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WERNER GREUTER¹ & THOMAS RAUS (ed.)¹

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Abstract

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Continuing a series of miscellaneous contributions, by various authors, where hitherto unpublished data relevant to the Med-Checklist project are presented, this instalment deals with the families *Bignoniaceae*, *Cactaceae*, *Callitrichaceae*, *Caryophyllaceae*, *Chenopodiaceae*, *Compositae*, *Crassulaceae*, *Cruciferae*, *Leguminosae*, *Orobanchaceae*, *Ranunculaceae*, *Rosaceae*, *Tamaricaceae*, *Tropaeolaceae*, *Vitaceae*; *Gramineae* and *Juncaceae*. It includes new country and area records, taxonomic and distributional considerations. New taxa are described in *Bromus*, *Cortispermum*, *Erigeron* and *Poa*, and new combinations are proposed in *Elytrigia*, *Patzkea*, *Pilosella* and *Triticum*.

Additional key words: Mediterranean area, vascular plants, taxonomy, distribution

Notice

The notations for geographical areas and status of occurrence are the same that have been used throughout the published volumes of Med-Checklist and are explained in the Introduction to that work (Greuter 2008: x-x1). For the previous instalment, see Greuter & Raus (2009).

Bignoniaceae

Macfadyena unguis-cati (L.) A. H. Gentry

N Ag: Algeria: City of Algiers, suburb of Hussein Dey, established weed in abandoned garden land, 9.5.2010, *Zeddami*; *ibid.*, young stems germinated in cracks along roadside, 7.8.2010, *Zeddami*; *ibid.*, weed along roadside, with ripe fruits, 21.9.2010, *Zeddami* (all B). – A vigorous vine of American origin (Mexico to N Argentina). Its vegetative, sterile shoots are easily recognised by their opposite leaves with one pair of leaflets and a terminal 3-forked tendril, the tips of which are stiffly hooked and claw-like, hence the plant name's epithet and the vernacular name Cat's claw vine. The species is frequently cultivated in the tropics and subtropics as an ornamental

and a medicinal (anti-malarial) plant (Hanelt 2001: 1900). In Algiers the vine is very frequent in suburban gardens and from there invades urban green spaces. It forms a dense, fast-growing cover in various habitats (moist soils, cracks of walls or sidewalks, roofs, etc.), clinging tenaciously to walls, trees and other supports by its adventitious roots and clawed tendrils. It spreads readily by vegetative reproduction and seed. The seedlings remain small while developing tuber-like storage roots, whereupon the stems elongate rapidly, forming long runners, often branching at nodes, until they reach an upright support. Once it is well established, the vine flowers in spring (GRIN 2010), with high seed production, as testified by its increasing spread outside gardens in the city of Algiers, where it is obviously naturalised. *Macfadyena unguis-cati* is locally a noxious weed in subtropical North America, S Africa and Australia. In New South Wales "the growth and spread of the plant must be controlled according to the measures specified in a management plan published by the local control

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authority and the plant may not be sold, propagated or knowingly distributed” (NSW Government 2010). Th. Raus & A. Zeddám

Cactaceae

Opuntia ficus-indica (L.) Mill.

N Ag: Algeria: Wilaya of Tipaza, E of Algiers metropolitan area, near place called “Mausolée Royal Maurétanien”, coastal hill facing the sea, 260 m, 2004; id., City of Algiers, suburb of Hussein Dey, in an abandoned area neighbouring gardens where the species was never intentionally planted, 21.7.2009; *ibid.*, on a slope of Oued Ouchayah, a dry little water course in very disturbed habitat, 10.2009; id., 30 km E Algiers, daïra of Rouïba, Reghaïa, c. 150 m off the Lake of Reghaïa in a suburban rural area on slopes above a road, 10.4.2010; id., c. 30 km W Algiers, daïra of Zéralda, on the edge of a motorway, 4.2.2010; *ibid.*, in coastal, mainly agricultural area on slope in a ravine far from any settlement, 12.6.2010; *ibid.*, c. 23 km W Algiers, commune of Staouéli, Sidi Ferruch, coastal area on the edge of motorway among planted ornamental trees, 4.2.2010, all *Zeddám obs. & phot.* – Introduced to the country before the French colonisation (engravings showing *Opuntia* populations in old Algiers date back to c. 1830), and at present growing in places far from human settlements where it is fully established. Also, its dense, impenetrable thorny barriers are still used for fencing fields. However, the species is not mentioned for Algeria in Greuter & al. (1984: 117, under *Opuntia ficus-barbarica* A. Berger; correct name established by Leuenberger 1991: 625). A. Zeddám & Th. Raus

long (Lansdown 2008: 108). *C. lenisulca* is native in Greece and Turkey as well as in Spain, France, the Balearic islands, Sardinia, Sicily, Italy, Croatia and Israel (Crouzet & Lansdown 2008; Lansdown 2008: 112). The only previous *Callitriche* record from the Agia lake was of *C. cophocarpa* Sendtn., based on *Gradstein & Smittenberg 214* (U, now L), collected in 1967 and reported by Greuter (1973: 45). This record has not been confirmed ever since and is likely incorrect because the nearest populations of *C. cophocarpa* are at least 1000 km further north in Romania (Lansdown 2008: 107). It seems likely that the plant collected in 1967 was in fact *C. lenisulca*, which resembles *C. cophocarpa* (Lansdown 2008: 106, 110). Re-examination of the specimen at L is desirable.

R. Lansdown & N. Turland

Caryophyllaceae

Silene alexandrina (Asch.) Danin

+ Cr: This taxon was long neglected as a variety of *Silene apetala* Willd, e.g. in Med-Checklist 1 (Greuter & al. 1984: 249). As pointed out by Danin (1987: 65–66), it deserves recognition as a separate species. Indeed, in Cyprus *S. alexandrina* and *S. apetala* grow together without intermediates and are easily distinguished on calyx colouration and indumentum. *S. alexandrina* is known from the Near and Middle East (Cyprus, Syria, Israel, Iran) and extends westward to Libya and Crete. Danin (l.c.) recorded it from Crete (near Ierapetra, *Greuter & Charpin*, G), yet it was omitted from Flora Hellenica (Greuter in Strid & Tan 1997).

C. S. Christodoulou & R. Hand

Callitrichaceae

Callitriche cophocarpa Sendtn.

? **Cr:** See following entry.

Callitriche lenisulca Clavaud

+ Cr: Greece, Crete, Nomos of Chania, Eparchia of Kidonia: SW corner of Agia lake, beside the overflow (35°28'31.4"N, 23°55'54.5"E), water c. 10 cm deep at lake margin, with *Potamogeton* sp., 40 m, 14.6.2009, *Afordakos & Turland 2037* (BM, MO). – Observed by R. Lansdown and Turland already on 4.4.2009, but not yet fertile. Part of the subsequently collected fertile material was sent to BM and determined by R. Lansdown as *Callitriche lenisulca*. It has pairs of male and female flowers alternating along the stem, yellow pollen in anthers less than 0.5 mm wide and small, unwinged fruits ± as wide as

Chenopodiaceae

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

+ RK: Ukraine, Crimea: Sevastopol region, including the coast of the Kherson Peninsula, the harbours of Kazachya, Kamyshovaya, Kruglaya and Streltskaya, the vicinity of Cape Lermontova and the town of Balaklava, *Yena obs.* – The species, which was found for the first time in the Crimea by P. Y. Yevseyenkov in 2008, remained undiscovered until then, as it is confined to formerly inaccessible military zones. It is to be considered as native, although it is also found in ruderal sites. This area in the Crimea is actually the only place in the Ukraine where this taxon survives, as populations reported from the estuaries of the Konka and Molochnaya rivers (Schmalhausen 1897) in today's Zaporiz'ka Oblast' are now extinct (V.P. Kolomyichuk, pers. comm.). Map

483 in Jalas & Suominen (1980: 12) has to be amended accordingly. A. V. Yena

***Corispermum anatolicum* Sukhor., sp. nov.** – Holotypus: Turcia, Asia Minor, Lycaonia, 5 km a Karapınar oppido ad meridiem versus ([Konya prov., Karapınar distr.]), 12.7.1971, *Andersen, Hansen, Jensen & Macholm 2138* (E sub *Corispermum filifolium*; scheda anglice scripta). – Ab aliis speciebus apteris hujus generis fructibus magnis oblongis 3.5–4 mm longis, stereomate pericarpium (in fructus parte media) robusto (stratis cellularum plerumque 3–5) differt. Affinitas incerta, cum species anatolicae hujus generis adhuc vix exploratae sint. Insignis est fructus oblongus, latitudine plusquam sequilongior, ut adhuc ex Asiae Centralis grege ‘Declinata’ tantum cognitus erat.

Corispermum anatolicum is an annual with densely pubescent leaves and inflorescence; leaves narrowly lanceolate, up to 3 mm wide; inflorescence compact; bracts ovoid, at least 6 mm long, completely covering the fruit; perianth segment 1; stamens 1–3; fruit 3.5–4 mm long, 2–2.5 mm wide, 0.5–0.7 mm thick, without noticeable marginal wing; median cross-section of the fruit showing a broadly triangular wing only 0.15–0.25 mm wide, parenchyma of the outer pericarp 2-layered (the outer layer 35–45(–50) µm thick), mechanical tissue well-developed, (2–)3–5(–6) layers oriented normally to the fruit axis.

The visually most obvious morphological feature of the new species is the extreme fruit length, with a high length/width ratio (found otherwise only in the ‘Declinatum group’, in *Corispermum*). Seen in median cross-section, mechanical tissue in the pericarp is relatively thick. Fruit anatomy suggests inclusion of the new species in the ‘Hyssopifolium’ anatomical group, which includes some species with winged fruits, along with *C. orientale* Lam. (nom. rej. prop.: Sukhorukov, submitted) having wingless, 2.2–3.2 mm long fruits (see Sukhorukov 2007).

+ An: Only known from the type, which is in the fruiting stage. No additional material was traced in any of the following herbaria: B, BM, E, G, K, LE, MHA, MW, MWG, MOSP, P and W. Up to now, only two *Corispermum* species of the ‘Nitidum group’, with broadly winged fruits, have been recorded for the Turkish flora. One of them, *C. filifolium* C. A. Mey. from the Istanbul area (G!; see Shaw & Turrill 1926, Aellen in Davis 1965: 318), is an alien originating from the Caspian lowlands. The other, *C. nitidum* Kit., is known from Terme in Samsun Province (Huber-Morath 1980), but the specimen seen (G!) has discernible fruit wings (0.4–0.6 mm wide instead of 0.3–0.4 mm for *C. nitidum* s.str.) and are better distinguished as *C. ucrainicum* Iljin, a taxon growing on sandy shores of the Black Sea, at least in the Crimea (Ukraine: LE!) and the Krasnodar region (Russia: MOSP!). A. Sukhorukov

***Kochia scoparia* subsp. *densiflora* (Moq.) Aellen**

N RK: Ukraine, Crimea: Sevastopol, by the village of Orlinoye, 2009, *Yevseyenkova obs.*; id., Simferopol (44°58'09"N, 34°05'20"E), along railway, 229 m, 10.9.2010, *Yena* (CSAU). – Recorded as naturalised on the Ukrainian mainland (Tzvelev 1996) but not yet for the Crimea, where it is probably more widespread but has not been distinguished from, or was misidentified as, *Kochia scoparia* (L.) Schrad. subsp. *scoparia*.

A. V. Yena

Compositae

***Centaurea macedonica* Boiss.**

+ Tu: European Turkey, A1(E) Kırkareli: Between Pınarhisar and Demirköy, clearings of woodland, 300 m, 9.6.2006, *Budak & al. 2049* (BOZOG, KNYA; det. Wagenitz). – The collection had been misidentified as *Centaurea rupestris* L. and was published under that name as an addition to the flora of Turkey (Uysal & al. 2009). Instead, the material cited represents *C. macedonica*, particularly in view of the long pappus (always markedly shorter than the achene in *C. rupestris*) and the branching below the middle. *C. macedonica*, hitherto only known to occur in Greek Macedonia (Wagenitz & Gamal-Eldin 1985: 103), is new to European Turkey. Slight differences in leaf shape between Greek and Turkish material of *C. macedonica* do not warrant taxonomic recognition. G. Wagenitz

***Centaurea rupestris* L.**

– Tu: See preceding entry. G. Wagenitz

***Cyanus depressus* (M. Bieb.) Soják (*Centaurea depressa* M. Bieb.)**

N Cr: Greece, Crete, Nomos of Lasithi, Eparchia of Mirambello: E end of Katharo plain, 0.75 km SE of Avdeliakos (35°08'39"N, 25°34'23"E), growing among cereal crops on plateau still employing traditional agricultural techniques, 1120 m, 22.6.2010, *Lenton* (UPA). Nomos of Milopotamos: Nida plain, 1899, *Baldacci* (BM!). – On Katharo, three individuals were observed in 2010, but several were present in the same location in 2009 (which had a wetter growing season), when none was collected. The plants agree with *C. depressus* on account of the oblong to narrowly oblong, obtuse leaves and long (1.5–2.5 mm) cilia on the phyllary margins. The Nida plain is somewhat higher than Katharo (c. 1400 m) and it is nowadays grazing land without any cultivation, although satellite imagery (Google Earth 2010) shows a possible former field system (an area c. 125 × 125 m cen-

tred on 35°12'21"N, 24°50'15"E), where *Cyanus* might have occurred (the label does not mention cultivated fields, only "in apricis", in sunny places). [There is, however, an element of doubt about the provenance of Baldacci's specimen: there are four other specimens at BM(!), allegedly all from Baldacci's Iter Creticum Alterum of 1899, that represent the only known Cretan records of their respective species: *Convolvulus libanoticus* Boiss., *Noaea mucronata* (Forssk.) Asch. & Schweinf., *Origanum scabrum* Boiss. & Heldr. and *Senecio macedonicus* Griseb. It is possible that all five specimens were actually collected earlier in Peloponnisos (Gr) by T. Orphanides (see Turland & Chilton 2008: under *C. libanoticus*)].

Cyanus segetum Hill (*Centaurea cyanus* L.), previously recorded from the Cretan area, differs in having lanceolate to linear, acute leaves and short (up to 1 mm) teeth on the phyllary margins. The native distribution of *C. depressus* includes the E Aegean islands, Turkey, Bulgaria, Ukraine, and the Caucasus. In Greece (Gr) the species is naturalised (Greuter 2008: 196). In view of this distribution and of the isolated population and cultivated habitat in Crete (Cr), it is appropriate to regard the species as naturalised rather than native in Cr. Several small populations of *C. segetum* have also been found in the cultivated fields of the Katharo plain (*Lenton obs. & phot.*), ranging in size from 1 to 12 or more individuals. That species, too, should be regarded as naturalised in the Cretan area, previously having been recorded from three localities in W Crete as possibly naturalised (Chilton & Turland 1997: 28; Jahn in Greuter & Raus 2002: 196–197) or naturalised (Böhling in Greuter & Raus 2001: 321). We warmly thank G. Wagenitz and E. Bergmeier

(GOET) for examining photographs of *C. depressus* and *C. segetum* from the Katharo plain in Crete and confirming their identities.

S. Lenton & N. Turland

Erigeron uniflorus subsp. *parnassensis* A. G. Game ex M. J. Y. Foley, **subsp. nov.** – Holotypus: [Greece, Sterea Ellas, Nomos of Fokis]: Mt Parnassos, rocky, grazed and overgrazed grassland, c. 2500 m, 18.7.1976, *Akeroyd, Mellors & Preston* 389 (LANC; Fig. 1). – A subsp. *unifloro* forma folium basaliu et habitu dense caespitose bene differt. *Planta* perennis basi lignosa, dense caespitosa, omnino dense eglanduloso-pubescent. *Caules* graciles, ad 6 cm alti, monocephali. *Folia* basalia anguste et longe petiolata, anguste ad late lanceolata, lamina 15–25×2–3(–4) mm metiens, acuta vel submucronata; caulina pauca, lineari-lanceolata, basalibus similia sed minora. *Capitulum* (in herbario) 0.5–1(–1.5) cm diametro; involucri phylla apice purpurata pilisque longiusculis eglandulosis dense praedita. *Flosculi* dimorphi, ligulae malvinae apice purpureae.

The single extant specimen is of a densely caespitose plant with a woody base and dense, long, eglandular indumentum, especially on the purplish involucre bracts. The monocephalic flowering stems are short (up to 6 cm), the basal leaves long-petiolate with a narrowly to broadly lanceolate, acute to submucronate lamina and the capitula are small and dimorphic (i.e. lacking female filiform florets between the disk and ligulate florets). This combination of characters, especially the more or less lanceolate leaf lamina with its acute or submucronate apex and the very dense, eglandular indumentum of the involucre bracts, is not found in any previously described taxon, nor have other, similar specimens been traced. Specialists who had been contacted by Game (e.g. W. Greuter, A. Strid) appear to have been unaware of similar plants (Game, l.c.). From the label and from details recalled by one of the origi-

Table 1. Comparison of characters of four morphologically similar *Erigeron* taxa.

	<i>E. epiroticus</i>	<i>E. glabratus</i>	<i>E. uniflorus</i> subsp. <i>uniflorus</i>	<i>E. uniflorus</i> subsp. <i>parnassensis</i>
Capitula	trimorphic	dimorphic	dimorphic	dimorphic
Capitulum number	usually 1	1–2	1	1
Flowering stem [cm]	3–8(–10)	4–15	up to 15	up to 6
Basal leaf shape	elliptic, petiolate	oblanceolate-spathulate	spathulate	narrowly to broadly lanceolate, long-petiolate
Basal leaf apex	subobtusely	obtusely	rounded obtusely	acute to submucronate
Basal leaf indumentum	± glabrescent	glabrescent, ciliate	ciliate	long, eglandular
Involucre bracts (colour, indumentum)	dark red-purple, eglandular-pilose	green, often purple-tipped, ± pilose	lilac distally, long-pilose	purplish, very densely long-eglandular-pilose
Ligulate floret to involucre length	distinctly longer	distinctly longer	similar	slightly longer



Fig. 1. *Erigeron uniflorus* subsp. *parnassensis*, holotype specimen.

nal collectors (C. D. Preston, pers. comm., 2007), there is no suggestion that the plants were collected from an unusual habitat or substrate, where conditions of stress might induce phenotypic modification.

+ Gr: Only known from the type. Discussing this collection, Game (unpubl. Ph.D. thesis, Lancaster 1983) states that it comprised a “single plant, and a collection of 25 capitula ... each ... from a separate plant”. Today, no detached capitula are present on the sheet (nor could they be traced elsewhere), but the label confirms their former existence (“each of the capitula included in the sheet was taken from a separate plant”). Game (l.c.) further states that all capitula were dimorphic and each possessed the same characteristics, which strongly suggests the existence of a morphologically uniform population.

Five *Erigeron* species are known from the mountains of this geographical area of mainland Greece (Strid in Strid & Tan 1991: 406–409): *E. acris* L., *E. atticus* Vill., *E. glabratus* Bluff & Fingerh., *E. alpinus* L. and *E. epiroticus* (Vierh.) Halácsy, the last three being known from Parnassos itself, but the plant under discussion appears to be unrelated to any of them (Table 1). Of

these, only two, *E. epiroticus* and *E. glabratus*, are usually monocephalic and short-stemmed. The difference between these two, genuine *E. uniflorus* L. and the Parnassos plant are detailed in Table 1. It appears that the only other taxon bearing similarities to the Parnassos plant is *E. uniflorus*, a frequent and widespread species on mountains of Europe and elsewhere, but unrecorded for Greece and the southern part of the Balkan peninsula (Halliday 1976; Strid in Strid & Tan 1991). However, *E. uniflorus* s.str. differs from the Parnassos plant in basal leaf shape and not densely caespitose habit. Several infraspecific taxa have been described within *E. uniflorus* (e.g. Vierhapper 1906; Halliday 1976; Foley 2001) and on the above evidence subspecific rank seems appropriate for the Parnassos plant.

M. J. Y. Foley

Hieracium neoplathyllum Gottschl. – This name was published by Gottschlich (2007) for an aggregate of microtaxa in *Hieracium* of morphologically intermediate position between *H. sabaudum* and *H. racemosum*. This was necessary because the type of the hitherto used name *H. plathyllum* belongs to *H. sabaudum*. Other

names at species rank cited by Zahn as synonyms of *H. platyphyllum* also belong to *H. sabaudum*. However, I did not discuss the taxonomic position of *H. platyphyllum* subsp. *maranzae* (Murr & Zahn) Zahn, overlooking that it had been raised to species rank by Prain as early as 1921. Greuter (2008: 379) therefore used this name for the aggregate. In the meantime, I have examined the type of *H. pseudoboreale* subsp. *maranzae* Murr & Zahn (Z-ZT). Because of its insertion of the lower stem leaves (without long-winged petioles), the long branches (with many capitula) and the fully black phyllaries, it must also be assigned to *H. sabaudum* and not to the intermediate “*racemosum-sabaudum*” morphotype (confirm. F. Schuhwerk, München). Therefore, the name *H. neoplatyphyllum* must replace “*H. maranzae*” in the sense of Greuter (2008). G. Gottschlich

Pilosella Vaill. – Whilst preparing the *Hieracium* and *Pilosella* account for the second edition of Flora d'Italia, wherein *Pilosella* will be separated from *Hieracium* L. on the generic level, some revisions have been carried out and make necessary the following new combinations and name changes. G. Gottschlich

Pilosella sect. ***Brachiatae*** (Gottschl.) Gottschl., **comb. nov.** ≡ *Hieracium* sect. *Brachiata* Gottschl. in Stapfia 89: 62. 2009.

Pilosella sect. ***Cymigerae*** (Gremli) Gottschl., **comb. nov.** ≡ *Hieracium* sect. *Cymigera* Gremli, Excursionsfl. Schweiz, ed. 4: 263. 1881 (≡ *Hieracium* subsect. *Collinina* Nägeli & Peter, Hierac. Mitt.-Eur. 1: 58, 284, 912. 1885 ≡ *Hieracium* sect. *Collinina* (Nägeli & Peter) Gus. Schneid. in Riesengebirge Wort & Bild 9: 56. 1889 ≡ *Hieracium* sect. *Pratensina* (Asch.) Zahn in Koch, Syn. Deut. Schweiz. Fl., ed. 3: 1713. 1900). – Typus (hoc loco design.): *Hieracium pratense* Tausch. [= *Pilosella* sect. *Onegenses* (“*Onegensia*”) Sennikov in Opred. Sosud. Rast. Severo-Zap. Rossii: 681. 2000.]

Pilosella sect. ***Furcatinae*** (Gus. Schneid.) Gottschl., **comb. nov.** ≡ *Hieracium* sect. *Furcatina* Gus. Schneid. in Riesengebirge Wort & Bild 9: 56. 1889.

Pilosella sect. ***Praealtae*** (Fr.) Gottschl., **comb. nov.** ≡ *Hieracium* [taxon] *Praealta* Fr., Uppsala Univ. Årsskr. 1862: 6. 1862 ≡ *Hieracium* sect. *Praealta* (Fr.) Arv.-Touv., Add. Monogr. *Pilosella* & *Hieracium*: 6. 1879 [= *Hieracium* subsect. *Praealtina* Nägeli & Peter, Hierac. Mitt.-Eur. 1: 117, 923. 1885 ≡ *Hieracium* sect. *Praealtina* (Nägeli & Peter) Gus. Schneid. in Riesengebirge Wort & Bild 9: 55. 1889].

Pilosella acutifolia (Vill.) Arv.-Touv. in Bull. Soc. Dauphin. Echange Pl.: 282. 1880 ≡ *Hieracium acutifolium* Vill., Préc. Voy. Bot.: 59. 1812 [= *Hieracium brachiatum* DC. in Lamarck & Candolle, Fl. Franç., ed. 3, 5: 442.

1815 ≡ *Pilosella brachiata* (DC.) F. W. Schultz & Sch. Bip. in Flora 45: 424. 1862]. – See comments under *P. spheroccephala*, below.

Pilosella amphipolia (Nägeli & Peter) Gottschl., **comb. nov.** (*velutina* – *saussureoides*) ≡ *Hieracium tardans* subsp. *amphipolium* Nägeli & Peter, Hierac. Mitt.-Eur. 1: 175. 1885 ≡ *Hieracium subtardans* subsp. *amphipolium* (Nägeli & Peter) Zahn in Neue Denkschr. Allg. Schweiz. Ges. Gesamten Naturwiss. 40: 208. 1906 ≡ *Hieracium amphipolium* (Nägeli & Peter) Soest in Acta Bot. Neerl. 23: 146. 1974. – Bräutigam & Greuter (in Greuter 2008) treat *P. velutina* as a subspecies of *P. officinarum*. This makes it difficult to refer to several hybrids that are easy to distinguish in the field and worthy of recognition. For this reason *P. velutina* and its hybrids are raised to species rank.

Pilosella calabra (Nägeli & Peter) Soják – In *Pilosella* intermediate hybrids (partly stabilised) often occur between scapose species such as *P. officinarum* and “*Cauligera*” species, such as *P. piloselloides*, *P. aurantiaca*, *P. cymosa*, etc. Morphologically, they are closer to either *P. officinarum* or the “*Cauligera*” species, or are exactly intermediate. *P. calabra*, in its morphology, is distinctly nearer to *P. officinarum*. To get morphologically uniform taxa, it should therefore not be included in *P. fulviseta*. G. Gottschlich

Pilosella cepitina (Gottschl.) Gottschl., **comb. nov.** (*piloselloides* < *hoppeana*) ≡ *Hieracium cepitinum* Gottschl. in Stapfia 89: 63. 2009.

Pilosella cinerosiformis (Nägeli & Peter) Gottschl., **comb. nov.** (*piloselloides* ≤ *saussureoides*) ≡ *Hieracium tephrodes* subsp. *cinerosiforme* Nägeli & Peter, Hierac. Mitt.-Eur. 1: 642. 1885 ≡ *Hieracium cinerosiforme* (Nägeli & Peter) Zahn in Engler, Pflanzenz. 82: 1467. 1923.

Pilosella corvigena (Gottschl.) Gottschl., **comb. nov.** (*piloselloides* > *hoppeana*) ≡ *Hieracium corvigenum* Gottschl. in Stapfia 89: 57. 2009.

Pilosella fainensis Gottschl., **sp. nov.** (*velutina* – *hoppeana*) ≡ *Hieracium fainense* Soest in Acta Bot. Neerl. 23: 146. 1974, nom. inval. (descr. lat.; sine indic. typi). – Holotypus: Switzerland, Grisons, Val del Fain, 2200 m, 25.7.1930, van Soest 3004 (L).

Pilosella huberi (Zahn) Gottschl., **comb. nov.** (*piloselloides* < *velutina*) ≡ *Hieracium brachiatum* subsp. *huberi* Zahn in Monde Pl. 28(3): 7. 1927 ≡ *Hieracium huberi* (Zahn) Soest in Acta Bot. Neerl. 23: 148. 1974.

Pilosella macristolona (Nägeli & Peter) Gottschl., **comb. nov.** (*peleteriana* – *velutina*) ≡ *Hieracium piloselloides* var. *macristolonum* Nägeli & Peter, Hierac. Mitt.-Eur.

1: 171. 1885 ≡ *Hieracium macristolonum* (Nägeli & Peter) Schinz & R. Keller, Fl. Schweiz, ed. 2, 1: 550. 1905 ≡ *Hieracium pachylodes* grex *macristolonum* (Nägeli & Peter) Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(1): 66. 1922 [= *Hieracium tessellatum* Arv.-Touv. & Faure, Hier. Gall. Hisp. Cat.: 8. 1913 (non Omang 1901)].

Pilosella medioposita (Gottschl.) Gottschl., **comb. nov.** (*cymosa* – *hoppeana*) ≡ *Hieracium mediopositum* Gottschl. in Linzer Biol. Beitr. 32: 365. 2000.

Pilosella neogelmii (Gottschl.) Gottschl., **comb. nov.** (*cymosa* < *hoppeana*) ≡ *Hieracium neogelmii* Gottschl. in Linzer Biol. Beitr. 32: 365. 2000.

Pilosella pachycymigera (Gottschl.) Gottschl., **comb. nov.** (*cymosa* > *hoppeana*) ≡ *Hieracium pachycymigerum* Gottschl. in Linzer Biol. Beitr. 32: 366. 2000.

Pilosella sciadophora (Nägeli & Peter) Soják – Bräutigam & Greuter (in Greuter 2008) adopt the name *P. corymbulifera* (Arv.-Touv.) Arv.-Touv., based on *Hieracium corymbuliferum* Arv.-Touv., for the species hitherto known as *H. sciadophorum* Nägeli & Peter. Indeed, Arvet-Touvet (1879, 1888) interpreted *P. corymbulifera*, or *H. corymbuliferum*, as the hybrid “*sabino* × *auricula*”. However, in the 1872 protologue of *H. corymbuliferum* (Arvet-Touvet 1872: 43), he described a different species: “*involucro stellulato-canescente pilisque glanduliferis obsito*” are not characters found in the hybrid later known as *H. sciadophorum* (*cymosum* – *lactucella*). In fact, in his later publications, Arvet-Touvet (1879, 1888) wrote instead: “*plus ou moins hérissée de longs poils simples et d’autres glanduleux*”, which suits this hybrid much better, and added “*stolons courts ou allongés*”, whereas in 1872 no stolons were mentioned. Moreover, in 1872 he mentioned “*foliis lineari-lanceolatis*”, which he changed in 1879 and 1888 to “*feuilles oblongues-obovales ou oblongues-lancéolées*”. The information concerning distribution is also significant: in 1872 “*toutes les Alpes granitiques*”, in 1888 “*çà et là dans les Alpes*”, where the latter but not the former fits the rare *P. sciadophora*. All these subsequent changes lead to the conclusion that Arvet-Touvet originally, in 1872, described a different species, namely *P. glacialis* (Reyn.) F. W. Schultz & Sch. Bip. Therefore, *P. corymbulifera* should be treated as a synonym of *P. glacialis* and *P. sciadophora* should replace “*P. corymbulifera*” in the sense of Bräutigam & Greuter, even though, unfortunately, no potential type specimen collected prior to 1872 exists in the herbarium of Arvet-Touvet (GRM).
G. Gottschlich

Pilosella sphaerocephala (Rchb.) F. W. Schultz & Sch. Bip. in Flora 45: 423. 1862 ≡ *Hieracium sphaerocephalum* Rchb. in Mössler, Handb. Gewächsk., ed. 2: 1386. 1829. – Bräutigam & Greuter (in Greuter 2008) treat *P. sphaerocephala* as a synonym of *P. acutifolia* (Vill.)

Arv.-Touv., based on *Hieracium acutifolium* Vill. In the herbarium of Villars (GRM!) two plants exist, mounted on one sheet (MHNGr. 1837.27540), one of them probably being an untypical *P. glacialis*, the other one being *P. brachiata* (DC.) F. W. Schultz & Sch. Bip. However, the protologue (“*pâturages rocailleux et secs*”, “*feuilles ... un peu glauques ... peu velues*”) and original illustration of Villars (1812: t. 3) correspond only with the second plant. Therefore, “*P. acutifolia*” in the sense of Bräutigam & Greuter must again be known as *P. sphaerocephala*. As a further, less fortunate consequence, *P. acutifolia* (unless proposed for rejection) must substitute the younger name *P. brachiata* (see the corresponding entry, above).

G. Gottschlich

Taraxacum thracicum Soest

+ **Bu:** Bulgaria, Haskovo, in the forest above the spa resort, 27.4.1962, *Vihodcevsy* (SO). – Described from near Edirne in adjacent European Turkey (Soest 1966: 448) and extending eastwards to the Crimea (Tzvelev 1985: 276). In Bulgaria, where its presence was questioned by Doll (1973), it occurs in two forms with red and light brown achenes. Similar observations were made by Richards & Sell (in Tutin & al. 1976: 340) and Tzvelev (l.c.).
D. Dimitrov

Crassulaceae

Sedum confertiflorum Boiss.

+ **Bu:** Bulgaria: E Rhodopes, municipality of Krumovgrad, near the village of Kachulka, in rocky and sandy places, 17.5.2008, *Kachaunova* (SOM-105193, det. Dimitrov). – No previous published records exist for Bulgaria. *S. confertiflorum* is an Anatolian element, extending to the E Aegean Islands (Lesvos, see 't Hart in Strid & Tan 2002: 327).
D. Dimitrov

Sedum subulatum (C. A. Mey.) Boiss.

+ **Bu:** Bulgaria: Province of Haskovo, Topolovgrad, Tundža Hills region, hill south of the town, on a dry, grassy, rocky, calcareous place on the ridge, c. 1.5 km W of the camp, 26.6.1974, *Panov* (SOM-147550, det. Panov). – No previous published record for Bulgaria exists of this Caucasian element, which radiates to Iran, S Russia, and Anatolia. Up to now, the only European record is from near Volgograd (Jalas & al. 1999: 118, map 3080).
D. Dimitrov

Cruciferae

Cakile arabica Velen. & Bornm.

+ **IJ:** Jordan: Wadi Rum, 3.5 km SE of Rum village, sands, 21.7.2010, *Aharon* (HUI, MO; Fig. 2). – The determination has been confirmed by the

third author through comparison with an isotype. New to the Med-Checklist area.

S. Aharon, A. Danin & I. Al-Shehbaz

Hornungia pauciflora (W. D. J. Koch) Banfi & al.

+ Gr: Greece, Peloponnisos, Nomos and Eparchia of Korinthia, Dimos of Evrostina: northern slope of Mt Mavro Oros above Evrostina (38.05°N, 22.40°E), open cave in cliff, c. 1200–1400 m, 10.5.2010, Rätzel & Raabe (B, MSTR, herb. Rätzel); *ibid.*, 23.5.2010, Rätzel & Raabe (B, MSTR, herb. Raabe). – Definite proof of the presence of this chiefly W Mediterranean taxon in Greece (Greuter & al. 1986: 123; Castroviejo 1993: 245, under *Hymenolobus procumbens* subsp. *pauciflorus* (W. D. J. Koch) Schinz & Thell.), hitherto known to occur as far east as C Italy (Conti & al. 2005: 112). Generic placement follows Appel & Al-Shehbaz (1997). The small and easily overlooked, poorly competitive plant was found in large, nearly pure populations in the mouth of a N exposed cave, behind a fringe of nitrophilous herbs such as *Asperugo procumbens* L. and *Urtica dioica* L., characteristic for a cattle lair. Exactly the same ecological niche and phytocoenological affinity (Lappulo-Asperugetum) is confirmed for the populations of the Swiss and Tyrolean Alps (Hess & al. 1977: 148, under *Hymenolobus pauciflorus* (W. D. J. Koch) A. W. Hill; Fischer & al. 2008: 653). Mt Mavro Oros harbours a number of other species remarkable for Greece from a phytogeographical point of view, such as *Epilobium angustifolium* L., *Hieracium murorum* L., *Parnassia palustris* L. and *Pinguicula hirtiflora* Ten., to name but a few. We reckon *Hornungia pauciflora* can be found in more such caves and rock overhangs throughout the Greek mainland, including “a gathering from the foot of Mt Olimbos (Strid & al. 8060, C) with spatulate, 3-lobed or entire leaves or [...] growing on rock ledges in deep shade, under an overhang in a ravine”, which was mentioned under the mainly coastal, halophytic *Hornungia procumbens* (L.) Hayek by Kit Tan (in Strid & Tan 2002: 251).

U. Raabe, S. Rätzel & Th. Raus

Leguminosae

Cytisus striatus (Hill) Rothm.

N Gr: Greece, Nomos of Chalkidiki, Eparchia of Arnea: Just NW of the village of Ouranopolis (40°20'N, 23°59'E), much-branched shrub 1–2 m tall, fruiting, in macchie on roadside, 5 m, 24.5.2010, Strid 57027 (C, herb. Strid). – A species of SW Europe and NW Africa, differing from the widespread *Cytisus scoparius* (L.) Link, e.g. in having appressed hairy calyces and densely pilose

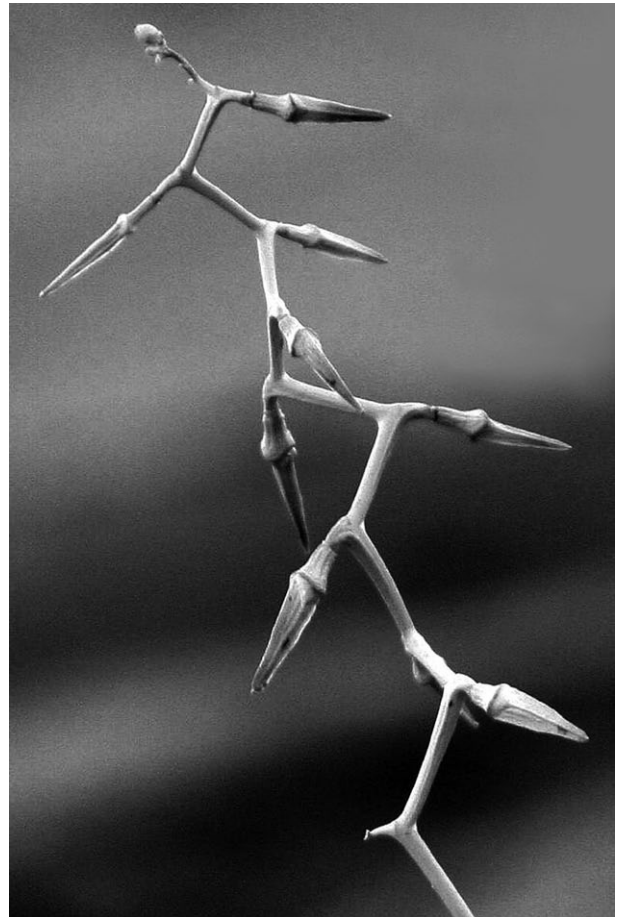


Fig. 2. *Cakile arabica* Velen. & Bornm., Jordan, Wadi Rum, 21.7.2010, close-up of infructescence. – Photograph by S. Aharon.

legumes. It occurs over a distance of c. 1 km and did not appear to be planted, but is probably naturalised from former nearby cultivation.

K. I. Christensen & A. Strid

Leucaena leucocephala subsp. *glabrata* (Rose) Zárate

P Ag: Algeria: City of Algiers, brook, weed at roadside, 8.2008, Zeddami; *id.*, suburb of Hussein Dey, weedy sapling risen spontaneously from seed in a private garden, growing fast and suppressing planted roses, 9.2.2009, Zeddami; *id.*, Blida, S of Algiers, sapling on roadside, 10–15 m distant from the planted ornamental parent tree, 1.5.2010, Zeddami (all B, det. Raus). – A xenophyte originating from Mexico and Central America (see map in Hughes 1998: 116). The plants observed and collected in Algeria show young shoots, petioles and pinnular rachis uniformly glabrous, hence keying out as subsp. *glabrata* (corresponding to the ‘Giant’ or ‘Salvador’ type of Brewbaker 1987), while in *Leucaena leucocephala* (Lam.) de Wit subsp. *leucocephala* shoots are canescent and petioles and leaf rachis densely white-pubescent (Zárate Pedroche 1987; Hughes 1998). In the capital of

Algiers, where the species was unknown 20 years ago but is now planted as a street tree, naturalisation in the medium term is possible. The species has been placed among the world's 100 worst invaders (ISSG 2010), with subsp. *glabrata* excelling by its superior vigour and erect habit (Hughes 1998: 120). Th. Raus & A. Zeddäm

Melilotus wolgicus Poir.

A Gr, D RK: Greece, Epirus: Nomos of Preveza, Eparchia of Nikopolis and Parga, W of Stefani (39°10'34"N, 20°47'25"E), herbaceous vegetation between road and *Citrus* orchard, 10.10.2002, 18 m, *Willing & Willing 104053, 104054* (B; confirm. Raus). – Previously not recorded from Greece (see, e.g. ILDIS 2005). In the Med-Checklist area (Greuter & al. 1989: 149), it is mentioned only for France, where the species has been known as an adventive for more than 80 years (Fournier 1928: 606) and is becoming increasingly established (“en voie de naturalisation”, Guinochet & Vilmorin 1984: 1755; “naturalisé”, Kerguelen 1993: 116). *M. wolgicus* is indigenous in weedy steppes, on alkali soils, saline meadows, gravel beds etc. in the S and E Ukraine, SE European Russia, SW Siberia and Central Asia (Fedorov 2002: 267; Tutin & al. 1968: 149). Steven (1857: 33) and Schmalhausen (1895: 230), both as *M. ruthenicus* Ser., and Paczoski (1914, 2008) mention it for the Crimea (omitted for “RK” in Greuter & al. 1988, following Czarnova in Vul’f 1960: 148), but according to Komarov (1971), it is doubtfully native in the coastal Black Sea area of the Ukraine and S Russia. Th. Raus, E. Willing & A. Yena

Retama raetam (Forssk.) Webb

N Gr: Greece, Sterea Ellas, Nomos of Attiki: SW Attiki peninsula, municipality of Keratea, near Kalamies hill by Kalivia–Anavissos road, grassy pasture with shrubs, 50 m, 26.3.2010, *Bergmeier 10-7* (herb. Bergmeier). – *Retama raetam* is a genistoid shrub with drooping branches and white flowers, native in N Africa, Sicily and the Near East. It differs from the W Mediterranean *R. monosperma* (L.) Boiss. chiefly in its obtuse keel and ovoid pods and seeds. Mature pods of plants found in Attiki were more or less indehiscent and 8–9×14–15 mm in size, with a very short but distinct beak and with usually one seed of 4.5–5×6.5–7.5 mm. Three subspecies are distinguished in *R. raetam*, which differ chiefly in flower size. Flowers of the collected specimens of the Attiki population were 9–10 mm long, matching subsp. *raetam*, which is the most widespread subspecies, native to N Africa and Palestine. *R. raetam* subsp. *gussonei* (Webb) Greuter from Sicily, the only native European representa-

tive, and *R. raetam* subsp. *bovei* (Spach) Talavera & Gibbs from Morocco and Algeria have larger flowers (Talavera & Gibbs 1996). *R. raetam*, offered in tree nurseries in the wider area of Athens, is commonly planted as an ornamental shrub and is almost certainly a garden escape. It is now fully naturalised in Attiki, especially along roadsides but also in vacant lots, fallow field edges, dry torrent banks and grassland. Apart from the locality cited above, it has been observed in many other locations in Attiki, such as Shinias-Marathon, Rafina, Markopoulos, Varkiza, Lagonisi and Anavissos. Most observations were made at or near sea level and close to the coast.

E. Bergmeier, P. Dimopoulos & S. Zogaris

Robinia pseudoacacia L.

A Ag: Algeria: City of Algiers, suburb of Hussein Dey, young seedlings at the edge of a sidewalk, 9.8.2010, *Zeddäm*; *ibid.*, seedlings along roadside, 21.9.2010, *Zeddäm* (all B). – First record of spontaneous occurrence of the species in Algeria. Quézel & Santa (1963: 516) only mention the tree as “fréquentement cultivée et utilisée dans les reboisements”. A. Zeddäm

Orobanchaceae

Orobanche amethystea Thuill. subsp. *amethystea*

+ Cr: Greece, Crete, Nomos of Lasithi, Eparchia of Sitia: 3.5 km S of Turloti (35°07'38.7"N, 25°56'38.8"E), trackside by bank with anthropogenic vegetation, parasitising *Eryngium campestre* L., 755 m, 30.5.2008, *Kamari & Turland sub Phitos 27395* (MO). – *Orobanche amethystea* subsp. *amethystea* occurs throughout the range of the species, in NW Africa, S and W Europe, extending eastward as far as Greece. Its being found in the Cretan area is, therefore, not unexpected. A single small population was found and one individual collected. High-resolution digital images of the specimen, including close-ups of an individual flower (whole and dissected), were determined on 8.3.2010 by Rumsey, who noted that the “corollas are smaller than typical but well within expected ranges”. *O. minor* Sm. differs in its less deeply divided upper corolla lip and in usually purplish, not reddish-brown, pigmentation. It occurs almost throughout the Mediterranean region but is known from Crete (Cr) only through a collection made on Karpathos by H. Kalleber in 1995 (Raus 1996: 38). *O. attica* Reut., described from Greece and treated as a synonym of *O. amethystea* subsp. *amethystea* by Chater & Webb (in Tutin & al. 1972: 291) and of *O. amethystea* by Greuter & al. (1989: 256), was recorded from Crete by Rechinger (1944: 113), but this

record was refuted by Greuter (1974: 159). Rechinger cited two gatherings, noting that the host plant was *Ballota pseudodictamnus* (L.) Benth. Rumsey confirms that one gathering (*Rechinger 12426*, BM) is not *O. amethystea* subsp. *amethystea* but rather resembles *O. ballotae* A. Pujadas (Pujadas Salvà 1997), described from S Spain as a parasite of *B. hirsuta* Benth. and found since on Formentera in the Balearic islands (Foley in Castroviejo 2001: 59–60). To ascertain the identity of Rechinger's plant, freshly collected material is needed. F. Rumsey, N. Turland & G. Kamari

Ranunculaceae

Adonis aestivalis L. subsp. *aestivalis*

+ **Gr:** Greece, E Makedonia: Nomos of Serres, Eparchia of Fillis, W Mirrini (40°57'03"N, 23°53'00"E), edge of field and roadside, 65 m, 10.4.2009, *Willing & Willing 183725*; *ibid.*, Dimitra (40°58'39"N, 23°52'33"E), edge of field, 75 m, 10.4.2009, *Willing & Willing 183742*; *ibid.*, NW Pethelinos (40°58'24"N, 23°41'53"E), in herbaceous vegetation on a slope bordering cultivated fields, 28 m, 14.4.2009, *Willing & Willing 185248*; *id.*, Nomos & Eparchia of Drama, SW Fotolides (41°04'48"N, 24°02'19"E), edge of field and roadside, 70 m, 22.4.2009, *Willing & Willing 187966* (all B, det. Meyer). – The type subspecies was mentioned for “Gr” by Greuter & al. (1989: 391), based on Riedl (1963), but omitted without explanation in Strid & Tan (2002: 36). The above collections from E Makedonia corroborate its presence in Greece.

S. Meyer & E. Willing

Nigella orientalis L.

+ **Gr:** Greece, Sterea Ellas, Nomos of Attika, Eparchia of Megaris: W Erithres (38°13'10"N, 23°17'26"E), two plants with yellow flowers and immature fruits in a field, 350 m, 25.5.2010, *Willing & Willing 194422* (B). – Definite proof of the presence in Greece of this chiefly SW Asian species, hitherto known to occur as far west as Turkey-in-Europe and SE Bulgaria (Jalas & Suominen 1989: 37). Strid (in Strid & Tan 2002: 13) queries a record from the E Aegean Island of Lesvos (Candargy, cited by Rechinger 1943: 179 and Davis 1965: 99). Th. Raus & E. Willing

Ranunculus fontanus C. Presl

+ **Cr:** Greece, Crete, Nomos of Iraklio, Eparchia of Vianonos: W end of the Omalos plain, E of the Agio Pnevma church (35°04'22.3"N, 25°26'58"E), wet spring-fed marsh with water to 2 cm deep, with *Alopecurus creticus* Trin. and *Ranunculus velutinus* Ten., 1335 m, 2.6.2008, *Turland 1492*

(MO, UPA). – The plants were numerous, but only in the specified habitat. The same locality was visited by E. Bergmeier in June 2010 (Bergmeier, pers. comm.) but the area was drier, grazed, and there was no sign of *R. fontanus*. The Cretan plants superficially resemble small individuals of *R. ophioglossifolius* Vill., which is readily distinguished by having hyaline tubercles on the surface of the achenes. In *R. fontanus*, the achene surface is smooth or, as in the Cretan plants, minutely pitted (pits 30–35 µm in diam.). The small size of stems (to 11 cm) and flowers (honey leaves 2.5–3 mm) of the Cretan plants also agrees with *R. fontanus*. The species is found in the C Mediterranean region, the Balkan peninsula and possibly in NW Africa, the nearest known occurrences being in N Greece, close to the frontier (Strid & Tan 2002: 63–64, map 830). It is known from three other Mediterranean islands: Corsica, Malta and Sicily (Greuter & al. 1989: 432). *Alopecurus creticus* (Turland 1496, MO, UPA), a companion of *R. fontanus* at its Cretan locality, had not been collected from Cr since 1846, by Heldreich, perhaps in this very spot (see Rechinger 1943: 798). N. Turland

Rosaceae

Rosa stylosa Desv.

+ **Gr:** Greece, Epirus, Nomos of Ioannina, Eparchia of Dodoni: Municipality of Katsanochoria, Oropeo (plateau) of Kalentzi, hedgerow with *Cornus sanguinea* L., *Euonymus europaeus* L., *Fraxinus angustifolia* Vahl, *Ligustrum vulgare* L., *Prunus divaricata* Ledeb., *Rosa canina* L. and *Ulmus minor* aggr. between semi-wet meadows and fallow fields, 585 m, 29.6.2006, *Bergmeier 06-132* (herb. Bergmeier). – *R. stylosa* is a rare species of Atlantic-Submediterranean distribution, which has not been included in Zieliński's (1990) account. It is a member of *R. sect. Synstylae* DC., as its styles are fused into a column. The section is represented in western mainland Greece by two other species, *R. sempervirens* L. and *R. arvensis* Huds. With its high climbing stems *R. stylosa* resembles *R. sempervirens*, which differs in its evergreen, coriaceous leaves. The deciduous *R. arvensis* is a low shrub with weak stems and slender rather than stout prickles.

E. Bergmeier & P. Dimopoulos

Tamaricaceae

Tamarix hampeana Boiss. & Heldr.

+ **Cr:** Greece, Crete, Nomos of Chania, Eparchia of Apokoronos: Georgioupoli beach, by river

mouth at E edge of village, (35°21'34.3"N, 24°15'59.6"E), sandy river bank on beach with springs emerging beneath the *Tamarix* trees, sea-level, 28.3.2009, *Bareka & Turland 1778* (MO, UPA). – We observed a small group of low shrubby trees in full flower, markedly different from the spring-flowering *T. parviflora* DC., widespread in Crete, on account of the relatively broad racemes and white, not pink, petals. The plants grow at the northeastern corner of a large area (c. 250 × 350 m) of wet, spring-fed *Tamarix* scrub. No other such white-flowered plants were noticed nearby, but we did not search the area thoroughly. *T. hampeana*, growing in a natural habitat, appeared to be native, unlike several obviously planted trees of, presumably, *T. smyrnensis* Bunge in the surrounding area. Apparently, *T. hampeana* was not so far recorded from Crete, planted or otherwise. Like *T. parviflora*, it is of shrubby growth, unlike *T. smyrnensis*, which is popular as a shade tree. Baum (DAO), on 23.9.2010, determined samples of inflorescences, commenting that the androecium (5 antesealous stamens, with filaments inserted on the rounded disk lobes) is typical for *T. hampeana*, the petals (5, white, oblong-oblongate, c. 3 mm long, not or barely unguiculate) correspond and the racemes, lateral on the previous year's branchlets, are somewhat narrow (6–7.5 mm wide) but fall within the variation of the species. *T. hampeana* grows on the Ionian Islands, in mainland Greece, the Aegean region and westernmost Turkey, with an outlying population in Israel (Baum 1966: 105–107, 164; in Tutin & al. 1968: 293; 1978: 119–121), so that its occurrence in Crete is not unexpected. I thank Bernard R. Baum for determining the material and providing relevant information. N. Turland

Tropaeolaceae

Tropaeolum majus L.

P Ag: Algeria: City of Algiers, suburb of Hussein Dey, a weed forming dense mats in abandoned former garden land, 1.5.2010, *Zeddám*; id., Douaouda, W of Algiers, on roadside in an agricultural area, c. 100 m from the seashore, 8.5.2010, *Zeddám* (all B, det. Raus); id., Algiers, suburb of Cheraga, semi-ruderal slope of a ravine, 28.5.2010, *Zeddám* (photo). – First record for Algeria. Not mentioned by Quézel & Santa (1963). A xenophyte of South American origin, planted for ornament in European and Mediterranean gardens, recorded as naturalised or casual in France, Spain and Italy (Tutin & al. 1968: 204; Conti & al. 2005: 179). No reliable data on the degree of naturalisation in Algeria are available yet. None of the cited oc-

currences were intentionally planted; they possibly originated from seeds in garden drop-off.

A. Zeddám & Th. Raus

Vitaceae

Parthenocissus quinquefolia (L.) Planch.

N Ag: Algeria: City of Algiers, suburb of Hussein Dey, outside an abandoned garden, 10.2009, *Zeddám*; ibid., young plant germinated in a crack of a sidewalk, 9.8.2010, *Zeddám*; ibid., densely covering an abandoned demolition site, 8.2010 (all B, confirm. Raus). – A xenophyte originating from E North America, easily recognised by its somewhat discoloured leaves with a dull, light green underside, in contrast to the widely cultivated Virginia creeper, *Parthenocissus vitacea* (Knerr) Hitchc. (*P. inserta* auct.), with leaves shiny green on both sides (Fischer & al. 2008: 407; Stace 2010: 144). In Algiers, *P. quinquefolia* is frequently planted in suburban and rural gardens for its beautiful red autumn foliage. It often escapes, invading abandoned areas and neglected road pavements, and may be considered as naturalised.

A. Zeddám & Th. Raus

Gramineae

Bromus danthoniae subsp. *pseudodanthoniae* (Drobov) H. Scholz

+ An: Turkey C9: Şırnak, Beytüssebap town, District of Mesra (37°40'28"N, 43°11'17"E), south of Kerkol hill (around Tahtı, Abdo rocky area), stony steppe, c. 2000 m, 20.6.2009, *Rüstemoğlu 833* (B, VANF). – A Near and Middle East taxon (Scholz 1998), not previously recorded from Turkey.

L. Behçet, M. Rüstemoğlu & H. Scholz

Bromus parvispiculatus H. Scholz

+ Bu: Bulgaria: 5 km SW Kavarna, near Balčik, place called Balčiška Tuzla, 60 m, 3.6.1999, *Raus & Pina Gata*, OPTIMA Iter Medit. IX, 36-1-20 (B); id., northern coastal area of Black Sea, 10 km S Mangalia, 4 km NE Durankulak lake (43°43'14"N, 28°36'33"E), edge of agricultural areas and coastal sand dunes, 4.6.1999, *Raus & Pina Gata*, OPTIMA Iter Medit. IX, 39-1-11 (B). – See Scholz (2008) for a discussion of this species. H. Scholz

***Bromus squarrosus* subsp. *consimilis* H. Scholz, subsp. nov.** – Holotypus: Greece, insula Samothraki, S Kamariotissa, Acker- und Feldränder, 30 m, 15.5.2010, *Biel S110569* p.p. (B, culm with hairy spikelets). – A *Bromo squarrosus* subsp. *squarrosus* spiculis et lemma-

tibus angustioribus 4–5 et 3–4 mm latis differt (vs. > 7 et 6–8 mm).

+Gr: *Bromus squarrosus* subsp. *consimilis*, with its narrow spikelets and lemmas, resembles *B. japonicus* Thunb. with a somewhat congested panicle. However, the sharply angled lemma margins, the acute apical teeth of the lemma and, most importantly, the low number and spaced occurrence of hard cilia on the palea keels (less than 15 per keel, but more than 15 in *B. japonicus*: see Tzvelev 1983, Tzvelev in Fedorov 1999) support its affiliation with *B. squarrosus*. The new subspecies is hardly a local endemic, but was elsewhere overlooked or misinterpreted. The type collection consists of three flowering culms mounted on one sheet; the culm with hairy spikelets is designated as the holotype. H. Scholz

Crypsis vaginiflora (Forssk.) Opiz [= *C. niliaca* Fig. & De Not.].

D IJ: Israel: Sharon Plain, near the town of Hadera in a small groove, 30.8.2010, Vered (B, HJU). – Described from Egypt, possibly an alien in Israel. For a long period, this species was not accepted. Lorch (1962) cites *Crypsis vaginiflora* and *C. niliaca* in the synonymy of *C. alopecuroides* (Pill. & Mitterp.) Schrad. and *C. schoenoides* (L.) Lam., respectively. Later, Hammel & Reeder (1979) examined original material of *Phalaris vaginiflora* Forssk. (Egypt, Alexandria along the Nile), the basionym of *C. vaginiflora*, and re-deemed the name. S. Vered & H. Scholz

Deschampsia media (Gouan) Roem. & Schult.

+Gr: Greece, Nomos of Ioannina, Eparchia of Konitsa: Mt Gramos, NE of Plikati, just W of the river, patch of meadow in opening of deciduous oak forest, 1020 m, 11.7.1988, Strid & al. 27664 (ATH, G, LD, herb. Tan, herb. Strid). – This species was recorded with doubt for Gr in Tutin & al. (1980: 226), probably based on the indication of “Jon?” in Hayek (1932–33: 324).

E. Ljungstrand & A. Strid

Elytrigia hoffmannii (K. B. Jensen & Asay) H. Scholz, **comb. nov.** = *Elymus hoffmannii* K. B. Jensen & Asay in Int. J. Pl. Sci. 157: 758. 1996.

Paspalum dilatatum Poir.

P Ag: Algeria: Algiers, Hussein Dey, abandoned garden, 22.7. and 9.8.2010, Zeddám (B). – A tufted perennial of South American origin, with short rhizomes. Introduced and naturalised in many Mediterranean countries (Clayton in Tutin & al. 1980: 263). In N Africa, hitherto only known from Egypt (Täckholm 1974).

A. Zeddám & H. Scholz

Patzkea G. H. Loos (type: *Patzkea paniculata* (L.) G. H. Loos = *Festuca paniculata* L.) was published by Loos (2010), with new combinations for three included species. The following additional combinations are required:

Patzkea coeruleascens (Desf.) H. Scholz, **comb. nov.** = *Festuca coeruleascens* Desf., Fl. Atlant. 1: 87. 1798.

Patzkea durandoi subsp. *capillifolia* (Willk.) H. Scholz, **comb. nov.** = *Festuca spadicea* var. *capillifolia* Willk., Suppl. Prodr. Fl. Hispan.: 26. 1893 = *Festuca durandoi* subsp. *capillifolia* (Willk.) Rivas Ponce & al. in Fontqueria 31: 238. 1991.

Patzkea durandoi subsp. *fontqueri* (Rivas Ponce & Cebolla) H. Scholz, **comb. nov.** = *Festuca paniculata* subsp. *fontqueri* Rivas Ponce & Cebolla in Fontqueria 21: 21. 1988 = *Festuca durandoi* subsp. *fontqueri* (Rivas Ponce & Cebolla) Llamas & al. in Lagasalia 22: 125. 2002.

Patzkea durandoi subsp. *livida* (Hack.) H. Scholz, **comb. nov.** = *Festuca spadicea* var. *livida* Hack., Cat. Rais. Gramin. Portugal: 27. 1880 = *Festuca durandoi* subsp. *livida* (Hack.) Rivas Ponce & al. in Fontqueria 28: 19. 1990.

Patzkea paniculata subsp. *baetica* (Hack.) H. Scholz, **comb. nov.** = *Festuca spadicea* var. *baetica* Hack., Monogr. Festuc. Eur.: 167. 1882 = *Festuca paniculata* subsp. *baetica* (Hack.) Markgr.-Dann. in Bot. J. Linn. Soc. 76: 326. 1978.

Patzkea paniculata subsp. *longiglumis* (Litard.) H. Scholz, **comb. nov.** = *Festuca paniculata* subvar. *longiglumis* Litard. in Candollea 10: 144. 1946 = *Festuca paniculata* subsp. *longiglumis* (Litard.) Kerguelen in Lejeunia, ser. 2, 110: 61. 1983.

Patzkea paniculata subsp. *macrostachys* (Llamas & al.) H. Scholz, **comb. nov.** = *Festuca paniculata* subsp. *macrostachys* Llamas & al. in Lagasalia 22: 121. 2002.

Patzkea paniculata subsp. *multispiculata* (Rivas Ponce & Cebolla) H. Scholz, **comb. nov.** = *Festuca paniculata* subsp. *multispiculata* Rivas Ponce & Cebolla in Lagasalia 15: 408. 1988.

Patzkea patula (Desf.) H. Scholz, **comb. nov.** = *Festuca patula* Desf., Fl. Atlant. 1: 86. 1798 [= *Festuca triflora* Desf., Fl. Atlant. 1: 87, t. 20. 1798 (non J. F. Gmel. 1791)].

Poa bussmannii H. Scholz, **sp. nov.** – Holotypus: Turkey (C Anatolia): Vilayet Kayseri, Kugelbuschsteppe auf stark verwittertem Basaltschutt an der Nordostseite des Ercyas-Dağı, 2120–2700 m, 21.7.1990, *Bussmann* (STU).



Fig. 3. Habitat of *Puccinellia bilykiana* in Greece. – Photograph by G. Brofas, 17.5.2010.

– Gramen perenne dense caespitosum compactum. Culmi tenues geniculato-ascendentes 5–10 cm alti. Paniculae valde contractae, 8–12×3–5 mm metientes. Spiculae 3–3.5 mm longae, 3–4-florae; rhachilla scaberula; glumae late ovatae, c. 2 mm longae, subaequales; lemmata 2.5 mm longa, inferne appresse pilosa. Antherae c. 1 mm longae.

+An: *Poa bussmannii* and *P. thessala* Boiss. & Orph. [= *P. alpina* L. subsp. *fallax* F. Herm.] (see Edmondson in Davis 1985: 483, Scholz in Strid & Tan 1991: 772) are members of *P.* sect. *Alpinae* (Hegetschw. ex Nyman) Soreng (1998). *P. bussmannii* differs markedly from *P. thessala* in the smaller size of its culms, the appearance of its panicles, and the dimensions of spikelets, glumes, lemmas and anthers. Other taxa of *P.* sect. *Alpinae* (c. 6 species) are more distantly related. H. Scholz

***Puccinellia bilykiana* Klok.**

P Gr: Greece, Makedonia, Nomos & Eparchia of Kozani: close to the village of Neraida (40°14'29"N, 21°57'42"E), huntite mining spoils, c. 200 m, 17.5.2010, Brofas (B). – The species grows over an area of c. 0.5 ha, covering 20% of it, at the bottom of a mining excavation, on white deposits of

sedimentary origin with a high content of huntite and hydromagnesite. It was possibly introduced by birds, as 3–4 species of migratory birds nest in the cliffs above the plant's habitat (Fig. 3). *Puccinellia bilykiana*, a halophyte of saline marshes and meadows in the region between Moldova and Ciscaucasia (Tzvelev 1983; Tzvelev in Takhtajan 2006), was relegated by Hughes & Halliday (in Tutin & al. 1980: 169, 433) and Davis & Soreng (in Soreng 2003) to the synonymy of *P. festuciformis* subsp. *convoluta* (Hornem.) W. E. Hughes and *P. distans* (Jacq.) Parl., respectively. According to Tzvelev (1983), *P. bilykiana* “probably originated from Pleistocenec hybridisation of *P. tenuissima* with *P. dolicholepis* subsp. *fominii* and in part also with *P. limosa*. It is linked with all these species through intermediate forms and is not easily distinguishable from them”. A characteristic feature of *P. bilykiana* are the basally somewhat thickened sheaths of the lower leaves.

G. Brofas, P. Trigas & H. Scholz

***Setaria parviflora* (Poir.) Kerguélen**

P IJ: Israel: Chuda Valley, East Jordan Canal, 24.8.2010, Vered (B, HUI). – A native of North

America, more or less naturalised in SW Europe (Clayton in Tutin & al. 1980: 263, as *Setaria geniculata* (Lam.) P. Beauv.). Very similar to *S. pumila* (Poir.) Roem. & Schult. but perennial and with short rhizomes (Cope & Gray 2009).

S. Vered & H. Scholz

Triticum turgidum subsp. *asiaticum* (Vavilov) H. Scholz, **comb. nov.** ≡ *Triticum dicoccon* subsp. *asiaticum* Vavilov in Trudy Prikl. Bot. 51: 224. 1931.

Triticum turgidum subsp. *maroccanum* (Flaksb.) H. Scholz, **comb. nov.** ≡ *Triticum dicoccon* subsp. *maroccanum* Flaksb., Kult. Fl. SSSR 1: 302. 1935.

Juncaceae

Juncus hybridus Brot.

+ Bu: Bulgaria: Province of Haskovo, Tundža Hills region, some 500 m from the outskirts of the town of Elhovo, in moderately wet, partially dry places, by a small dried-up swamp, 26.6.1974, *Panov* (SOM 147557, det. Panov). – No previous records of this chiefly Mediterranean taxon, widespread in adjacent Greece, were published for Bulgaria (see, e.g. Andreev & al. 1992: 466).

D. Dimitrov

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