Euro Med-Checklist Notulae, 7

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Source: Willdenowia, 47(1) : 89-96

Published By: Botanic Garden and Botanical Museum Berlin (BGBM)

URL: https://doi.org/10.3372/wi.47.47112

Willdenowia
Annals of the Botanic Garden and Botanical Museum Berlin-Dahlem

Notulae ad floram euro-mediterraneam pertinentes No. 36

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Euro+Med-Checklist Notulae, 7

Version of record first published online on 23 March 2017 ahead of inclusion in April 2017 issue.

Abstract: This is the seventh of a series of miscellaneous contributions, by various authors, where hitherto unpublished data relevant to both the Med-Checklist and the Euro+Med (or Sisyphus) projects are presented.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*, *Compositae*, *Cruciferae*, *Cucurbitaceae*, *Orchidaceae*, *Orobanchaceae* and *Solanaceae.* It includes new country and area records, taxonomic and distributional considerations for taxa in *Amaranthus*, *Bidens*, *Datura*, *Echinocystis*, *Erigeron*, *Orobanche*, *Platanthera*, *Senecio* and *Tauscheria*, and the validation of four new combinations in *Phelipanche*.

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

Article history: Contributions received 15 December 2016 to 28 February 2017; peer-review completed 10 March 2017; received in revised form 13 March 2017; accepted for publication 14 March 2017.

Citation: Raab-Straube E. von & Raus Th. (ed.) 2017: Euro+Med-Checklist Notulae, 7 [Notulae ad floram euro-mediterraneam pertinentes No. 36]. – Willdenowia 47: 89–96. doi: https://doi.org/10.3372/wi.47.47112

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 (2016).

The following have contributed entries to the present instalment: N. M. G. Ardenghi, K. P. Buttler, G. Domina, E. Eleftheriadou, R. El Mokni, Th. Giannakis, Ya. M. Golovanov, P. Hein, D. Iamonico, M. S. Knyazev, A. Yu. Korolyuk, E. von Raab-Straube, S. Rätzel, Th. Raus, J. Svensson, K. Theodoropoulos, R. Tsandekidis, S. Tsiftsis and S. M. Yamalov.

Amaranthaceae

Amaranthus emarginatus subsp. ***pseudogracilis*** (Thell.) Hügin

A **Cr:** Greece, Crete: Nomos of Chania, Eparchia of Apokoronos, Georgioupoli, 35°21'55"N, 24°15'40"E, 1 m, sandy bank of a freshwater stream by the harbour, 2 Jun 2015, *Svensson* (B). – A xenophyte of tropical origin not previously reported from the Cretan area (Strid 2016b: 46, map 151). The subspecies, easily

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recognizable by its ascending growth form and elongated terminal part of the inflorescence, is new for the whole of Greece. Hitherto known Greek occurrences refer to *Amaranthus emarginatus* subsp. *emarginatus* (for details, see Raus 1997: 145). The infraspecific taxonomy of *A. emarginatus* (Hügin 1987) was left unmentioned by Dimopoulos & al. (2013) and was even unknown to Iamonico (2015).

Th. Raus & J. Svensson

Compositae (*Asteraceae*)

Bidens pilosa L.

A **Cr:** Greece, Crete: Nomos of Chania, Eparchia of Kidonia, Agia, 35°28'20"N, 23°55'53"E, 40 m, wet ditch by roadside, 2 Jun 2015, *Svensson* (B). – First record for the Cretan area of this xenophyte of North American origin. In Greece otherwise known as an established weed of ruderal places in N Peloponnisos (Garnweidner 1989: 168; Chronopoulos & Christodoulakis 1996: 166) and on the island of Rodos (Galanos 2015: 270; Kleinsteuber & al. 2016: 154).

Th. Raus & J. Svensson

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

N **Tn:** Tunisia: Bizerta, 37°16'65.0"N, 09°52'13.9"E, 3 m, harbour construction site, 27 Oct 2010, *El Mokni* (herb. El Mokni); Monastir, 35°45'50.4"N, 10°49'53.4"E, 11 m, public gardens, 7 Dec 2016, *El Mokni* (HFLA, herb. El Mokni). – *Erigeron sumatrensis* is a species presumably native to South America and widely distributed as a weed in tropical and subtropical regions worldwide (Chen & Brouillet 2011). This species is currently recorded in N Africa in all countries except Libya and Egypt (see, e.g., Greuter 2006+; SANBI 2012). However, concerning Tunisia, no status of naturalization appears to have been defined (see also Le Floc'h & al. 2010) and the Euro+Med PlantBase (Greuter 2006+) reports "Alien (status unknown)". As a consequence, a specification about the alien status of *E. sumatrensis* in Tunisia is needed. We found many populations identifiable as *E. sumatrensis* in the localities of Ain Draham, Beja, Bizerta, Boussalem, Bulla regia, Fernana, Hammamet, Jendouba, Monastir, Nefza and Tabarka, where they grow in human-made habitats (roadsides, cultivated lands, public gardens, walls) and occupy areas of 5–100 ha. All these populations were observed since the year 2004, so the species can be considered as naturalized in Tunisia according to the definitions by Pyšek & al. (2002).

D. Iamonico & R. El Mokni

Senecio noëanus Rupr.

\+ **Rf(E):** Russia: Orenburg region, Sol'-Iletsk district, Subural plateau, Verkhnechebendinsky cretaceous mountains, 10 km W of Troitsk village, 50.683463°N, 54.470749°E, 6 Jun 2016, *Golovanov* (UFA; det. M. S. Knyazev); Akbulaksky district, Subural plateau, Korsak-Bas mountain, 6 km NE of abandoned village of Chagan, 50.702620°N, 55.764822°E, clay habitat at foot of mountain, 26 May 2016, *Korolyuk & al.* (NS, UFA; det. M. S. Knyazev). – In Russia, this species is widespread in the Lower Volga region, the Saratov region (Davidenko & al. 2016) and the Caucasus, where it grows on sandy and pebbly shores of rivers and lakes, in steppes and semi-deserts and also on saline soils. Outside Russia, it occurs in Asia Minor, Iran and C Asia (Konechnaya 1994). *Senecio noëanus* is new for the flora of the Orenburg region and the east of the European part of Russia. The nearest localities are reported in the Aktyubinsk region of Kazakhstan (Aypeisova 2012).

Ya. M. Golovanov, S. M. Yamalov, A. Yu. Korolyuk & M. S. Knyazev

Cruciferae (*Brassicaceae*)

Tauscheria lasiocarpa DC.

\+ **Rf(E):** Russia: Orenburg region, Akbulaksky district, Subural plateau, Korsak-Bas mountain, 6 km NE of abandoned village of Chagan, 50.702685°N, 55.764307°E, clay and broken stone mountain slopes, 26 May 2016, *Korolyuk & al.* (UFA; det. M. S. Knyazev). – *Tauscheria lasiocarpa* occurs in Russia along the Lower Volga (Volgograd region), and also in the south of W Siberia, in steppes and on slopes with saline and clay habitats. Outside Russia, it occurs in Afghanistan, China, Iraq, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, Turkmenistan and Uzbekistan (Kotov 1979; Dorofeyev 2002). Although given for the Orenburg region (Ryabinina & Knyazev 2009), the species was not substantiated by herbarium material, and the collection cited above is the first secure record in S Ural and the east of the European part of Russia. The nearest localities are reported in the Aktyubinsk region of Kazakhstan (Aypeisova 2012).

Ya. M. Golovanov, S. M. Yamalov, A. Yu. Korolyuk & M. S. Knyazev

Cucurbitaceae

Echinocystis lobata (Michx.) Torr. & A. Gray

N **Gr:** Greece: C Macedonia, Nomos of Thessaloniki, Axios delta, 40°36'11.9"N, 22°42'46.7"E, 3 m,

climbing on *Rubus* spp. and on other woody species, 30 Jul 2016, *Giannakis* (TAUF); Axios delta, 40°37'19.2"N, 22°42'41.5"E, 5 m, on bank, climbing on *Rubus* spp. and on other woody species, 5 Aug 2016, *Giannakis* (TAUF); ibid., 40°37'14.4"N, 22°42'41.8"E, 7 m, on bank, 27 Aug 2016, *Giannakis* (TAUF); Axios river, 40°37'14.9"N, 22°42'26.6"E, 10 m, climbing on *Rubus* spp. and on other woody species, 17 Sep 2016, *Giannakis* (TAUF); Axios river, 40°37'25.6"N, 22°42'39.3"E, 10 m, climbing on *Rubus* spp. and on other woody species, 11 Nov 2016, *Eleftheriadou & al.* (TAUF). – *Echinocystis lobata* is a xenophyte originating from the E part of North America (SE Canada to NE USA, see map in Slavík & Lhotská 1967: 259). It was introduced in the late 19th and early 20th centuries as an ornamental and medical plant to many countries in Europe and planted in several botanical gardens (DAISIE 2008). There has been increasing invasion during the last 20 years along the main rivers and floodplains from W to E Europe up to the Urals and beyond throughout Siberia (Czerepanov 1995: 196; DAISIE 2008). Nowadays it is considered as fully naturalized in C and SE Europe (Slavík & Lhotská 1967; Tutin 1968; Vasić 2005; Lambdon & al. 2008+). In Bulgaria, it occurs only along the Danube River in the N part of the country (Petrova & al. 2013) and has not yet been recorded from Albania (Barina & al. 2014) or the Former Yugoslav Republic of Makedonija. There are no previous published records from Greece either (Arianoutsou & al. 2010; Dimopoulos & al. 2013). The cited populations in the Axios delta contain at least 1000 individuals. *Echinocystis lobata* is a fast-growing annual vine that can climb up to 12 m. It often completely covers woody plants of the area, such as *Alnus glutinosa* (L.) Gaertn., *Rubus* spp., *Salix* spp. and *Ulmus* spp.

Th. Giannakis, E. Eleftheriadou, K. Theodoropoulos, S. Tsiftsis & R. Tsandekidis

Orchidaceae

Platanthera fornicata (Bab.) Buttler

\+ **Gr:** Greece: Epirus, Nomos of Ioannina, Eparchia of Konitsa, S of Aetomilitsa, 40°14'32"N, 20°52'24"E, 800 m, open deciduous *Quercus* forest on sandstone and flysch with abundant *Cephalanthera rubra* (L.) Rich., *Epipactis atrorubens* (Hoffm.) Besser, *Ophrys scolopax* subsp. *cornuta* (Steven) E. G. Camus, *Orchis simia* Lam., *Orchis purpurea* Huds. and *Platanthera chlorantha* (Custer) Rchb., 21 May 1983, *Willing 1237* (B as *P. bifolia*); ibid., N of Drosopiji, 40°13'31"N, 20°54'57"E, 740 m, extensive meadows on sandstone and flysch, 21 May 1983, *Willing 1243* (B as *P. bifolia*); ibid., S of Vourbiani, 40°14'18"N, 20°47'32"E, 880 m, marly sandstone slope at entrance of village, 19 May 1983, *Willing 1214* (B as *P. bifolia*); Thessaly, Nomos & Eparchia of Trikkala, 1.9 km SE of Elati, 39°29'02"N, 21°32'50"E, 780 m, grassy orchard, 29 May 1987, *Willing 2583* (B as *P. bifolia*); W Makedonia, Nomos & Eparchia of Florina, 3.5 km SW of Drosopigi, 40°40'07"N, 21°26'20"E, 1080–1150 m, slope with meadows and *Fagus* forest on schist, 31 May 1984, *Willing 1498a* (B as *P. bifolia*); ibid., Nomos & Eparchia of Kozani, Mt Titaros, SW of Grammeni Oxia, 40°10'30"N, 22°05'30"E, 1400–1600 m, mountain meadow with rivulets, 18 Jun 1989, *Willing 6689 & 6690* (B as *P. bifolia*); ibid., Nomos of Imathia, Eparchia of Naousa, 4.3 km NW of Naousa, 40°39'18"N, 22°01'40"E, 750 m, meadow in deciduous forest, 1 Jun 1985, *Willing 1773* (B as *P. bifolia*); ibid., W of Rodochori, 41°40'51"N, 21°59'52"E, 720 m, swamp meadow, 4 Jun 1984, *Willing 1531* (B as *P. bifolia*); ibid., C Makedonia, Nomos of Pella, Eparchia of Edessa, 4.7 km E of Ano Grammatiko, 40°42'23"N, 21°57'01"E, 1090 m, swamp meadows and pastures, 4 Jun 1984, *Willing 1534* (B as *P. bifolia*); ibid., 2 km SE of Ano Grammatiko, 40°41'08"N, 21°57'24"E, 1260 m, *Pteridium* heathland in *Fagus* forest, 5 Jun 1984, *Willing 1543* (B as *P. bifolia*); ibid., Eparchia of Almopia, 2.8 km NW of Pefkoto, 41°04'56"N, 22°04'13"E, 1110 m, *Fagus* forest, 26 May 1986, *Willing 2054* (B as *P. bifolia*); ibid., NNW of Livadhia, 41°01'39"N, 22°16'20"E, 1170 m, overgrown valley floodplain, 28 May 1986, *Willing 2108* (B as *P. bifolia*); ibid., Tzena Mts, S slopes of chain between peaks Tzena and Pinovo, above Notia, 41°07'50"N, 22°10'30"E, 950–1000 m, in narrow valley with beech wood on schist, 21 Jun 1992, *Greuter & al. 23710* (B as *P. bifolia*); ibid., Nomos of Kilkis, Eparchia of Peonia, Mt Paikon 3.3 km S of Livadhia, 40°58'30"N, 22°17'30"E, 1280 m, slope with *Juniperus* sp. and *Asphodeline lutea* (L.) Rchb., 10 Jun 1990, *Willing 9859* (B as *P. bifolia*); ibid., 2 km WNW of Livadhia, 41°00'N, 22°16'E, 1150 m, small wet gully on deforested slope, 11 Jun 1990, *Willing 9984* (B as *P. bifolia*); ibid., E Makedonia, Nomos & Eparchia of Drama: W Rhodopi Mts, 0.3 km S of Skaloti, 41°24'30"N, 24°16'30"E, 970 m, rocky slope with open low deciduous forest, 13 Jun 1990, *Willing 10166* (B as *P. bifolia*); ibid., 0.9 km S of Skaloti, 41°24'N, 24°16'E, 950 m, slope in *Pinus* for-

est, 17 Jun 1992, *Willing 18895* (B as *P. bifolia*); ibid., 3.3 km S of Kallikarpo, 41°23'N, 24°13'E, 600 m, meadow in *Quercus* scrub, 22 Jun 1992, *Willing 19793* (B as *P. bifolia*). – Buttler (2012a, 2012b) recently reappraised and corroborated the taxonomic findings of Babington (1836) and Müller (1868) that the name *Platanthera bifolia* (s.l.) designates at least two taxa, *P. bifolia* (L.) Rich. s.str. and *P. fornicata*, which deserve specific rank based on combined differences in morphology, chorology, ecology and flowering time. The former seems to be confined to atlantic-subatlantic parts of W and C Europe including a disjunct distribution area in the Alps, whereas the latter is widespread in Europe extending eastwards to temperate C Siberia. The ecological and phenological discontinuities largely exclude hybridization in areas of sympatric occurrence. The revision by K. P. Buttler of recent collections of this group from Greece kept at B revealed that the majority of specimens (i.e. 17 out of 18) belong to *P. fornicata*. This does not automatically mean the exclusion of *P. bifolia* s.str. from the flora of Greece. There is one single specimen in B (viz. Greece (NC), C Makedonia, Nomos of Kilkis, Eparchia of Peonia, Mt Paikon 2.2 km WNW of Livadhi, 41°00'30"N, 22°16'00"E, 1180 m, rivulet with scattered wet meadow patches in dry grassland, 28 Jun 1989, *Willing 7441*) that exhibits the floral dimensions of *P. bifolia* s.str. but deviates in habit from NW European specimens of that taxon examined by Buttler (2011a). Whether such populations represent another, as yet undescribed taxon within the *P. bifolia* complex is so far unknown and should be subject to further taxonomic research. Similar forms that, for the time being, were included with doubt in *P. bifolia* s.str. by Buttler (2012a, 2012b) have been reported from the Carpathian Mts in Romania (Schur 1866: 646, as *P. bifolia* var. *obtusifolia* Schur). The localities of the revised material refer to the floristic regions of Southern Pindos (SPi), Northern Pindos (NPi), North Central (NC) and North East (NE) as circumscribed in Dimopoulos & al. (2013: 29, fig. 2). As a consequence, published records of *P. bifolia* (s.l.) from other parts of Greece, viz. the Ionian islands (Boissier 1882: 82–83; Kapteyn den Boumeester & Willing 1988), Sterea Ellas (Willing & Willing 1983: 410) and East Central (Biel & Rudolph 1992: 48) are in need of revision by re-examination (or collection, respectively) of relevant voucher material. To facilitate such efforts, a determination key for species of the *P. bifolia* aggregate (translated from Buttler 2012a: 96) is given here:

1. Flowers small: spur 12–20(–23) mm long, labellum 6–10.5(–12) mm long, anthers <1 mm apart, parallel or downwards slightly connivent; pollinia on very short, <1 mm-long stalks. Plants relatively low-growing, 10–25(–35) cm tall, inflorescence usually dense, in lateral view without gaps between flowers. Flowering time 2–3 weeks earlier than in *P. fornicata* in areas of sympatric occurrence . . . . . ***Platanthera bifolia***

– Flowers large: spur (18–)25–41 mm long, labellum (9.5–)11–16 mm long, anthers 1–1.5 mm apart, parallel; pollinia on distinct, >1 mm-long stalks. Plants relatively high-growing, (25–)30–90 cm tall, inflorescence usually lax, in lateral view with pronounced gaps between flowers. In overlapping range of floral characters, large-flowered and low-growing or small-flowered and high-growing plants belong here . . . . . ***Platanthera fornicata***

Within *Platanthera fornicata*, a putative geographical differentiation of a (sub-)meridional subspecies (*P. fornicata* subsp. *atropatanica* (B. Baumann & al.) Buttler based on *P. bifolia* subsp. *atropatanica* B. Baumann & al. described from Azerbaijan; Baumann & al. 2003) and a temperate-boreal subspecies (*P. fornicata* subsp. *fornicata*) needs further, corroborating taxonomic investigation of additional, more comprehensive material from Europe and SW Asia (Buttler 2012a: 96, 103).

K. P. Buttler & Th. Raus

Orobanchaceae

Orobanche grenieri F. W. Schultz – Fig. 1

\+ **Ar:** Armenia: Ararat Marz, near road from Garni to Nubarashen, little pass c. 1 km N of Azat Reservoir, 40°05'24"N, 48°37'10"E, c. 1200 m, semi-desert, moving clay, open soil with very sparse vegetation cover, parasitic on *Lactuca takhtadzhianii* Sosn. (root attachment verified, matrix nova), 10 Jul 2013, *Gabrielian & al. 2013-24* (B 10 0576237, ERE). – After the recent findings of *Orobanche grenieri* in Azerbaijan (Rätzel & al. 2015) and Georgia (Piwowarczyk & al. 2015), this is the first confirmed record of this species for the flora of Armenia. Former records of the closely related *O. cernua* Loefl., well-known from several regions of Armenia (Tsaturyan & Grigoryan 1987), may also belong here.

S. Rätzel, P. Hein & E. von Raab-Straube

In the last few years, plant scientists, in following Schneeweiss & al. (2004a, 2004b), have transferred the species of *Orobanche* L. previously referred to *O.* sect. *Trionychon* Wallr. to the genus *Phelipanche* Pomel. Also, during the 10th World Congress on Parasitic Plants

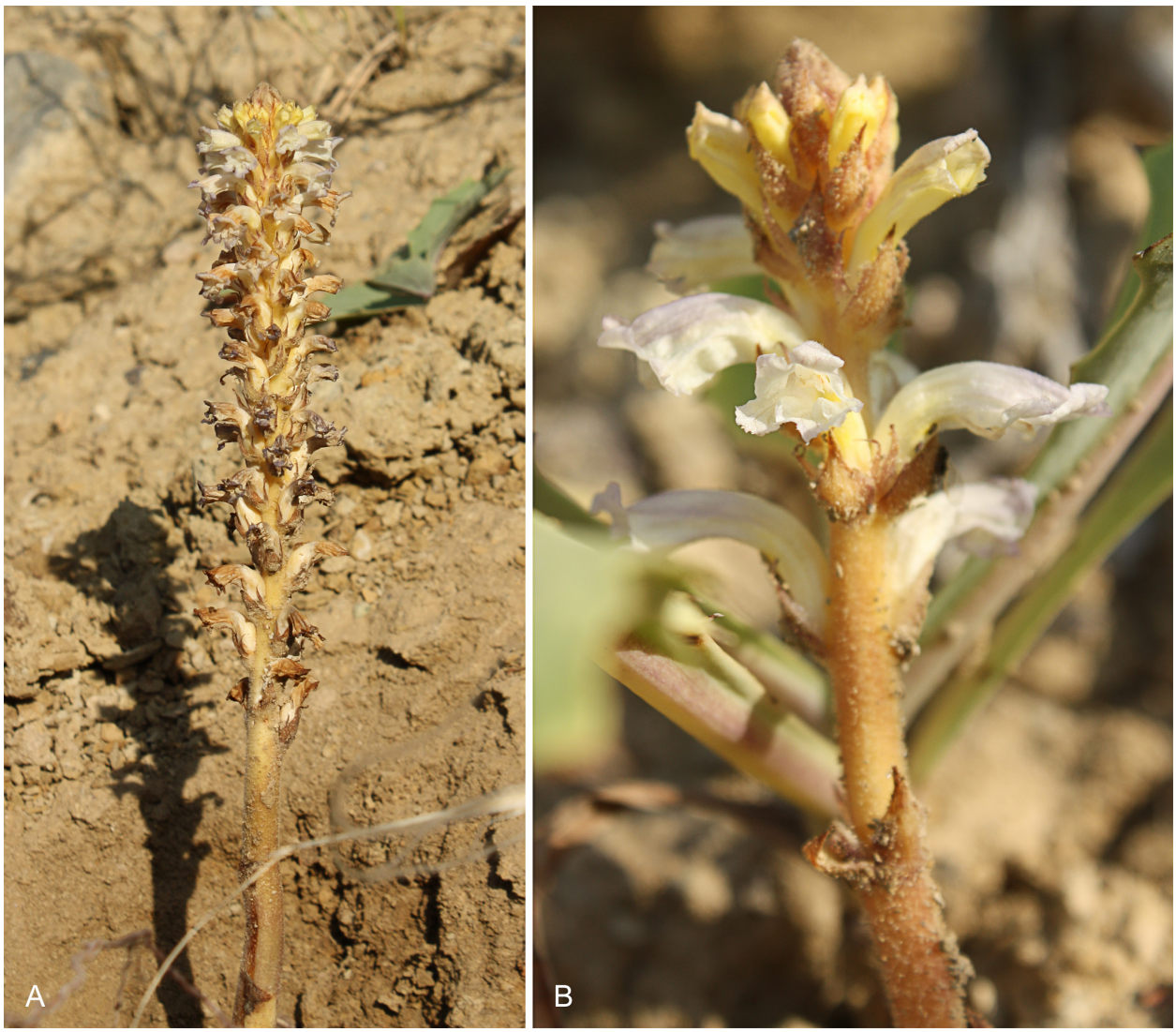

Fig. 1. A & B: *Orobanche grenieri* – Armenia: Ararat province, between Garni and Nubarashen, pass N of Azat Reservoir, 10 Jul 2013, photograph by E. von Raab-Straube.

held in Kuşadası, Turkey, in June 2009, it was agreed to adopt this taxonomic separation into two distinct genera (Joel 2009). The main diagnostic differences between *Orobanche* and *Phelipanche* (Teryokhin 1997) are: flowers with 2 adnate bracteoles at base of calyx in *Phelipanche*, versus bracteoles missing in *Orobanche*; ripe capsule opening apically with style usually shedding in *Phelipanche*, versus opening laterally with persistent style in *Orobanche*; flowering stem usually branched in *Phelipanche*, versus usually unbranched in *Orobanche*; basic chromosome number $x = 12$ and chromosomes medium-sized, submetacentric to acrocentric in *Phelipanche*, versus $x = 19$ and chromosomes small, mostly metacentric to submetacentric in *Orobanche* (Schneeweiss & al. 2004b).

Several studies suggest deviating relationships between the taxa belonging to *Orobanche* sect. *Orobanche* and *O.* sect. *Trionychon* (Román & al. 2003; Manen & al. 2004; Park & al. 2007). Up to now, the genus *Orobanche* has been considered in a wide sense (Domina 2009; Domina & Raimondo 2009; Domina & al. 2013; Domina & Danin 2014), including the two traditional sections of *Orobanche* as circumscribed by Beck von Mannagetta (1930). However, providing the taxonomic practice accepted in the Euro+Med PlantBase (Euro+Med 2006+) and the up-to-date and critically evaluated consensus on the taxonomy of the species concerned, it is preferable to follow the taxonomic delimitation that has become current in this group. This treatment has the practical convenience of distinguishing morphologically well-characterized taxa at the generic level. The four new combinations proposed below result from this choice.

G. Domina

Phelipanche ballii (Maire) Domina, **comb. nov.** ≡ *Orobanche purpurea* var. *ballii* Maire in Mém. Soc. Sci. Nat. Maroc 21–22: 12. 1930 ≡ *Phelipanche purpurea* subsp. *ballii* (Maire) Carlón & al. in Doc. Jard. Bot. Atlántico 6: 104. 2008 ≡ *Orobanche ballii* (Maire) Domina in Pl. Biosyst. 147: 763. 2013.

Phelipanche cohenii (Domina & Danin) Domina, **comb. nov.** ≡ *Orobanche cohenii* Domina & Danin in Fl. Medit. 24: 63. 2014.

Phelipanche daninii (Domina & Raimondo) Domina, **comb. nov.** ≡ *Orobanche daninii* Domina & Raimondo in Fl. Medit. 19: 185. 2009.

Phelipanche tricholoba (Reut.) Domina, **comb. nov.** ≡ *Phelypaea tricholoba* Reut. in Candolle, Prodr. 11: 10. 1847 ≡ *Orobanche tricholoba* (Reut.) Domina in Willdenowia 39: 331. 2010.

Solanaceae

Datura wrightii Regel

A **Tn:** Tunisia: Gouv. Bizerte, Cap Serrat, E slope and around houses on beach, 37°13'07–19"N, 09°13'22–26"E, 0–50 m, ruderal, perennial, old fruits, 30 Mar 2014, *OPTIMA Iter Mediterraneum XII*, *Tunisia*, *2014 0930* (PAL-GR 061982 as *D. metel* L.). – The plant was originally misidentified as *Datura metel* L. (Greuter & Domina 2015), which is easily recognizable by the capsules covered with blunt and short tubercles. *Datura wrightii*, provided with spiny capsules and stems covered with short eglandular indumentum, has recently been discovered for the first time in N Africa in Morocco (Verloove in Sukhorukov & al. 2016). This type of indumentum, along with size of stigmas and corollas, enables its distinction from the similar *D. inoxia* Mill. (the discussed specimen is available at: http://147.163.105.223/zoomify/view_img.asp?ic=61982_GR). N. M. G. Ardenghi

Acknowledgements

P. Hein and E. v. Raab-Straube cordially thank Mariam Aghababyan and Eleonora Gabrielian for their invaluable help in organizing a common field trip to Armenia in 2013. Financial support from the Verein der Freunde des Botanischen Gartens und Botanischen Museums Berlin-Dahlem e. V. is gratefully acknowledged. The field trip was carried out in the framework of the project "Developing tools for conserving the plant diversity of the Transcaucasus" funded by VolkswagenStiftung (reference AZ85021).

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Willdenowia

Open-access online edition www.bioone.org/loi/will BioOne

Online ISSN 1868-6397 · Print ISSN 0511-9618 · Impact factor 0.500

Published by the Botanic Garden and Botanical Museum Berlin, Freie Universität Berlin