE mainland, Evvia and the East Aegean islands, whereas a record from Mt Tzena in NC Greece (Voliotis 1983: 163) is dubious. A somewhat similar species, *C. dominici* Favarger, occurs locally on serpentine substrate in SW Anatolia and the island of Rodos.

A. Strid

Chenopodiaceae

Spinacia tetrandra M. Bieb. – Fig. 1.

+ Rf(CS): Russia: Dagestan, Derbent district, 4 km W of Muzaim, valley of Kamyshchay river, 41°54'26"N, 48°14'03"E, c. 110 m, desert clayey slope, 13 Jun 2018, *Fateryga* (photo). – *Spinacia tetrandra* was described from the valley of the Kura river in Transcaucasia. Within the territory covered by the Euro+Med PlantBase, *S. tetrandra* was previously known from Armenia, Azerbaijan, Georgia, Jordan and Syria; the record from Turkey requires confirmation (Uotila 2011+). We hereby add Russia to the known distribution of this species. Since *S. tetrandra* was already known from Azerbaijan, its record in the bordering Republic of Dagestan of the Russian Federation is not surprising. Because the plants were recorded in a plant community of *Suaeda microphylla* Pall. (*Chenopodiaceae*) with low

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Fig. 1. *Spinacia tetrandra* – A: habitat; B: upper part of fruiting shoot. – Russia: Dagestan, Derbent district, 4 km W of Muzaim, valley of Kamyshchay river, 13 Jun 2018, photographs by A. V. Fateryga.

anthropogenic influence (Fig. 1A), the species seems to be native for Dagestan.

A. V. Fateryga & A. L. Ebel

Compositae (*Asteraceae*)

Hieracium sylvularum Jord. ex Boreau (≡ *H. murorum* subsp. *sylvularum* (Jord. ex Boreau) Zahn; = *H. grandidens* Dahlst.)

N No: Norway: Bergen City, Kalfaret, Kalvedalsveien, at Høyskolen Kristiania, 60.386514°N, 05.3489635°E, school yard, margins of managed lawns along pavement, also on steep street wall opposite to school, 17 Nov 2018, *Sennikov & Feulner* (H837885).

N Es, Rf(C, N, NW): Fennoscandia and Russia were misleadingly included in the native distribution of this species in Sell & West (1976) and Schljakov (1989), whereas the NE limit of its native distribution embraces C and S Lithuania, S Latvia and almost the whole of Belarus, excluding Scandinavia, Finland, Estonia and Russia (Sennikov 1999, 2002, 2003). Hylander (1943, 1948) demonstrated that this species was among the most common herbaceous plants introduced for ornamental purposes in historical parks of Denmark, Finland and Sweden, as part of the philosophical concept of the English garden style. This species is still the most abundant among nearly 100 alien species of *Hieracium* sect. *Hieracium* recognized in the latest revision in Sweden (Tyler 2004). Its local abundance even led Tyler & al. (2015) to include this species into the list of plants invasive in Sweden.

In Norway, this species was recorded (as *Hieracium grandidens*) for the first and only time in the park of the old manor "Kjørbo" in Bærum, Norway (Nordhagen 1954b). The species was found in association with *Luzula luzuloides* (Lam.) Dandy & Wilmott, typical of the historical ornamental introductions in old parks (Hylander 1943; Nordhagen 1954a). This locality was taken into account in Sell & West (1976) and included in the secondary distribution area of *H. grandidens* in the latest treatment of the Fennoscandian flora (Mossberg & Stenberg 2018).

In 2018, a small but apparently established population of this species was observed in secondary flower in Kalfaret, an eastern neighborhood of Bergen, the district east of the old city gates that had been traditionally populated with villas and residences of well-to-do citizens. Many of those houses with surrounding green territories, built mostly in the beginning of the 20th century, still survived and harbour the traces of historical park cultivation. This locality of *Hieracium sylvularum* is the second one in Norway, and more are expected to emerge when historical parks are closely inspected.

The status of *Hieracium sylvularum* in Norway should be changed to established alien, as well as its status in Estonia and Russia.

A. N. Sennikov

Symphyotrichum graminifolium (Spreng.) G. L. Nesom (≡ *Aster squamatus* var. *graminifolius* (Spreng.) Hieron. ≡ *Conyza graminifolia* Spreng. ≡ *Conyzanthus graminifolius* (Spreng.) Tamamsch.)

– Cm: In Crimea, this plant was identified as *Conyzanthus graminifolius* by S. K. Kozhevnikova in 1974 (Kozhevnikova & Makhaeva 1976; YALT). It has been included under this name

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in all subsequent floristic reports. Supposedly the species was brought to the Crimean peninsula from Yugoslavia with building materials during the construction of the hotel complex "Yalta-Intourist". However, for the territory of the former Yugoslavia, as for other European and Mediterranean countries, only *Symphyotrichum squamatum* (Spreng.) G. L. Nesom is indicated, not *S. graminifolium* (Greuter 2006+). The morphological peculiarities of Kozhevnikova's specimens contradict the protologue of *S. graminifolium*, but correspond to the one of *S. squamatum* (Sprengel 1826). In particular, its stems are scabrous due to small, white glands and due to larger semitransparent vesicles that look like whitish or brownish scales on dry herbarium specimens. Such structures are also present in all other Crimean herbarium specimens and living plants that I have seen. The plant habit, size and shape of leaves vary greatly even in the same population depending on the habitat conditions and the growth phase of the individual, but it seems that the specimens of *S. squamatum* from Crimea are no different from plants growing in other regions. The error in the determination can be explained by the use of an imperfect diagnostic key in the *Flora SSSR* (Tamamschjan 1959). *S. graminifolium* does not qualify as a weed or alien species in any other country of the world, except the countries of the former USSR (Greuter 2006+; Randall 2017). Therefore, it is necessary to exclude *S. graminifolium* from the Crimean flora, since all known records are referable in fact to *S. squamatum*. See the following entry. L. Ryff

Symphyotrichum squamatum (Spreng.) G. L. Nesom (≡ *Aster squamatus* (Spreng.) Hieron. ≡ *Conyza squamata* Spreng. ≡ *Conyzanthus squamatus* (Spreng.) Tamamsch.)

N Cm: Crimea: Yalta vicinity, Lower Massandra, near hotel complex "Yalta-Intourist", 11 Nov 1974, *Kozhevnikova* (YALT); Yalta, Kotelnikova Str., 44°29'29"N, 34°08'56"E, 40 m, 7 Oct 2011, *Ryff* (YALT); ibid., 44°29'20.47"N, 34°09'44.85"E, 5 m, embankment, 18 Sep 2014, *Svirin* (YALT); ibid., Rudanskogo Str., in the square, 44°29'51"N, 34°10'21"E, 14 m, 15 Sep 2018, *Ryff* (YALT); Gurzuf vicinity, 17 Oct 2010, *Ryff* (YALT); Gurzuf, 44°31'55"N, 34°16'22"E, 5 m, recreation complex "Zhemchuzhina Kryma", embankment, 16 Sep 2018, *Ryff* (YALT); Alushta, 44°40'40"N, 34°25'15"E, 5 m, embankment, 24 Oct 2014, *Ryff* (YALT); Sevastopol, upper Kamyshovaya bay, 44°34'40"N, 33°26'05"E, 0–2 m, shipyard, 29 Jul 2014, Svirin, *Seregin & Yevseenkov* (MW); ibid., Kamyshovaya bay, 44°34'33.68"N, 33°26'10.10"E, shipyard, 17 Sep 2014, *Svirin* (YALT) (all as *Conyzanthus graminifolius*). – Growing in and along streets, pavements, embankments, roadsides, industrial sites, asphalt and concrete areas, flowerbeds and watersides. *Symphyotrichum squamatum* sometimes grows together with *Erigeron canadensis* L. and *E. sumatrensis* Retz. This is the first record of this alien for E Europe. Over the past decades, *S. squamatum* has been notably spreading in SW Crimea. Actually it is registered in anthropogenic habitats only, but potentially it can become invasive along the Black Sea coast and in salt marshes of the Sevastopol bays. L. Ryff

Crassulaceae

Kalanchoe marmorata Baker

A Tn: Tunisia: Monastir, Monastir city, growing on both sides of the Monastir-Sousse tourist route, 35°46'17"N, 10°42'31"E, 2–3 m, some apparently established subpopulations of few individuals, 30 Nov 2016, *El Mokni* (herb. El Mokni); ibid., 35°46'08"N, 10°50'22"E, 11 m, escaped individuals from public gardens, 13 Jan 2018, *El Mokni* (herb. El Mokni); Monastir, Jemmal, 35°37'32"N, 10°45'50"E, 30 m, escaped individuals from cultivated plants, 3 Jan 2018, *El Mokni* (herb. El Mokni). – *Kalanchoe marmorata* is native to C and E Africa, where it usually occurs on rocky places at 1200–2400 m. (Darbyshire & al. 2015; APD 2018). It is a very decorative plant due to the marbled leaves and especially its large white flowers, often cultivated both as an ornamental and as a medicinal plant (Descoings 2003). No previous data about the occurrence of this taxon in Europe are available. The present report as a casual alien is therefore the first for the flora of N Africa and the Mediterranean region (according to Marhold 2011a; APD 2018; IPNI 2012+; WCSP 2019). R. El Mokni & L. Sáez

Kalanchoe sexangularis N. E. Br. var. ***sexangularis***

A Tn: Tunisia: Bizerte, Bizerte city, 37°16'26"N, 09°52'27"E, 5 m, escaped individuals originating from cultivated plants, 26 Jul 2017, *El Mokni* (herb. El Mokni); Mahdia, Baghdadi, growing on both sides of the Monastir-Sousse tourist route, 35°34'32"N, 11°01'00"E, 8 m, apparently established subpopulation of c. 17 individuals, 30 Dec 2018, *El Mokni* (herb. El Mokni). – *Kalanchoe sexangularis* is an evergreen, robust shrub native to S and S tropical Africa: Mozambique, South Africa, Swaziland, Zambia and Zimbabwe (Figueiredo & al. 2016; APD 2018). The species can be propa-

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Fig. 2. *Carex canariensis* – A: habit; B: inflorescence; C: detail of inflorescence with utricles. – Portugal: Madeira, Encumeada, Caminho Real da Encumeada, near water station, 2 Jun 2018, photographs by M. Sequeira.

gated both sexually by seeds and asexually by simple cuttings (Descoings 2003; Figueiredo & al. 2016). Two varieties, differing in some vegetative and flower characters, are currently recognized within this species according to Figueiredo & al. (2016). The Tunisian specimens are referable to *K. sexangularis* var. *sexangularis* in having leaf margins consistently crenate and flowers relatively short, up to 14 mm long. In Europe, *K. sexangularis* was reported as alien only from NE Spain (Catalonia) by Aymerich & Gustamante (2016). The present report as a casual alien is therefore the first for the flora of N Africa (see Marhold 2011a; APD 2018; IPNI 2012+; WCSP 2019). R. El Mokni & L. Sáez

Cruciferae (*Brassicaceae*)

Rorippa austriaca (Crantz) Besser

+ Gr: Greece: Nomos of Evros, Eparchia of Orestiada, W outskirts of village of Pentalofos, 41°39'N, 26°11'E, 280 m, locally gregarious on damp roadside, 11 May 2018, *Strid & Hartvig 59437* (UPA, herb. Strid). – Not previously reported from Greece (Dimopoulos & al. 2013, 2016). This species is fairly widespread in Bulgaria (Assyov & al. 2006: 327) and is also known to occur in adjacent European Turkey (Davis 1965: 431). Hence the collection simply represents an expected regional extension of the distribution range. A. Strid

Cyperaceae

Carex canariensis Kük. – Fig. 2.

+ Md(M): Portugal: Madeira, Encumeada, Caminho Real da Encumeada, near water station, 32°44'50.1"N, 17°00'55.5"W, c. 800 m, laurisilva patch with some planted *Eucalyptus* trees, 2 Jun 2018, *Benítez-Benítez 69CBB18*, *Míguez & Sequeira* (UPOS 10728). – Since its description, *Carex canariensis* has been considered endemic to the Canary Islands (Kükenthal 1900; Jiménez-Mejías & Luceño 2011; Govaerts & al. 2018+), and has remained unreported from other Macaronesian archipelagos (Azores: Silva & al. 2005; Cabo Verde: Govaerts & al. 2018+; Madeira: Jardim & Menezes de Sequeira 2008). Its native status in Madeira still has to be elucidated, although the habitat of the single population we have found (a patch of laurisilva forest) suggests that it is presumably native. *Carex canariensis* could have been confused with *C. divulsa* Stokes or *C. pairae* F. W. Schultz (= *C. muricata* subsp. *lamprocarpa* auct.) in Madeiran floras (Menezes 1914; Press 1994) although these two species can be easily distinguished

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Fig. 3. *Carex reuteriana* subsp. *mauritanica* – A: habit and habitat; B: detail of inflorescence with male and androgynous spikes. – Portugal: Alentejo, Baixo Alentejo, Beja district, between Paymogo (Huelva, Spain) and Vales Mortos, international bridge over Chanza river, 21 May 2018, photographs by S. Martín-Bravo.

from *C. canariensis* by several morphological characters (see Luceño 2008; Molina & al. 2008): leaf size (usually more than 4 mm wide in *C. canariensis* vs up to 3.5(–4.3) mm wide in *C. divulsa* and *C. pairae*), inflorescence morphology (longer, paniculate and conspicuously branched in *C. canariensis* vs shorter, spicate, unbranched, or branched only at base in *C. divulsa* and *C. pairae*), and utricle appearance (ovoid to ovoid-lanceolate, conspicuously nerved on proximal half in *C. canariensis* vs ovoid-elliptic to elliptic and nerveless to faintly nerved at base in *C. divulsa* and *C. pairae*). Therefore, a thorough revision of herbarium specimens (in local Madeiran herbaria or in other herbaria known to include important Madeiran collections such as BM and K) could result in a wider distribution of *C. canariensis* in Madeira, with historical collections possibly supporting a native status. This would be the 12th native *Carex* species reported for the Madeiran archipelago (Jardim & Menezes de Sequeira 2008; Govaerts & al. 2018+). Although the collected specimens were rather immature, the morphology of the Madeiran plants agrees fairly well with its identification as *C. canariensis* after comparison with representative collections and high-resolution pictures of the type material. Moreover, we have preliminarily assessed its identity and phylogenetic relationships with the Canarian populations based on molecular data (in prep.). This finding involves a remarkable extension of the range of *C. canariensis*, because it was believed to be entirely confined to the Canary Islands archipelago (reported from all main islands except for the arid, easternmost Lanzarote and Fuerteventura; Jiménez-Mejías & Luceño 2011), found at a distance of c. 500 km to the south of Madeira. A considerable colonization capacity by long-distance dispersal in *Carex* has been suggested to explain its presence in oceanic archipelagos, including Macaronesia, where the genus is represented by a number of native species, several of them island endemics (Escudero & al. 2009; Jiménez-Mejías & Luceño 2011; Govaerts & al. 2018+). According to IUCN criteria, *C. canariensis* has been considered Vulnerable (VU) in the Red List of Spanish vascular flora (Moreno 2010), due to a reduced area of occupancy, severely fragmented populations, and extreme fluctuations in the number of mature individuals. The conservation status of the Madeiran population of *C. canariensis* reported here should be evaluated because it is the only occurrence of the species there so far.

S. Martín-Bravo, M. Míguez, C. Benítez-Benítez, M. Sequeira & P. Jiménez-Mejías

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Carex reuteriana subsp. ***mauritanica*** (Boiss. & Reut.) Jim. Mejías & Luceño – Fig. 3.

+ Lu: Portugal: Alentejo, Baixo Alentejo, Beja district, between Paymogo (Huelva, Spain) and Vales Mortos, international bridge over Chanza river, 37°45'37.44"N, 7°24'45.67"W, 90 m, river shore, on quartzites, with dispersed *Fraxinus angustifolia* Vahl, *Alnus glutinosa* (L.) Gaertn., *Flueggea tinctoria* (L.) G. L. Webster and *Nerium oleander* L., surrounding landscape of *Cistus ladanifer* L. scrubland derived from deterioration of *Quercus rotundifolia* Lam. forest, 21 May 2018, *Benítez-Benítez 36CBB18 & Martín-Bravo* (UPOS 10727). – *Carex reuteriana* is an Ibero-N African endemic belonging to *Carex* sect. *Phacocystis* Dumort. It is distributed in the W Iberian peninsula and NW Africa (Luceño & Jiménez-Mejías 2008; Jiménez-Mejías & al. 2011). It includes two allopatric subspecies, the type subspecies from the C-NW Iberian peninsula (Spain and Portugal), and *C. reuteriana* subsp. *mauritanica* from the SW Iberian peninsula and a few isolated populations in NW Africa (N Morocco and NW Algeria; see maps in Jiménez-Mejías & al. 2011; Benítez-Benítez & al. 2018a). Both grow in creeks and river shores at low and medium altitudes; the type subspecies is acidophilous, while *C. reuteriana* subsp. *mauritanica* is indifferent to the substrate. This is the first record of *C. reuteriana* subsp. *mauritanica* for Portugal; it was found on the Portuguese shore of a river which serves as natural border between Spain (Huelva province) and Portugal (Beja district). The taxon apparently reaches Portugal very marginally, and it appears to be substituted by the close *C. elata* All. subsp. *elata* in most of S Portugal (Jiménez-Mejías & al. 2007; Rodríguez-González & al. 2010; Benítez-Benítez & al. 2018b).

S. Martín-Bravo, C. Benítez-Benítez & P. Jiménez-Mejías

Ericaceae

Hypopitys monotropa subsp. ***hypophegea*** (Wallr.) Tzvelev (≡ *Monotropa hypophegea* Wallr. ≡ *Hypopitys hypophegea* (Wallr.) G. Don)

+ AE(G): Greece: East Aegean Islands, Nomos of Lesvos, Eparchia of Mitilini, Island of Lesvos, SE of Agiasos near Sanatorion, 39°03'50"N, 26°23'36"E, c. 660 m, *Castanea sativa* forest on schist, 12 Jun 2017, *Chiotelis* (ATHU). – The genus *Hypopitys* is represented in Greece with two subspecies, *H. monotropa* subsp. *monotropa* and *H. monotropa* subsp. *hypophegea*, the latter recorded so far only from the N Greek mainland (Dimopoulos & al. 2013: 91). This seems to be the first record of *Hypopitys* from Lesvos, the floristic region of the East Aegean Islands, and the Aegean Archipelago as a whole (the taxon was not mapped in Strid 2016). The cited material belongs to *H. monotropa* subsp. *hypophegea*. The parasitic species seems to be very local on Lesvos, restricted to a small area above Agiasos. However, its presence in more localities on the island with suitable habitat conditions is not unlikely.

I. Bazos & Ch. Chiotelis

Euphorbiaceae

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

+ Gr: Greece: Thraki, Nomos of Evros, Eparchia of Orestiada, 6 km NNE of Orestiada, 41°33'N, 26°34'E, 30 m, wet roadsides in agricultural area, 7 May 2018, *Strid & Hartvig 59221* (UPA); ibid., Eparchia of Didimotichon, by Erythropotamos river SSE of village of Ellinochorio (W of Didimoticho), 41°22'N, 26°27'E, 50 m, 11 May 2018, *Strid & Hartvig 59397* (herb. Strid). – Not previously reported from Greece (Dimopoulos & al. 2013, 2016). A regional extension of the range for this taxon, which is known from adjacent former Yugoslavia, Bulgaria and Turkey (Govaerts & Radcliffe-Smith 2000: 723). Taxonomy and nomenclature as currently adopted in Euro+Med (2006+) is followed here only with reservation. According to recent typification works and evaluations of morphological characters in the *E. esula* group (Reichert & al. 2018), *E. saratoi* Ard. has been identified as the correct name at species level for the taxon under discussion here (≡ *E. esula* subsp. *saratoi* (Ard.) P. Fourn.), while *E. tommasiniana* Bertol. in the original sense (Bertoloni 1842: 78–79) is supposed to be endemic to the karstic area around Trieste in NE Italy and W Slovenia. *Flora of Turkey* (Radcliffe-Smith 1982: 623) used the name *E. virgata* Waldst. & Kit., which is equally inapplicable.

A. Strid

Euphorbia glyptosperma Engelm. (≡ *Chamaesyce glyptosperma* (Engelm.) Small) – Fig. 4.

A Cm: Crimea: Dzhankoyskiy district, railway station Solenoe Ozero, 45°53'00"N, 34°26'57"E, 12 m, on railway tracks, 2 Oct 2011, *Svirin* (photo). – *Euphorbia glyptosperma* is native to North America, where it is widely distributed. As an alien species, it is indicated for some regions

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Fig. 4. *Euphorbia glyptosperma* – A: habit; B: flowering and fruiting shoots; C: seeds. – Crimea: Dzhankoyskiy district, railway station Solenoe Ozero, 2 Oct 2011, photographs by S. Svirin.

of South America (Peru) and W Asia (Caucasus, Russia) (Govaerts & al. 2019; Geltman & Medvedeva 2017). However, the main area of its introduction is Europe, where *E. glyptosperma* has been known since the beginning of the 20th century. This species is currently listed for at least 11 countries of Europe: N (Sweden), C (Austria, Belgium, Hungary, Netherlands, Switzerland), SW (France, Spain) and SE (Italy, Romania, Republic of North Macedonia) (DAISIE 2008+; Somlyay 2009; Geltman & Medvedeva 2017; Randall 2017; Sîrbu & Şuşnia 2018). In E Europe, *E. glyptosperma* was introduced in the 1980s, but was correctly identified only recently. Now it is recorded in a number of regions in SE European Russia (Geltman & Medvedeva 2017). For Crimea, this species was not previously cited (Yena 2012; Bagrikova 2013). There are no herbarium vouchers of this species in YALT and MW.

A small population of *Euphorbia glyptosperma* was found by S. Svirin in 2011 in the north of the Crimean peninsula in the Prisivashe area in an anthropogenic habitat. Initially, the plant was incorrectly identified as *E. maculata* L. or *E. chamaesyce* L. Unfortunately, no herbarium specimens were prepared, but the photos allow us to diagnose this record as *E. glyptosperma*. The species is characterized by morphological features as follows: plant somewhat ascending,

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completely glabrous; leaves elongate, 2–4 × as long as wide, asymmetric at base, often slightly curved; stipules linear-subulate, fringed or lobed; glands red to purple, with small, white or pinkish appendages; styles very short; seeds oblong-ovoid, apiculate, sharply angular, 1–1.4 mm long, with 3 or 4(–6) prominent, transverse ridges. It differs from *E. chamaesyce* in ascending shoots, shape of leaves and stipules, smaller, reddish glands and appendages, shorter styles, and seed surface structure; and from *E. maculata* in complete lack of pubescence, and seeds with more prominent surface sculpturing. *Euphorbia glyptosperma* has arrived to N Crimea probably by rail and might possibly be found in other parts of the region. L. Ryff & S. Svirin

Euphorbia prostrata Aiton (≡ *Chamaesyce prostrata* (Aiton) Small ≡ *Tithymalus prostratus* (Aiton) Samp.)

A Cm: Crimea: Yalta vicinity, Nikita, Nikitsky Botanical Garden, Nizhniy Park, Palm Alley, 44°30'32.00"N, 34°14'02.60"E, 105 m, shaded flower bed under regular watering, 19 Jul 2018, *Ryff* (YALT). – *Euphorbia prostrata* is native for North and South America. It is widely distributed as an alien plant in many tropical, subtropical and temperate regions of the world (Randall 2017; Govaerts & al. 2019+). The first occurrence of *E. prostrata* in Europe was observed in the early 19th century in France, then in Italy, Portugal and Spain. Currently, it has spread to C, SW and SE Europe (Bátori & al. 2012; Randall 2017; Govaerts & al. 2019+). Recently, *E. prostrata* has been recorded in several countries of SE Europe (Bulgaria, Hungary, Romania, Serbia) (Anastasiu & Negrean 2008; Bátori & al. 2012; Vladimirov & al. 2014; Veljić & al. 2017). However, this species was not known for E Europe (Geltman 2012b) until it was found in Moldavia in 2014 (Izverscaia & Ghendov 2017). According to the herbarium material at YALT and to recent publications (Yena 2012; Bagrikova 2013), *E. prostrata* has not been collected previously in the Nikitsky Botanical Garden and in Crimea at all. Therefore, it is the first record of this alien species for the Crimean peninsula and the second one for E Europe. This floristic finding confirms an actual expansion of *E. prostrata* to the east. It has not yet been cited for the Caucasus (Geltman 2012a), so Crimea can be considered the current eastern border of its distribution area in Europe and the N Black Sea region.

Euphorbia prostrata is characterized by capsules hairy on the keels only and seeds usually less than 1 mm long, sharply angled, with 5–8 narrow, sharp, slightly irregular, transverse ridges (Pahlevani & Akhani 2011; Pahlevani & Riina 2011; Berry & al. 2016). It differs from the closely related *E. chamaesyce* L. in capsule indumentum and seed surface structure; and from *E. glyptosperma* Engelm. in leaf shape, pubescent capsules and somewhat smaller seeds with narrower, sharper ridges. So far, only one population of *E. prostrata* with no more than 50 individuals has been recorded in the Nikitsky Botanical Garden. However, it can be assumed that this species is more widely distributed in Crimea. L. Ryff

Gramineae (*Poaceae*)

Airopsis tenella (Cav.) Coss. & Durieu

+ Gr: Greece: C Makedonia, Nomos of Chalkidiki, Eparchia of Arnaia, between Palaiochora and Arnaia, 40.50650°N, 23.53192°E, 400 m, broad-leaved evergreen shrubland with *Erica manipuliflora* Salisb., parent rock granite, 15 May 2008, *Damianidis 199* (TAUF); ibid., 40.50664°N, 23.53300°E, 405 m, heathland of *E. manipuliflora*, parent rock granite, 15 May 2008, *Damianidis 206* (TAUF); ibid., 40.50342°N, 23.53297°E, 408 m, broad-leaved evergreen shrubland with *E. manipuliflora*, parent rock granite, 24 May 2008, *Damianidis 697* (TAUF); ibid., E of Palaiochora, 40.49811°N, 23.48714°E, 415 m, broad-leaved evergreen shrubland with *E. manipuliflora*, parent rock granite, 17 May 2008, *Damianidis 320* (TAUF); ibid., E of Palaiochora, 40.50722°N, 23.50594°E, 417 m, broad-leaved evergreen shrubland with *E. manipuliflora*, parent rock granite, 12 Jul 2008, *Damianidis 1048* (TAUF); ibid., NW of Elia Nikitis, 40.17961°N, 23.74025°E, 200 m, broad-leaved evergreen shrubland with *E. manipuliflora*, parent rock granite, 10 May 2014, *Damianidis 1902* (TAUF); ibid., NW of Elia Nikitis, 40.16942°N, 23.75489°E, 210 m, open pine forest with understorey of *E. manipuliflora*, parent rock granite, 10 May 2014, *Damianidis 1906* (TAUF); ibid., SE of Nikiti, 40.20619°N, 23.73158°E, 194 m, heathland of *E. manipuliflora*, parent rock granite, 14 May 2014, *Damianidis 2050* (TAUF); ibid., N of Sarti, 40.13167°N, 23.92969°E, open pine forest with understorey of *E. manipuliflora*, 135 m, parent rock granite, 31 May 2014, *Damianidis 2226* (TAUF); ibid., N of Gomati, 40.37950°N, 23.72314°E, 255 m, heathland of *E. manipuliflora*, parent rock gneiss, 10 May 2015, *Damianidis 2523* (TAUF); ibid., S of Megali Panagia, 40.41156°N, 23.66731°E, 391 m, broad-leaved evergreen shrubland with *E. manipuliflora*, parent rock gneiss, 12 May 2015, *Damianidis 2580* (TAUF). – A Mediterra-

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nean-Atlantic element not previously known to occur E of Italy. Not mentioned for Greece by Dimopoulos & al. (2013, 2016) or from adjacent Balkan countries (Valdés & Scholz 2009; Barina & al. 2018). In N Greece obviously preferring acidic soil of open places in *Erica manipuliflora* heathland on granite and gneiss. Numerous individuals were found in any mentioned locality. Our collections corroborate a phytosociological record of the species from *E. manipuliflora* heathlands further east between Mikro Tympano and Semeli (Nomos of Xanthi, W Thraki) which, however, was not substantiated by herbarium specimens (Theodoropoulos & al. 2011: 10, Table III). A 19th century report from Peloponnisos by Gittard (in herb. Fauché) was definitely considered erroneous by Boissier (1884: 527–528, under *Aira globosa* Thore; see also Halácsy 1904: 365–366; Hayek 1932: 328).

Ch. Damianidis, D. A. Samaras, E. Eleftheriadou & K. Theodoropoulos

Bromus arvensis subsp. ***parviflorus*** (Desf.) H. Scholz

+ Tu(A): Turkey: W Anatolia, Bafa Gölü, W side, c. 1.5 km S of Serçin, 37°31'47"N, 27°23'11"E, 2–5 m, abandoned field near waterside, salt influenced, 9 May 2006, *Ristow* (herb. Ristow). – This record extends the distribution of this taxon to SW Asia. The nearest findings are in Thraki, NE Greece (Raab-Straube & Scholz 2013). It is characterized by the small spikelets, lemmas and anthers (for details on identification see Scholz 2003, 2008). The correct determination of the cited specimen was done by the late Prof. Hildemar Scholz, Berlin.

M. Ristow

Polypogon maritimus Willd.

+ Cm: Crimea: vicinity of Sevastopol, Balaklava, 11th km of Balaklava Highway, 44°31'18.72"N, 33°33'47.11"E, 150 m, disturbed grassland on limestone outcrops, 12 Jul 2017, *Svirin* (CSAU, YALT). – In the Crimean peninsula there were two species of the genus *Polypogon* indicated previously: *P. monspeliensis* (L.) Desf. and *P. viridis* (Gouan) Breistr. (Tzvelev 1976; Valdés & al. 2009+; Yena 2012). This is the first report of *P. maritimus* for the region. In E Europe it was earlier reported for the Lower Volga area (Tzvelev 1976). This species is widespread as native in the Mediterranean, extending to the E and S Caucasus (Tzvelev 2006; Valdés & al. 2009+). *Polypogon maritimus* is known as an alien and a weed in many countries of several continents (Randall 2017). The only locality in Crimea with a small population of *P. maritimus* was found near Balaklava. Further searches and monitoring are necessary to establish native or alien status of this species in the region.

L. Ryff, L. Bondareva & S. Svirin

Labiatae (*Lamiaceae*)

Clinopodium dalmaticum subsp. ***bulgaricum*** (Velen.) Raus & Strid, **comb. nov.** ≡ *Micromeria origanifolia* subsp. *bulgarica* Velen. in Oesterr. Bot. Z. 49: 292. 1899 ≡ *Micromeria bulgarica* (Velen.) Vandas in Magyar Bot. Lapok 4: 267. 1905 ≡ *Satureja bulgarica* (Velen.) K. Malý in Dörfler, Herb. Norm.: no. 4931. 1908 ≡ *Satureja origanifolia* var. *bulgarica* (Velen.) Stoj. & Stef., Fl. Bălg.: 958. 1925 ≡ *Micromeria dalmatica* f. *bulgarica* (Velen.) Stoj. & al., Fl. Bălg., ed. 4, 2: 924. 1967 ≡ *Micromeria dalmatica* subsp. *bulgarica* (Velen.) Guinea in Bot. J. Linn. Soc. 64: 381. 1971 ≡ *Clinopodium bulgaricum* (Velen.) Melnikov in Turczaninowia 19(2): 90. 2016.

Micromeria dalmatica Benth. was described from Kotor in S Dalmatia (for lectotypification, see Melnikov 2015: 106), based on a collection published by Visiani (1830: 51) under *Thymus origanifolius* Vis. nom. illeg. (antedated by *T. origanifolius* D. Don 1825 from W Himalaya). Similar plants from S Bulgaria, first described as *M. origanifolia* subsp. *bulgarica* Velen. (Velenovský 1899), were subsequently recombined as *M. dalmatica* subsp. *bulgarica* (Velen.) Guinea (Heywood 1971: 381). This subspecies occurs also in NE Greece (see, e.g., Rechinger 1939; Kitanov 1943; Quézel & Contandriopoulos 1968; Eleftheriadou & Raus 1996) including the island of Thasos (Chilton 1997, 2003). Tutin & al. (1972: 168) recognized *M. dalmatica* with subsp. *dalmatica* in "C Jugoslavia" (more precisely what is now SW Croatia and Montenegro, see map in Silić 1979: 190) and subsp. *bulgarica* in S Bulgaria and NE Greece (additionally extending to the Republic of North Macedonia, see Silić l.c.). Chorological separation, combined with differences mainly confined to indumentum characters of the two taxa, makes subspecific rank appropriate. It has recently been demonstrated that *M. dalmatica* and related species are better placed in *Clinopodium* than in *Micromeria* (Bräuchler & al. 2006, 2008; Melnikov 2015, 2016). However, the southeastern subspecies of *M. dalmatica* has not been recombined under *Clinopodium* as yet. Vandas (1905, 1909, under *M. bulgarica*) raised *C. dalmaticum* subsp. *bulgaricum* to species rank (followed by Silić 1979 and Greuter & al. 1986: 330) which, however, has not been adopted in any subsequent Bulgarian basic flora (Stojanov & Stefanov 1925: 958; Stojanov & al. 1967: 924; Jordanov 1989: 359; Andreev & al. 1992: 482; Assyov & al. 2006: 257). On the other hand, treating *C. dalmaticum* subsp. *bulgaricum* as a mere synonym of *C. dalmaticum* (Euro+Med 2006+, based on Bräuchler 2009 and fol-

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lowed by Dimopoulos & al. 2013) does essentially hide extant chorological and morphological information and seems therefore not recommendable.

Th. Raus & A. Strid

Leguminosae (*Fabaceae*)

Acacia karoo Hayne (≡ *Vachellia karroo* (Hayne) Banfi & Galasso)

N Ag: Algeria: Wilaya of Algiers, Daira of Hussein-Dey, Commune of Kouba, Ben Omar Kouba, ruderal slope by stone-flagged sidewalk, spontaneaous shrub to c. 1.5 m, 19 Sep 2014, *Zeddam* (photo); ibid., commune of El Magharia, Oued Ouchaya, spontaneous shrub to 2 m at base of stone wall, 19 Sep 2014, *Zeddam* (photo); ibid., commune of Hussein Dey, Institut National de Formation Supérieure Paramédicale, numerous spontaneous shrubs in waste ground behind building in neighborhood of park where a few adults were planted more than 50 years ago and began producing viable and germinating seeds this last decade, 4 Jun 2018, *Zeddam* (B, det. Raus); ibid., Le Caroubier, against fence at side of railway, spontaneous shrub of 2.5–3 m, 19 Sep 2014, *Zeddam* (obs.); ibid., Hai el Badr, spontaneous individual growing in open soil surrounding a tree, 16 May 2017, *Zeddam* (obs.); ibid., Panorama, numerous shrubs from 0.5–1.5 m colonizing waste ground, 2018, *Zeddam* (obs.); ibid., Daira of El Harrach, commune of El Harrach, above oued El Harrach on edge of bridge, shrub of 1.5 m, 2 Mar 2017, *Zeddam* (obs.); ibid., Wilaya of Blida, commune of Blida, spontaneaous shrub to 1.5 m by paved motorway, 27 Sep 2014, *Zeddam* (photo); ibid., commune of Boufarik, dense 1–2 m tall shrubs on roadsides, 22 Jun 2012, *Zeddam* (obs.). – Recorded as alien with unknown status in SW Europe (Portugal, Spain, Corsica, S Italy) and Morocco (Conti & al. 2005: 45; Euro+Med 2006+). Native to southern Africa (Angola to Mozambique, Barnes & al. 1996: 6–10), armed with distinctive, in Algeria usually c. 7 cm long, white, paired stipular thorns, which means that the shrub to medium-sized tree must be approached carefully. Seedlings and saplings are found in urban areas and suburbs of Algiers, where the species is locally naturalized, generated by seeds produced by certainly not deliberately planted individuals. It has recently been demonstrated that the recognition of at least five genera in the polyphyletic *Acacia* Mill. s.l. is inevitable, and the African taxa are better placed in the two reinstated genera *Senegalia* Raf. and *Vachellia* Wight & Arn. Accordingly, the name *Vachellia karroo* applies for the xenophytic species under discussion here (Kyalangalilwa & al. 2013: 513–514).

Th. Raus & A. Zeddam

Moraceae

Ficus microcarpa L. f.

A Tn: Tunisia: Bizerte, Bizerte city, epiphytic individuals on planted *Melia azederach* L. and *Jacaranda mimosifolia* D. Don trees in public gardens and on roadsides, 30 Jan 2014, *El Mokni* (obs.); Jendouba, Jendouba city, epiphytic individuals on planted *Phoenix canariensis* H. Wildpret trees on roadsides of the city, 13 Dec 2009, *El Mokni* (obs.); Sousse, Sousse city, epiphytic individuals on planted *P. canariensis* trees on roadsides of the city, 18 Jan 2019, *El Mokni* (photo). – *Ficus microcarpa* is an evergreen, monoecious tree, native to temperate and tropical Asia, Australasia and Pacific regions (USDA-ARS 2010). It has tiny seeds, which are easily spread by birds, bats and rodents and are capable of germinating almost anywhere they land (GISD 2015). It is a widely planted and popular ornamental tree that has been introduced to many tropical, subtropical and warm-temperate regions around the world (Dehgan 1998; Rauch & Weissich 2000; Burrows & Burrows 2003; Van Noort & Rasplus 2018). In the Mediterranean area, the taxon is cited for few countries, as naturalized in Sicily, the Canary Islands including Gran Canaria and as adventitious in Malta and Tenerife (Uotila 2011; Verloove & Reyes-Betancort 2011). For N Africa, the species is listed only as cultivated for Morocco, Libya and Egypt (APD 2018). For Tunisia, this is the first record as a casual (probably ornithochorous) alien.

R. El Mokni

Nyctaginaceae

Bougainvillea glabra Choisy

A Ag: Algeria: Wilaya of Boumerdes, Boumerdes train station, flowering, prostrate individual on ruderal slope by railway line, 13 May 2017, *Zeddam* (photo); ibid., Wilaya of Algiers, Daira of Sidi M'hamed, commune of Belouizdad, Le Ruisseau, shrubs in waste ground, 2 Jun 2018, *Zeddam* (B, det. Raus); ibid., Daira of Hussein-Dey, Commune of Kouba, Vieux Kouba in Christian cemetery, high spontaneous shrubs on graves, sprouted from seeds of adults cultivated in house gardens in neigh-

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borhood of cemetery, autumn 2018, *Zeddam* (obs.). – Native to Brazil, widely cultivated for ornament around the Mediterranean Sea, but in Algeria not previously reported outside cultivation. For status assessment of *Bougainvillea glabra* in Algeria we share the opinion of Barina & al. (2013: 177), who reported the species in Albania as a remnant of earlier plantings in natural habitats, thereby stating that there are no reports on its naturalization with spreading populations in Mediterranean countries so far. In Macaronesia, however, the species is given as established in the Canary Islands of La Gomera and Gran Canaria (Euro+Med 2006+; Arechavaleta & al. 2010: 127). Th. Raus & A. Zeddam

Orobanchaceae

Phelipanche gratiosa (Webb) Carlón & al. (≡ *Phelypaea gratiosa* Webb ≡ *Orobanche gratiosa* (Webb) Linding.)

+ Ca(G): Canary Islands: La Gomera, NNE of Vallehermoso, near Playa de la Sepultura 28°11'39"N, 17°14'52"W (WGS 84), 130 m, phrygana near old gravel road, on *Launaea arborescens* (Batt.) Murb. (root attachment verified), 23 May 2018, *Rätzel & Rätzel* (herb. S. Rätzel).

+ Ca(H): Canary Islands: El Hierro, at Mirador de la Peña, 3 Apr 1983, *Lobin 698* (FR, as *O. ramosa*, rev. Uhlich 8 Feb 2012).

New for La Gomera and El Hierro (not recorded for these islands in Kunkel 1980; Acebes & al. 2010; Muer & al. 2016; Sánchez-Pedraja & al. 2016+). This taxon was described from La Graciosa, Canary Islands (Webb in Webb & Berthelot 1845), and the lectotype was designated by A. Santos (FI000239! without date). *Phelipanche gratiosa* differs from *P. ramosa* (L.) Pomel s.str. and *P. mutelii* (F. W. Schultz) Pomel s.l. [incl. var. *nana* (Noë ex Reut.) Uhlich & Rätzel] at first sight by the taller and more robust habit, to 40 cm tall (vs to c. 20 cm tall, rarely taller), the larger corolla, (15–)19–27 mm long (vs 8–18[–20] mm long), the richly flowered spike, very dense and compact in the distal two thirds (vs spike typically lax in full flower and rather few-flowered). The most common host is the dwarf shrub *Launaea arborescens*; rarely have other *Asteraceae* been observed as hosts as well (*Reichardia tingitana* (L.) Roth and *Urospermum picroides* (L.) Scop.). By contrast, *L. arborescens* is not known as a host for *P. ramosa* or *P. mutelii*. For more diagnostic characters of those and other *Phelipanche* species, see the table in Rätzel & al. (2017: 660ff).

S. Rätzel, B. Rätzel & H. Uhlich

Pittosporaceae

Pittosporum tobira (Thunb.) W. T. Aiton

A Tn: Tunisia: Monastir, Monastir city, epiphytic individuals on planted *Phoenix canariensis* H. Wildpret trees, 1 Nov 2017, *El Mokni* (photo). – Native to Japan and China, *Pittosporum tobira* is an evergreen shrub easily recognizable by its clusters of extremely fragrant, creamy white flowers during late spring. This taxon was listed as highly invasive in Italy, Sicily and Spain (cf. Dana & al. 2001; Sanz-Elorza & al. 2001; Celesti-Grapow & al. 2016), whereas for France, Portugal and Sardinia it is reported as alien with unknown status (Marhold 2011b). For N Africa, the taxon was only reported from Libya as cultivated on a large scale (Marhold 2011b; APD 2018). This is the first record from Tunisia as a local, possibly ornithochorous, casual escape from cultivation. R. El Mokni

Solanaceae

Datura wrightii Regel

N Tn: Tunisia: Bizerte, Bizerte north, towards the corniche, 37°18'03"N, 09°52'06"E, 2 m, roadside vegetation, 1 Jul 2017, *El Mokni* (herb. Univ. Monastir); Jendouba, Tabarka, toward city, 36°57'04"N, 08°46'00"E, 2 m, roadside vegetation, 6 Jan 2019, *El Mokni* (herb. Univ. Monastir); Monastir, Bir Ettaeib, 35°37'34"N, 10°44'57"E, 23 m, roadside, 21 Sep 2016, *El Mokni* (herb. Univ. Monastir); Jemmel, 35°37'07"N, 10°45'28"E, 30 m, roadside, 2 Nov 2015, *El Mokni* (herb. Univ. Monastir); Ksar Hellal 35°38'03"N, 10°52'40"E, 11 m, roadside near railway, 22 Nov 2018, *El Mokni* (herb. Univ. Monastir); Lamta, 35°40'35"N, 10°52'40"E, 6 m, roadside near non-permanent stream among olive groves, 22 Oct 2018, *El Mokni* (herb. Univ. Monastir); Menzel Nour, 35°39'56"N, 10°45'59"E, 25 m, roadside, 25 Dec 2018, *El Mokni* (herb. Univ. Monastir); Monastir city, 35°47'00", 10°48'28"E, 17 m, frequent on roadsides, 19 Dec 2018, *El Mokni* (herb. Univ. Monastir). – *Datura wrightii* is a perennial plant native to the SW United States and Mexico. In the Mediterranean area, it has been widely confused with the closely related *D. inoxia* Mill. (Verloove 2008). In Europe, the taxon has been reported as casual or naturalized alien in Italy (see, e.g., Ardenghi & al. 2011; Galasso & al. 2018), Spain (Verloove 2008) and Corsica (Valdés 2012+). For N Africa, the

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species is listed only from Tunisia as a casual alien (Valdés 2012+; Ardenghi 2017; APD 2018). Many populations, sometimes with hundreds of individuals, have been observed since 2015, and they have been occupying more and more space mainly in C and N Tunisia due to the plentiful production of fruits and seeds from July to January. Therefore, the actual status of this taxon in Tunisia is re-defined here as fully naturalized. R. El Mokni

Verbenaceae

Citharexylum spinosum L. – Fig. 5.

A Tn: Tunisia: Sousse, Mohamed V, near railroad track leading to Sousse Bab-Jdid station, only three individuals very close to walls of old buildings, 26 Jan 2019, *El Mokni* (photo). – *Citharexylum spinosum* is native to the Caribbean (Turner & Wasson 1997). It is cultivated in warm regions of the world as an ornamental for its fragrant, white flowers and attractive foliage. The wood is sometimes used in cabinetry (Turner & Wasson 1997). This taxon was documented as naturalized on O‘ahu, Hawaiian Islands (Herbarium Pacificum Staff 1998), where it has a proven ability to invade native ecosystems in the Ko‘olau Range. In the same Islands, on Maui, *C. spinosum* has spread from plantings and is naturalized in Haiku, Kihei and Lahaina (Starr & al. 2002). Within the Mediterranean area, it was until now known only from Tunisia as cultivated (APD 2018). Therefore, this citation as a casual alien, almost certainly dispersed by fruit eating birds, constitutes the first report of the species for the Tunisian flora, N Africa and the Mediterranean area outside cultivation. R. El Mokni

Fig. 5. *Citharexylum spinosum* – Tunisia: Sousse, Mohamed V, near railroad track leading to Sousse Bab-Jdid station, 26 Jan 2019, photograph by R. El Mokni.

Vitaceae

Parthenocissus quinquefolia (L.) Planch.

A Tn: Tunisia: Bizerte, Bizerte city, epiphytic individuals on planted *Melia azedarach* L. trees on roadsides, 11 Jun 2014, *El Mokni* (photo). – Native to C and E North America south to Mexico, *Parthenocissus quinquefolia* is a woody, deciduous, vigorous, tendril-climbing vine that grows rapidly with no need of support as it clings to all types of surfaces due to its adhesive holdfasts located at the tendril ends. Its greenish white flowers give way to a high number of blue-black berries that are searched for and eaten by birds in autumn. Introduced as an ornamental, it has escaped from gardens to become naturalized and listed as invasive in several European countries (Ardenghi & al. 2017; DAISIE 2017; GRIIS 2017), China (Chen & Wen 2007) and Cuba (Oviedo Prieto & al. 2006: 49; Oviedo Prieto & González-Oliva 2015: 32) and regarded as an environmental weed in Australia (Weeds of Australia 2017). In N Africa, the taxon is reported as a naturalized alien only in Algeria (Zeddam & Raus 2010). Therefore, this citation as a casual alien constitutes the first report for the Tunisian flora as a local escape from cultivation, probably disseminated by birds.

R. El Mokni

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